Chapter 2
Constraints on growth

Weak skills, a lack of quality infrastructure and high levels of informality are constraining productivity growth in SSA. Low levels of education in SSA stand in stark contrast to the relatively strong skills characterising emerging Europe and Central Asia in the 1990s. Progress on education has been slow by global standards, with low and stagnant intergenerational mobility in education. Weaknesses in skills are compounded by poor infrastructure, while the quality of institutions is broadly in line with economies' levels of GDP per capita.

Economic growth can be thought of as improvements in human and physical capital and the efficiency with which they are combined to produce final output (total factor productivity growth).[6] Total factor productivity, in turn, reflects the prevailing technology, the quality of management and the quality of governance in an economy. Sluggish growth in SSA reflects weaknesses across all three domains – skills, physical capital and total factor productivity.[7]

Progress on education in SSA has been slow by global standards. Weaknesses in skills are compounded by poor infrastructure. While institutions are also weak, they are broadly in line with economies' levels of GDP per capita, unlike in emerging Europe and Central Asia where poor quality of governance stood out relative to income levels.

The analysis builds on rich sources of data including a unique representative household survey, the *Life in Transition Survey*.

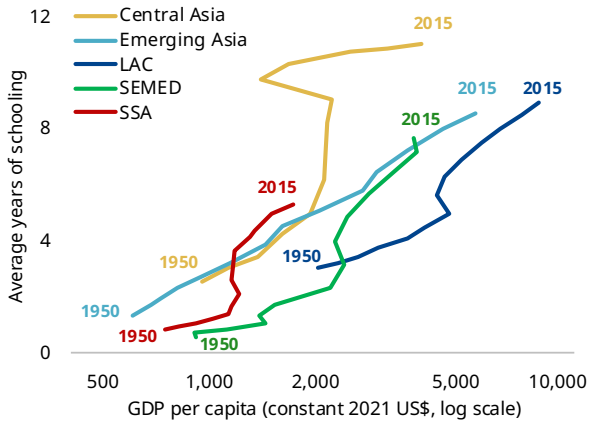
Low levels of education

Slow progress on educational attainment

Low levels of education in SSA stand in stark contrast to the relatively strong endowment of skills that characterised emerging Europe and Central Asia in the 1990s.

This largely reflects very slow progress on education by global standards over the last 70 years.[8] The average adult in SSA has five years of schooling, up from less than one in 1950. In contrast, in emerging Asia, years of schooling rose to an average of around nine years from similar starting levels in the 1950s (see Chart 2.1). In SEMED, years of schooling increased to around seven over the same period, again from a similar starting position.

Chart 2.1. SSA economies have seen slow progress on education



Source: Barro-Lee dataset, Gapminder data, World Bank WDI data and authors' calculations.

Note: "Central Asia" comprises Kazakhstan, the Kyrgyz Republic, Mongolia and Tajikistan. "SEMED" comprises Egypt, Jordan, Morocco and Tunisia. "SSA" comprises Benin, Côte d'Ivoire, Ghana, Kenya and Senegal. "Emerging Asia" includes China, Indonesia, India, Malaysia, the Philippines and Thailand. "LAC" comprises 18 economies in Latin America and the Caribbean. Average years of schooling refers to the average number of years spent in formal education by the population aged 25-64 in a country. Data points are shown in five-year intervals.

The African Development Bank highlighted in a 2020 report that while Africa's educational spending as a share of GDP was high among developing countries, spending per student was low and the efficiency of educational spending was also much lower in Africa than in developing and emerging Asia.[9]

Low quality of education

Low school enrolment is compounded by low quality of education. While literacy has increased across generations, around 35 per cent of respondents in SSA economies say they cannot read or write, according to the results from the most recent wave of the *Life in Transition Survey* (see Chart 2.2).

Strikingly, the survey results indicate that illiteracy remains high even for those who have completed

[6] See Solow (1956).

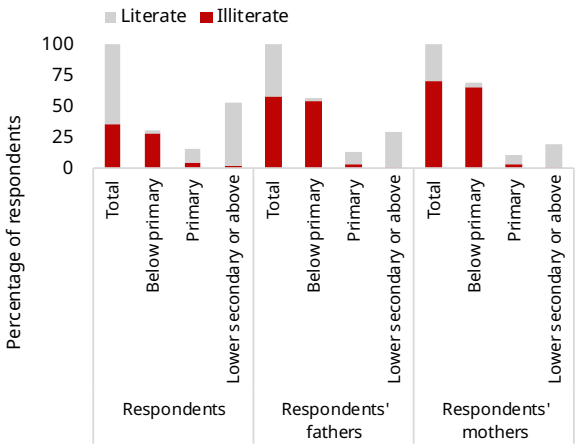
[7] See also EBRD (2019a and 2019b), which highlight strong skills but weak governance in emerging Europe and Central Asia. Ibourk and Elouaurti (2023) and Villar-Roldan, Galiano and Martín-Álvarez (2025) emphasise weak skills, physical capital and institutions as key constraints on development in Africa.

[8] In part, this reflects educational disruptions due to conflict. For instance, Dabalen and Paul (2012) find that armed conflict in Côte d'Ivoire reduced the average period of education by up to 0.9 year.

[9] See AfDB (2020).

some education: 32 per cent of those who finished primary school say they cannot read or write.

Chart 2.2. Almost one-third of those who finished primary school say they cannot read or write



Source: Life in Transition Survey IV data and authors' calculations.

Note: Based on the sample of respondents in six economies in SSA over the age of 25.

Low quality of education reflects large class sizes, a lack of textbooks, teacher absenteeism and poor learning conditions, as documented in a large number of studies zooming in on education in African economies. For instance, a study drawing on Demographic and Health Survey data from 31 African countries, focusing on women, documents a weak relationship between schooling and literacy. Many women with several years of primary school education cannot read while, in some African countries, large proportions of women who never went to school can read. This weak correlation between educational attainment and literacy is not limited to older cohorts, but is also observed among younger women.[10]

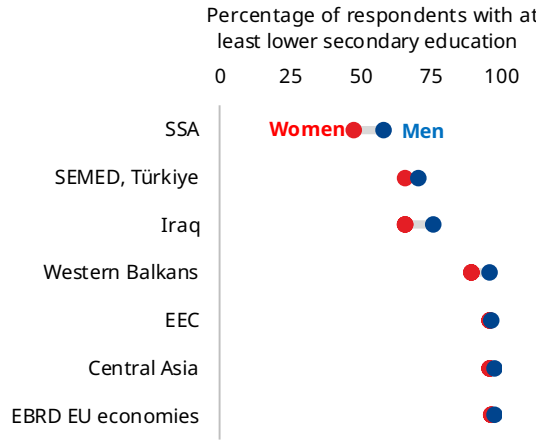
Similarly, a recent study by the United Nations Educational, Scientific and Cultural Organization (UNESCO) highlights not only limited progress in terms of enrolment but, even more alarmingly, a lack of improvement and even backtracking in terms of learning outcomes. The average school student in Africa today is about as likely to have a qualified teacher and access to basic facilities at school, such as water and electricity, as their peers a decade earlier. The levels of learning outcomes were found to be decreasing rather than increasing.[11] The Africa Learning Barometer published by the Brookings Center for Universal Education and the *Financial Times'* *This is Africa* publication estimates that half of children of primary school age will reach their adolescent years unable to read, write or perform basic numeracy tasks, even though more than half of these children will have spent at least four years in the educational system.[12]

Gender gaps in literacy and education

Progress on closing gender gaps in literacy and education has been modest. Women are about 10 percentage points less likely to be literate than men, based on self-reported literacy by respondents in the *Life in Transition Survey*, down from a difference of around 13 percentage points for respondents' parents.

Gaps in terms of completed formal education are estimated to be similar. *Life in Transition Survey* results suggest that fewer than half of women in SSA have at least lower secondary education, compared with 58 per cent of men (see Chart 2.3).

Chart 2.3. Significant gender gaps in education remain



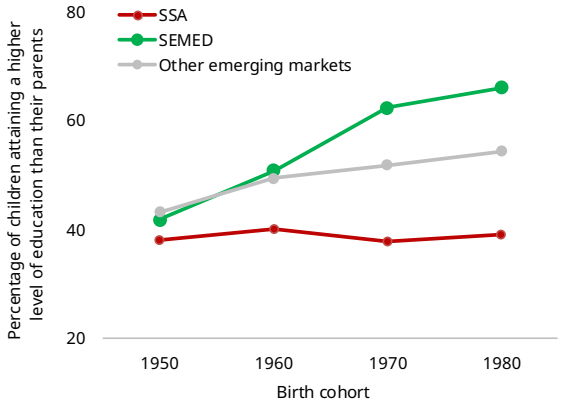
Source: Life in Transition Survey IV data and authors' calculations.

Low intergenerational mobility in education

Intergenerational mobility in education – measured as the share of children attaining a higher level of education than their parents – remains much lower than in other emerging markets. Unlike elsewhere, it has also not started to rise yet (see Chart 2.4). Intergenerational educational persistence is especially strong from mothers to children and more pronounced for daughters than for sons.[13]

[10] See Smith-Greenaway (2015).
[11] See UNESCO (2025).
[12] See Watkins (2013).
[13] See Azomahou and Yitbarek (2016).

Chart 2.4. Intergenerational mobility has yet to pick up



Source: Van der Weide et al. (2024) and authors' calculations.

Note: The vertical axis shows the percentage of children in a given birth cohort that attain a higher level of education than their parents, conditional on the parents not having tertiary education. Samples are balanced within each country group. "SSA" comprises Benin, Ghana, Kenya and Nigeria. "SEMED" comprises Egypt, Jordan, Morocco and Tunisia. "Other emerging markets" encompasses economies outside Africa and SEMED that were not classified as high income by the World Bank as at July 2020.

Low levels of skills limit economies' ability to attract foreign direct investment (FDI) and absorb technologies developed elsewhere – historically a key driver of economic convergence for lower-income economies.

Significant brain drain

The deficit of skills is exacerbated by emigration. Around 6.4 million people from the six SSA economies live abroad, equivalent to 3 per cent of their population, on average (based on data from the United Nations Department of Economic and Social Affairs for 2024). This compares with around 15 per cent of the populations, on average, in emerging Europe and Central Asia.

The results of the *Life in Transition Survey* suggest that emigrants from SSA economies are more educated than the general population, indicating significant "brain drain": 38 per cent of emigrants have tertiary education, compared with 12 per cent of all survey respondents in the region.[14]

While the overall level of emigration in SSA is lower than in emerging Europe and Central Asia, the educational gap between those emigrating and the rest of the population is larger (in emerging Europe and Central Asia, on average, 33 per cent of migrants have tertiary education compared with 27 per cent of the general population, according to the survey).

Afrobarometer surveys indicate that, on average, across the 24 African economies surveyed, 47 per cent of respondents have considered moving to live in another country, including 27 per cent who have given this "a lot" of thought. While a higher proportion of the population expresses migration intentions than the share that actually migrates, the two tend to be highly correlated, and migration intentions are often seen as the first step to migration.[15]

International migration intentions are highest in Liberia, the Gambia, Cabo Verde and Ghana. The share of people expressing intentions to move abroad has also increased significantly since 2016-18, particularly in Nigeria. The most popular destinations for potential emigrants are North America (31 per cent) and Europe (29 per cent), though almost a quarter (22 per cent) would move to another country within the region or elsewhere on the African continent. Among those who have considered migrating, 49 per cent cite finding work as the most important reason, while 29 per cent are motivated by a desire to escape economic hardship or poverty.[16]

Evidence from the *Life in Transition Survey* points to similarly high willingness to move among respondents in the six economies in SSA, both to other regions of the country and internationally (see Chart 2.5). Eleven per cent of respondents in the six economies in SSA expressed an intention to move internationally within the next 12 months, with the highest shares in Ghana (22 per cent), Nigeria (13 per cent) and Côte d'Ivoire (12 per cent). This is almost double the average share of other economies covered by the survey and is comparable to the shares seen in economies with particularly high emigration rates, such as Tunisia (where 27 per cent of respondents express an intention to move abroad), Albania (15 per cent),

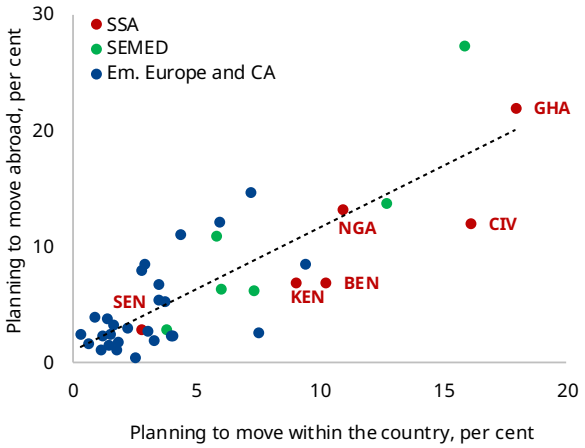
[14] The survey asks households whether they have a current or former member of the household who moved abroad. Respondents are then asked follow-up questions about this migrant (if several, then about the one who left most recently).

[15] See Tjaden, Auer and Laczko (2019).

[16] See Afrobarometer (2024).

Jordan (14 per cent), Kosovo (12 per cent) and Tajikistan (11 per cent).[17]

Chart 2.5. High proportion of respondents in SSA express an intention to move, both within the country and abroad



Source: Life in Transition Survey IV data and authors' calculations.

Note: The chart shows the percentage of respondents who replied "yes" to the question "Do you intend to move elsewhere in this country/abroad within the next 12 months?".

While migration results in a loss of skilled labour, it is often associated with remittance flows to relatives who remain in the migrants' countries of origin. Remittances can allow recipient households to improve children's health and educational outcomes, increase their savings, spend more on consumer durables, better absorb shocks and support recoveries in the aftermath of natural disasters.[18] At country level, they can act as an automatic stabiliser, a source of hard currency and additional savings for economic development. Migration and remittances can also reduce income inequality.[19] In Africa, remittances have emerged as a crucial source of financial inflows, surpassing official development assistance and FDI.[20]

Data from Findex, a representative survey of individuals conducted by the World Bank Group, focused on finance, suggests that 21 per cent of households in the average economy in SSA received remittances from abroad in 2024. On average, remittances accounted for 5 per cent of GDP in these economies.[21] Findings from the *Life in Transition Survey* suggest that around half of households with family members abroad receive remittances, a share similar to that seen in emerging Europe, Central Asia and SEMED.

Around half of household members who ever left SSA economies have returned at some point, according to the survey, compared with around 39 per cent in emerging Europe and Central Asia.

Return migration may open up significant opportunities for development in the longer term if migrants return with capital, skills and ideas acquired abroad.[22] Indeed, return migration is associated with a higher likelihood of starting a business.[23] It can also facilitate international connections in the form of trade, FDI and transfer of technology.[24]

Results from the *Life in Transition Survey* further suggest that return migrants to SSA economies are significantly more educated than the general population (although they are less educated than migrants who do not return). Male migrants are somewhat more likely to return. Almost half of return migrants were away for up to two years, while 30 per cent spent six years or more abroad.

Low quality of infrastructure

Lack of access to electricity, water and other utilities

High-quality infrastructure connects people and markets, facilitating the efficient allocation of resources, while inadequate infrastructure hinders productivity. Evidence from successful episodes of sustained high growth suggests that investment remains the single most important determinant of exceptional growth performance over the long term. High investment, in turn, relies on quality skills as well as good governance.[25]

In SSA, weaknesses in terms of skills are compounded by low capital stocks and, in particular, poor infrastructure. The World Bank estimates that sub-

[17] The Gallup World Poll last asked the same question in 2015. Those earlier surveys also point to high migration intentions.

[18] See, for instance, Malpass (2022) for a review.

[19] See Koczan and Loyola (2021).

[20] See Okara et al. (2025).

[21] Authors' calculations based on World Bank WDI data.

[22] See Bucheli and Fontenla (2025); Bahar et al. (2024); and Song (2025).

[23] See Batista, McIndoe-Calder and Vicente (2017) and Wahba (2015).

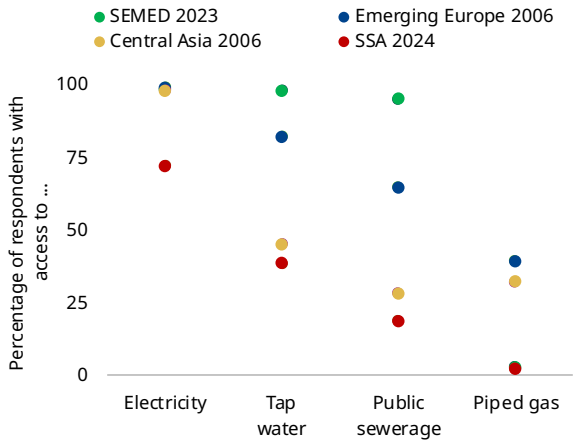
[24] See Koczan et al. (2021).

[25] See EBRD (2017, 2019a and 2019b).

Saharan Africa as a whole would need to more than double its investment in infrastructure as a share of GDP each year to meet its sustainable development goals.[26]

Access to basic utilities is much more limited than it was in emerging Europe and Central Asia at similar levels of development (based on responses from the first and fourth waves of the *Life in Transition Survey*). For instance, 28 per cent of households in SSA report lacking access to electricity, compared with near-universal access in EEC and Central Asia in the mid-2000s (see Chart 2.6).

Chart 2.6. Incomplete access to electricity and other utilities



Source: Life in Transition Survey data (waves I and IV) and authors' calculations.

In some areas, improvements are under way. Mission 300, an initiative led by the World Bank Group and the African Development Bank, bringing together African governments, the private sector and development partners, aims to connect 300 million people in broader sub-Saharan Africa to electricity by 2030. The World Bank Group connected more than 21 million people across Africa to electricity between 2023 and 2025, with further projects being implemented that aim to reach nearly 100 million people.[27]

Better ports required to support maritime trade

Infrastructure constraints also weigh on trade and integration into global supply chains. The SSA economies are heavily reliant on exports of low-value-added commodities, typically to the EU and other economies in Africa. These include, for instance, cotton, nuts and soybeans in Benin, cocoa, gold and rubber in Côte d'Ivoire, gold, crude oil and cocoa in Ghana, tea, flowers and petroleum in Kenya, crude oil and gas in Nigeria, and petroleum and gold in Senegal. Commodity exports account for an average of 57 per cent of total exports and 11 per cent of GDP in these economies, compared with 37 and 14 per cent, respectively, in EEC and Central Asia in the early 2000s (the comparison is based on data from UN Comtrade for the latest available year). Commodity dependence is highest in Nigeria, where commodity exports account for 26 per cent of GDP (compared with around 36 and 32 per cent of GDP in Azerbaijan and Kazakhstan, respectively, in the early 2000s, for instance). Commodity dependence has decreased moderately in SSA since 2006 (the first year when all these economies reported to UN Comtrade), from around 63 per cent of total exports and 12 per cent of GDP.

Most SSA economies also rely on imported petroleum products and food staples, such as rice and wheat, typically from China or the EU.[28]

Globally, around 80 per cent to 90 per cent of trade by volume and 40 per cent to 50 per cent of trade by value takes place by way of maritime routes, according to data from UN Trade and Development (UNCTAD). Commodities tend to be bulky (with a high volume-to-value ratio) and transporting them cost effectively relies on quality infrastructure, in particular, railways and ports.

Owing both to geography and the structure of trade, SSA economies also rely heavily on maritime routes (see Chart 2.7). At the same time, the quality of port infrastructure remains relatively low, weighing on economic competitiveness and trade integration.[29]

Recent analysis suggests that container port efficiency is higher in Tema (Ghana), Lome (Togo) and Abidjan (Côte d'Ivoire) ports than in Apapa (Nigeria), Cotonou (Benin) and Dakar (Senegal). On average, operational efficiency scores point to resource overuse and inconsistency. While total factor productivity has improved in some ports (in particular, Tema, Cotonou

[26] See Zivanemoyo, Dessus and Dreyhaupt (2023).

[27] See World Bank (2025b).

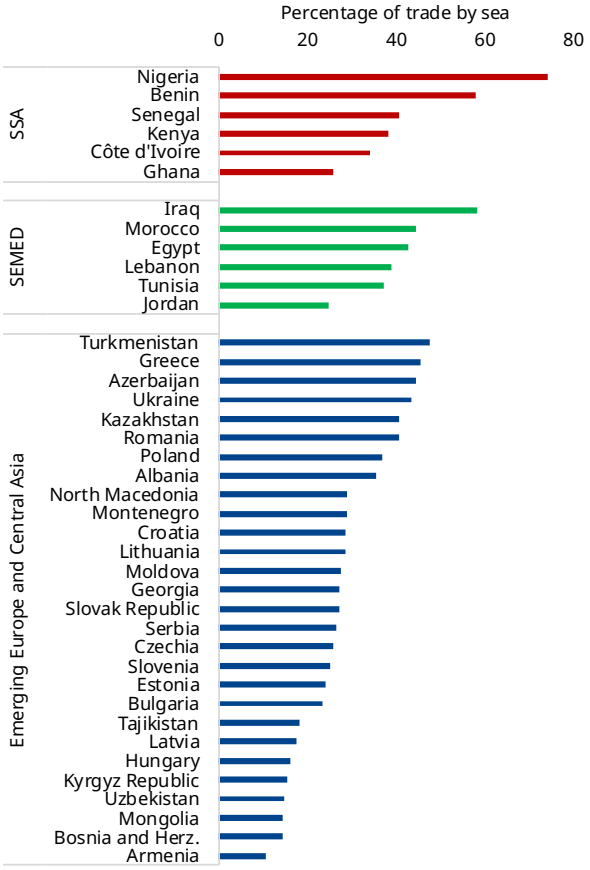
[28] Based on data from UN Comtrade, as reported by exporters. See also Das and Drine (2020), who show that reliance on raw materials exports hinders technology adoption.

[29] See Mlambo (2021).

and Apapa), it is estimated to have declined in others, such as Abidjan.[30]

Containerised traffic remains limited compared with other regions (in part reflecting SSA's focus on commodity trade), but has grown faster than in any other region of the world over the past five years, underscoring the demand for investment in better transport infrastructure.[31]

Chart 2.7. SSA economies are heavily reliant on maritime trade



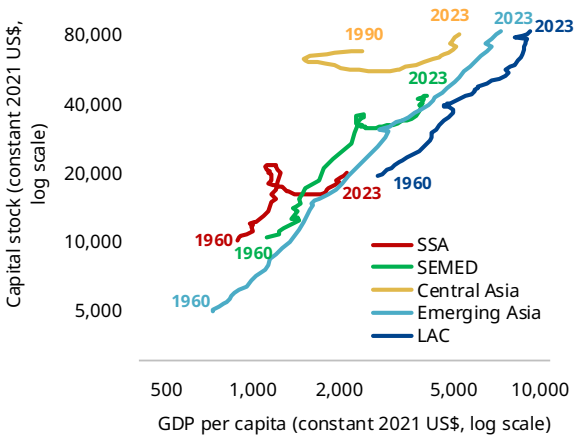
Source: UNCTAD data and authors' calculations.

Note: The share of trade by sea transport is calculated as the sum of the free-on-board value of trade by sea (both as origin and destination) divided by the total free-on-board value of trade across all transport modes. The chart also includes estimates for landlocked countries, as the mode of transport refers to the means used in the main international leg of the journey (the dominant, long-distance segment of the journey), irrespective of the location of loading or unloading ports.

More generally, stocks of physical capital, including infrastructure, tend to be low in SSA, based on estimates in the Penn World Table.[32] The railway networks are sparse both relative to population and land area (according to data from the International Union of Railways), and roads are often of poor quality.

Prior episodes of rapid growth in lower-income economies were typically accompanied by a sharp rise in capital stocks per capita, notably in emerging Asia (see Chart 2.8). Central Asia in the 1990s, like many post-communist economies, stood out for its high levels of capital stock per capita.

Chart 2.8. Prior episodes of rapid growth in lower-income economies were typically accompanied by a sharp rise in capital stocks



Source: Penn World Table and Gapminder data, IMF WEO database (October 2025) and authors' calculations.

High self-employment and informality

Challenge of strengthening institutions

Alongside human and physical capital, institutions – typically defined as the "rules of the game" in a society – also matter for economic growth.[33] The positive relationship between income per capita and the quality of governance tends to be strong. Moreover, as incomes rise, economic development becomes more governance intensive, as good governance underpins the security of intellectual property rights and innovation ecosystems.[34]

While the economies in emerging Europe and Central Asia emerged from years of central planning with

[30] See Ibeh (2025).

[31] See World Bank (2017).

[32] See Feenstra, Inklaar and Timmer (2015).

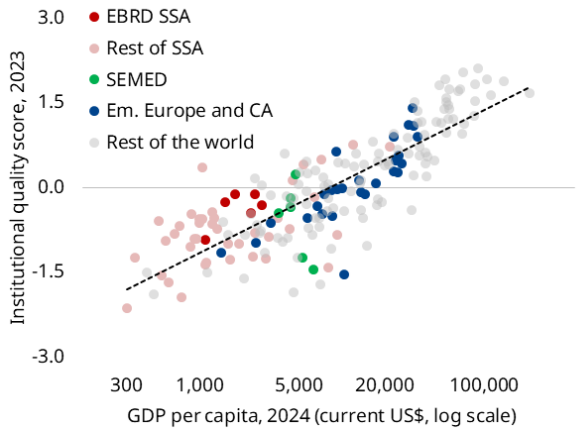
[33] See also EBRD (2019a) on the importance of good governance for growth.

[34] See EBRD (2019a).

relatively strong endowments of human capital and, in many cases, physical capital, improving governance presented a particular challenge. Their quality of economic institutions was, on average, lower than that of other emerging markets with similar income levels. Despite some progress in this area, institutional quality continues to lag, especially outside the EU (EU accession having acted as a strong external anchor facilitating institutional development in economies that joined the bloc in 2004-14).[35]

In SSA, institutional quality – measured here as an aggregate of the World Bank's Worldwide Governance Indicators of control of corruption, rule of law, government effectiveness and regulatory quality – while weak, is broadly in line with levels that could be expected based on these economies' GDP per capita (see Chart 2.9).

Chart 2.9. Institutions in SSA are broadly in line with levels of GDP per capita



Source: IMF WEO database (October 2025), World Bank WDI data and authors' calculations.

Note: The institutional quality score is a simple average of indices of (i) regulatory quality, (ii) rule of law, (iii) government effectiveness and (iv) control of corruption.

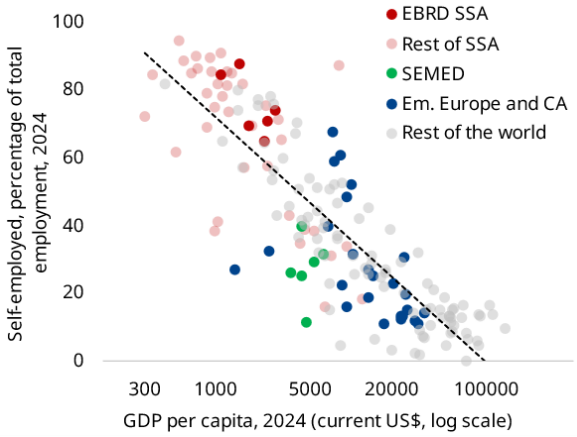
High self-employment

Economies in SSA have much higher levels of self-employment than emerging Europe, Central Asia and SEMED (see Chart 2.10). Survey respondents are also significantly more likely to be employed informally, without a written contract, compared with survey respondents in emerging Europe and Central Asia.

These differences stand out relative to some economies in Central Asia, despite similar levels of GDP per capita. The results of the latest wave of the *Life in Transition Survey* show that only 62 per cent of employees in SSA have a written contract, compared with 69 per cent of employees in EEC and 79 per cent of employees in Central Asia in 2006 when the first wave of the survey was conducted (these shares had risen to 79 and 81 per cent, respectively, in the most recent survey wave). Rates of self-employment are also significantly higher than in SEMED.

Part of this informal employment is down to "necessity entrepreneurship", that is, entrepreneurship driven primarily by a lack of formal employment opportunities rather than by attempts to pursue novel business opportunities.[36]

Chart 2.10. High rates of self-employment in SSA



Source: IMF WEO database (October 2025), World Bank WDI data and authors' calculations.

The "missing middle" in the distribution of firms

Among those who are working and not self-employed, micro firms (those with fewer than five employees) account for a larger share of employment in SSA than in emerging Europe and Central Asia: 27 per cent of employees in SSA surveyed as part of the *Life in Transition Survey* said that they worked for micro enterprises, comparable with the share in SEMED (25 per cent), but more than double that in emerging Europe and Central Asia.

As a result, small enterprises (with 5-19 workers) and, in particular, medium-sized enterprises (with 20-99

[35] See EBRD (2019a and 2019b).

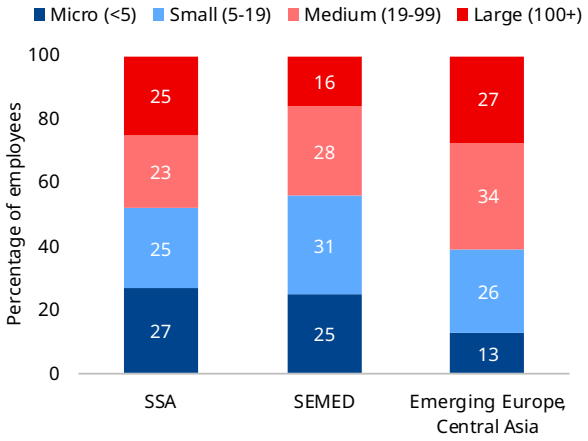
[36] See, for instance, Weber et al. (2022) for more on "necessity" versus "opportunity" entrepreneurship in emerging and developing economies. See Awodun, Ajonbadi and Bamkole (2024) for a recent study of entrepreneurship in Nigeria.

workers) are relatively less common, though large enterprises (with more than 100 employees) still account for about a quarter of employment (see Chart 2.11, panel 1).

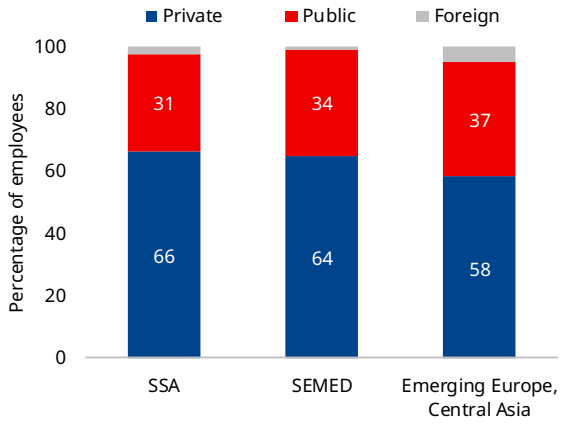
In 2006, a larger share of employees in emerging Europe and Central Asia worked in large firms (31 per cent; comparison for other brackets is obscured by the use of different bracket sizes in the first wave of the *Life in Transition Survey*).

Chart 2.11. The "missing middle" of small and medium-sized enterprises in SSA

Panel 1. Employment by firm size



Panel 2. Employment by firm ownership



Source: Life in Transition Survey IV data and authors' calculations.

Note: Micro firms are those with fewer than five employees, small with 5-19 employees, medium with 20-99 employees and large with 100 or more employees.

While state- and foreign-owned firms have slightly lower employee shares than in emerging Europe, Central Asia or SEMED, the differences, once self-employment is excluded, are quite modest (see Chart 2.11, panel 2).

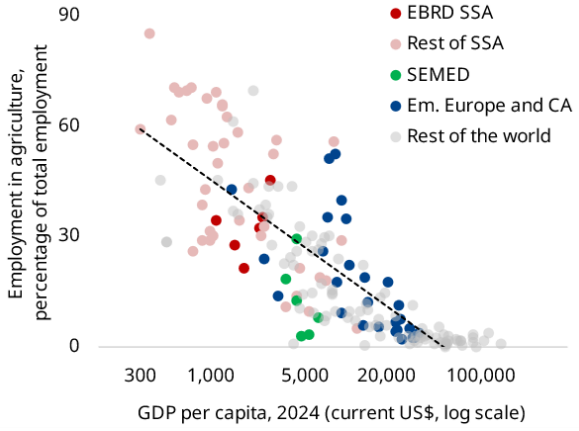
Attitudes on the expansion of private ownership versus public ownership are mixed. As part of the *Life in Transition Survey*, participants were asked to note on a scale from 1 to 10 whether they supported the expansion of private ownership or public ownership of business and industry.

Around 56 per cent of respondents in SSA supported the expansion of private ownership (choosing 1 to 5 on the scale), a higher percentage than in EEC and Central Asia (50 per cent). Still, in some economies, such as Nigeria, support for the expansion of public ownership exceeded 50 per cent, perhaps reflecting the perception of failure of the private sector to generate quality jobs. Data from the World Values Survey also suggest that support for the expansion of private ownership has been weakening since the 2000s, based on a similar question asked in a smaller set of economies.[37]

Low-productivity agriculture

High levels of informality and self-employment also reflect widespread employment in agriculture, including informal employment in low-productivity subsistence agriculture. Agriculture accounts for around a third of employment in SSA (compared with 23 per cent in Central Asia, see Chart 2.12).

Chart 2.12. High employment in agriculture in SSA



Source: IMF WEO database (October 2025), World Bank WDI data and authors' calculations.

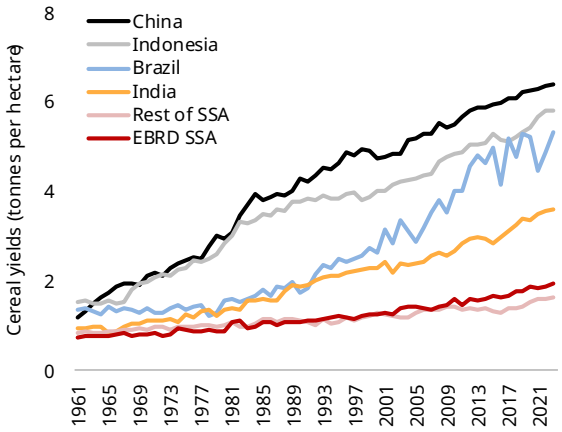
In rural areas, 43 per cent of survey respondents in SSA rely on land for own consumption. In contrast,

[37] See also Koczan and Plekhanov (2023) and EBRD (2020) for a discussion of growing support for public ownership.

only 16 per cent grow produce to sell on the market (based on responses in the *Life in Transition Survey*).

Land productivity in SSA remains lower than in other regions, and increases in productivity over the last 60 years have been relatively modest compared with trends in Asia or Latin America (see Chart 2.13).

Chart 2.13. Land productivity in SSA has been growing more slowly than in other regions

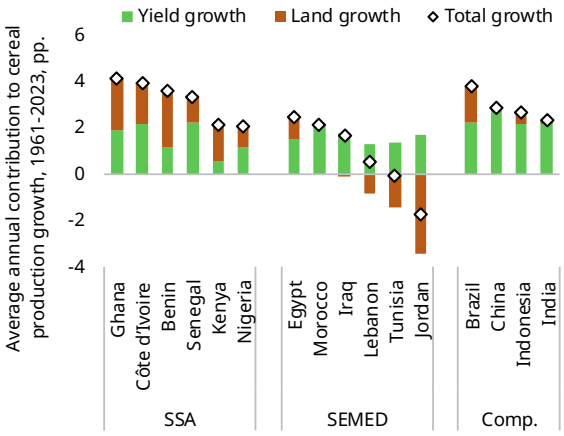


Source: FAOSTAT data and authors' calculations.

Note: Cereals include wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat and mixed grains.

Total growth in cereal production can be broken down into changes in total area harvested (land growth or the extensive margin) and changes in land productivity (yield growth or the intensive margin). Most of the increase in cereal production in SSA has come from the extensive margin, at the cost of turning forests and other natural habitats into arable land, based on analysis drawing on data from the Food and Agriculture Organization of the United Nations (FAO) (see Chart 2.14). This contrasts with patterns observed in some of SEMED and some large economies in Asia, such as China, India and Indonesia, where the bulk of increased production comes from yield growth, while the share of arable land has declined.

Chart 2.14. Most of the increase in cereal production in SSA has come at the cost of turning natural habitats into arable land



Source: FAOSTAT data and authors' calculations.

Note: Cereals include wheat, rice, maize, barley, oats, rye, millet, sorghum, buckwheat and mixed grains. The chart breaks down average annual growth in cereal production between 1961 and 2023 into contributions from yield improvements (output per hectare) and expansion of harvested land area.

In sum, while economies in emerging Europe and Central Asia are characterised by strong skills, but relatively weak governance, in SSA, levels and quality of education are low and progress has been limited, while the levels of informality remain high, both in subsistence agriculture and the services sector, well above levels observed in emerging Europe and Central Asia in the 1990s.

The next chapter explores factors that partially offset these drags on growth, looking at SSA's exceptional dynamism.