



# Uganda

## Impact of sectoral scenarios on key indicators

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## Impact of sectoral scenarios on key indicators

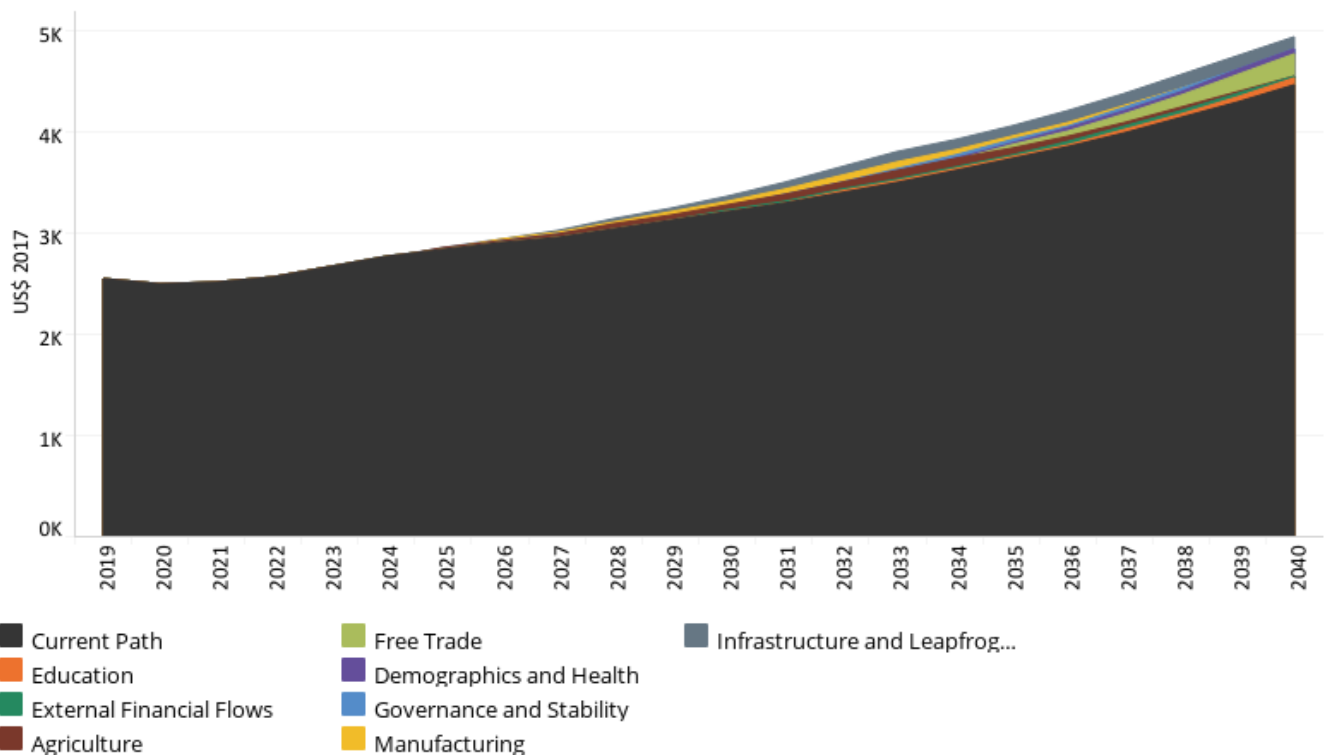
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### Economy

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Chart 34: GDP per capita in CP and scenarios, 2019–2040

Additional GDP per capita per scenario, purchasing power parity



Source: IFs 7.84 initialising from UN Population Division World Population Prospects and World Development Indicators data

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This section first examines the impact of the individual sectoral scenarios on GDP per capita, poverty and inequality as well as carbon emissions. It then proceeds to discuss the impact of a Combined Agenda 2063 scenario on these variables as well. The Combined Agenda 2063 scenario consists of the combination of all eight sectoral scenarios presented above, namely the Demographics and Health, Education, Infrastructure and Leapfrogging, Agriculture, Manufacturing/Transfers, Free Trade, External Financial Flows and Governance and Stability scenarios.

Uganda experienced impressive economic growth immediately after independence with the size of its GDP increasing from US\$2.6 billion in 1962 to US\$4.4 billion in 1972. Economic progress during this period was directed by the two medium-term plans that the country pursued and was interrupted by the 'economic war' plan in the 1970s. Poor governance in the 1970s and the civil war during the first half of the 1980s then plunged the country into a deep recession.

Since 1986, the country has embarked on a reform agenda when it started implementing the Structural Adjustment Program and other economic policies and programmes such as the Economy Recovery Program (ERP), Medium Term Expenditure framework, Plan for Modernisation of Agriculture, and the Poverty Eradication Action Plan.

The result is that between 1990 and 2010, Uganda became one of the fastest growing economies in Africa with an average GDP growth rate of 7.3% per annum, significantly above the sub-Saharan Africa average of 2.1% and only slightly below the average for East Asian countries at 7.9% during the same period. Since 2010, the country has implemented a series of national development plans, leading to GDP increasing from US\$27.7 billion in 2010 to US\$44.2 billion in 2019. However, growth has been mostly unstable and averaged only 4.6% per annum between 2010 and 2015 due to reliance on external finance and a few tradable commodities such as coffee, flowers and fish.

Economic growth has slowed considerably since 2011, barely passing the high population growth rate that averaged above 3% across much of this time period. This is due to reduced reform momentum, a less supportive external environment and exogenous shocks, such as droughts, leading to real per capita GDP growth slowing to 1.1 % per annum during the five years prior to the COVID-19 crisis. Going forward, structural transformation will be key to transforming Uganda into the modern, prosperous economy that it aspires to in Vision 2040. However, efforts will be met with obstacles as much of the workforce remains in low productivity jobs and declining total factor productivity. Besides which the large share of low skill informal jobs and majority of poor people are in agriculture which is susceptible to climate change and weather shocks.

The current long-term planning framework for the government, Vision 2040, seeks to transform the country from a peasant to a modern, prosperous economy with a per capita GDP of US\$9 500 by 2040. NDPI and NDPII have already been implemented under this Vision with some measured success such as an increase in GDP per capita from US\$844 in 2011 to US\$878 in 2018, sustained peace and security, increased paved road networks, more electricity access, and greater access to social services in health and education. However, there are still challenges such as large informal sectors, the high cost of electricity, limited access to and the high cost of capital, widening inequality, low capacity in civil service and the prevalence of corruption.

While GDP measures the size of the economy, GDP per capita is generally used to measure the standard of living. Although it is often criticised for its simplicity, it is still the most widely used and accepted index used to compare welfare between countries. From 1990 to 2019, Uganda's GDP per capita increased by 58%, from US\$1 134 to US\$2 707. This reflects the average growth in GDP of about 6.5% over the period, which exceeded population growth of about 3.5% in that time. Uganda's GDP per capita has grown faster than the average for low-income African countries, which increased from US\$1 118 in 1990 to US\$1 708 in 2019. Whereas the GDP per capita of Uganda was 93% of the average for low-income African countries in 1990, it increased to 222% in 2019. With the projected increase in GDP and the reduction in population growth, GDP per capita is set to reach US\$4 453 by 2040, which is significantly higher than the 2040 average for low-income African countries.

In the Governance and Stability scenario, Uganda's GDP per capita is set to increase to US\$4 813 by 2040, equivalent to an extra US\$360 addition to the Current Path forecast for 2040. This represents an 8% increase above the Current Path forecast for Uganda. Regime stability and good governance in the form of adherence to the rule of law, reduced corruption and improved transparency and accountability lead to more rapid economic growth. In the Demographics and Health scenario, GDP per capita is projected to increase to US\$4 811, which is US\$358 above the Current Path forecast value of US\$4 453 in the same year. The gain is associated with the expected decline in fertility rates, which will cause a reduction in population growth and an increase in the ratio of working-age persons to dependants, translating to a demographic dividend. Together with the anticipated economic growth, the dividend increases GDP per capita.

In the Agriculture scenario, the GDP per capita for Uganda will slightly increase above the Current Path forecast to US\$4 536 in 2040. The Education scenario will marginally increase GDP per capita above the Current Path forecast by

US\$71, representing only 1.5% above the Current Path forecast for that year. The modest impact of the Education scenario reflects the already significant progress made in access to education in Uganda, although some quality gaps exist, and the lag of investment in education impacts economic growth and development.

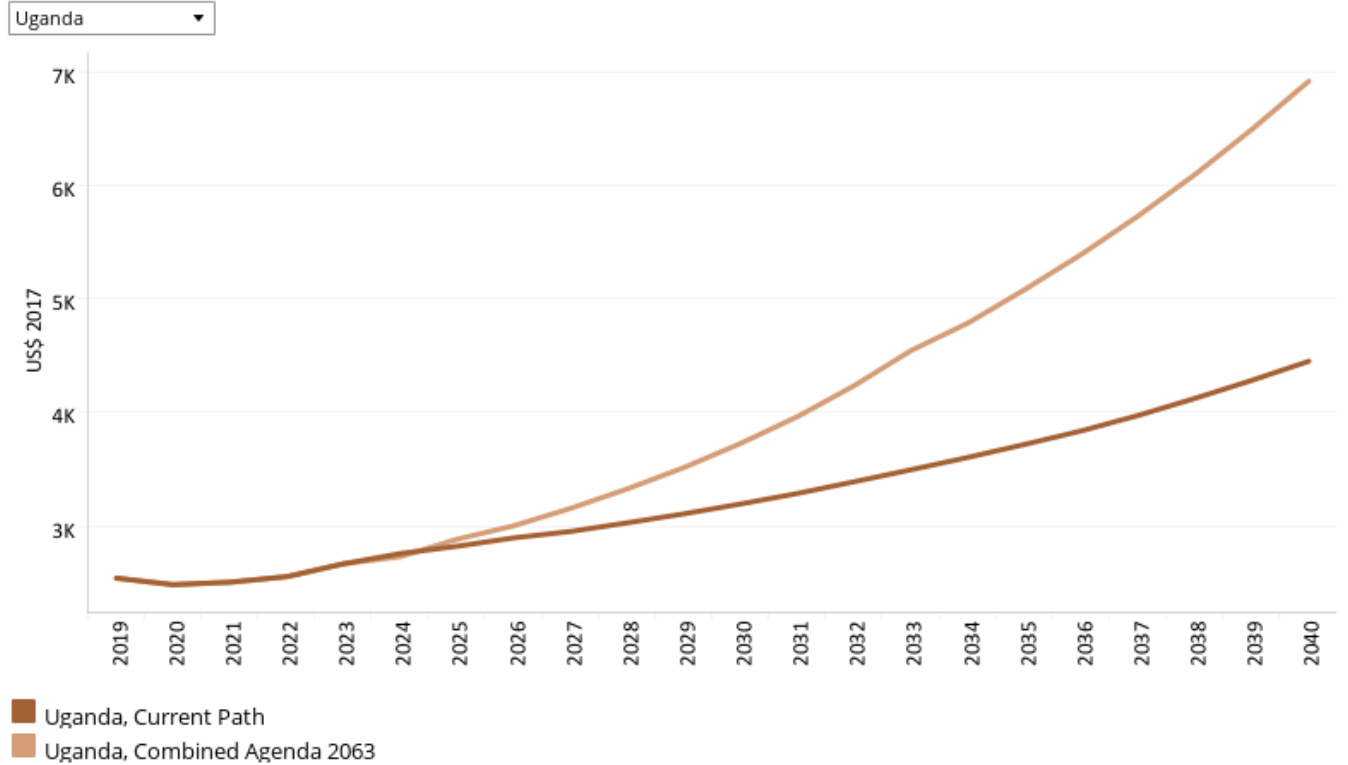
GDP per capita in the Manufacturing/Transfers scenario will reach US\$4 773 in 2040. This is 7.2% (or US\$320) higher than in the Current Path forecast for that year. Historically, the manufacturing sector is the largest provider of jobs and it allows for the structural transformation of economies towards higher productivity and knowledge, with spillover effects on other sectors. It is, therefore, not surprising that the Manufacturing/Transfers scenario leads to such an improvement in GDP per capita. In the Free Trade scenario, GDP per capita will increase to US\$4 761 by 2040, which represents an increase of US\$208 (or 4.5%) compared to the projections on the Current Path in 2040.

In the Infrastructure and Leapfrogging scenario, Uganda's GDP per capita is estimated to increase to US\$4 933 by 2040 — an increase of US\$480 (10.8%) compared to the Current Path forecast of US\$4 453 for 2040. Broadband accessibility has the potential to increase GDP through its effect on reducing transaction costs for businesses. It can also help firms adopt efficient technologies, which can improve productivity and ultimately lead to growth. Thus, this scenario is projected to make the most significant impact on the income level of Uganda by 2040.

Uganda's GDP per capita will increase to US\$4 540 in the External Financial Flows scenario, which represents an increase of US\$87 (or 2%) above the Current Path forecast. Remittances, aid and FDI inflows are positively associated with economic growth effects on businesses and household expenditure.

Thus, the scenario with the greatest impact on GDP per capita by 2040 is Infrastructure and Leapfrogging, followed by Governance and Stability, Demographics and Health, then Manufacturing/Transfers. This suggests that these sectors should be supported to unlock more rapid economic growth in the long-term. The scenarios with the least positive impact on GDP per capita compared to the Current Path forecast by 2040 are Education, Agriculture and External Financial Flows.

**Chart 35: GDP per capita in CP and Combined scenario, 2019–2040**  
Purchasing power parity

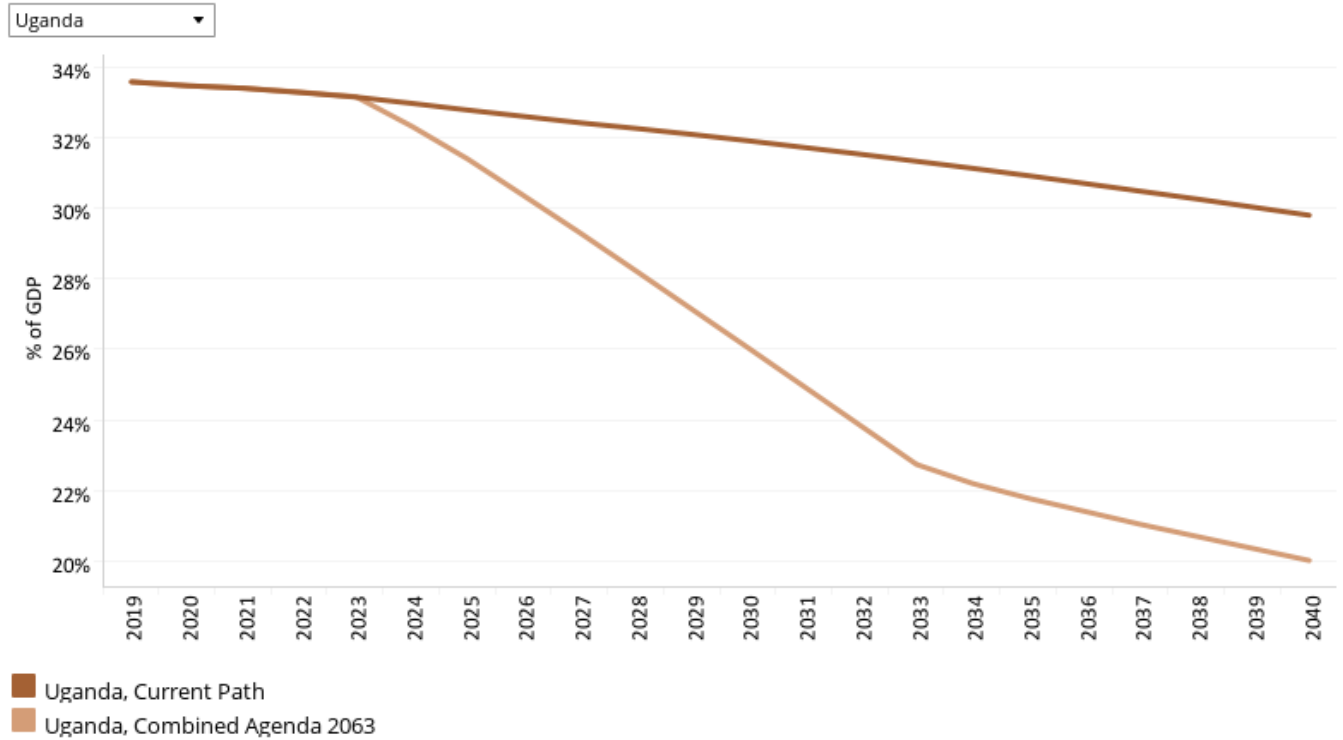


Source: IFs 7.84 initialising from UN Population Division World Population Prospects and World Development Indicators data

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GDP per capita is projected to rise to US\$6 925 by 2040 in the Combined Agenda 2063 scenario, representing an additional US\$2 472 to the Current Path forecast in 2040. This means that the aspirations of the Ugandan people articulated in Vision 2040 in transforming Uganda from a peasant to a prosperous, modern economy with per capita GDP of US\$9 500 is attainable by 2045. The Vision 2040 target is projected to materialise five years later in 2045 when the projected GDP per capita (in 2017 purchasing power parity values) rises to US\$9 568, above the target of US\$9 500.

Chart 36: Informal sector value in CP and Combined scenario, 2019–2040  
% of GDP



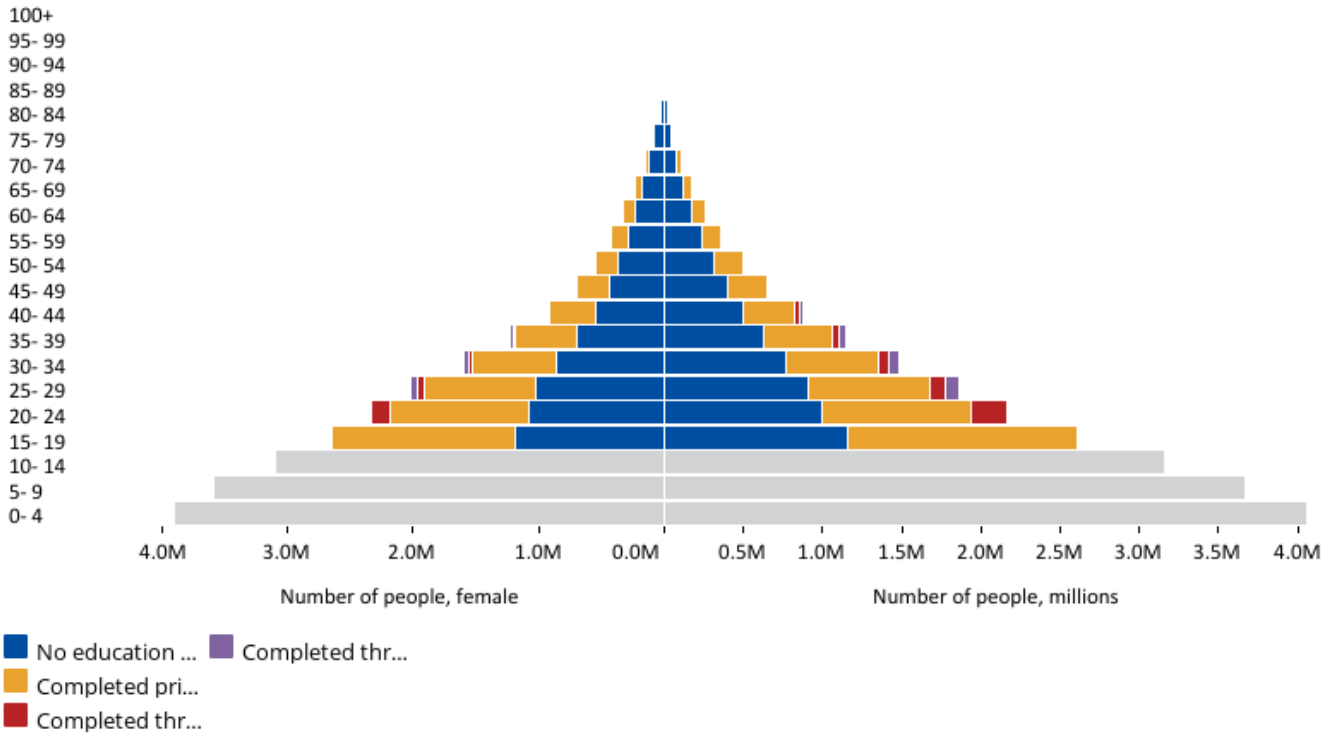
Source: IFs 7.84 initialising from UN Economic Commission for Europe [2008]; Elgin and Oztunali [2012]; Schneider and Enste [2012]

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A persistent, large informal sector is one of the challenges that the economy of Uganda faces, as indicated in NDP III. The size of Uganda’s informal sector amounted to US\$14.8 billion in 2019, equivalent to 33.6% of GDP. At this rate, Uganda’s informal sector contribution to GDP is above the average for low-income African countries at 31.1%. Given the large share of the informal sector in the economy and its contribution to employment, the government should focus on facilitating operations in other sectors by reducing obstacles such as access to finance, crime, theft and disorder, electricity access, water, taxes, burdensome inspections and informal gifts that hinder informal business operations in Uganda.[1] Informality leads to lower tax revenues and impedes the ability of governments to provide investment and social safety nets. The informal economy is characterised by low productivity, low income and limited access to government benefits.[2]

On the Current Path, Uganda will make progress in reducing the proportion of the informal economy to 29.8% by 2040, while its size will increase to US\$46.9 billion. The declining share of the informal sector to GDP will be accompanied by a decline in informal labour as the number of people employed by the informal sector as a percentage of total labour will decline from 84.7% in 2019 to 75.6% in 2040.

### Chart 37: Human capital distribution in 2019



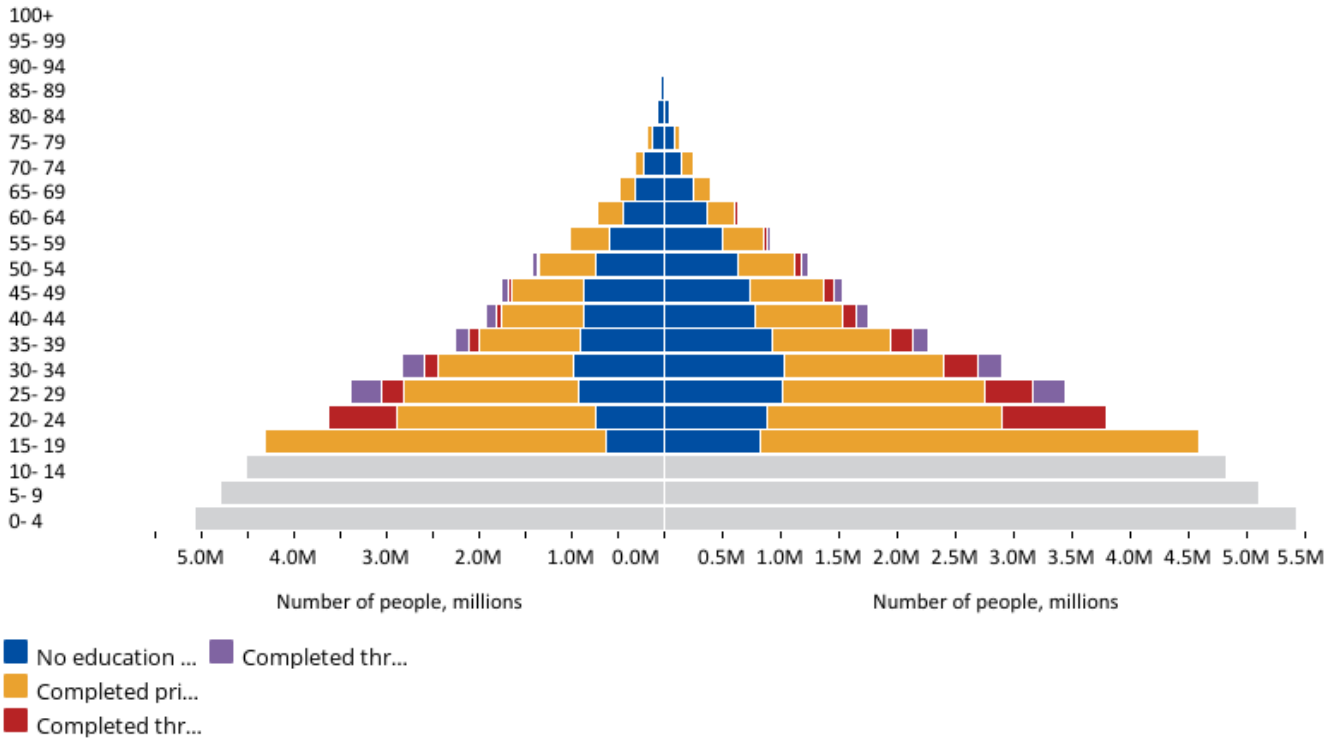
Source: IFs 7.84 initialising from UN Population Division medium term forecast and UNESCO and Barro-Lee educational data

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Human capital refers to the stock of knowledge, skills and other personal features embodied in people that makes them productive[3]. Higher investment in human capital in the form of more and quality education, training and improved health outcomes increase the stock of human capital formation of a country which leads to skilled and productive labour. In 2019, 13.4 million people or 52.5% of adult population had no formal education in Uganda in 2019. However, the level of literacy in Uganda was 77.2%, higher than the average for low income African countries at 58.3%. Similarly, 46.6% of adults completed primary education in Uganda, compared to 2.8% for secondary education and 1.7% for tertiary education. The high rate of educational attainment as a result of the pro-educational policies such as the universal free secondary education (USE)[4] and the universal primary education which was initiated under the 1992 Uganda’s Government White Paper with the objective of achieving human development[5].



Chart 38: Human capital distribution in 2040 in Current Path

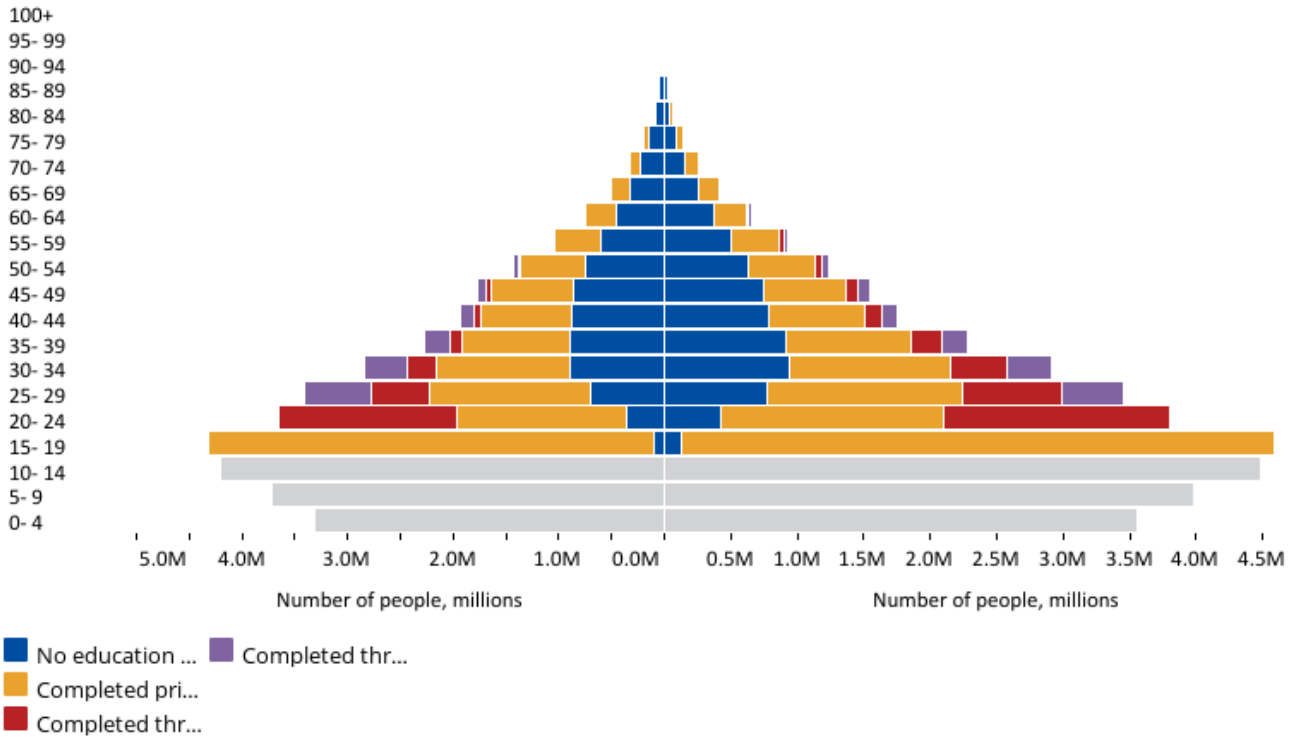


Source: IFs 7.84 initialising from UN Population Division medium term forecast and UNESCO and Barro-Lee educational data

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On the Current Path, it is projected that the proportion of adults (15 years and older) who had no formal education will significantly reduce to 34.5%, equivalent to 16.7 million people, by 2040. At the same time, 26.3 million people, representing 54.3% of the adult population, will have attained primary education, while 7.2% and 3.8% will have completed secondary and tertiary education, respectively, by 2040. Almost all (97.7%) of adults aged 15 to 19 would have completed primary education by 2040.

### Chart 39: Human capital distribution in 2040 in Combined scenario



Source: IFs 7.84 initialising from UN Population Division medium term forecast and UNESCO and Barro-Lee educational data

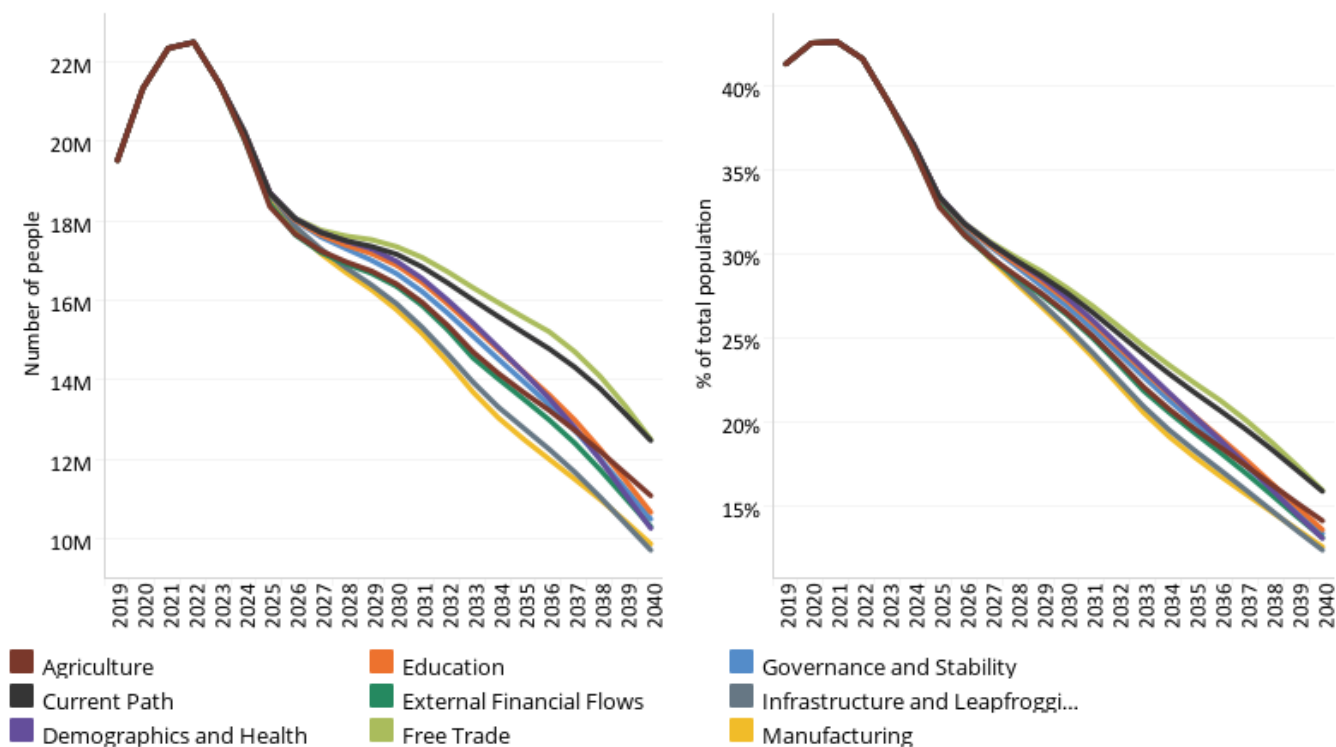
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In the Combined Agenda 2063 scenario, it is projected that the number of adults (15 years and older) who had no formal education will significantly reduce to 14 million, representing 29.5% of adults, by 2040. At the same time, 25.6 million people, representing 52.5% of the adult population, will have attained primary education, while 6.2 million and 2.8 million people will have completed secondary and tertiary education, respectively, by 2040. In addition, by 2040, almost all (97.3%) of adults aged 15 to 19 would have completed primary education.

## Poverty and Inequality

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Chart 40: Poverty in CP and scenarios, 2019–2040  
Millions of people and % of total population



Source: IFS 7.84 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovelNet World Bank data

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There are numerous methodologies and approaches to defining poverty. The study measures income poverty and uses GDP per capita as a proxy. In 2015, the World Bank adopted the measure of US\$1.90 per person per day (in 2011 international prices), also used to measure progress towards the achievement of SDG 1 of eradicating extreme poverty. To account for extreme poverty in richer countries occurring at slightly higher levels of income than in poor countries, the World Bank introduced three additional poverty lines in 2017: US\$3.20 for lower-middle-income countries; US\$5.50 for upper-middle-income countries; and US\$22.70 for high-income countries.[6]

In 2019, 18.1 million Ugandans, equivalent to 41.4% of the population, lived below the US\$1.90 poverty threshold, on par with the average for low-income African countries. The high levels of poverty in the country have been attributed to limited social safety net programmes, high disease burden, low agricultural productivity and low skill content of labour in Uganda.[7] In the Current Path forecast, by 2040, the number of people in extreme poverty in Uganda is projected to decline to 12.5 million, constituting 15.9% of the population, about five percentage points lower than the average for low-income African countries.

Therefore, the Infrastructure and Leapfrogging scenario, followed by the Manufacturing scenario and then the Demographics and Health scenario have the greatest potential in reducing poverty in Uganda by 2040. Infrastructure

development reduces transaction costs and increases productivity and growth in economic sectors, which reduces poverty. Similarly, Uganda can reduce poverty by pursuing a low-end manufacturing growth path. However, such a growth path will need to be accompanied by increases in welfare transfers to reduce consumption inequality.

In the same vein, the Agriculture scenario is set to take the least number of people from poverty of 1.4 million, or 1.7 percentage points, compared to the Current Path forecast by 2040. It is interesting to note that the Agriculture scenario has a more positive impact on poverty in the short term than all other scenarios. In 2025, for example, the Agriculture scenario will lead to the lowest poverty rate in Uganda of 18.3%, and by 2030 and 2035 it is projected to have the fourth highest poverty rate among all scenarios. This shows that if Uganda follows an agricultural revolution as modelled in the scenario, it will quickly reduce poverty, although the longer-term impact is marginal.

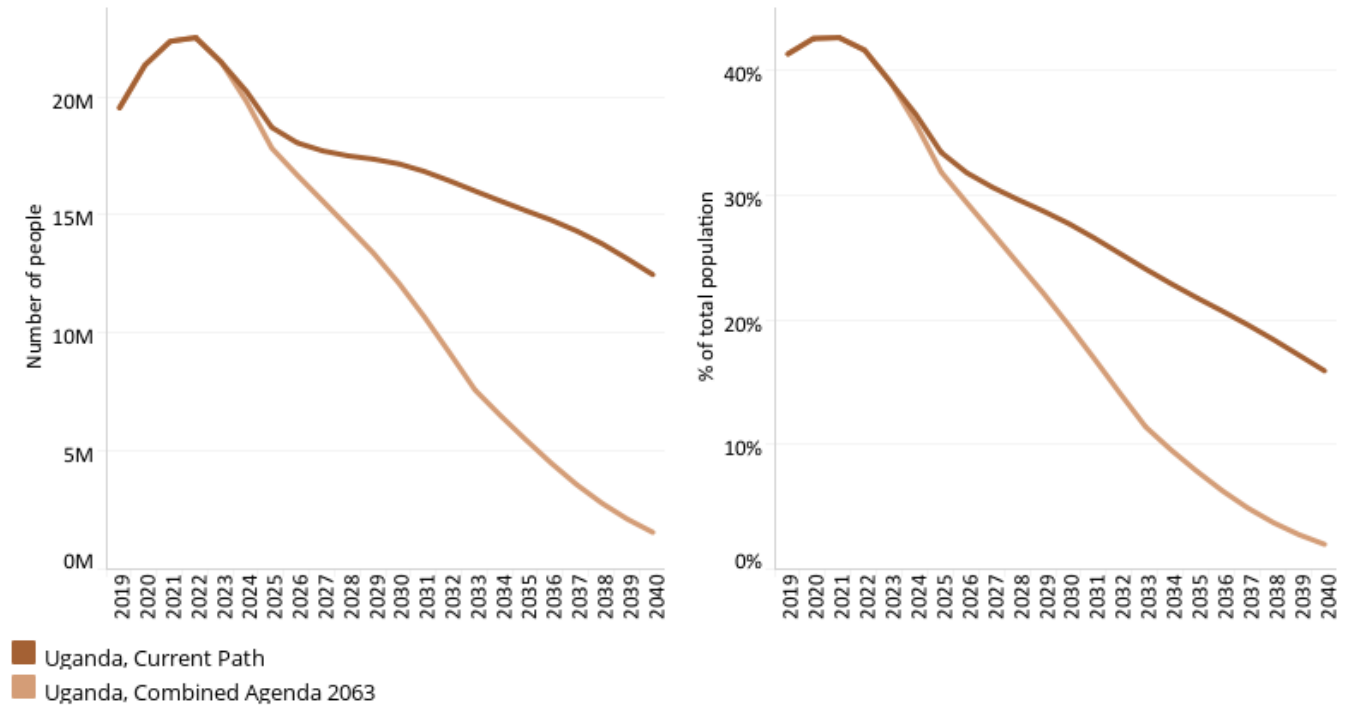
The Free Trade scenario leads to an increase in poverty of 36 000 people (or 0.06 percentage point above the Current Path forecast) by 2040. Compared to the Current Path forecast, the Free Trade scenario is projected to increase poverty the most in 2036 when it pushes 429 000 more people into poverty, but by 2045, the Free Trade scenario will lift 1.3 million more people out of poverty. Free trade will reduce poverty in the long term after initially increasing it due to the redistributive effects of trade. Most African countries export primary commodities and low-tech manufacturing products, and therefore a continental free trade agreement that reduces tariffs and non-tariff barriers across Africa will increase competition among countries in primary commodities and low-tech manufacturing exports.

Countries with inefficient, high-cost manufacturing sectors might be displaced as the AfCFTA is implemented, thereby pushing up poverty rates. In the long term, as the economy adjusts and produces and exports its comparatively advantaged (lower relative cost) goods and services, poverty rates will decline.

**Chart 41: Poverty in CP and Combined scenario, 2019–2040**  
 Millions of people and % of total population at US\$1.90 poverty line



Uganda

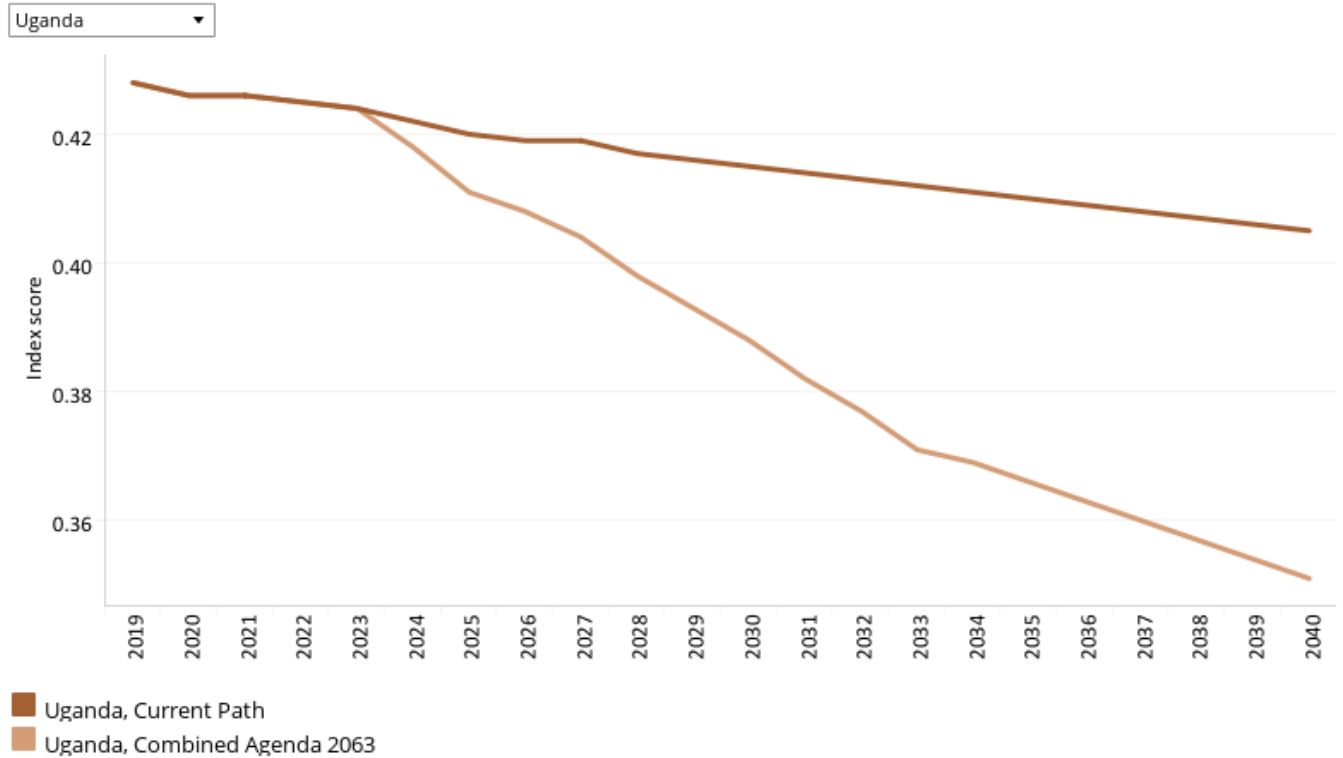


Source: IFs 7.84 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and DevPalNat World Bank data

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In the Combined Agenda 2063 scenario, both the number and proportion of poor people in Uganda will significantly decline. By 2040, about 1.4 million people in the country, equivalent to 1.9% of the population, will be living in extreme poverty. This means that, compared to the Current Path forecast, 11.03 million more people could be lifted out of poverty by 2040 in the Combined Agenda 2063 scenario. This is equivalent to a decline of 13.9 percentage points compared to the Current Path forecast for 2040.

Chart 42: Domestic Gini index score in CP and Combined scenario, 2019–2040  
Index score



Source: IFs 7.84 initialising from World Development Indicators data

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The benefit of economic growth may not be evenly distributed in a country due to inequality. High inequality in a country can lead to a breakdown of social structure and cohesion which can result in instability. Although Uganda has recorded progress in economic growth and reducing poverty, inequality is widening and land allocation, use and management is considered to be the main driver.[8] The Gini coefficient is the standard measure of the level of inequality in a country. A higher score depicts more inequality while a lower Gini score shows a more equal country. In 1992, Uganda’s Gini score was 0.44, compared to the score of 0.40 for the average low-income African countries. By 2019, the Gini score had moderately improved to 0.43 (compared to an average of 0.4 for low-income Africa) and is projected to improve further reaching 0.40 by 2040.

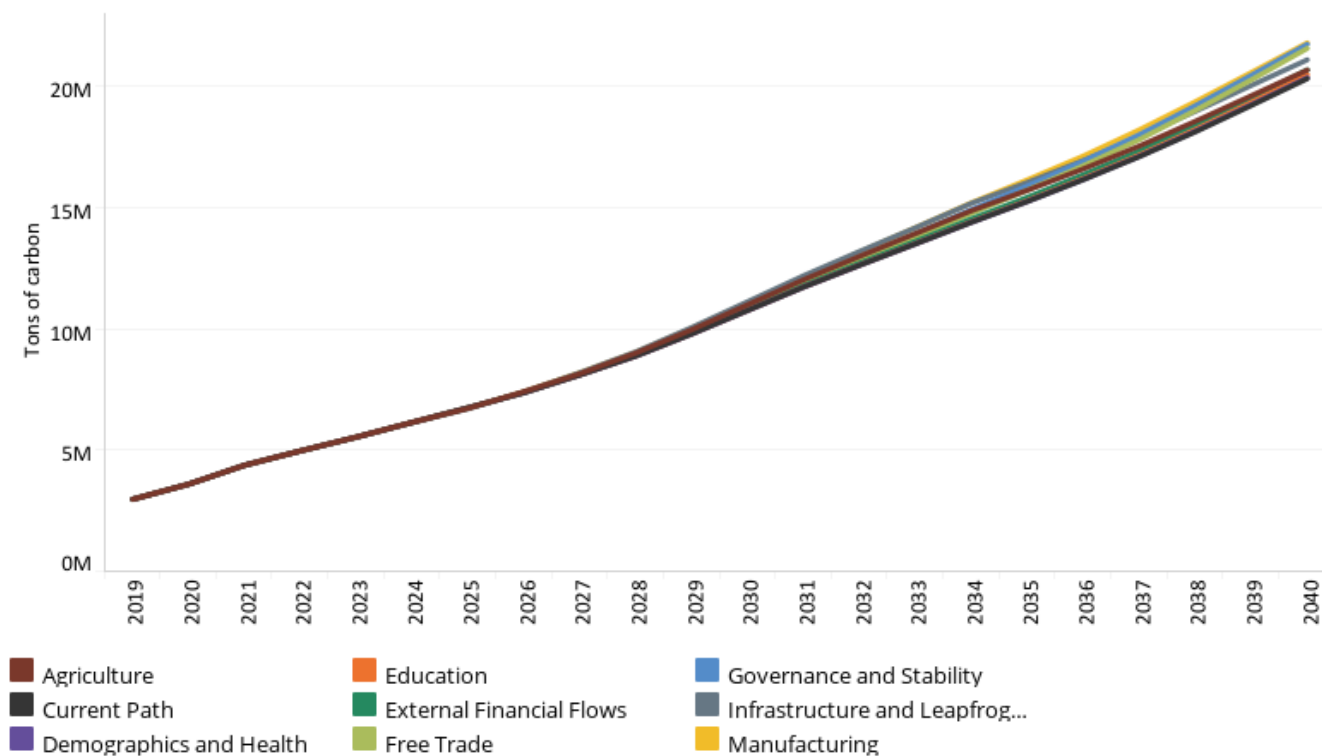
The Combined Agenda 2063 scenario will reduce inequality in Uganda from a Gini coefficient of 0.48 in 2019 to 0.35 in 2040. This will represent a 13.2% improvement over the Current Path forecast for 2040 of 0.40 and an 11.4% improvement over the average for low-income African countries in the same year. Under the Current Path assumption of its peers, Uganda will rank fifth lowest (out of the 23 low-income countries) in inequality in the Combined Agenda 2063 scenario by 2040, below Somalia, Burundi, Guinea and Sudan.

## Carbon emissions

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Chart 43: Carbon emissions in CP and scenarios, 2019–2040

Million tons of carbon (note, not CO<sub>2</sub> equivalent)



Source: IFs 7.84 initialising from Carbon Dioxide Information Analysis Center data

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The IFs platform forecasts six types of energy, namely oil, gas, coal, hydropower, nuclear and other renewables. To allow comparisons between different types of energy, the data is converted into billion barrels of oil equivalent (BOE). The energy contained in a barrel of oil is approximately 5.8 million British thermal units (MBtus) or 1 700 kilowatt-hours (kWh) of energy.

About 84% of Uganda's electricity comes from hydro power generation, but the main source of primary energy consumption is from biomass (i.e. firewood, charcoal and crop residues).[9] The country has discovered a commercially viable petroleum reserve around Lake Albert in the Western Rift Valley, and efforts to explore the area are getting into high gear as Uganda prepares to join the league of oil producing countries. However, it brings with it potential environmental risks. Approximately 1.4 billion of Uganda's 6.5 billion barrels of proven oil reserves are estimated to be economically recoverable. Developing the oil sector will require several billions of dollars of infrastructure investment to build and support a refinery, two central processing facilities, and the 1 400 km EACOP to the port of Tanga in Tanzania, which is the world's longest heated pipeline. Nevertheless, it is facing stiff resistance from environmental groups.[10]

In 2019, oil and gas constituted 48.5% and 45.3% of energy production in Uganda, equivalent to 26 million and 24 million BOE, respectively. Hydro and other renewable sources of energy represent 4.6% and 1.6%, respectively, equivalent to 2 million and 1 million BOE. On the Current Path, it is projected that by 2040, oil production will increase to 110 million BOE, representing 68.6% of total production. Other renewable energies will constitute about 15% of total energy

production, which will correspond to 24 million BOE. This will be complemented by a projected 13 million BOE of hydropower and gas produced in the same year, representing 8% of energy production each.

In 2005, Uganda released about 1 million tons of carbon, and by 2019 this had increased to 3 million, reflecting the low levels of emissions in the country. Even at this low rate in 2019, Uganda was the third largest emitter of carbon among low-income African countries. The agriculture sector is the leading source of carbon emissions, contributing about 48% of total emissions.[11] It is followed by the change in land use and forestry, contributing 38% of emissions.[12] In the Current Path forecast, carbon emissions are projected to increase considerably to 20 million tons by 2040.

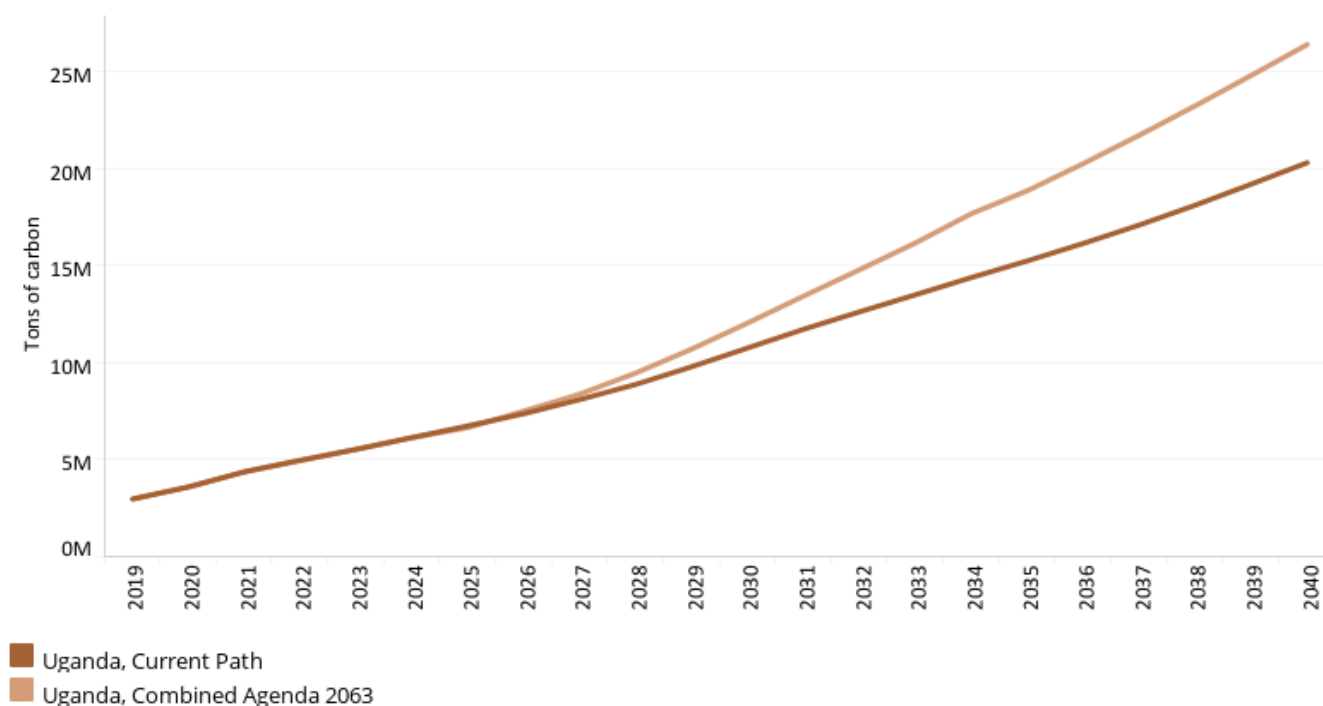
Compared to the Current Path forecast, the Manufacturing/Transfers scenario will make the greatest addition to carbon emissions, followed by the Governance and Stability, Free Trade, and Infrastructure and Leapfrogging scenarios, respectively, by 2040. The Demographics and Health and Education scenarios are projected to make the least additions to Current Path forecast value of carbon emissions by 2040.

▼ < | art 39 | Chart 40 | Chart 41 | Chart 42 | Chart 43 | Chart 44 | Sheet 44 | Chart 45 | Chart 46 | GDP per capita | >

**Chart 44: Carbon emissions in CP and Combined scenario, 2019–2040**  
 Million tons of carbon (note, not CO<sub>2</sub> equivalent)



Uganda ▼



Source: IFs 7.84 initialising from Carbon Dioxide Information Analysis Center data

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The Combined Agenda 2063 scenario consists of the combination of all eight sectoral scenarios presented above, namely the Demographics and Health, Education, Infrastructure and Leapfrogging, Agriculture, Manufacturing/Transfers, Free Trade, External Financial Flows and Governance and Stability scenarios. In the Combined Agenda 2063 scenario, GDP is projected to rise to US\$500 billion, representing a 1 034% increase over the 2019 GDP value of US\$44.1 billion and a 43.4%



increase over the Current Path forecast of 2040. Thus, the combined effect of all the scenarios is to increase GDP by US\$151.1 billion by 2040. The effect of the Combined Agenda 2063 scenario further pushes carbon emissions to 26 million tons by 2040, representing a 30% increase above the Current Path forecast. The additional 6 million tons that come with the Combined Agenda 2063 scenario will mainly come from the Manufacturing/Transfers and Governance and Stability scenarios.

## Endnotes

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2. K Georgieva, [The informal economy and inclusive growth](#), International Monetary Fund, 14 November 2019
3. OECD, [Productivity, human capital and educational policies](#)
4. D Chapman, L Burton and J Werner, [Universal Secondary Education in Uganda: The Head Teachers' Dilemma](#), International Journal of Educational Development, 30:1, 2010, 77–82.
5. WR Musika [Universal Primary Education and Ugandan Economy](#), Education Resources Information Center, 2019
6. In May 2022, the World Bank announced that it would be using US\$2.15 in 2017 prices as the new international poverty line (to measure progress towards the SDGs) instead of US\$1.90. Instead of the previous US\$3.20 for low-middle-income countries, the adjusted poverty line is now \$3.65, and \$6.85 for upper-middle-income countries (instead of \$5.50 in 2011 prices). The World Bank has not yet announced the new poverty line for high-income countries, previously set at \$22.70 in 2011 prices. The World Bank intends to release the associated poverty estimates in 2023. In the meanwhile, this site continues to use the US\$1.90, US\$3.20, US\$5.50 and US\$22.70 poverty lines.
7. H Hurtt, [The main causes of poverty in Uganda](#), The Borgen Project
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Mustapha Jobarteh joined the ISS in January 2022 as a Senior Researcher in the African Futures and Innovation programme in Pretoria. Before joining ISS, Mustapha was a senior lecturer and Head of the Department of Economics and Finance at the University of the Gambia and a research fellow with the Center for Policy, Research and Strategic Studies. His interests include macroeconomics, international trade and econometric modelling. Mustapha has a PhD in economics from Istanbul Medeniyet University, Istanbul, Turkey.

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