ISS | AFRICAN FUTURES

North Africa
Geographic Futures

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In this entry, we first describe the Current Path forecast for North Africa as it is expected to unfold to 2043, the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term vision for Africa. The Current Path in the International Futures (IFs) forecasting model initialises from country-level data that is drawn from a range of data providers. We prioritise data from national sources.

The Current Path forecast is divided into summaries on demographics, economics, poverty, health/WaSH and climate change/energy. A second section then presents a single positive scenario for potential improvements in stability, demographics, health/WaSH, agriculture, education, manufacturing/transfers, leapfrogging, free trade, financial flows, infrastructure, governance and the impact of various scenarios on carbon emissions. With the individual impact of these sectors and dimensions having been considered, a final section presents the impact of the Combined Agenda 2063 scenario.

We generally review the impact of each scenario and the Combined Agenda 2063 scenario on gross domestic product per person and extreme poverty except for Health/WaSH, which uses life expectancy and infant mortality.

The information is presented graphically and supported by brief interpretive text.

All US$ numbers are in 2017 values.

Summary

- Current Path forecast
  - North Africa is the most developed region on the continent, mainly owing to its large oil and gas deposits. The region intersects with the Arab region and Africa and its geographic features consist of the Atlas Mountains in the west, the Nile River and Delta in the east, and the Sahara Desert to the south. According to the World Bank income group classification, Mauritania, Algeria, Egypt, Morocco and Tunisia are considered lower middle-income countries. Libya is classified as an upper middle-income country. Jump to Current path forecast
  - In the Current Path forecast, the population of North Africa will increase from an estimated 202.8 million people in 2019 to 270.5 million people in 2043, and the region will experience a considerable growth in urbanisation, such that by 2043, 61.3% of the population will reside in urban areas. Jump to Demographics: Current Path
  - North Africa is forecast to experience significant growth in GDP, from US$900.3 billion in 2019 to US$1.99 trillion in 2043 and an increase in GDP per capita from US$13 113 in 2019 to US$15 718 by 2043. In addition, the region is set to reduce its level of informality, with a decrease in the size of the informal sector from 19.8% of GDP in 2019 to 17.3% in 2043. The dominance of the service sector in the North African economy is forecast to continue, with its contribution to GDP expected to be US$946.3 billion (47.3% of GDP) by 2043. Jump to Economics: Current Path
  - The number of people living below the extreme poverty line of US$1.90 will decrease from 2.6 million (1.3% of the population) in 2019 to 1.5 million people (0.6%) by 2043. Jump to Poverty: Current Path
  - Gas will represent 79% of the total energy produced in North Africa by 2043, while oil will constitute 18% of total energy production. Carbon emissions will increase from 167 million tons in 2019 to 291 million tons by 2043. Jump to Carbon emissions/Energy: Current Path

- Sectoral scenarios
  - The Stability scenario will improve North Africa's score on the governance security index from 0.76 in 2019 to 0.87 in 2043, and GDP per capita will increase to US$16 219. The scenario also reduces the poverty rate by 0.5% of the population. Jump to Stability scenario
  - The Demographic scenario advances the point at which North Africa could enter its demographic dividend by one year, to 2026, and will, by 2043, have a ratio of 2.12 working-age persons to every dependant. The scenario will increase GDP per capita to US$16 056 by 2043 and reduce the rate of extreme poverty to 0.5% of the population, equivalent to 1.3 million people. Jump to Demographic scenario
  - The Health/WaSH scenario will increase life expectancy from 74.5 years in 2019 to 78.4 years by 2043 and reduce the infant mortality rate from 18 deaths per 1 000 live births in 2019 to 11.1 by 2043. Jump to Health/WaSH scenario
  - In the Agriculture scenario, average crop yields in North Africa will rise from 6.5 metric tons per hectare in 2019 to 7.8 tons in 2043. Despite this increase, the region will remain a net importer of agricultural products, with excess agricultural demand equivalent to 26.5% of total agricultural demand by 2043 compared with the 22.4% in 2019. In this scenario, GDP per capita will increase to US$15 979 and extreme poverty declines to 0.5% of the population, representing 1.2 million people. Jump to Agriculture scenario
  - The Education scenario will increase the mean years of adult education from 7.3 years in 2019 to 9.3 years by 2043 and improve average test scores for primary and secondary education to 44.3% and 55.2%, respectively. The scenario will also result in a higher GDP per capita (US$16 143) and the rate of extreme poverty in the region declining to 0.48% of the population. Jump to Education scenario
  - In the Manufacturing/Transfers scenario, government welfare transfers to households will increase from US$81.2 billion in 2019 to US$217.8 billion in 2043. The scenario will increase GDP per capita by an additional US$894 compared with the Current Path forecast. The rate of extreme poverty rate will decline to 0.3%. Jump to Manufacturing/Transfers scenario

- In the Leapfrogging scenario, fixed and mobile broadband subscriptions will increase from 7.0 and 77.5 subscriptions per 100 people, respectively, in 2019 to 50 and 153.1 subscriptions per 100 people, respectively, by 2043. GDP per capita will increase to US$16 230 while extreme poverty will decline to 0.48% by 2043. Jump to Leapfrogging scenario

- The Free Trade scenario will reduce the trade deficit in North Africa from 6.2% of GDP in 2019 to 4.2% of GDP by 2043. It will further raise GDP per capita to US$16 775 and reduce the rate of extreme poverty to 0.47% over the forecast period. Jump to Free Trade scenario

- The Financial Flows scenario will decrease aid as a percentage of GDP from 0.82% in 2019 to 0.21% in 2043, while increasing the contribution of foreign direct investment to North Africa's economy from 2.9% of GDP in 2019 to 3.9% of GDP in 2043. Remittances as a percentage of GDP will fall from 2.3% in 2019 to 0.78% by 2043. The scenario will increase GDP per capita to US$15 947 and reduce extreme poverty to 0.54% by 2043. Jump to Financial Flows scenario

- The Infrastructure scenario will increase the percentage of the rural population living within 2 km of an all-weather road from 75.8% in 2019 to 86.4% by 2043. The scenario will increase access to electricity to 99.5% of the population. GDP per capita will increase by 1.6% compared with the Current Path forecast by 2043 and extreme poverty is expected to decline to 0.52% of the population. Jump to Infrastructure scenario

- The Governance scenario increases the government effectiveness score by 6% above the Current Path forecast. GDP per capita will increase to US$16 132 by 2043 and extreme poverty rate is set to decline to 0.51% by then. Jump to Governance scenario

- While North Africa's carbon emissions are projected to increase in all the scenarios, the Free Trade scenario will have the greatest effect, resulting in 304 million tons of carbon being emitted by 2043. Jump to Impact of scenarios on carbon emissions

- Combined Agenda 2063 scenario

  - In the Combined Agenda 2063 scenario, North Africa will see GDP per capita increasing to US$21 222 by 2043, with the Manufacturing/Transfers and Leapfrogging scenarios having the greatest impact. The economy is expected to grow from US$900 billion in 2019 to about US$3 trillion in 2043, compared with US$1.99 trillion in the Current Path forecast. The number of people living below the poverty line reduces significantly, to 150 000 people (0.1% of population). Carbon emissions are expected to increase by 17% by 2043 compared with the Current Path forecast. Jump to Combined Agenda 2063 scenario

North Africa: Current Path

North Africa: Current Path forecast

Chart 1: Political map of North Africa

Chart goes here

This page provides an overview of the key characteristics of North Africa along its likely (or Current Path) development trajectory. The Current Path forecast from the International Futures forecasting (IFs) platform is a dynamic scenario that imitates the continuation of current policies and environmental conditions. The Current Path is therefore in congruence with historical patterns and produces a series of dynamic forecasts endogenised in relationships across crucial global systems. We use 2019 as a standard reference year and the forecasts generally extend to 2043 to coincide with the end of the third ten-year implementation plan of the African Union's Agenda 2063 long-term development vision.

North Africa is the most developed region on the continent, mainly owing to its large oil and gas deposits and the extent to which its governments have used much of that income to invest in education, health and infrastructure. The region intersects with both the Arab region and Africa, and its geographic features consist of the Atlas Mountains (and Atlantic Ocean) in the west, the Nile River and Delta in the east, the Sahara desert in the south, and the Mediterranean Sea to its north. For the purpose of this study, we define North Africa to include Morocco, Algeria, Tunisia, Libya, Egypt and Mauritania. No data is available for Western Sahara. According to the World Bank income group classification, Mauritania, Algeria, Egypt, Morocco and Tunisia are considered lower middle-income countries. Libya is classified as an upper middle-income country. The region was mainly stable and ruled by monarchs until the Arab Spring, which occurred between 2010 and 2012. This led to massive protests demanding constitutional reforms and a transition to democracy. Since then, the stability of the region has been an issue of concern, characterised by recurring protests and violence and the overthrow of a number of authoritarian regimes, most notably in Tunisia and Libya. Significant reforms have occurred in Algeria and Egypt.
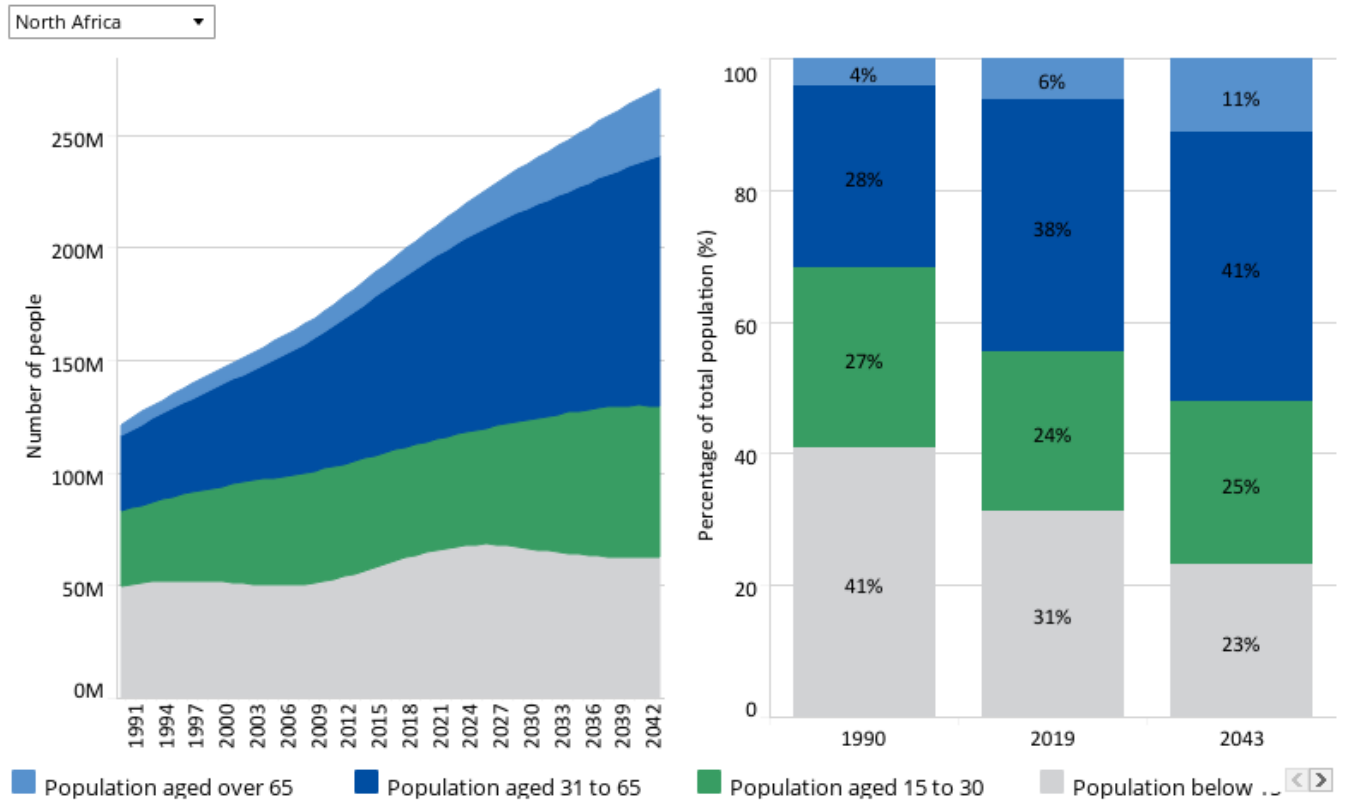
Demographics: Current Path

Chart 2: Population structure in CP, 1990–2043
By cohort and % of population

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North Africa ▼

Population aged over 65   Population aged 31 to 65   Population aged 15 to 30   Population below ... ‹ ›

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

⁙ View on Tableau Public   ↺ ↻ ↺ ↻ ▼ | ⬇▼ ⬚ ⤬ Share

After Southern Africa, North Africa is the least populated region in Africa, with an estimated population of 202.8 million in 2019. This represents an increase of 67% from a recorded population of 121.4 million in 1990. On the Current Path, it is projected that the region's population will grow to 270.5 million by 2043. The population of Egypt accounts for half of the population in the region. Algeria and Morocco account for 21% and 18%, respectively, while Tunisia, Libya and Mauritania account for the remaining 11%.

North Africa currently has the lowest fertility rate (3.0 births per fertile woman) among all the regions in Africa, ranging from 4.6 in Mauritania to 2.2 in Tunisia. By 2043, the total fertility rate in the region is expected to be 2.1 births per woman, generally considered as the replacement number. Mauritania will still have the highest fertility rate in the region (3.2 births per woman), while fertility rates in the other countries will be around 2 births per woman.

The cohort of people younger than 15 declined from 41% to 31% between 1990 and 2019, and the group between 15 and 30 years of age reduced from 27% to 24% in this period. This depicts a significant shift in the structure of the population, signalling a more mature population structure. The median age in North Africa was 26.7 years in 2019, the highest among the regions in Africa. Across the respective countries in the region, the median age ranged from 32.6 years (Tunisia) to 19.9 years (Mauritania). By 2043, the region will still have the highest median age (31.7 years) on the continent.

The region had the lowest youth bulge (35.2%) on the continent by 2019, which is projected to decline to 32.3% by 2043.

This share is significantly lower than in other regions. Despite this larger adult population, the presence of a significant proportion of youth in the region remains a concern for instability, especially since the region has witnessed major political instability in the past two decades. Mauritania has the highest youth bulge in the region – estimated at 44.9% in 2019 – whereas at 28.6% Tunisia has the lowest. Egypt (37.6%), Morocco (33.6%), Libya (33.2%) and Algeria (32.1%) all have youth bulges above 30%. The Current Path forecast shows that by 2043, the proportion of people under the age of 15 will decline to 23%, while the proportion of people above 30 will increase from 44% in 2019 to 52%.

Chart 3: Urban and rural population in CP, 1990–2043
% of population

North Africa
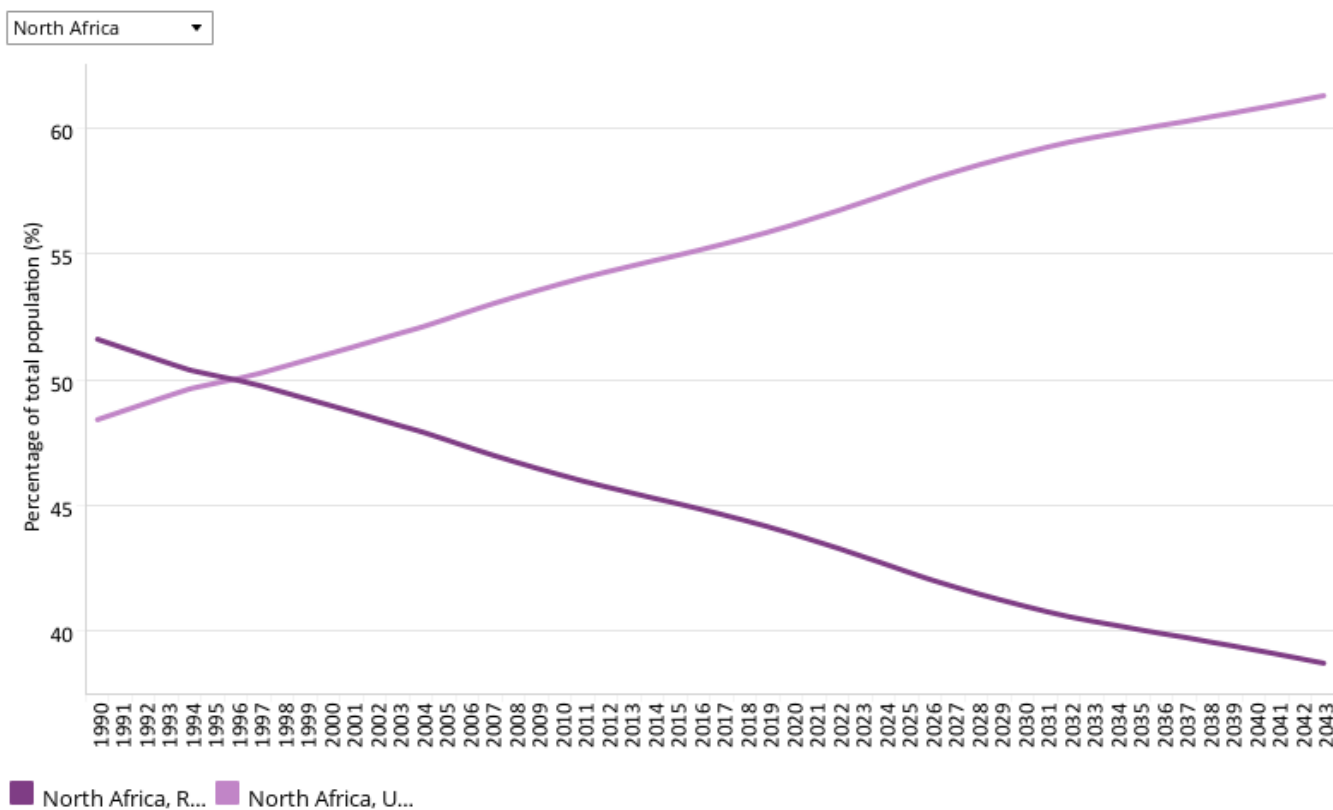
Source: IFs 7.63 initialising from UN World Urbanization Prospects estimate

View on Tableau Public   Share

An estimated 60% of the region's population live in urban areas, owing to a combination of geographical factors (large areas of the region consisting of desert) and generally high levels of education. In contrast, approximately 43.8% of people lived in urban areas in the rest of Africa in 2019. At the country level, aside from Mauritania (with an urban population of 42.8%), all the North African countries have an urban population rate above 50%. Libya has the highest urban population (82%), followed by Algeria (73%) and Tunisia (69%). On the Current Path, it is projected that by 2043, 62% of the population of North Africa will reside in urban centres, which is much higher than any other region on the continent.

Chart 4: Population density map for 2019

Source: Source goes here

The population of North Africa is settled on a total land area of approximately 683 million hectares. The population density of the region was estimated to be 0.30 people per hectare in 2019, which was the second lowest among the regional

groupings in Africa, second to Central Africa, and below the average of 0.45 for Africa. Egypt and Morocco have the highest population densities in North Africa, with estimated densities of 1.01 and 0.82 people per hectare, respectively. Mauritania and Libya have the lowest population densities in the region, namely 0.044 and 0.037 people per hectare, respectively. The majority of people in North Africa reside along the Mediterranean coast in the north or along the Nile River.

Chart 5: GDP in CP, 1990–2043
Market exchange rates
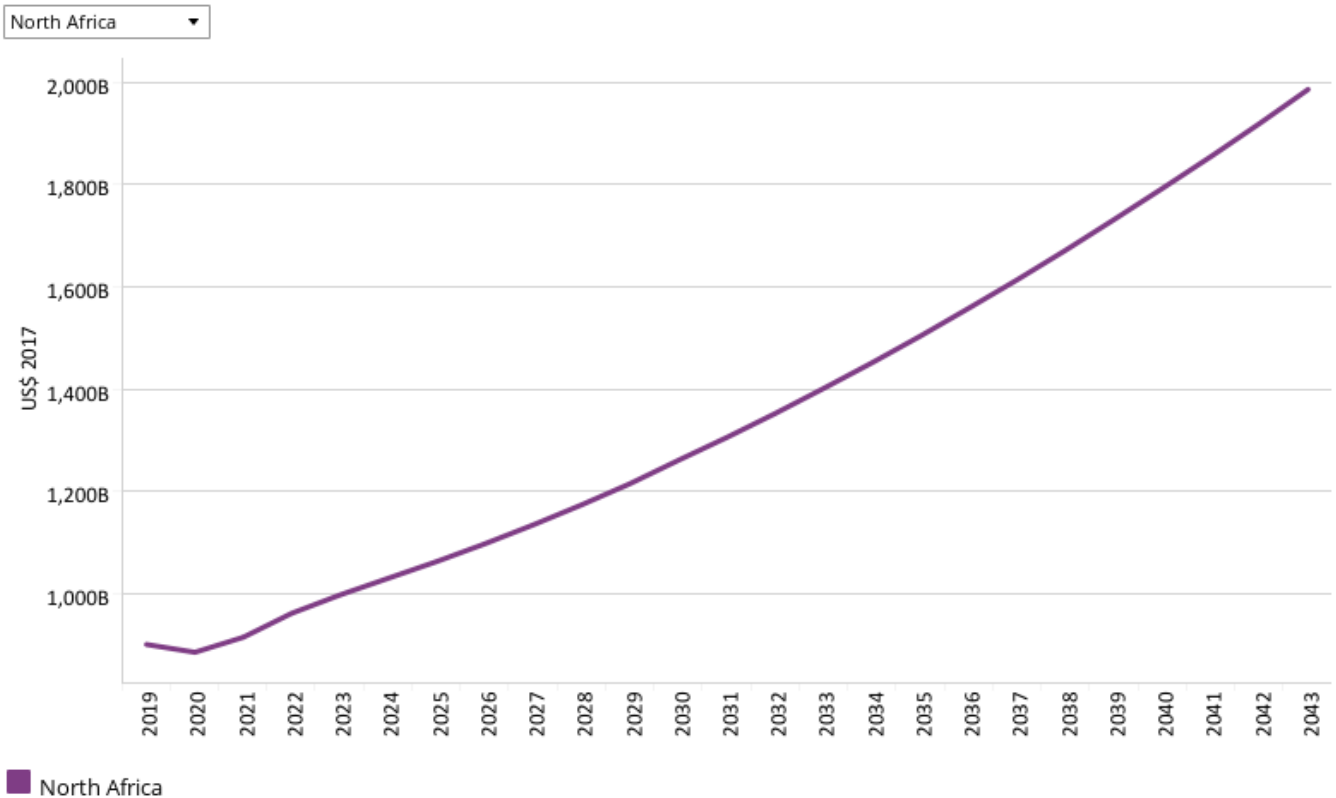
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North Africa ▼

North Africa

Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database
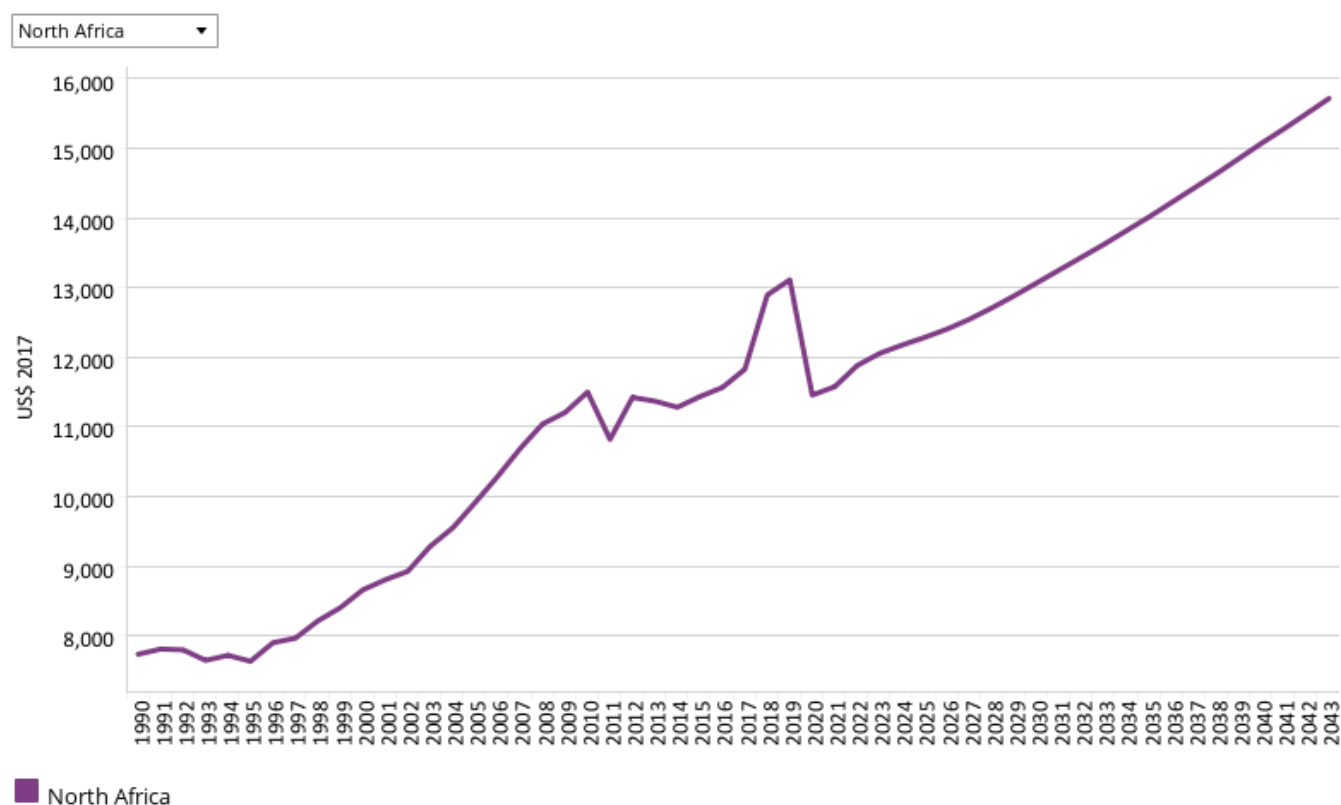
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In 2019, North Africa had the largest regional economy in Africa, mainly owing to the effect of its large oil and gas deposits. With an estimated GDP of US$900.3 billion, the region constitutes about 30% of Africa's economy. The current GDP represents an increase of 151.1% from the 1990 estimate of US$358.6 billion. At the country level, Egypt has the largest economy, with an estimated GDP of US$348.8 billion in 2019, representing 38.8% of the economy in the region. This is followed by Algeria and Morocco, whose shares of the total economy are 29.6% and 15.8%, respectively. Mauritania has the smallest economy in the region, with a GDP equivalent to only 1.1% of the total economy in the region.

It is projected that the GDP of North Africa will rise to US$1.99 trillion by 2043. Despite this growth, West Africa, with its much larger population, will overtake North Africa to become the region with the largest economy in 2029 and, by 2043, North Africa will constitute about 22.8% of Africa's economy, then only marginally larger than the economy of East Africa. The projected increase in the GDP of North Africa will largely be driven by the anticipated economic growth in Egypt, which will account for almost half of the economy in the region by 2043.

Chart 6: GDP per capita in CP, 1990–2043
Purchasing power parity

North Africa ▾

North Africa

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
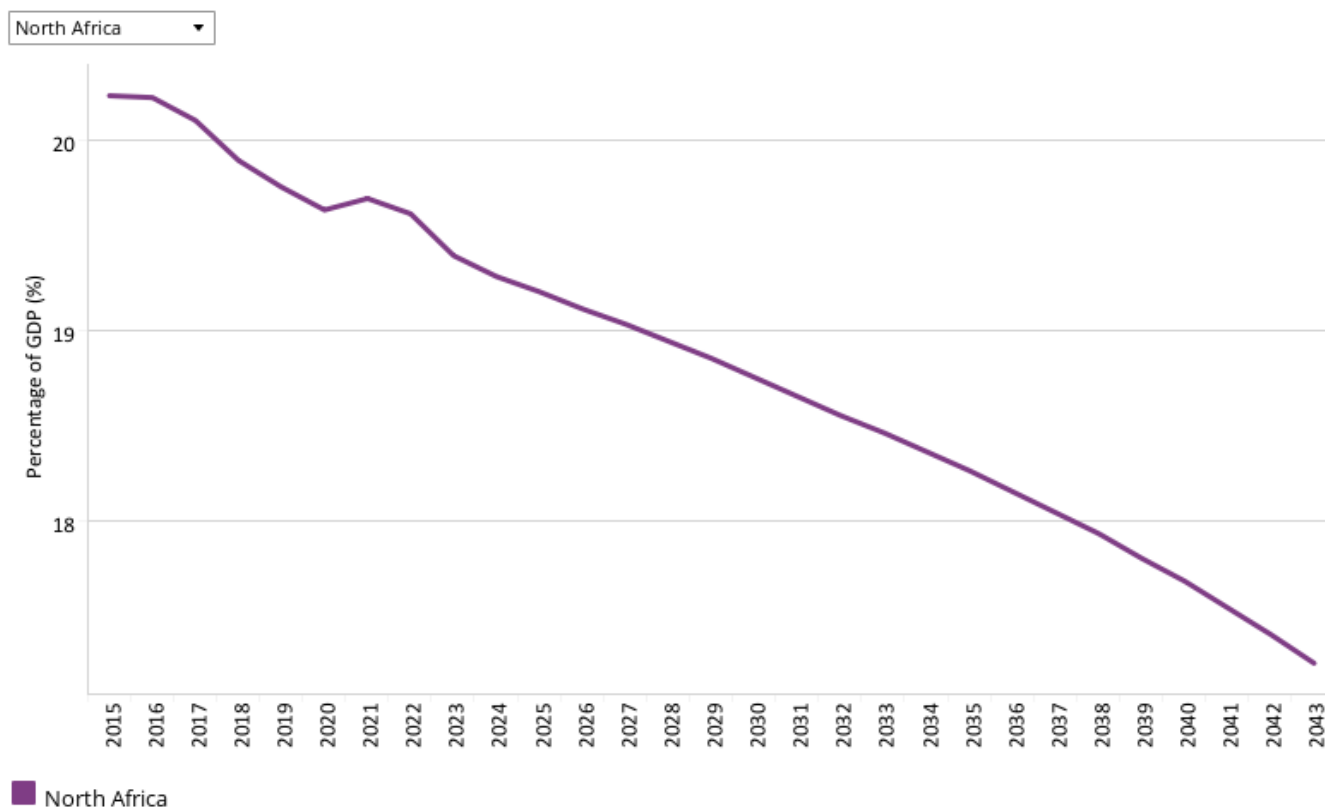
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Although many of the charts in the sectoral scenarios also include GDP per capita, this overview is an essential point of departure for interpreting the general economic outlook of North Africa.

The GDP per capita of North Africa increased by 70% between 1990 and 2019, going from US$7 732 to US$13 113 in this period. The region has the highest GDP per capita on the continent, far above Africa's average of US$5 289. In 2019, Libya had the highest GDP per capita (US$20 296), followed by Algeria (US$14 802) and Egypt (US$12 426), although exact numbers for Libya will likely be lower given the impact of the civil war in that country. As a result, all these countries are classified as upper middle-income countries according to the World Bank income group classification. Mauritania – which is a lower middle-income country – had the lowest GDP per capita (US$4 138) in 2019, set to increase to US$5 879 by 2043.

It is projected that the GDP per capita of North Africa will rise to an average of US$15 718 by 2043, which will be higher than Africa's average of US$6 842 and the highest among the regions in Africa. By then Egypt will have overtaken Algeria and have the second highest GDP per capita among the North African countries.

Chart 7: Informal sector value in CP, 2015–2043
% of GDP

North Africa ▼

North Africa

Source: IFs 7.63 initialising from UN Economic Commission for Europe [2008]; Elgin and Oztunali [2012]; Schneider and Enste [2012]

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In 2019, the informal sector in North Africa contributed 19.8% to the region's GDP, equivalent to US$163 billion. Although in absolute terms this was the second largest among the regions in Africa, it was proportionally the second lowest after Southern Africa (17.1% of GDP) and lower than the average of 25.9% for Africa. This suggests that, compared with other parts of Africa, the region has performed better at formalising its economy.

The contribution of the informal sector in member countries differs. Mauritania has the highest contribution by the informal sector (estimated at 23.3%), while Libya has the smallest contribution (13.8%). Tunisia, Morocco and Egypt all have informal sector contributions to GDP above 20%.

The proportion of people employed in the informal sector in North Africa averaged 40.9% in 2019, which was the lowest among the regions in Africa. At the country level, this ranges from 50.5% (Egypt) to 20.8% (Libya). In Algeria, less than 30% of the labour force is employed in the informal sector.

On the Current Path, it is projected that the informal sector's contribution to GDP will decline to 17.3% by 2043, which will still be 7.4 percentage points lower than the average for Africa and the lowest among all the regions on the continent. By 2043, only Mauritania will have its informal sector contributing more than 20% to GDP. Libya will have the smallest contribution from the informal sector to GDP, estimated at 9%. Similarly, the proportion of informal labour in the region is projected to decline to 36.2% (ranging from 46.2% in Egypt to 13.2% in Libya).

Chart 8: Value added by sector in CP, 2015–2043
Billions US$ 2017 and % of GDP
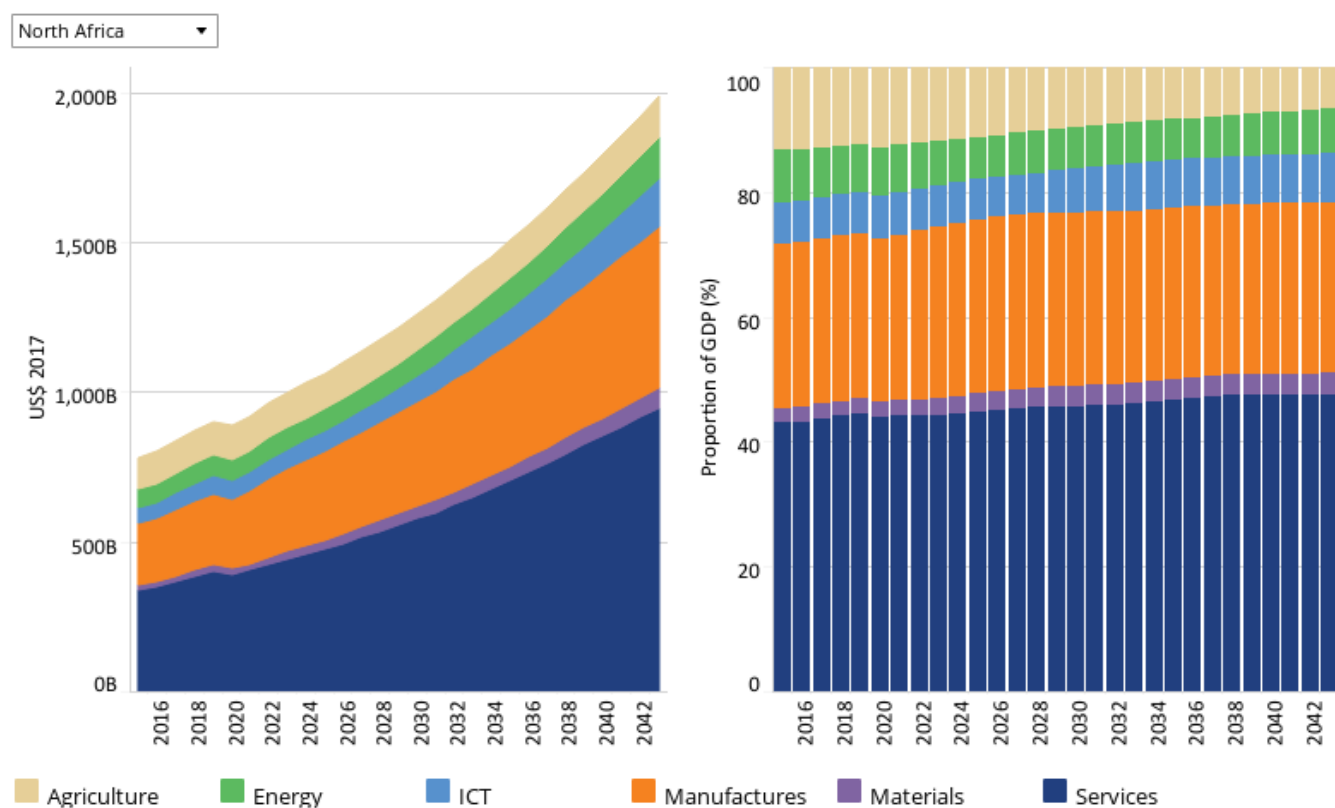
Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database

The IFs platform uses data from the Global Trade and Analysis Project (GTAP) to classify economic activity into six sectors: agriculture, energy, materials (including mining), manufactures, services and information and communications technology (ICT). Most other sources use a threefold distinction between only agriculture, industry and services with the result that data may differ.

The three largest contributors to the economy are the service, manufacturing and agriculture sectors. The service sector dominates the North African economy and is valued at US$399.8 billion – equivalent to 44.4% of GDP. However, this is below Africa's average of 50.4% and the smallest among the regional groupings. The contribution of the service sector to GDP among member countries ranges from 51.4% in Morocco to 31.8% in Algeria. Countries such as Egypt, Tunisia and Libya all had a service sector contributing close to 50% to GDP in 2019. In the same year, manufacturing contributed 26.5% to GDP, equivalent to US$238.2 billion, while agriculture's contribution amounted to US$111.8 billion, representing 12.4% of GDP.

The contribution of agriculture to GDP among member countries differs substantially, from 23.1% in Mauritania to 3.6% in Libya, with the remaining countries all gaining between 11% and 16% from the sector. With regard to manufacturing, Algeria and Tunisia have the highest contributions to GDP from manufacturing, estimated at 33.1% and 29.1%, respectively. Mauritania has the smallest contribution (13.5%), with the sector's contribution averaging between 21% and 25% of GDP in Morocco, Egypt and Libya. Mauritania has a relatively large materials sector, accounting for almost 13% of GDP in 2019, while Algeria and Libya have the biggest contributions from energy in the region (15.6% and 11.8%, respectively). The ICT sector in Libya contributes 12.6% of GDP.

The structural transformation of economies dictates that the share of the service sector increases while other sectors, such as agriculture, decline. By 2043, the contribution of the service sector in the region is projected to balloon to about US$946.3 billion, representing 47.3% of GDP, which will be lower than Africa's average of 55.4%. This will be driven by the projected service contribution to GDP in Egypt (54%), Morocco (52.3%) and Libya (50.1%). The contribution of agriculture to GDP will decline to 6.7%, equivalent to US$133.5 billion, while that of manufacturing will rise to 27.3%, translating to US$542.5 billion.

By 2043, the manufacturing sector is projected to contribute 31.4% to GDP in Tunisia while contributing only 13.2% in Mauritania. Only Mauritania and Morocco will have agriculture contributing above 10% to GDP by 2043; in the remaining countries contributions will range from 9.4% (Algeria) to 1.8% (Libya). The biggest contribution to GDP from the ICT sector (about 15.2%) will be in Libya, while the lowest will be in Algeria (about 4.8%). The materials sector's contribution will be the biggest in Mauritania (16.3%), whereas in Tunisia it will be less than 2%. In Algeria, the energy sector will contribute 23.5% to GDP by 2043, which will be the highest in the region, while it will contribute less than 1% to the economies of Tunisia and Morocco.

Chart 9: Agriculture production/demand in CP, 1990–2043
Crops million tons
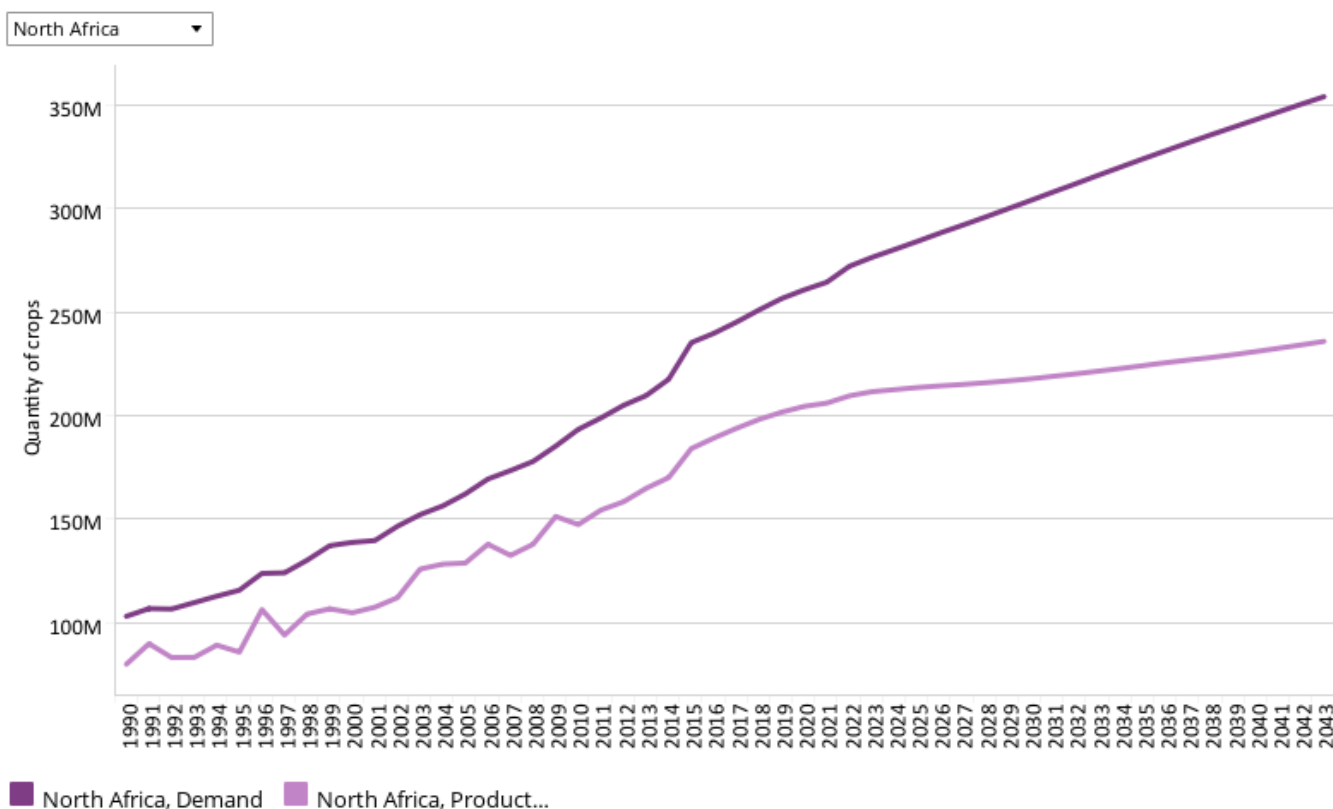
Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets

The data on agricultural production and demand in the IFs forecasting platform initialises from data provided on food balances by the Food and Agriculture Organization (FAO). IFs contains data on numerous types of agriculture but aggregates its forecast into crops, meat and fish, presented in million metric tons. Chart 9 shows agricultural production and demand as a total of all three categories.

Total agricultural demand exceeded production by 23.2 million tons in 1990, indicating a heavy import dependence for

agricultural products in the region. Between 1990 and 2019, agriculture import dependence grew to 54.9 million tons, representing a 136.6% increase over the period. In terms of production, Egypt – as expected with its large population – produced about 113.9 million tons of crops, meat and fish, the most in the North African region; this accounted for 56.5% of total production. Morocco produced 36.8 million tons of crops, representing 18.2% of total production in the region, while Libya and Mauritania had the lowest production capacity (8 and 1.4 million tons, respectively).

Libya has the lowest agricultural import dependency in the region, estimated at 70 000 tons. Egypt has the greatest dependency on food imports in the region, with domestic demand exceeding production by 25 million tons. Import dependence to supplement domestic production is expected to grow in the region, such that by 2043, domestic demand will exceed production by 118.2 million tons. This constitutes a growth of 115.3% in import dependency, which will largely be driven by the anticipated increased import dependency in Egypt, projected to be about 82 million tons. Algeria and Tunisia will have food shortages estimated at 28.8 million and 3.3 million tons, respectively.
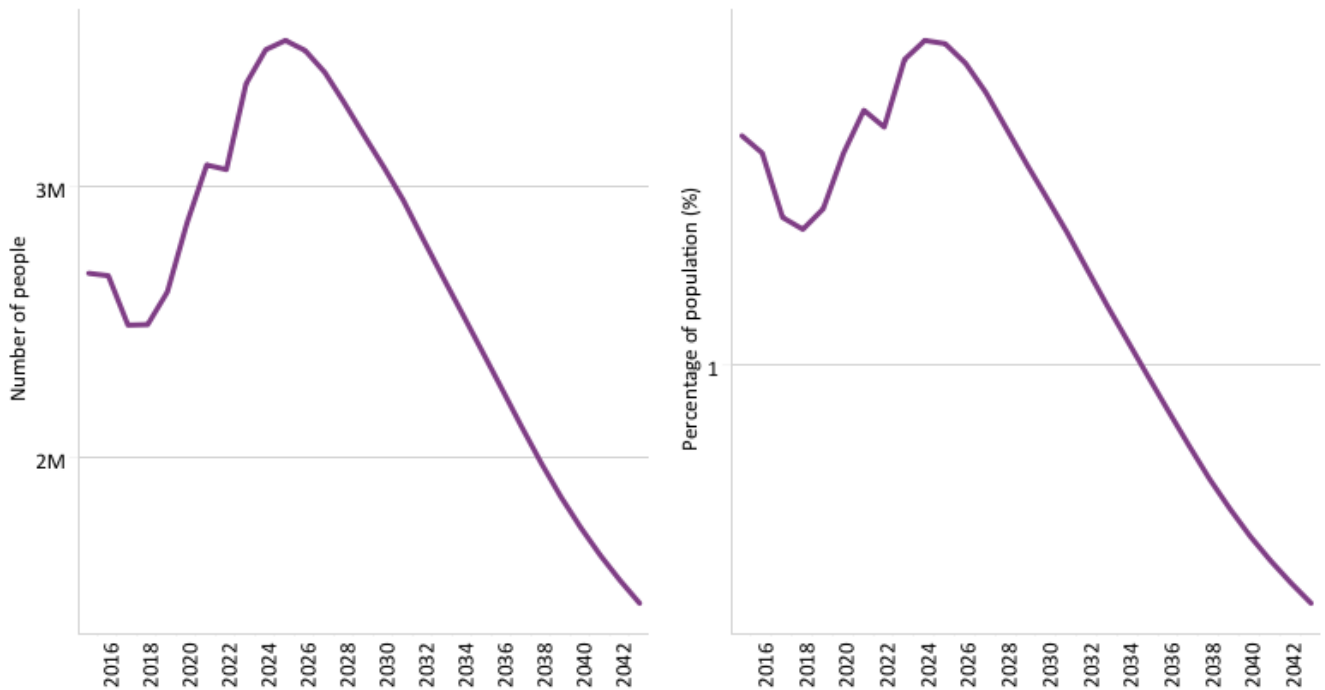
Chart 10: Poverty in CP, 2015–2043
Millions of people and % of total population

ISS|AF

| North Africa ▼ | | $1.90 ▼ |

■ North Africa

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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There are numerous methodologies and approaches to defining poverty. We measure income poverty and use 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 Sustainable Development Goal 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

· US$22.70 for high-income countries.

North Africa is the most developed region in Africa and has the lowest poverty rate. In 2019, the total number of people living in extreme poverty (below the poverty line of US$1.90 a day) was estimated to be 2.6 million people, representing only 1.3% of the population – far below the average of 34.8% for Africa. This means that the region has already met the target of Goal 1 of the Sustainable Development Goals, namely to reduce extreme poverty to below 3%.

At the country level, only Mauritania has an extreme poverty rate above 10%; in all the others the poverty rate is below 2%

(in fact, Morocco, Tunisia and Algeria all have poverty rates below 1%). Extreme poverty is projected to increase in the short term and peak at 3.5 million people (1.6% of the population) in 2025. This can be attributed to the impact of the COVID-19 pandemic on businesses and livelihoods in the region. Poverty is subsequently forecast to decline such that by 2043, the number of people living below the poverty line of US$1.90 in the region will be 1.5 million, constituting 0.6% of the population. This will be 20.3 percentage points below the average for Africa. Extreme poverty in the region will be driven by the high poverty rate in Mauritania, estimated to be at 7.1% by 2043, and will constitute 86.7% of all poor people in the region. The other countries in the region will all have an extreme poverty rate of less than 1% by 2043.

Chart 11: Energy production by type in CP, 1990–2043
Barrels of oil equivalent and % of energy production

North Africa

Coal   Gas   Hydro   Nuclear   Oil   Other renewa...
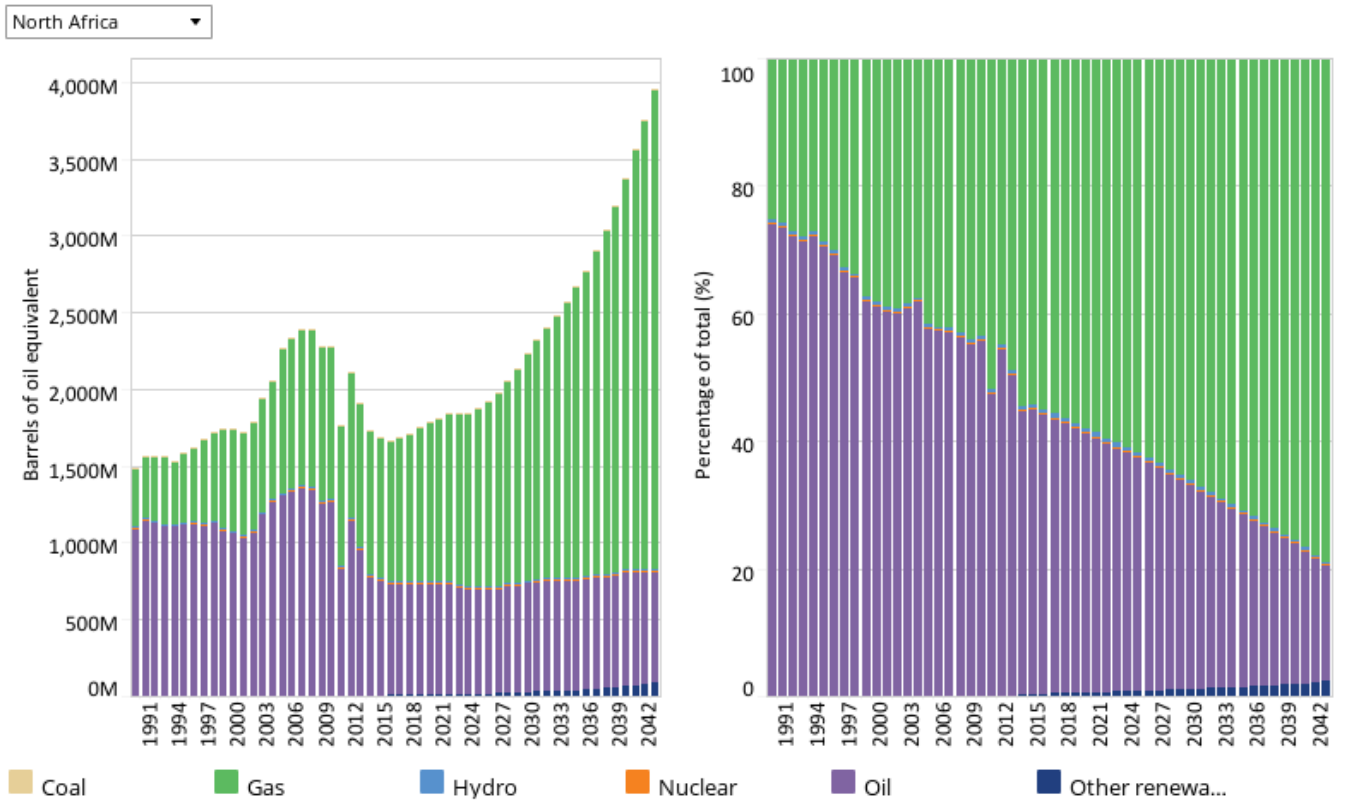
Source: IFs 7.63 initialising from World Energy Outlook data

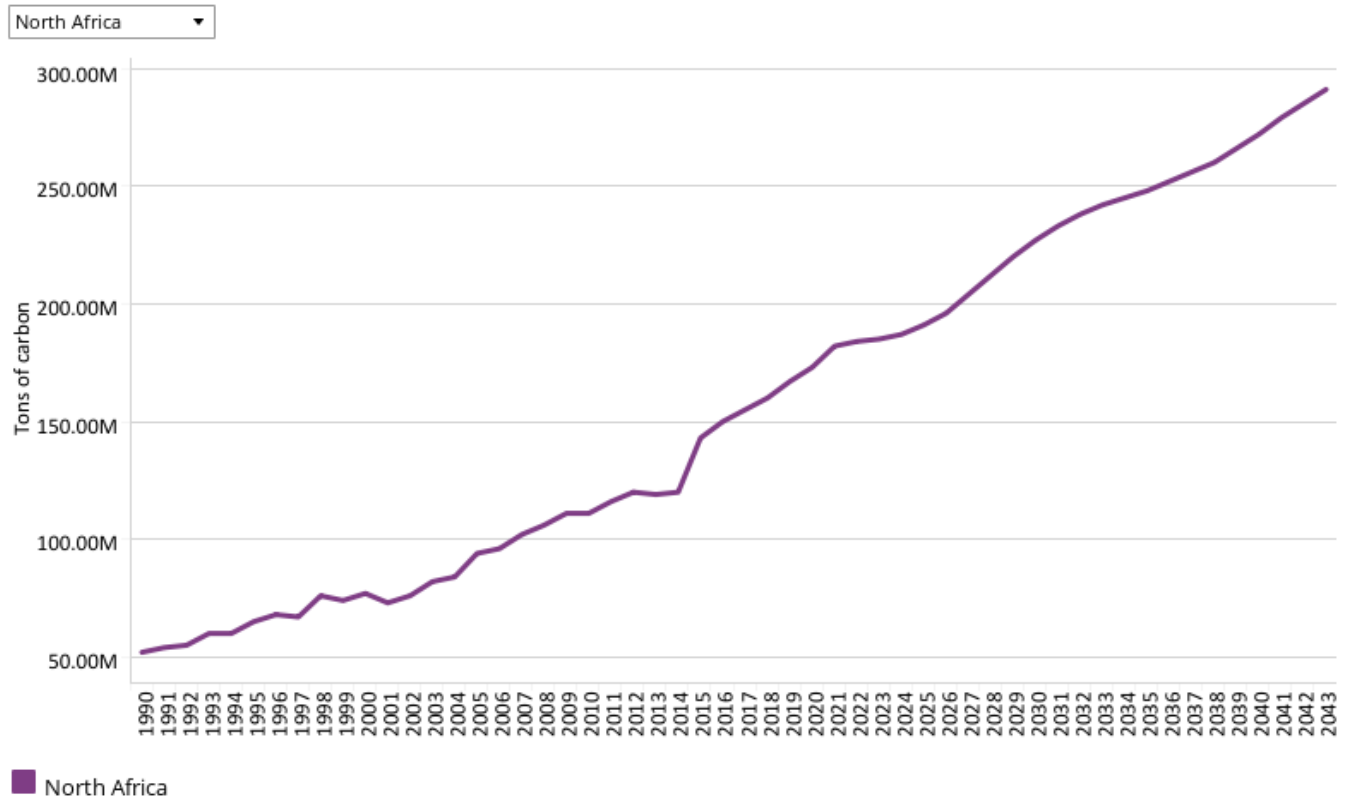⚙ View on Tableau Public ↶ ↷ ↺ ↪ ▾ | ⬇▾ ⬚ ⤬ Share

The IFs platform forecasts six types of energy, namely oil, gas, coal, hydro, 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.

Oil and gas are the main types of energy produced in North Africa. In 1990, the region's oil production was estimated to be 1.1 billion BOE, equivalent to 74% of total energy production. This was complemented by 374 million BOE in gas production. By 2019, total oil production in the region declined to 731 million BOE, constituting 42% of total energy production. The production of gas grew to 1 billion BOE, representing 57% of total energy production. Oil production in the region is mainly driven by the large oil reserves in Algeria and Egypt, accounting for 51.8% and 30.6% of total oil production, respectively. The two countries also together account for over 90% of total gas production in the region, with Algeria producing 61.3% and Egypt 29%.

By 2043, gas will be the dominant type of energy produced in the region, with a projected output of 3.1 billion BOE, representing 79% of total energy production. This will be complemented with oil production, estimated to be at 725 million BOE and constituting 18% of total energy production. The rest is expected to be sourced from other renewable energies, which will constitute 2% of total energy production by 2043. The share of Algeria in total gas production will increase to 83.9%, while the share of Egypt will decline to 11.3% by 2043. Also, the share of Algeria and Egypt in oil production will rise

to 55.8% and 41.1%, respectively, by 2043. This means that the region is likely to depend on Algeria and Egypt for its energy demand in the future.

Chart 12: Carbon emissions in CP, 1990–2043
Million tons of carbon (note, not CO2 equivalent)

North Africa ▼

■ North Africa

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

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Carbon is released in many ways, but the three most important contributors to greenhouse gases are carbon dioxide (CO_2), carbon monoxide (CO) and methane (CH_4). Since each has a different molecular weight, IFs uses carbon. Many other sites and calculations use CO_2 equivalent.

The total amount of carbon emitted by North Africa more than tripled between 1990 and 2019, from 52 million tons to 167 million. Among member countries, Egypt and Algeria are the highest emitters of carbon in the region, accounting for 40.6% and 26.9% of total emissions, respectively. This is mainly due to higher production of gas and oil in these countries, as well as relatively larger manufacturing sectors. Mauritania is the smallest contributor to carbon emissions, accounting for less than 1% of total emission in the region.

By 2043, total carbon emission is projected to increase to 291 million tons, equivalent to a 74.3% increase over the forecasting period. Egypt will increase its share of carbon emissions in the region to 51.5%, while the share of Algeria will decline to 23.8%. Libya is projected to also reduce its share of total carbon emissions from 15.2% in 2019 to 9.7% by 2043.

Sectoral Scenarios for North Africa

- Stability scenario
- Demographic scenario
- Health/WaSH scenario
- Agriculture scenario
- Education scenario
- Manufacturing scenario
- Leapfrogging scenario
- Free Trade scenario
- Financial Flows scenario
- Infrastructure scenario
- Governance scenario
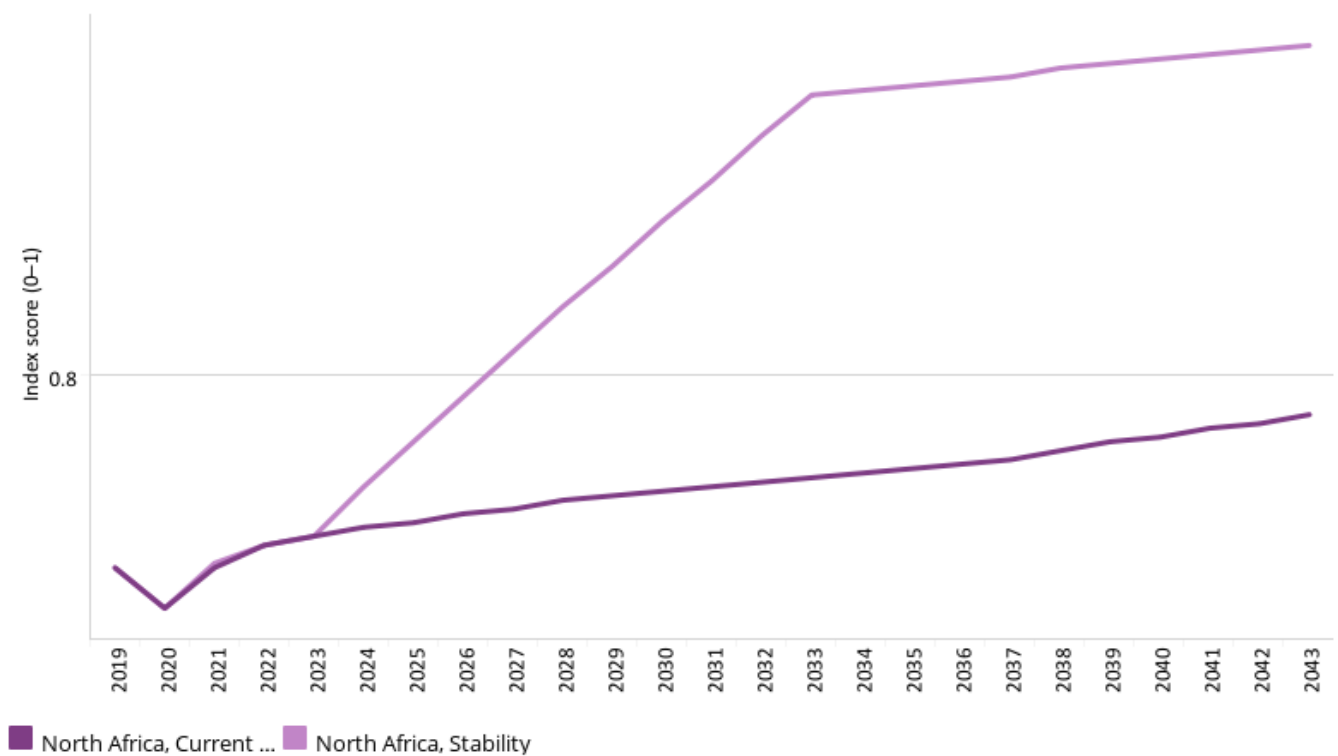- Impact of scenarios on carbon emissions

Stability scenario

Chart 13: Governance security in CP and Stability scenario, 2019–2043
IFs index 0–1

Source: IFs 7.63 goverance security index using internal war and government risk

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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 here in the thematic part of the website.

Between 2010 and 2012, a number of North African countries witnessed massive protests, demanding constitutional reforms and transition to democracy in what later became known as the Arab Spring. The movement started as a protest in Tunisia but later also spread to countries such as Libya and Egypt. Until then, the region had mostly been stable under the rule of monarchs. However, since the spate of protests, the region has been relatively unstable, with continued demand for democratic reforms.

In 2019, the region's score on the governance security index was 0.76, which was the highest among all the regions in Africa and above Africa's average of 0.69. At the country level, Tunisia has the highest score on the governance security index (0.85), followed by Morocco (0.79). These scores indicate stability in these countries. Both countries undertook reforms during the period of the Arab Spring, which have resulted in political stability. Egypt and Mauritania have the lowest scores on the governance security index in the region.

Based on the Stability scenario, it is projected that the region's score on the governance security index will rise to 0.87 by 2043, which will be higher than the Current Path forecast of 0.79 and the average of 0.74 for Africa. In the Stability scenario, Tunisia and Morocco will continue to perform best in terms of governance security, with scores of 0.93 and 0.90, respectively. The Stability scenario leads to the greatest improvement in the governance security index for Mauritania, with an addition of 0.094 to the score compared with the Current Path forecast. Libya and Egypt also improve their score by an extra 0.086 in the Stability scenario relative to the Current Path forecast.

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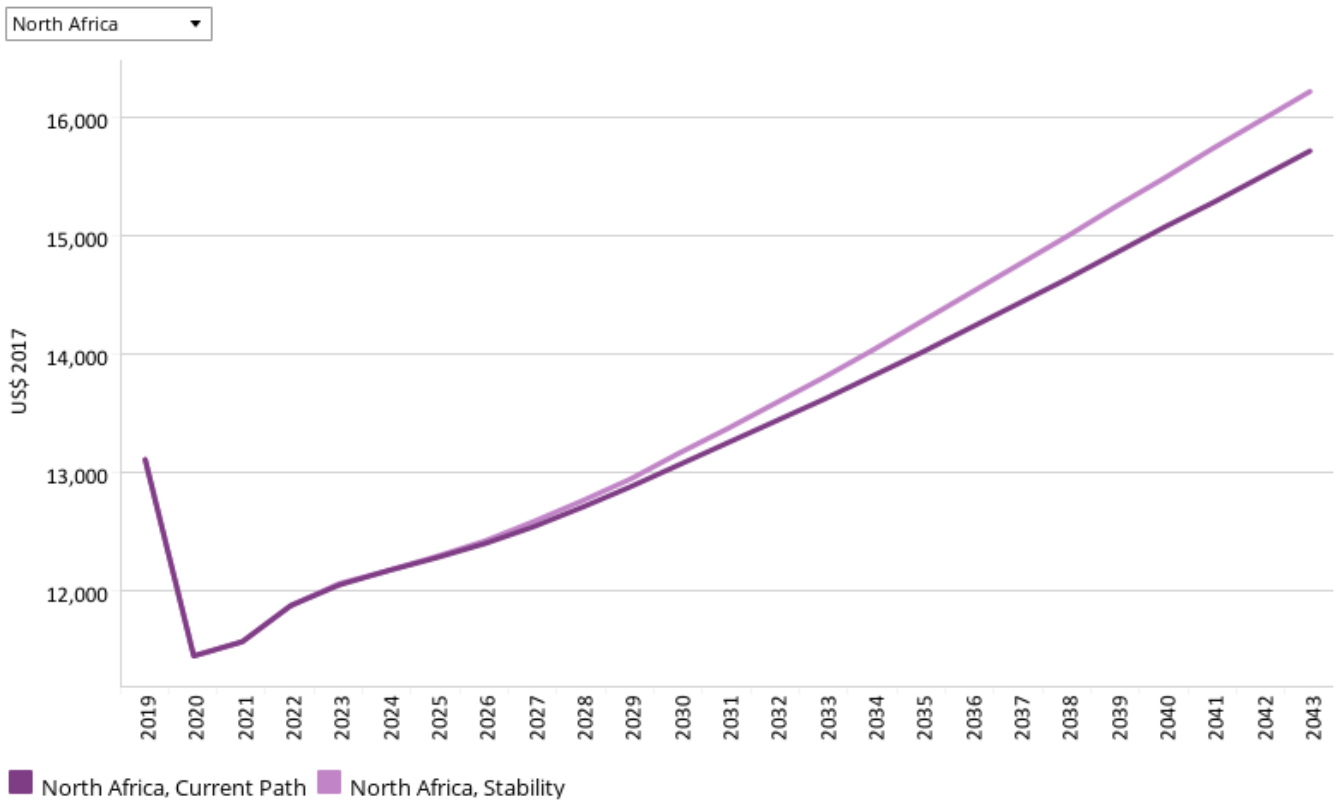
North Africa ▼

■ North Africa, Current Path ■ North Africa, Stability

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

⠿ View on Tableau Public   ↶ ↷ ↺ ⤷ ▾ | ⬇▾ ⬚ ⃕ Share

Stability facilitates economic growth and development by ensuring the continuity of businesses, projects and the attraction of foreign investment. By 2043, the Stability scenario will increase the GDP per capita of North Africa from US$13 113 to US$16 219, which will be far higher than the projected Current Path average of US7 157 for Africa. This will mean US$501 extra gains in per capita income in the region by then. Among member countries, GDP per capita will differ considerably in the Stability scenario, from US$31 261 in Libya to US$6 192 in Mauritania. The country that will experience the greatest improvement in GDP per capita as a result of the Stability scenario is Algeria, with additional gains of US$709 compared with the Current Path forecast. Tunisia benefits the least from the Stability scenario, with an additional improvement of only US$327 forecast.

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

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

By 2043, approximately 1.3 million people are projected to be living in extreme poverty (using the US$1.90 benchmark) in North Africa, equivalent to 0.5% of the population. This will be 0.1 percentage points lower than the Current Path forecast in the same year. It means that the Stability scenario could reduce extreme poverty by an additional 160 000 people in North Africa. Likewise, the projection of extreme poverty rates for North Africa in the Stability scenario will be far below the Current Path estimate of the average for Africa by 2043.

Among member countries, Mauritania will witness the greatest reduction in extreme poverty rates (0.91 percentage points) in the Stability scenario. All the remaining countries will experience a decline in poverty rates of less than 0.1 percentage point in this scenario, ranging from 0.05 percentage points in Egypt to 0.009 percentage points in Algeria.

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

ISS|AF

North Africa ▼

Ratio of working-age population to dependants

■ North Africa, Current Path ■ North Africa, Demograp...
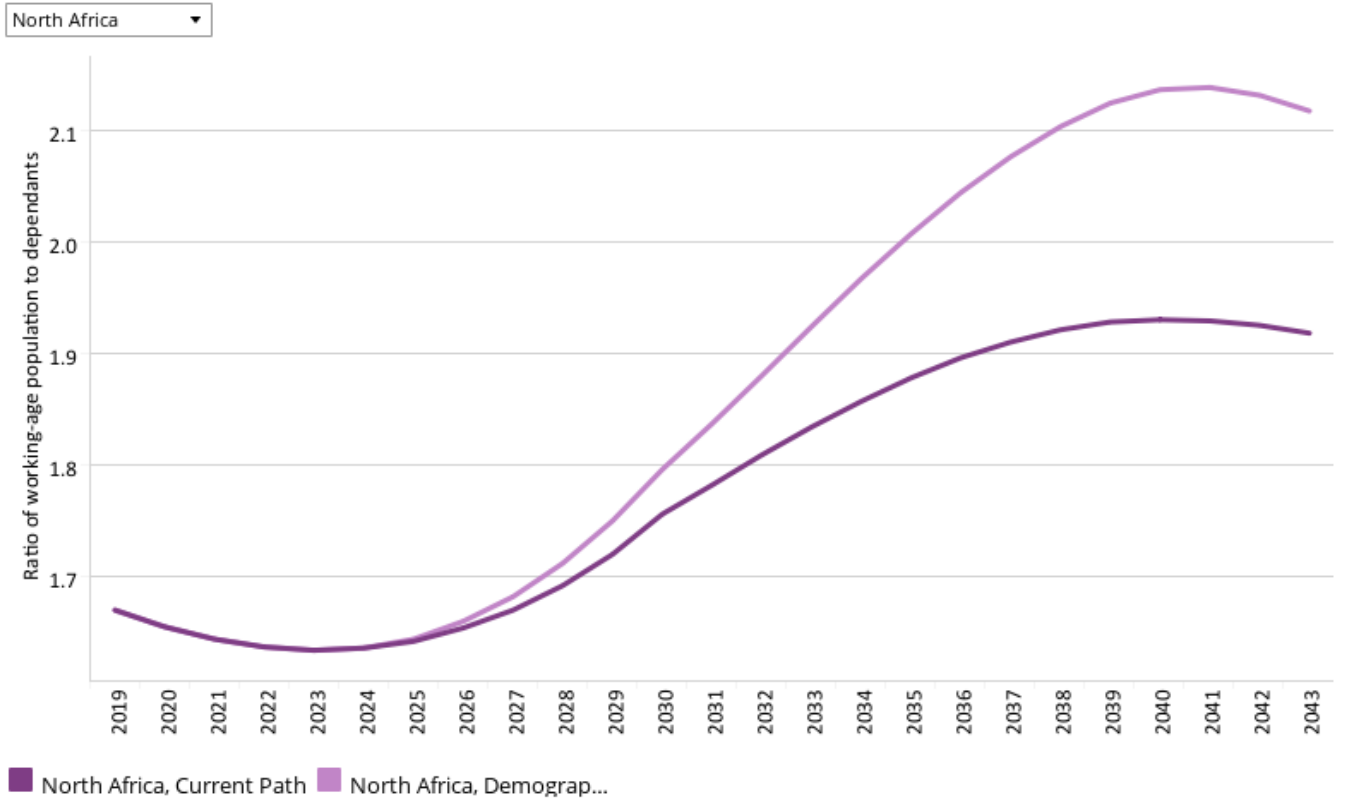
Source: IFs 7.63 initialising from UN Population Division Population Prospects

⬡ 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 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.

The ratio of the working-age population to dependents for North Africa was 1.67 in 2019, which means that for every dependant in the region, there were about 1.7 people of working age. North Africa had the highest ratio among the regional groups and its ratio was also greater than that of Africa as a whole (1.3). This means that North Africa's population has the highest proportion of working-age people in Africa. Among member countries, Tunisia has the highest ratio of working-age population to dependants (about 2.1), followed by Libya (2.0). Egypt and Mauritania have the lowest ratios in the region, estimated to be 1.6 and 1.3, respectively.

The demographic dividend generally materialises when a country attains a minimum ratio of 1.7 working-age people to dependants. North Africa will achieve this minimum ratio by 2028 in the Demographic scenario and by 2029 in the Current Path forecast. By 2043, it is projected that the Demographic scenario will increase the ratio to 2.12, which will be 0.2 units higher than in the Current Path forecast in the same year. It will also exceed the Current Path average of 1.58 for Africa.

Among member countries, the impact of the Demographic scenario will range from a ratio of 2.2 in Egypt to 1.7 in Mauritania. The countries that will experience the largest improvement in the ratio of the working-age population to dependants as a result of the Demographic scenario are Egypt and Algeria, with increases of 0.31 and 0.20 units, respectively.

Chart 17: Infant mortality in CP and Demog scenario, 2019–2043
Deaths per 1 000 live births
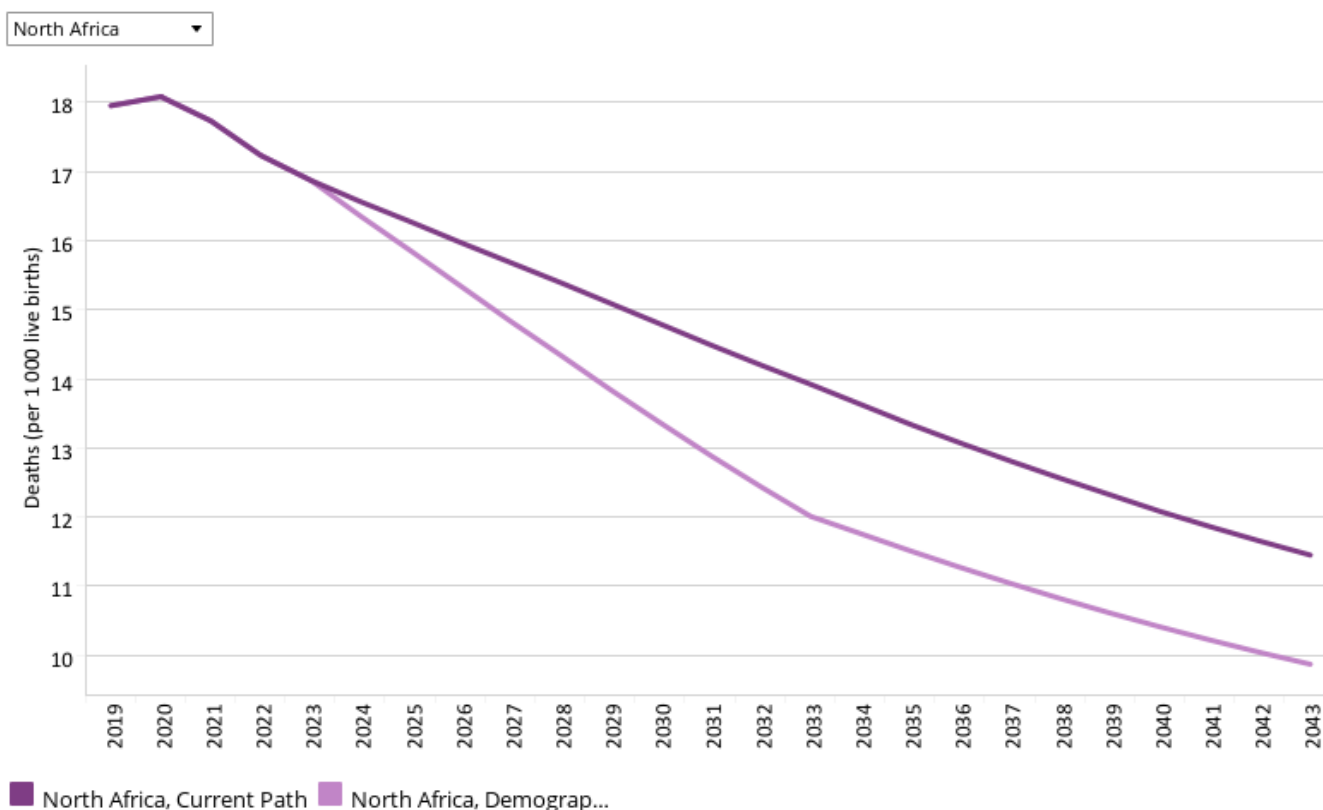
Source: IFs 7.63 initialising from Institute for Health Metrics and Evaluation Mortality Visualization Tool data

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 infant mortality rate for North Africa was estimated at 18 per 1 000 live births. This is below the average of 46.8 for Africa and the lowest among the African regions, which means North Africa has performed best at reducing infant mortality in Africa. This is not surprising given that the region has advanced healthcare facilities, mirroring those of a developed country.

At the country level, Mauritania and Algeria have the highest infant mortality rates (36.6 and 21.7 per 1 000 live births, respectively). Tunisia and Libya are the only countries in the region with infant mortality rates below 10 (9.6 and 6.8, respectively). In the Demographic scenario, it is projected that infant mortality in the region will decline to 9.9, which will be

lower than Africa's average of 25.6 and the Current Path forecast of 11.6. By 2043, Algeria (14.8) and Mauritania (14.3) will have the highest infant mortality rates in the Demographic scenario, while Tunisia (5.8) and Libya (4.1) will have the lowest. The greatest reduction in infant mortality will be achieved in Mauritania and Algeria, with reductions of 3.01 and 2.07 per 1 000 live births, respectively. Tunisia and Libya will experience the smallest reductions (0.8 and 0.21 per 1 000 live births, respectively).

Chart 18: GDP per capita in CP and Demog scenario, 2019–2043
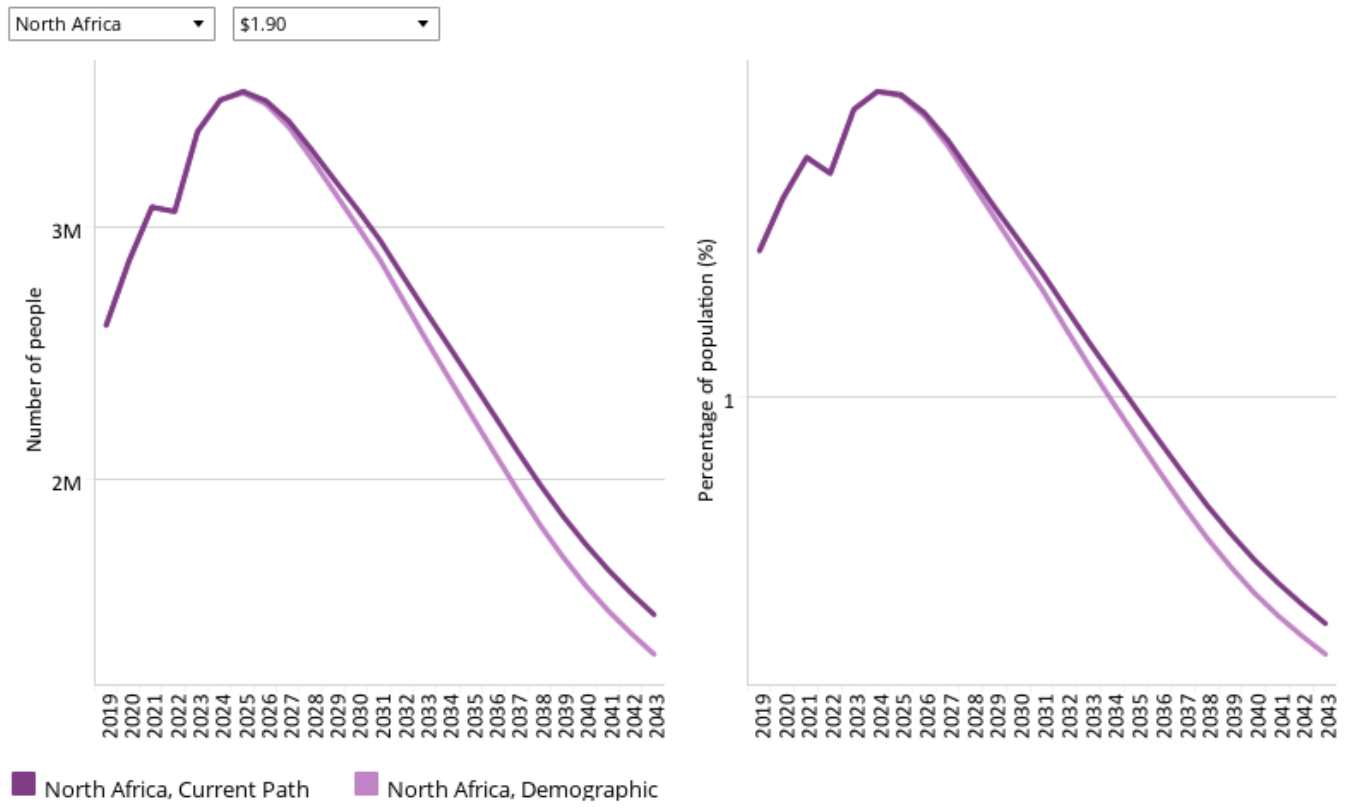Purchasing power parity
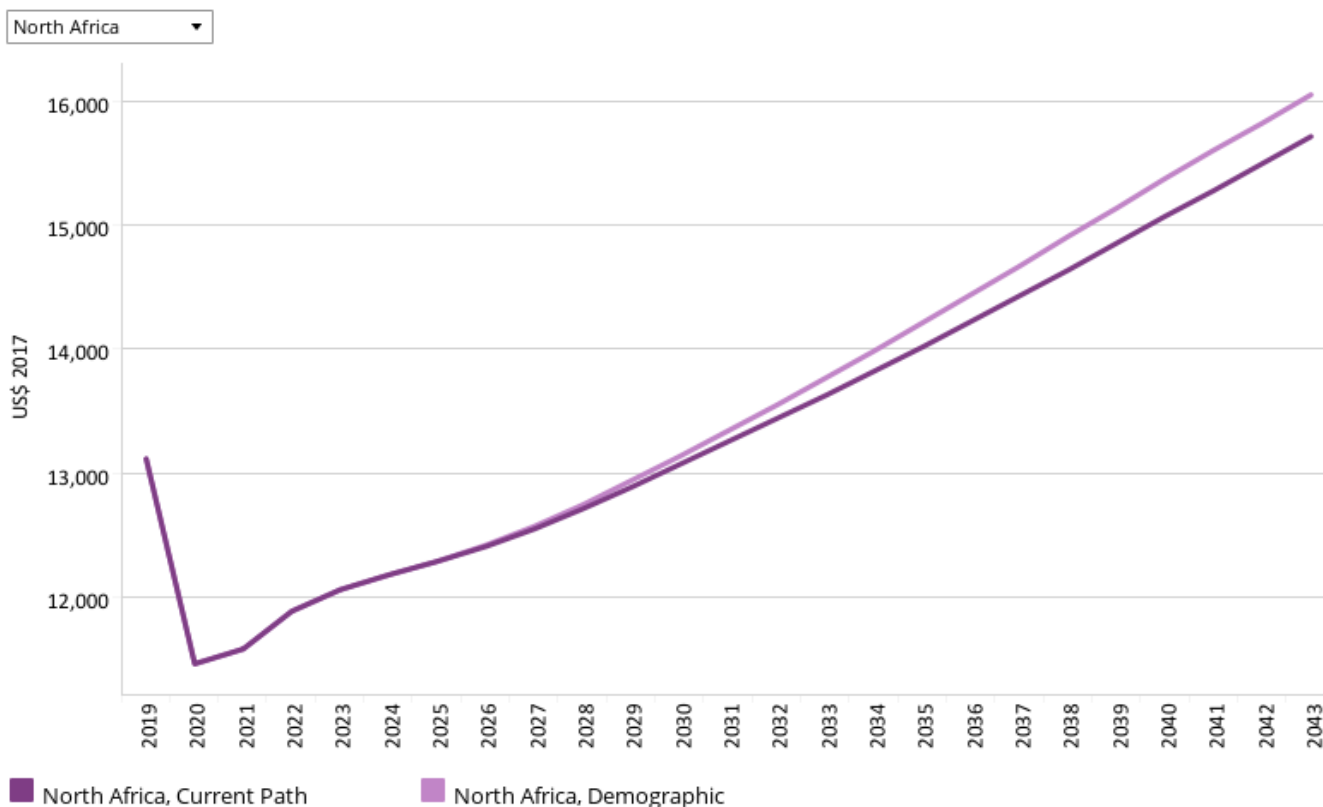
Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

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The Demographic scenario is projected to increase the average GDP per capita for North Africa to US$16 056 by 2043. This will be US$338 more than the Current Path's forecast of US$15 718 and 2.2 times higher than the Current Path average for Africa in the same year. In the Demographic scenario, Egypt and Algeria are forecast to benefit the most, with respective additional gains of US$556 and US$327 compared to the Current Path forecast. Tunisia will benefit the least, with additional gains of only US$11 compared with the Current Path forecast.

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

North Africa | $1.90

- North Africa, Current Path
- North Africa, Demographic

Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data
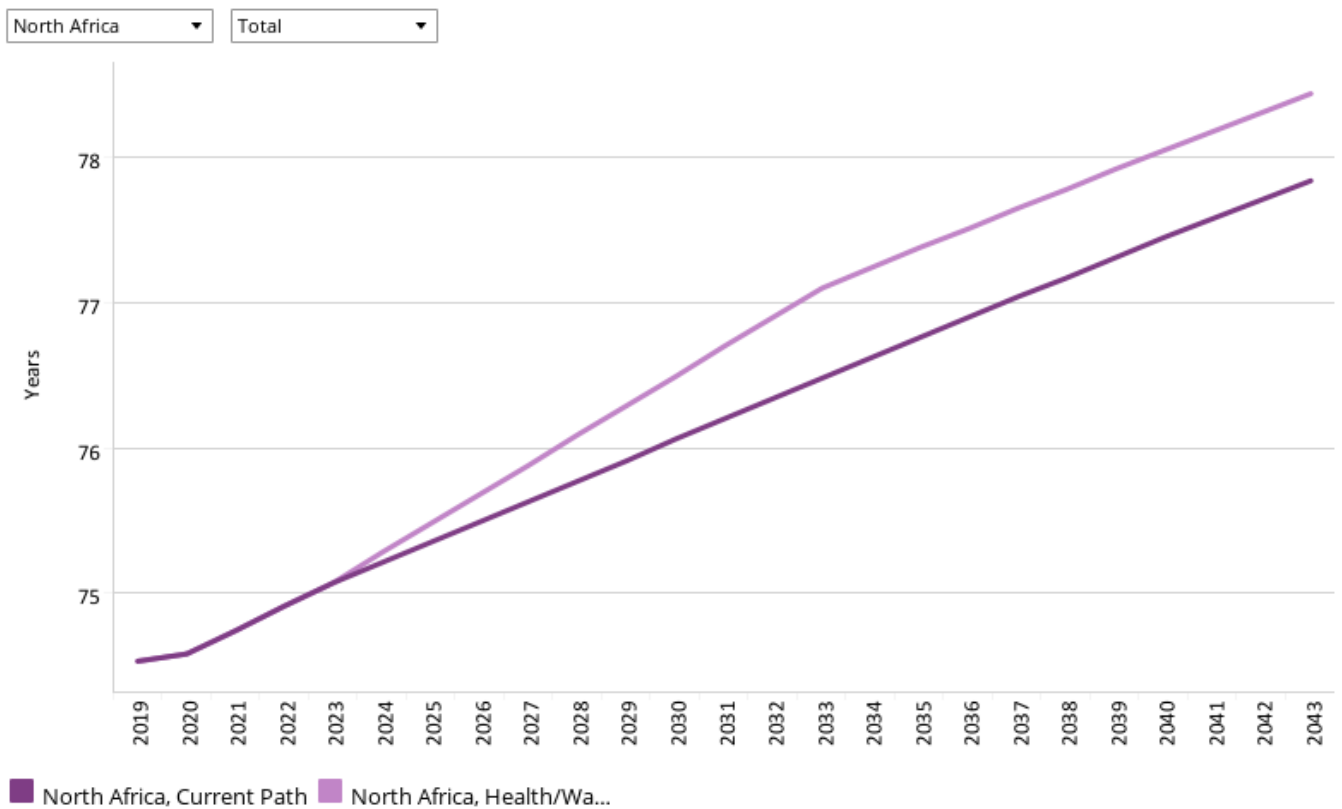
⁛ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | 🖵 ▾ ⛶ ⋘ Share

In the Demographic scenario, approximately 1.3 million people in North Africa (0.5% of the population) will be living in extreme poverty by 2043. This is 0.1 percentage point below the Current Path forecast of 0.4% and far lower than the Current Path average of 20.9% for Africa. The Demographic scenario therefore has the potential to lift an additional 160 000 people from extreme poverty. The Demographic scenario has the greatest impact on poverty reduction in Mauritania and Egypt, with respective declines of 0.34 and 0.094 percentage points. The Demographic scenario has no additional impact on extreme poverty reduction in Tunisia relative to the Current Path.

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

ISS AF

North Africa ▼   Total ▼

■ North Africa, Current Path   ■ North Africa, Health/Wa...

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

⠿ View on Tableau Public   ↺ ↻ ↶ ↷ ▼ | ⬇▼ ⬚ ⠙ Share

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 here in the thematic part of the website.

The average life expectancy for people in North Africa was 74.5 years in 2019, which was higher than the average of 65.8 years for Africa. It is the highest life expectancy in Africa. On average, women had a higher life expectancy (76.7 years) than men (74.5 years). At the country level, Tunisia has the highest life expectancy (77.8 years), followed by Algeria (77.7 years). Egypt and Mauritania had the lowest life expectancies (72.5 and 70.8 years, respectively).

In the Current Path forecast, life expectancy in the region will increase to 77.8 years by 2043. In the Health/WaSH scenario, it will improve to 78.4 years, slightly above the Current Path forecast. This will be higher than the Current Path average of 72.1 years for Africa by then. In the Health/WaSH scenario, women will continue to have a higher life expectancy than men, with a difference of about 5 years. Algeria and Tunisia will continue to have the highest life expectancy in the region in the Health/WaSH scenario, with average expectancies of 81 and 80.8 years, respectively. Egypt and Mauritania will have the lowest life expectancy, at 76.9 and 76.2 years, respectively. The difference in life expectancy in the Health/WaSH scenario

and the Current Path forecast was less than a year for all the countries, ranging from 0.68 years in Egypt to 0.1 in Mauritania. This is not surprising, as the region already has a very high life expectancy.

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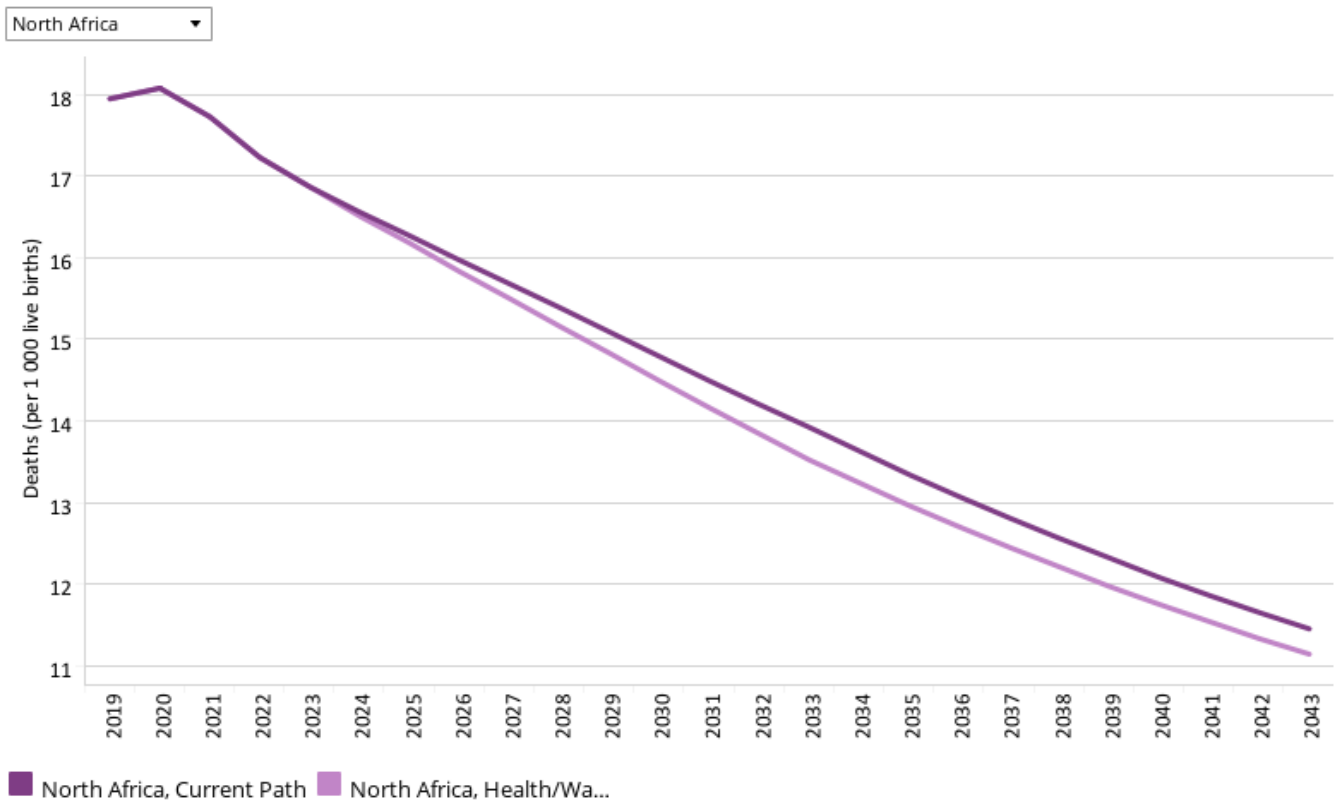
North Africa ▼

North Africa, Current Path   North Africa, Health/Wa…

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

⚙ View on Tableau Public   ↶ ↷ ↺ ↻ ▼ | ⬇ ▼   ⛶   ⤴ Share

In the Health/WaSH scenario, the infant mortality rate is projected to decline from 18 deaths per 1 000 live births in 2019 to 11.1 by 2043, which will be slightly below the Current Path forecast of 11.5 and lower than the African average of 25.6. However, the Demographic scenario leads to a much faster reduction in infant mortality than the Health/WaSH scenario.

By 2043, infant mortality rates in the Health/WaSH scenario will range from 17.1 deaths per 1000 live births in Mauritania to 4.3 in Libya. Comparing the difference between the Health/WaSH scenario and the Current Path forecast, the greatest reduction in infant mortality will occur in Egypt and Mauritania, while the smallest will be in Tunisia and Libya.

Agriculture scenario

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

North Africa ▼

■ North Africa, Current ...   ■ North Africa, Agricult...
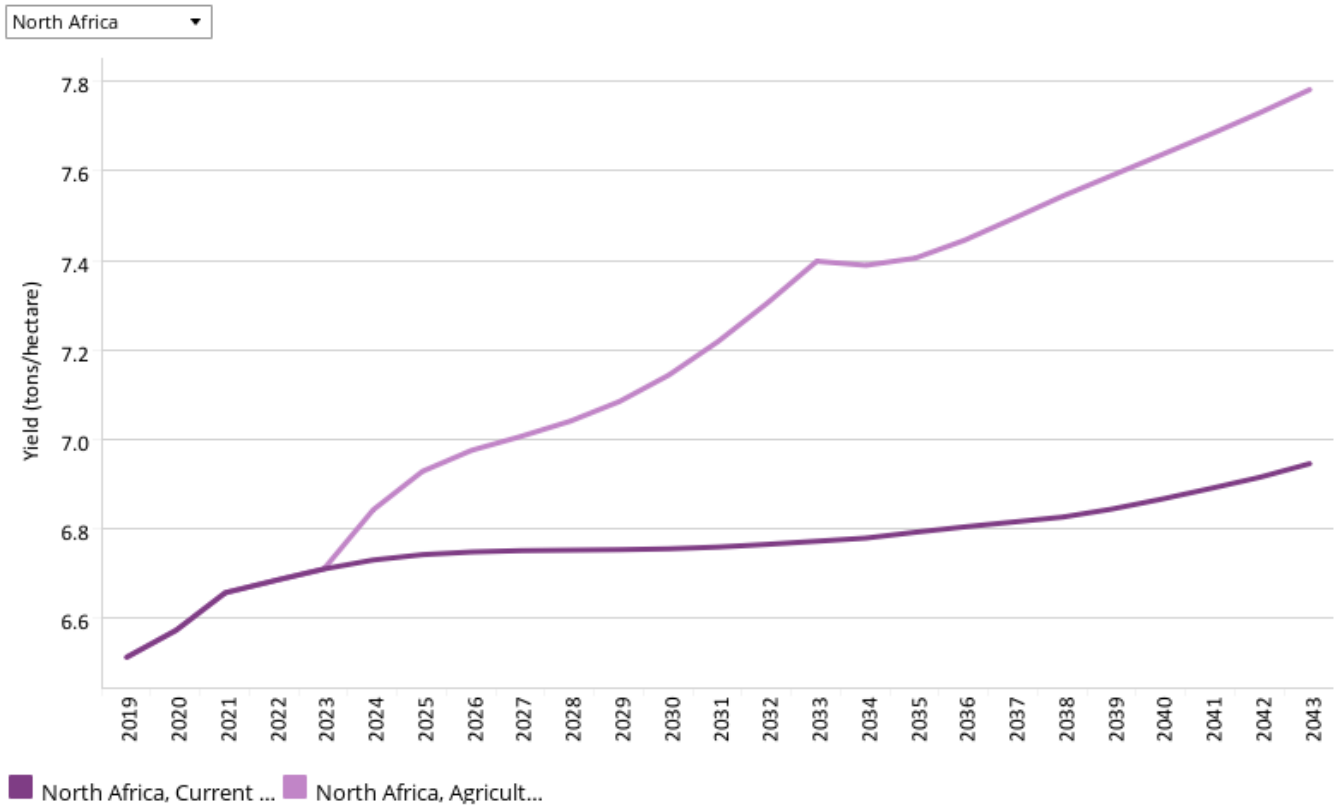
Source: IFs 7.63 initialising from FAOSTAT on-line statistical service data

⸭ View on Tableau Public   ↶ ↷ ↶ ↷ ▼ | 🖵▼ 🔲 ⠗ Share

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 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.

The average crop yield for North Africa (estimated at 6.5 metric tons per hectare in 2019) was the highest among all the regions on the continent, mainly due to the high yields in Egypt because of the fertile Nile Delta. The region's crop yields were above the average of 3.94 tons for Africa. Among member countries, Egypt has the highest yield (29.2 metric tons per hectare), followed by Morocco (3.6 metric tons per hectare). The countries with the lowest yields are Tunisia and Mauritania (2.3 and 1.0 metric tons per hectare, respectively).

By 2043, the Agriculture scenario will increase yields in the region to 7.8 metric tons, which will be higher than the Current Path forecast of 6.9 metric tons for North Africa and the average of 4.8 metric tons for Africa on the Current Path. This means that the Agriculture scenario could improve productivity in crop yield by 0.9 metric tons in the region; however, this

increase is skewed by the high yields in Egypt and the low yields in Tunisia. Mauritania and Morocco will benefit most from the Agriculture scenario's interventions by 2043, with additional gains of 2.6 and 1.8 metric tons per hectare, respectively.

Chart 23: Agriculture imports in CP and Agric scenario, 2019–2043
Net imports for meat, crops and fish, % of demand

North Africa ▼

North Africa, Current Path   North Africa, Agriculture
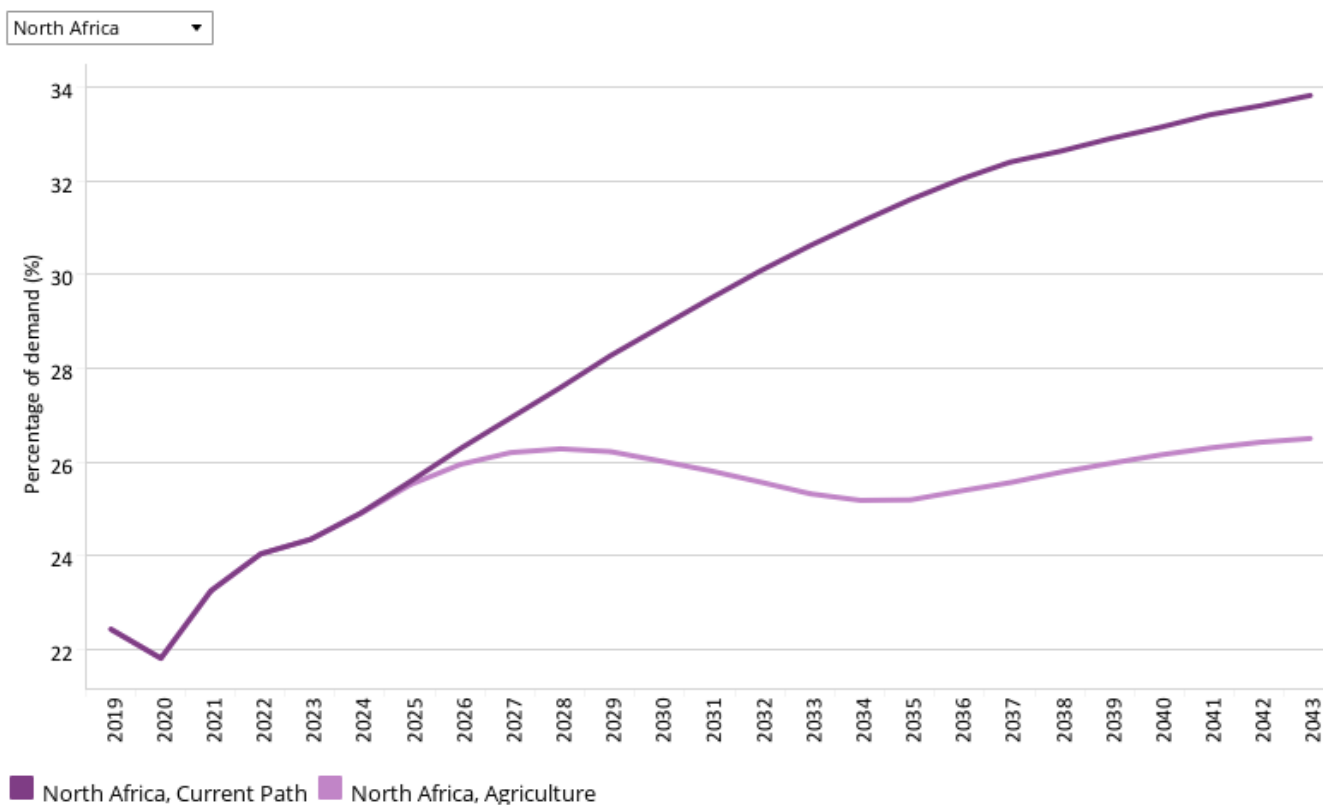
Source: IFs 7.63 initialising from Food and Agriculture Organization Food Balance Sheets data

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

In 2019, the average net agricultural import relative to total agricultural demand was 22.4%, which was above the average of 10.9% for Africa and the highest among all the regional groupings in Africa. It means that North Africa has the highest dependency on food imports in Africa. However, food dependency varies considerably across member countries. For example, Mauritania imports 46.4% of its total food needs, followed by Algeria at 43%, whereas Libya imports only about 1.4% of its total demand. In the Current Path forecast, net agricultural import in the region will grow to 33.8% of total demand by 2043. This situation is mitigated in the Agriculture scenario, so that by 2043, net agriculture imports will be 26.5% of total demand. This will be lower than the Current Path average of 34.5% of total demand for Africa.

In the Agriculture scenario, Morocco and Libya will be net exporters of agricultural products, with Morocco having a surplus of 29% above its total demand. The other countries will continue to import food, with Mauritania and Egypt expected to import 38% of their total demand by 2043. The Agriculture scenario will reduce agricultural import dependency by 32.6 and 18.5 percentage points of total demand in Morocco and Mauritania, respectively.

Chart 24: GDP per capita in the CP and Agric scenario, 2019–2043
Purchasing power parity
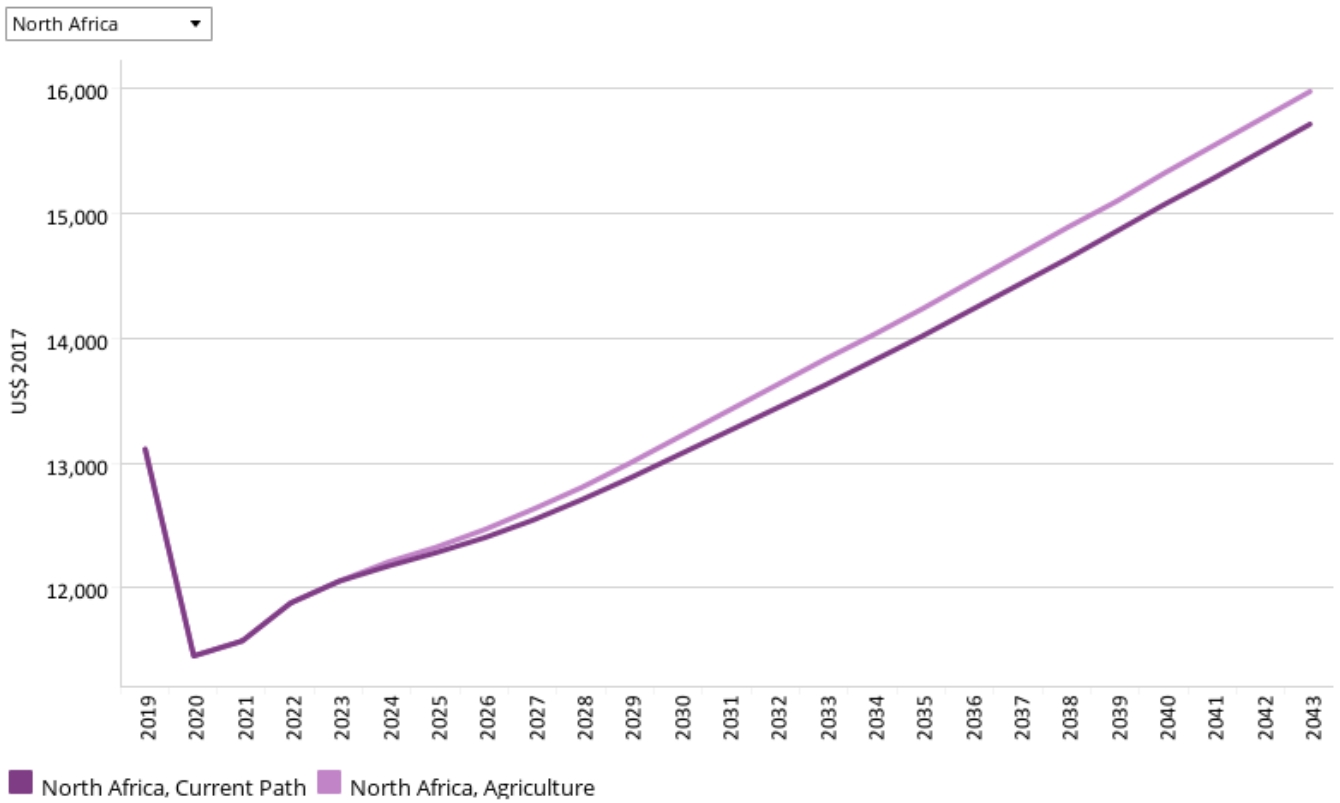
North Africa ▼

■ North Africa, Current Path ■ North Africa, Agriculture

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
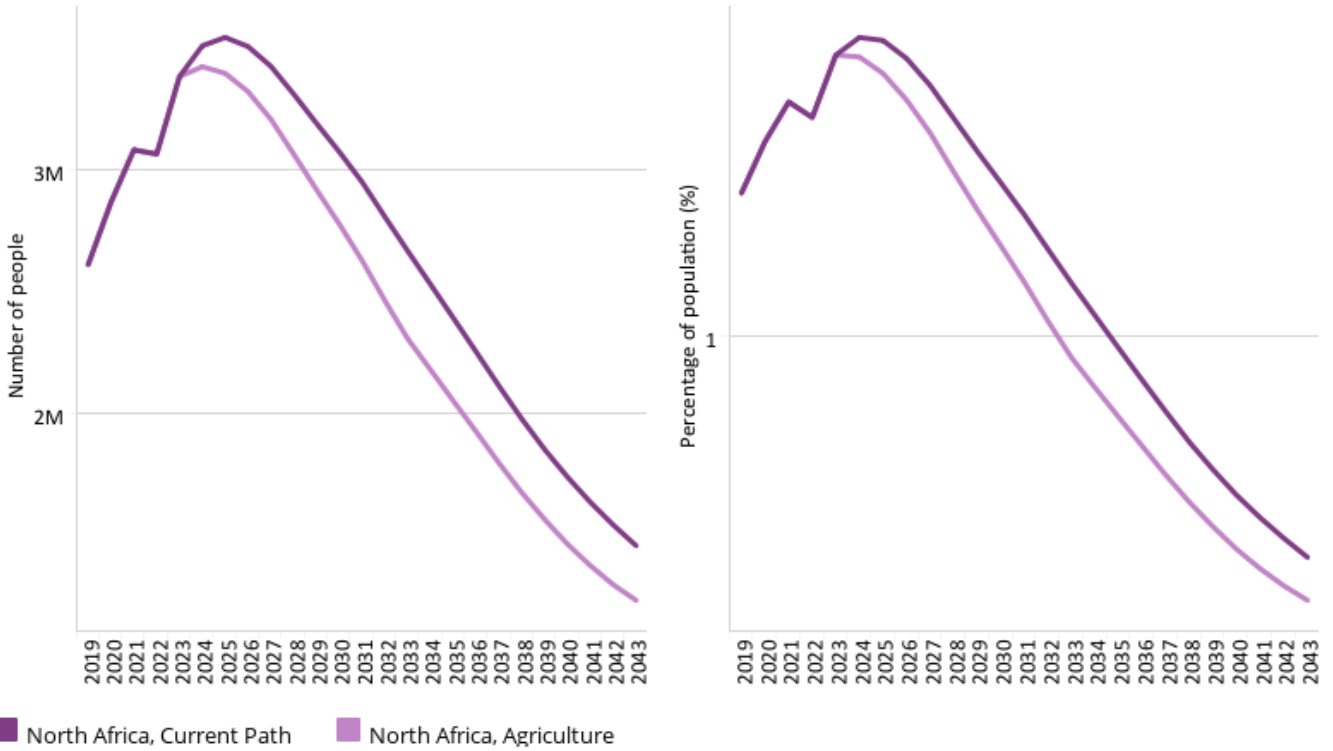
⁘ View on Tableau Public   ↶ ↷ ↺ ↻ ▾ | ⬚▾ ⧉ ⤬ Share

Under the Agriculture scenario, the average GDP per capita for North Africa will rise to US$15 979 by 2043. It represents an additional gain of US$261 compared with the Current Path forecast, and is above the projected US$7 157 Current Path average for Africa. The gain in GDP per capita due to the Agriculture scenario ranges from US$753 in Mauritania and US$632 in Morocco to US$414 in Egypt.

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

North Africa | $1.90

■ North Africa, Current Path   ■ North Africa, 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 the Agriculture scenario, the number of people living in extreme poverty (below US$1.90 per day) is expected to decline to 1.2 million by 2043. This corresponds to 0.5% of the North African population and is significantly below the projected poverty rate of 20.9% for Africa as a whole by then. The estimated poverty rate in the Agriculture scenario will be 0.1 percentage point lower than in the Current Path forecast, translating to 230 000 people.

The impact of the Agriculture scenario on poverty varies substantially among member countries. Mauritania, which has a significant proportion of its population employed in agriculture, will experience the greatest reduction in extreme poverty rates (2.3 percentage points). The other countries will all see a reduction of less than 0.1 percentage point in extreme poverty rate reduction in the Agriculture scenario.

Education scenario

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

North Africa ▾   Total ▾

■ North Africa, Current ...   ■ North Africa, Educati...
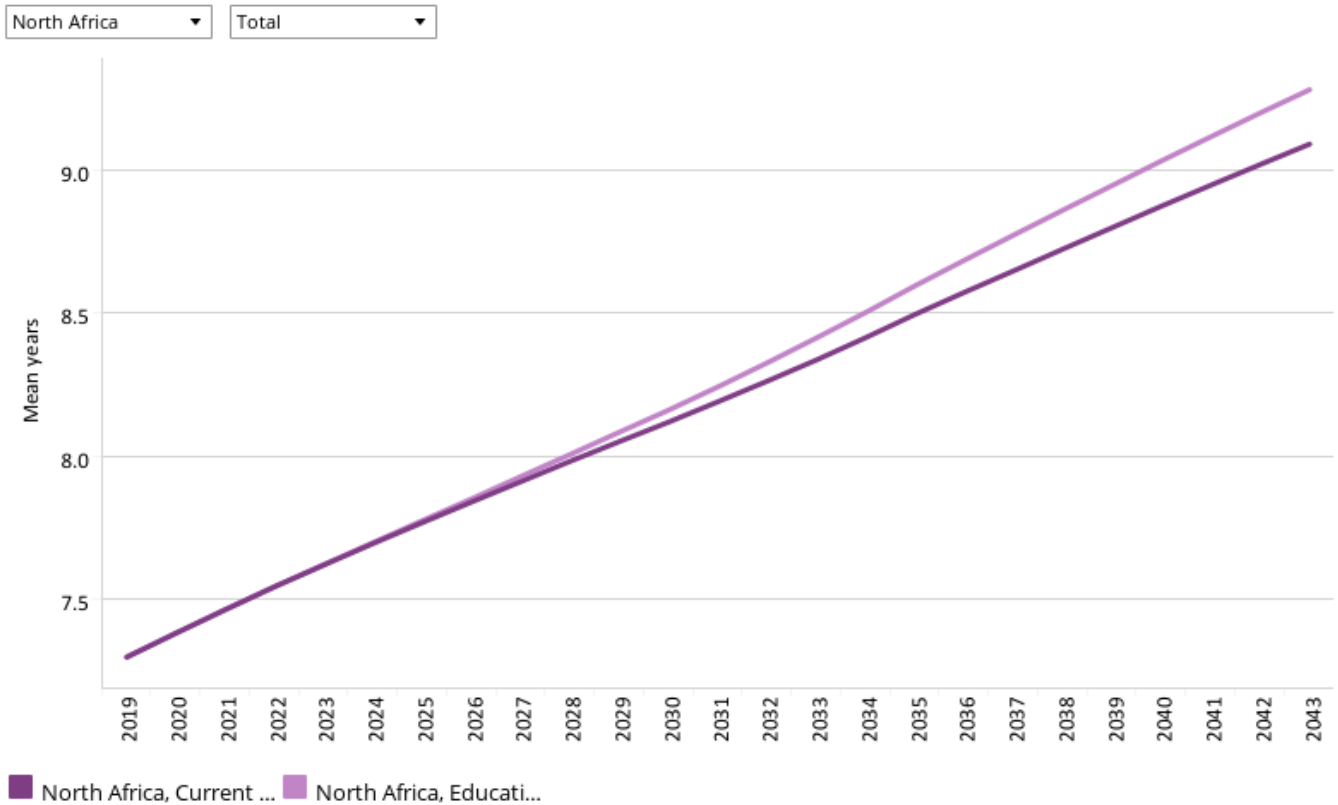
Source: IFs 7.63 initialising from Barro-Lee data

⁙ View on Tableau Public   ↺ ↻ ↺ ↻ ▾ | 🖵▾ ▢ ⅗ 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 here in the thematic part of the website.

The mean years of education for North Africa was estimated to be 7.3 years in 2019, higher than the average of 6.2 years for Africa and the highest among the five African regions. On average, men attained more education (7.8 years) than women (6.8 years).

Libya and Tunisia have the highest mean years of education, with averages of 8.9 and 8.2 years, respectively. Morocco and Mauritania have the lowest mean years of education, at an average of 6.1 and 5.1 years, respectively. In the Education scenario, it is projected that mean years of education will rise to 9.3 years, which will be higher than the Current Path forecast of 9.1 years for North Africa and the average of 7.6 years for Africa. The Education scenario also reduces the gender gap, which currently favours men, from a full year in 2019 to 0.3 years by 2043. On the Current Path, the gap is reduced to 0.4 years.

In the Education scenario, Libya will have the highest mean years of education (10.8 years) by 2043, followed by Tunisia (9.9 years). Morocco and Mauritania will continue to have the lowest scores, at about 8.2 and 7.0 years, respectively. Compared with the Current Path forecast, Mauritania and Tunisia will benefit most from the Education scenario, while Morocco and Libya will receive the least benefit with regard to additional improvement in mean years of education.

Chart 27: Education quality in CP and Educ scenario, 2019–2043
Average test scores for primary and secondary learners

North Africa

| | Primary | Secondary |

■ North Africa, Current ...   ■ North Africa, Educati...
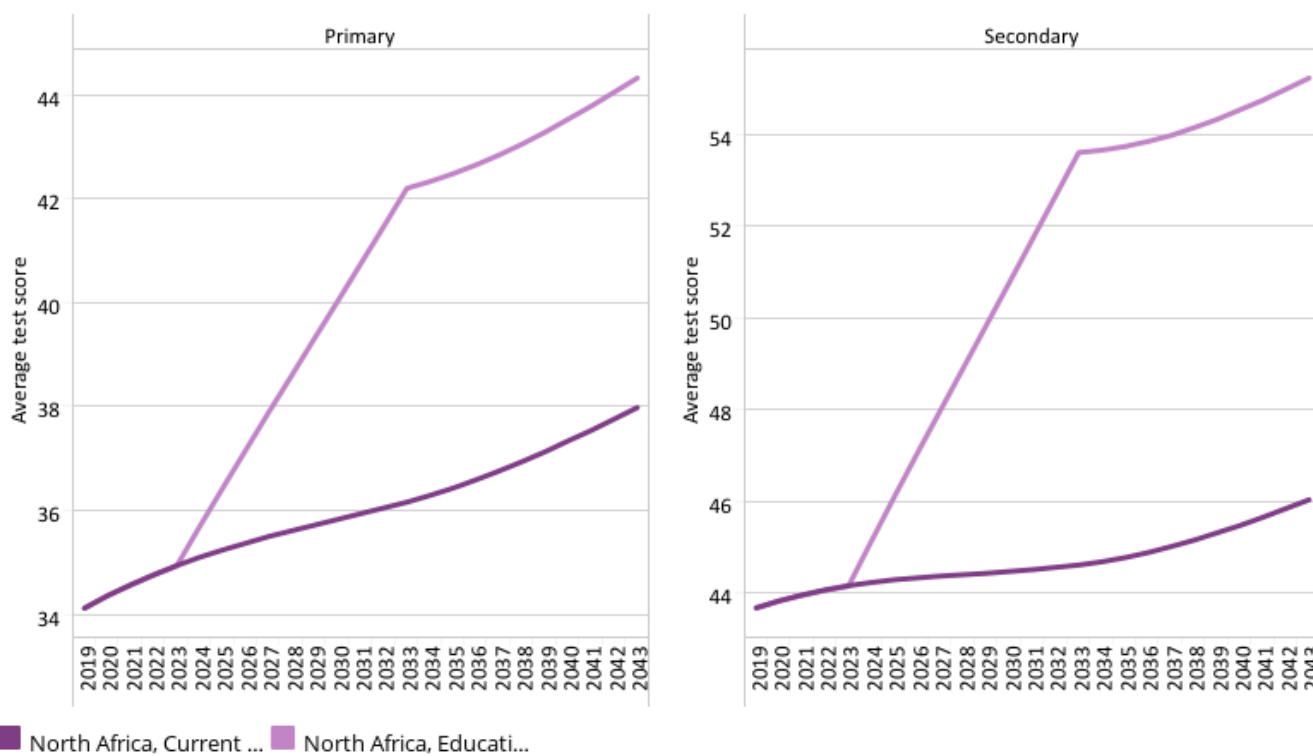
Source: IFs 7.63 initialising from World Bank EDSTATS

⁜ View on Tableau Public   ↺ ↻ ↺ ↻ ▾ | ⬇▾ ⧉ ⧉ Share

An important measure of the quality of education is the test scores of students. In 2019, the average test score for primary learners in North Africa was 35.1, which was higher than Africa's average and the second highest among the regional groupings (following behind Southern Africa). Tunisia and Libya fare best in terms of primary learners' education, with scores of 37.5 and 37.2, respectively. Morocco's and Mauritania's scores are the lowest in the region for primary learners (32.4 and 21.8, respectively). The Education scenario will increase the average test score for primary learners to 44.3, which is above both the Current Path forecast of 38.0 and Africa's projected average of 33.3. Scores are expected to range from 52.8 (Libya) to 32.0 (Mauritania).

The average test score for secondary learners in the region was 43.7 in 2019, which was above the average of 39.1 for Africa. It was the highest score in Africa. In this category, Libya's and Tunisia's scores were the highest, both averaging 45.3. Morocco and Mauritania fared worst, with scores of 42.3 and 37.0, respectively. In the Education scenario, average secondary school test scores improve to 55.2 by 2043, which will be higher than the average of 40 projected for the continent on the Current Path. Test scores for secondary schooling in this scenario will also be 9.2 points higher than the Current Path forecast. In the Education scenario, Libya is expected to perform best, with a score of 58.4, followed by Tunisia with a score of 58.0. Egypt and Mauritania are projected to perform worst in the region, with test scores of 54.9 and 45.8, respectively by 2043. Compared with the outlook on the Current Path, the countries that will record the greatest

improvements are Tunisia (9.6 points) and Egypt (9.3 points), while Mauritania and Libya will improve their scores by an additional 7.3 and 5.3 points, respectively.

Chart 28: GDP per capita in CP and Educ scenario, 2019–2043
Purchasing power parity
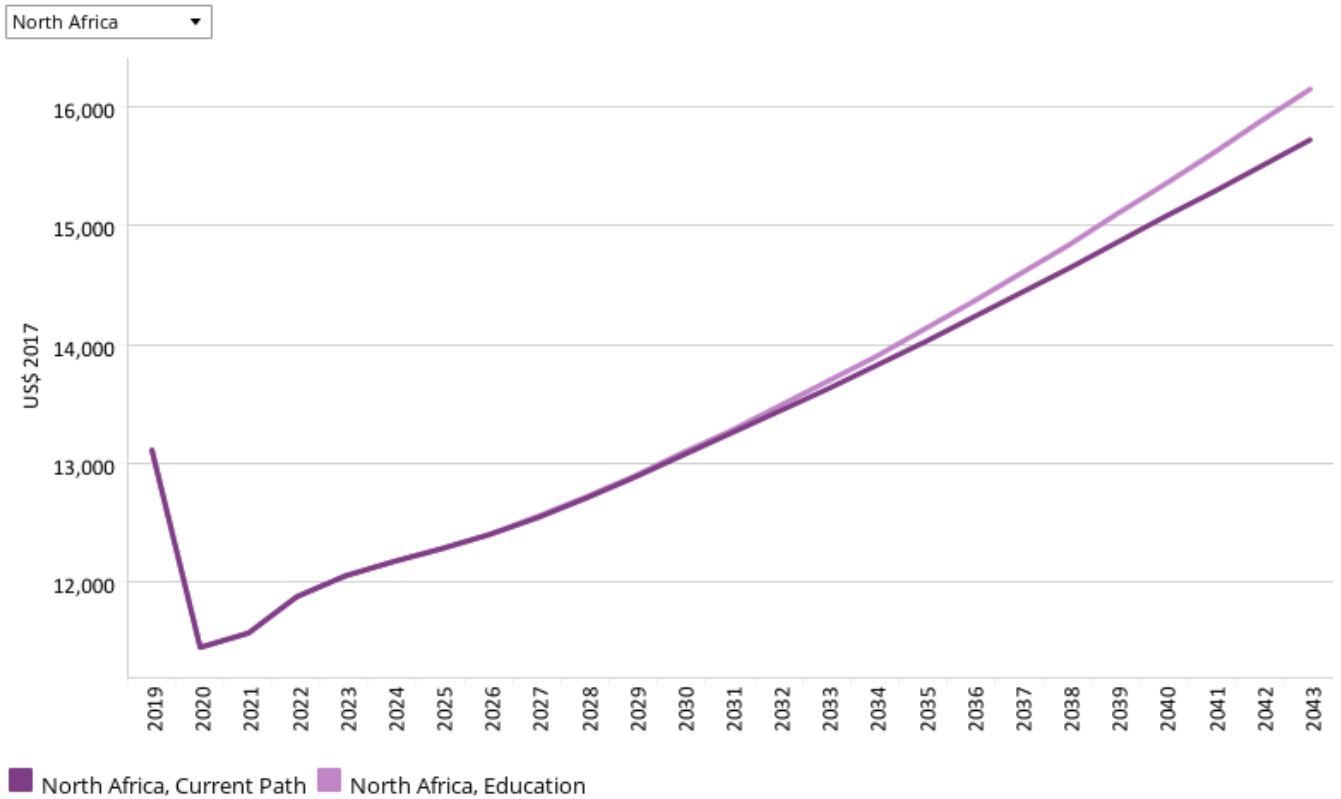
Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
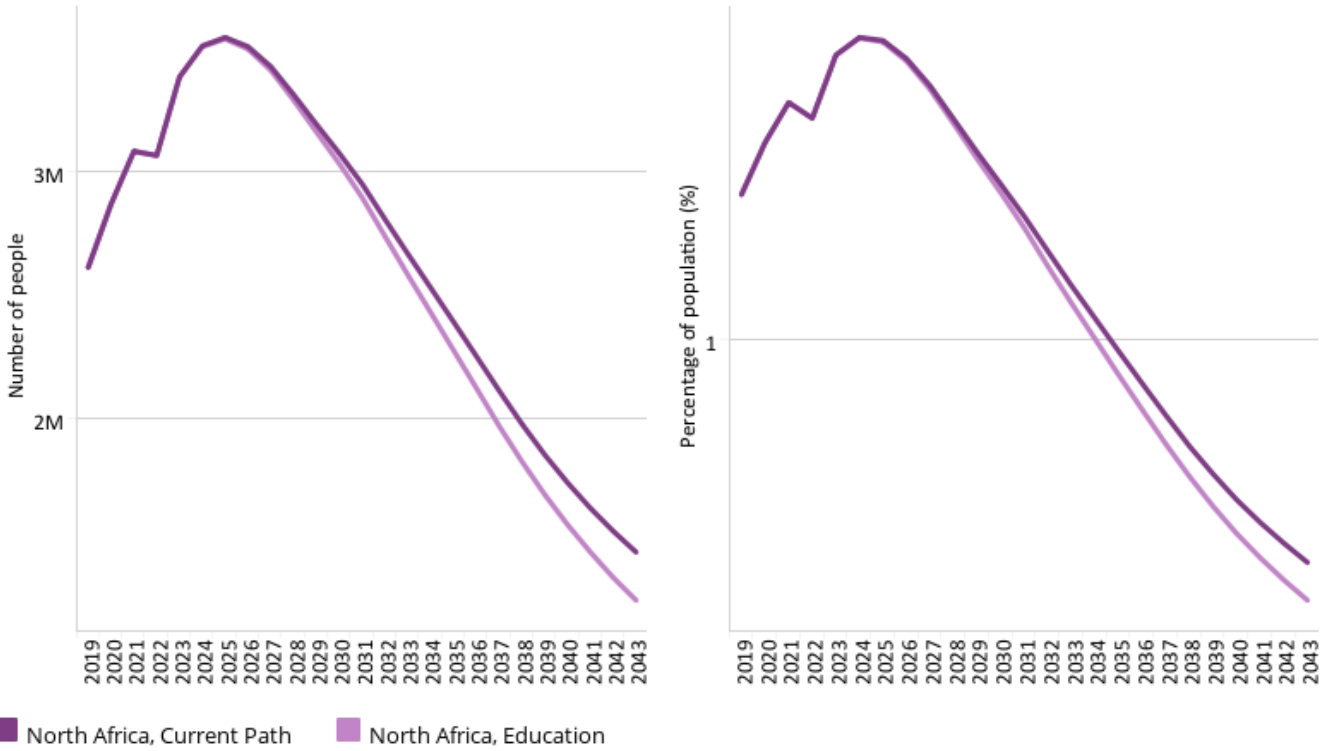
The Education scenario will lead to average GDP per capita in North Africa increasing to US$16 143 by 2043, which will be greater than the projected amount of US$15 718 on the Current Path. The Education scenario can therefore add an extra US$425 to the average GDP per capita in the region by 2043. The average GDP per capita estimated in the Education scenario will also be higher than the average of US$7 157 projected for Africa on the Current Path. Countries that will benefit the most from the Education scenario are Libya and Egypt, with gains in GDP per capita estimated to be close to US$525 in both countries. Morocco and Mauritania will likely benefit least from the impact of the Education scenario, with estimated gains in GDP per capita at US$236 and US$168, respectively.

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

North Africa | $1.90

Number of people (left chart, y-axis: 3M, 2M)

Percentage of population (%) (right chart, y-axis: 1)

x-axis (both charts): 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

■ North Africa, Current Path   ■ North Africa, 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 the Education scenario, 1.25 million people in North Africa are projected to be living in extreme poverty (at the benchmark of US$1.90) by 2043, which represents 0.48% of the population. Compared with the Current Path forecast, the Education scenario will result in extreme poverty declining by 0.08 percentage points. This translates to 20 000 people. The projected extreme poverty rate for North Africa in the Education scenario will also be far lower than the estimated average of 20.9% for Africa in 2043. The additional reduction in poverty occasioned by the Education scenario will differ among member countries and range from 0.75 percentage points in Mauritania to 0.008 percentage points in Algeria.
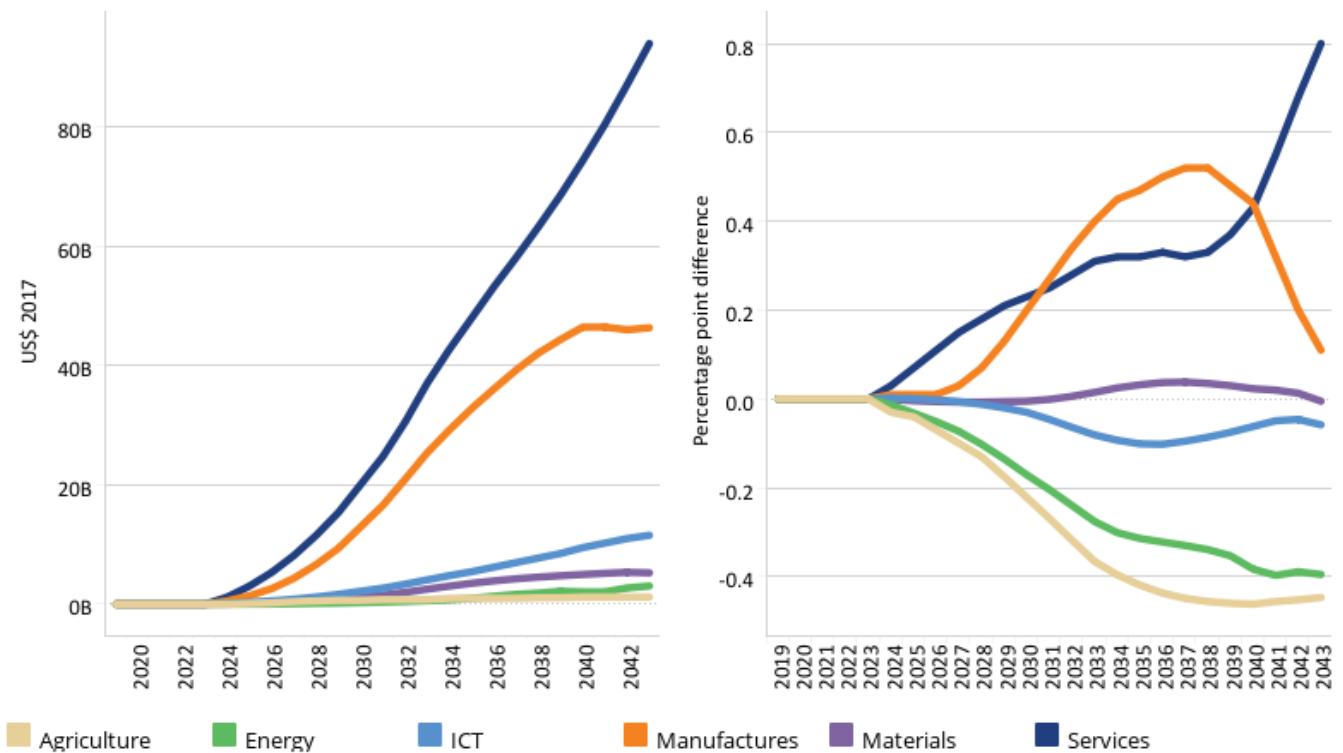
Chart 30: Value added by sector in CP and Manufac/Transfers scenario, 2019–2043
Absolute and % point difference GDP

North Africa ▾

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 here in the thematic part of the website.

Chart 30 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.

All sectors increase in absolute size in the Manufacturing/Transfers scenario compared with the Current Path forecast, albeit differently. In the Manufacturing scenario, the service sector is projected to be the leading contributor to GDP by 2043 in North Africa. Compared with the Current Path, the Manufacturing/Transfers scenario is estimated to contribute an additional US$94 billion to GDP by 2043. This will translate to an increase of 0.80 percentage points over the Current Path forecast. The manufacturing sector, which is the second largest contributor to GDP, is projected to contribute an additional US$46.3 billion to GDP based on this scenario in 2043. This translates to an increase of 0.11 percentage points over the Current Path forecast in the same year, although it initially peaks at an increase of 0.52 percentage points in 2038. The

contribution of agriculture will increase modestly by an additional US$1.2 billion in 2043, although in percentage terms, its contribution will decline to 0.45 percentage points below the Current Path. ICT is projected to contribute an additional US$11.6 billion to GDP in the Manufacturing/Transfers scenario in 2043, which will be 0.06 percentage points below the Current Path forecast. The contribution of energy to GDP in the Manufacturing/Transfers scenario is projected to decline to 0.40 percentage points below the Current Path by 2043.

Sectoral contributions vary across member countries. Algeria and Egypt will experience the largest contribution to GDP from the manufacturing sector (estimated to be 0.99 and 0.64 percentage points above the Current Path, respectively). The manufacturing sector's contribution to GDP will range from 0.55 percentage points above the Current Path to 0.13 percentage points below the Current Path in the Manufacturing/Transfers scenario. The additional contribution to GDP from agriculture in the Manufacturing/Transfers scenario will be highest in Libya, valued at 0.02 percentage points below the Current Path forecast, and lowest in Morocco, at 0.81 percentage points below the Current Path forecast.

Chart 31: Gov welfare transfers in CP and Manufac/Transfers scenario, 2019–2043
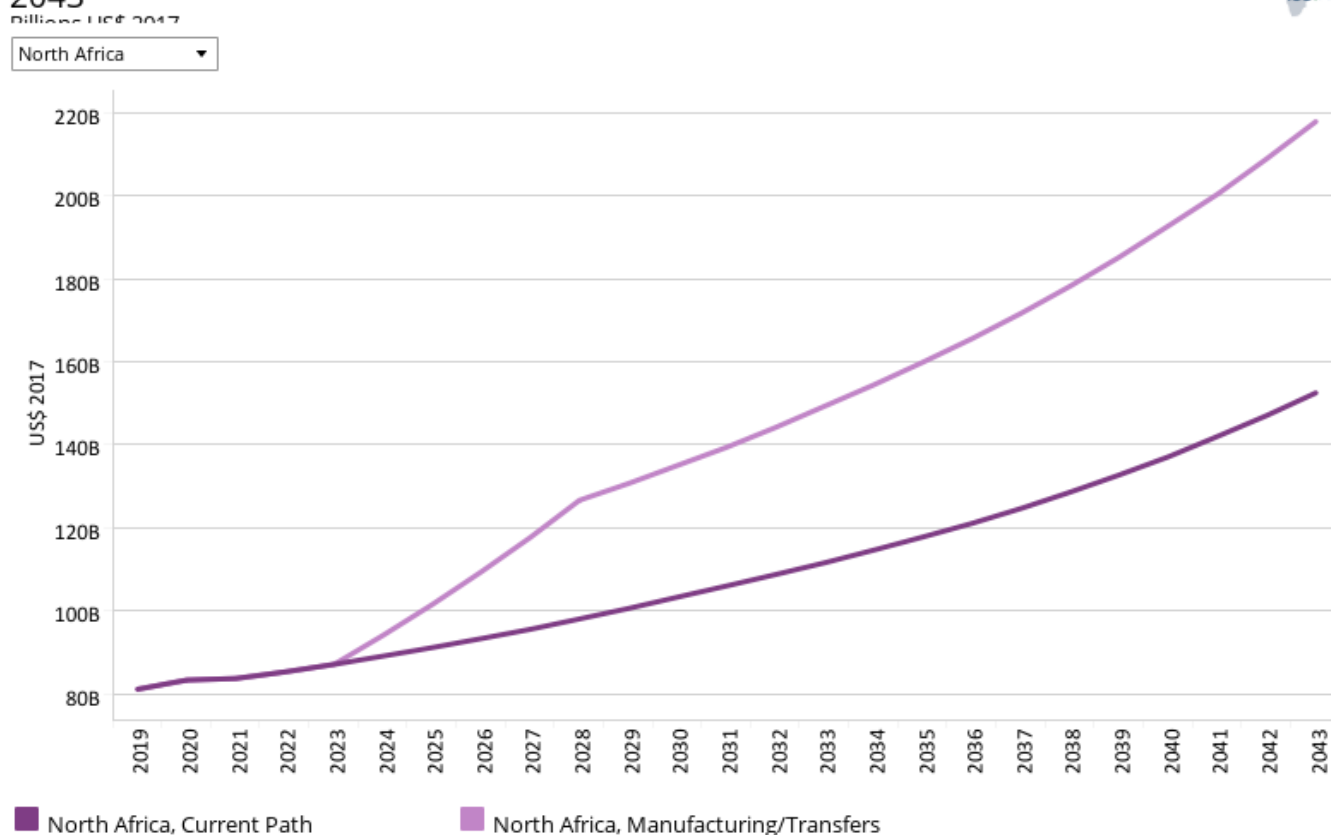
Source: IFs 7.63 initialising from World Development Indicators data

Welfare transfers are typically offered by the government to assist poor households in the country and included in this scenario to offset the increase in inequality typically associated with a manufacturing growth path. Government welfare transfers in the North African region in 2019 were estimated to have amounted to US$81.2 billion, lower only than in Southern Africa (US$116.2 billion). Among member countries, a sizable share of these transfers comes from Algeria, Libya and Egypt (11.9%, 9.9% and 7.6% of GDP, respectively). The lowest estimated government transfers occur in Mauritania and Tunisia (6% and 7.1% of GDP, respectively). By 2043, it is projected that government welfare transfers will increase to US$217.8 billion, higher than the estimated US$152.5 billion in the Current Path forecast. It means that the Manufacturing/Transfers scenario increases welfare transfers by 42.8% by 2043.

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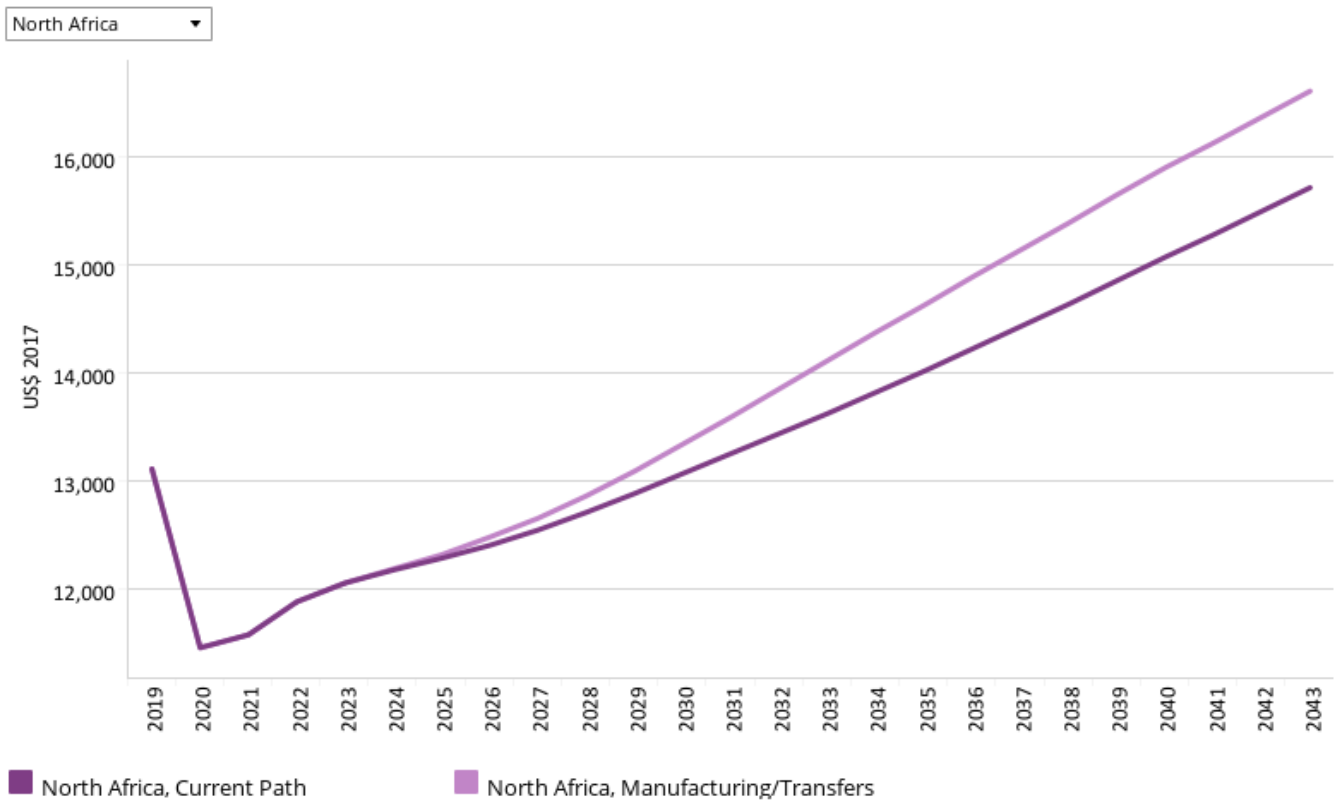
North Africa

■ North Africa, Current Path   ■ North Africa, Manufacturing/Transfers

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
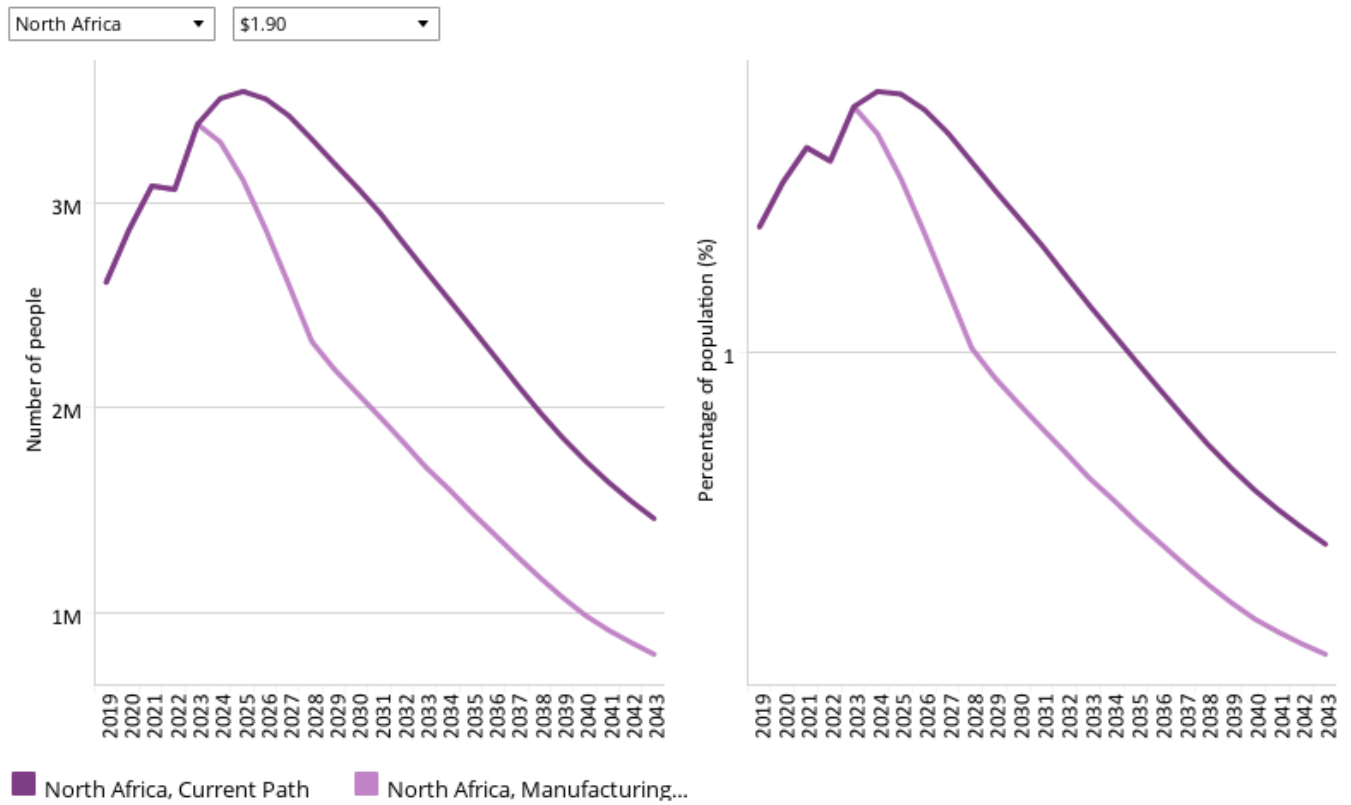
⊹ View on Tableau Public   ↺ ↻ ↺ ↪ ▾ | ⬓ ▾ ▣ ⤸ Share

The Manufacturing/Transfers scenario leads to a large increase in GDP per capita compared with the Current Path forecast, such that by 2043, it will result in additional gains of US$894 in the average GDP per capita for North Africa. The estimated average GDP per capita in the Manufacturing/Transfers scenario for North Africa will also be more than double the projected average of US$7 157 for Africa on the Current Path. The additional gains in average GDP per capita in the Manufacturing/Transfers scenario compared with those on the Current Path will range from US$1 188 in Egypt to US$106 in Mauritania.

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

North Africa, Current Path | North Africa, Manufacturing...

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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The proportion of people living in extreme poverty in the Manufacturing/Transfers scenario in the North Africa region is projected to constitute 0.3% of the population (instead of 0.6% in the Current Path forecast) in 2043, which translates to 800 000 people. The Manufacturing/Transfers scenario could therefore result in extreme poverty declining by 660 000 people, equivalent to 0.3 percentage points decline. The projected extreme poverty rate in the Manufacturing/Transfers scenario will also be far below the Current Path average of 20.9% for Africa by 2043.

The projected reduction in extreme poverty in the Manufacturing/Transfers scenario is greatest in Mauritania and Egypt, with rates declining by 2.2 and 0.31 percentage points. Compared with the projections in the Current Path forecast, Algeria and Libya will experience the lowest poverty reduction by 2043 in the Manufacturing/Transfers scenario (less than 0.01 percentage points).

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

ISS|AFI

North Africa ▾
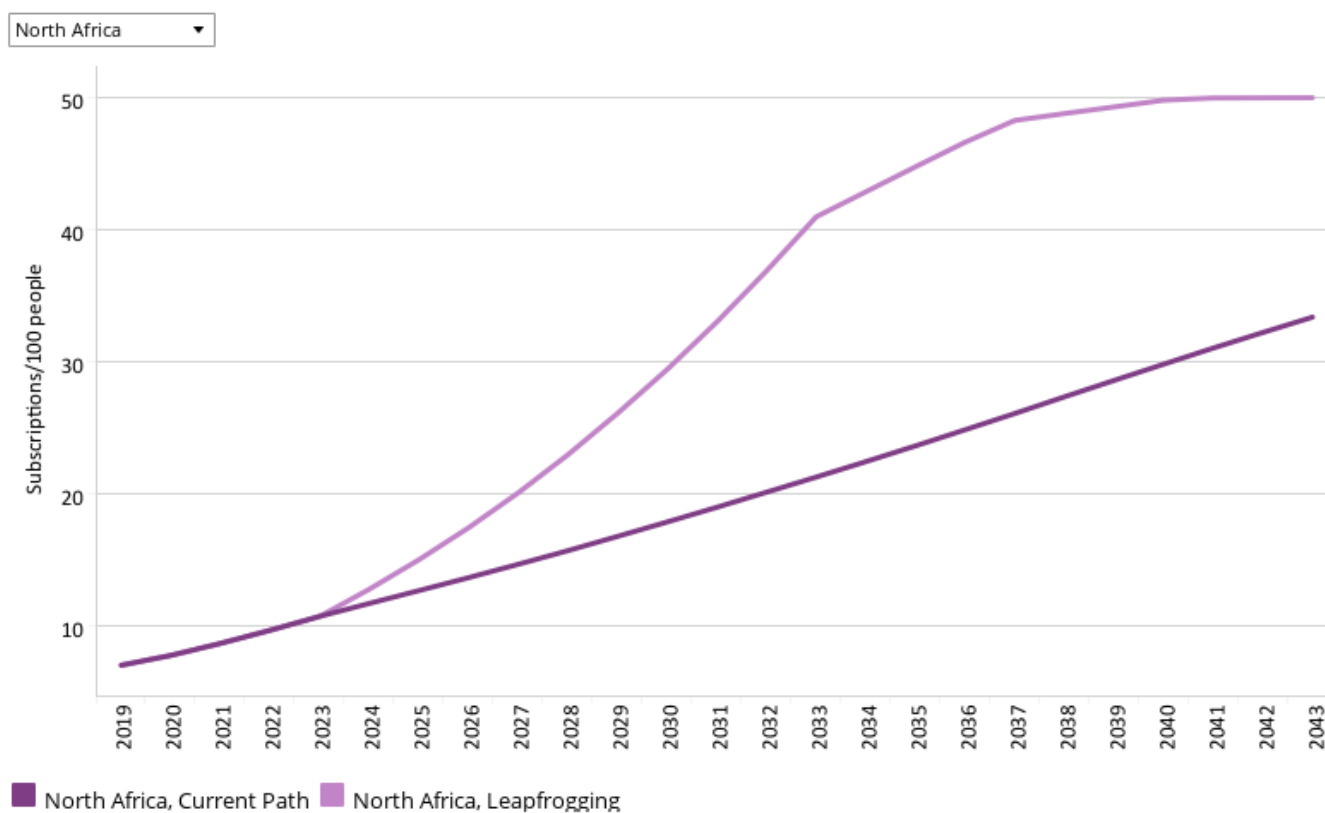
■ North Africa, Current Path   ■ North Africa, Leapfrogging
Source: IFs 7.63 initialising from International Telecommunication Union data

⁛ View on Tableau Public ↺ ↻ ↺ ↻ ▾ | ⬐▾ ▣ ⤳ Share

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 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.).

In modern economies, access to stable Internet is a driver of economic growth as it improves productivity. The total number of fixed broadband subscriptions in North Africa was estimated to have been 7.0 per 100 people in 2019, which was more than twice the average for Africa (3.2 per 100 people). It was also the highest among all the regional groupings in Africa. At the country level, fixed broadband subscriptions range from 9.7 subscriptions per 100 people in Algeria to 2.6 subscriptions per 100 people in Mauritania. In the Leapfrogging scenario, fixed broadband subscription is projected to increase to 50 per 100 people by 2043, which will be above the average of 27.7 per 100 people estimated for Africa. Compared with the Current Path forecast, the Leapfrogging scenario could improve fixed broadband subscriptions by 16.6

subscriptions per 100 people by 2043. Countries that will witness the largest increase in fixed broadband subscriptions in the Leapfrogging scenario are Morocco and Egypt, with improvements of 0.37 and 0.34 subscriptions per 100 people compared with the Current Path forecast. Mauritania will experience the lowest improvement in its fixed broadband subscription by 2043.

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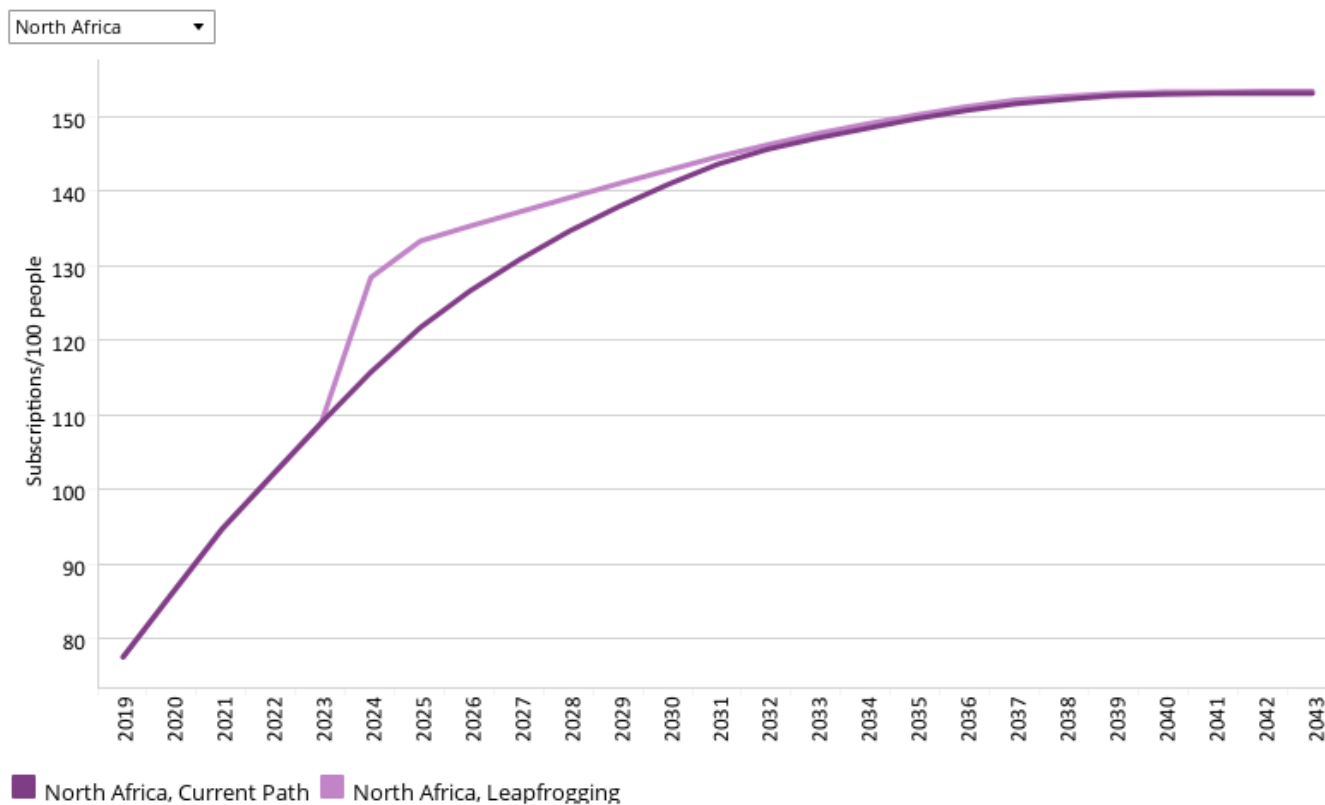
Source: IFs 7.63 initialising from International Telecommunication Union data

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

Similar to the situation in other regions, the use of mobile broadband in North Africa is much higher than that of fixed broadband. By 2019, the average number of mobile broadband subscriptions in North Africa stood at 77.5 per 100 people, which was the highest among the African regions and above the average of 40.5 subscriptions per 100 people for Africa. Algeria had the most mobile broadband subscriptions in 2019, estimated at 112 per 100 people, followed by Libya with 91.8 subscriptions per 100 people. Mauritania and Egypt had the lowest mobile subscription rates in the region, at 63.2 and 41.7 subscriptions per 100 people, respectively. Owing to the mobile broadband subscription rate already being high in the region, the Leapfrogging scenario leads to a faster improvement only between 2024 and 2030. By 2043, the mobile broadband subscription rate converges at 153.1 subscriptions per 100 people in both the Leapfrogging scenario and the Current Path forecast. This will be greater than the Current Path average (141.8) projected for Africa in the same year. In the Leapfrogging scenario, Libya will have the most mobile subscriptions (158.4 per 100 people) while Mauritania will have the least (152.2 per 100 people). The remaining countries will all average around 153 subscriptions per 100 people.

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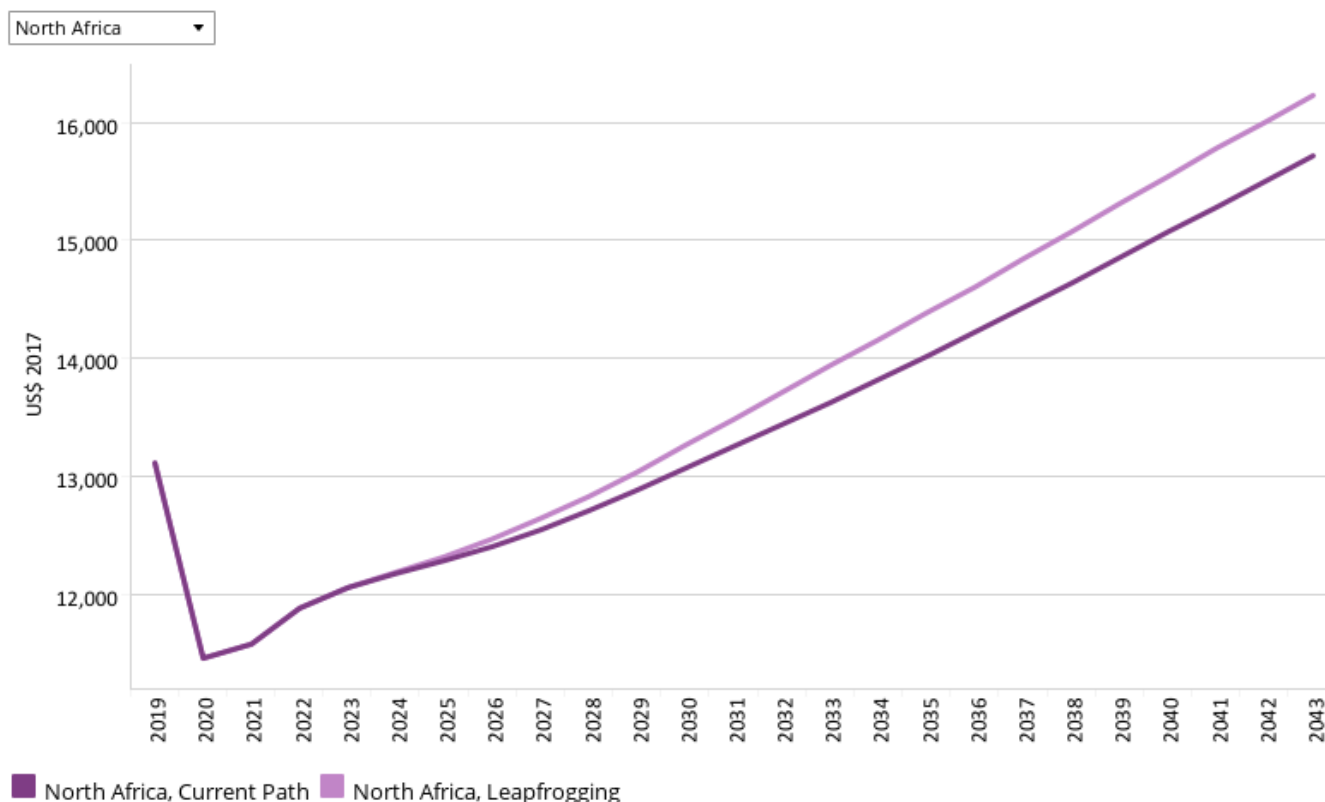Millions of people and % of population

North Africa | Total

North Africa, Current Path   North Africa, Leapfrogging

Source: IFs 7.63 initialising from World Development Indicators data

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North Africa already does very well on electricity access. In 2019, approximately 199.7 million people in North Africa had access to electricity, representing 98.5% of the population. This was far above the average rate of electricity access in Africa (53.2%), and was the highest among the regional groupings. Almost all (99.2%) urban dwellers in the region had access to electricity, while access sat at 97.7% for rural dwellers. Mauritania is the only country in the region where less than 50% of its population has access to electricity; all other countries in the region had electricity access of at least 99%.

The Leapfrogging scenario will increase access to electricity in the region to 267.4 million people by 2043, which will be only slightly higher than in the Current Path forecast (265.9 million people). The proportion of people with access to electricity in the region will initially decline, and then reach a minimum at 97.9% in 2032 in the Leapfrogging scenario and 97.7% on the Current Path in the same year. Afterwards, the proportion of people with access to electricity will increase to 98.9% in the Leapfrogging scenario and 98.3% on the Current Path in 2043. In the Leapfrogging scenario, all North African countries except Mauritania will have electricity access rates above 99% (the rate in Mauritania is projected to be 80.5%).

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

North Africa

Legend: ■ North Africa, Current Path ■ North Africa, Leapfrogging

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
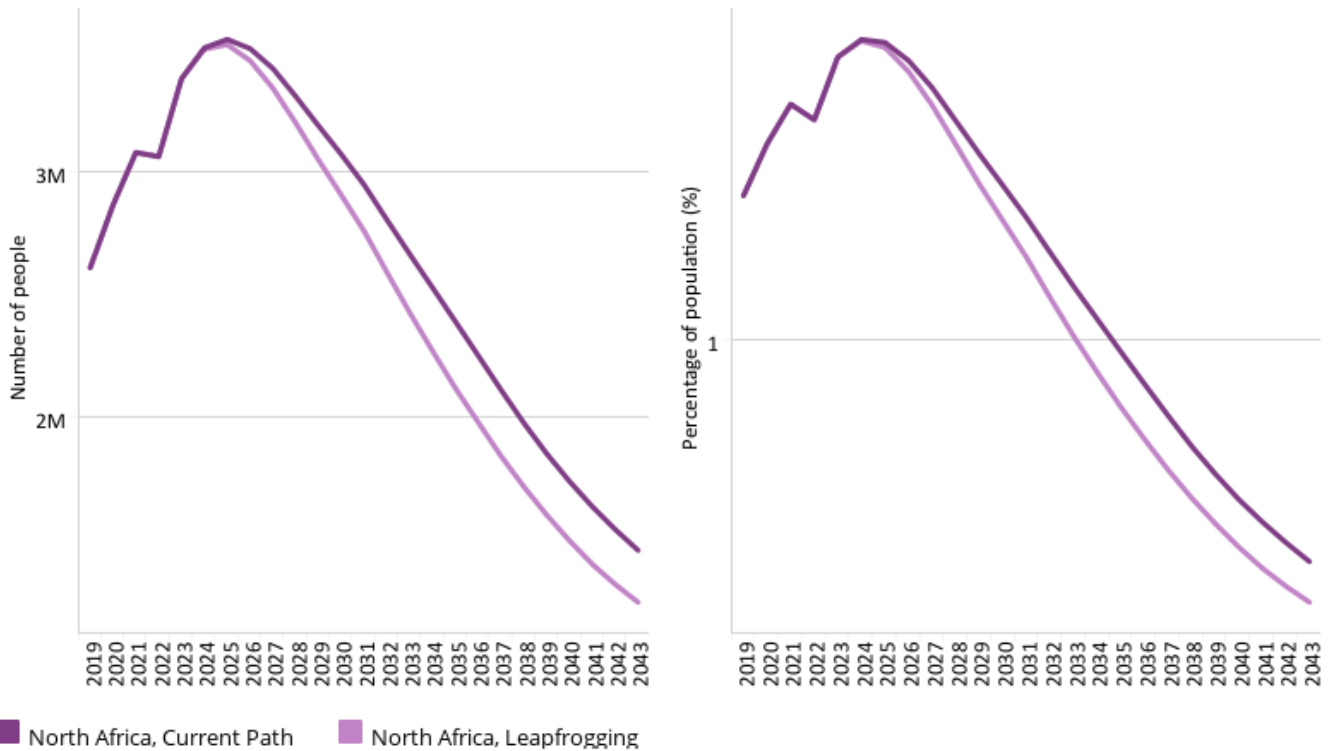
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On the Current Path, the average GDP per capita for North Africa is forecast to increase to US$15 718. However, the Leapfrogging scenario will lead to a much greater increase, such that, by 2043, additional gains of US$512 compared with the Current Path forecast are possible. The projected average GDP per capita in the Leapfrogging scenario will also be more than twice the Current Path average for Africa. Compared with the Current Path forecast, the countries with the greatest improvement in GDP per capita in the Leapfrogging scenario are Egypt and Libya, which can expect additional gains of US$708 and US$469, respectively. Mauritania and Algeria are expected to see respective gains of US$266 and US$251 from the Leapfrogging scenario.

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

North Africa ▾ $1.90 ▾

■ North Africa, Current Path   ■ North Africa, Leapfrogging

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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The Leapfrogging scenario will lead to the number of people living in extreme poverty (at the benchmark of US$1.90) declining to 1.25 million, representing 0.48% of the population. This will be 0.08 percentage points lower than in the Current Path forecast and equivalent to 210 000 fewer people living in poverty by 2043. Compared with the Current Path forecast, the reduction in poverty rates will vary from 0.64 percentage points in Mauritania to 0.11 percentage points in Egypt in the Leapfrogging scenario. All other countries in the region are expected to see extreme poverty rates reducing by less than 0.05 percentage points in the Leapfrogging scenario.

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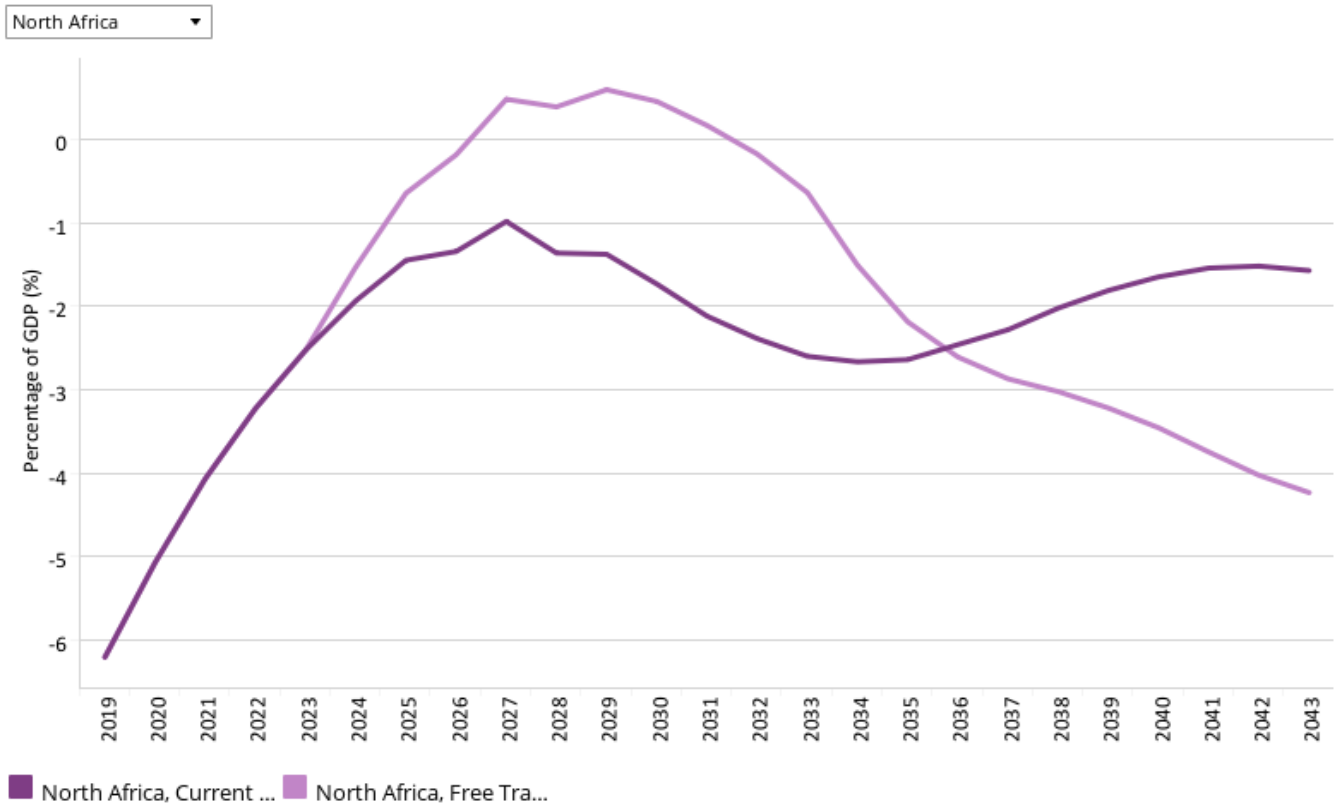
ISS|AF

North Africa ▾

■ North Africa, Current ...   ■ North Africa, Free Tra...

Source: IFs 7.63 initialising from World Development Indicators data

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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 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.

Typical of African economies, North Africa had a negative trade balance, meaning that the region is a net importer of goods and services. In 2019, the total trade deficit stood at 6.2% of GDP, which was higher than the average of 5.9% for Africa and the third highest on the continent (following after West and East Africa). Country-specific deficits ranged from 3.4% (Algeria) to 12.1% (Mauritania); only Libya had a trade surplus (5.3%). In the Free Trade scenario, the trade deficit improves in the short run, peaking at a surplus of 0.6% of GDP in 2029, but then assumes a downward trend. By 2043, the Free Trade scenario will lead to a trade deficit of 4.2% of GDP, which will be higher than the average of 3.3% GDP for Africa. It will also be about three percentage points greater than the Current Path forecast. In the Free Trade scenario, Libya and Algeria are projected to have trade surpluses by 2043, estimated to amount to about 2.7% and 2.1% of their GDP, respectively. The remaining countries will continue to have trade deficits, albeit lower than the 2019 figures. The deficits

will range from 4.6% of GDP in Tunisia to 8.0% of GDP in Egypt. These two countries will also experience the greatest improvement in trade balance in the Free Trade scenario. Mauritania and Libya will likely benefit least from this scenario.

Chart 40: GDP per capita in CP and Free Trade scenario, 2019–2043
Purchasing power parity
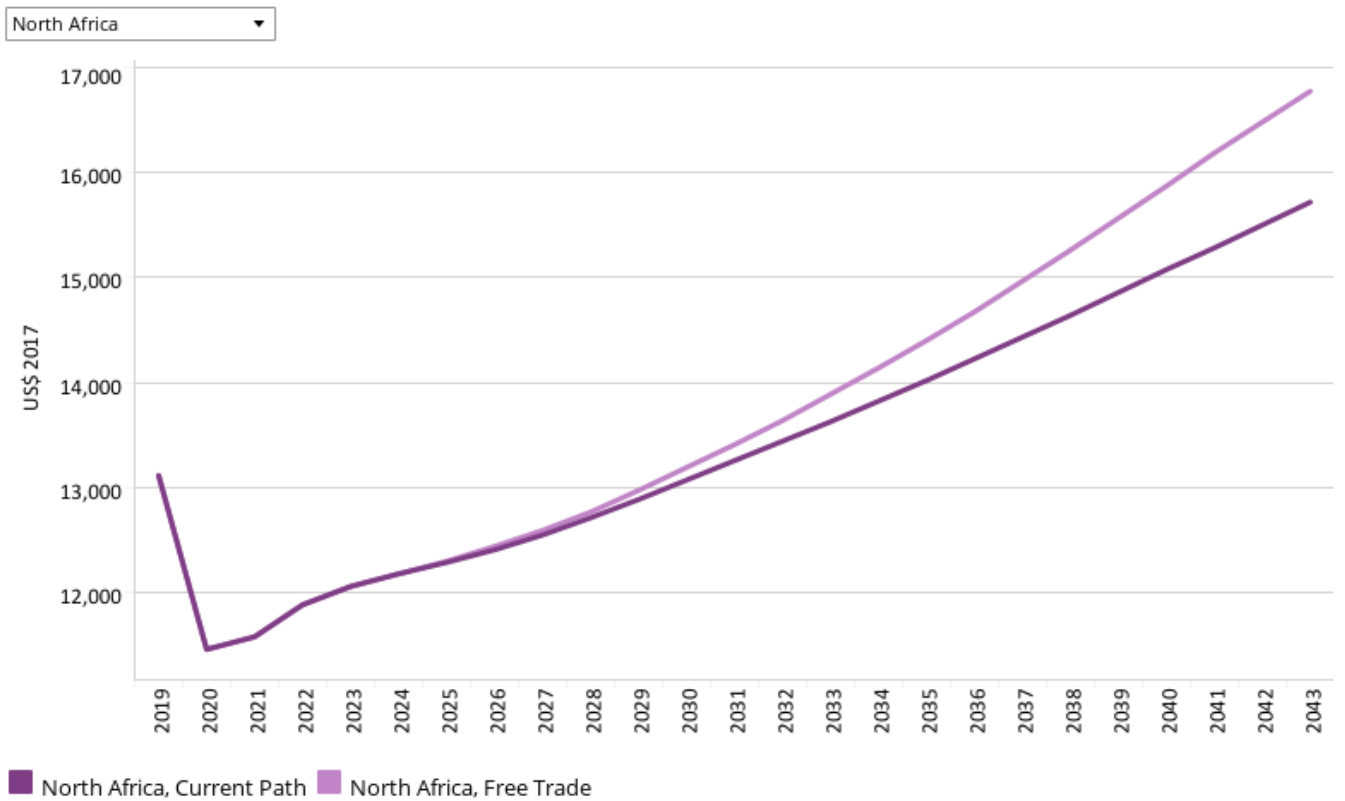
Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

The Free Trade scenario is projected to lead to additional gains of US$1 057 in average GDP per capita compared with the Current Path forecast (an increase of 7%) by 2043, pushing GDP per capita to US$16 775 versus US$15 718. The impact of the Free Trade scenario on GDP per capita is most pronounced in Libya and Egypt, with additional gains of US$1 210 and US$1 101, respectively. Morocco and Mauritania will likely experience the least gain (US$964 and US$517, respectively).

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

North Africa, Current Path   North Africa, 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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Trade openness 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 (AfCFTA) 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.

Extreme poverty rates will decline faster in the Free Trade scenario than on the Current Path. It is projected that by 2043, 1.21 million people in North Africa (0.47% of the population) will be living in extreme poverty (at the US$1.90 benchmark). This means that the Free Trade scenario could reduce the rate of extreme poverty in the region by 0.09 percentage points, which will be equivalent to 250 000 people by 2043. The projected rate of extreme poverty in the Free Trade scenario will be below the average for Africa. Mauritania is expected to achieve the highest reduction (1.3 percentage points). The remaining countries will all see reductions of less than 0.1 percentage points, ranging from 0.96 percentage points in Egypt to 0.011 percentage points in Algeria.

Chart 42: Foreign aid in CP and Financial Flows scenario, 2019–2043
% of GDP
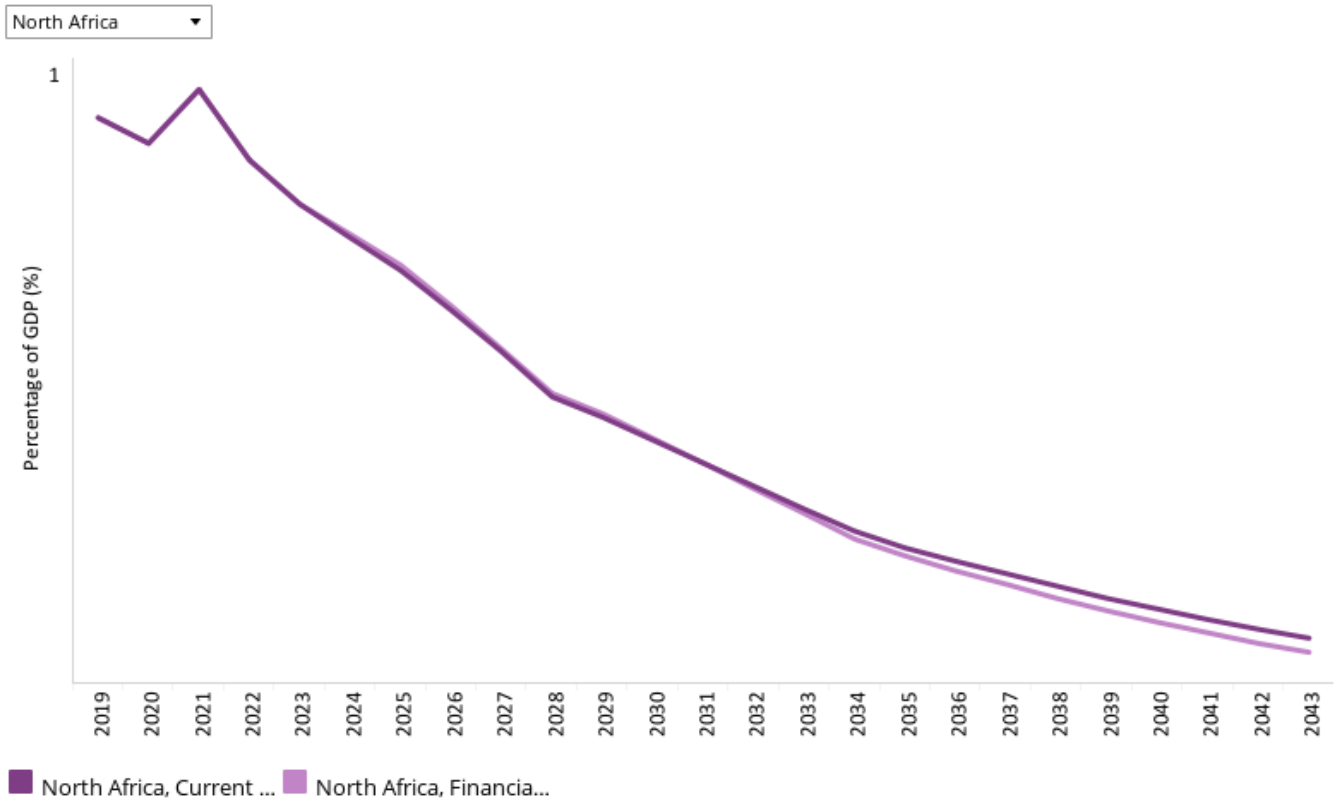
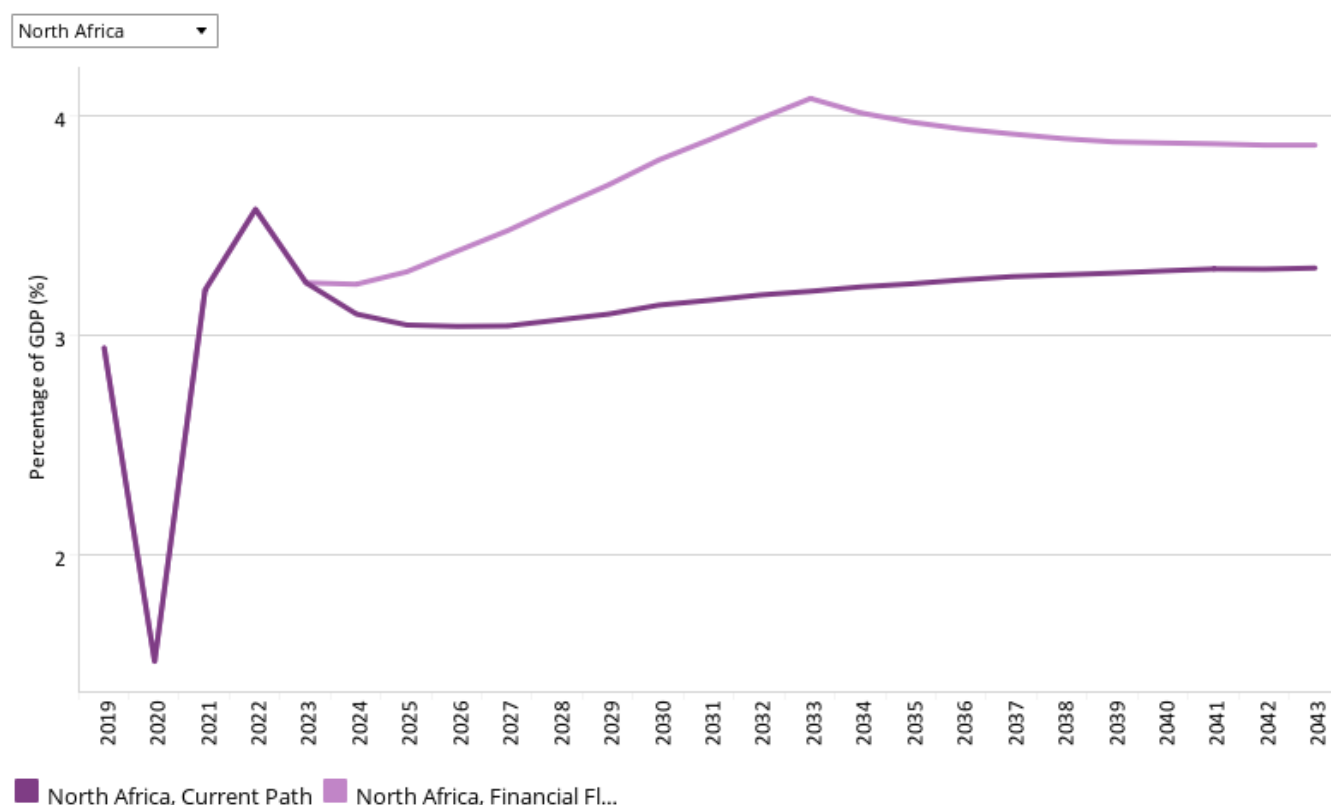Source: IFs 7.63 initialising from Development Assistance Committee of the OECD data, and World Bank and OECD GNI estimates.

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 here in the thematic part of the website.

North Africa receives the least aid from donors in Africa, mainly because it is the most developed region on the continent and has the lowest rates of extreme poverty. In 2019, the total aid received by the region averaged about US$6.7 billion, equivalent to 0.82% of GDP. This was below the average of 2.4% of GDP for Africa in the same year. In absolute terms, Morocco received the most aid (estimated at US$2.4 billion) in 2019, while Libya received the least (US$500 million). As a percentage of GDP, Mauritania received the most aid (6.2%) followed by Tunisia (2.1%). Egypt and Algeria received aid to the value of 0.5% and 0.2% of their GDP, respectively. In the Financial Flows scenario, aid as a percentage of GDP in the region is expected to decline to 0.21% by 2043, translating to US$3.9 billion, which will be slightly below the Current Path forecast of 0.23%. In the Financial Flows scenario, aid as a percentage to GDP will be highest in Morocco (1.9%), with the other countries all expected to receive less than 1% of GDP in aid. In fact, Egypt is projected to receive no aid at all in the Financial Flows scenario. The trend is consistent with the development trajectory of economies, because as countries develop, donors switch from aid to investment.

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

North Africa ▼

■ North Africa, Current Path ■ North Africa, Financial Fl...

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

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While low-income countries benefit from the majority of foreign aid, middle-income countries tend to attract more FDI. FDI inflows also largely depend on the stability in a country and an enabling and stable policy environment, and tend to go towards investment in the oil and gas sector in much of Africa. In 2019, the total stock of FDI that has accumulated in the North African region amounted to almost 37% of GDP and it is expected to increase to 42% by 2043 on the Current Path and 49.3% in the Financial Flows scenario. Annual inflows amounted to 2.9% of GDP in 2019, slightly above the average of 2.8% for Africa. This means the region received the second highest amount of FDI in Africa in 2019 (East Africa received the most). Investments ranged from 9.6% of GDP in Mauritania to 1.1% of GDP in Algeria.

In the Financial Flows scenario, FDI as a percentage of GDP is projected to rise to 3.9% by 2043, which is higher than the Current Path forecast of 3.3% and the average of 3.8% expected for Africa. Mauritania will continue to see the highest rate of FDI as a percentage of GDP, followed by Libya. Morocco and Algeria are expected to have the lowest FDI-to-GDP ratio in the Financial Flows scenario. Libya and Egypt are expected to benefit the most from the Financial Flows scenario with regard to FDI, whereas Algeria and Mauritania will benefit least.

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

North Africa

North Africa, Current Path ■ **North Africa, Financial Fl...** ■

Source: IFs 7.63 initialising from World Development Indicators data

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The total value of remittances received in North Africa was valued at US$20.6 billion in 2019, which was equivalent to about 2.3% of GDP. This ratio was above Africa's ratio of 1.7% of GDP and the second highest on the continent (following after West Africa). At 5% and 3.3% of GDP, respectively, Morocco and Egypt have the highest rate of remittances in the region, corresponding to a value of US$7.1 billion (Morocco) and US$11.4 billion (Egypt). Because of their larger diaspora, Libya and Mauritania experience net outflows of remittances, valued at US$1.4 billion (1.9% of GDP) and US$200 million (2.2% of GDP), respectively.

In the Financial Flows scenario, total net remittance inflows in the region will increase to US$15.8 billion by 2043, constituting 0.78% of GDP. This will be lower than the average 1.5% of GDP for Africa on the Current Path. Nevertheless, this will be higher than the Current Path projections of US$11.6 billion (0.59% of GDP), meaning that the Financial Flows scenario could increase average remittances in the region by an additional US$4.2 billion. Based on the Financial Flows scenario, Mauritania and Libya will continue to be net senders of remittances, while the other countries will be net recipients.

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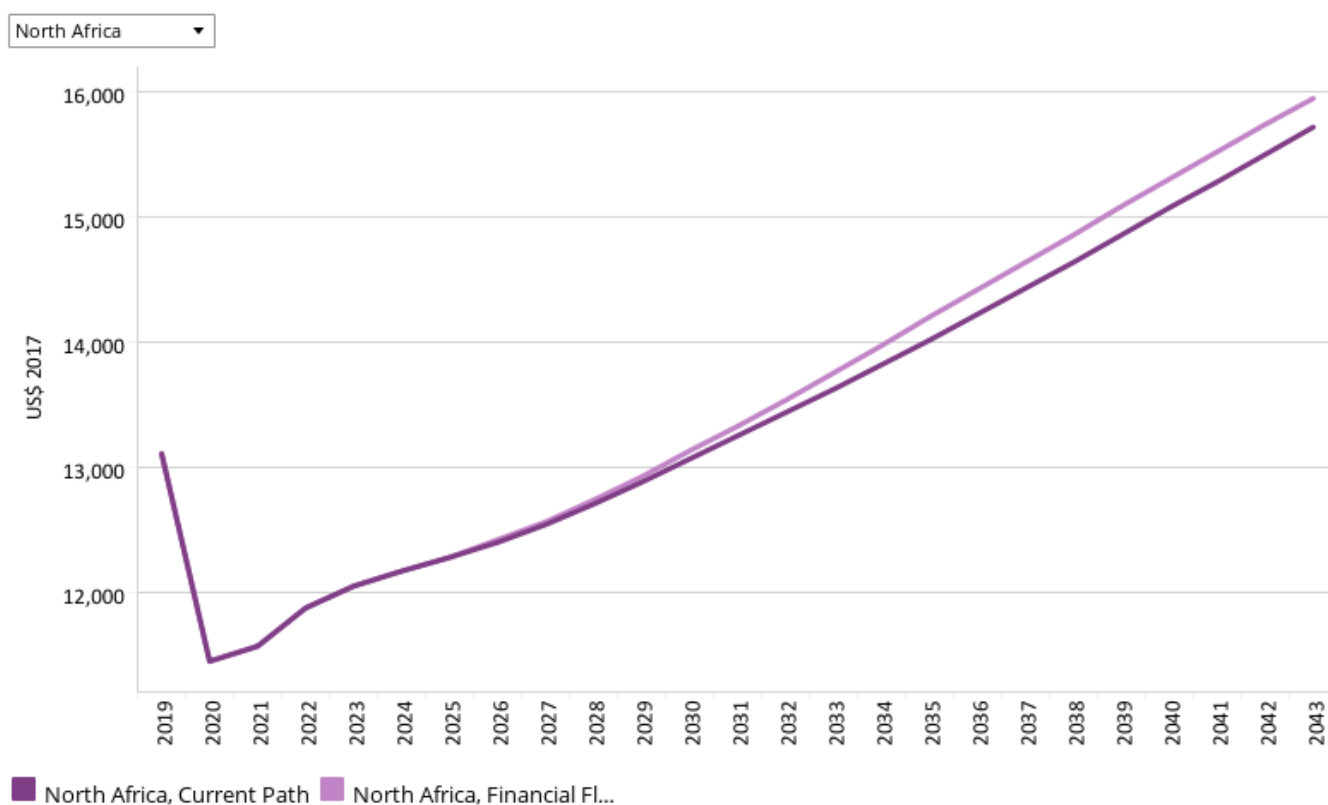
North Africa ▼

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
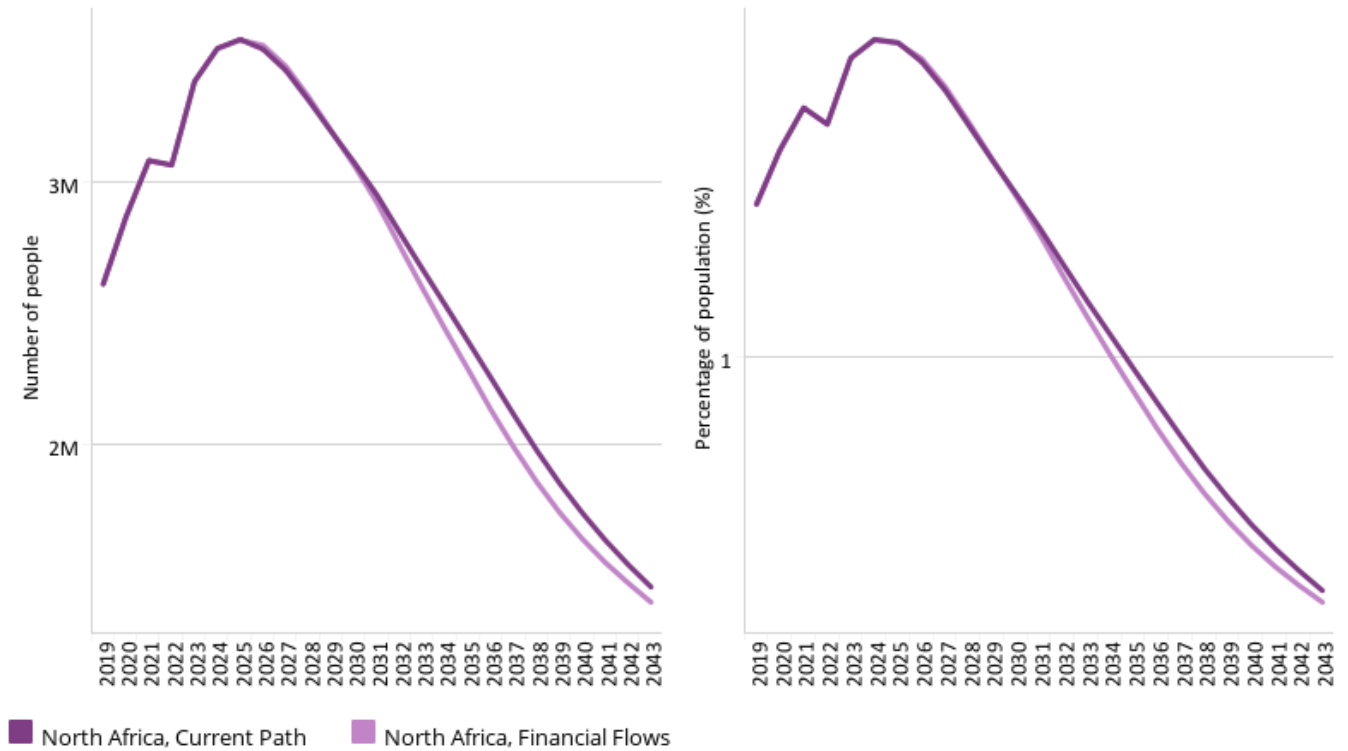
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In 2019, the average GDP per capita in North Africa was US$13 113. This is expected to increase to US$15 947 by 2043 in the Financial Flows scenario, which represents an additional gain of US$229 compared with the Current Path forecast. It will also be far higher than the average GDP per capita for Africa (US$7 157). In North Africa, the impact of the Financial Flows scenario on GDP per capita relative to the Current Path ranges from US$360 (Libya) and US$349 (Egypt) to US$21 in Mauritania.

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

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

In the Financial Flows scenario, 1.4 million people are expected to be living in extreme poverty by 2043 in North Africa, equivalent to 0.54% of the population. Compared with the Current Path forecast, the Financial Flows scenario could therefore lead to 60 000 fewer people living in extreme poverty by 2043, which represents a decline of 0.02 percentage points. The rate in 2019 was 2.6%. The largest reduction in extreme poverty in the Financial Flows scenario occurs in Egypt, with a decline of 0.05 percentage points compared with the Current Path forecast. The other North African countries can expect the rate of extreme poverty to decline by less than 0.005% in the Financial Flows scenario.

Infrastructure scenario

Chart 47: Electricity access in CP and Infrastructure scenario, 2019–2043
Millions of people and % of population
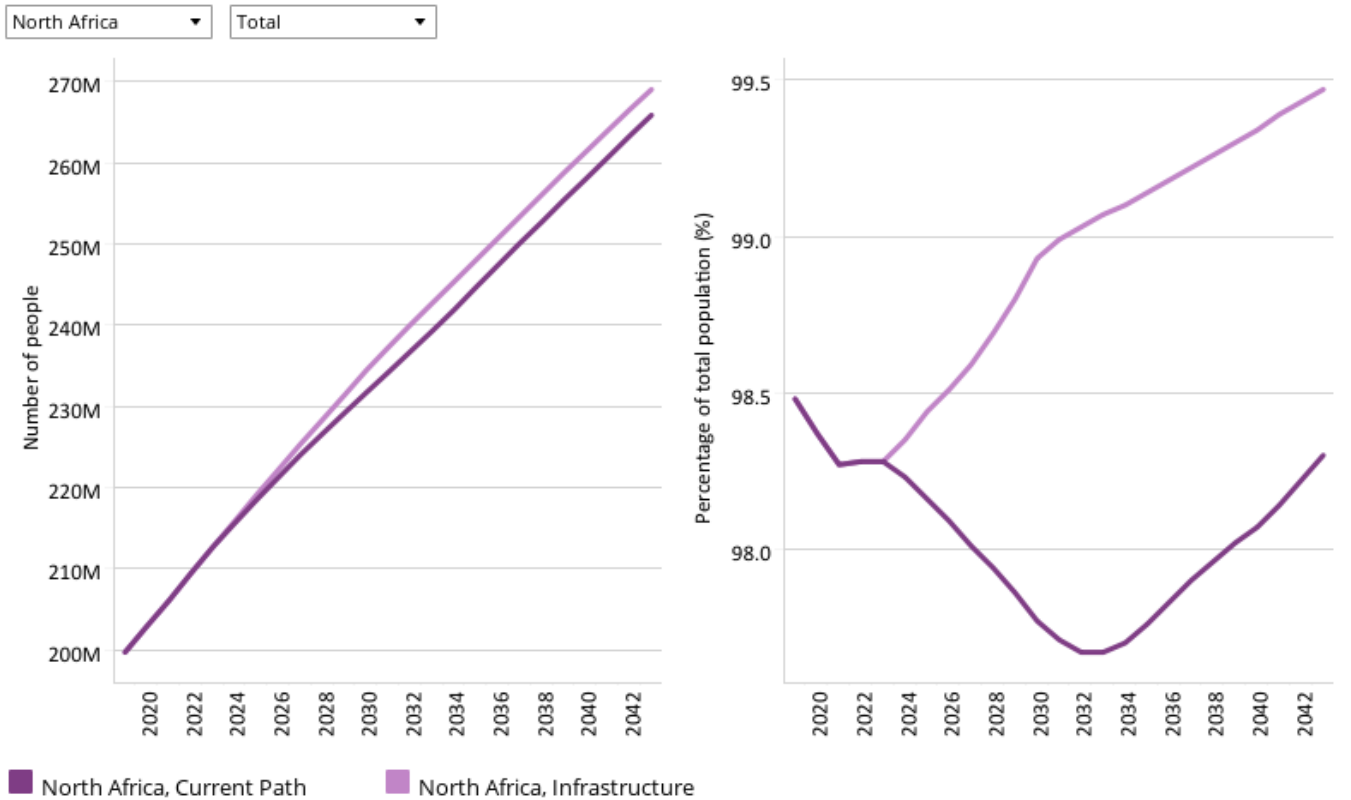
Source: IFs 7.63 initialising from World Development Indicators data

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 here in the thematic part of the website.

North Africa has effectively achieved universal electricity access. The Infrastructure scenario will increase electricity access rates from 98.5% of the population in 2019 to 99.5% by 2043, equivalent to 269.1 million people. Compared with the Current Path forecast of 265.9 million people (98.3% of the population) having access to electricity, the Infrastructure scenario could increase access to another 3.2 million more people, equivalent to 0.2% of the population. In the

Infrastructure scenario, there will be no significant difference in electricity access rates among urban and rural dwellers. In Algeria, Egypt, Libya, Morocco and Tunisia all people will have access to electricity by 2043, while in Mauritania electricity will be available to 82.1% of the population.

Chart 48: Rural road access in CP and Infrastructure scenario, 2019–2043
% of rural population within 2 km of an all-weather road
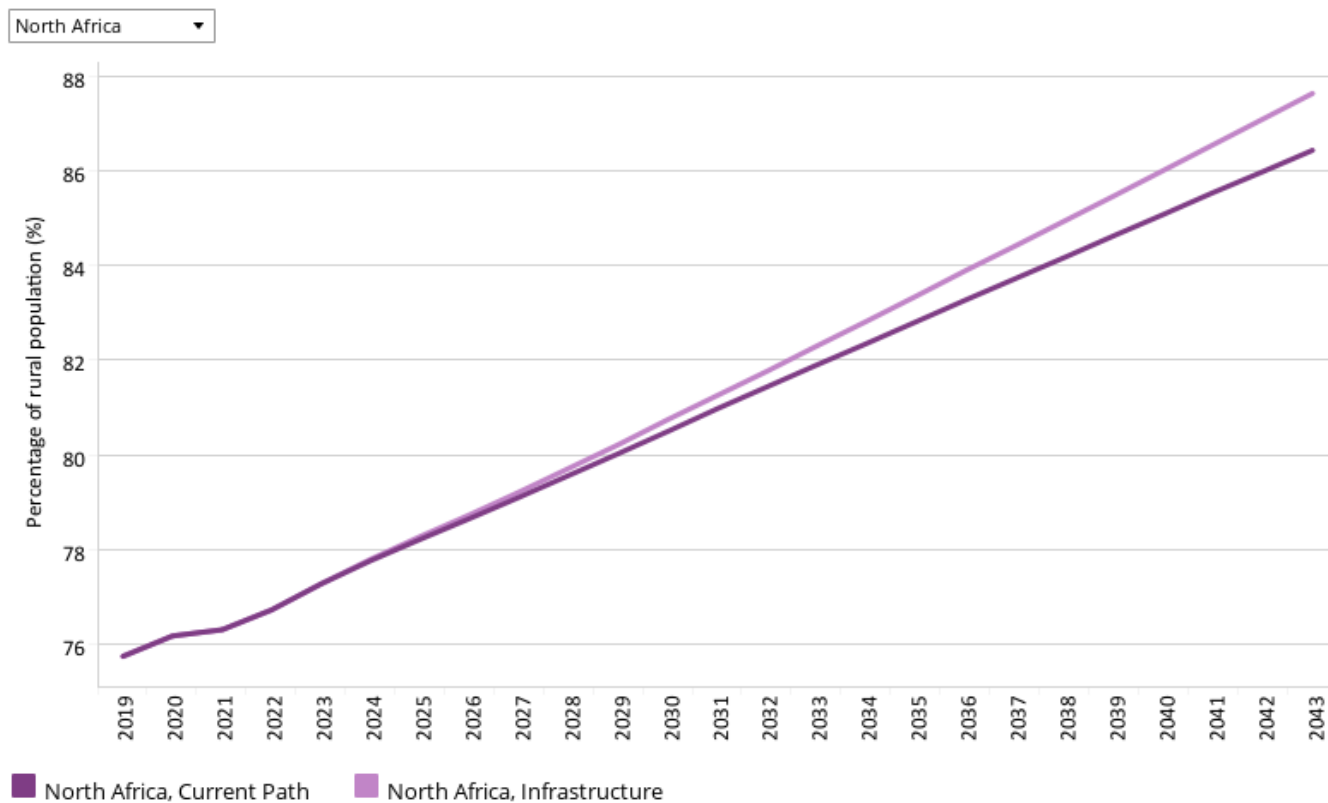
Source: IFs 7.63 initialising from World Bank Rural Access Index data

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.

Road infrastructure is a necessary component for achieving sustainable development. Improved road networks not only facilitate the movement of people, goods and services but also ensure the linkage and integration of the rural economy with the urban economy. In 2019, the proportion of the rural population in North Africa that lived within 2 km from an all-weather road was estimated to be 75.8% – above the average of 53% for Africa and the highest among the regions in Africa. Access ranges from 90.7% in Libya to 42.9% in Morocco. On the Current Path, this figure will increase to 86.4% by 2043. In the Infrastructure scenario, the improvement is slightly higher, so that by 2043, access to all-weather roads by rural residents will increase to 87.6%. This will be higher than the average of 59.1% for Africa on the Current Path. In the Infrastructure scenario, the entire rural population of Libya will reside within 2 km of an all-weather road. In both Algeria and Egypt, close to 94% of the population will be living within 2 km of an all-weather road, compared with 59.2% and 55.2% of people in Tunisia and Morocco, respectively.

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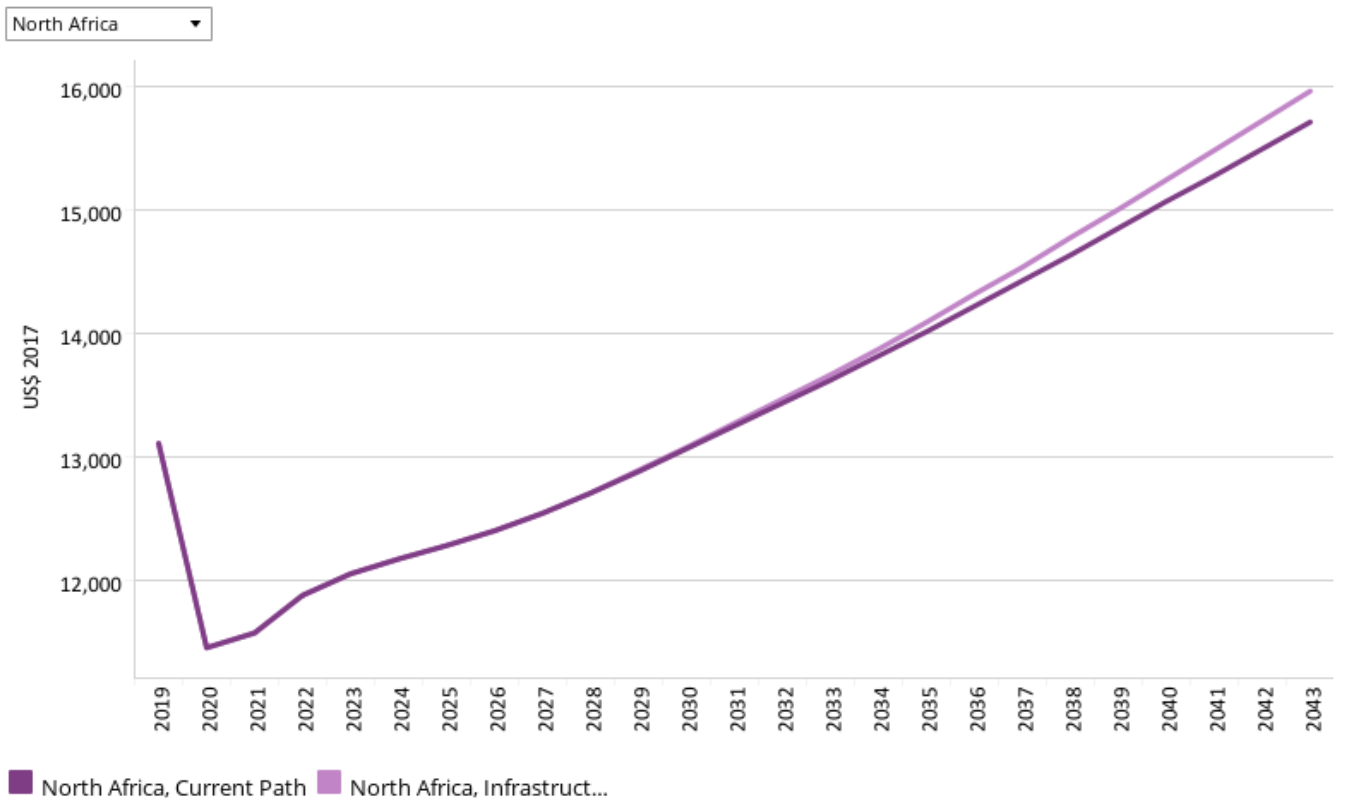
North Africa ▼

■ North Africa, Current Path ■ North Africa, Infrastruct...

Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data
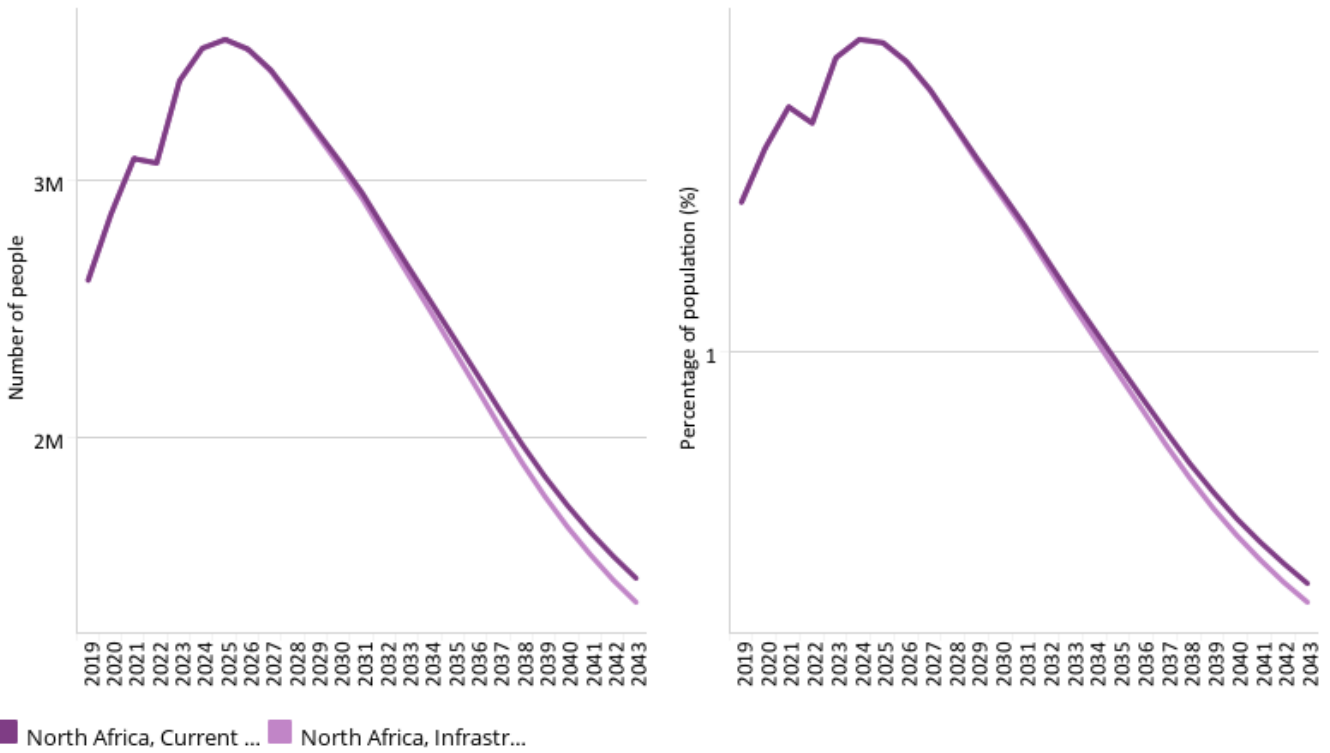
⁛ View on Tableau Public   ↺ ↻ ↶ ↷ ▼ | ⬚▼ ⛶ ⛛ Share

In the Infrastructure scenario, the average GDP per capita for North Africa is projected to increase from US$13 113 in 2019 to US$15 969 in 2043. This will be US$251 higher than the Current Path forecast and more than double the Current Path average (US$7 157) for Africa. The greatest improvement in GDP per capita due to the Infrastructure scenario is expected in Libya (US$371) and Algeria (US$349), while the smallest change is expected in Morocco (US$213) and Egypt (US$207).

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

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

The Current Path forecast is that 1.5 million people (0.56% of the population) will be living in extreme poverty (at below US$1.90 per day) by 2043, compared with 2.6 million people in 2019. In the Infrastructure scenario, extreme poverty will decline faster, such that by 2043, the number of people living in extreme poverty is projected to decline by 90 000 to a total of slightly more than 1.4 million (0.52% of the population). The largest reductions in extreme poverty are expected to occur in Mauritania and Egypt, with a decline of 0.6 and 0.03 percentage points, respectively. The remaining countries in the region will experience reductions of less than 0.02 percentage points relative to the Current Path forecast.

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

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North Africa ▾

North Africa, Current Path North Africa, Governance
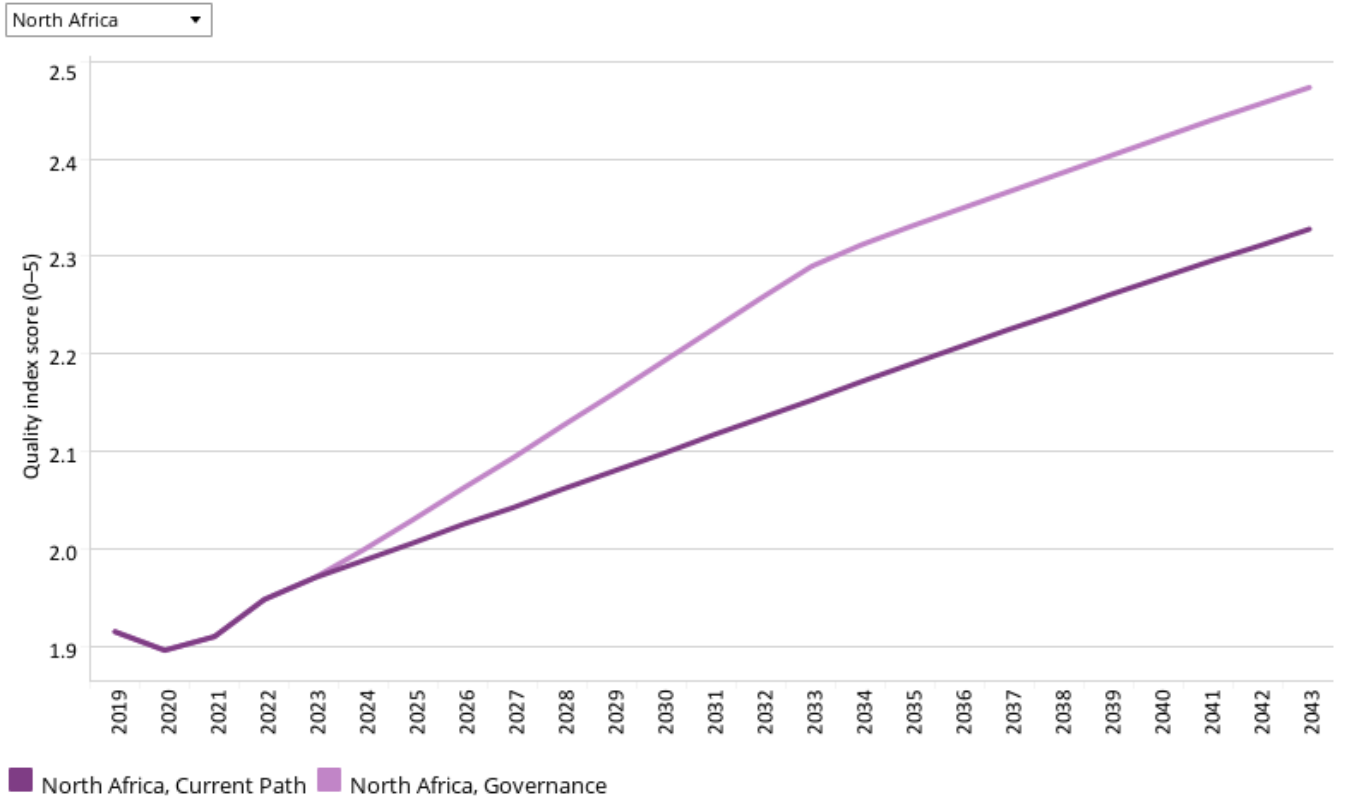
Source: IFs 7.63 initialising from Kaufmann, Kraay and Mastruzzi (2010) data

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

The intervention is explained 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'.

Chart 51 presents the impact of the interventions in the Governance scenario on government effectiveness.

In 2019, North Africa's score on government effectiveness was 1.92, which was higher than Africa's average of 1.74 in the same year. Among the regional groupings, only Southern Africa scored better. Countries that performed well on the government effectiveness index in the region are Morocco (2.5), followed by Tunisia (2.4). Mauritania and Libya performed poorly, with scores of 1.5 and 1.2, respectively. In the Governance scenario, government effectiveness is projected to rise to 2.47 in the region, which will be higher than the Current Path forecast of 2.33 and the average of 2.22 for Africa in the same period. In the Governance scenario, Morocco and Tunisia will continue to do well, with scores expected to reach 2.91 and 2.81, respectively, by 2043. Mauritania and Libya will also see improvements (to 2.18 and 2.15, respectively).

Compared with the Current Path forecast, the greatest improvement in government effectiveness given the Governance scenario will occur in Mauritania and Morocco. Libya and Tunisia will see the least improvement in their scores in this scenario.

Chart 52: GDP per capita in CP and Governance scenario, 2019–2043
Purchasing power parity
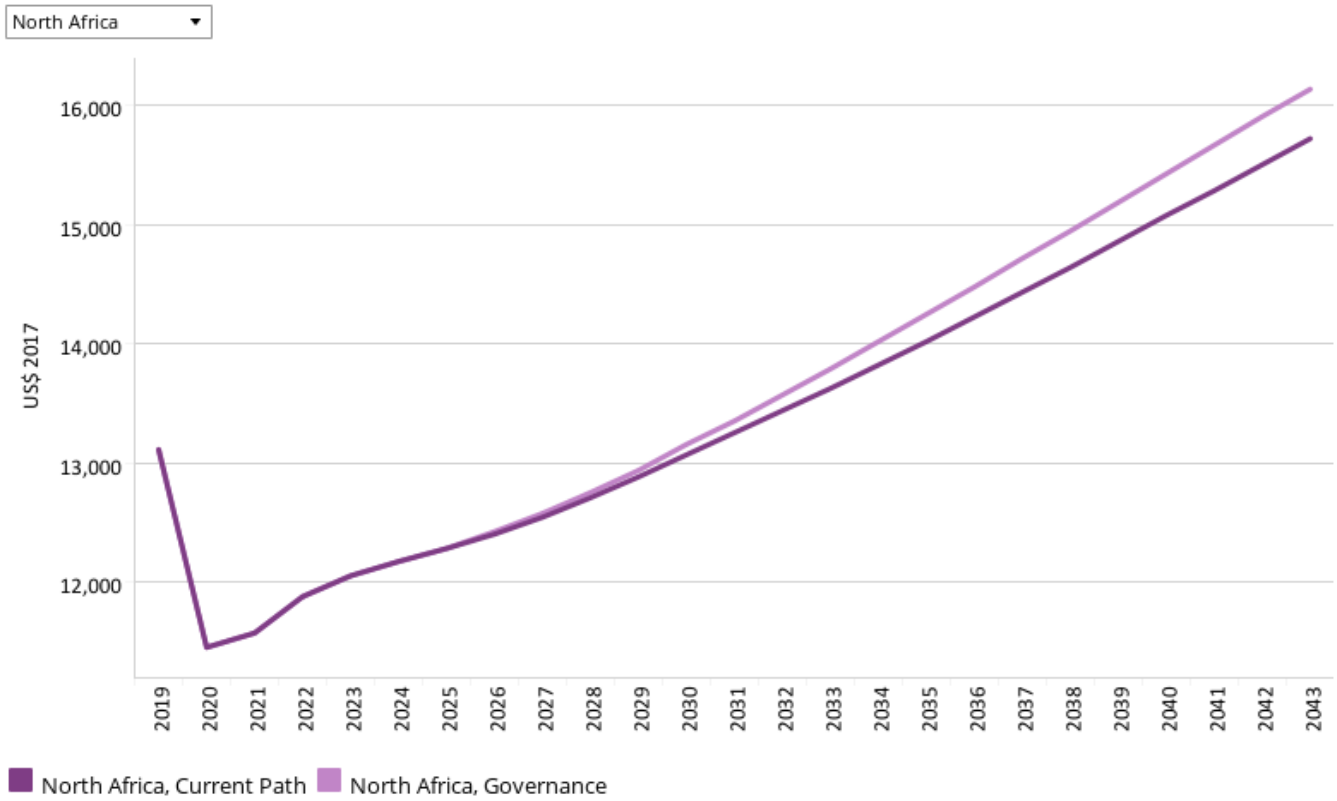
Source: IFs 7.63 initialising from UN Population Division World Population Prospects and World Development Indicators data

The Governance scenario will lead to an increase in North Africa's GDP per capita compared with the Current Path forecast. By 2043, the average GDP per capita in the region is expected to have risen by an additional US$414. North African countries that gain the most are Egypt and Algeria, with estimated additional gains of US$490 and US$349, respectively. In contrast, Libya (US$295) and Mauritania (US$198) will likely experience the least improvement in GDP in per capita due to the Governance scenario.

Chart 53: Poverty in CP and Governance scenario, 2019–2043
Millions of people and % of total population
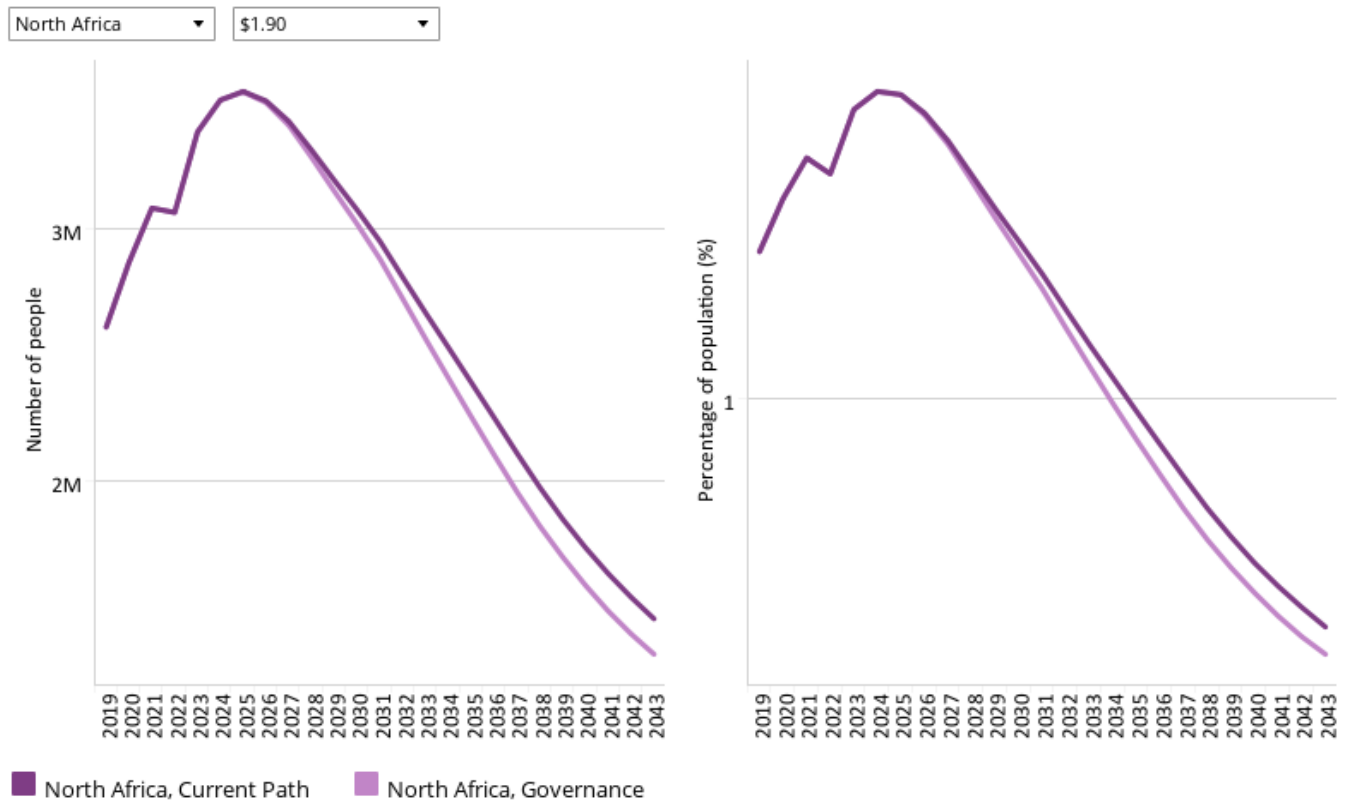
North Africa | $1.90

Legend: North Africa, Current Path | North Africa, Governance

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 the Governance scenario, the proportion of people living in extreme poverty (at the benchmark of US$1.90 per day) is projected to decline from 1.3% in 2019 to 0.51% by 2043, equivalent to 1.32 million people. This is far below the Current Path average of 20.9% for Africa and means that, compared with the Current Path, the Governance scenario could move an additional 140 000 people in North Africa out of extreme poverty. The sharpest reduction is expected in Mauritania, with a decline of 0.54 percentage points. The slowest decline happens in Algeria with a reduction of 0.004 percentage points.

Impact of scenarios on carbon emissions

Chart 54: Carbon emissions in CP and scenarios, 2019–2043
Million tons of carbon (note, not CO_2 equivalent)
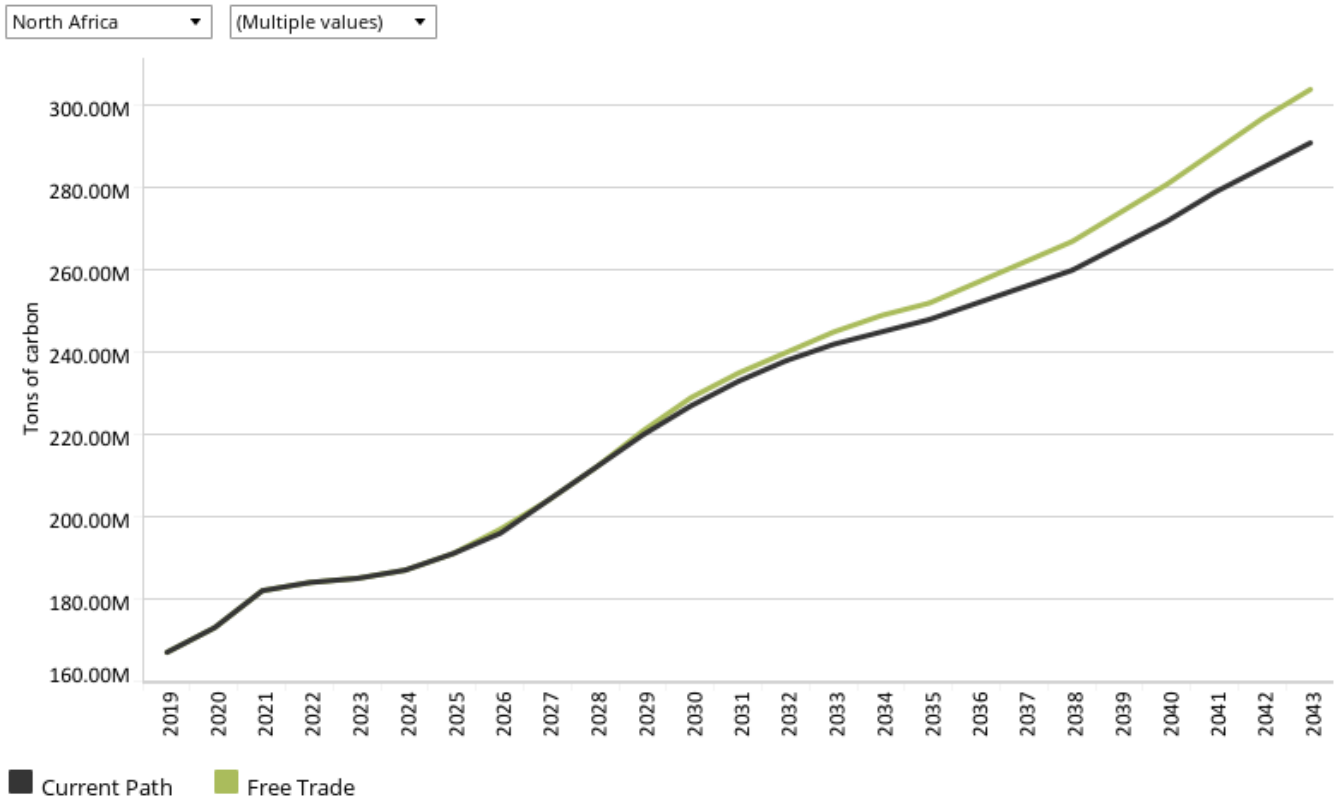
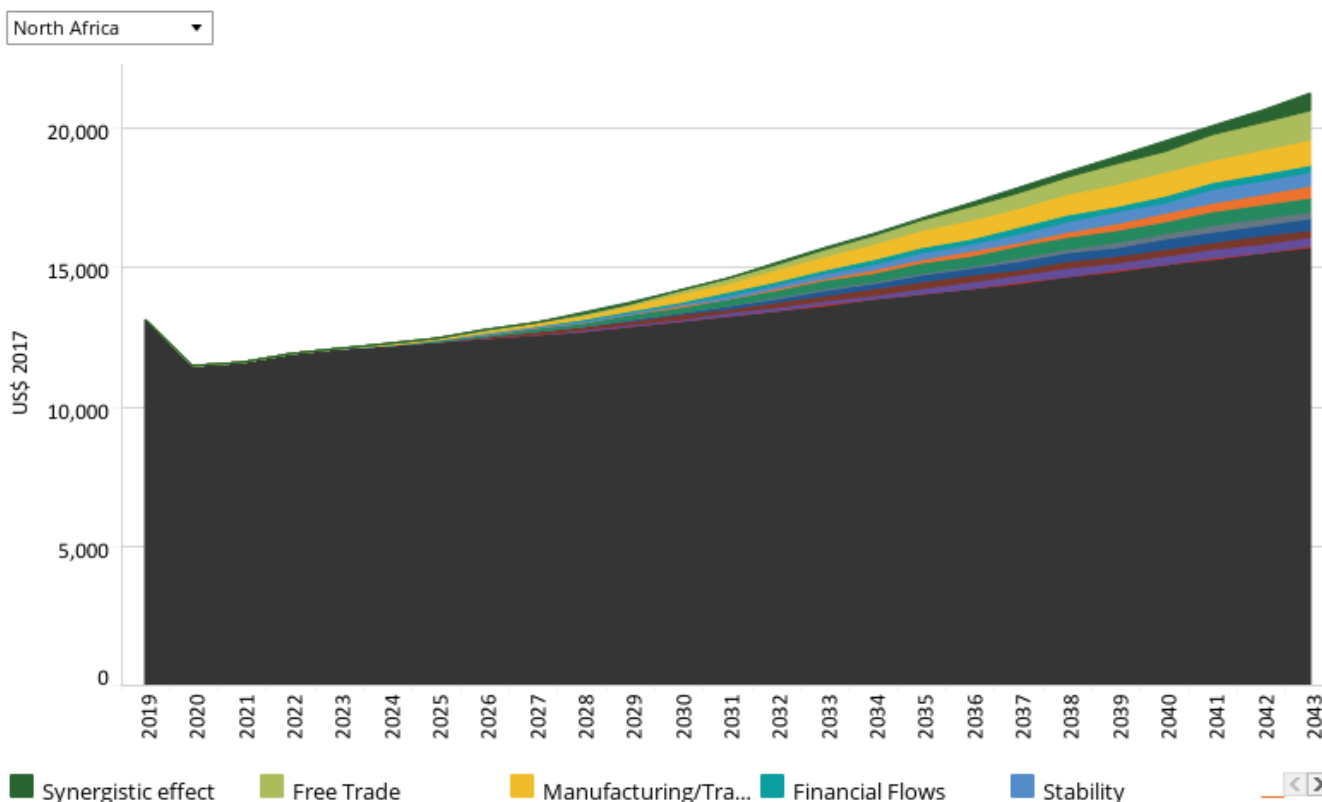Source: IFs 7.63 initialising from Carbon Dioxide Information Analysis Center data

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

The total amount of carbon emitted in the North African region amounted to 143 million tons in 2019. Most (67.6%) of this came from Algeria and Egypt. The Current Path forecast will increase carbon emissions to 291 million tons by 2043. Carbon emissions are projected to increase in all scenarios. The most carbon-intensive scenario is the Free Trade scenario, with emissions expected to reach 304 million tons by 2043. This is followed by the Manufacturing/Transfers and Stability scenarios, with carbon emissions at 302 and 298 million tons, respectively. The Demographic and Health/WaSH scenarios are the least carbon-intensive interventions.

Combined Agenda 2063 scenario

Chart 55: GDP per capita in CP and scenarios, 2019–2043
Additional GDP per capita per scenario, purchasing power parity

North Africa

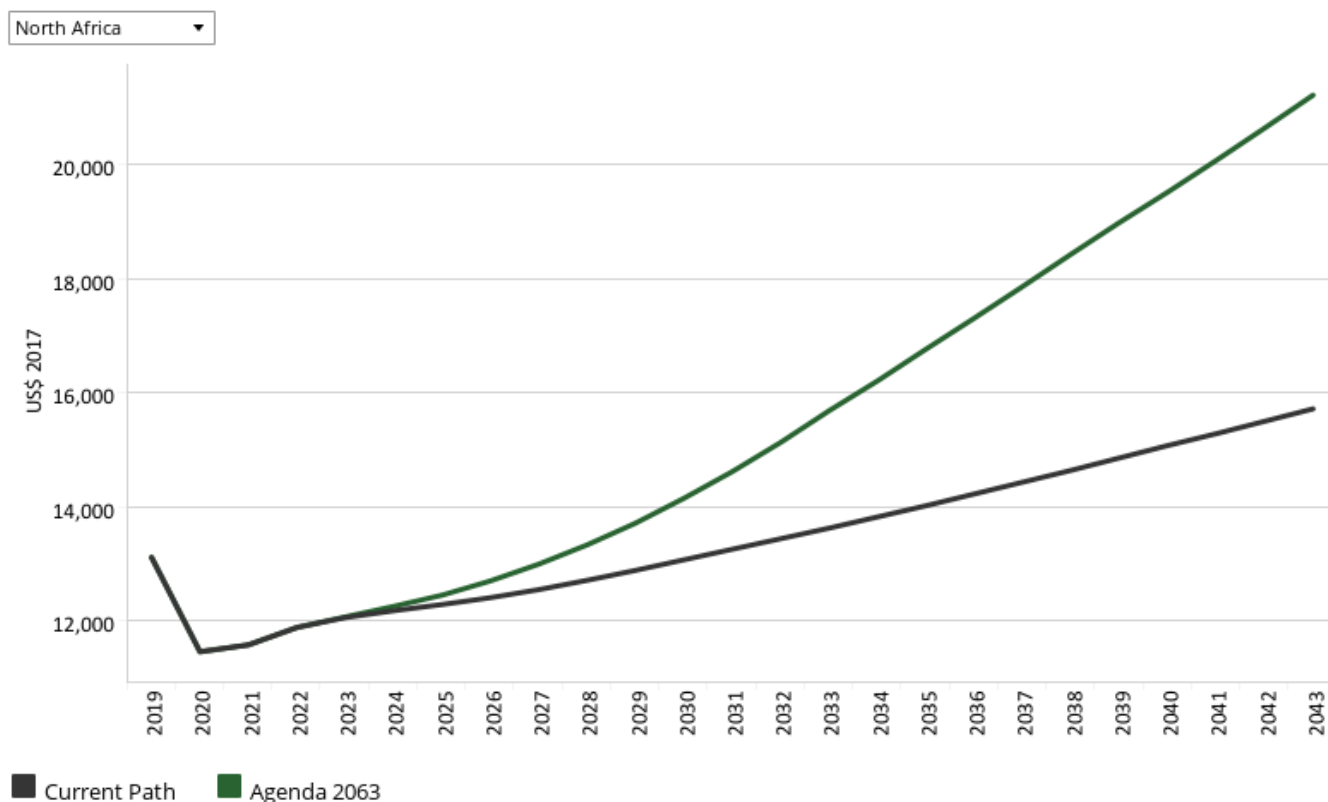**Legend:** Synergistic effect | Free Trade | Manufacturing/Tra... | Financial Flows | Stability

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

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The Combined Agenda 2063 scenario consists of the combination of all 11 sectoral scenarios presented above, namely the Stability, Demographic, Health/WaSH, Agriculture, Education, Manufacturing/Transfers, Leapfrogging, Free Trade, Financial Flows, Infrastructure and Governance scenarios. The cumulative impact of better education, health, infrastructure, etc. means that countries get an additional benefit in the integrated IFs forecasting platform that we refer to as the synergistic effect. Chart 55 presents the contribution of each of these 12 components to GDP per capita in the Combined Agenda 2063 scenario as a stacked area graph.

The greatest improvement in GDP per capita is expected from the Manufacturing/Transfers and Leapfrogging scenarios, increasing GDP per capita by US$491 and US$316, respectively. The Health/WaSH scenario will lead to the smallest improvement (only US$11). By 2043, the Free Trade scenario will have the greatest impact on GDP per capita in the region, with additional gains of US$1 057, followed by the Manufacturing/Transfers scenario, with an extra US$894, and the Leapfrogging scenario with US$512. The synergistic effect on GDP per capita in North Africa is projected to be US$610 by 2043. This means that the most effective way to improve GDP per capita in the region will be to utilise the opportunities under AfCFTA to promote trade among African countries. This is not surprising given the low levels of trade within the region.

Chart 56: GDP per capita in CP and Combined 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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Whereas Chart 55 presents a stacked area graph on the contribution of each scenario to GDP per capita as well as the additional benefit or synergistic effect, Chart 56 presents only the GDP per capita in the Current Path forecast and the Combined Agenda 2063 scenario.

The Combined Agenda 2063 scenario results in a significant effect on GDP per capita in the region. By 2043, it is projected that the scenario will increase GDP per capita by an additional US$5 504 to US$21 222, which is 35% above the Current Path forecast for 2043. The estimated average GDP per capita for North Africa in the Combined Agenda 2063 scenario will be almost three times the Current Path average of US$7 157 for Africa in the same year. The greatest improvements are expected in Egypt and Algeria, with additional gains of US$6 496 and US$4 818 above the 2043 Current Path forecast, respectively. Morocco and Mauritania will likely benefit the least, with improvements expected of US$3 984 and US$2 929, respectively.

Chart 57: Poverty in CP and Combined scenario, 2019–2043
Millions of people and % of total population
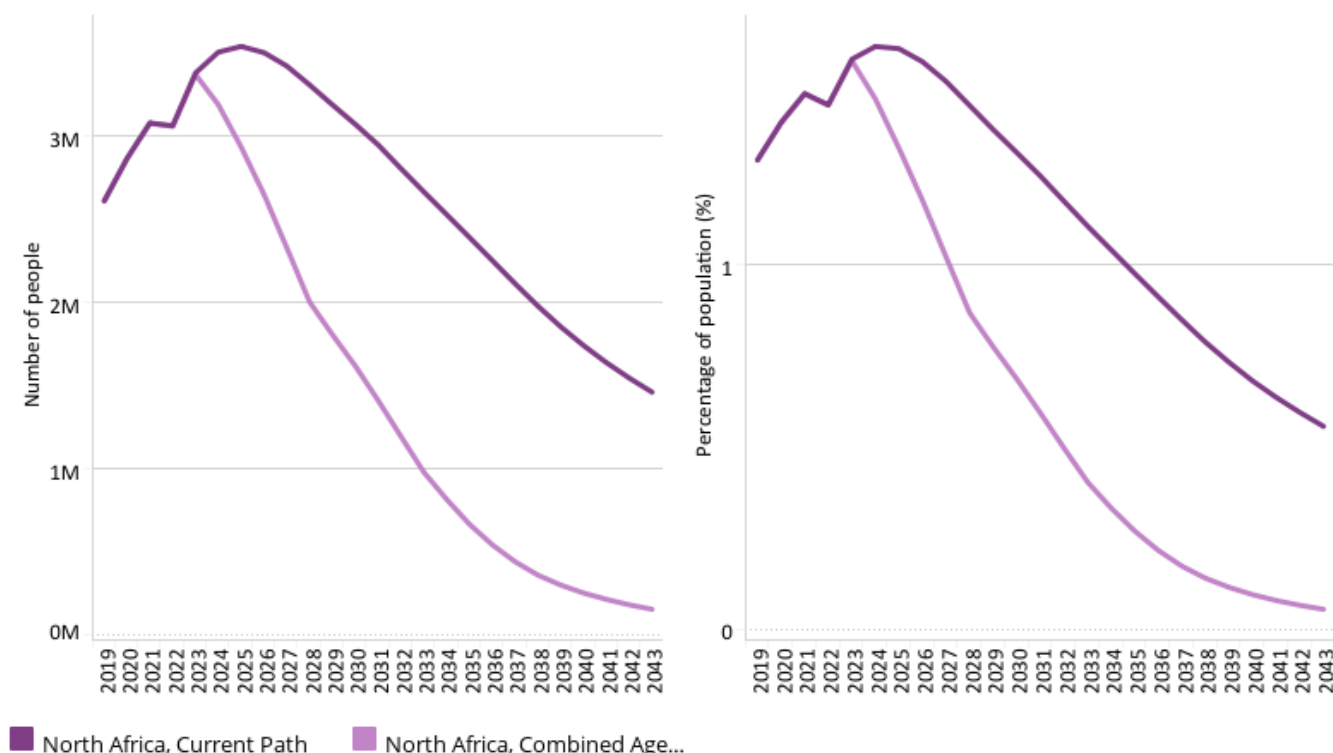
Source: IFs 7.63 initialising from UN Population Division Population Prospects estimate, World Development Indicators population data and PovcalNet World Bank data

The Combined Agenda 2063 scenario will lead to a reduction in both the number and proportion of people living in extreme poverty by 2043. The number of people living on less than US$1.90 is projected to decline from 2.61 million in 2019 to 150 000 by 2043. This corresponds to a reduction from 1.3% in 2019 to just 0.1% in 2043. Compared with the Current Path forecast, the Combined Agenda 2063 scenario will lead to a decline of 1.2 percentage points in the rate of extreme poverty (1.3 million people).

The most pronounced reduction in extreme poverty is expected in Mauritania, with a decline of 6.3 percentage points, followed by Egypt, with a reduction of 0.5 percentage points. The smallest reduction in extreme poverty given the Combined Agenda 2063 scenario will occur in Algeria, with a decline of 0.3 percentage points compared with the Current Path forecast. This means that Mauritania and Egypt will benefit most in the region if the various policy interventions underlying the Combined Agenda 2063 scenario are implemented.

Chart 58: Value added by sector in CP and Combined scenario, 2019–2043
Absolute and % point difference GDP
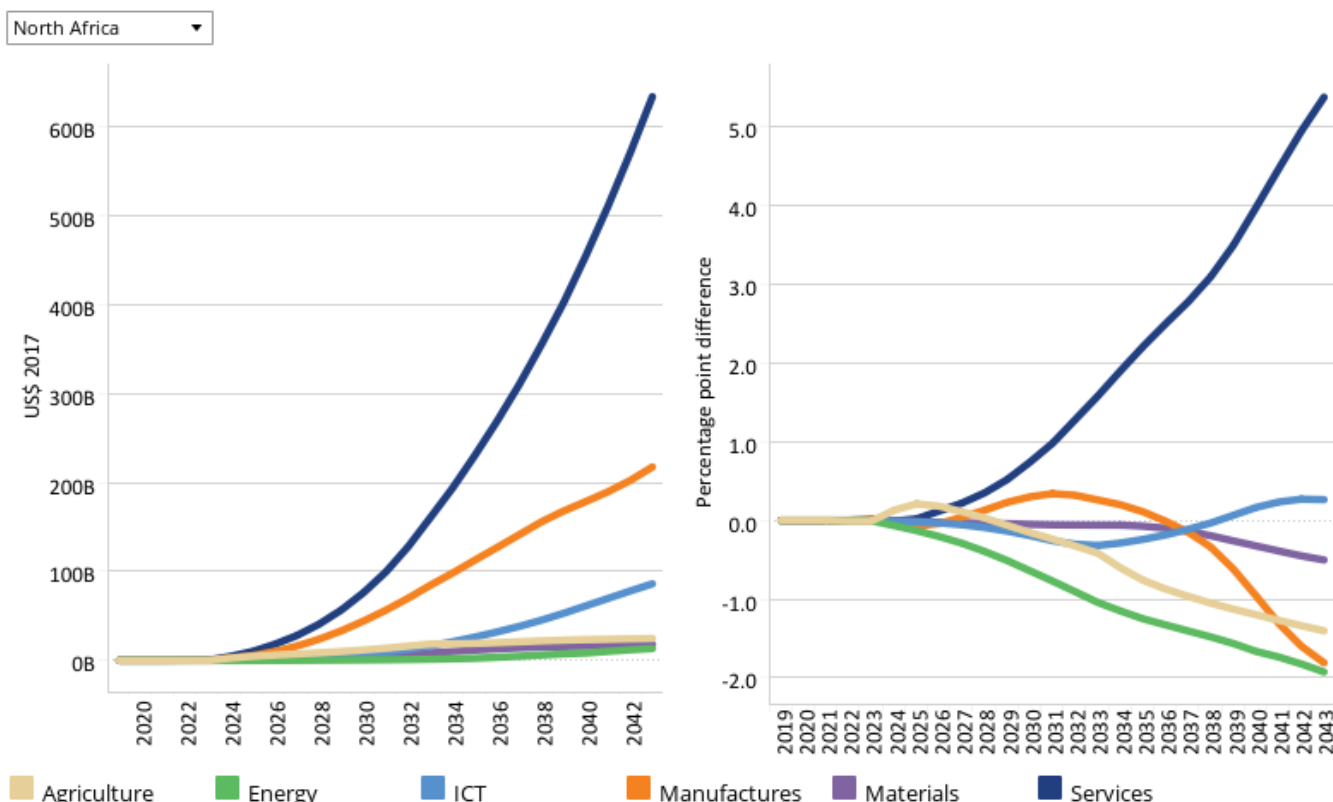
North Africa ▼

Agriculture Energy ICT Manufactures Materials Services

Source: IFs 7.63 initialising from International Monetary Fund World Economic Outlook database
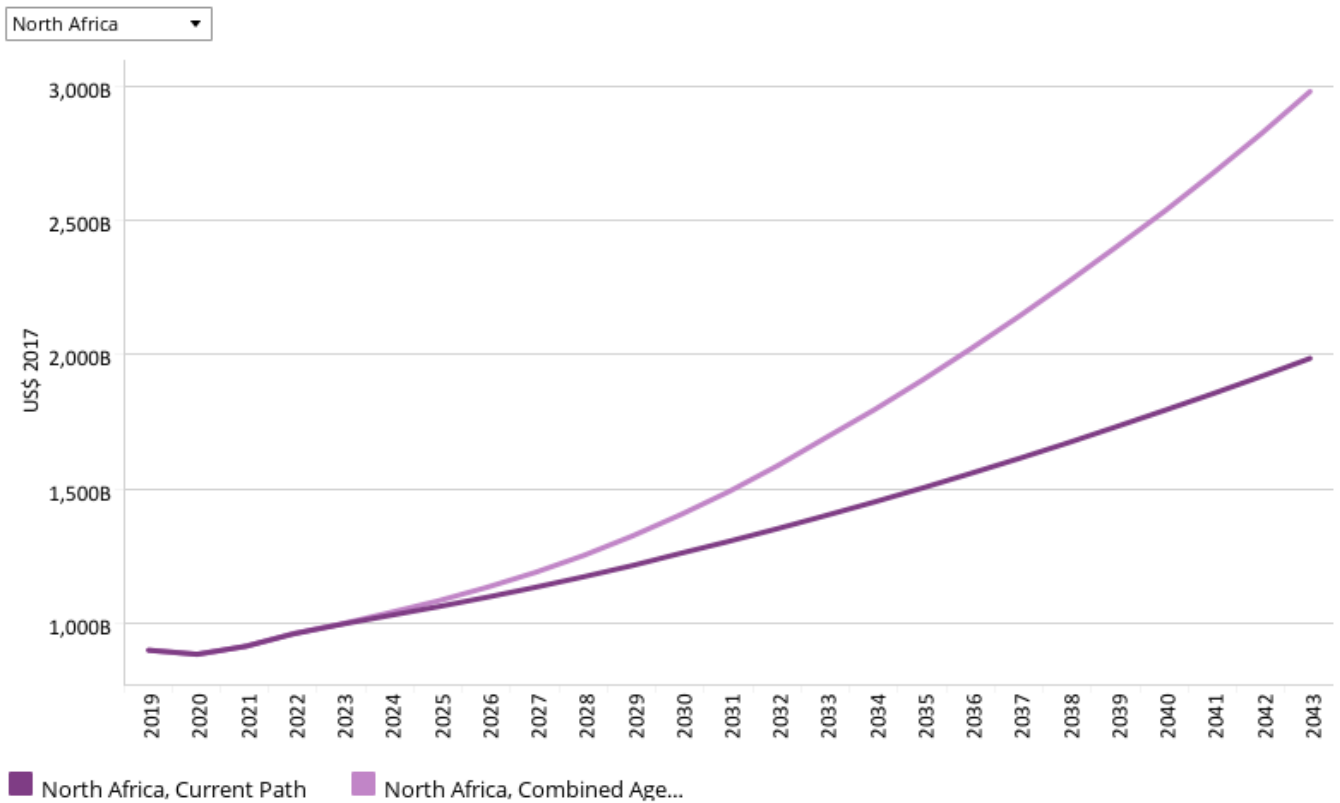
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See Chart 8 to view the Current Path forecast of the sectoral composition of the economy.

All sectors will have grown in value by 2043 in the Combined Agenda 2063 scenario, with the service sector expected to be US$633.1 billion larger than in the Current Path forecast and contributing to 63.8% of GDP. Manufacturing will be the second largest sector, with a contribution of US$217 billion above the 2043 Current Path forecast and accounting for 21.9% of the region's economy. ICT will be US$86 billion larger, constituting 8.7% of the economy. The contributions from agriculture, energy and materials will account for 2.5%, 1.8% and 1.4% of the North African economy, respectively.

In terms of contribution to GDP, the service sector's contribution in this scenario is projected to increase by 5.4 percentage points over the Current Path forecast by 2043. Although the manufacturing sector would also have grown, and initially have increased its contribution to GDP, its contribution will be 1.8 percentage points below that expected on the Current Path by 2043. The agriculture, materials and energy sectors will all see a negative rate of contribution by 2043 in the Combined Agenda 2063 scenario relative to the Current Path.

In the Combined Agenda 2063 scenario, the contribution of the service sector to GDP will be largest in Egypt (60%) and smallest in Algeria (34.6%). The manufacturing sector in Algeria will be the largest contributor to GDP in the region, accounting for 31.4% of GDP, while Mauritania will have the smallest contribution from manufacturing (12.3%). Mauritania will have the highest contribution from agriculture. The contribution from the energy sector will be largest in Algeria.

Chart 59: GDP in CP and Combined scenario, 2019–2043
Billions US$ 2017, market exchange rates

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

In the Combined Agenda 2063 scenario, the GDP of North Africa is estimated to more than triple in size: from US$900 billion in 2019 to about US$3 trillion in 2043. Compared with the Current Path forecast, the Combined Agenda 2063 scenario will likely result in an economy that is 50% larger in 2043. By 2043, the Egyptian economy will account for more than half of the total GDP in the region and Algeria's economy for 22%, with additional gains of US$535.7 billion and US$192.7 billion, respectively. Tunisia and Mauritania will see the smallest relative change in GDP as a result of the Combined Agenda 2063 scenario, with additional gains of US$49.1 and US$19.8 billion, respectively.

Chart 60: Carbon emissions in CP and Combined scenario, 2019–2043
Million tons of carbon (note, not CO_2 equivalent)
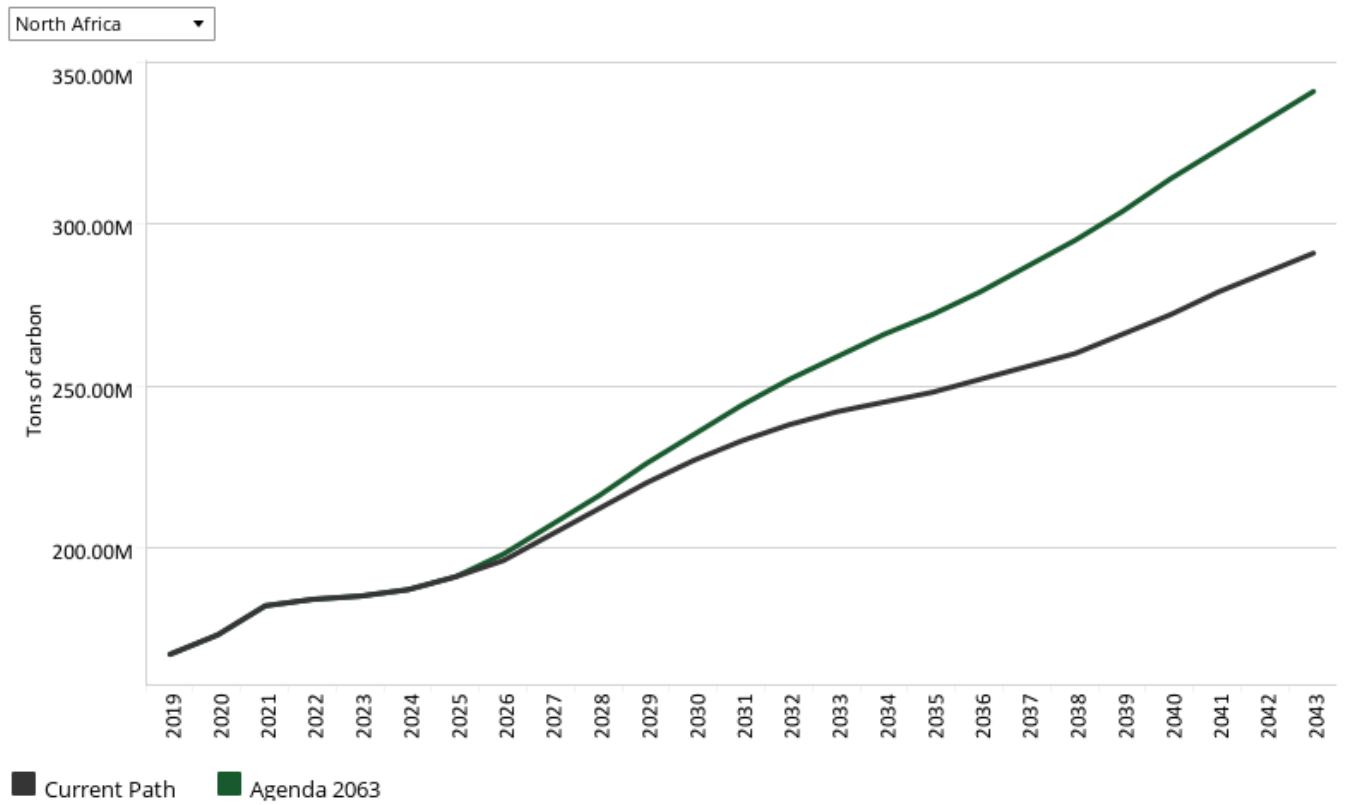
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North Africa ▼

Legend:
- ■ Current Path
- ■ Agenda 2063

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

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In the Combined Agenda 2063 scenario, North Africa is projected to emit 341 million tons of carbon by 2043 compared with 291 million tons on the Current Path. This represents an increase of 17%. To reduce carbon emissions, the region should diversify energy dependence to renewable energies for industrial activities and reduce the energy intensity of its economies. Egypt and Algeria will be responsible for about two-thirds of the carbon emissions in the region, contributing 51.8% and 23% of total emissions, respectively.

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