ISS | AFRICAN FUTURES

Zambia
Sectoral Scenarios for Zambia

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Sectoral Scenarios for Zambia

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Stability scenario

Chart 14: GDP per capita in CP and Stability scenario, 2019–2043
Purchasing power parity
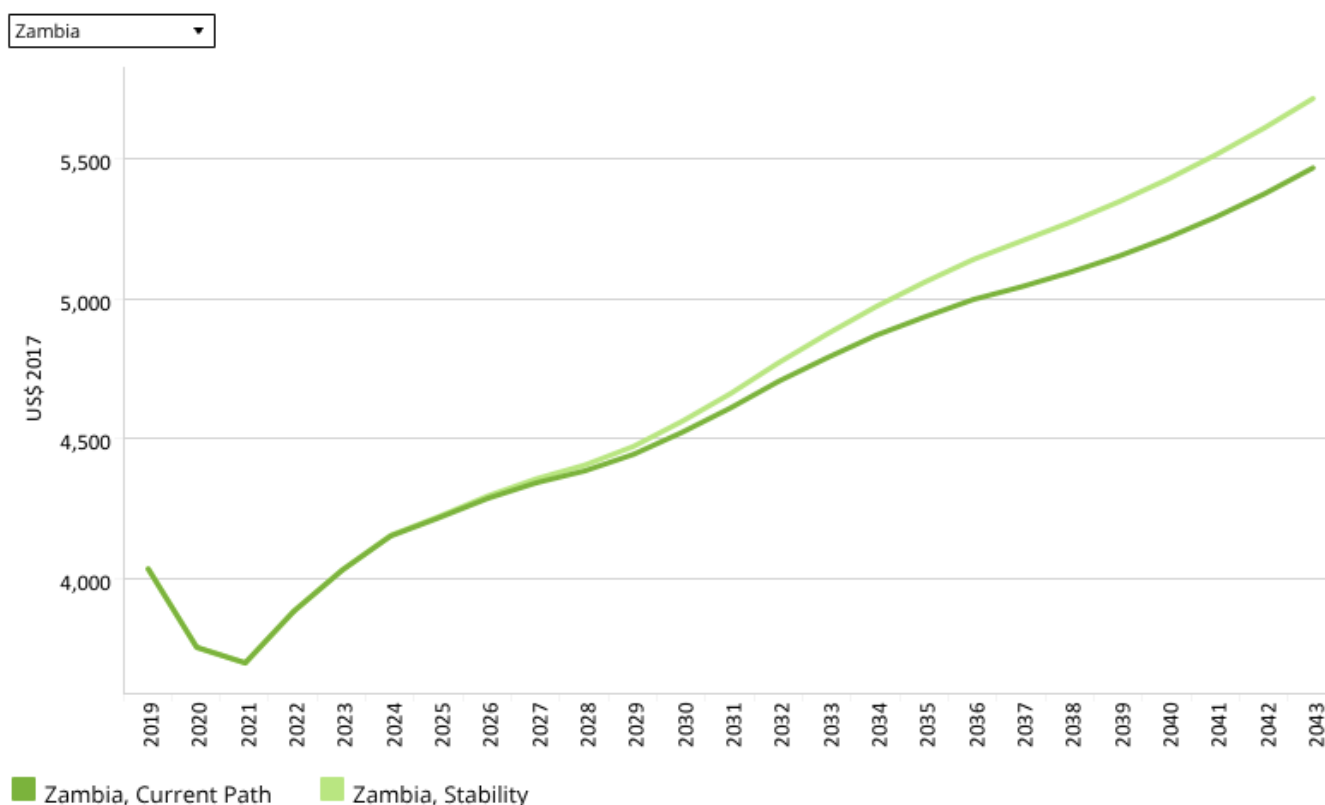
Zambia

Zambia, Current Path   Zambia, Stability

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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The Stability scenario represents reasonable but ambitious reductions in risk of regime instability and lower levels of

internal conflict. Stability is generally a prerequisite for other aspects of development and this would encourage inflows of foreign direct investment (FDI) and improve business confidence. Better governance through the accountability that follows substantive democracy is modelled separately.

The intervention is explained in here in the thematic part of the website.

Unlike many of its neighbours, Zambia avoided the instability that accompanied decolonisation and liberation, earning itself a reputation for stability. The country has held successful democratic elections every five years since 1990. However, Zambia has the largest youth bulge (adults aged 15–29 years) in Southern Africa (and about 8 percentage points higher than the average for Africa's 23 lower middle-income countries), which could, on top of slow growth and lack of opportunities, increase social turbulence. In 2019, the portion of its youth bulge was 52% of the total adult population, set to decline only slowly to 44% by 2043.

The Stability scenario improves Zambia's score on the IFs Government Security Index by 12% above the Current Path forecast in 2043.

Chart 14: GDP per capita in CP and Stability scenario, 2019–2043
Purchasing power parity
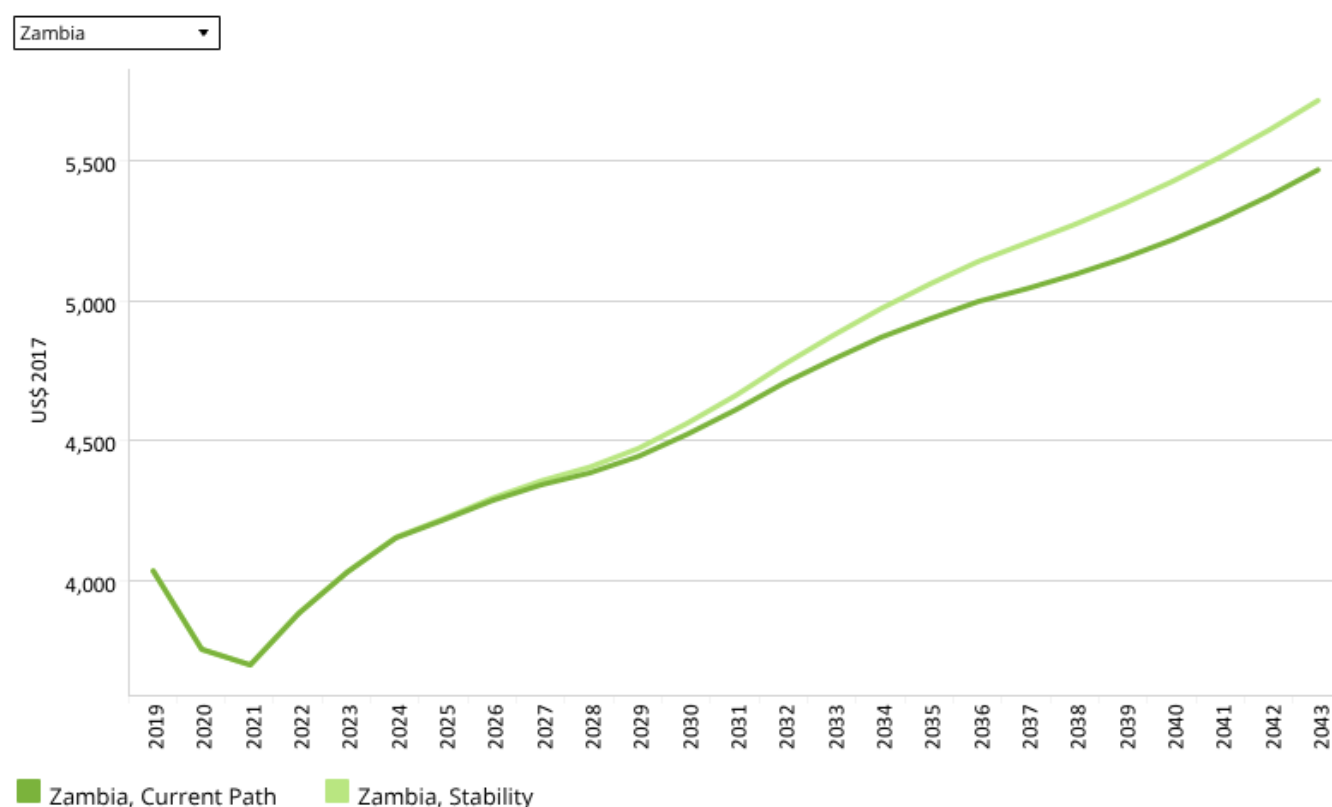
Zambia

Legend: Zambia, Current Path ; Zambia, Stability

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
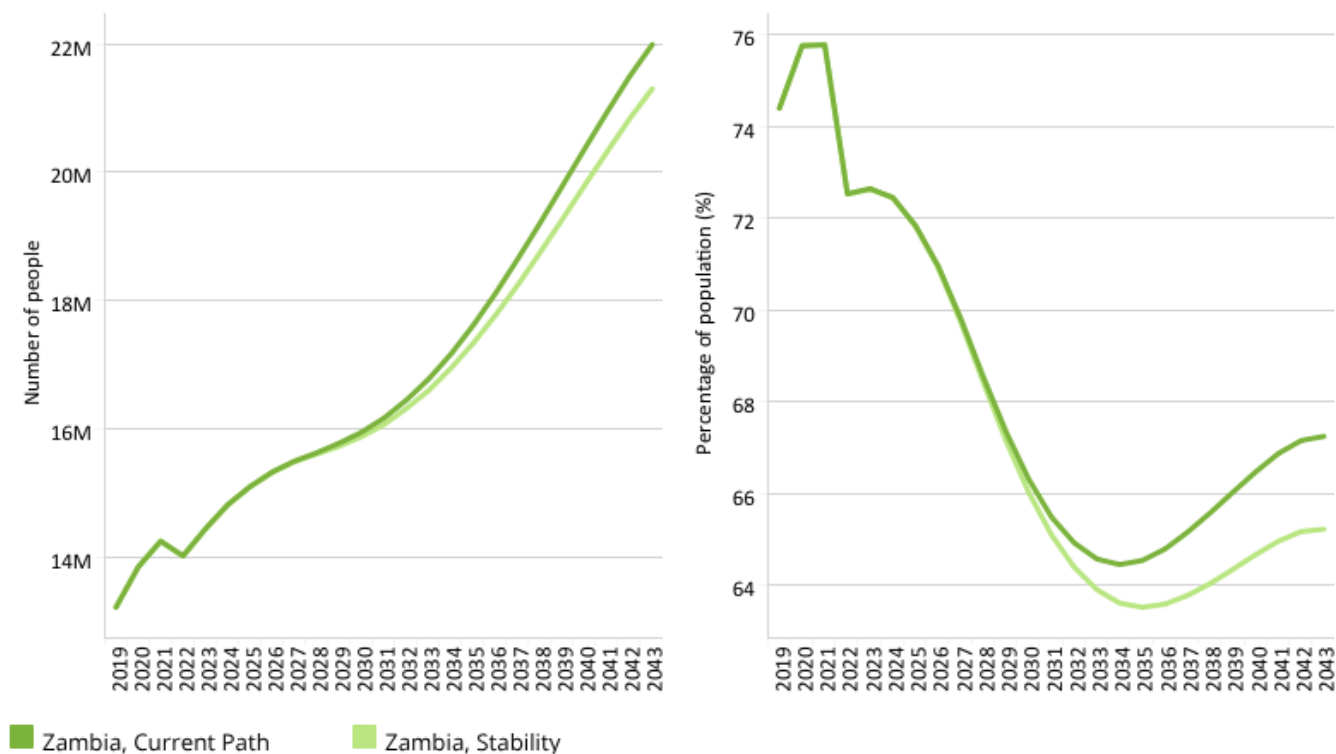
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On the Current Path, GDP per capita will be at US$5 467 in 2043, which is 35% above its level of US$4 036 in 2019. In the Stability scenario it gets to US$5 715 in 2043 – an increase of almost 5% above the Current Path forecast. Income levels will remain substantially below the average for lower middle-income Africa throughout the forecast horizon.

Chart 15: Poverty in CP and Stability scenario, 2019–2043
Millions of people and % of total population

Zambia ▼ $3.20 ▼

■ Zambia, Current Path   ■ Zambia, Stability

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
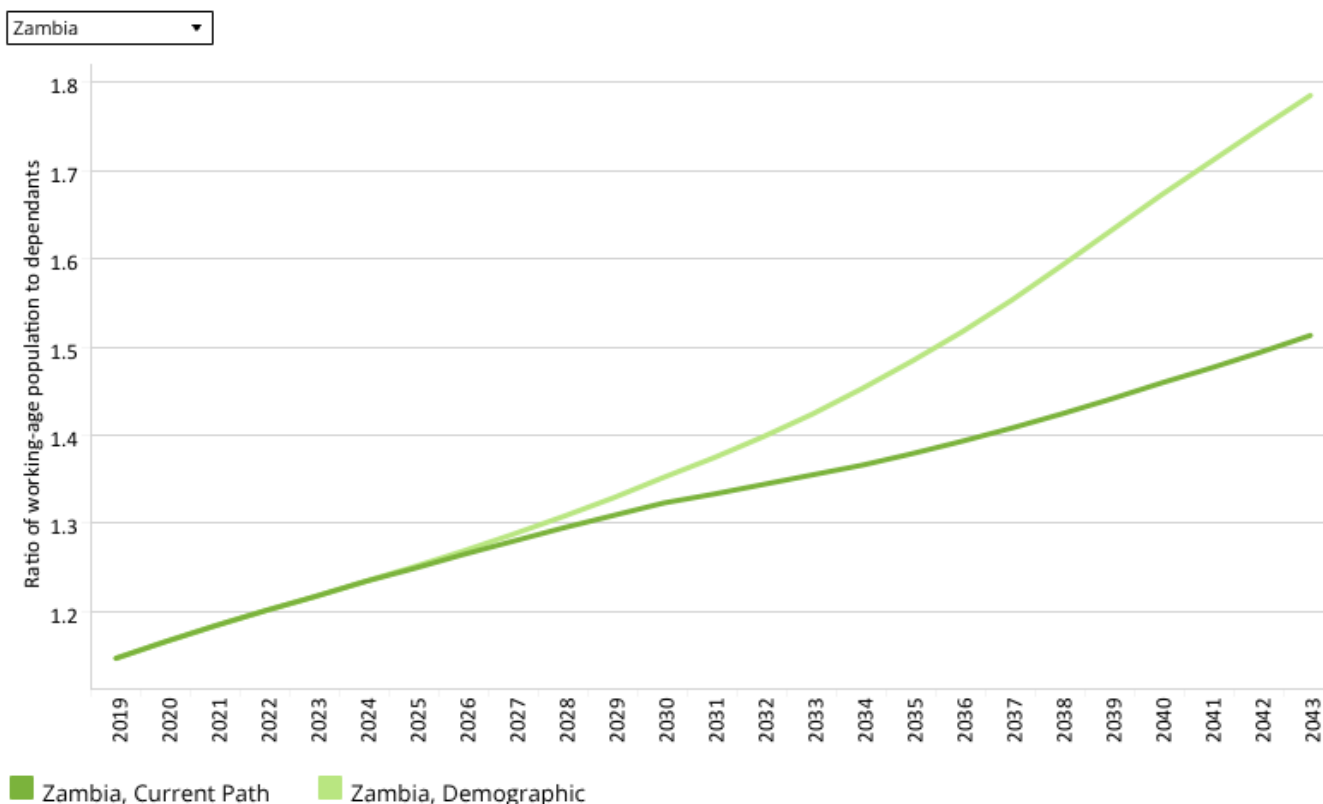
⊹ View on Tableau Public   ↩ ↪ ↺ ↻ ▼ | ⬇▼ ⛶ ⅊ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20). The number of extremely poor people will increase to 22 million by 2043 in the Current Path forecast, representing a modest reduction to 67.3% of the population. The Stability scenario reduces poverty by 700 000 persons (2.1%) by 2043.

Chart 16: Demographic dividend in CP and Demog scenario, 2019–2043
Ratio of working-age population to dependants

ISS|AF

Zambia ▼

Zambia, Current Path   Zambia, Demographic

Source: IFs 7.63 initialising from UN Population Division Population Prospects

⊹ View on Tableau Public   ↶ ↷ ↺ ↻ ▼ | ⬇▼ ⬚ ⟋ Share

This section presents the impact of a Demographic scenario that aims to hasten and increase the demographic dividend through reasonable but ambitious reductions in the communicable-disease burden for children under five, the maternal mortality ratio and increased access to modern contraception.

The intervention is explained in here in the thematic part of the website.

Demographers typically differentiate between a first, second and even a third demographic dividend. We focus here on the contribution of the size of the labour force (between 15 and 64 years of age) relative to dependants (children and the elderly) as part of the first dividend. A window of opportunity opens when the ratio of the working-age population to dependants is equal to or surpasses 1.7.

In 2019, the ratio of working-age persons to dependants in Zambia was less than 1.2 and set to get to 1.7 only by 2053, at which point Zambia could start benefiting from a demographic dividend. Because Zambia has such a young population, the average ratio in 2019 for lower middle-income countries in Africa was slightly higher at 1.3.

The Demographic scenario has a strong and positive impact on Zambia's population profile, to the extent that it advances Zambia's demographic dividend entry by a decade. In the Demographic scenario Zambia enters its potential demographic dividend in 2041, with positive impacts on a range of other measures such as funds available to spend on education,

health, etc.

Chart 17: Infant mortality in CP and Demog scenario, 2019–2043
Deaths per 1 000 live births
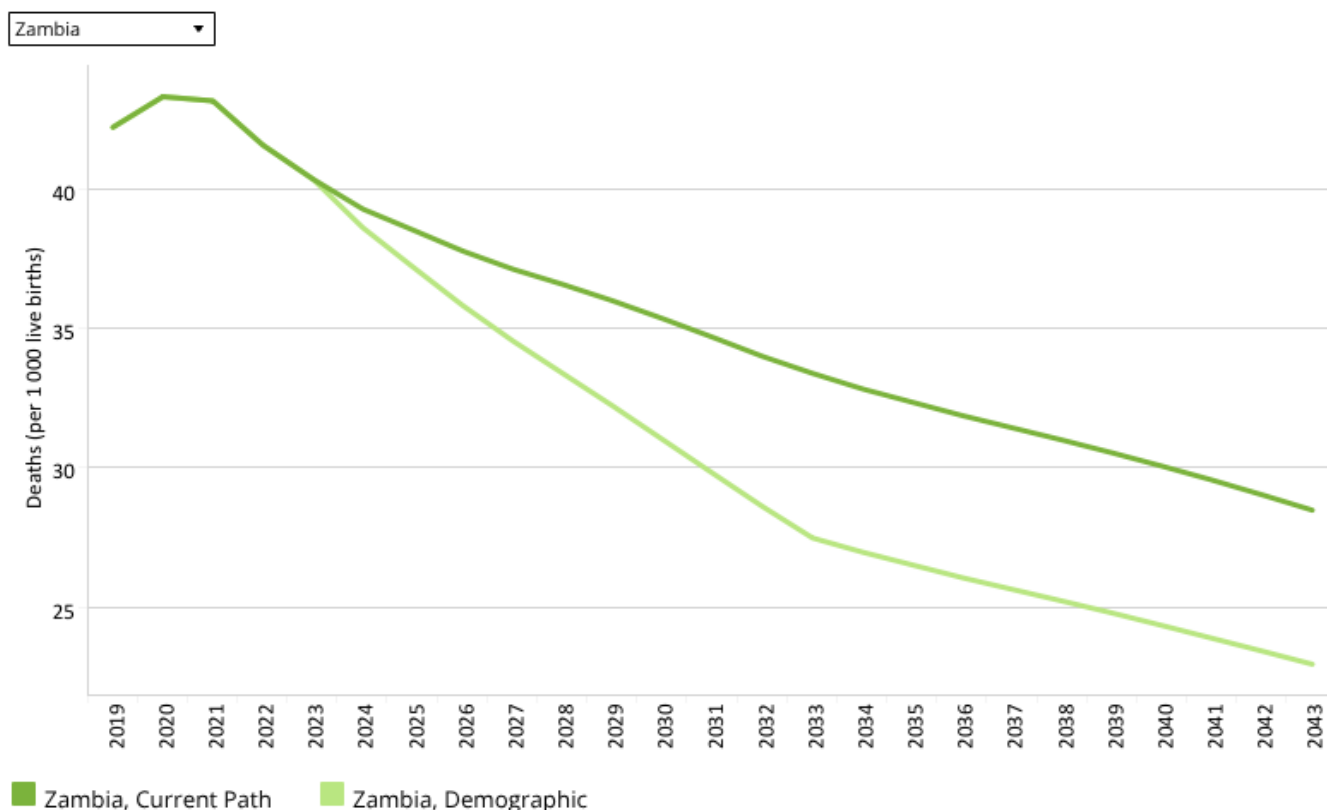
Zambia ▾

Zambia, Current Path   Zambia, Demographic

Source: IFs 7.63 initialising from Institute for Health Metrics and Evaluation Mortality Visualization Tool data
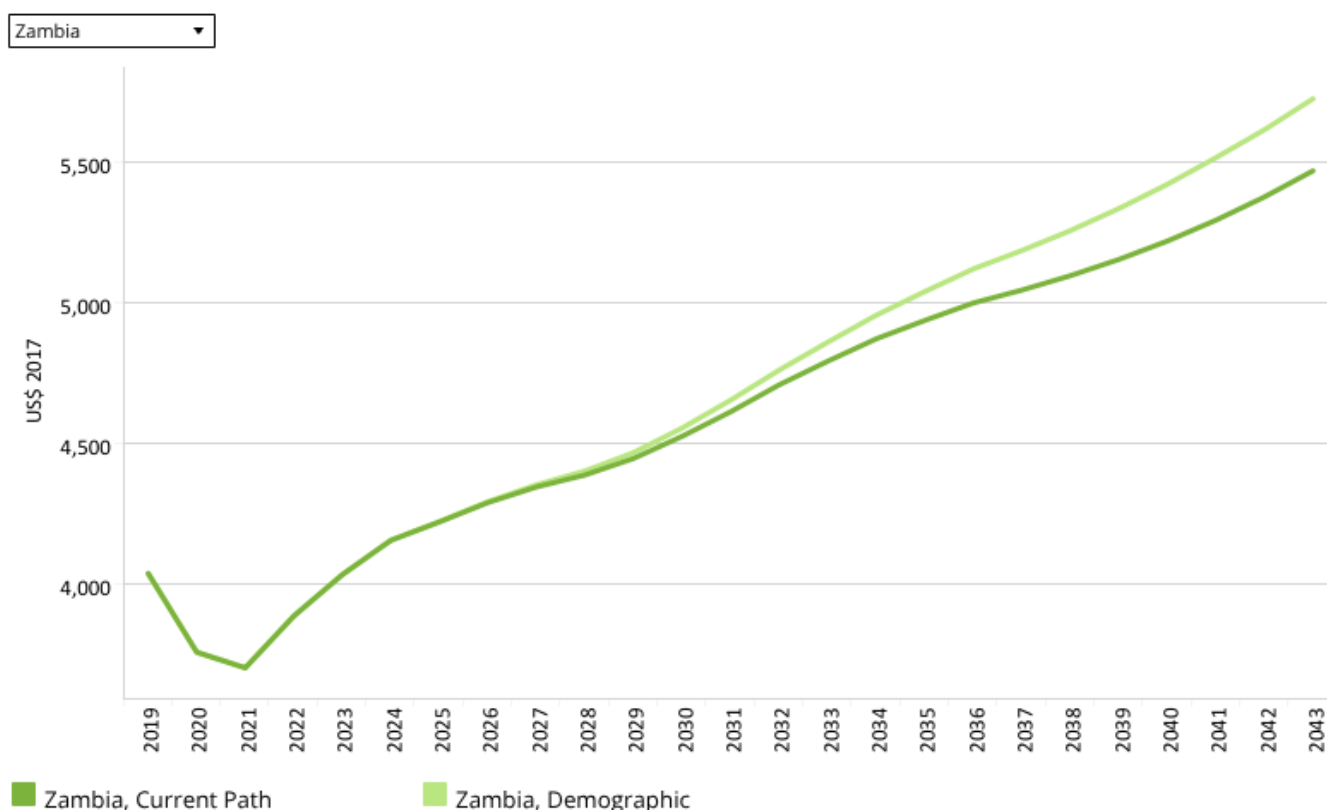
⁜ View on Tableau Public   ↺ ↻ ↩ ↪ ▾ | ⬇▾ ⬚ ⤳ Share

The infant mortality rate is the number of infant deaths per 1 000 live births and is an important marker of the overall quality of the health system in a country.

In 2019 the rate of infant mortality in Zambia was 42.3 deaths per 1 000 live births, compared with the average rate of 46.8 for Africa and 46.4 for Africa's 23 lower middle-income countries. On the Current Path, Zambia's rate is set to decline to 28.5 in 2043, still below the average for lower middle-income Africa (at 29.7) but above the continental average then forecast to have declined to 25.6 deaths. According to UNICEF 'inadequate infrastructure, access to services and quality of care are the key factors hindering stronger progress for the health of women and children. Despite improvements, neonatal and maternal mortality rates remain high in Zambia.'

In the Demographic scenario, Zambia's infant mortality rate will decline to 22.9, a reduction of 5.6 deaths per 1 000 compared with the average reduction of 4.8 for Africa in this scenario. Zambia will therefore close some of the gap between its average rate and that for Africa.

Chart 18: GDP per capita in CP and Demog scenario, 2019–2043
Purchasing power parity

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

On the Current Path, GDP per capita will be at US$5 467 in 2043. In the Demographic scenario, per capita income is forecast to be US$5 724 in 2043, almost 5% (US$257) above the Current Path forecast for that year. Because population structures change slowly, the effect of the scenario is marginal at first. Its impact accelerates over time and adds a powerful gearing to other sectors such as education. For example, a reduction in population numbers, especially youth, reduces the number of children that enter schooling and thus reducing the requirement for teachers, schools and other capital-intensive resources.

Chart 19: Poverty in CP and Demog scenario, 2019–2043
Millions of people and % of total population
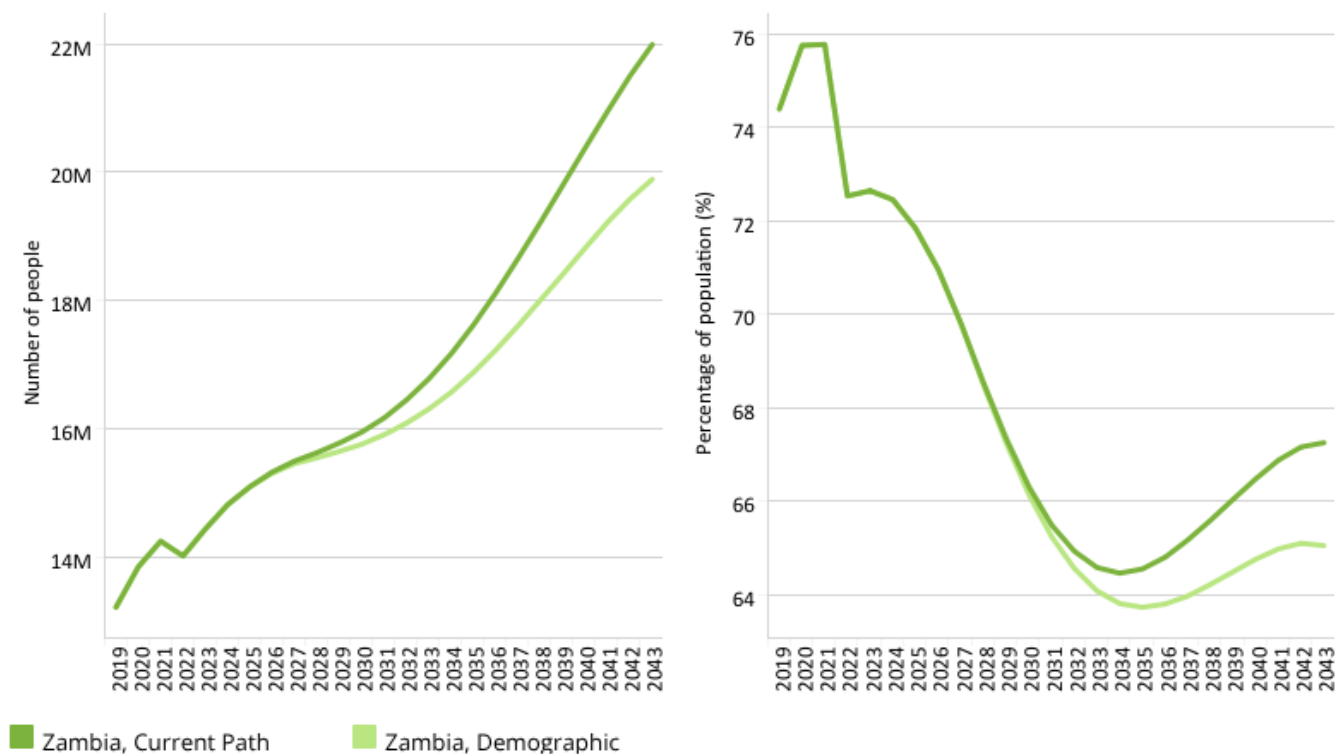
Zambia ▾ $3.20 ▾

■ Zambia, Current Path   ■ Zambia, Demographic

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
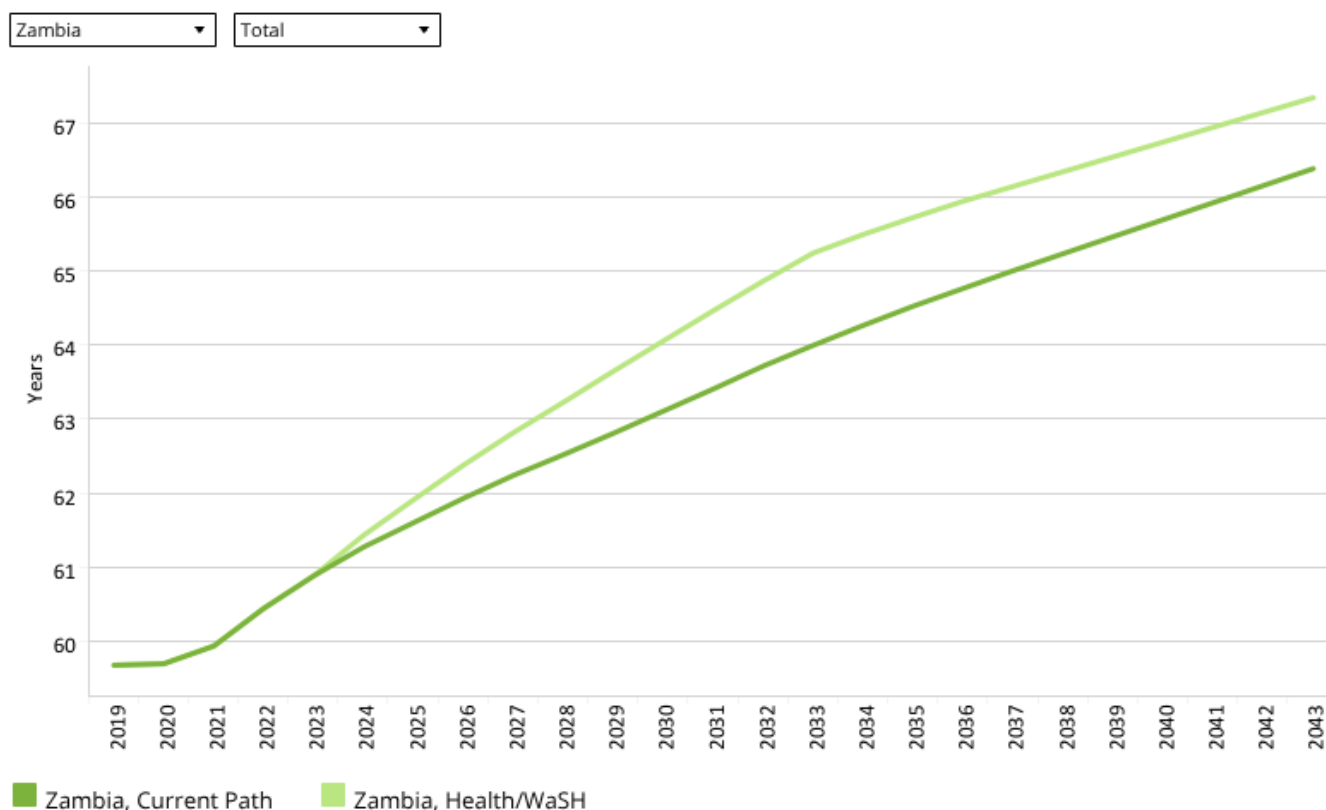
⸬ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | ⬇▾ ⬚ ⁒ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20), a number that is set to increase to 22 million by 2043 in the Current Path forecast, although representing a modest reduction to 67.3% of the population. In the Demographic scenario poverty rates decline by 2.2 percentage points to 65.1%, lifting an additional 2.1 million Zambians out of poverty. Eventually, together with improvements in agriculture, education and health, the Demographic scenario becomes a powerful lever with positive impacts on general wellbeing.

Health/WaSH scenario

Chart 20: Life expectancy in CP and Health/WaSH scenario, 2019–2043

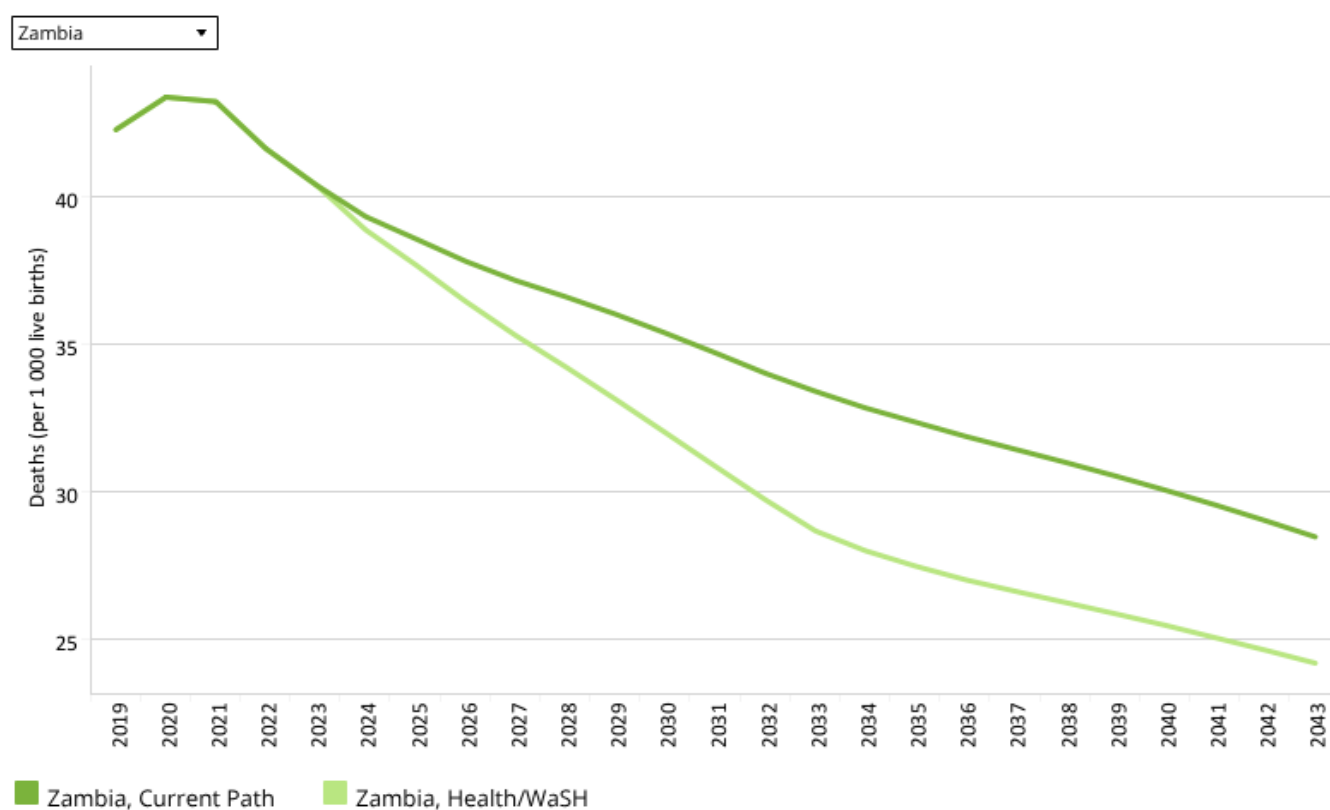Source: IFs 7.63 initialising from Institute for Health Metrics Evaluation GBD Foresight Tool data

This section presents reasonable but ambitious improvements in the Health/WaSH scenario, which include reductions in the mortality rate associated with both communicable diseases (e.g. AIDS, diarrhoea, malaria and respiratory infections) and non-communicable diseases (NCDs) (e.g. diabetes), as well as improvements in access to safe water and better sanitation. The acronym WaSH stands for water, sanitation and hygiene.

The intervention is explained in here in the thematic part of the website.

According to Zambia's Vision 2030 ambition, the country aims 'to provide secure access to safe potable water sources and improved sanitation facilities to 100% of the population in both urban and rural areas; to attain education for all; and, to provide equitable access to quality health care to all by 2030'.

Life expectancy in Zambia is low – even by comparable African and lower middle-income standards – largely owing to the lingering impact of HIV/AIDS. In 2019, the average life expectancy in Zambia was 59.7 years, eighth lowest in Africa and third lowest among its African income peers. In the Current Path forecast, life expectancy is set to increase to 66.4 years by 2043. Zambia will then have the second lowest life expectancy in lower middle-income Africa, above only Lesotho. The Health/WaSH scenario improves life expectancy in Zambia by almost one year, to 67.4 years, in 2043. By then the average life expectancy in Africa in the Current Path forecast would be 72.1 years and 73.3 years for lower middle-income Africa.

Chart 21: Infant mortality in CP and Health/WaSH scenario, 2019–2043
Deaths per 1 000 live births

Zambia

Deaths (per 1 000 live births)

2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043

■ Zambia, Current Path   ■ Zambia, Health/WaSH

Source: IFs 7.63 initialising from Institute for Health Metrics and Evaluation Mortality Visualization Tool data

In 2019 the rate of infant mortality in Zambia was 42.3 deaths per 1 000 live births, which is better than the average of 46.4 deaths for lower middle-income Africa. Infant mortality rates are high as a result of poor access to improved sanitation and water. The situation in rural areas is of particular concern.

On the Current Path, the rate of infant mortality is set to decline to 28.5 by 2043. As the average for lower middle-income Africa would have declined to 29.7 deaths per 1 000 by that time, Zambia will experience slower progress.

In the Health/WaSH scenario, Zambia's infant mortality rate declines to 24.2 by 2043 as infrastructure improves and preventable communicable disease death rates decline. In this scenario, Zambia makes more rapid progress than many other countries and will improve its ranking significantly, performing 1.7 percentage points better than the average for lower middle-income Africa by 2043.

Agriculture scenario

Chart 22: Yield/hectare in CP and Agric scenario, 2019–2043
Pre-loss levels

Zambia ▼

Legend: ■ Zambia, Current Path ■ Zambia, Agriculture
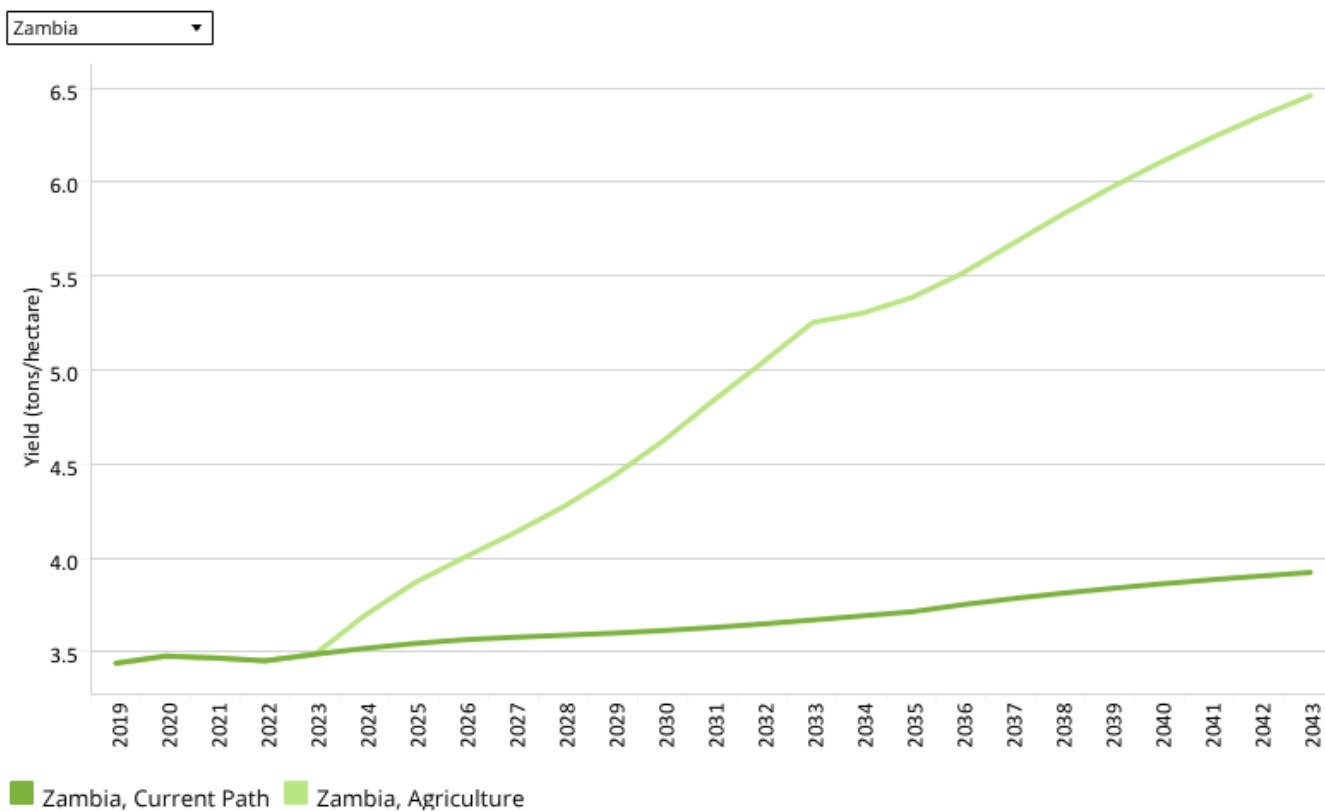
Source: IFs 7.63 initialising from FAOSTAT on-line statistical service data

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The Agriculture scenario represents reasonable but ambitious increases in yields per hectare (reflecting better management and seed and fertiliser technology), increased land under irrigation and reduced loss and waste. Where appropriate, it includes an increase in calorie consumption, reflecting the prioritisation of food self-sufficiency above food exports as a desirable policy objective.

The intervention is explained in here in the thematic part of the website.

The data on yield per hectare (in metric tons) is for crops but does not distinguish between different categories of crops.

Despite its large agricultural potential with sufficient water resources and a more favourable climate, Zambia suffers from significant levels of food insecurity and malnutrition rates are very high. Less than 6% of Zambia's total land area (74.3 million hectares) is used for crop production, 27% for grazing and 65% is covered by forests.

There are many reasons for poor yields and low levels of food production, including low levels of investment in irrigation systems and rural infrastructure, land use and tenure patterns. In IFs, only 155 700 hectares of farmland was irrigated in 2019 and the majority of farmers depend on rainfall, which is becoming increasingly variable.

Agriculture contributed 5.8% to Zambia's GDP in 2019 (equivalent to US$2 billion) and is set to decline to 3.4% of GDP by

2043 in the Current Path forecast, although its value increases to US$3.2 billion. Because IFs uses a sixfold sectoral categorisation of the economy, the contribution of agriculture to GDP in Zambia is significantly below what is often quoted in other sources, which consider agriculture contributing up to 20% of GDP – see Chart 8. In the Agriculture scenario, the 2043 contribution to GDP is expected to be 5.3% (equivalent to US$5.1 billion).

Domestic food production consists of crops such as maize, sorghum, millet and cassava, while exports include sugar, soybeans, coffee, groundnuts, rice and cotton, as well as horticultural produce.

In the Current Path forecast crop yields increase from 3.4 tons per hectare in 2019 to 3.9 tons in 2043, significantly below yields for lower middle-income Africa (6.1 tons per hectare). In the Agriculture scenario, crop yields improve to 6.5 tons per hectare in 2043, and the area of irrigated land increases to 442 500 hectares instead of the 2043 Current Path forecast of 157 00 hectares.

Chart 23: Agriculture imports in CP and Agric scenario, 2019–2043
Net imports for meat, crops and fish, % of demand
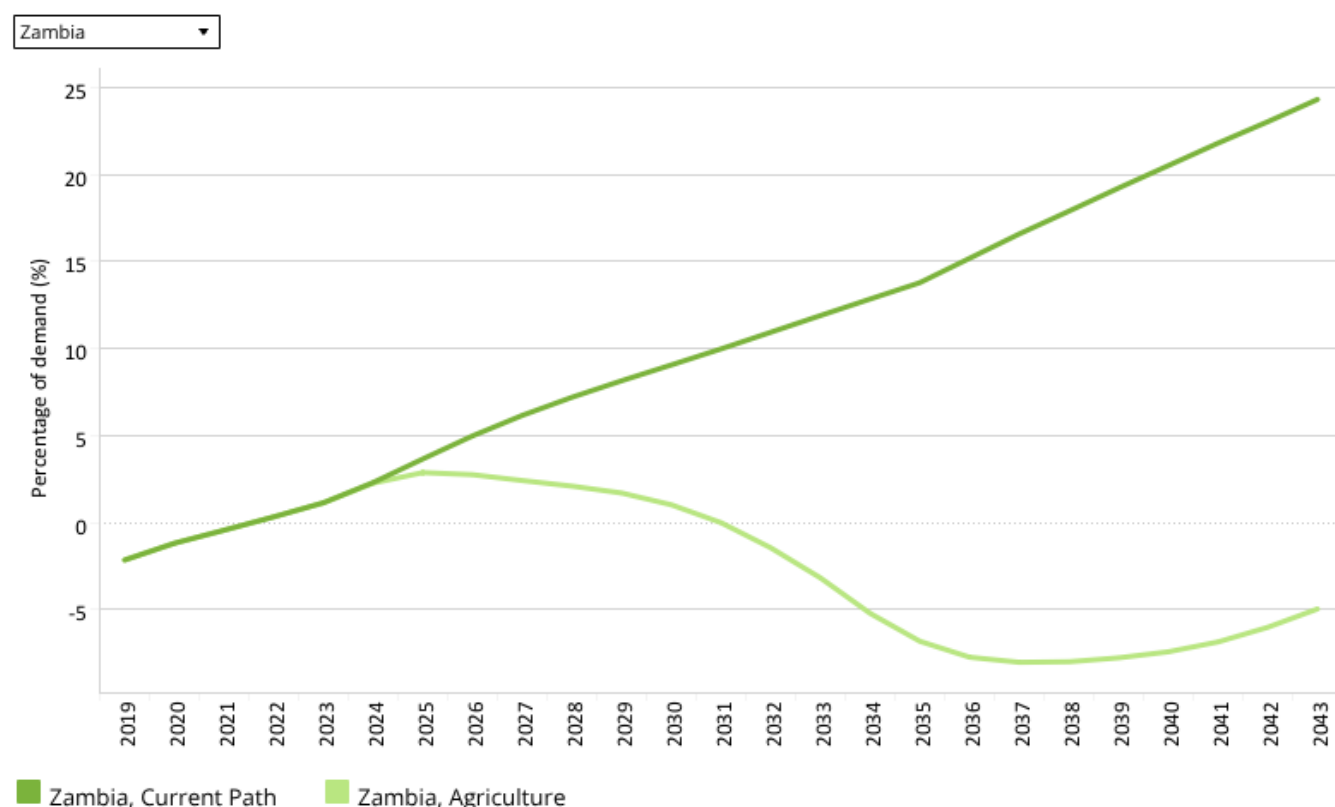
Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets data

In 2019, Zambia produced 14 million metric tons (MMT) of crops, mostly maize. Annual food production routinely exceeds domestic demand yet malnutrition rates are among the highest in the world. According to the World Food Programme (WFP) 'while food production at the national level routinely exceeds domestic requirements, the availability of and access to adequate nutritious food remains a challenge for many poor households, which is compounded by the country's over-reliance on maize. Overweight and obesity, especially among women, is a growing problem attributed to high consumption of unhealthy diets.'

The Current Path forecast is for crop production to increase to 22.7 MMT in 2043. In the Agriculture scenario crop

production is 62% larger (35 MMT) in 2043. As a result, the number of calories available per capita in this scenario increases from 2 117 in 2019 to 2 840, compared with 2 450 by 2043 on the Current Path. However, the distribution of calories is unequal. According to the WFP, 48% of Zambia's population is unable to meet their minimum calorie requirement and more than one-third of children under five years stunted.

In 2019, Zambia's crop production exceeded demand by just more than 2%. In the Current Path forecast, the country will import 24.3% of its crop requirements in 2043. In the Agriculture scenario, domestic production exceeds demand by nearly 5%, pointing to Zambia's potential and the benefits of improving the efficiency of the agricultural sector.

Chart 24: GDP per capita in the CP and Agric scenario, 2019–2043
Purchasing power parity
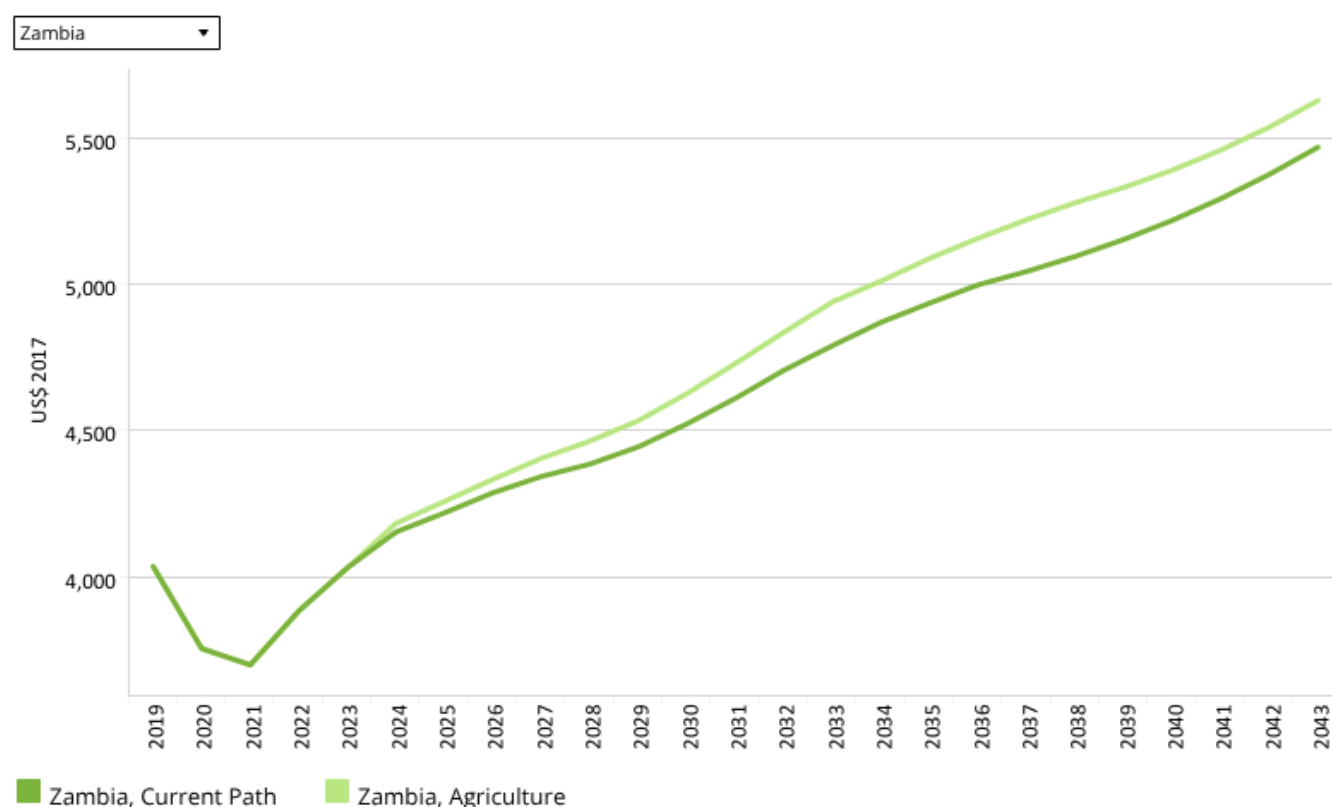
Zambia, Current Path Zambia, Agriculture

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

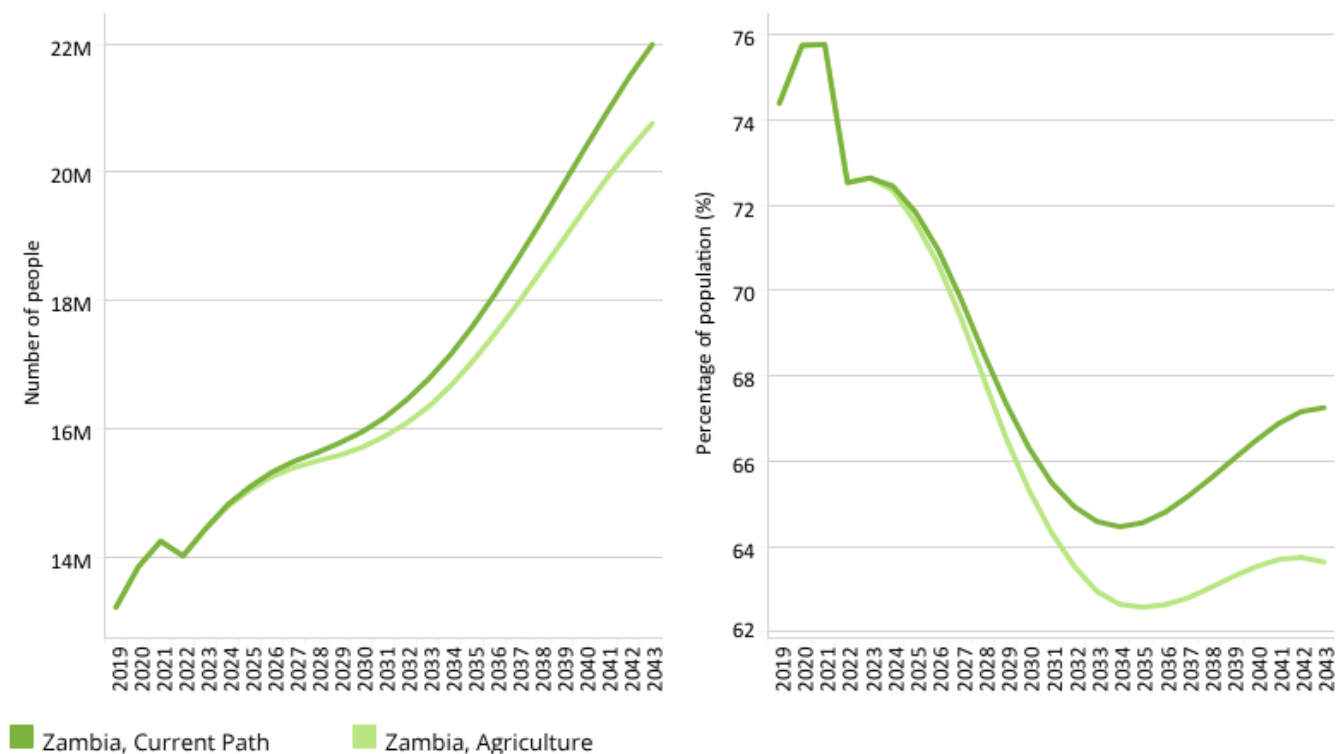View on Tableau Public   Share

On the Current Path, GDP per capita will be at US$5 467 in 2043, which is 35% above its level of US$4 036 in 2019. In the Agriculture scenario, per capita income increases to US$5 627 in 2043 – an improvement of US$160 (or 3%) above the Current Path forecast. The modest increase reflects the large portion of Zambians active in the informal sector and the high levels of extreme poverty.

Chart 25: Poverty in CP and Agric scenario, 2019–2043
Millions of people and % of total population

Zambia ▾ $3.20 ▾

■ Zambia, Current Path   ■ Zambia, Agriculture

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

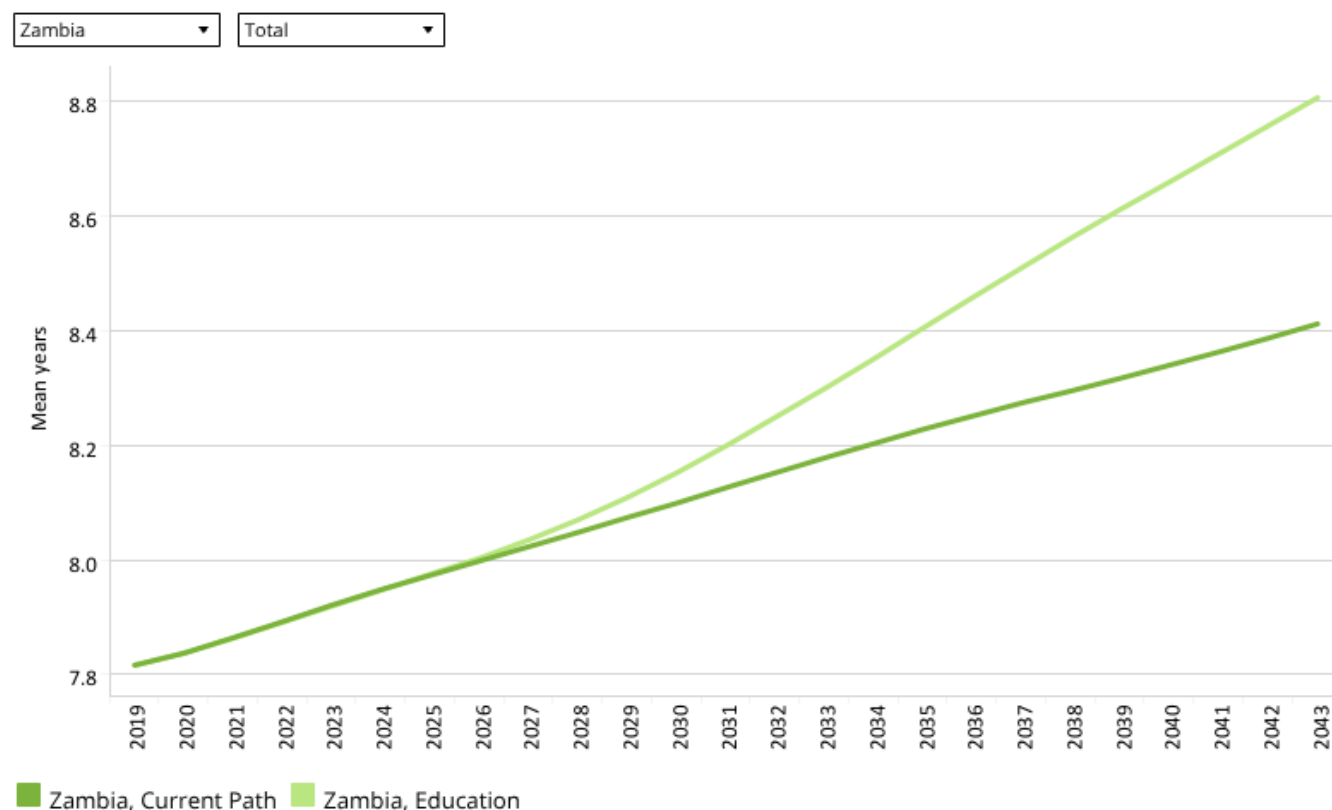⊹ View on Tableau Public   ↺ ↻ ↺ ↻ ▾ | ⬇▾ ▣ ⧉ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20), a number that is set to increase to 22 million by 2043 in the Current Path forecast, although representing a modest reduction to 67.3% of the population. In the Agriculture scenario, the number of extremely poor people declines to 20.8 million in 2043 (63.6% of the population), equivalent to a 4% reduction compared with the Current Path forecast.

Education scenario

Chart 26: Mean years of education in CP and Educ scenario, 2019–2043
Mean years of adult (+15) education

Zambia ▾   Total ▾

■ Zambia, Current Path   ■ Zambia, Education

Source: IFs 7.63 initialising from Barro-Lee data

⁛ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | 🖵▾ ⛶ ⚘ Share

The Education scenario represents reasonable but ambitious improved intake, transition and graduation rates from primary to tertiary levels and better quality of education. It also models substantive progress towards gender parity at all levels, additional vocational training at secondary school level and increases in the share of science and engineering graduates.

The intervention is explained in here in the thematic part of the website.

In 2019, the Zambian government's expenditure on education was 6.7% of GDP, more than half a percentage point higher than the average for lower middle-income countries in Africa. The Current Path forecast is that it will modestly decline to 6.2% by 2043, while the average for lower middle-income countries will decline by almost a percentage point. As a result, mean years of adult education (7.8 years in 2019) is forecast to increase to 8.4 years in 2043. In the Education scenario, it increases to 8.8 years and government expenditure is 0.2 percentage points higher in 2043. However, while mean years of adult education in Zambia in 2019 was almost half a year higher than the average for lower middle-income Africa, it will be slightly lower on the Current Path by 2043 – implying that most other countries at similar levels of development are doing better.

Despite significant improvement in access, the education system is plagued by inadequate resources, poor education quality and low progression rates. Although primary enrolment and completion rates are high, lower secondary and upper

secondary enrolment was 11 and 14 percentage points below the averages of lower middle-income African countries in 2019, respectively. Lower and upper secondary completion rates were both 10 percentage points below the average for lower middle-income Africa.

In summary, Zambia does well on primary education but its secondary education system does very poorly on almost every measure.

In the Current Path forecast, the percentage of Zambian adults who have achieved secondary graduation will remain roughly 11 percentage points below the average for lower middle-income Africa by 2043, although improving from 18% in 2019 to 26% in 2043.

Chart 27: Education quality in CP and Educ scenario, 2019–2043
Average test scores for primary and secondary learners
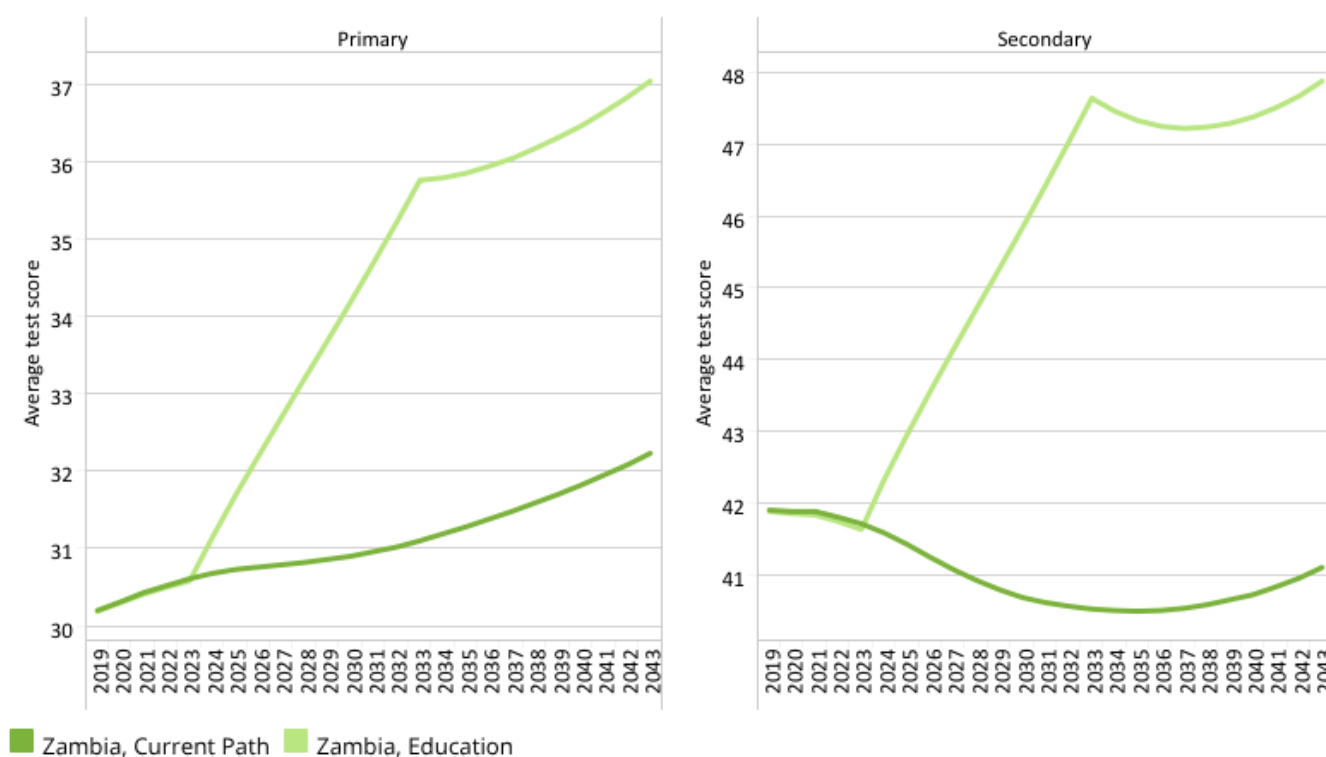
Source: IFs 7.63 initialising from World Bank EDSTATS

Education quality in Zambia is low. In 2019 the average total test score for primary school learners was 3.4% below the average for lower middle-income countries, with marginal prospects for improvement on the Current Path. Primary test scores in the Education scenario improves from 30.2 in 2019 to 37 by 2043, nearly 15 percentage points higher than in the Current Path forecast. Zambia does better on secondary test scores and its 2019 average is comparable to the average for lower middle-income Africa, perhaps because of the large drop in Zambia's enrolment numbers after primary school. By 2043, secondary test scores in the Education scenario are expected to have improved by almost 17% above the Current Path forecast.

Education quality is particularly low in rural Zambia owing to poor access, long distances and higher rates of poverty.

Chart 28: GDP per capita in CP and Educ scenario, 2019–2043
Purchasing power parity
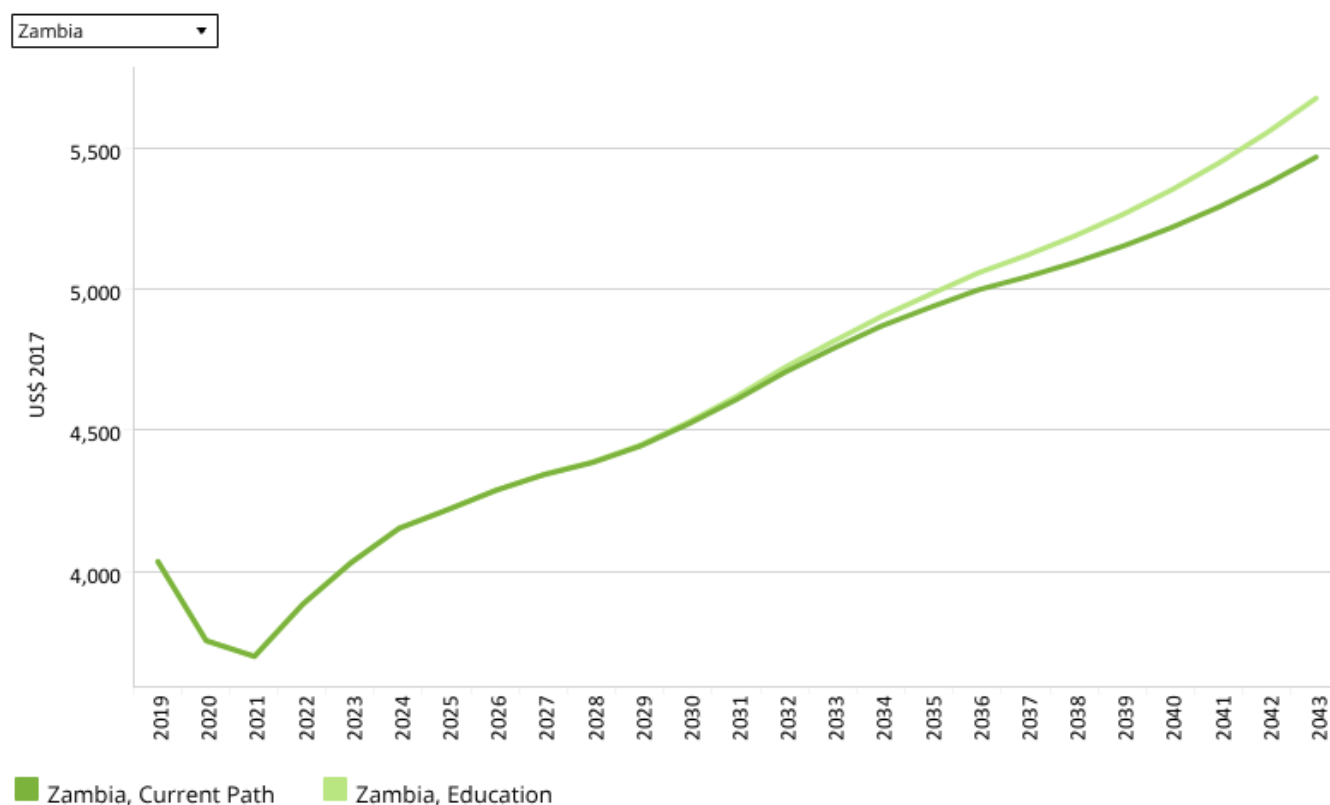
Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

On the Current Path, GDP per capita will be at US$5 467 in 2043. The Education scenario improves per capita income by 4% (or US$209) above the Current Path forecast in 2043. The modest contribution of education to incomes probably reflects the fact that most Zambians are active in the informal services sector, where additional educational attainment makes a limited contribution to productivity.

Chart 29: Poverty in CP and Educ scenario, 2019–2043
Millions of people and % of total population
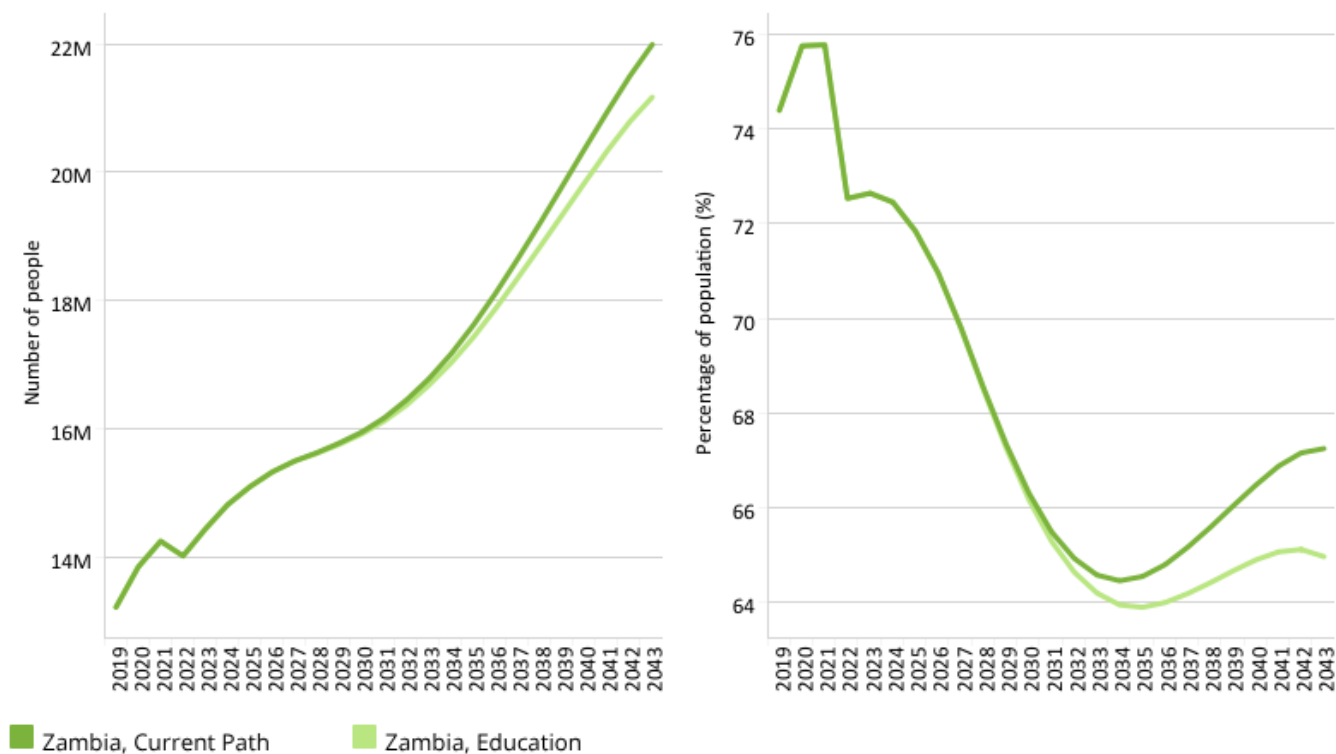
Zambia ▾ $3.20 ▾

■ Zambia, Current Path   ■ Zambia, Education

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

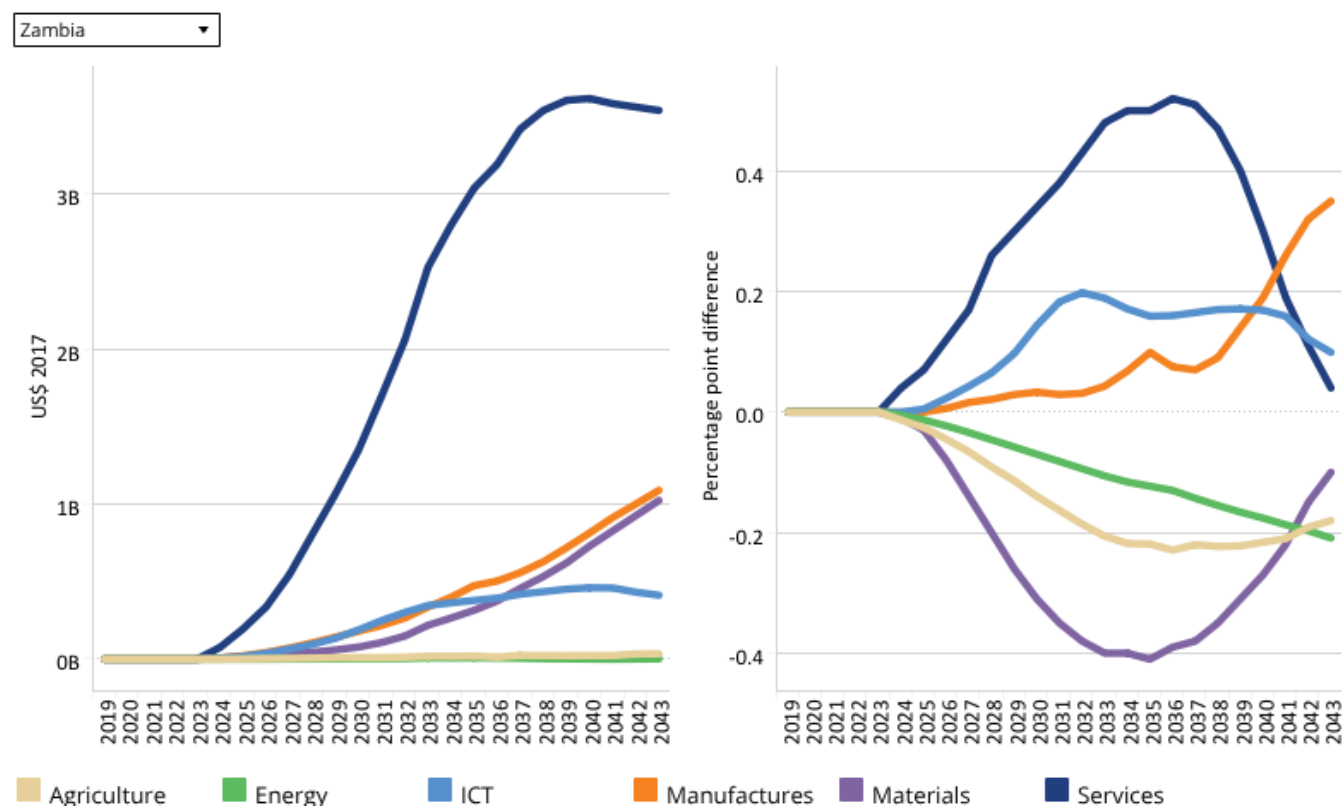⸬ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | ⎏ ▾ ⛶ ⚹ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20), a number that is set to increase to 22 million by 2043 in the Current Path forecast, although representing a modest reduction to 67.3% of the population. The impact of the Education scenario is to reduce extreme poverty by 2.3 percentage points, equivalent to 818 000 people. The modest contribution of better education to reducing extreme poverty is similar to its effect on GDP per capita.

Manufacturing scenario

Chart 30: Value added by sector in CP and Manufac/Transfers scenario, 2019–2043
Absolute and % point difference GDP

Zambia ▼

Agriculture · Energy · ICT · Manufactures · Materials · Services

Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

⁙ View on Tableau Public   ↶ ↷ ↺ ↪ ▼ | ⬇ ▼ ⬚ ⦵ Share

The Manufacturing/Transfers scenario represents reasonable but ambitious manufacturing growth through greater investment in the economy, investments in research and development, and promotion of the export of manufactured goods. It is accompanied by an increase in welfare transfers (social grants) to moderate the initial increases in inequality that are typically associated with a manufacturing transition. To this end, the scenario improves tax administration and increases government revenues.

The intervention is explained in here in the thematic part of the website.

Chart 31 should be read with Chart 8, which presents a stacked area graph on the contribution to GDP and size, in billion US$, of the Current Path economy for each of the sectors.

IFs uses a sixfold sectoral composition of the economy according to which manufactures contributed 10.5% to GDP in Zambia in 2019 (equivalent to US$3.7 billion). This is set to decline to 8.8% of GDP by 2032 before increasing to 12.1% by 2043 (US$11.2 billion). In the Manufacturing/Transfers scenario the contribution from manufactures increases by 0.4 percentage points above the Current Path forecast, reflecting an additional US$1.1 billion by 2043.

To date, Zambia's efforts to promote and facilitate industrial growth have been unsuccessful. The efforts in the 1980s to put the state in control of the industrial sector were followed by efforts to increase the role of the private sector, with

similarly dismal results. The failure is reflected in the fact that the contribution from the sector was more than eight percentage points below the average for Africa's 23 lower middle-income economies in 2019. In both the Current Path forecast and the Manufacturing/Transfers scenario, the gap increases to 11 percentage points by 2043, reflecting poor industrial growth even by comparative African standards.

In addition to inappropriate policy and poor implementation, the reasons for slow growth can largely be found in the country's poor human capital endowment and lack of infrastructure.

Chart 31: Gov welfare transfers in CP and Manufac/Transfers scenario, 2019–2043
Billions US$ 2017

Source: IFs 7.63 initialising from World Development Indicators data
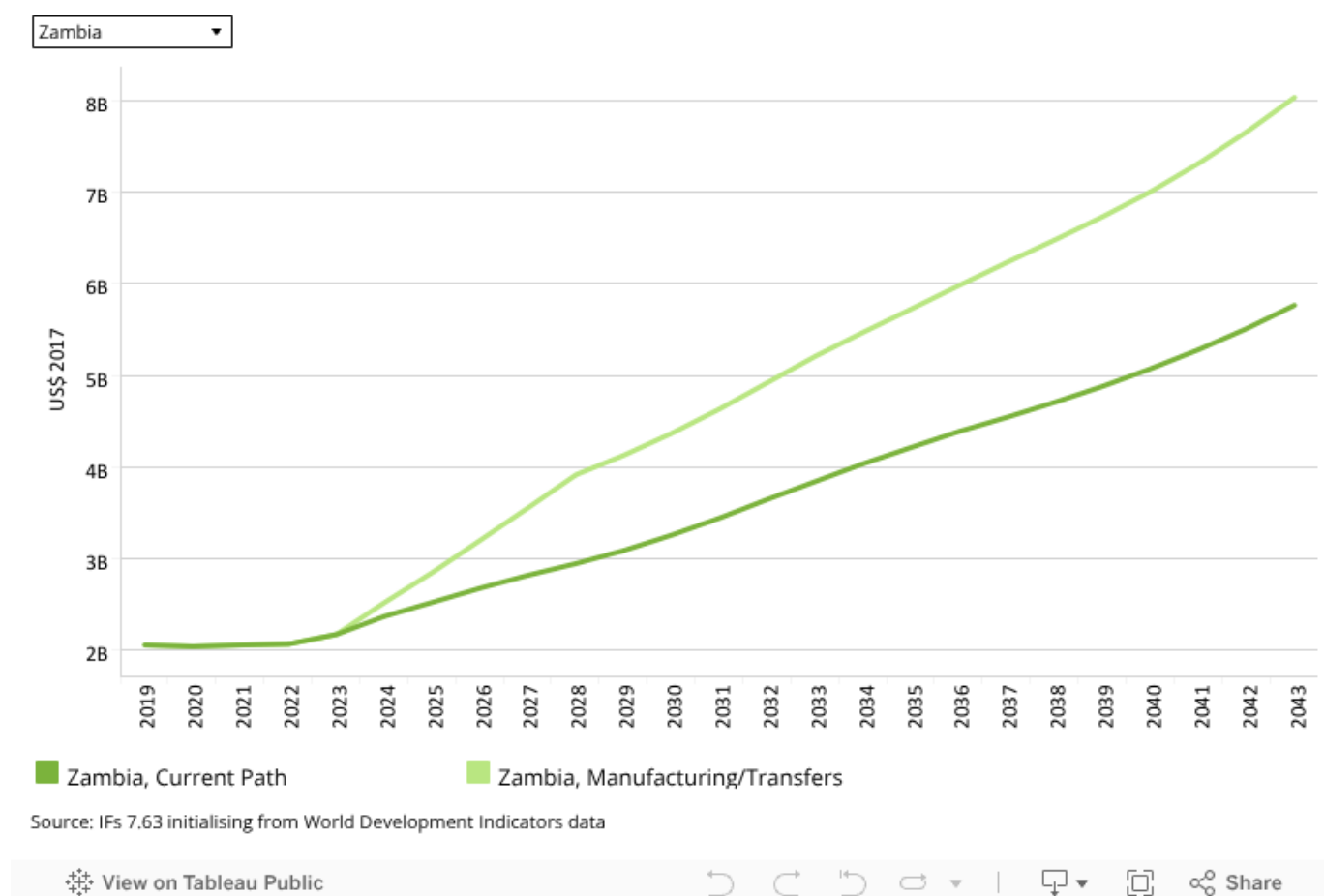
In 2019, government welfare transfers amounted to US$2.05 billion, increasing to US$5.77 billion by 2043 in the Current Path forecast. In the Manufacturing/Transfers scenario, welfare transfers increase to US$8 billion. Most of the current funding is from donors as part of the Social Cash Transfer Program. For example, in 2020, financing by the World Bank and UK and Swedish governments benefited 370 000 households, with plans being to increase the number of beneficiaries to 994 000 by 2022.

Chart 32: GDP per capita in CP and Manufac/Transfers scenario, 2019–2043
Purchasing power parity
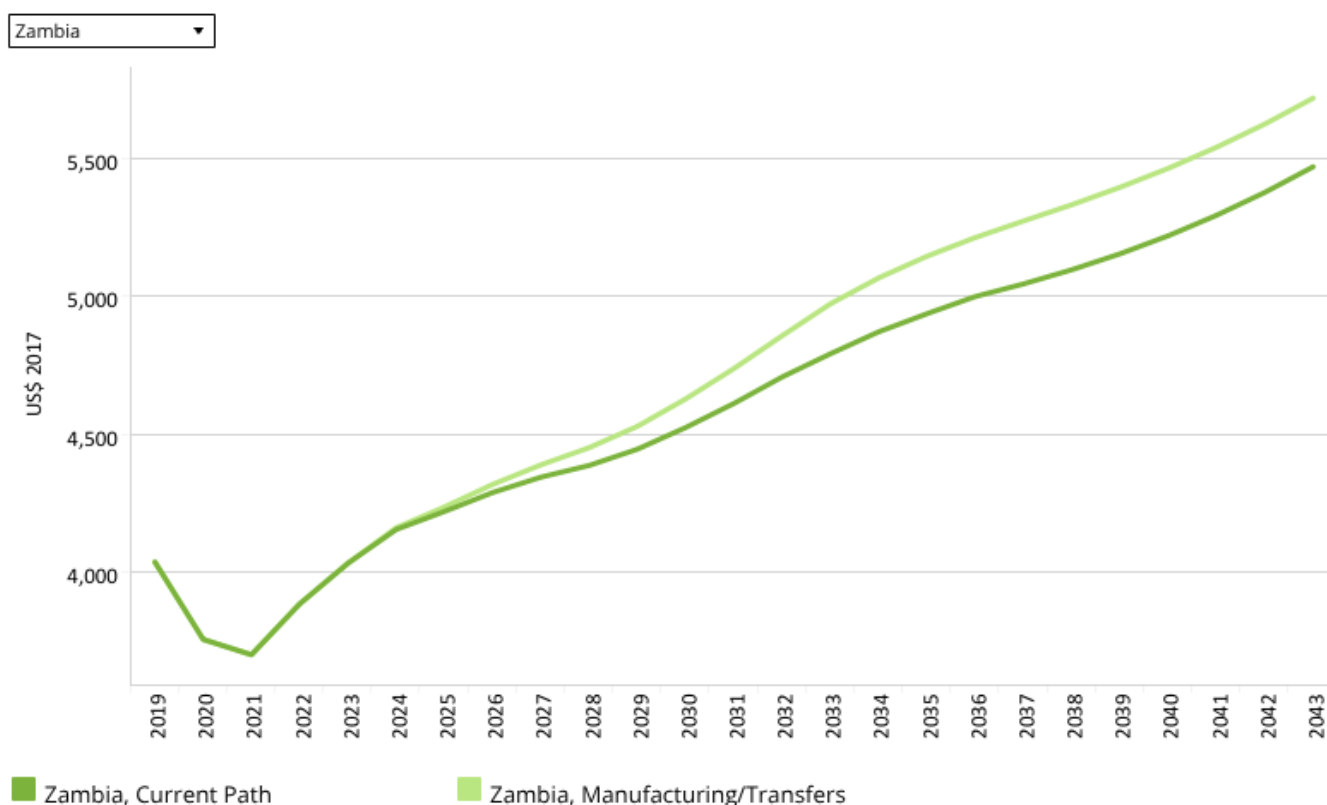
Zambia

Zambia, Current Path   Zambia, Manufacturing/Transfers

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

⊹ View on Tableau Public   ↶ ↷ ↺ ↪ ▾ | ⬇ ▾ ⬚ ⸰⟨ Share

On the Current Path, GDP per capita will be at US$5 467 in 2043, which is 35% above its level of US$4 036 in 2019. By 2043, it improves by 5% (equivalent to US$249) in the Manufacturing/Transfer scenario, reaching US$5 716. Zambia benefits less from the interventions proposed under the Manufacturing/Transfers scenario than the average for lower middle-income Africa.

Chart 33: Poverty in CP and Manufac/Transfers scenario, 2019–2043
Millions of people and % of total population

Zambia | $3.20

Zambia, Current Path   **Zambia, Manufacturing/Tr…**

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
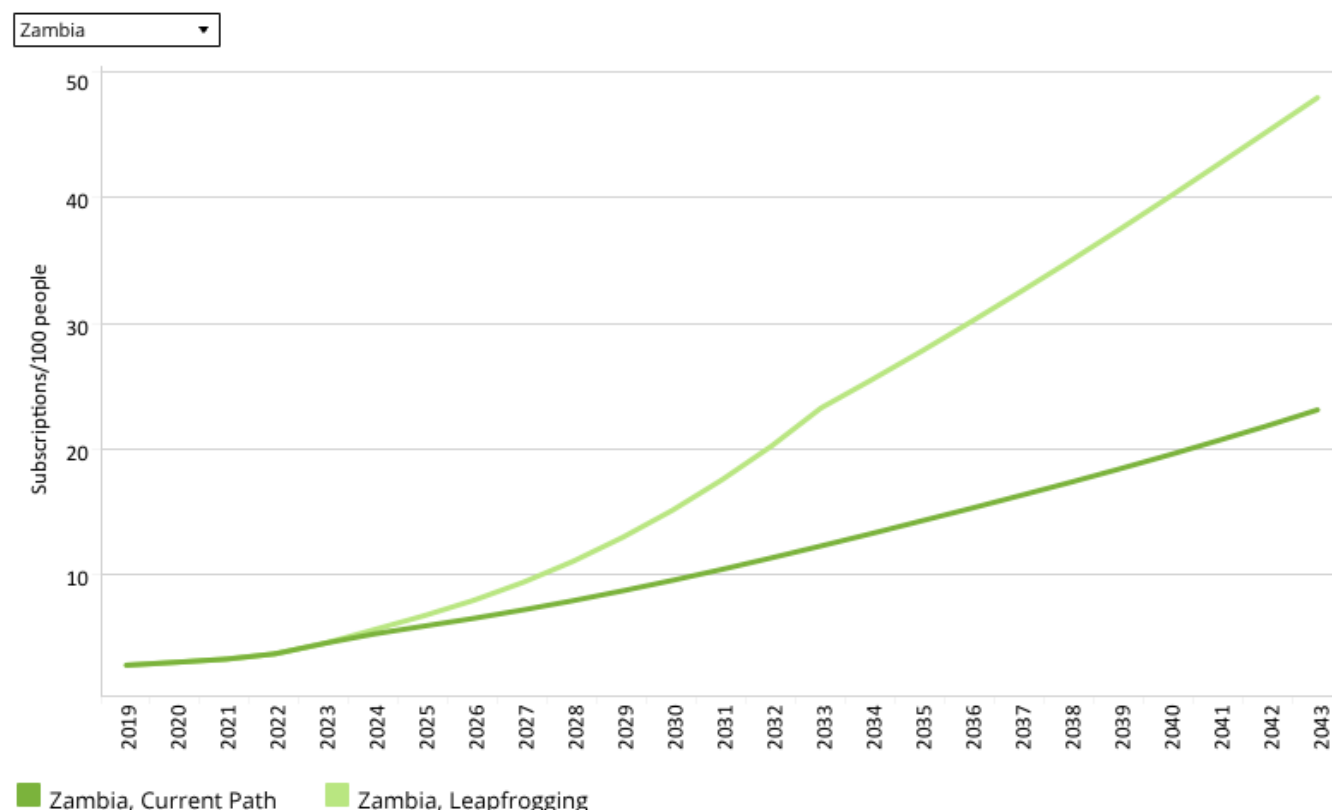
⊹ View on Tableau Public   ↺ ↻ ↶ ↷ ▾ | ⬇▾ 🗗 ⊗ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20), a number that is set to increase to 22 million by 2043 on the Current Path, although representing a modest reduction to 67.3% of the population. The Manufacturing/Transfers scenario results in a reduction of 2.4% (820 000) fewer people living in extreme poverty by 2043.

Chart 34: Fixed broadband access in CP and Leapfrogging scenario, 2019–2043
Subscriptions per 100 people

Zambia, Current Path   Zambia, Leapfrogging

Source: IFs 7.63 initialising from International Telecommunication Union data

The Leapfrogging scenario represents a reasonable but ambitious adoption of and investment in renewable energy technologies, resulting in better access to electricity in urban and rural areas. The scenario includes accelerated access to mobile and fixed broadband and the adoption of modern technology that improves government efficiency and allows for the more rapid formalisation of the informal sector.

The intervention is explained in here in the thematic part of the website.

Fixed broadband includes cable modem Internet connections, DSL Internet connections of at least 256 KB/s, fibre and other fixed broadband technology connections (such as satellite broadband Internet, ethernet local area networks, fixed-wireless access, wireless local area networks, WiMAX, etc.).

Zambia, and Africa more generally, is moving rapidly towards high rates of access to mobile broadband (Chart 35) although fixed broadband subscriptions are also increasing. Statistics from the Zambia Information and Communications Technology Authority show that about 56% of Zambians have Internet service, with less than 1% connecting through PCs. Most people access the Internet using smartphones, with the majority using feature phones.

In 2019, the number of fixed broadband subscriptions per 100 people in Zambia was less than 3, roughly in line with the average for lower middle-income Africa. In the Current Path forecast, rates will increase to above 23 by 2043 – slightly

below the average of 26.5 for Africa's lower middle-income countries. In the Leapfrogging scenario, the number of subscriptions per 100 people increase to 48 by 2043, which is more than double the Current Path forecast and on par with the average for lower middle-income Africa.

Chart 35: Mobile broadband access in CP and Leapfrogging scenario, 2019–2043
Subscriptions per 100 people
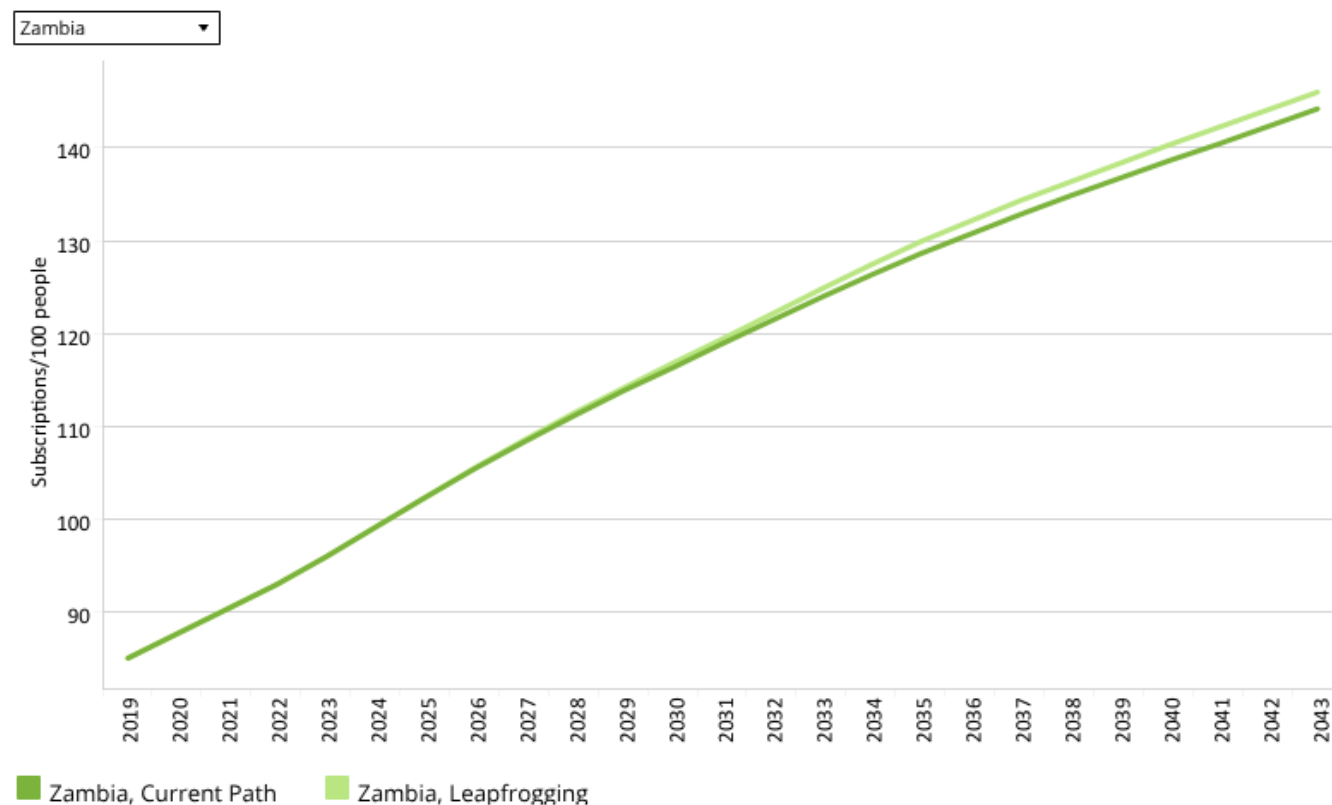
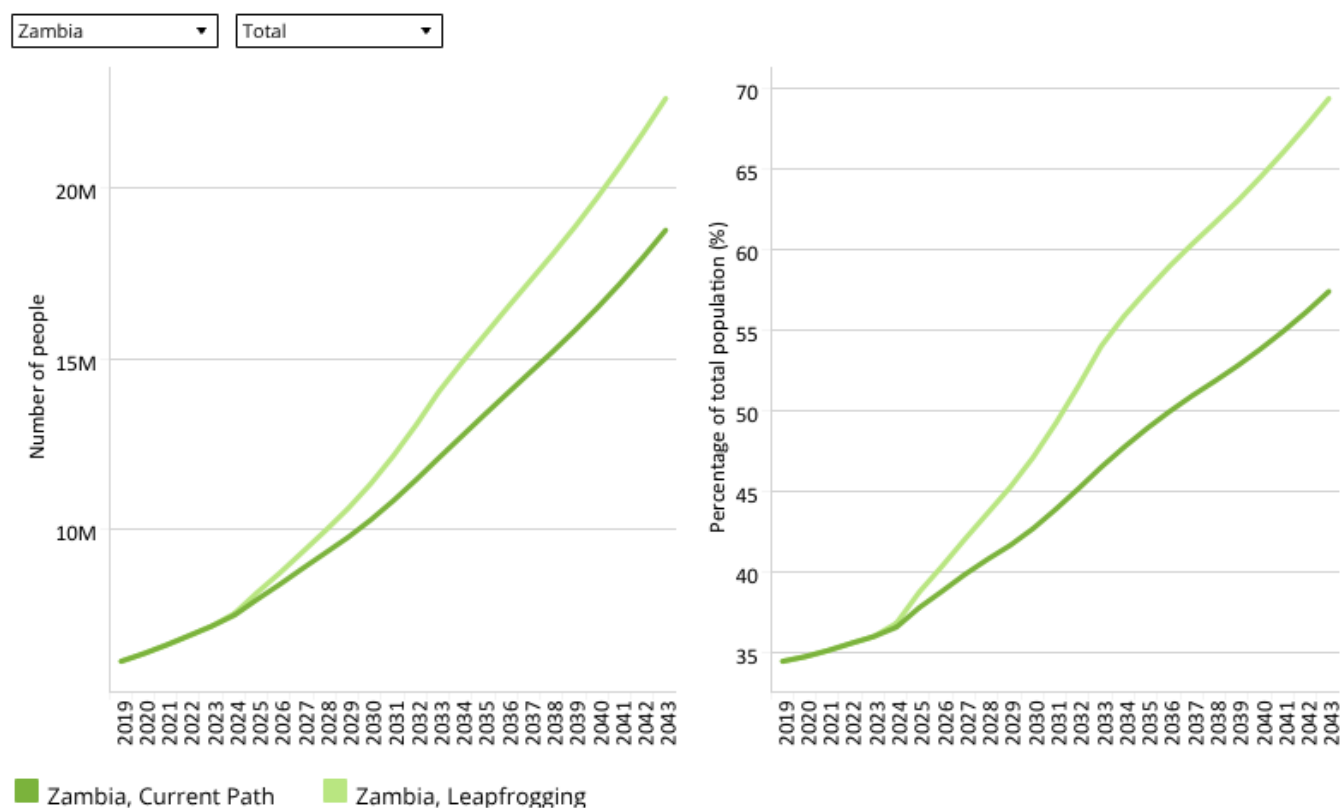Source: IFs 7.63 initialising from International Telecommunication Union data

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Mobile broadband refers to wireless Internet access delivered through cellular towers to computers and other digital devices.

In 2019, the number of mobile broadband subscriptions per 100 people in Zambia was 85, significantly above the 49 for lower middle-income Africa. In 2043, subscriptions are forecast to increase to 144.2, with the rate of increase slowing down as rates reach saturation. Because of the rapid increase in the Current Path, the impact of the Leapfrogging scenario is quite modest – with subscriptions increasing to 146 by 2043 – although the scenario pushes up the rate of increase quite rapidly during the early years.

Chart 36: Electricity access in CP and Leapfrogging scenario, 2019–2043
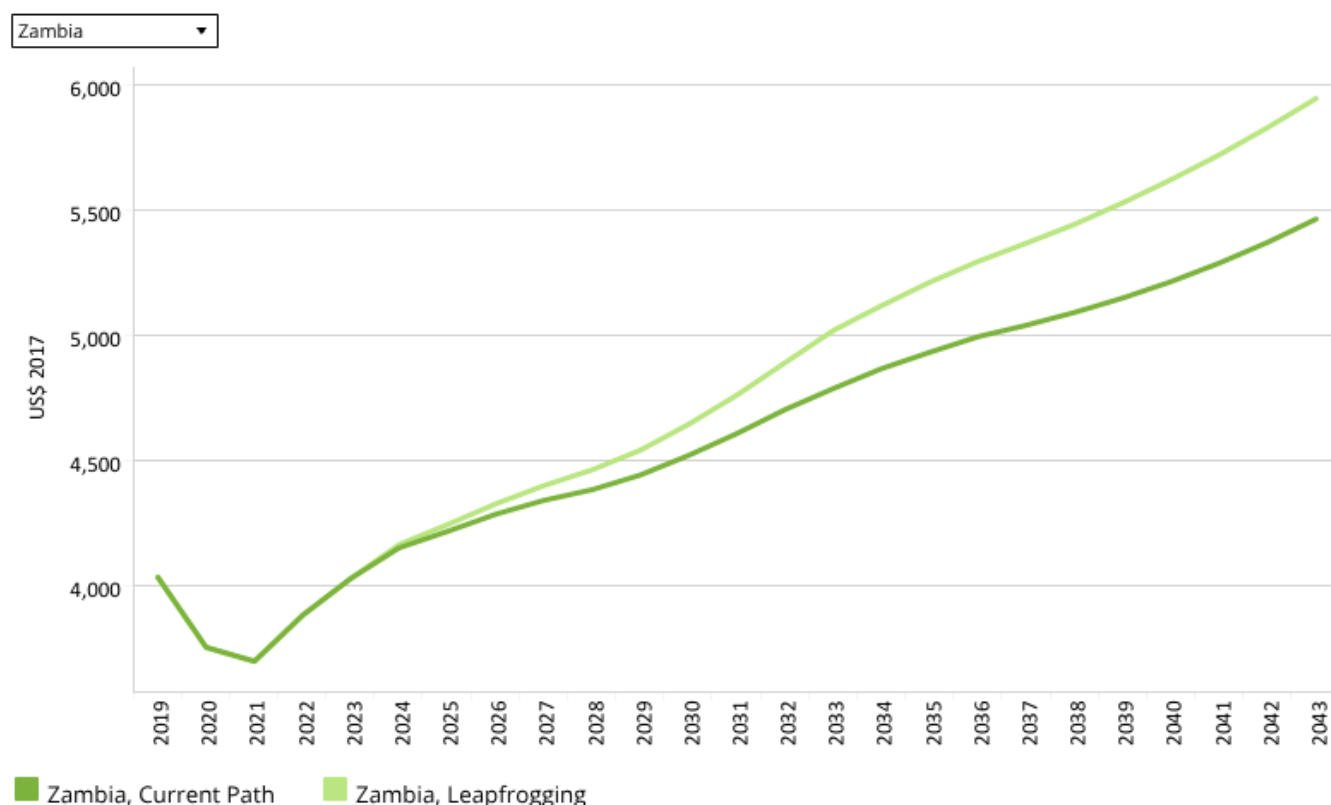Millions of people and % of population

Zambia ▾   Total ▾

■ Zambia, Current Path   ■ Zambia, Leapfrogging

Source: IFs 7.63 initialising from World Development Indicators data

⊹ View on Tableau Public   ↺ ↻ ↶ ↷ ▾ | ⬇▾ ⬚ ⤳ Share

In 2019, just more than a third of Zambians had electricity access (34.5%). In the Current Path forecast, the rate will improve to 57.4% by 2043 and to 69.3% in the Leapfrogging scenario. Rural rates are, however, extremely low, below 10% in 2019 and forecast to improve to only 22.2% by 2043, when 14.4 million Zambians will still be living in rural areas. In the Leapfrogging scenario, rates improve to 36.9%. These rates are significantly below the average for Africa and African lower middle-income countries.

Chart 37: GDP per capita in CP and Leapfrogging scenario, 2019–2043
Purchasing power parity

Zambia

■ Zambia, Current Path   ■ Zambia, Leapfrogging

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
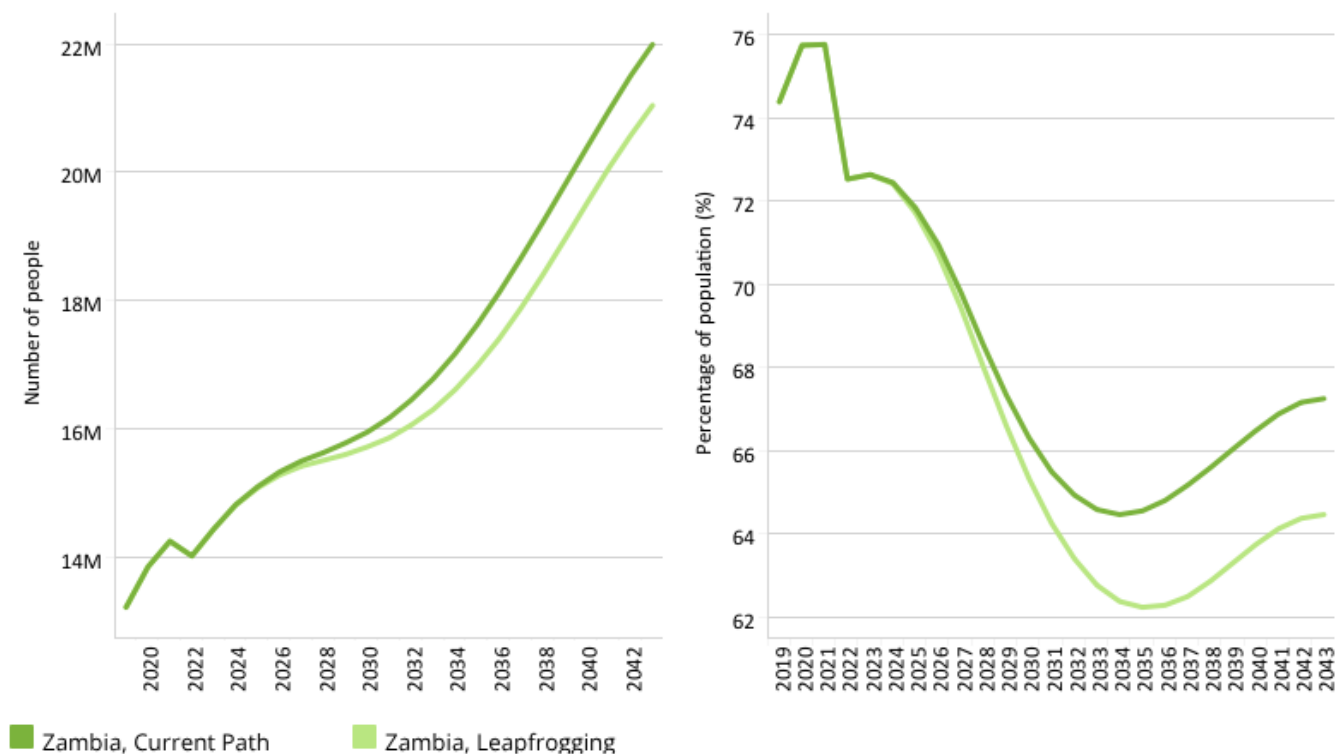
⊹ View on Tableau Public

Zambia stands to benefit greatly from the interventions proposed in the Leapfrogging scenario. On the Current Path, GDP per capita will be at US$5 467 in 2043, whereas in the Leapfrogging scenario it gets to US$5 949 – 9% above the Current Path forecast.

Chart 38: Poverty in CP and Leapfrogging scenario, 2019–2043
Millions of people and % of total population

| Zambia | ▼ | | $3.20 | ▼ |

■ Zambia, Current Path   ■ Zambia, Leapfrogging

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
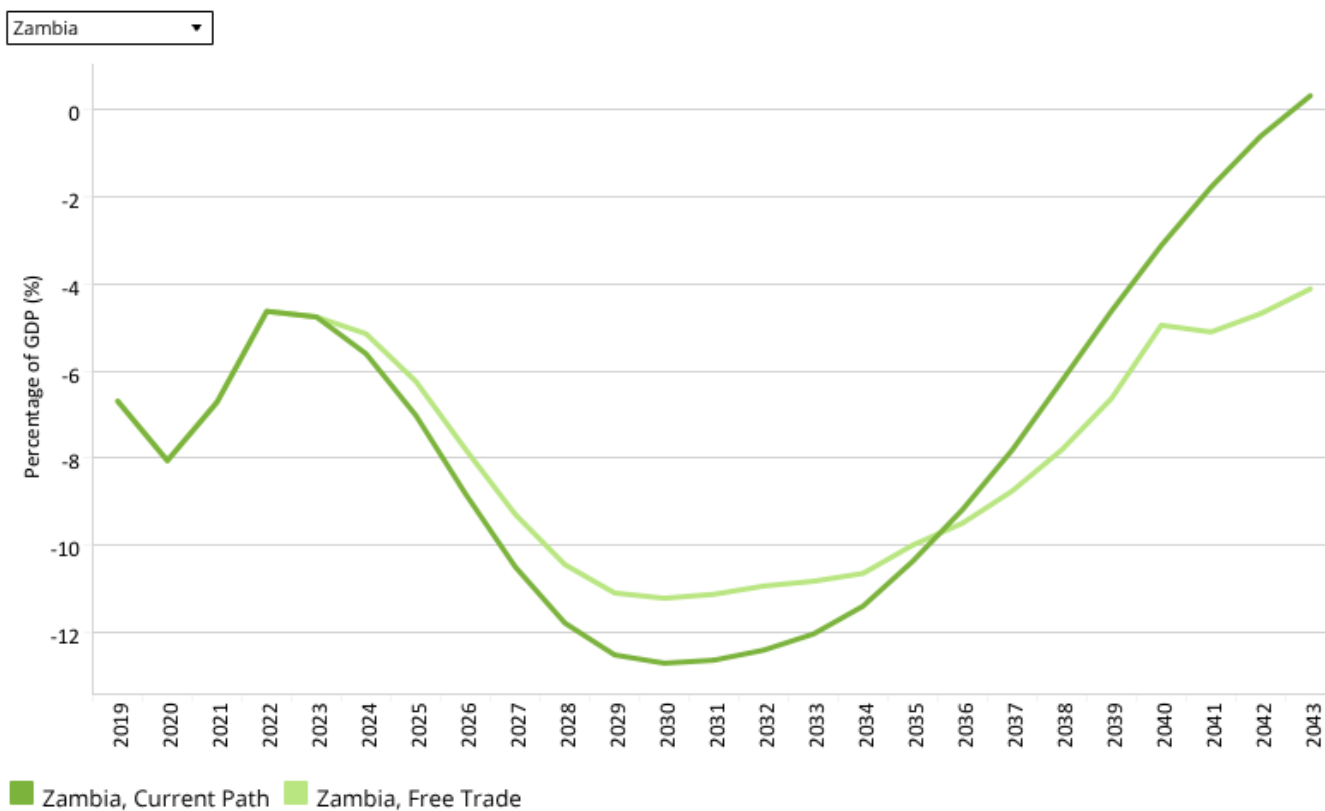
⊹ View on Tableau Public   ↶ ↷ ↶ ↷ ▾ | ⬇▾ ▣ ⅇ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using US$3.20), a number that is set to increase to 22 million by 2043 in the Current Path forecast, although representing a modest reduction to 67.3% of the population. The Leapfrogging scenario reduces the number of people living in extreme poverty in 2043 by 957 000, a 3% reduction.

Free Trade scenario

Chart 39: Trade balance in CP and Free Trade scenario, 2019–2043
% of GDP

Zambia, Current Path   Zambia, Free Trade

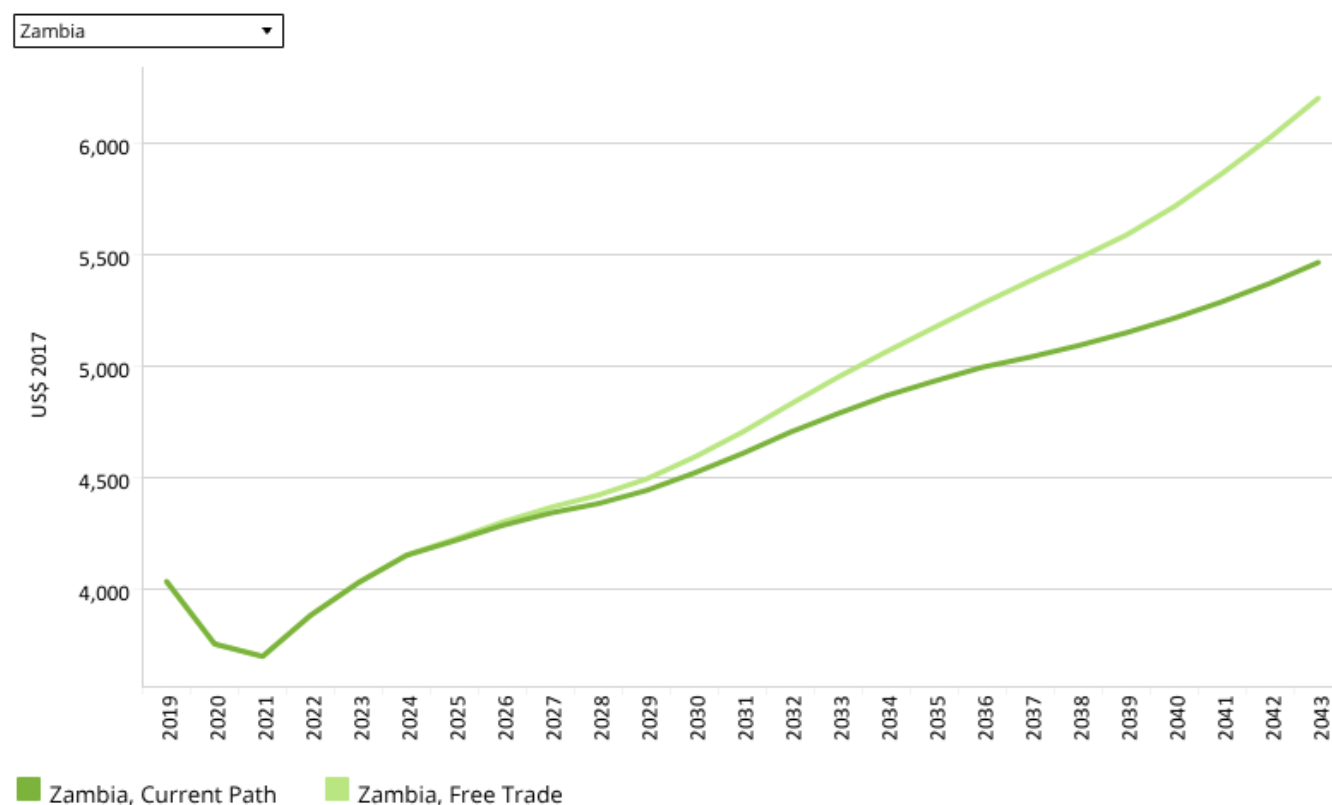Source: IFs 7.63 initialising from World Development Indicators data

The Free Trade scenario represents the impact of the full implementation of the African Continental Free Trade Area (AfCFTA) by 2034 through increases in exports, improved productivity and increased trade and economic freedom.

The intervention is explained in here in the thematic part of the website.

The trade balance is the difference between the value of a country's exports and its imports. A country that imports more goods and services than it exports in terms of value has a trade deficit, while a country that exports more goods and services than it imports has a trade surplus.

In 2019, Zambia ran a trade deficit equivalent to 6.7% of GDP, set to change to a small surplus in 2043 on the Current Path forecast. The impact of the Free Trade scenario is to increase exports and imports and, by 2043, Zambia is forecast to run a trade deficit equivalent to 4.1% of GDP. In 2019, exports were valued at US$11.6 billion, increasing to US$38.6 billion on the Current Path by 2043. In the Free Trade scenario, the 2043 value of exports will increase to US$55 billion – a difference of US$16.4 billion. Imports are set to increase from US$14.1 billion in 2019 to US$59.7 billion in 2043 in the Free Trade scenario.

Chart 40: GDP per capita in CP and Free Trade scenario, 2019–2043
Purchasing power parity

Zambia ▼

■ Zambia, Current Path   ■ Zambia, Free Trade

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
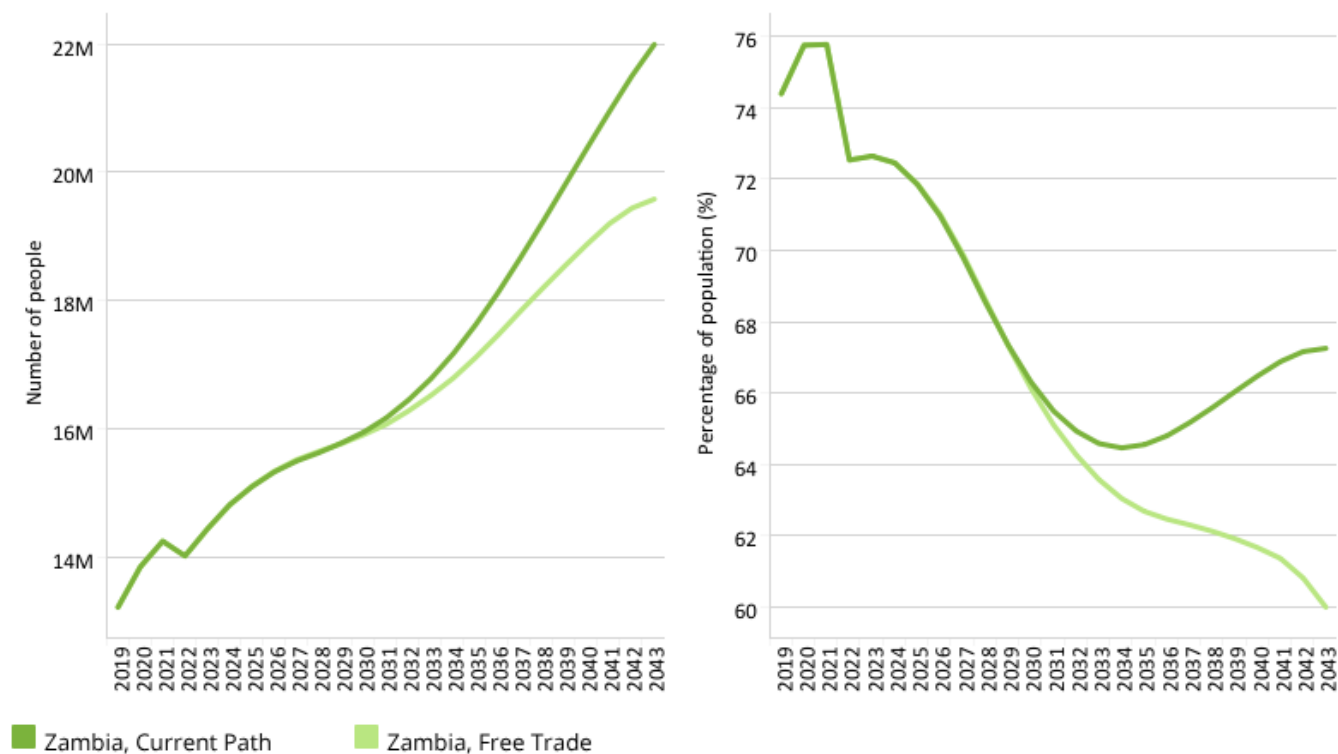
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Zambia stands to benefit greatly from the interventions proposed in the Free Trade scenario. On the Current Path, GDP per capita will be at US$5 467 in 2043, whereas in the Free Trade scenario it gets to US$6 204 – almost 14% (US$737) above the Current Path forecast. This reflects the huge potential of the AfCFTA for improving livelihoods in Zambia.

Chart 41: Poverty in CP and Free Trade scenario, 2019–2043
Millions of people and % of total population

Zambia | $3.20

Zambia, Current Path   Zambia, Free Trade

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
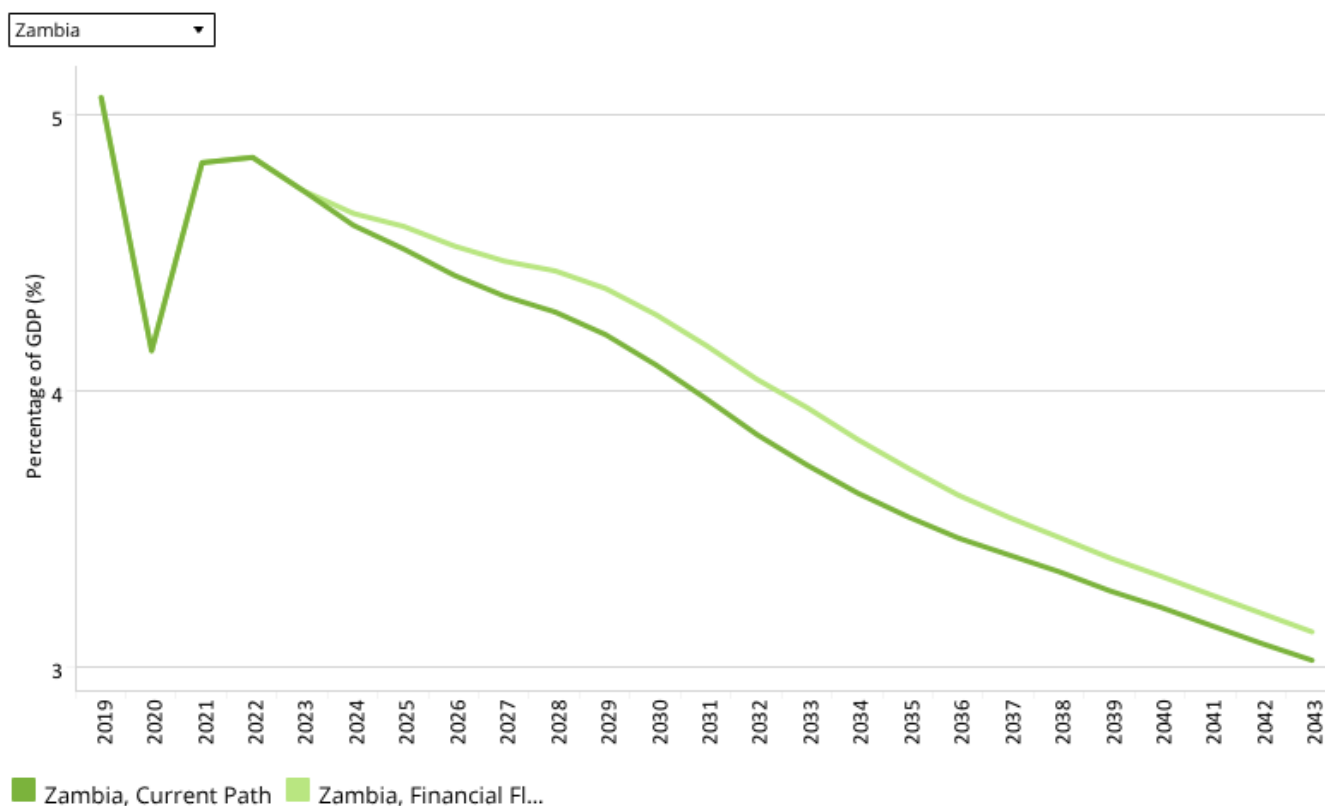
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In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty (using U$3.20), a number that is set to increase to 22 million by 2043 on the Current Path forecast, although representing a modest reduction to 67.3% of the population. The Free Trade scenario will lift an additional 2.4 million people out of poverty by 2043 compared with the Current Path forecast. This is equivalent to a 7.3% poverty reduction, resulting in a 60% poverty rate by 2043.

Financial Flows scenario

Chart 42: Foreign aid in CP and Financial Flows scenario, 2019–2043
% of GDP

Zambia, Current Path   Zambia, Financial Fl...

Source: IFs 7.63 initialising from Development Assistance Committee of the OECD data, and World Bank and OECD GNI estimates.
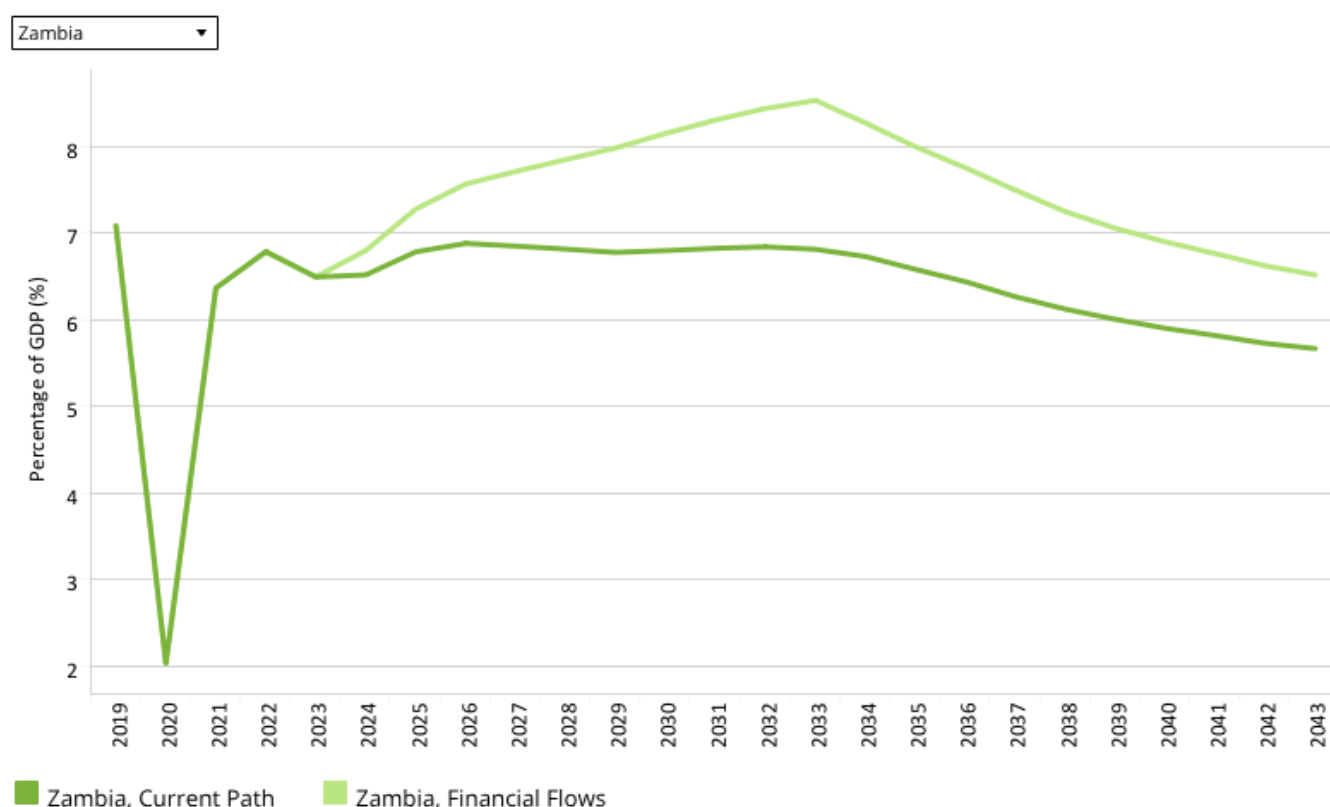
⊹ View on Tableau Public

The Financial Flows scenario represents a reasonable but ambitious increase in worker remittances and aid flows to poor countries, and an increase in the stock of foreign direct investment (FDI) and additional portfolio investment inflows to middle-income countries. We also reduced outward financial flows to emulate a reduction in illicit financial outflows.

The intervention is explained in here in the thematic part of the website.

In 2019, Zambia received US$1.79 billion dollars in net foreign aid. In the Financial Flows scenario net aid decreases to US$2.96 billion in 2043 compared with US$2.80 billion on the Current Path, representing an increase of 6%. Given the steady growth in the Zambian economy, aid, as a portion of GDP, declines from 5.1% in 2019 to 3% in the Current Path forecast and to 3.1% in the Financial Flows scenario.

## Chart 43: Inflow of FDI in CP and Financial Flows scenario, 2019–2043
% of GDP

Zambia ▼

Zambia, Current Path   Zambia, Financial Flows

Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

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FDI inflows to Zambia increased considerably when its economy opened in the 1990s, although largely on the back of an ambitious privatisation programme from 1994 to 2001, investments in copper and cobalt extraction, horticulture, floriculture and tourism. In 2019, Zambia received 7.1% of GDP in FDI inflows, among the highest rates in Africa, although rates fluctuate significantly from year to year. Most, if not all, of that investment went into the mining sector (materials within IFs) and little to more productive sectors that could contribute to the structural transformation of the Zambian economy, such as manufactures. By 2043, the rate declines to 5.7% of GDP in the Current Path forecast and 6.5% in the Financial Flows scenario. In the Financial Flows scenario, the stock of FDI in Zambia grows from US$28.8 billion in 2019 to US$87.5 billion in 2043. In the Current Path forecast it is set to be US$75.3 billion. Zambia's stock of FDI, therefore, improves by 16%. According to a 2021 Investment Climate Statement from the US Department of State: 'Cumbersome administrative procedures and unpredictable legal and regulatory changes inhibit Zambia's immense potential for private sector investment. This is compounded by insufficient transparency in government contracting, ongoing lack of reliable electricity, and the high cost of doing business due to poor infrastructure, the high cost of capital, and lack of skilled labour.'

Chart 44: Remittances in CP and Financial Flows scenario, 2019–2043
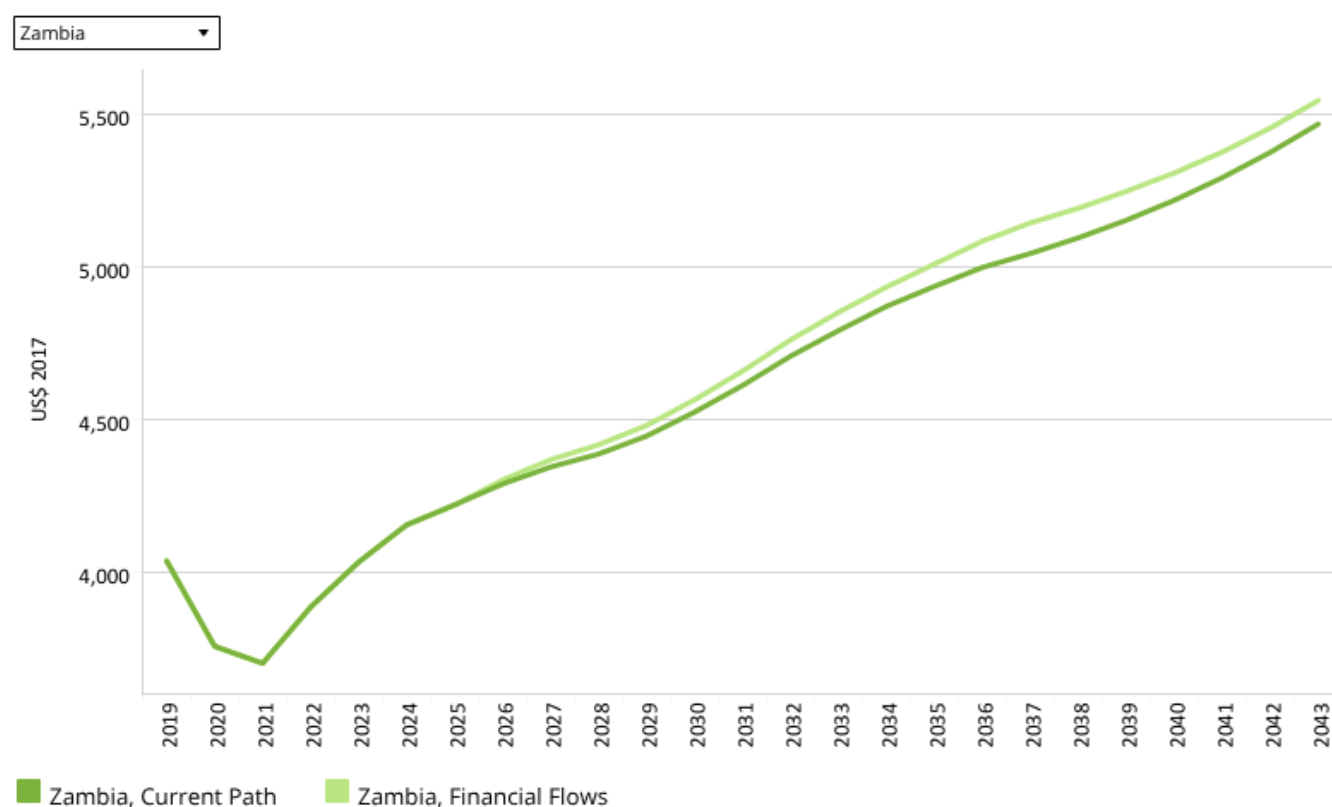Billions US$ 2017 and % of GDP
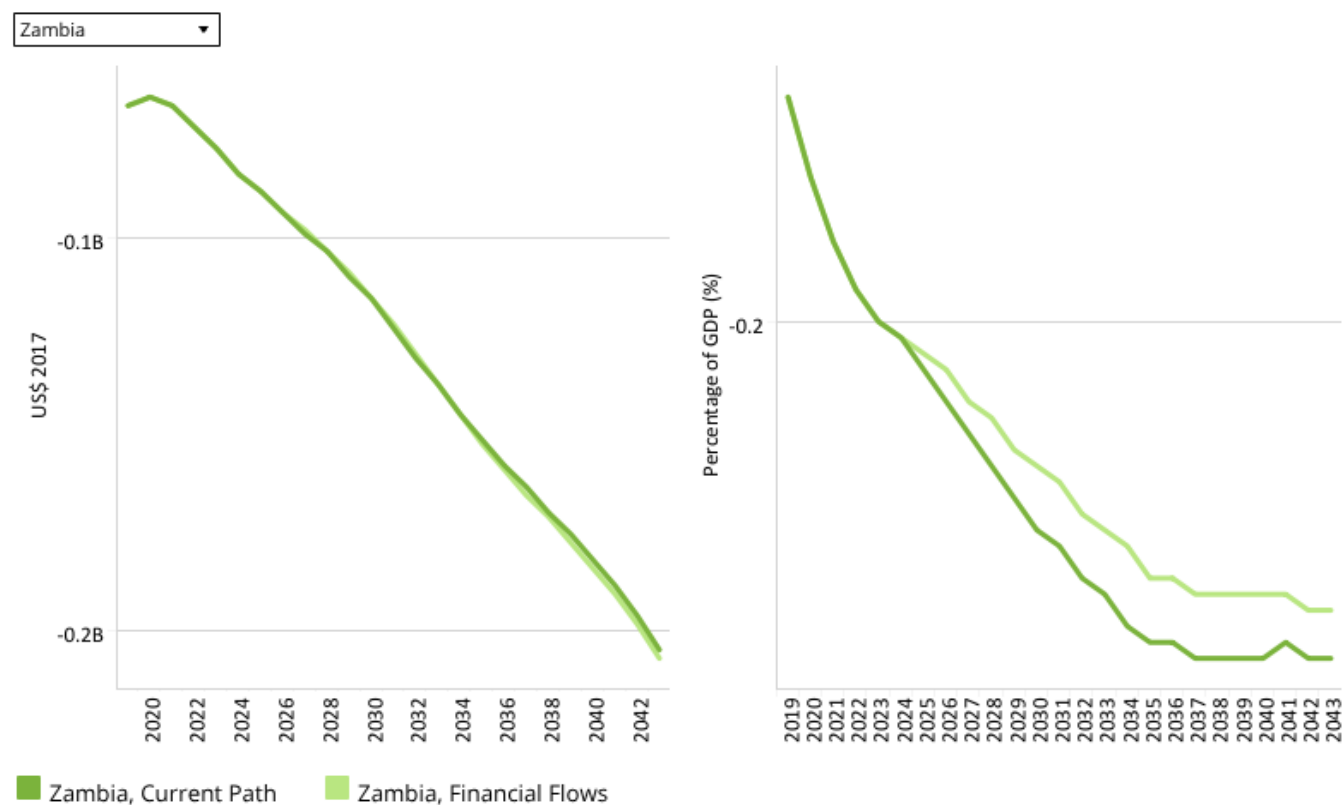
Zambia ▼

■ Zambia, Current Path   ■ Zambia, Financial Flows

Source: IFs 7.63 initialising from World Development Indicators data

⁙ View on Tableau Public   ↺ ↻ ↺ ↻ ▾ | ⊡ ▾ ⊡ ⤴ Share

In 2019 Zambia registered a net outflow of US$66 million in remittances within IFs. In the Current Path forecast, the size of the outflow increases to US$205 million. The Financial Flows scenario has a negligible impact on remittances.

Chart 45: GDP per capita in CP and Financial Flows scenario, 2019–2043
Purchasing power parity

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
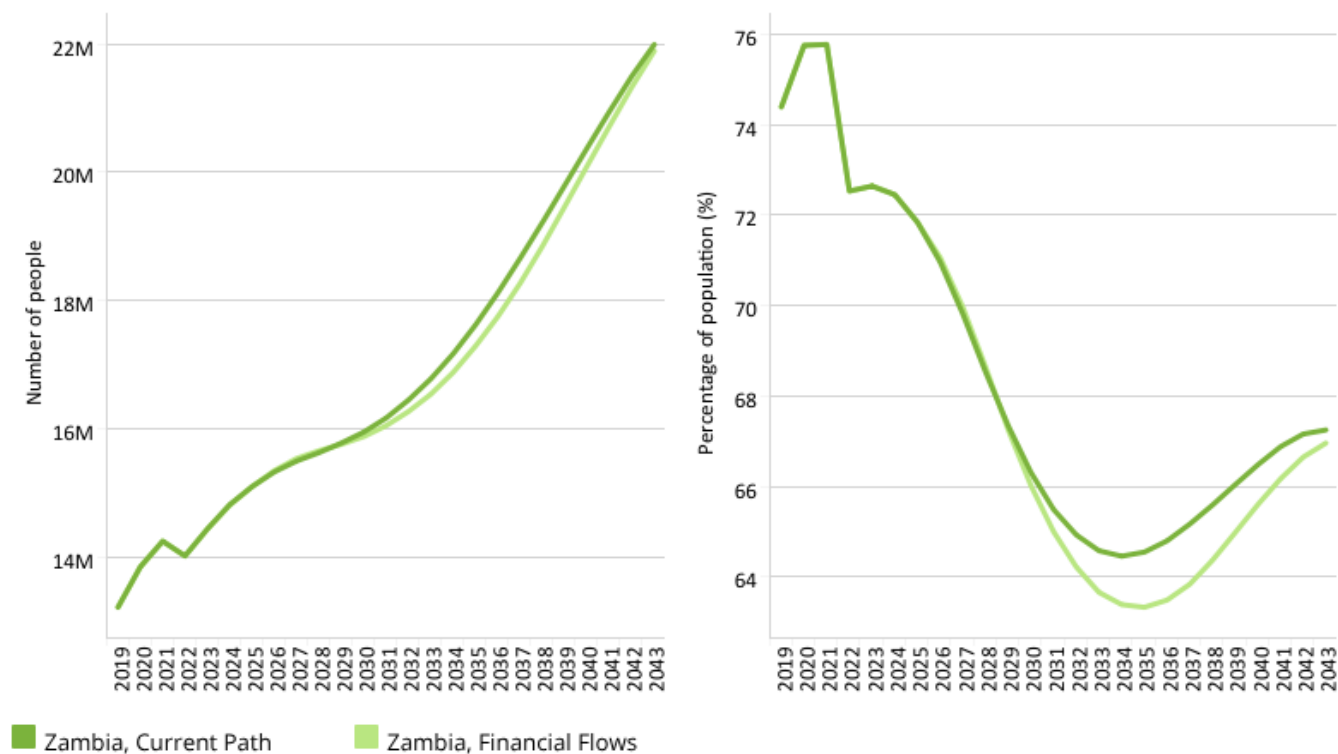
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The Financial Flows scenario has a modest impact on GDP per capita in Zambia. On the Current Path, income levels will be at US$5 467 in 2043. In the Financial Flows scenario, per capita income improves by only 1% (US$78) compared with the Current Path forecast.

Chart 46: Poverty in CP and Financial Flows scenario, 2019–2043
Millions of people and % of total population

Zambia | $3.20

Zambia, Current Path   **Zambia, Financial Flows**

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
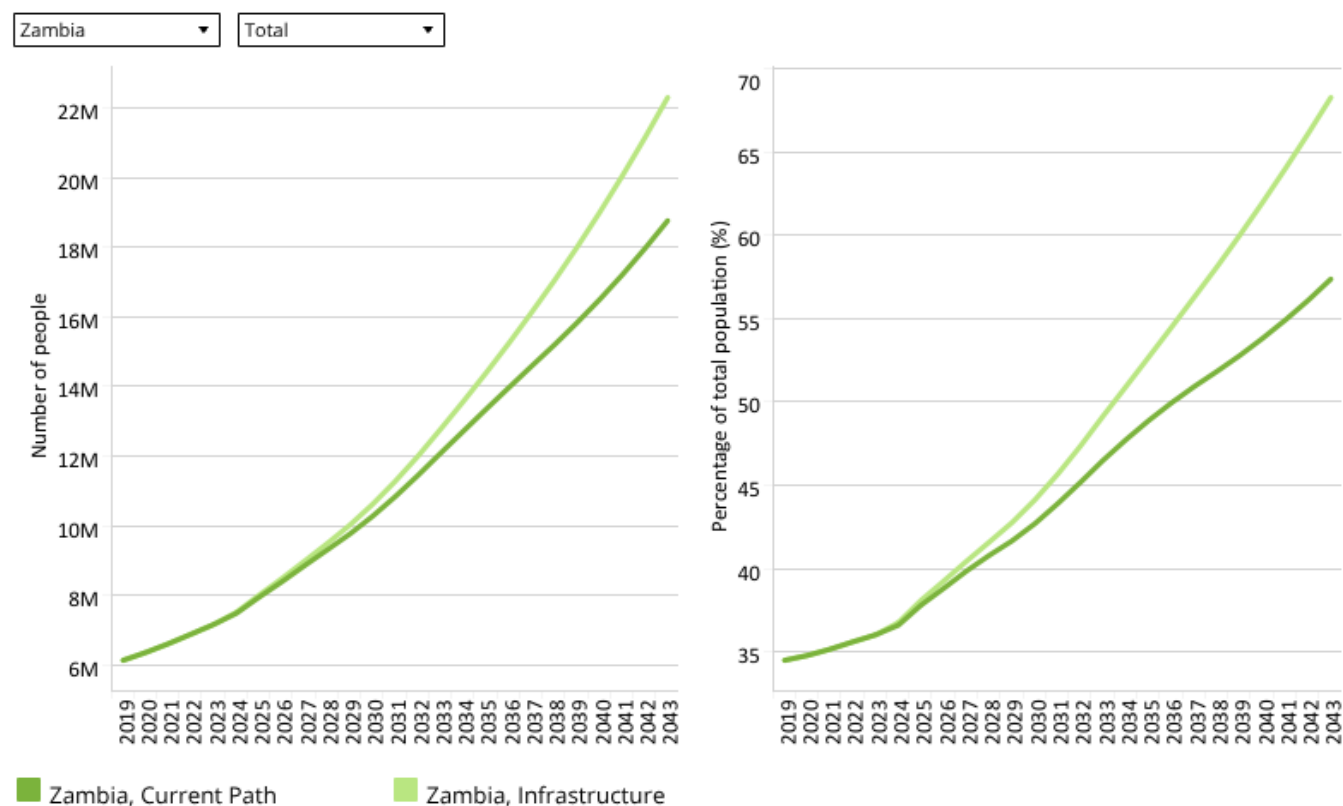
⊹ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | ⬇▾ ⬚ ⚹ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty, a number that is set to increase to 22 million by 2043 in the Current Path forecast, although this represents a modest reduction to 67.3% of the population. The Financial Flows scenario has a small impact on poverty, reducing the number of Zambians living below US$3.20 per day by 107 000 by 2043, an improvement of 0.3 percentage points above the Current Path forecast.

Chart 47: Electricity access in CP and Infrastructure scenario, 2019–2043
Millions of people and % of population

Zambia | Total

Zambia, Current Path | Zambia, Infrastructure

Source: IFs 7.63 initialising from World Development Indicators data
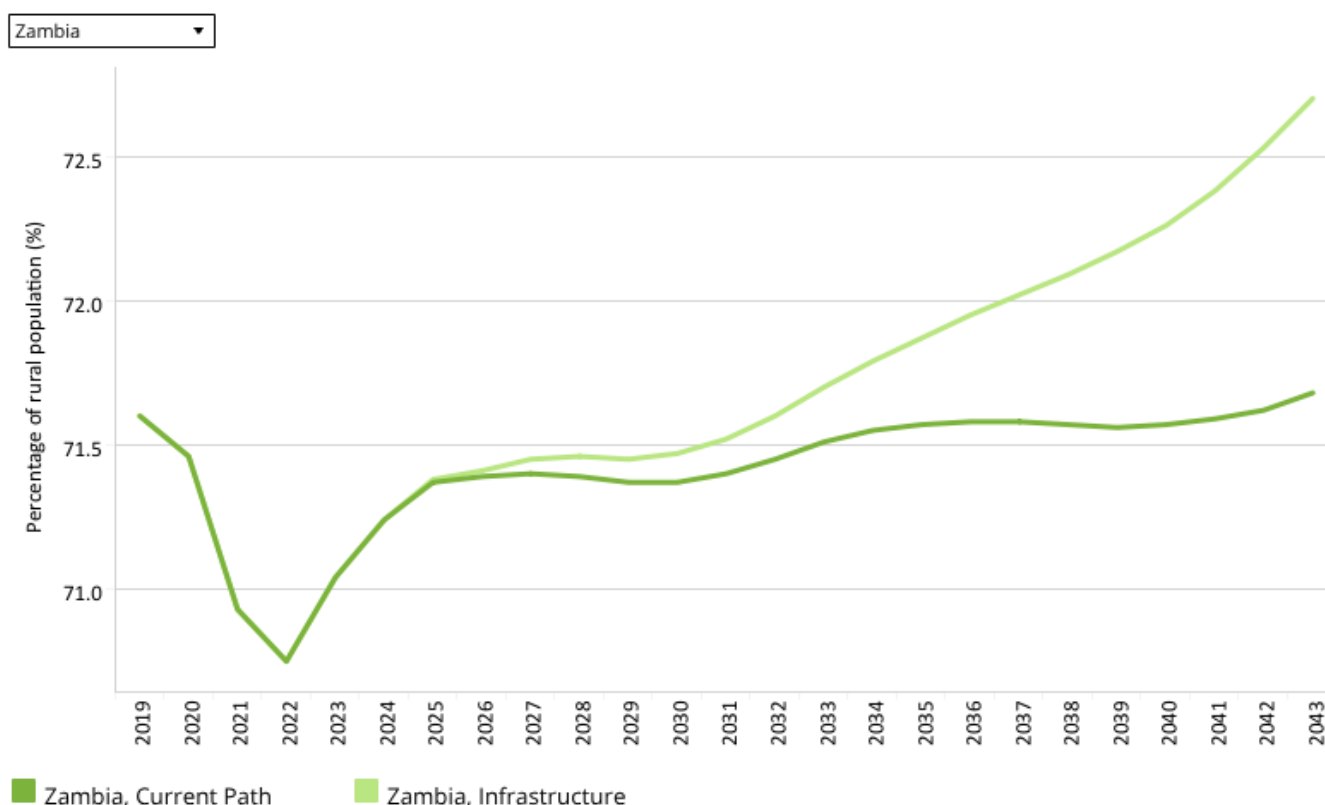
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The Infrastructure scenario represents a reasonable but ambitious increase in infrastructure spending across Africa, focusing on basic infrastructure (roads, water, sanitation, electricity access and ICT) in low-income countries and increasing emphasis on advanced infrastructure (such as ports, airports, railway and electricity generation) in higher-income countries.

Note that health and sanitation infrastructure is included as part of the Health/WaSH scenario and that ICT infrastructure and more rapid uptake of renewables are part of the Leapfrogging scenario. The interventions there push directly on outcomes, whereas those modelled in this scenario increase infrastructure spending, indirectly boosting other forms of infrastructure, including that supporting health, sanitation and ICT.

The intervention is explained in here in the thematic part of the website.

At 35%, total electricity access in Zambia was dismally low in 2019, improving to 57% by 2043. In 2019, total access was 32 percentage points below the average for lower middle-income Africa. Electricity access in rural areas is even worse, having reached only 10% in 2019 and set to improve to only 22.2% in the Current Path forecast by 2043. In the Infrastructure scenario, this climbs to 42%, an improvement of 88%. Urban access rates are much higher: 66% in 2019 and set to increase to 85.3% in 2043 on the Current Path and 89.3% in the Infrastructure scenario.

Chart 48: Rural road access in CP and Infrastructure scenario, 2019–2043
% of rural population within 2 km of an all-weather road

Zambia

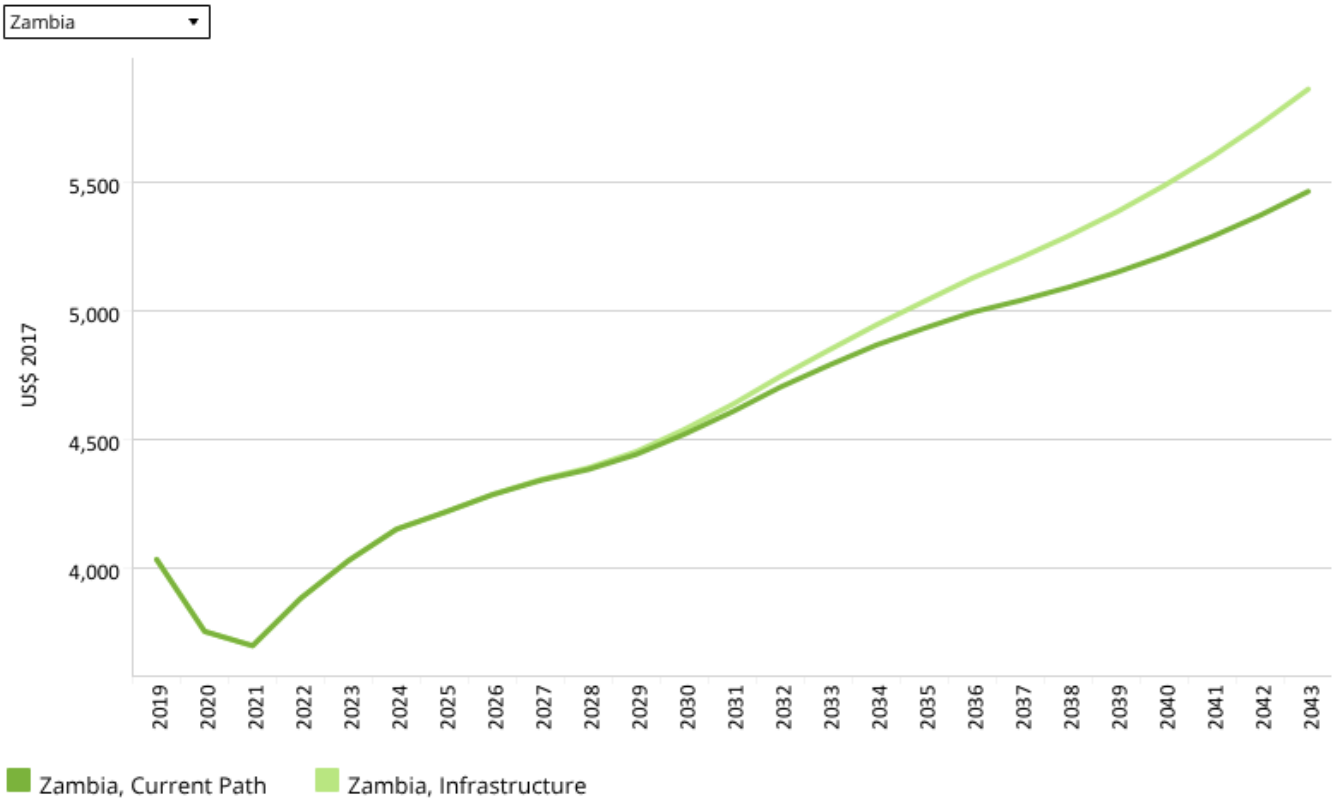Source: IFs 7.63 initialising from World Bank Rural Access Index data

Indicator 9.1.1 in the Sustainable Development Goals refers to the proportion of the rural population who live within 2 km of an all-season road and is captured in the Rural Access Index.

An analysis by the Southern African Regional Poverty Network notes that 'problems with transport and communications help keep Zambia poor. Whether by rail or road, transport is expensive and unreliable … tarmac roads do not even reach every district, and nearly 80% of gazetted roads are made of gravel or earth. The quality of most roads is very bad – a result of many years of poor maintenance. This has a direct effect on the rural poor, isolating them from markets and services … There is almost no way of communicating with most rural places, which helps to maintain poverty.'

In 2019, less than 72% of Zambia's rural population stayed within 2 km of an all-season road, compared with the African average of 53%. By 2043, the average for Zambia is unchanged in the Current Path forecast, but it increases to 73% in the Infrastructure scenario. The effect of the Infrastructure scenario is modest, increasing total road length in Zambia by only 4 733 km above the Current Path forecast in 2043.

Chart 49: GDP per capita in CP and Infrastructure scenario, 2019–2043
Purchasing power parity

Zambia ▼

■ Zambia, Current Path   ■ Zambia, Infrastructure

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

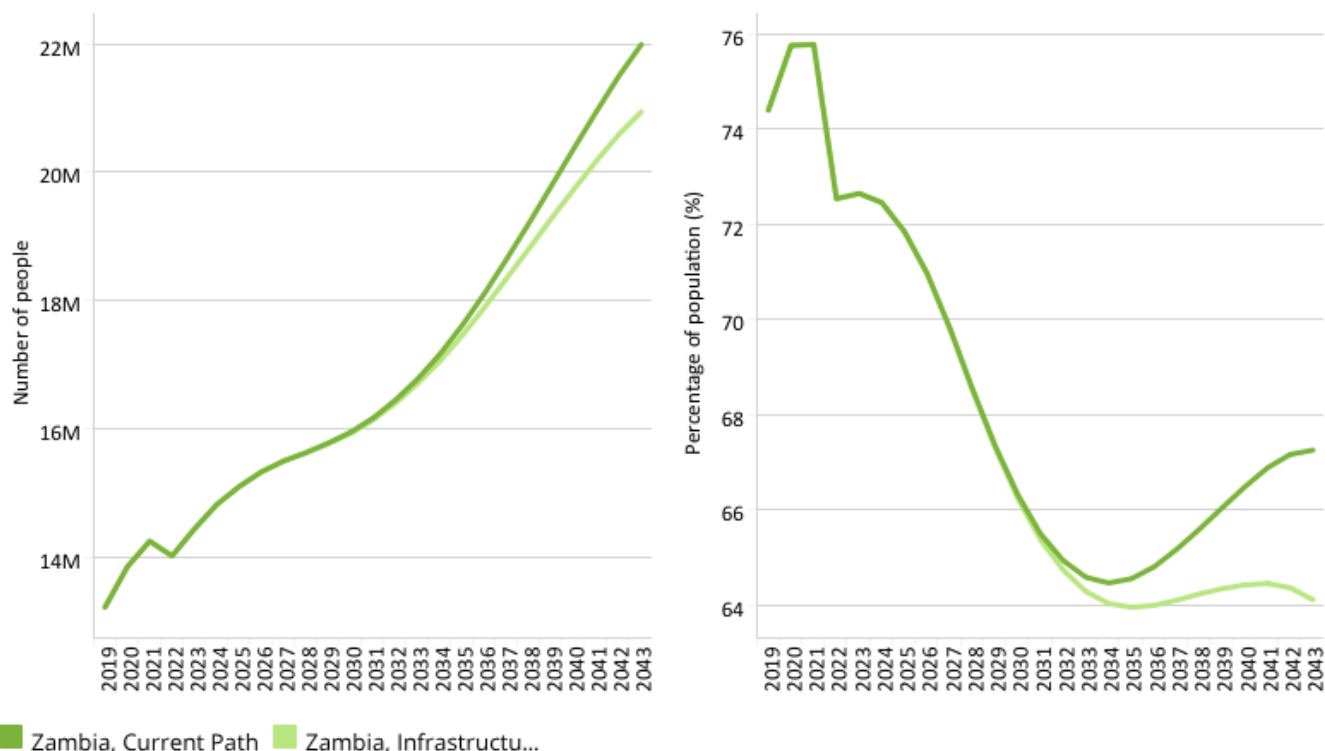⁂ View on Tableau Public   ↶ ↷ ↰ ↱ ▾ | ⬇ ▾ ⧉ ⅊ Share

Zambia stands to benefit from the interventions proposed in the Infrastructure scenario. On the Current Path, GDP per capita will be at US$5 467 in 2043 and US$5 865 on the Infrastructure scenario, a difference of 7% (or US$398).

Chart 50: Poverty in CP and Infrastructure scenario, 2019–2043
Millions of people and % of total population

Zambia | $3.20

Zambia, Current Path   Zambia, Infrastructu...

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
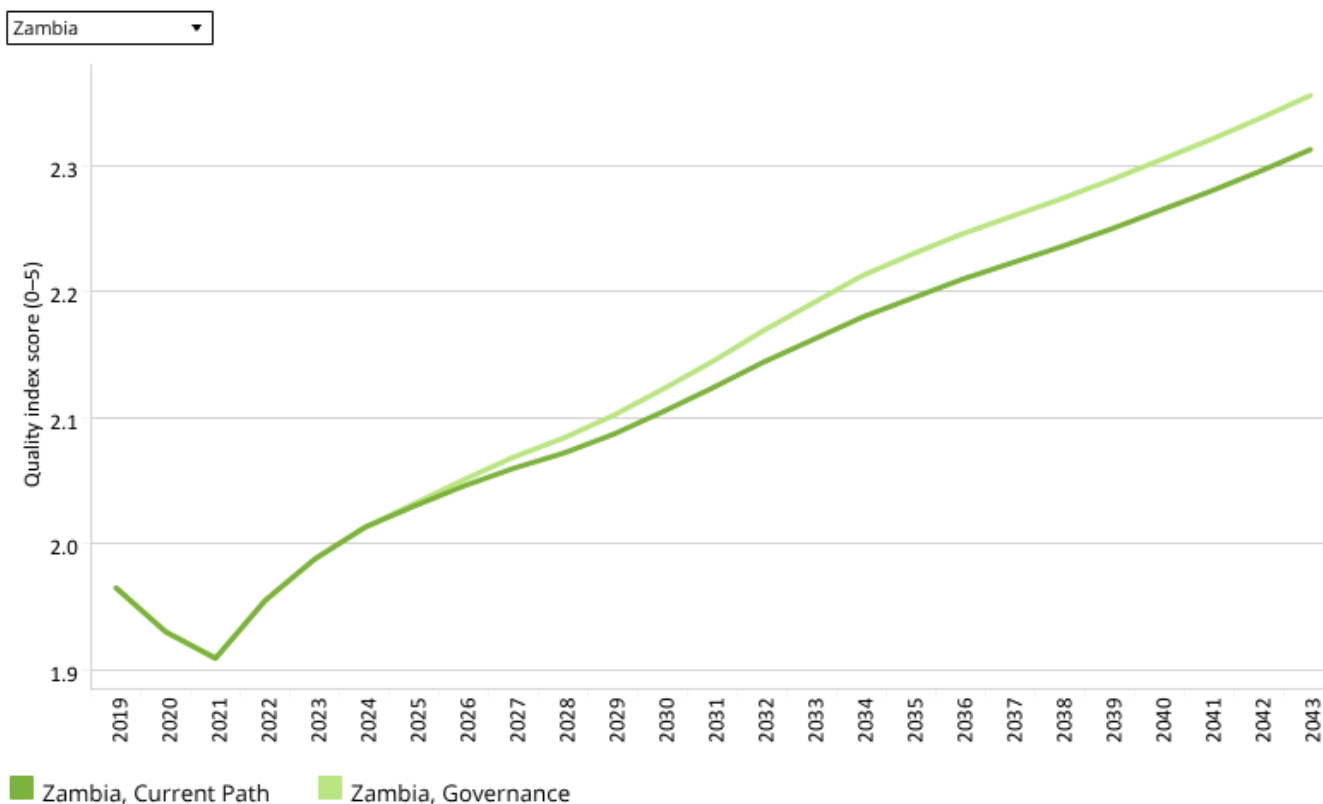
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In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty, a number that is set to increase to 22 million by 2043 in the Current Path forecast. In the Infrastructure scenario, the number of extremely poor Zambians reduces by 1.1 million by 2043 compared with the Current Path forecast, an improvement of 3.2 percentage points.

Chart 51: Gov effectiveness in CP and Governance scenario, 2019–2043
World Bank quality index score for government effectiveness

ISS|AFI

Zambia ▼

■ Zambia, Current Path   ■ Zambia, Governance

Source: IFs 7.63 initialising from Kaufmann, Kraay and Mastruzzi (2010) data

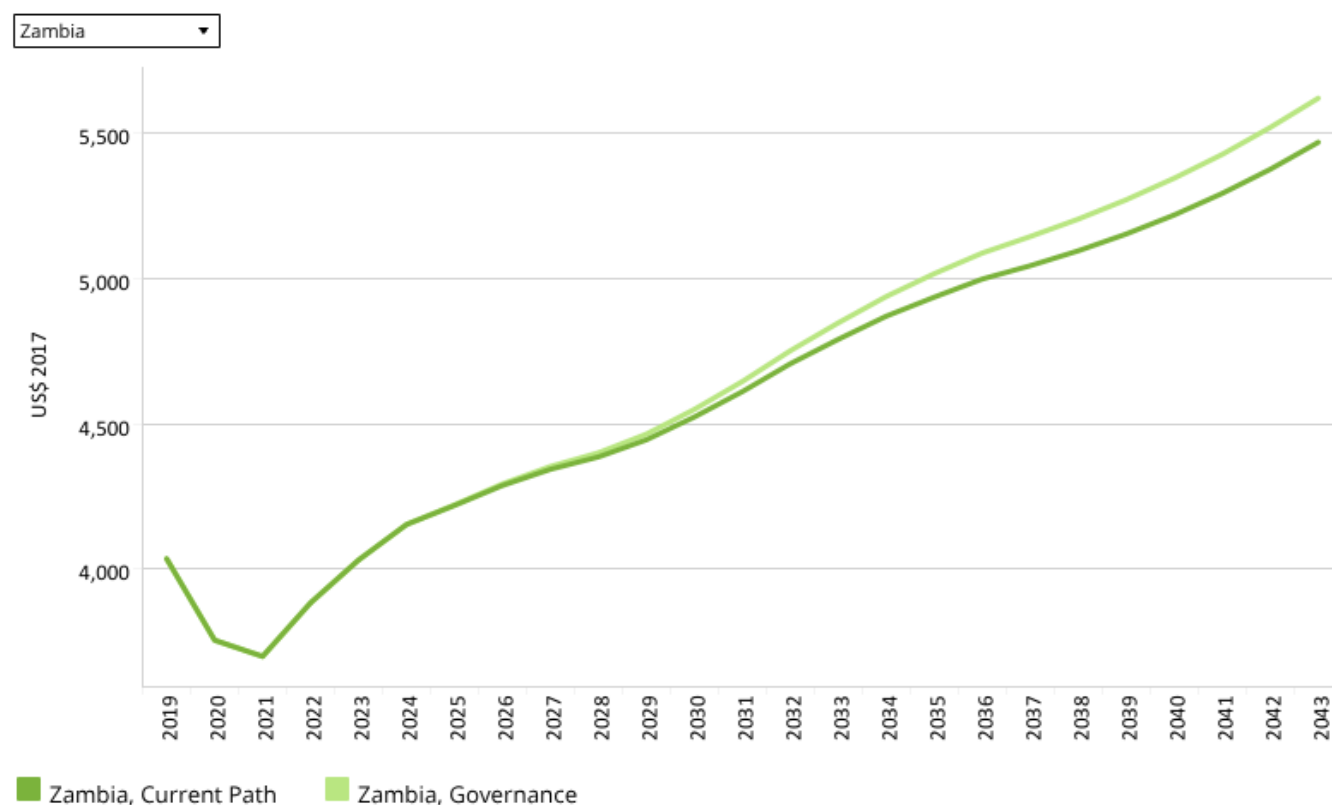⚙ View on Tableau Public   ↶ ↷ ↺ ↻ ▼ | ⬇▼ ⬜ ⤻ Share

The Governance scenario represents a reasonable but ambitious improvement in accountability and reduces corruption, and hence improves the quality of service delivery by government.

The intervention is explained in here in the thematic part of the website.

As defined by the World Bank, government effectiveness 'captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies'.

Zambia does slightly better on governance effectiveness (around 4%) than the average for lower middle-income countries in Africa. In 2019, the World Bank scored it at just below 2 (out of 5). However, the Current Path forecast is for Zambia to improve more slowly and hence converge to the extent that, in 2043, the scores for Zambia and the average for lower middle-income African countries are similar. In the Governance scenario, government effectiveness improves by 2% above the Current Path forecast in 2043.

Chart 52: GDP per capita in CP and Governance scenario, 2019–2043
Purchasing power parity

Zambia

■ Zambia, Current Path   ■ Zambia, Governance

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
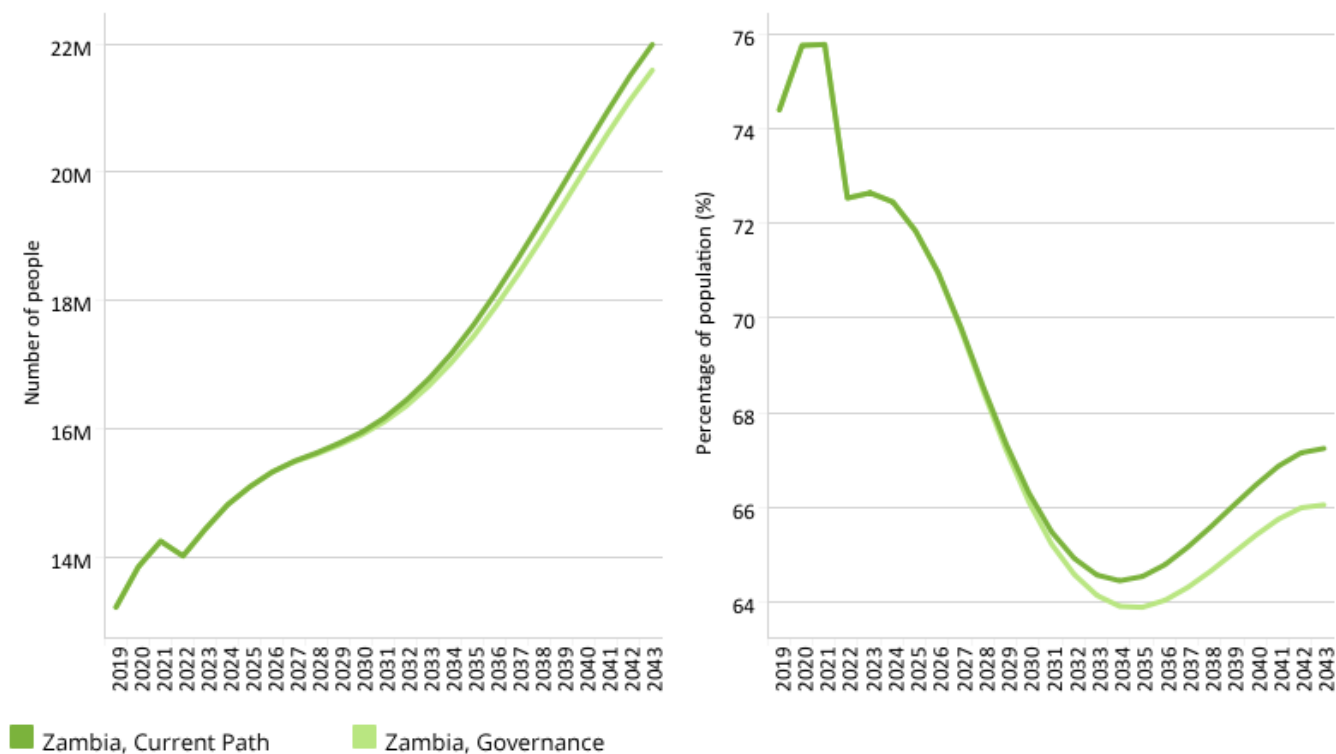
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On the Current Path, GDP per capita will be at US$5 467 in 2043, which is 35% above its level of US$4 036 in 2019. In the Governance scenario, GDP per capita increases to US$5 619, which is US$152 (3%) above the Current Path forecast.

Chart 53: Poverty in CP and Governance scenario, 2019–2043
Millions of people and % of total population

| Zambia | ▼ | | $3.20 | ▼ |

■ Zambia, Current Path   ■ Zambia, Governance

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

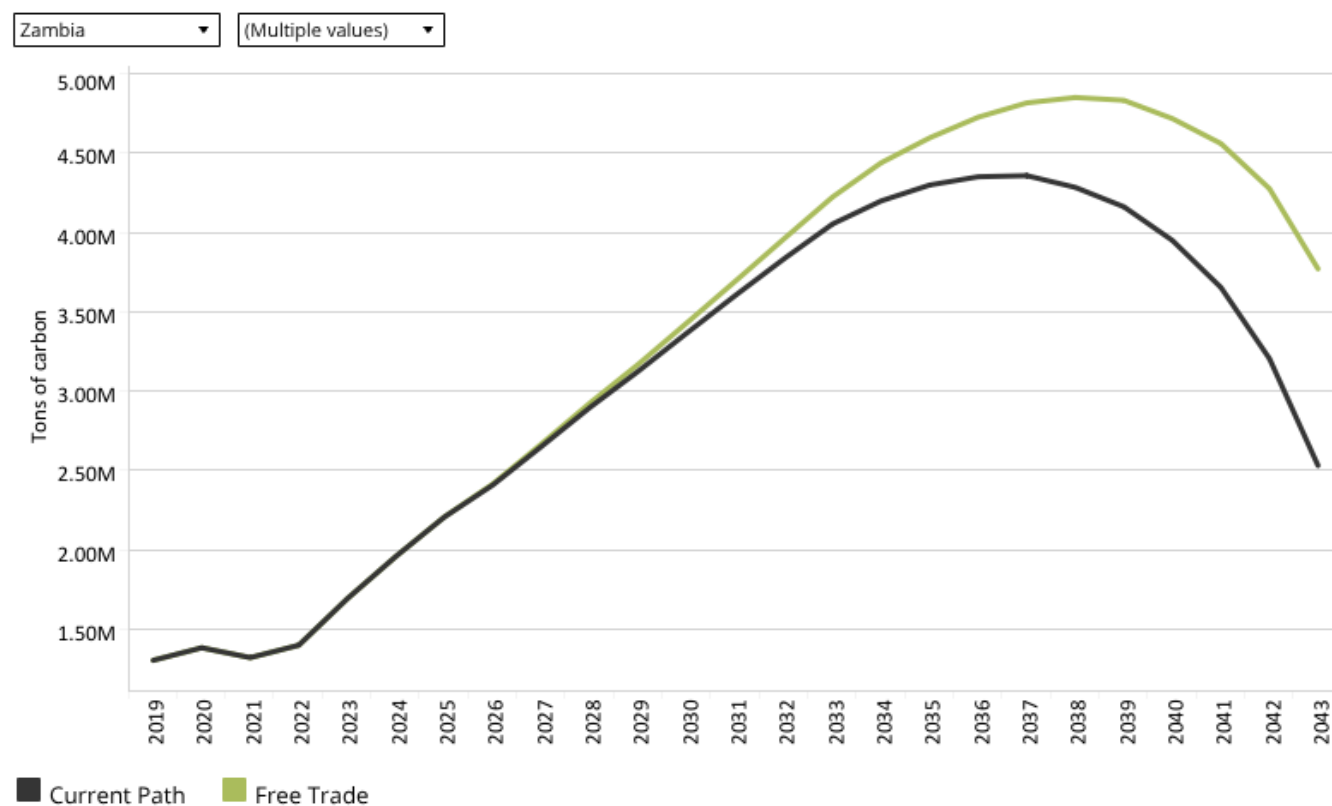⊹ View on Tableau Public   ↶ ↷ ↺ ↻ ▼ | ⬇▼ ⬚ ⋖ Share

In 2019, 13.2 million people (or 74.4% of Zambia's total population) lived in extreme poverty, a number that is set to increase to 22 million by 2043 in the Current Path forecast, although this represents a modest reduction to 67.3% of the population. The effect of the Governance scenario is to reduce extreme poverty by 402 000 people in 2043, an improvement of 1.2 percentage points compared with the Current Path forecast.

Chart 54: Carbon emissions in CP and scenarios, 2019–2043
Million tons of carbon (note, not CO_2 equivalent)

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| Zambia ▼ | (Multiple values) ▼ |

Current Path   Free Trade

Source: IFs 7.63 initialising from Carbon Dioxide Information Analysis Center data

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This section presents projections for carbon emissions in the Current Path for Zambia and the 11 scenarios. Note that IFs uses carbon equivalents rather than CO2 equivalents.

The 2043 Current Path forecast is that Zambia will emit 2.53 million tons of carbon. At 3.77 million tons, the Free Trade scenario emits more carbon than any other scenario by 2043 – perhaps at no surprise because it has the largest positive impact on the size of Zambia's economy. Carbon emissions in the Free Trade scenario are followed by the Leapfrogging scenario, at 3.36 million tons. Because Zambia has a slightly smaller population in the Demographic scenario, carbon emissions in this scenario is 300 000 tons less than in the Current Path forecast.

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Cite this research

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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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Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.