People in Africa face an unlevel playing field for building their productive capacity

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CHAPTER 3

People in Africa Face an Unlevel Playing Field for Building Their Productive Capacity

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Chapter highlights

Productive assets and access to basic opportunities, such as health and education, are important drivers of people's income-earning potential. In Africa, these productive capacities and basic opportunities are unequally distributed, especially in countries in fragile or conflict-affected situations (FCS). This chapter focuses on the structural drivers of inequality in building productive capacity. Structural inequality arises from the outsized role of inherited circumstances and characteristics, and it shapes who gets an education, owns assets, or has access to basic services. Unequal access to assets, basic infrastructure, and acquisition of human capital affects lifelong income-earning potential and the ability to connect to an economy's growth engine and escape poverty. Structural inequality resulting from inherited characteristics or circumstances outside a person's control is socially unfair, leads to suboptimal allocation of resources, and limits economic growth. It also implies lower economic mobility, making poverty and inequality persistent over time.

The presence of structural inequality is evident in children's access to basic opportunities. Children's unequal access to basic services is also driven to a large extent by the circumstances to which a child is born, such as the location of their household. Africa has made significant gains in school enrollment since the late 1990s, although inequalities in quality persist. Data on individuals who were not exposed to this expansion suggest that children's education prospects are most closely tied to their parents' education. Children in Africa, especially girls, had the lowest probability of surpassing their parents' education. Rising enrollments in the past two decades may have enhanced mobility among subsequent generations, but it is still difficult to verify because of the lack of more recent data.

Climate shocks, an expanding working-age population, and intensifying conflicts have the potential to exacerbate these structural inequalities. Poor and vulnerable populations are often more likely to experience shocks. At the same time, they have the least capacity to cope with them. For example, children from poorer families living in rural areas had less or no access to learning opportunities during school closures related to the COVID-19 pandemic. Higher learning losses among children with lower school enrollment will exacerbate existing inequalities in human capital and future productive capacity. In a similar manner, climate shocks are likely to affect poor households the most because they are typically engaged in agricultural activities that depend on rain and other forces of nature. At the same time, poor households have the lowest resilience because of a low capacity to adapt and cope with weather shocks.

Addressing existing structural inequalities in building productive capacities requires prioritizing poor individuals and targeting underserved populations in lagging areas. An explicit focus on equity, along with higher coverage, may bring the best results in the case of services with the lowest and most unequal coverage, such as electricity, sanitation, and ensuring that children start and finish primary school on time. However, just sustaining the current level of access to basic services will require more resources than most countries can currently afford because of the fast-growing population and stalled economic growth. Revenue mobilization and improving the efficiency of budget spending in areas that contribute to human capital accumulation will be necessary to address current and future inequalities.

Structural inequality in building productive capacity

Inequality in access to factors that affect individuals' income-generating capacity (or productive capacity) starts to accumulate early in life. This section examines the extent to which children have universal access to a broad range of basic opportunities and productive capacities, such as education, health, access to electricity, and information and communication technology (ICT) services. The analysis then discusses the extent to which inequality in access is driven by the circumstances to which a child is born and the extent to which these inequalities could lead to low intergenerational mobility (IGM). Finally, the section concludes with an analysis of available data on land ownership in the region.

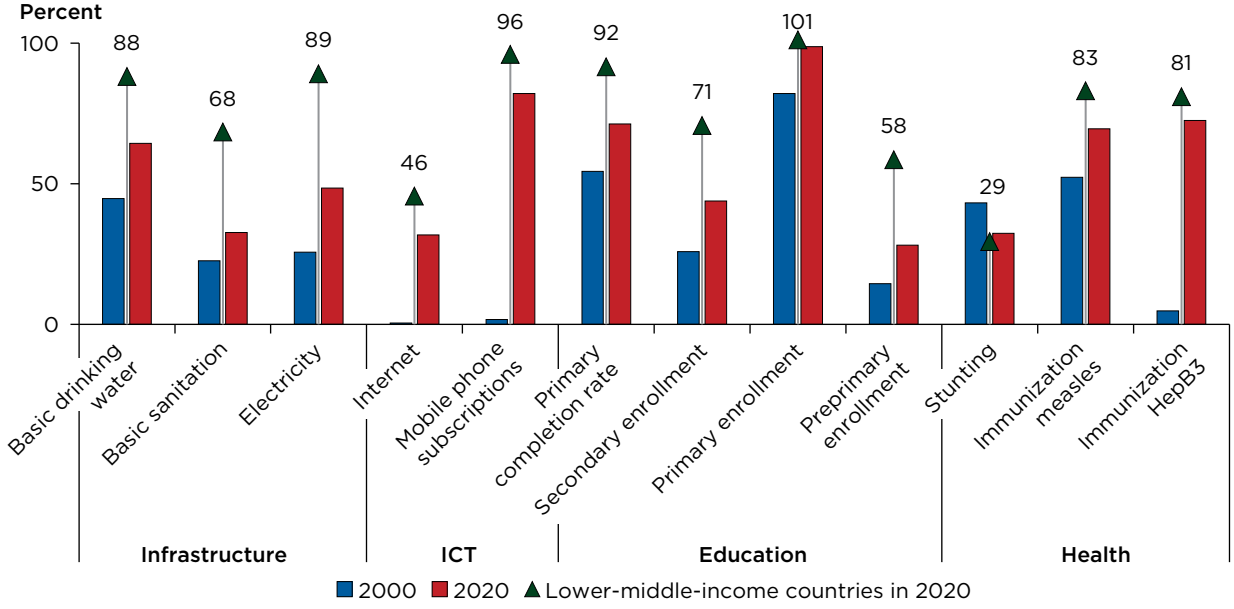
Africa has made progress in building productive capacity

Impressive progress has been made in health services for children over the past two decades, but progress on education and skills has been more mixed. Progress has been achieved in Africa regarding health outcomes such as measles and hepatitis immunization and the reduction of stunting prevalence (refer to figure 3.1 for Africa and figure 3A.4 in annex 3A for other regions). For example, stunting prevalence in Africa was reduced to 32 percent in 2020—remarkably close to the 28 percent average for lower-middle-income countries. Immunization against measles (children ages

12–23 months) and hepatitis (children age one year) reached more than 70 percent, still lower than but close to the averages observed in lower-middle-income countries (83 percent and 81 percent, respectively). In terms of education, although Africa made impressive progress and caught up with other regions in universal primary school enrollment, it continues to lag in other indicators (refer to figure 3.1 for Africa and figure 3A.2 in annex 3A for other regions). Access to preprimary schooling was the lowest, reaching 28 percent in 2020 compared with 58 percent in lower-middle-income countries. In 2020, the primary school completion rate in Africa reached 71 percent, increasing by more than 15 percentage points since 2000, but it was still lower than the 92 percent average for low-income countries in other regions. Secondary school enrollment rates also increased, reaching 44 percent in 2020 compared with 71 percent in lower-middle-income countries. Beyond differences in enrollment and completion rates, performance on learning outcomes suggests that the region lags in building skills for children who do attend school (Arias Diaz, Evans, and Santos 2019).

Despite significant progress in improving access to basic infrastructure in the past decade, such as access to basic drinking water, electricity, and unshared improved sanitation, Africa has not reached the level of lower-middle-income countries in 2020 and lags other regions. With respect to access to infrastructure, the most striking differences are in access to electricity and basic sanitation (refer to figure 3.1 for Africa and figure 3A.1 for other regions). Access to basic unshared sanitation reached almost 70 percent in

FIGURE 3.1 Selected basic services in Africa in 2000 and 2020 compared with the average level observed in lower-middle-income countries in 2020



Source: World Bank staff calculations using data from World Development Indicators (https://databank.worldbank.org/source/world-development-indicators).
Note: HepB3 = hepatitis B, three dose; ICT = information and communication technology.

lower-middle-income countries in 2020 but remained almost half that (33 percent) in Africa in the same year. Access to electricity in Africa increased from 26 percent to 48 percent between 2000 and 2020 but was much lower than the near 90 percent average for lower-middle-income countries. Lower-middle-income countries are used here not as a benchmark, because they have higher economic development,[1] but rather as an aspirational goal. However, it is worth mentioning that in 2000 basic sanitation was even lower in South Asia than in Africa, and it has improved substantially since then and caught up with the average in lower-middle-income countries by 2020.

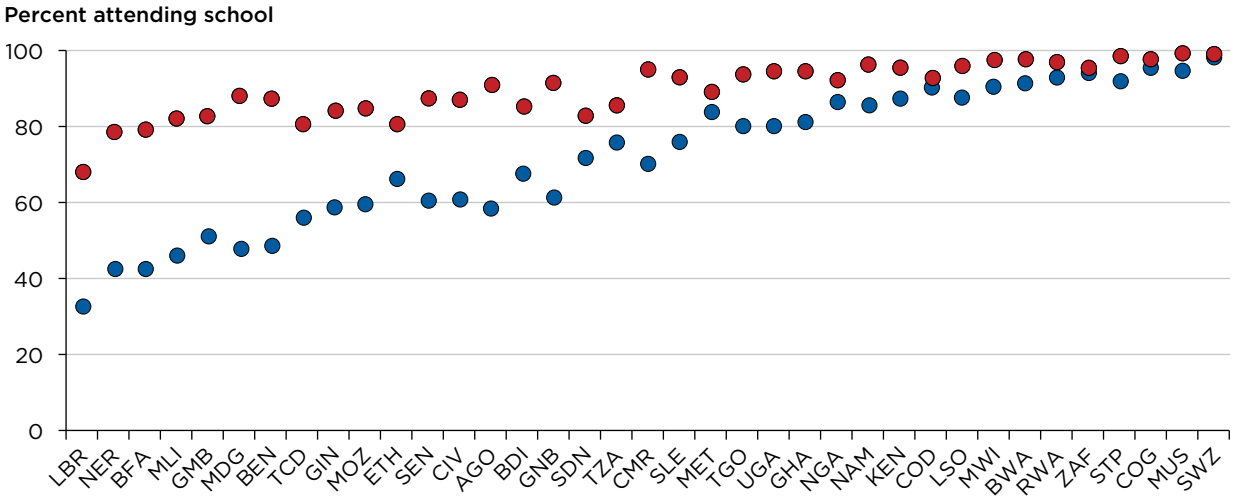
Finally, access to ICT services measured by mobile phone subscriptions and access to the internet grew exponentially in all regions, including Africa. Access to the internet increased in Africa from zero in 2000 to 32 percent in 2020, and mobile phone subscriptions increased from zero to 82 percent. Despite this, average access rates in Africa were still below average values in lower-middle-income countries in 2020; however, in terms of regional performance, Africa was on par with South Asia.

Leading and lagging countries in Africa converged with regard to most selected indicators measuring access to basic services during 2000–20. Countries with lower initial access to basic drinking water, electricity, secondary school enrollment, and primary school completion exhibited higher growth in 2000–20 (refer to figure 3A.5). Sanitation was a notable exception; countries with low access to sanitation in 2000 have not improved access faster than countries with high initial access.

Regional and country-level trends in access to basic infrastructure, health, and ICT services mask the gaps in access across different population groups. Figure 3.2 shows selected indicators for the poorest 20 percent and richest 20 percent of the population based on consumption per capita. The divide between the two groups is extremely large and is particularly pronounced for finishing primary school on time among children ages 13–16 years and for having access to electricity. For example, in Cameroon in 2014, access to electricity among the richest top quintile of the population was more than 90 percent compared with slightly higher than 10 percent among the poorest bottom quintile. There is also a substantial divide in access to basic services across rural and urban areas of African countries. These differences are partly driven by the time it takes to get to service providers, as detailed in box 3.1. This descriptive analysis signals that despite the progress achieved in service delivery, these opportunities may not be accessible to all and differ across socioeconomic characteristics (refer to figure 3A.3).

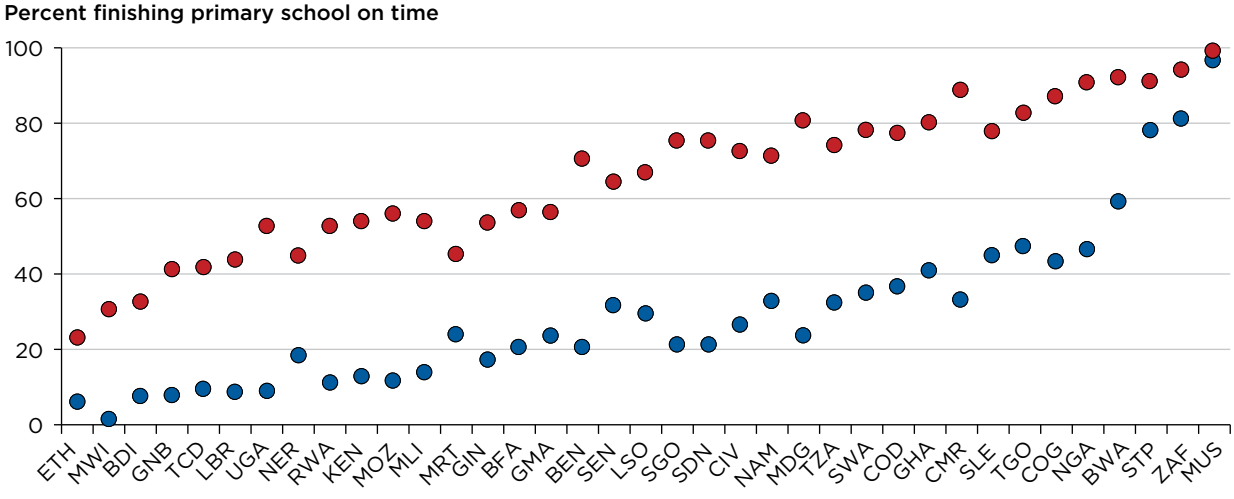
FIGURE 3.2 Access to basic services for the poorest and richest 20 percent of the population

a. School attendance for children ages six to 16 by the poorest and richest consumption quintiles



African countries, ordered by the average share of school attendance

b. Share of population ages 13–16 in poorest and richest consumption quintiles finishing primary school on time



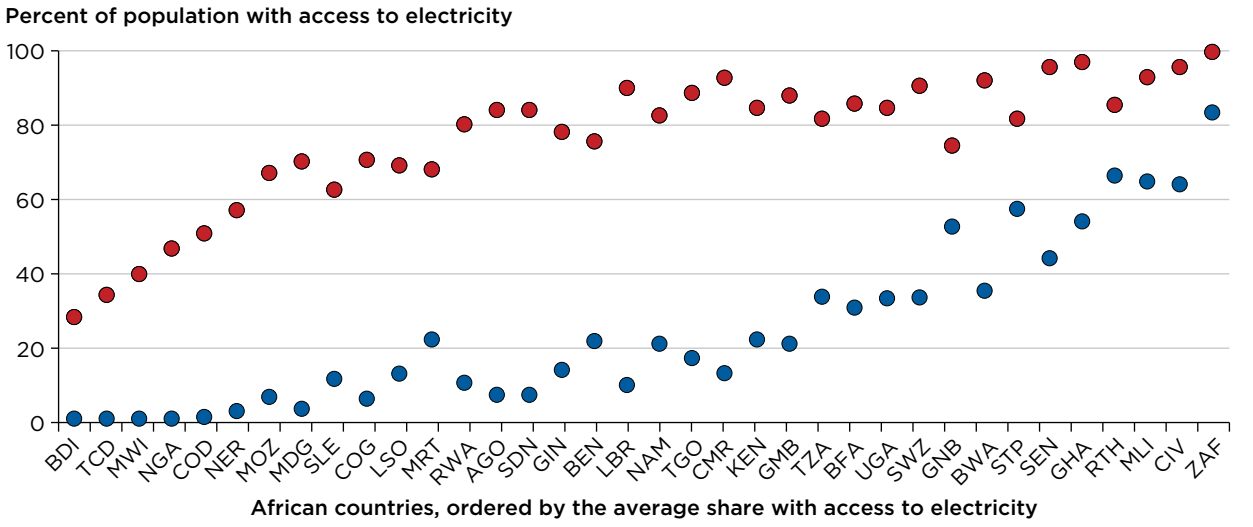
African countries, ordered by the average share of primary school students finishing on time

● Poorest (bottom 20 percent) ● Richest (top 20 percent)

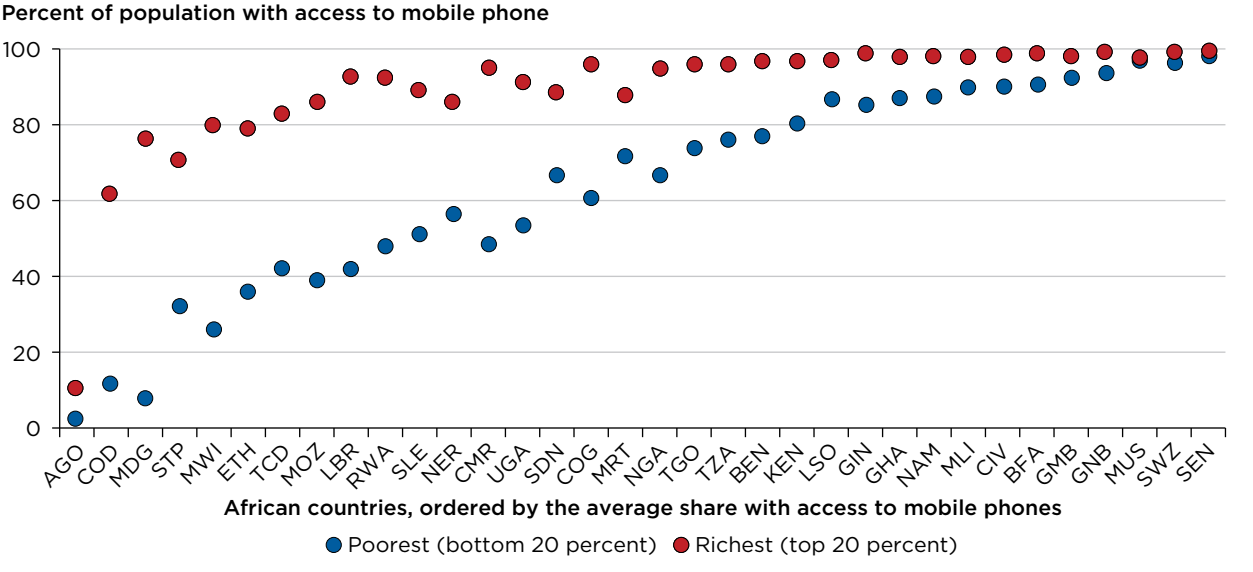
(continued)

FIGURE 3.2 Access to basic services for the poorest and richest 20 percent of the population *(continued)*

c. Access to electricity among the poorest and richest consumption quintiles



d. Access to mobile phone for individuals ages 15 and older by the poorest and richest consumption quintiles



Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

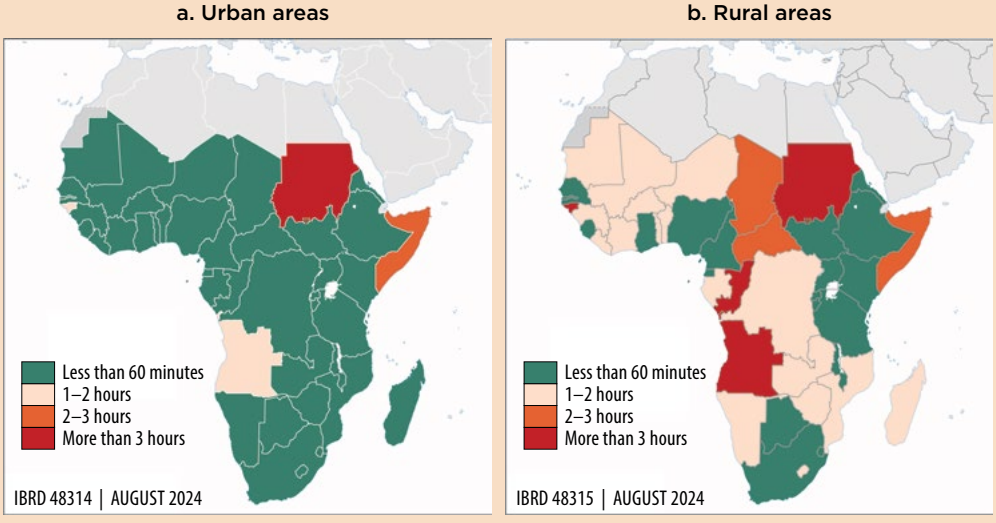
BOX 3.1

Urban versus rural access to health

Physical access of the population to health facilities is an important factor affecting access to health outcomes and contributing to regional and rural–urban disparities. To show this, population-weighted travel distance to any health facility is reported for rural and urban areas in African countries (refer to figure B3.1.1). Travel distance time is split into four categories: shorter than 60 minutes (benchmark), one to two hours, two to three hours, and longer than four hours. Even though a lot of variation within countries is hidden, the difference between rural and urban areas is stark. It takes less than an hour to get to any health facility in 43 of 47 African countries in urban areas. However, in rural areas, this is true for only 20 of 47 African countries.

Regional variation in physical access of populations to health facilities is substantial and is correlated with health outcomes (figure 3A.10 in annex 3A). Longer distance to health facilities is associated with a lower share of births attended by skilled health personnel, a lower share of newborns receiving postnatal care within two days of delivery, and lower immunization among one-year-old children with the diphtheria–tetanus–pertussis and Bacillus Calmette-Guérin vaccines.

MAP B3.1.1 Population-weighted average walking distance time to any health facility across rural and urban areas of African countries



Source: World Bank staff calculations using the database of health facilities from Maina et al. (2019).

Despite progress, inequality in access to services for children persists

Measuring inequality in access to basic services and identifying disadvantaged groups can provide important information for policy makers. This can be done using the Human Opportunity Index (HOI), a composite indicator estimated for children, which combines two elements:

1. The level of coverage of basic opportunities necessary for human development and
2. The degree to which the distribution of those opportunities is conditional on children's circumstances, as measured by the dissimilarity index (D-index), a proxy for inequality of opportunity that penalizes the HOI for unfairly distributed access to services.

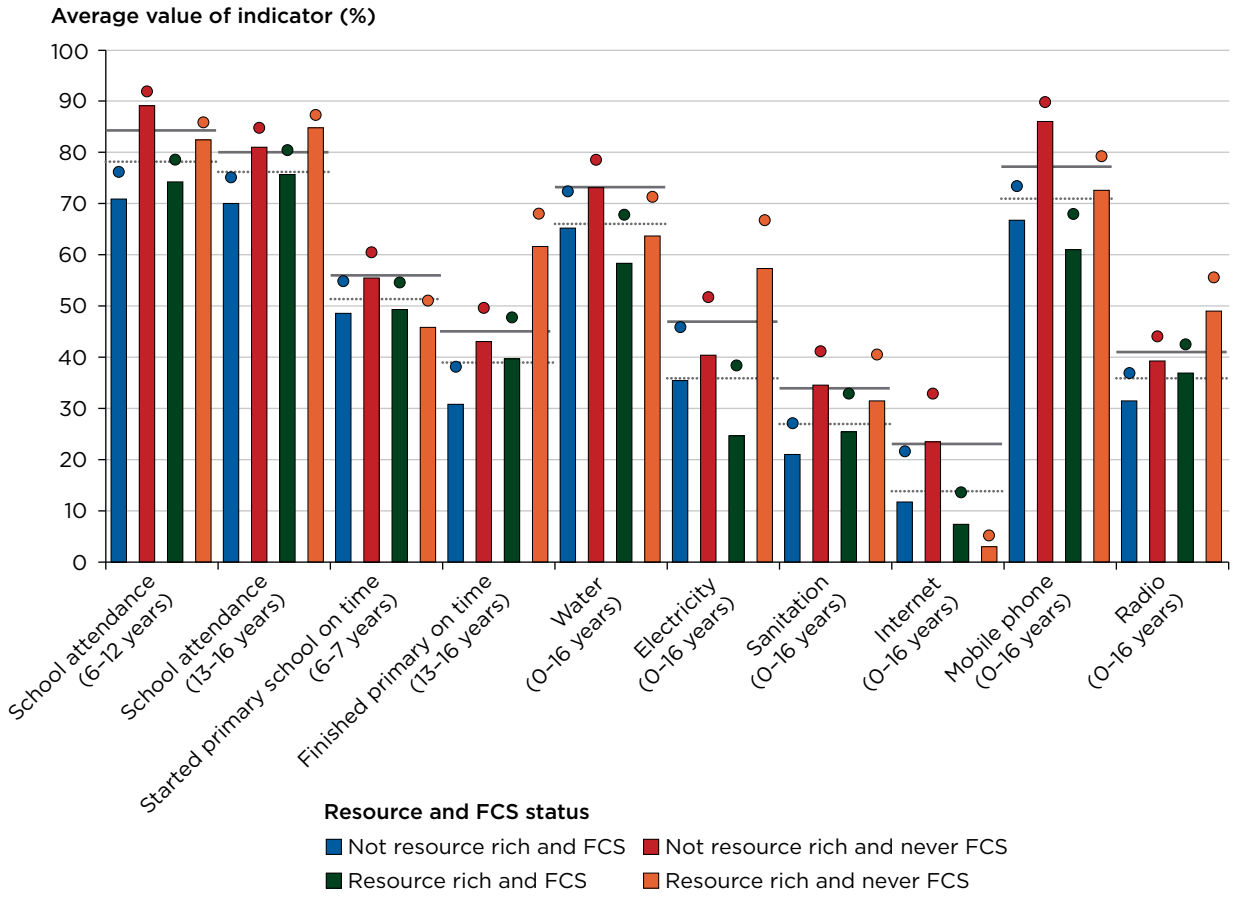
This penalty implies that if the HOI is below the coverage rate, inequalities in access to services exist. A detailed explanation of the index and how it was constructed for this study is described in annex 3B.

Children living in countries not affected by fragility and conflict have higher and more equal access to most opportunities. Figure 3.3 shows average coverage rates and HOIs for different opportunities, averaged for groups of countries depending on their resource and fragility status. Overall, for almost all opportunities, living in countries characterized by FCS results in lower coverage rates and HOI regardless of whether those countries are resource rich or not. Starting primary school on time is an exception, but it may be related to differences in the official starting school age. Thus, for example, the average HOI for finishing primary school on time in resource-rich and FCS countries is about 40 percent, which is much lower than the 62 percent in resource-rich and non-FCS countries. The average HOI in access to electricity in resource-rich and FCS countries is about 25 percent, compared with 57 percent in resource-rich but non-FCS countries. Consistently, average inequality of opportunity, measured by the D-index, also tends to be lower in non-FCS countries for all opportunities, as shown in figure 3.4.

Access to education is limited and unequal. Figure 3A.6 shows country-level coverage rates and the HOI for several education opportunities, such as school attendance and starting and finishing primary school on time. Coverage for education opportunities is much less than universal in most countries. Moreover, average coverage is higher than average HOI, pointing to large inequalities in access. For example, the coverage rate for finishing primary school on time is on average about 46 percent compared with an average HOI of 39 percent. In addition, a significant cross-country correlation across education HOIs signals that progress in one education opportunity is correlated with that in other education opportunities. Finally, and most importantly, there is a stark difference between HOI and coverage rates for opportunities related to school attendance and opportunities related to starting and finishing primary school on time. The latter captures the quality of schooling, albeit imperfectly. Thus, HOI for school attendance rates is higher than HOI for school completion rates, signaling higher

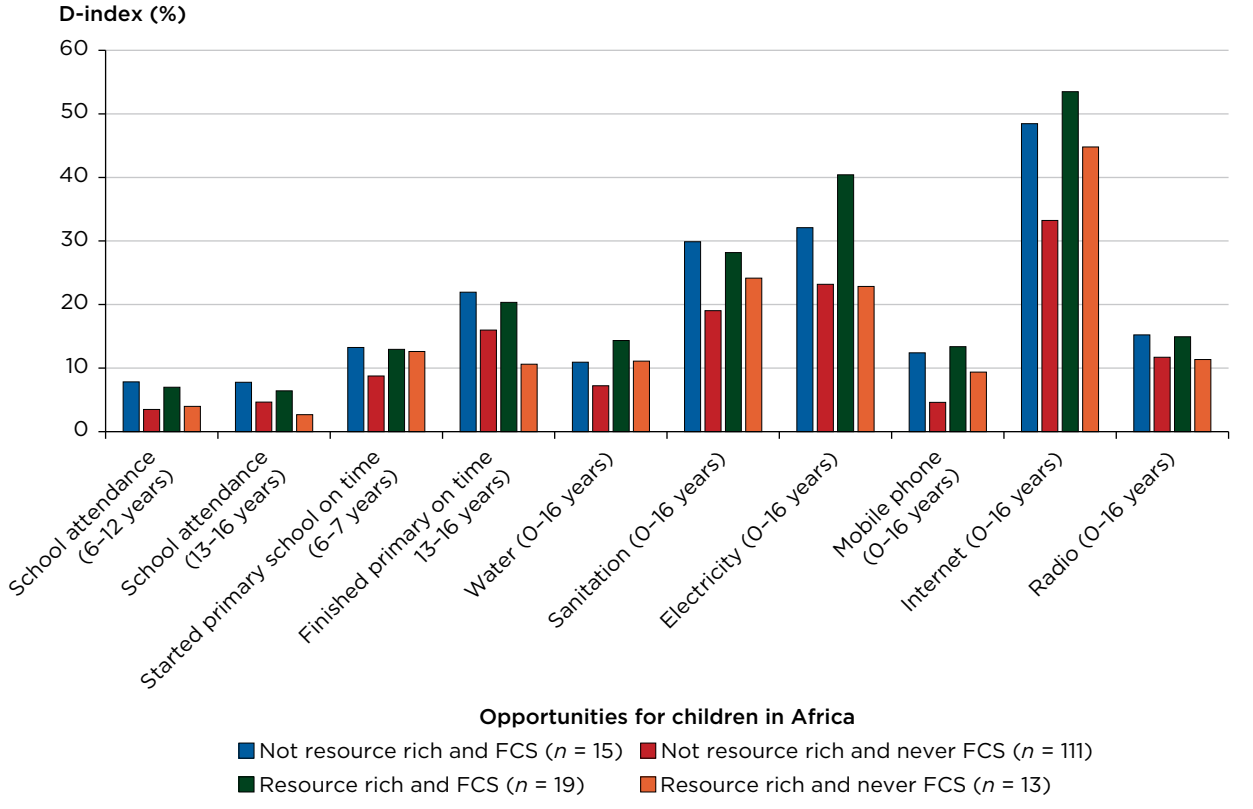
inequality in finishing school on time. For example, the average HOI for school attendance (ages 13–16 years) was close to 76 percent, whereas the average HOI for primary school completion was 39 percent. This is consistent with the widely documented gap between rapid growth in enrollment and lagging learning outcomes in Africa, and it points to high inequality in learning outcomes (Bashir et al. 2018). Better measures for quality of education point to more severe inequalities in learning opportunities, as discussed in box 3.2.

FIGURE 3.3 Coverage and HOI across African countries, by resource and FCS status



Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: Dark gray lines show average coverage for each opportunity, and dotted lines show average HOI for all countries. Dots represent coverage, and bars indicate HOI. FCS = fragile and conflict-affected situations; HOI = Human Opportunity Index.

FIGURE 3.4 Average D-index (inequality of opportunity) across African countries, by resource and FCS status



Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: D-index = dissimilarity index; FCS = fragile and conflict-affected situations.

Access to basic services ranges from relatively high access to improved water (simple average HOI of 66 percent) to low and unequal access to electricity (36 percent) and even lower access to improved sanitation (27 percent). Using stricter criteria accounting for the quality of water and electricity services results in even lower and more unequal access, as shown in box 3.2. Moreover, countries with similar coverage rates may differ on inequality in access. For example, access to basic drinking water was similar in Ethiopia and Mauritania (55 percent versus 57 percent, respectively), but the HOI is higher in Ethiopia (50 percent versus 42 percent), signaling much lower inequality (refer to figure 3A.7). Indeed, checking only one dimension shows that the gap in access rates to drinking water between rural and urban areas was much higher in Mauritania (35 percent versus 87 percent, respectively) than in Ethiopia (51 percent versus 79 percent, respectively). Although it is not possible to construct HOI indicators for health services using standard household surveys, evidence from other surveys points to inequalities in access as well (refer to box 3.3). Similarly, recent analysis

focused on horizontal inequalities in child well-being (child mortality, stunting, and years of schooling) across groups—spatial, ethnic, gender, or religious—finds significantly higher inequalities in Africa than in other low- and middle-income countries (Tetteh-Baah et al. 2024).

Mobile phone penetration is relatively high in Africa, with the average HOI being close to 71 percent, which is higher than access to basic services.[2] Average access to the internet in Africa was measured in only a handful of countries. Nevertheless, existing numbers show that it was low and very unequal, with HOI equal to 14 percent. Such low access to the internet may look contradictory to high mobile phone penetration numbers, but it is important to remember that many people in Africa own basic phones without access to the internet (see, for example, Atamanov et al. 2022).

BOX 3.2

Changes in the Human Opportunity Index with quality dimension

One important limitation of the current analysis using the Human Opportunity Index (HOI) is that access to services does not reflect the quality of these services. For example, indicators on access to electricity do not consider the hours of supply provided, and indicators on access to basic drinking water do not consider the time needed to reach the source of water. This box provides some illustrative examples of changes in HOI when adding additional information on the quality of services provided. Figure B3.2.1a shows coverage, HOI, and the dissimilarity index (D-index, or inequality of opportunity) for water and electricity opportunities in Ghana in 2016. Original indicators on water were expanded by considering the distance to the water source and the quality of water. Once both factors are accounted for, the HOI for drinking water falls from 54 to 42 percent, with a slight increase in inequality. Opportunity in access to electricity was expanded by controlling for whether the supply of electricity was available 24 hours per day. This reduced HOI in access to electricity by slightly more than half (from 70 percent to 37 percent), with a substantial increase in inequality. Figure B3.2.1b shows coverage, HOI, and D-index for water and electricity opportunities in Nigeria in 2018. As in the case of Ghana, HOI substantially declines once information on distance to and availability of water supply are added. However, the most striking difference occurs for electricity when duration of supply is factored in. It turns out that almost nobody has access to electricity for 24 hours a day, compared with 57 percent electricity coverage without this additional information.

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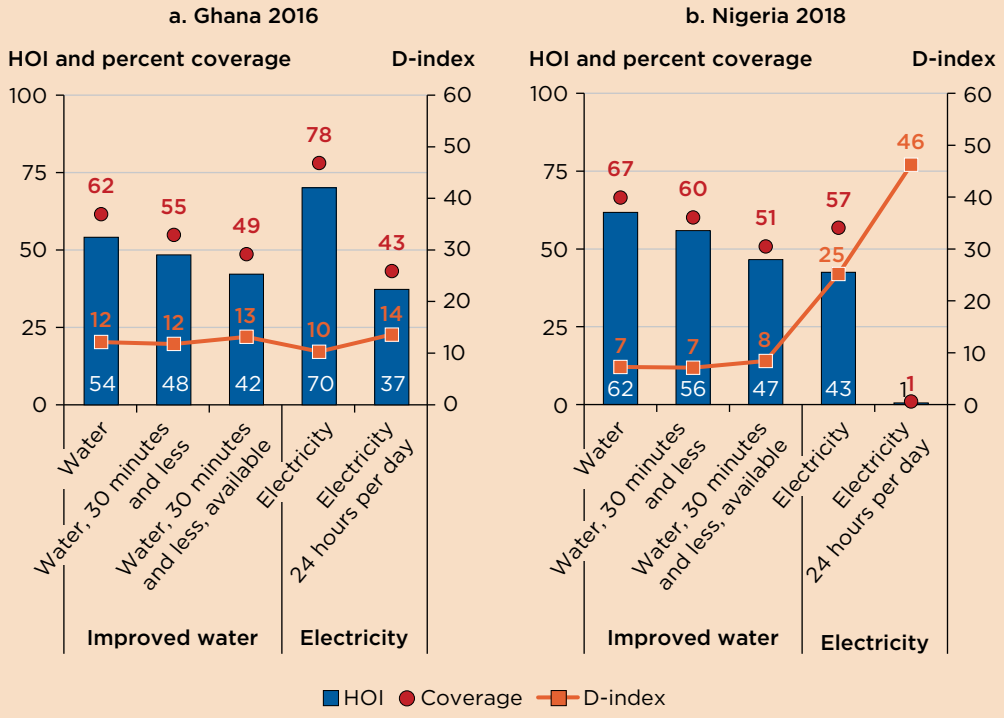
BOX 3.2

Changes in the Human Opportunity Index with quality dimension *(continued)*

FIGURE B3.2.1 Human Opportunity Index, coverage, and D-index for extended opportunities



Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: D-index = dissimilarity index; HOI = Human Opportunity Index.

Similarly, measuring the quality of education has so far been limited by using on-time progression through school. A better indicator is a direct measure of learning through standardized test scores. Household budget surveys do not collect this information, and different surveys that specifically measure learning should be used. A school subcomponent of the Human Capital Index, standardized test scores, is used to illustrate how test scores vary across just one dimension related to

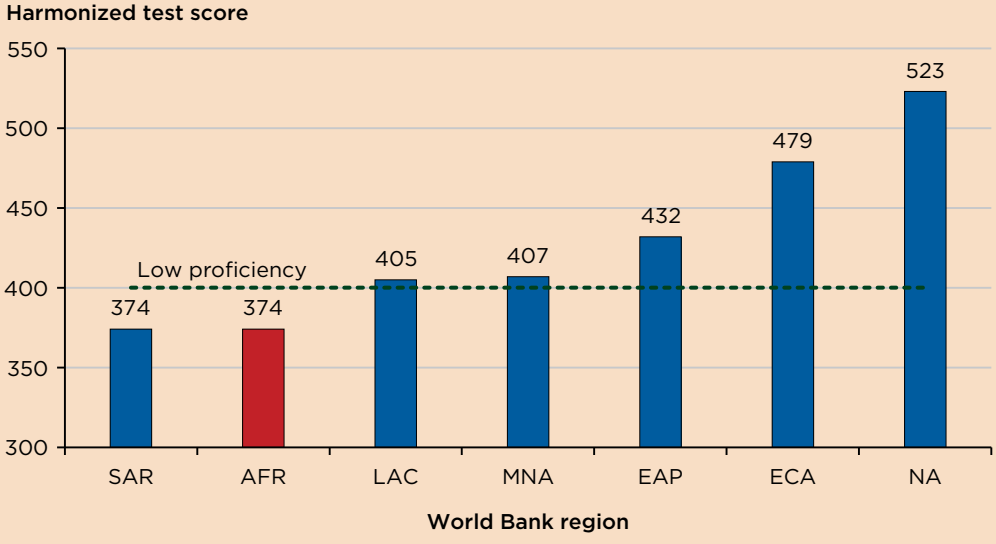
(continued)

BOX 3.2

Changes in the Human Opportunity Index with quality dimension *(continued)*

household welfare (refer to figure B3.2.2). Overall, Africa has the lowest average standardized score, 374, on par with that of South Asia. Note that 400 corresponds to the benchmark of low proficiency in the Trends in International Mathematics and Science Study at the student level, whereas 625 corresponds to advanced proficiency. Country-level numbers in Africa vary a lot, in particular if they are reported for the poorest and richest quintiles (refer to figure B3.2.3). For example, the average test score of students from the poorest quintile in Tanzania was about 331, whereas for the richest quintile it was 407. Using test scores confirms that quality of education and inequality in learning are an important source of concern in majority of Africa countries for which data are available.

FIGURE B3.2.2 Harmonized test scores circa 2020, averages by World Bank regions



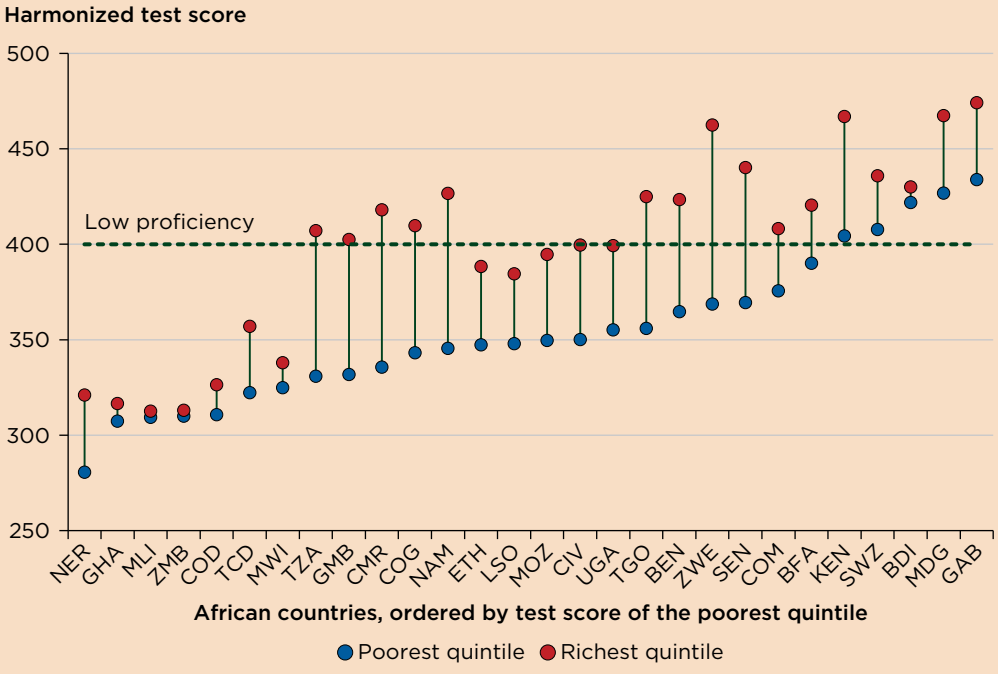
Source: World Bank 2021.
Note: Dashed line indicates the benchmark of low proficiency in the Trends in International Mathematics and Science Study at the student level. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia.

(continued)

BOX 3.2

Changes in the Human Opportunity Index with quality dimension *(continued)*

FIGURE B3.2.3 Harmonized test scores circa 2020 across the poorest and richest welfare quintiles



Source: SES-HCI.
Note: SES-HCI data at the quintile level, and averaged to the national level, are not fully comparable or consistent with the global HCI. Dashed line indicates the benchmark of low proficiency in the Trends in International Mathematics and Science Study at the student level. SES-HCI = Socioeconomically Disaggregated Human Capital Index. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

BOX 3.3

Inequality in access to health opportunities

A previous regional study of Africa (Dabalen et al. 2015) used Demographic and Health Surveys to construct the Human Opportunity Index (HOI) for health opportunities and found that wealth and mother's education were the most important contributors to inequality in immunization, explaining 56 percent of the dissimilarity index. Wealth and child's gender were the two most important contributors (with similar magnitude) to the opportunity of not being stunted, followed by mother's education and location. This report does not construct HOI for health opportunities because these data are not typically collected in the household budget surveys used here to measure HOI. Instead, for illustrative purposes, the most recent measles immunization and stunting rates are reported, with the first indicator split by mother's education and the second by wealth quintiles.

Despite the high level of immunization against measles at the country and regional levels, many countries have substantial disparities in immunization rates based on mother's education. On average, the immunization rate among children with uneducated mothers was about 68 percent, compared with 85 percent among children with mothers having secondary or higher education (refer to figure B3.3.1).

Stunting prevalence rates among children younger than age five years are also quite different across wealth quintiles. Figure B3.3.2 reports the most recent stunting rates for the poorest and richest wealth quintiles in African countries. On average, stunting prevalence is more than two times lower among children from the top richest wealth quintile compared with children from the poorest bottom quintile: 16 percent versus 37 percent. In some countries, the wealth gap turns to be extremely high—four times higher in Cameroon or five times higher in Gabon.

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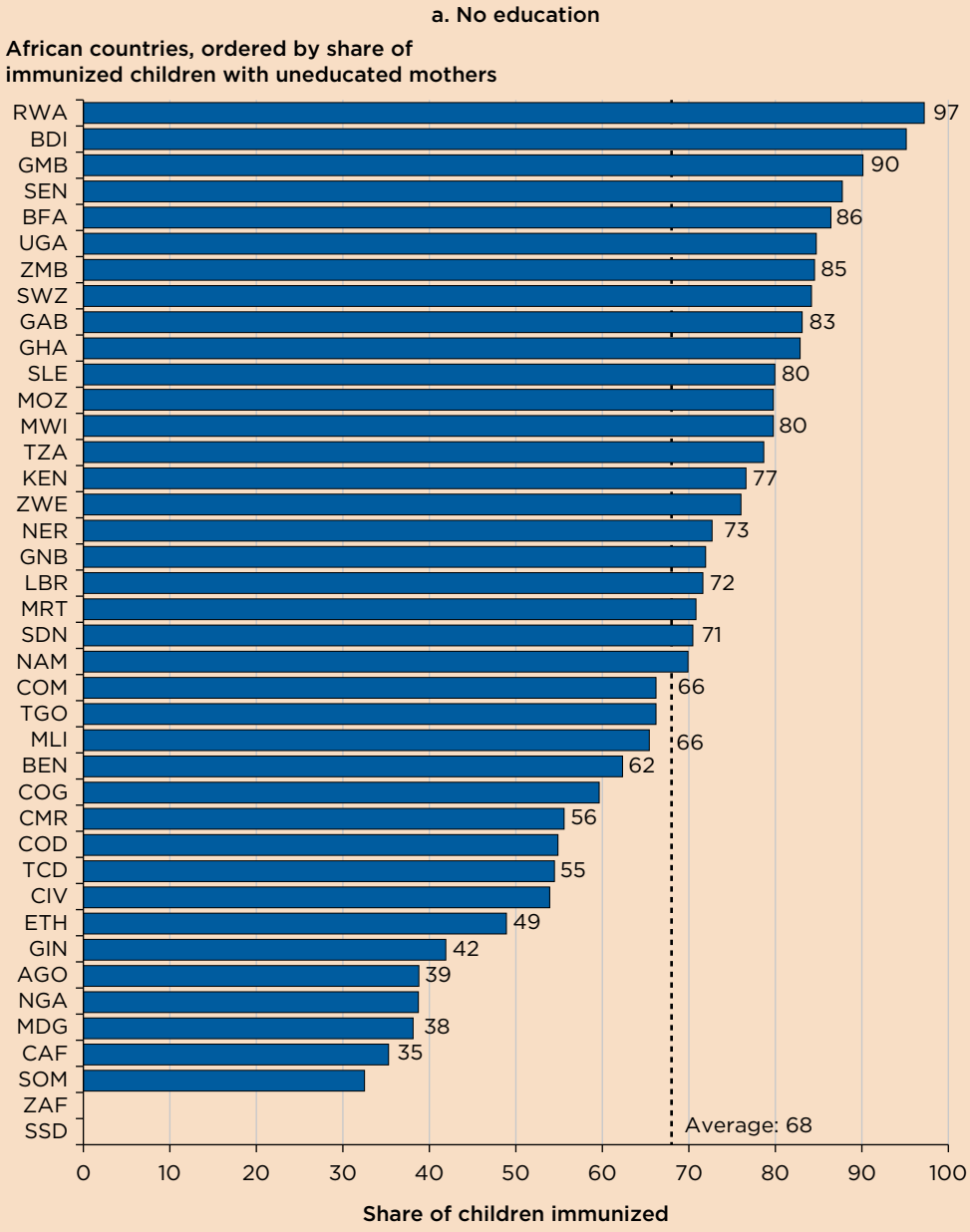
BOX 3.3

Inequality in access to health opportunities *(continued)*

FIGURE B3.3.1 Measles immunization coverage among two-year-olds in African countries, by mother's education level



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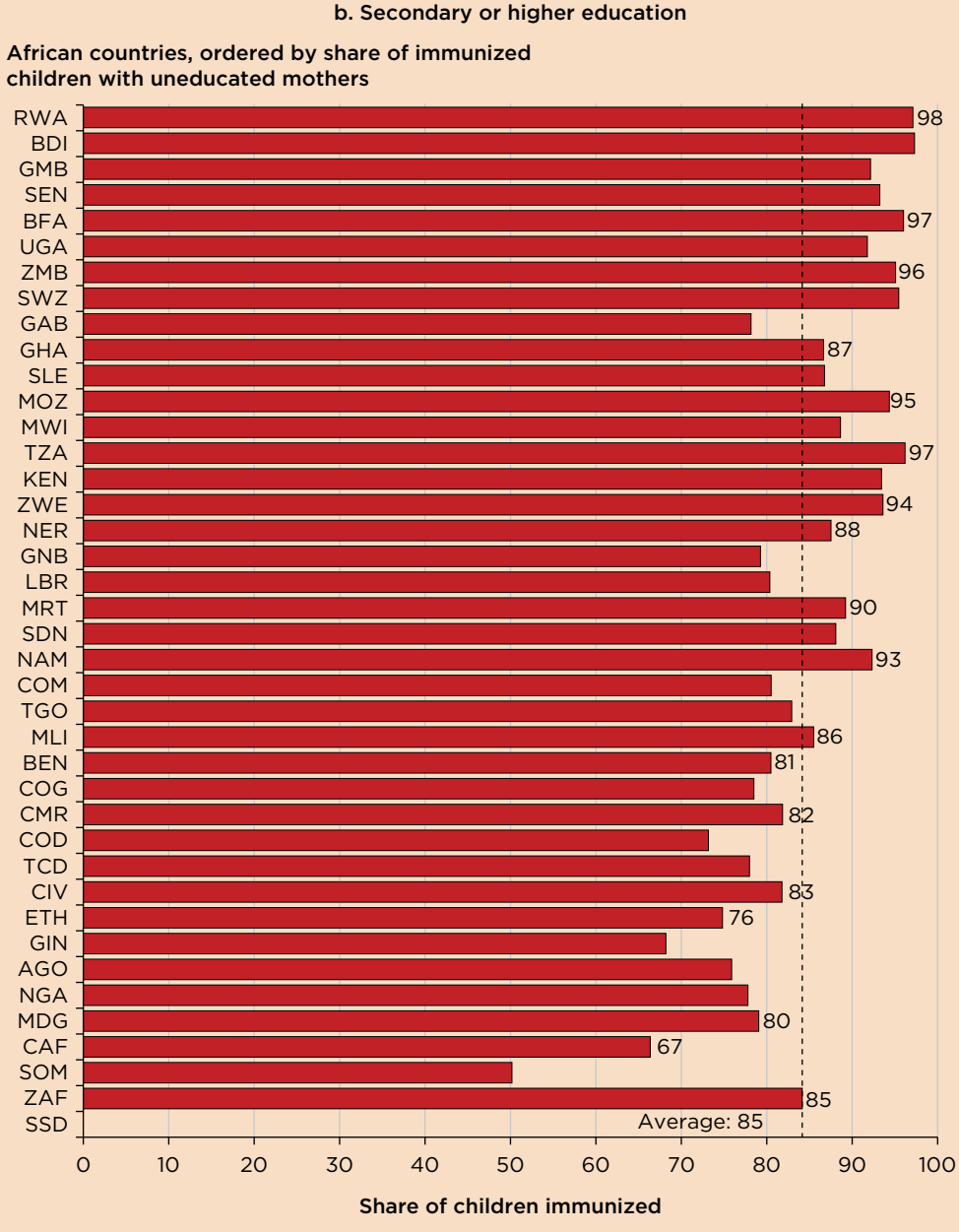
BOX 3.3

Inequality in access to health opportunities *(continued)*

FIGURE B3.3.1 Measles immunization coverage among two-year-olds in African countries by mother's education level *(continued)*



Source: WHO Health Inequality Data Repository, World Health Organization (https://www.who.int/data/inequality-monitor/data). Accessed July 2023.
Note: For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

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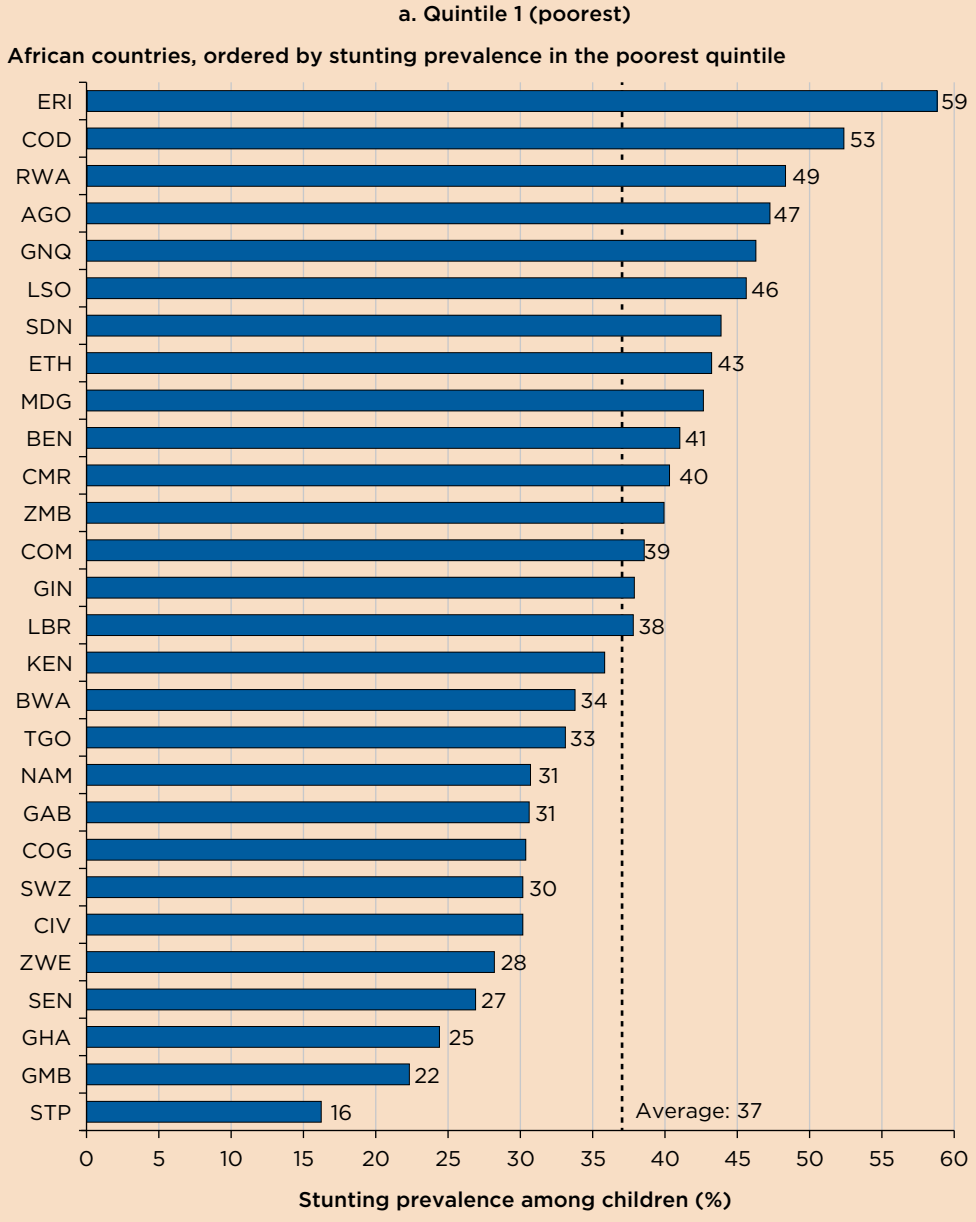
BOX 3.3

Inequality in access to health opportunities *(continued)*

FIGURE B3.3.2 Stunting prevalence among children younger than 5 years in African countries across the poorest and richest wealth quintiles



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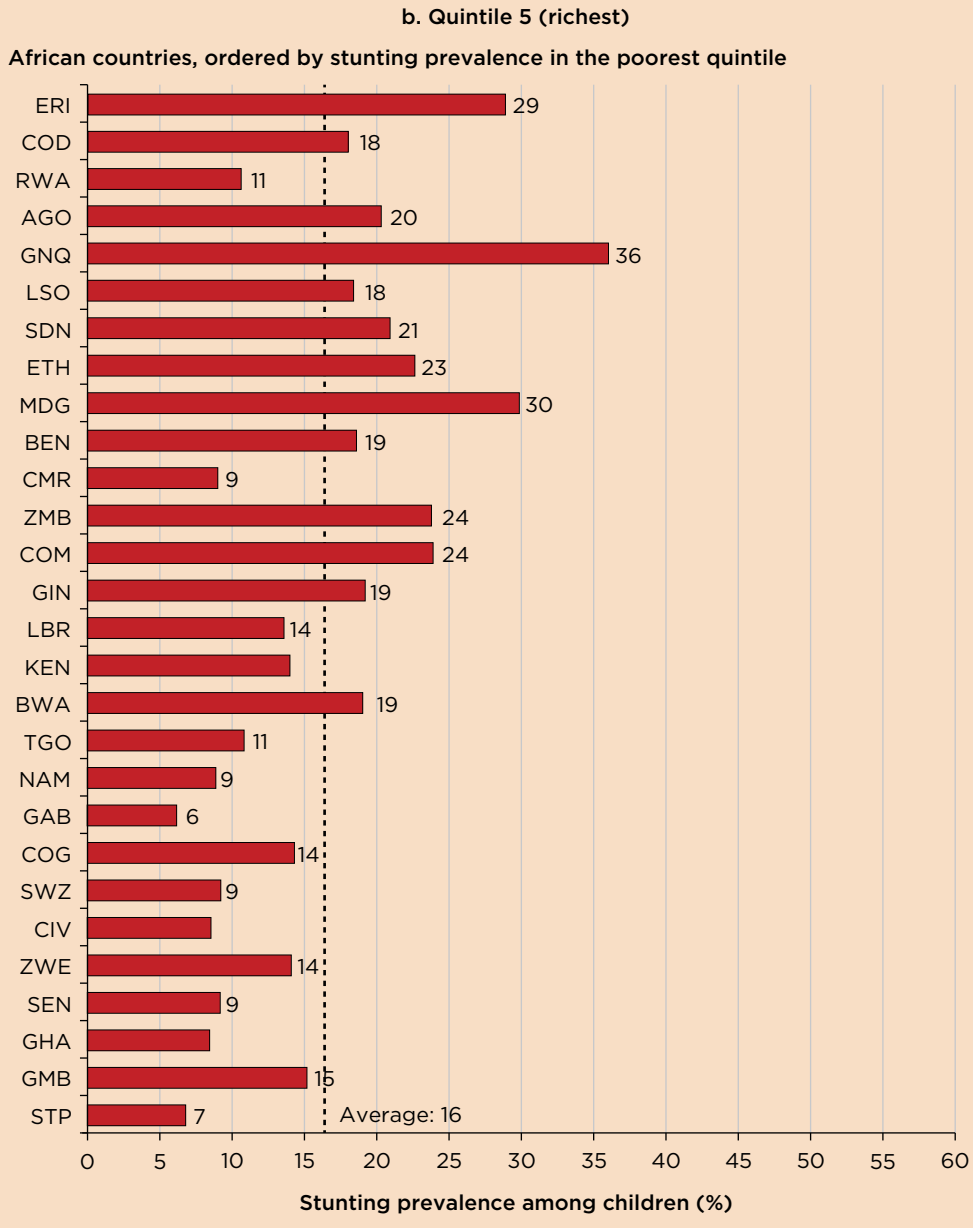
BOX 3.3

Inequality in access to health opportunities *(continued)*

FIGURE B3.3.2 Stunting prevalence among children younger than 5 years in African countries across the poorest and richest wealth quintiles *(continued)*



Source: WHO Health Inequality Data Repository, World Health Organization (https://www.who.int/data/inequality-monitor/data). Accessed July 2023.
Note: For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

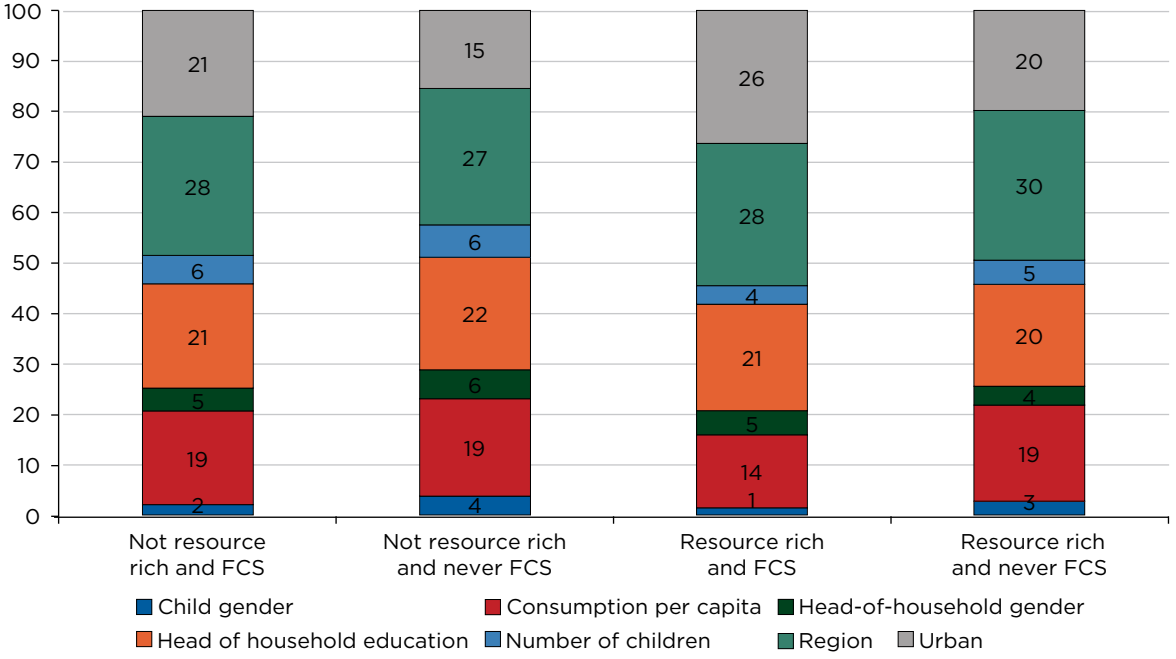
Inequality in access to services is heavily influenced by the circumstances to which a child is born

Having established earlier in this chapter that important inequalities exist in access to services for children, this report assesses the extent to which those inequalities are driven by the circumstances in which a child is born. The report identifies the circumstances of children that contribute the most to the observed inequality of opportunity. In presenting the results, the focus is primarily on the average contribution of each circumstance to inequality of opportunities, where the average is computed over all or a subset of countries in the sample. While checking and interpreting the results, it is important to keep in mind that the level of inequality is quite different across opportunities.

On average, a child's location (rural–urban and region) is responsible for more than half of the inequality in access to basic services (water, electricity, and sanitation). For some countries, location accounts for more than 75 percent of the inequality of opportunity (D-index). However, the relative contributions of rural–urban and regional disparities vary widely across countries and opportunities. Regional disparities account for 73 percent of inequality in access to basic water in Burundi, whereas rural–urban disparities account for more than half of inequality in access to electricity in Mozambique. For other opportunities, location effects still account for more than 40 percent of inequality. Inequality in access to such opportunities as starting primary school on time and primary and secondary school attendance was associated with regional disparities to a much larger extent than with the rural–urban divide. These findings are consistent with recent work finding that spatial inequality is higher than ethnic, gender, and religious inequality when it comes to other indicators of well-being, including child mortality, child stunting, and years of schooling (Tetteh-Baah et al. 2024). However, there are important differences across countries. The combined location effect (urban and regional) is particularly pronounced when measuring the D-index in resource-rich countries, especially FCS ones. Thus, for example, urban and regional disparities accounted, on average, for 54 percent of inequality across all opportunities in resource-rich and FCS countries, significantly higher than the 42 percent in not-resource-rich and never-FCS countries (refer to figure 3.5).

Affordability is a key constraint for access to mobile phones, electricity, internet, and sanitation. Household monetary well-being measured by consumption per capita is the largest contributor to inequality in access to mobile phones—accounting, on average, for 24 percent of inequality (refer to table 3.1). In some countries, such as Malawi, Mauritius, and Rwanda, consumption disparities account for more than 40 percent of inequality in access to mobile phones, signaling that the cost of mobile phone service is still an important barrier to higher penetration rates. Household monetary well-being measured by consumption also plays an important role in inequality in access to electricity, internet, and sanitation as well, highlighting the issue of affordability.

FIGURE 3.5 Average contributions of circumstances to inequality of opportunities (D-index)



Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: D-index = dissimilarity index; FCS = fragile and conflict-affected situations.

Head-of-household education was an important contributor to inequality in education opportunities, accounting on average for 26 percent of inequality in school attendance rates, 24 percent of inequality in access to internet and primary school completion rates, and 23 percent of inequality in access to mobile phones. Head-of-household gender was not an important contributor to inequality in access to any opportunities except a radio, where it accounted for 20 percent of overall inequality. Country-level data show that female heads of household are significantly less likely to own a radio than male heads, even after controlling for other factors such as head-of-household education, welfare status, and so forth. For example, in Mozambique access to a radio among children from households with a female head was about 27 percent, compared with 49 percent among households with a male head. Child gender was not found to be an important contributor to inequality, but it was a noticeable contributor to inequality of opportunities related to finishing primary school on time and school enrollment for children ages 13–16.

TABLE 3.1 **Average contributions of circumstances to inequality of opportunities (D-index)**

	Opportunities									
	Education				Basic services			ICT		
Circumstances	School attendance (6-12 years)	School attendance (13–16 years)	Started primary school on time (6–7 years)	Finished primary on time (13–16 years)	Water (0–16 Years)	Sanitation (0–16 Years)	Electricity (0–16 years)	Mobile phone (0–16 years)	Internet (0–16 years)	Radio (0–16 years)
Child gender	4	6	3	7	0	1	0	0	1	1
Consumption per capita	16	15	15	16	14	22	24	24	21	12
Head-of-household gender	4	4	2	2	3	3	2	5	3	20
Head-of-household education	26	26	24	23	13	18	17	23	24	18
Number of children	5	5	6	6	4	6	4	6	4	9
Region	29	28	31	23	36	28	25	21	24	30
Urban	17	16	17	23	29	24	28	20	24	10
Total	100	100	100	100	100	100	100	100	100	100

Source: World Bank staff calculations using data from the World Bank's Global Monitoring Database.
Note: D-index = dissimilarity index; ICT = information and communication technology.

Countries with lower dissimilarity have higher gross domestic product (GDP) per capita and lower poverty rates. Countries with higher economic development, measured by GDP per capita in 2017 US$ purchasing power parity (PPP), tend to have lower D-index,[3] calculated as a simple average across all opportunities. Similarly, international poverty measured using the 2017 US$2.15 PPP poverty line was positively correlated with average D-index.[4] It is not clear, however, how the correlation between per capita GDP and the D-index works. It may be that richer countries are able to reduce disparities in access to education and basic services, or it may be that persistent inequality in access leads to inefficiencies in investment and utilization of physical and human capital, limiting economic growth. Nevertheless, Molina, Narayan, and Saavedra-Chanduvi (2013) found that inequality of opportunities in Programme for International Student Assessment (PISA) test scores hindered development measured by GDP per capita in a cross-country study.

Before the expansion in schooling, the probability that a child in Africa surpassed their parents' education was lowest among all regions, with little progress over time and a gap between boys and girls

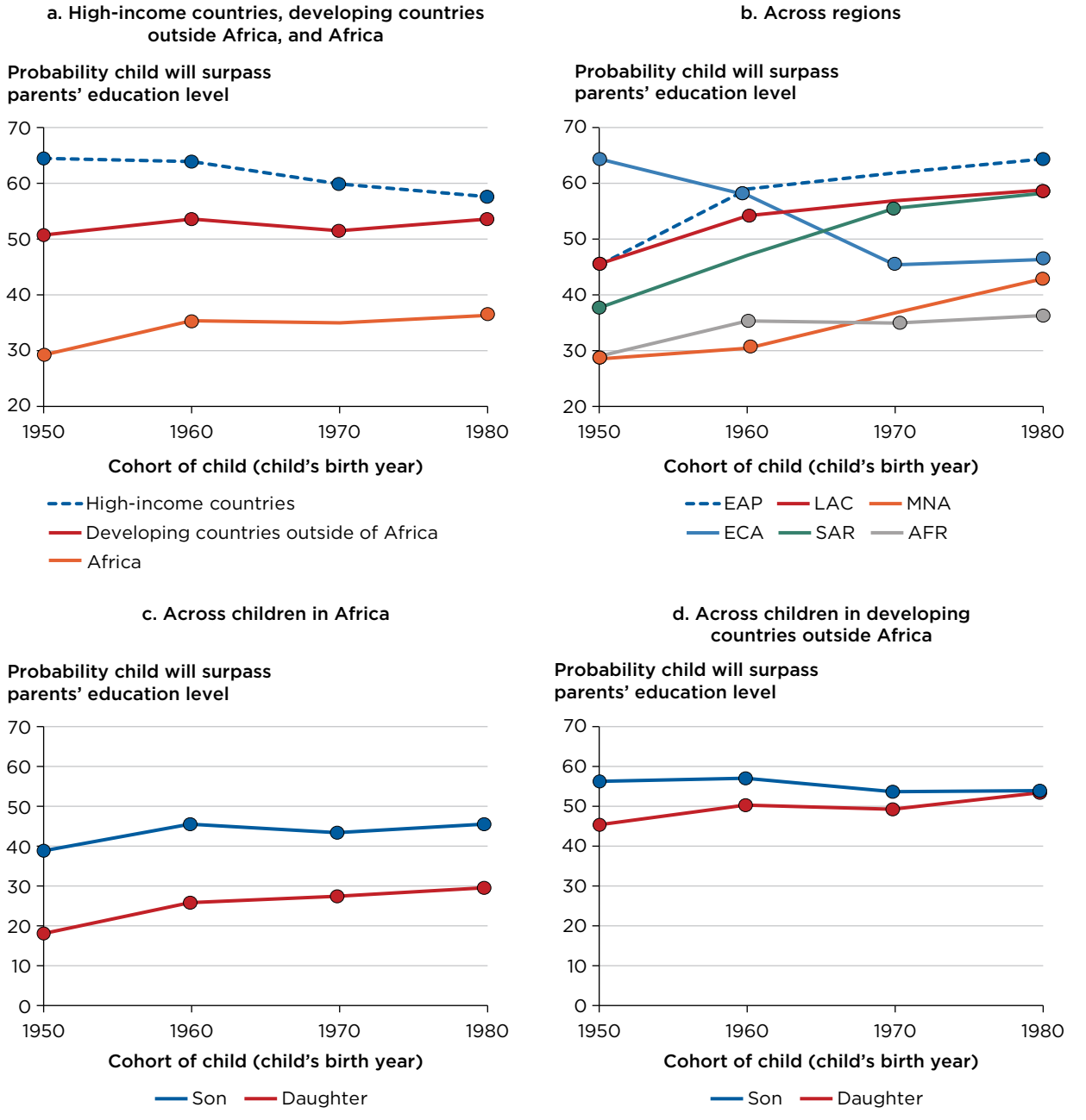
To what extent is inequality in educational opportunities perpetuated across generations? The previous section established that access to basic services that are critical for children, such as education, is far from universal and remains very unequal. Moreover, this inequality often depends on parental characteristics. This is problematic not just at the individual level but also because it has implications for the overall economy because it jeopardizes the productive capacity of those children in the future. Moreover, to the extent that unequal educational opportunities limit economic mobility, it could perpetuate poverty and inequality across generations. This section measures IGM by using information about the educational attainment of children and their parents before the recent expansion in schooling. Measuring changes in IGM across cohorts is only possible for a limited set of 19 African countries, and the most accurate cross-regional comparison is possible only for the 1980s cohort, with results being derived from 43 African countries. Detailed information on the Global Database on Intergenerational Mobility (GDIM; World Bank 2023a) and its limitations are provided in annex 3C.

Educational mobility is usually measured using two distinct but related indicators: absolute and relative IGM. *Absolute upward IGM* is the extent to which a generation's education is higher than that of their parents. This reflects a universal human aspiration of parents hoping for a better life for their children. *Relative IGM* is the extent to which an individual's education is independent of their parents' education.[5] Higher relative mobility (lower intergenerational persistence in education) across generations is associated with lower inequality of opportunity. Both indicators are interrelated and important for economic progress. Without absolute mobility, it is difficult to increase living standards. Lack of relative mobility is unfair and constrains absolute upward mobility (van der Weide et al. 2021).

The probability that a child in Africa surpasses their parents' education is much lower and much slower to progress than in other regions. Sadly, educational achievement has

not changed much in Africa across the 1960s and 1980s cohorts (refer to figure 3.6a). This is in sharp contrast to the East Asia and Pacific, Latin America and Caribbean, and Middle East and North Africa regions, where absolute IGM increased across generations and in which the 1980s cohort's educational achievement is now on par or even above the level of high-income countries (refer to figure 3.6b).[6]

FIGURE 3.6 Changes in absolute upward mobility over time

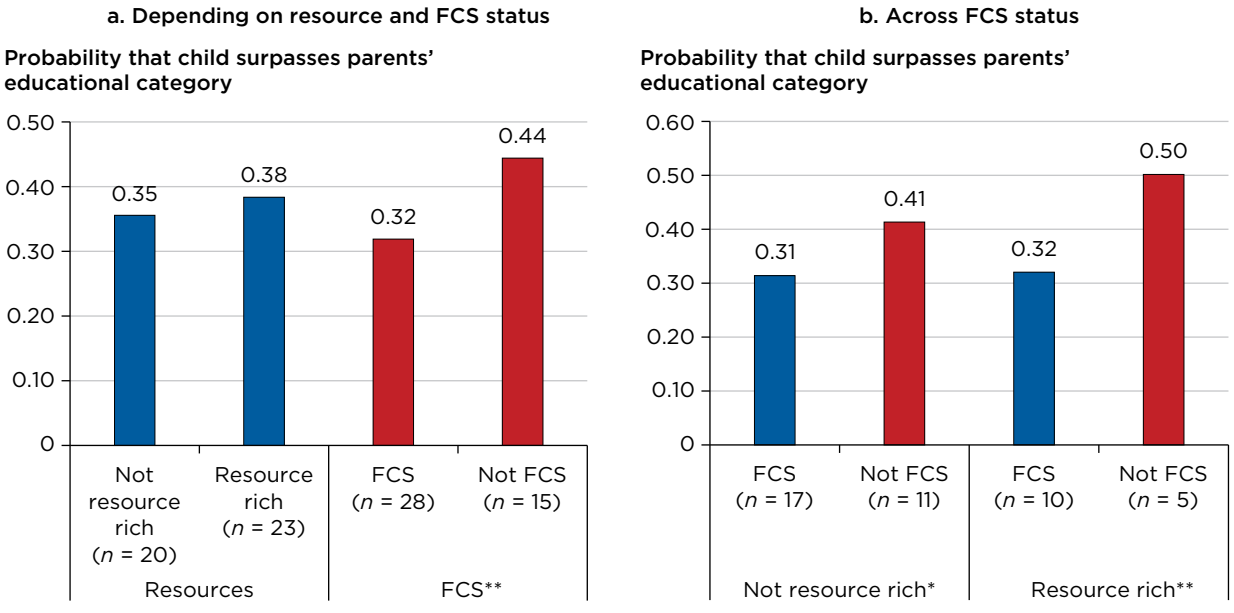


Source: World Bank staff calculations using data from the Global Database on Intergenerational Mobility (March 2023).
Note: Using surveys with retrospective questions only. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = Sourth Asia.

Girls have moved ahead of boys in absolute IGM and have been rapidly closing the gap in developing economies, except in Africa, where the gap narrowed but remained substantial. Figure 3.6d shows that in developing countries excluding Africa, girls had a disadvantage in absolute mobility over boys until the 1980s, when it fully converged. In contrast, the gender gap in absolute mobility in Africa narrowed in the 1960s but remained significant (figure 3.6c). The gender gap in Africa for the 1980s cohort turns out to be smaller, though, if all surveys are used, regardless of how parental education is measured (refer to figure 3A.8).

Absolute mobility in Africa is particularly low in countries affected by violent conflicts and with high levels of institutional and social fragility. Figure 3.7a shows no significant difference between resource-rich and not-resource-rich countries in the region in the probability that a child surpasses their parents' educational category. However, FCS countries have significantly lower absolute mobility. FCS significantly reduces absolute mobility across countries, regardless of their natural resources (refer to figure 3.7b). Thus, the probability that a child surpasses their parents' educational category is about 50 percent in resource-rich never-FCS countries, but only 32 percent among resource-rich FCS countries.

FIGURE 3.7 Absolute upward mobility, 1980s cohort

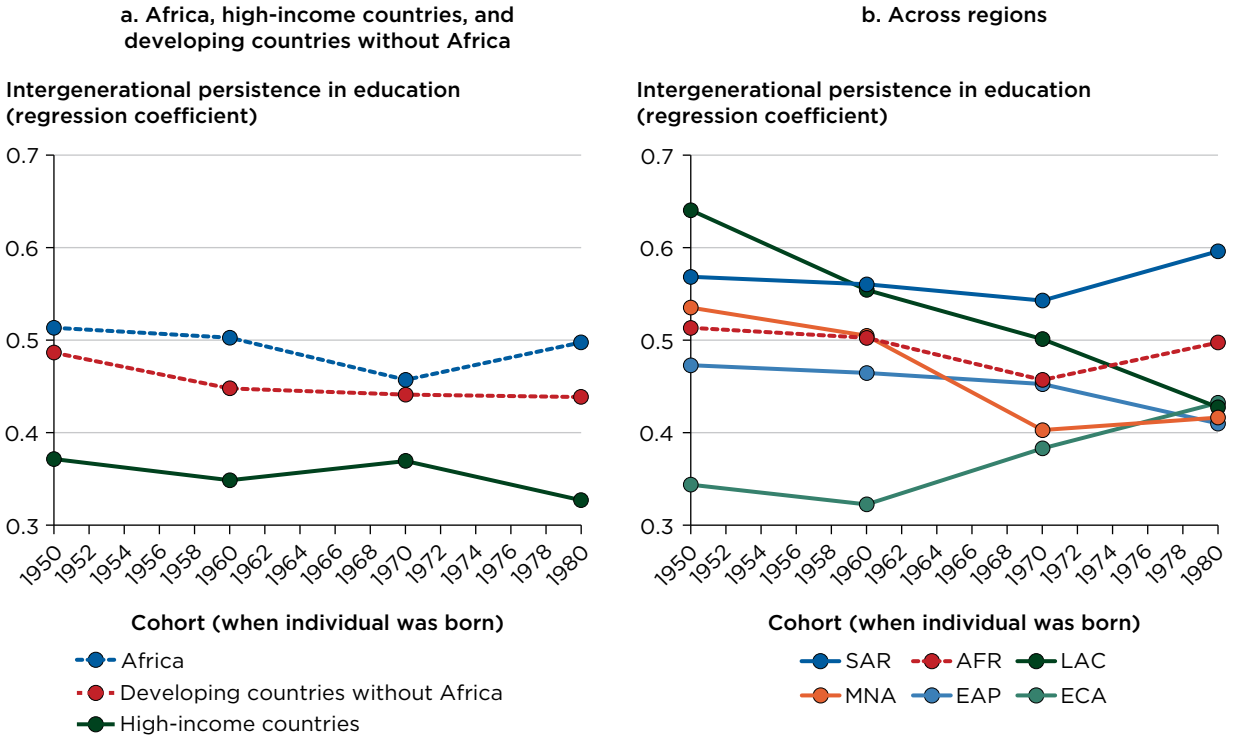


Source: World Bank staff calculations using data from the Global Database on Intergenerational Mobility (March 2023).
Note: Using all surveys with retrospective and coresident questions. FCS = fragile and conflict-affected situations.
* Significant at 10 percent; ** significant at 5 percent.

As with stagnant absolute mobility, relative mobility in Africa has not changed much between the 1960s and 1980s cohorts. Relative mobility, measured here by the coefficient obtained from regressing children's number of years of education on parents' number of years of education, also shows that Africa is behind other developing countries but doing better than South Asia (refer to figure 3.8). This implies that children's prospects will continue to be tied to parental educational attainment. In sum, the regions with the lowest GDP per capita and the highest poverty rates, South Asia and Africa, are the regions in which parental background—whether in education or income—matters the most for their children's prospects.

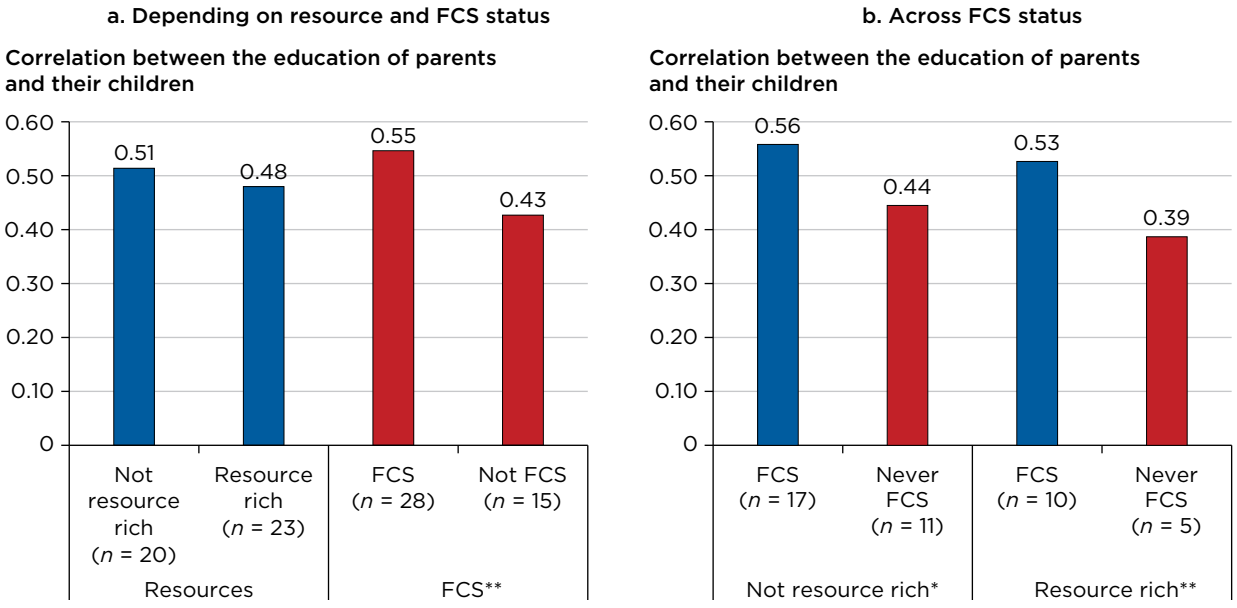
Intergenerational persistence in education is also higher in FCS countries. Figure 3.9a shows no statistically significant difference in relative mobility between resource-rich and not-resource-rich countries. However, on average, FCS countries have significantly higher intergenerational persistence (or lower relative mobility). This finding holds across countries regardless of resources (refer to figure 3.9b).

FIGURE 3.8 Changes in relative mobility over time



Source: World Bank staff calculations using data from the Global Database on Intergenerational Mobility (March 2023).
Note: Using surveys with retrospective questions only. Higher persistence indicates lower mobility. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia.

FIGURE 3.9 Relative mobility, 1980s cohort

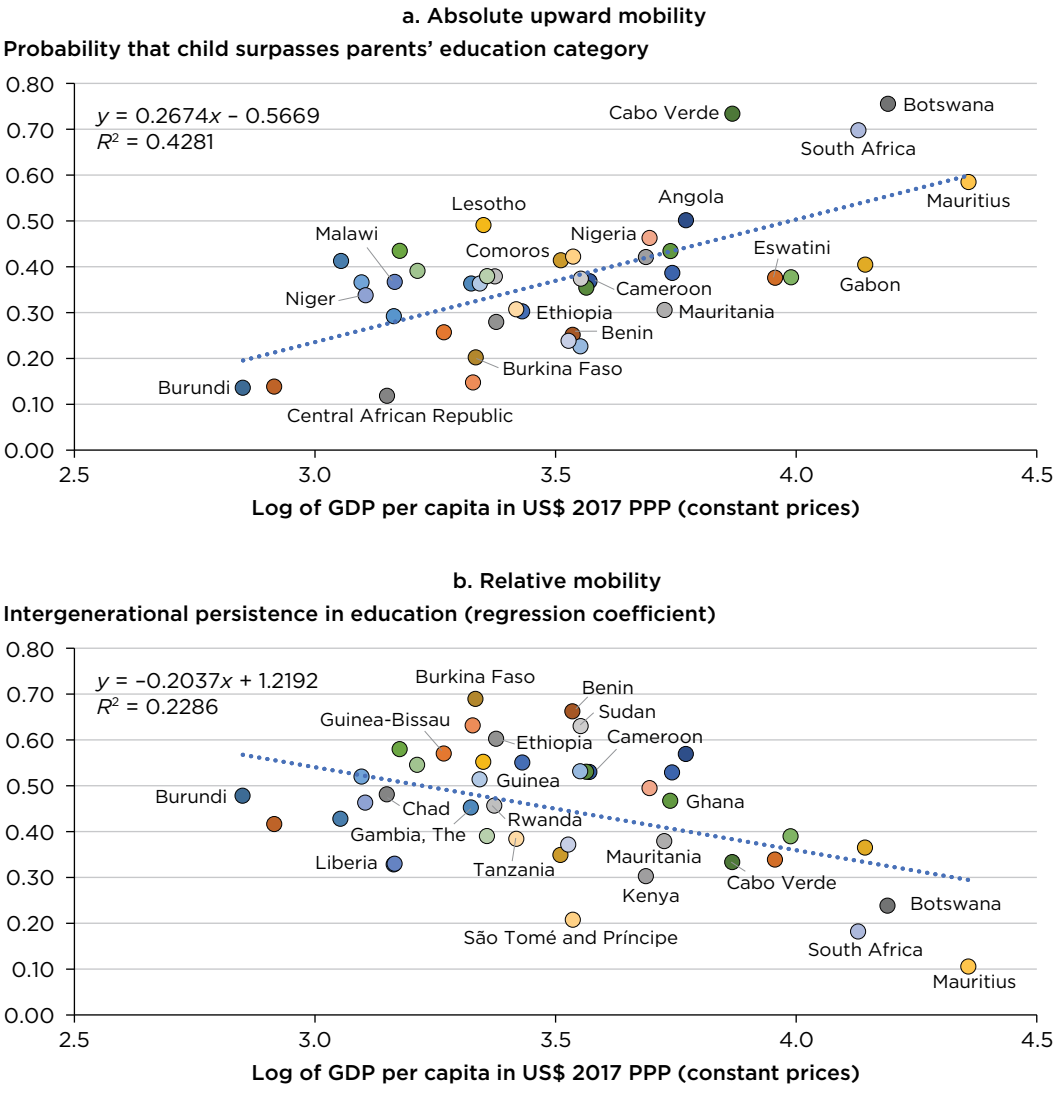


Source: World Bank staff calculations using data from the Global Database on Intergenerational Mobility (March 2023).
Note: Using all surveys with retrospective and co-resident questions. Higher persistence indicates lower mobility. FCS = fragile and conflict-affected situations.
* Significant at 10 percent; ** significant at 5 percent.

Cross-country analysis demonstrates that higher education mobility is associated with better economic outcomes. Narayan et al. (2018) use global data to show that greater mobility is associated with higher levels of GDP, although with some important differences across relative and absolute mobility. Relative IGM starts to increase with GDP per capita only after the latter exceeds $2,500 per capita (1990 PPP), whereas absolute IGM starts increasing at low income levels and continues to grow until GDP per capita reaches $5,000 per capita. They explain the observed pattern for relative mobility by the fact that infrastructure to equalize opportunities may remain unaffordable even if the country grows. For example, the fiscal space necessary to fund the type of public interventions to equalize opportunities may not be there yet.

Focusing on African countries seems to produce similar findings. There is a high positive correlation of 0.66 between GDP per capita and absolute IGM for the 1980s cohort (refer to figure 3.10a), but a less strong negative correlation of −0.48 with relative mobility or intergenerational education persistence, potentially signaling that countries in Africa may not have reached a sufficiently high level of economic development to reduce the correlation between the educational outcomes of parents and their children (refer to figure 3.10b). Indeed, if countries with high GDP per capita (Gabon, Mauritius, and South Africa) are dropped out, the correlation between GDP per capita and relative mobility is not significantly different from zero, whereas the correlation between GDP per capita and absolute mobility still remains significant.

FIGURE 3.10 Mobility in Africa, 1980s cohort, by GDP per capita



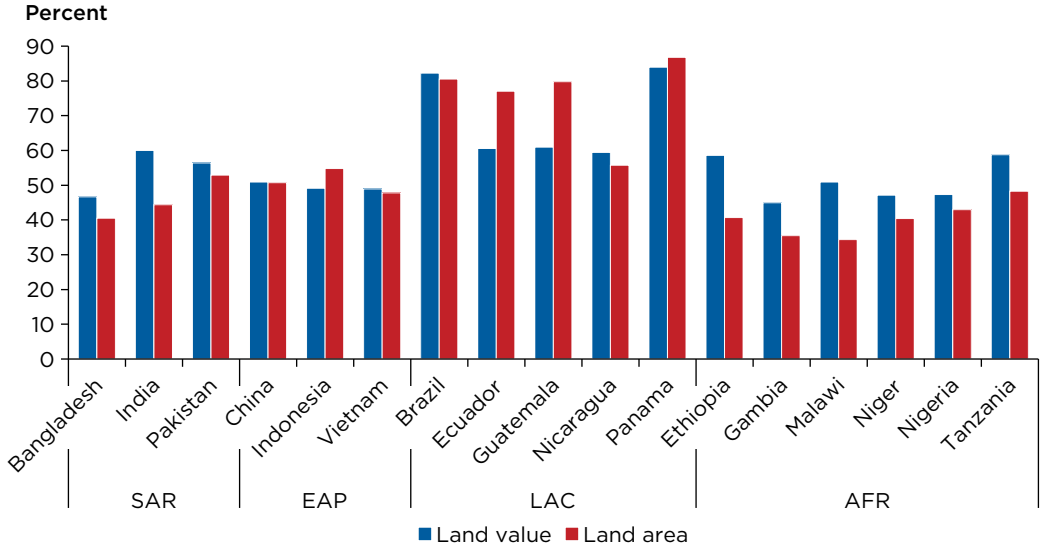
Source: World Bank staff calculations using data from the Global Database on Intergenerational Mobility (March 2023) and World Development Indicators for latest GDP per capita numbers.
Note: GDP = gross domestic product; PPP = purchasing power parity.

A positive relationship between IGM and economic outcomes observed once countries reach a particular development level means that both phenomena reinforce each other, but institutional fragility and conflicts may weaken these links in Africa. The economic literature shows that greater mobility may promote the accumulation of human capital, whereas greater relative mobility may stimulate a more efficient allocation of human capital, contributing to growth. Wealthier countries, in turn, may have higher levels of public spending, equalizing disparities in opportunities and facilitating IGM. However, as discussed earlier and in line with findings presented in chapter 5, being a resource-rich country in Africa does not guarantee that government dedicates resources to improving IGM, especially in fragile and conflict-affected environments.

Access to land is concentrated, adding to structural inequality

Available household survey data show that land ownership and registration are unevenly distributed globally as well as in Africa. Bauluz, Govind, and Novokmet (2020) report Gini coefficients of 50 and higher for the area of agricultural land owned in 10 African countries (refer to figure 3.11).[7] In a subset of the African countries studied, agricultural landlessness ranges from 40 percent (Ethiopia) to 21 percent (Tanzania). Their global comparison of inequality in agricultural land area owned and the market value of the land shows that inequality is high in Africa but not as high as in countries in Latin America and South Asia. These authors also show that inequality in the market value of agricultural land owned (valued at prevailing market prices) is much higher than the inequality in land area, indicating that ownership of valuable land is concentrated. In Ethiopia, The Gambia, Malawi, Niger, Nigeria, and Tanzania, the top 10 percent of landowners own more than 30 percent of land area and 40 percent or more by land value. In the cases of Ethiopia and Tanzania, the richest 10 percent own close to 60 percent of the total land value. Accounting for the landless population increases the measured inequality. Beyond self-reported ownership, the share of households with registered land is low and highly unequal in terms of income distribution and gender of the owner (Deininger and Goyal 2023, using household survey data from West African Economic and Monetary Union countries).

FIGURE 3.11 Access to land among the top 10 percent: Land value versus land area



Source: Bauluz, Govind, and Novokmet 2020, figure 3. © World Inequality Lab. Adapted with permission from the World Inequality Lab; further permission required for reuse.
Note: Figure is based on household survey data and includes estimates of the share of area and value held by the top 10 percent of owners (from both urban and rural areas) or of those with land user rights. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; LAC = Latin America and the Caribbean; SAR = South Asia.

Southern Africa's colonial legacy has resulted in unequal land ownership patterns (Sulla, Zikhali, and Cuevas 2022). Land ownership is particularly unequal in Namibia and South Africa. Race is an important dimension of this inequality. Sulla, Zikhali, and Cuevas (2022) report that, in 2018, 70 percent of Namibia's commercial farmland was owned by those of European descent; only 16 percent was owned by Black Namibians.

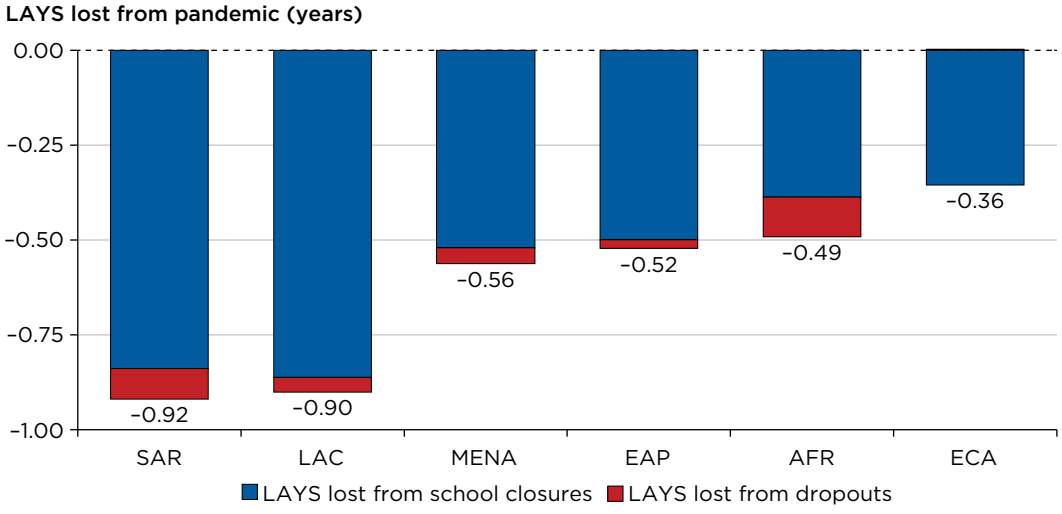
Ongoing and future trends: Implications for inequality in building productive capacity

In the presence of structural inequalities, recent and future risks could further increase inequality in building productive capacity. COVID-19, climate shocks, an expanding working-age population, and intensifying conflicts have the potential to increase inequality of opportunity in Africa. Poor and vulnerable populations are often more likely to experience shocks. At the same time, they have the least capacity to cope with them. This section discusses how these risks could alter inequality of opportunity and IGM.

Learning losses resulting from COVID-19 are expected to widen existing inequalities in education and foundational skills

On top of the immediate impact on mortality, economic growth, and poverty, the COVID-19 pandemic eroded human capital accumulation, affecting the education and health of children who missed schooling, nutrition, and health care. Such earlier life crises may have negative effects across multiple generations. School closures affected educational outcomes across countries by increasing dropouts and preventing learning. Figure 3.12 shows simulated losses in learning-adjusted years of schooling (LAYS) for all regions,[8] distinguishing between losses from school closures and losses from school dropouts (Schady et al. 2023). Africa saw smaller impacts of COVID-19 on learning losses because, on average, schools were closed for shorter durations compared with other regions (although there is variation across countries) and because schools produced less learning (on average) to begin with. Simulated loss in LAYS for Africa was about half a year—close to losses in East Asia and Pacific and the Middle East and North Africa but much lower than in South Asia and Latin America and Caribbean. However, in terms of the share of prepandemic LAYS, Africa was doing worse. This is shown in figure 3.13, in which many African countries stand out as having low LAYS losses because of the pandemic but remarkably high relative losses compared with prepandemic LAYS. Africa also stands out as having the largest relative losses because of dropouts, who accounted for 21 percent of all losses; in other regions, the contribution of dropouts to overall losses did not exceed 9 percent.

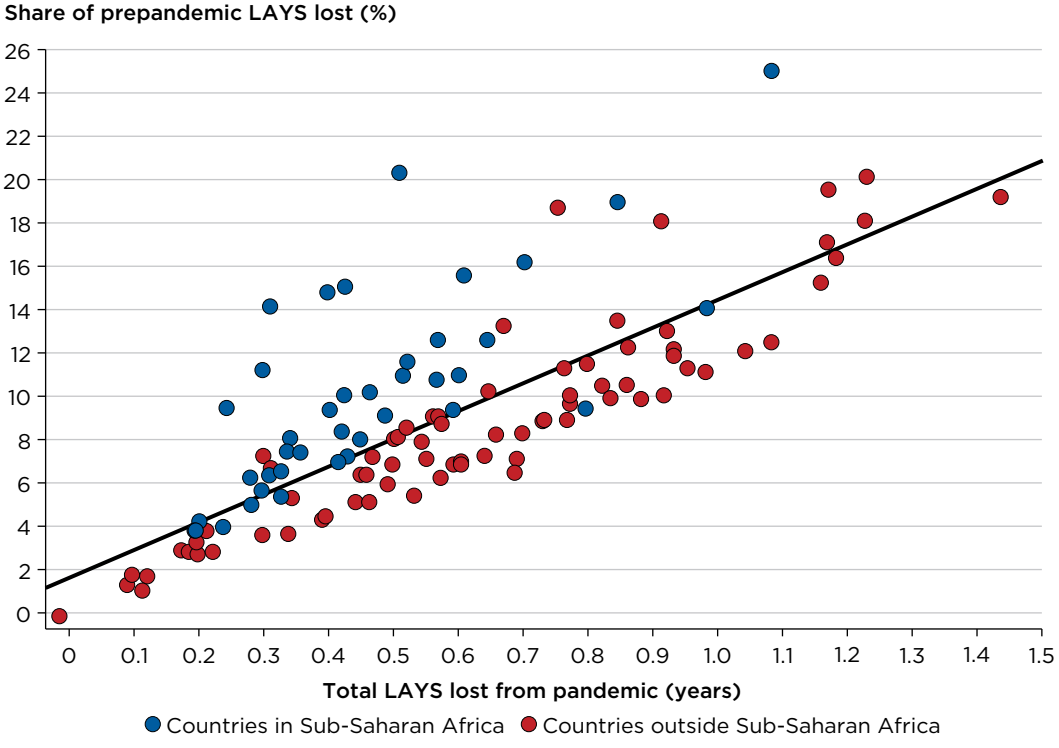
FIGURE 3.12 LAYS lost because of the pandemic by learning loss and dropouts by region



Source: Preliminary estimates from Schady et al. 2023. Data on the duration of school closures are from UNESCO Global Monitoring of School Closures Caused by the COVID-19 Pandemic (https://covid19.uis.unesco.org/global-monitoring-school-closures-covid19/). Data on enrollment rates are simulated for each country using data on log GDP per capita and the duration of school closures.
Note: AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; LAYS = learning-adjusted years of schooling; MNA = Middle East and North Africa; SAR = South Asia.

Phone surveys conducted to measure the impact of COVID-19 provide some evidence that children from the poorest households were those most likely to be affected by school closures. In Ethiopia, for example, 91 percent of households with school-age children had them enrolled in school before the pandemic (Wieser et al. 2020). However, after school closures, only about 20 percent of these households reported that children were engaged in any learning or education activities, and this share was much higher among urban than rural households (39 versus 12 percent, respectively). In Uganda, 92 percent of households with at least one child in the 3–18 age group had at least one child enrolled in school before the closures (World Bank 2020). After the closures, the share of households with any child attending any remote learning activity was about 60 percent and distributed very unequally. For example, it ranged from 44 percent among the poorest pre–COVID-19 consumption quintile to 74 percent among the richest top quintile. This signals that learning losses during COVID-19 were distributed unequally, further widening the existing inequality of opportunities.

FIGURE 3.13 LAYS lost because of the pandemic versus prepandemic shares of LAYS

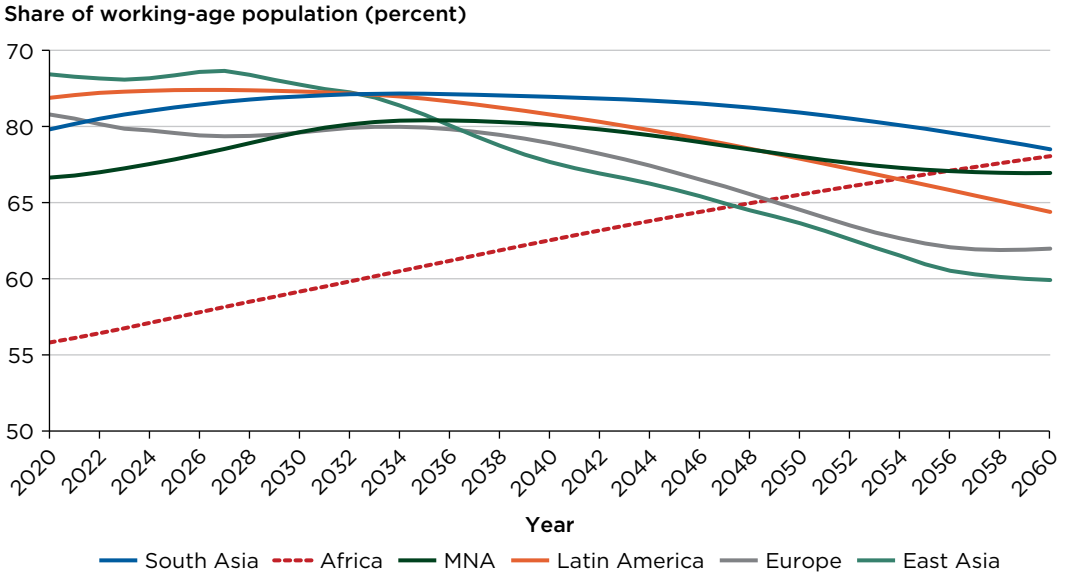


Source: Preliminary estimates from Schady et al. 2023. Data on the duration of school closures are from UNESCO Global Monitoring of School Closures Caused by the COVID-19 Pandemic (https://covid19.uis.unesco.org/global-monitoring-school-closures-covid19/). Data on enrollment rates are simulated for each country using data on log GDP per capita and the duration of school closures.
Note: LAYS = learning-adjusted years of schooling.

Rapid population growth and limited fiscal space will make reduction of inequality in access to basic services more challenging

As a continent with a very young population, Africa's economies can tap into the talent potential of the 8–11 million youth expected to enter the labor market across the region every year. Africa is experiencing rapid population growth triggered by a combination of declining mortality and some of the highest birthrates in the world. By 2050, Africa's population will make up close to 25 percent of the world's population (UN DESA 2022). Four of the eight countries expected to account for more than half of global population growth to 2050 are in Africa, with Nigeria forecast to become the world's third-most-populous country.[2] By 2060, Africa will be the only region with an increasing share of the population being working-age (refer to figure 3.14). These population shifts are expected to be accompanied by

FIGURE 3.14 Actual and forecast share of working-age population (ages 15–64) across regions, 2020–60

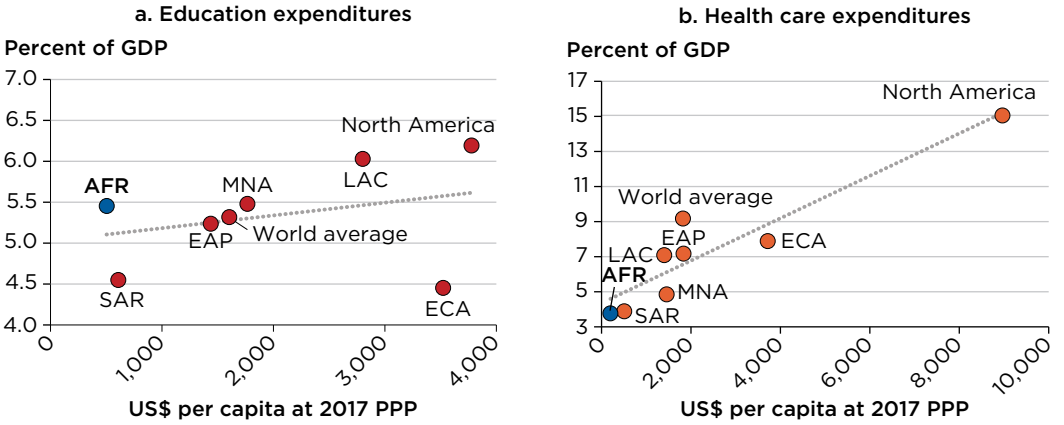


Source: World Bank staff calculations using UN population numbers.
Note: Regional numbers include only developing countries using World Bank methodology.
MNA = Middle East and North Africa.

urbanization—another megatrend for the region. This presents both a challenge and an opportunity. The growing working-age population will be able to contribute to growth and productivity if they are provided with the right skills and opportunities. However, it also poses challenges given the sheer number of children (ages 0–14 years) entering the schooling system, who will later enter the labor market. To the extent that structural inequalities in building productive capacities are not addressed, they would place a large share of the workforce at a disadvantage, with consequences for future growth and poverty reduction.

Public spending on education and health is low. Taking as an example the education sector, Africa meets common international benchmarks on education spending (4–6 percent of GDP), but it still spends very little per school-age child because of small budgets and a large young population (Arias Diaz and Kheyfets 2023). Figure 3.15a illustrates this by showing overall education expenditures (private and public) as a share of GDP and in per capita terms expressed in 2017 US$ PPPs (using PPP values helps to account for differences in education prices across countries) across regions. Even though the share of education expenditures in GDP in Africa was higher than the world average, education expenditures in per capita terms were at least three times

FIGURE 3.15 Education and health care expenditures, Africa versus other regions

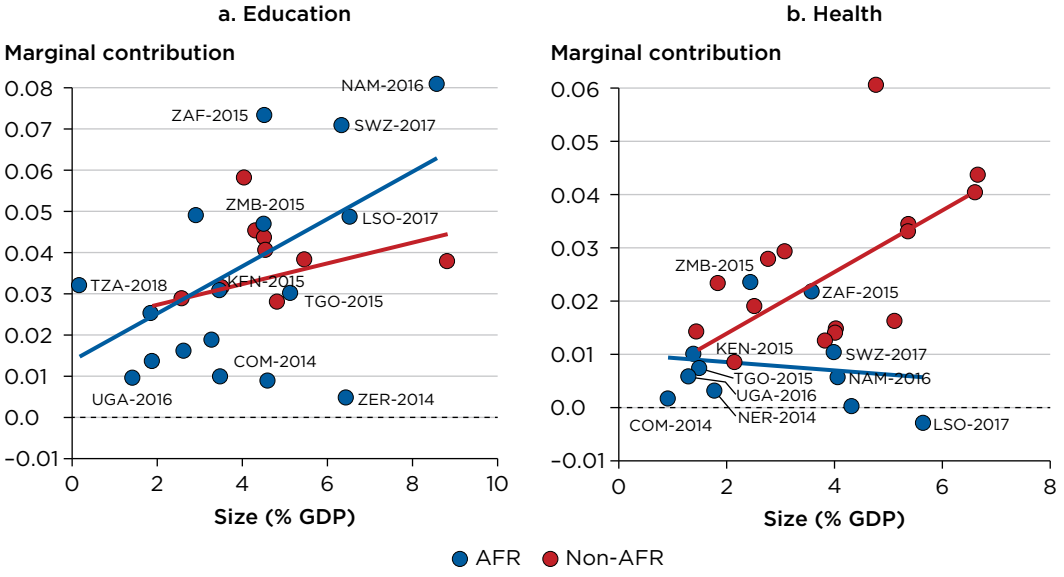


Source: World Bank staff calculations using data from the 2017 International Comparison Program and World Development Indicators.
Note: Dotted line represents simple correlation. AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; GDP = gross domestic product; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; PPP = purchasing power parity; SAR = South Asia.

lower than what was spent on average in the world and were the lowest across all regions. Further increases in education spending to account for the growing young population and to improve the quality of education will require higher domestic resource mobilization. Figure 3.15b shows health expenditures as a share of GDP and in per capita terms. For both measures, Africa has the lowest numbers across comparators. Health spending accounted for 3.8 percent of GDP in 2017, whereas average health expenditures in per capita terms were equal to $201 in 2017 PPP—two times lower than the average in South Asia.

Moreover, spending on education and health in Africa is less equalizing compared with other regions. Although spending on education and health reduces inequality across countries in Africa, this is especially the case in southern African countries (refer to figure 3.16). The equalizing impact of health spending is especially small for countries outside of southern Africa, compared with other low- and middle-income countries, despite its relevance for growth, equality of opportunities, and long-term poverty reduction. Health facilities often lack necessities, including essential medicines, simple diagnostic equipment, and adequate water and sanitation (Gatti et al. 2021).

FIGURE 3.16 Public spending and marginal contributions to equity

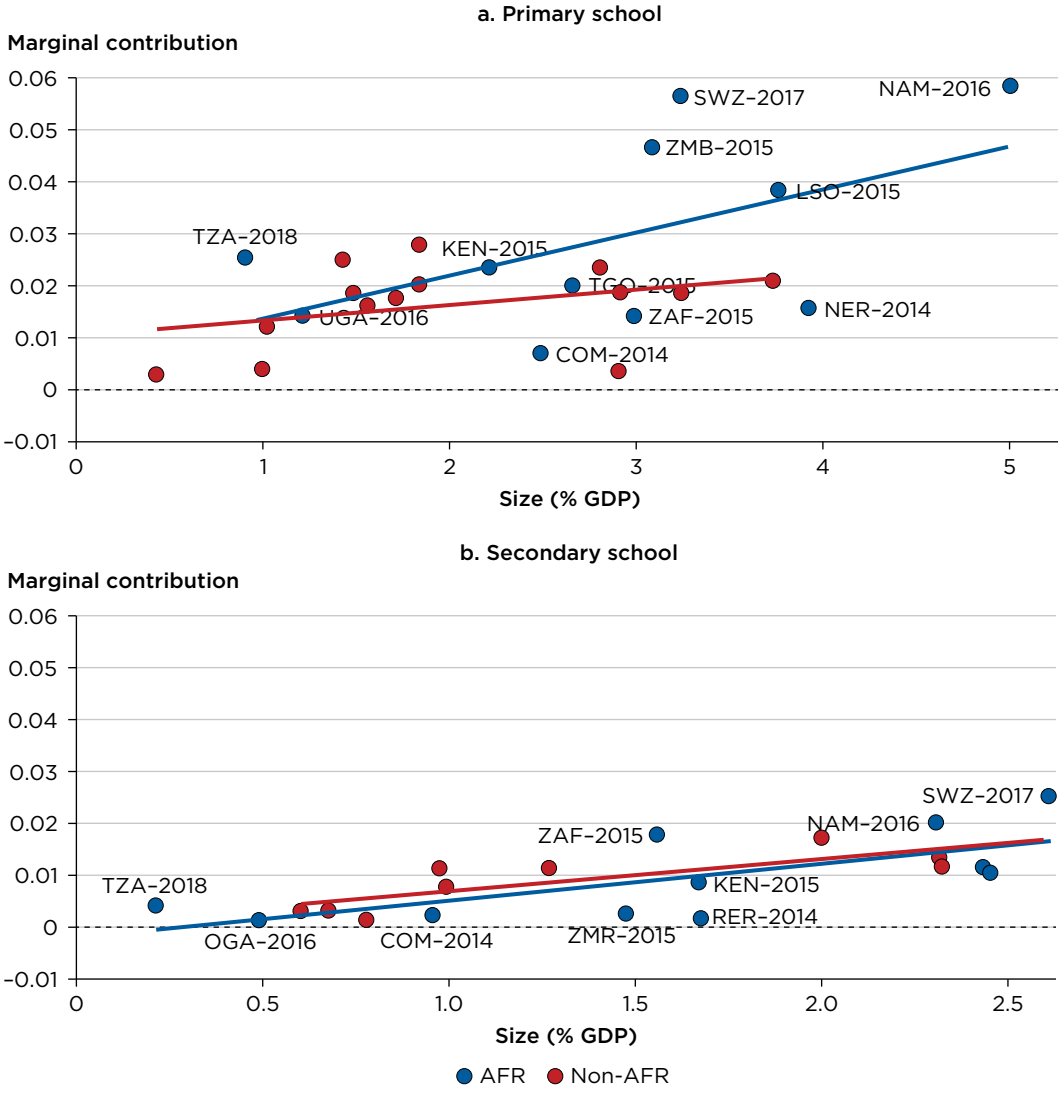


Source: Staff estimates based on CEQ studies conducted by the World Bank and the CEQ Institute, Tulane University.
Note: AFR = Sub-Saharan Africa; CEQ = Commitment to Equity; GDP = gross domestic product. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

Spending in these sectors could have more impact by improving within-sector allocations. For instance, not only is health sector spending lower than in other regions, but government expenditures are also skewed toward tertiary services, which are disproportionately used by wealthy individuals. In Senegal, the incidence of public health benefits based on reported use of services suggests a regressive concentration in 2019, with the richest 40 percent of the population receiving 50 percent of basic health benefits and the poorest 40 percent receiving only 30 percent. In Tanzania, 60 percent of health care spending was allocated to inpatient services in 2018. The richest 20 percent of the population received 41 percent of these inpatient benefits, and the poorest 20 percent received only 6 percent. This allocation of benefits contrasts with that of outpatient care, for which the richest 20 percent received a proportionate 20 percent of spending, the same as the poorest 20 percent. Although everyone is eligible to receive these health benefits, rich individuals use them more, suggesting access problems related to information asymmetries, financial constraints in affording the copayments, or distance to health care centers. In education, few students from the lowest quintiles attain upper secondary or tertiary education (Bashir et al. 2018). According to UNICEF (2021), a child from the wealthiest quintile can benefit from as much as 12 times more government resources than a child from the poorest quintile. Inequality comes mostly from secondary education and above, and expenditures on primary education are much more equal. Moreover, in some countries, more public resources go to schools in wealthier, more urban areas. For example, 72 percent of tertiary education spending in Côte d'Ivoire goes to the richest 20 percent of the

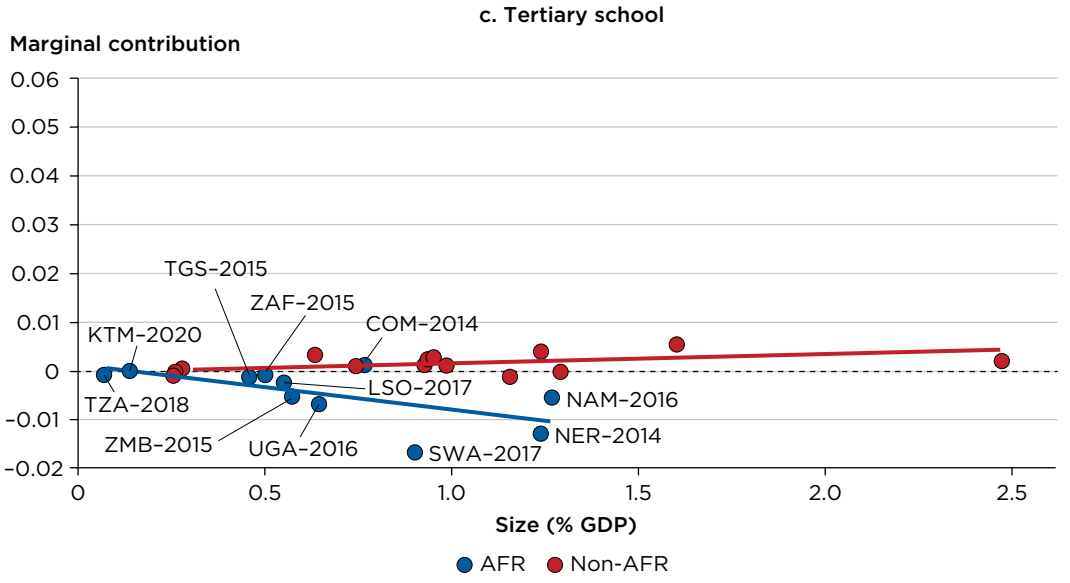
population, compared with 11 and 24 percent of the budget for primary and secondary education, respectively, benefiting the top two deciles. This partly reflects that the distribution of trained and experienced teachers is biased toward urban schools, as well as the fact that urban public schools often have better infrastructure and learning materials (Beegle and de la Fuente 2019; Gatti et al. 2021). Moreover, although primary education is especially important for equality of opportunity and does the most in terms of reducing postfiscal inequality (refer to figure 3.17), spending per child is higher in tertiary education. Because children from low-income households are less likely to attend university, spending on tertiary education increases postmarket inequality.[10]

FIGURE 3.17 Marginal contributions to reducing inequality are highest for primary education



(continued)

FIGURE 3.17 Marginal contributions to reducing inequality are highest for primary education *(continued)*



Source: Staff estimates based on CEQ studies conducted by the World Bank and the CEQ Institute, Tulane University.
Note: The size of each education spending level (primary, secondary, tertiary) is estimated as the product of two components: (1) total education spending in percentage of GDP and (2) an adjustment factor computed as the ratio of the incidence of each education level and the incidence of total education spending. AFR = Sub-Saharan Africa; CEQ = Commitment to Equity; GDP = gross domestic product. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

The efficiency and quality of education and health spending could also be improved. The quality of public education, health, and other services is generally low, even when adjusted for spending levels. For instance, measured student learning is low across countries in Africa, with fewer than half of students able to read a simple sentence or perform basic mathematical operations (Gatti et al. 2021). However, differences in learning are large, both between and within countries, with the lowest-performing schools concentrated in rural areas. There are several reasons for this, including the fact that teacher skills are low, in both content knowledge and pedagogy, and almost one-quarter of teachers can be expected to be absent on any given day. Similarly, more than 20 percent of health care providers can be expected to be absent, and their clinical abilities, measured as their diagnostic and treatment accuracy, are especially bad at low-level facilities (Gatti et al. 2021). These findings bolster the case for within-sector reforms that would improve competencies, ensure an adequate mix of inputs (such as medicines, learning materials, and water and sanitation investments), and improve financial accountability and transparency. Moreover, there may be room for policies that could improve outcomes while improving the efficiency of spending.[11] For instance, assigning more students to better teachers could potentially lead to better learning outcomes and substantial cost savings, even if there are negative class size effects (Bold et al. 2019). Ensuring that all incoming teachers have the officially mandated effective

years of education, along with increasing the time spent on teaching to the officially mandated schedule, could almost double student learning within the next 30 years.

Intensifying conflicts may exacerbate existing structural inequalities in building productive capacity and reverse fragile gains Africa made in human capital and access to basic services

Being in conflict has a profound impact on socioeconomic well-being. As noted earlier, extreme poverty is increasingly concentrated in fragile and conflict-affected situations (FCS). On top of high monetary poverty, people in FCS are more likely to be deprived in terms of educational outcomes and lack access to basic services such as improved water, sanitation, and electricity. Using the World Bank's multidimensional poverty measure, Corral et al. (2020) show that about half of all individuals in FCS countries were multidimensionally poor compared with one in five in non-FCS economies. Indeed, previous sections of this chapter show that children in FCS countries have, on average, lower access to basic services and higher inequality.

On top of the immediate negative impact on well-being, exposure to conflict may have a long-term negative impact through human capital channels and reduce IGM. Exposure to conflict is associated with higher neonatal and infant and child mortality and higher rates of stunting and underweight (Corral et al. 2020). Moreover, there are second-generation effects on the health of children whose mothers were exposed to conflicts. Conflicts also have a negative impact on educational attainment and disruption of cognitive development. Individuals exposed to high degrees of violence[12] have around a 40 percent chance of surpassing both of their parents' education, whereas those not exposed to such violence during their childhood have, on average, more than a 55 percent chance of doing so (Corral et al. 2020).

The increase in the number of state-based conflicts in Africa may reverse the fragile gains made in building productive capacities in Africa. Between 2017 and 2022 alone, the number of conflict events more than tripled, reaching more than 28,000 in 2022. Compared with other regions, Africa experienced the largest relative and absolute gain in conflicts in the past decade (Palik, Obermeier, and Rustad 2022). Intensifying conflicts may reverse the fragile gains Africa has made in human capital and exacerbate existing structural inequality in the ability of countries to build their productive capacity, thus affecting their short-term and long-term development paths.

Climate change will exacerbate existing structural inequalities in building productive capacity in the region because of high exposure and sensitivity coupled with low adaptive capacity

Climate change will affect health outcomes through economic, social, and environmental determinants of health, such as clean air, safe drinking water, sufficient food, and secure shelter. Extreme weather events may reduce the availability of safe drinking water, compromise sanitation, and increase the incidence of disease, leading to

absenteeism and possible withdrawal of children from school and older individuals from work (Caruso, de Marcos, and Noy 2024). Similarly, droughts and increasing temperatures lead to poor harvests and food insecurity, negatively affecting the incomes of agricultural households and increasing the risk of infant mortality, stunting, and permanent effects on cognitive development (Dimitrova and Bora 2020; Le and Nguyen 2022; Miller 2017). With warming by 1.2–1.9°C by 2050, the proportion of the population undernourished in Africa is projected to increase by 25–90 percent (World Bank 2013). Impacts for children in utero to early childhood can be particularly severe and long-lasting (Andrabi, Daniels, and Das 2023 Almond and Currie 2011). Other impacts include higher mortality and morbidity resulting from events such as extreme heat and flooding. For instance, recent work on West Africa has shown that extreme heat exposure increases the prevalence of both chronic and acute malnutrition among children ages 3–36 months (Blom, Ortiz-Bobea, and Hoddinott 2022). Extreme temperatures are also expected to increase the risks of noncommunicable diseases, physiological heat strain, and heat-related illnesses. Finally, climate hazards can also affect health facilities because of increases in temperature, flooding, wind damage, and transportation disruptions.

Climate change is also expected to affect education outcomes. Heat exposure affects the rate of skill formation and school enrollment. For instance, a cross-country study using data from 58 countries on the Organisation for Economic Co-operation and Development's PISA exam found that 15-year-old students perform worse on exams taken after hotter-than-average years (Park, Behrer, and Goodman 2021). The effects were stronger in low-income countries and among poor students and minority groups, who may lack access to effective adaptations. Higher temperatures may affect students and their ability to study. Higher-than-average temperatures are also associated with fewer years of schooling (Randell and Gray 2019), school graduation status (Park 2022), and performance on college entrance exams (Zivin et al. 2020). Older school-age children may also suffer more from the long-term consequences of not being able to attend school or from dropping out of the formal education system altogether (Garg, Jagnani, and Taraz 2020; Shah and Steinberg 2017). These findings indicate that the increase in extreme temperatures may worsen existing inequalities in the education sector. Finally, extreme weather events are also likely to damage educational facilities with potential consequences for educational outcomes (Baéz, de la Fuente, and Santos 2010).

Policies to build productive capacity with equity

The focus of this chapter was on assessing and quantifying disparities that occur when people are building their productive capacity prior to entering markets. Children's access to basic services that are key to building productive capacity was found to be far from universal and very unequal, with substantial gaps across different circumstances that children cannot control for. This has important implications: if not addressed, inequality of opportunity accumulated early in life will result in inequality of economic

opportunities, later on such as employment options and earnings, creating an environment in which poverty and inequality are perpetuated across generations. This concluding section outlines policy options that countries can pursue to level the playing field and reduce inequality of opportunity. They can be summarized as follows:

- Invest in disadvantaged children's health and education, which not only yields future returns in the labor market but also has positive externalities for other outcomes such climate change adaptation and mitigation, violence prevention, age at first marriage, and teen pregnancy, among others;
- Invest in basic infrastructure to reduce the coverage gap of electricity, water, and sanitation services in underserved regions; and
- Improve land and asset registration and property rights.

Each of these three policy pathways is discussed in turn.

First, it is crucial to strengthen the efficacy and efficiency of investments in health and education to accelerate human capital accumulation by underserved populations. The analysis in this chapter shows that African countries have achieved universal access to primary school and have attained important gains in health outcomes. However, the quality of education and health services remains thin and unequal. Addressing this will take concerted action on both the demand side (that is, children and their households) and the supply side (that is, the service providers). In terms of education, it is important to invest in targeted policies to ensure that disadvantaged children not only go to school but are also ready to learn. Social protection programs, such as (conditional and unconditional) cash transfers and school feeding programs, are a sharp instrument for that.

On the supply side, improving service delivery will require investing in teachers, improving school management and infrastructure, and increasing parental involvement for community-based monitoring. The most effective interventions to improve learning outcomes in Africa have been those that combine teacher training with ongoing teacher support and classroom learning materials for students (Bashir et al. 2018). Across the region, deficient learning is correlated with teachers' low levels of content knowledge and subpar pedagogy skills. Some schools are also missing crucial inputs, such as blackboards or private and gendered toilets, and struggle with high pupil–teacher ratios (Gatti et al. 2021). For instance, in The Gambia, 14 percent of teachers were absent from school at least once a week in 2019, with higher absences in rural than in urban schools. Moreover, 10 percent of teachers reported classroom absence while in school, and another 10 percent reported limited time on task (UNICEF Innocenti Research Centre 2021). The pandemic created additional challenges; in August 2021, two-thirds of phone survey respondents reported that the quality of teaching and learning was worse than before the start of the pandemic (World Bank 2022).

However, even if efforts are in place to train, monitor, and support teachers, they may be insufficient. Power relationships and norms prevent laws and policies from being implemented as written. For example, policy makers may have a mandate to ensure teachers deliver better learning, but they may at the same time depend on teachers for political support, which can diminish their willingness to monitor and enforce performance. There are several ways to change the incentives and norms. Improving public awareness of the unacceptably low levels of learning in selected areas of a country may be used to change the incentives for teachers and policy makers to improve the quality of education. Adding new actors—for example, parents—can also change power dynamics if parents can credibly enforce sanctions. Promoting norms that support better behavior and attract teachers who share these norms, such as teacher professionalism and a sense of duty, may help to enhance service delivery (World Bank 2017).

Improving the delivery of health services is also challenging, but similar policy principles can help guide more effective health care reform. Health facilities lack essential medicines, basic diagnostic equipment, and adequate water and sanitation. Moreover, health care providers' absences are a concern, as is their low ability to diagnose and treat common health conditions correctly, particularly in rural areas (Gatti et al. 2021). As in the case of education, better training, improved supervision, and provision of water and sanitation services can help. However, this alone will not guarantee improved health outcomes. Involving more impartial actors in the practice of hiring health workers may help to break patronage, when appointments are made based on personal connections and networks. Involving communities with clear mandates and tools to monitor providers can help to strengthen the quality of medical care. Properly implemented decentralization can increase the accountability of policy makers because voters can better observe the effects of health policies (World Bank 2017).

A focus on women's health warrants special attention, and it should include interventions to improve reproductive health and eliminate child marriage and other harmful practices, such as female genital mutilation (FGM). FGM remains prevalent in 33 African countries, with high rates in The Gambia, Guinea, Mali, and Somalia, affecting more than 70 percent of women ages 15 to 19 (UNICEF 2024). FGM not only is a health risk but has long-term consequences for girls' ability to study, work, and be come productive members of society (WHO 2023).

Investments in reproductive health can lead to future health care savings, equalize the labor market, and boost economic growth (Canning and Schultz 2012). Increasing the age at first marriage has also been shown to be effective, but only 13 countries in Africa have set the legal age for marriage at 18; 17 have no minimum age; and the others set a minimum age younger than 18 (World Bank 2023b). Overall, investments in girls'

education and health have a high payoff and far-reaching impacts, influencing factors such as age at first marriage, fertility, productivity, and intergenerational poverty transmission.

A final recommendation on the human capital dimension is that it is a high-return strategy to focus on early childhood interventions. With respect to education, a focus on high-quality early childhood development should be an integral part of national plans to accelerate learning (Bendini and Devercelli 2022). Early childhood education programs have consistently shown a positive impact on long-term outcomes among children in low-income families (Narayan et al. 2018). Improving access to preprimary enrollment, prioritizing rural and poor communities, could lead to improved success in primary school (Bashir et al. 2018; Schütz, Ursprung, and Wößmann 2008). Similarly, early health interventions should be prioritized, because they are crucial for physical and mental development. Basic health interventions, such as deworming and providing vitamin A supplements, are known to generate large impacts relative to up-front costs (Bhula, Mahoney, and Murphy 2020). Similarly, a recent randomized trial found substantial improvements in child health from a program in Mali that delivered free care for children, followed up with community health worker visits (Dean and Sautmann 2022).

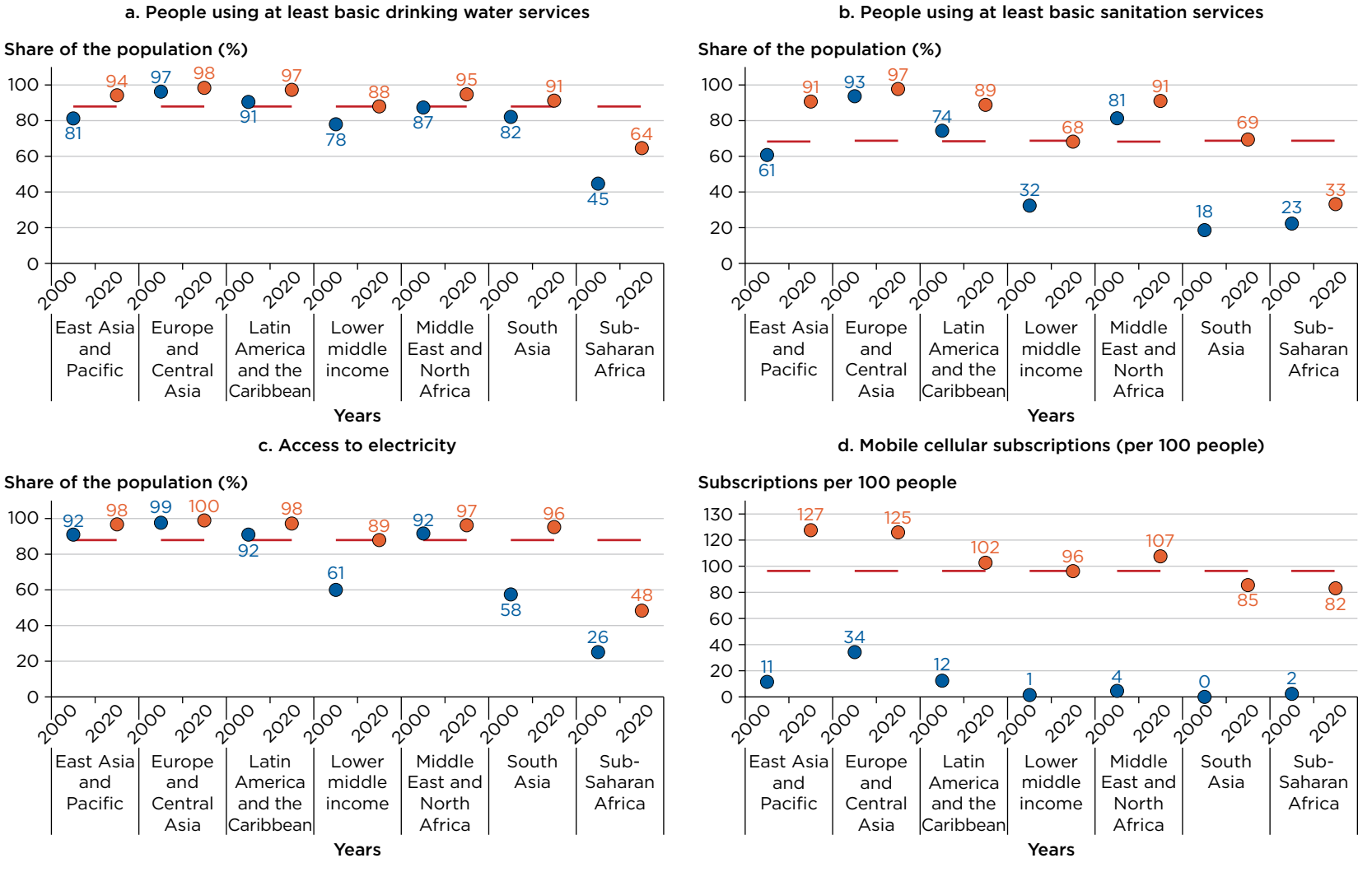
Second, the findings of this chapter highlight the importance of investing in basic infrastructure targeting underserved populations and regions. The key rationale for public spending on basic services such as electricity, water and sanitation is that these are investments that the private sector will likely not make. An explicit focus on equity, along with coverage, will be needed to achieve the desired results. Inequality in access to and in quality of electricity, water, and sanitation services will become more acute and more expensive to tackle with the growing population. Achieving universal access to piped water and electricity by providing heavily subsidized services in Africa has not worked and has largely bypassed the groups most in need (Foster and Briceño-Garmendia 2010). Four key strategies for service expansion are suggested. First, before rolling out new networks, the focus should be on understanding the barriers to connecting to existing networks. Second, increasing coverage can be done in a more efficient way by focusing on underserved populations living physically close to infrastructure networks. Third, a better understanding of community needs and demand-side barriers is crucial for expanding coverage. Fourth, the way connection costs are recovered needs to be rethought, potentially shifting them from one-time upfront connection charges to repaying them over several years, recovering them through general tariffs shared across the entire customer base, or directly subsidizing them. Limiting subsidies to connections in new network rollouts rather than densifying the existing network would improve targeting.

Given rural-to-urban population movements, it is crucial to focus on how the provision of basic services can be made more efficient and equitable in urban areas and, in particular, on avoiding fragmentation through sound urban planning. Urban plans define the pattern in which the future population will settle, in either defined expansion areas or unoccupied land in an urban area. However, in many cities, inadequate legal frameworks, coupled with poor planning policy, have resulted in ad hoc urban development, grabbing of public land, the capture of benefit by private actors, and conflict between communities and government over the use of public space (Kaw, Lee, and Wahba 2020). Moreover, cities in most developing countries pay little attention, if any, to accommodating an unexpected rise in population. As a result, an estimated 55 percent of the urban population of Africa lives in slums, far above the estimated 30 percent in South Asia and 20 percent in Latin America, partly because of inadequate urban planning but also because of housing and land markets (Rains and Krishna 2021).

Third, it is important to improve land and asset registration and property rights. Serious issues for urban land management include restricted zoning, unregulated construction, and unclear property rights and their enforcement. In particular, land use planning and zoning are critical for making cities livable and for building their resilience to shocks. To enhance the resilience of individuals, a core task for city authorities is to provide accurate information to enable land, housing, and insurance markets to operate efficiently (Lall et al. 2023). More broadly, land registries are important for optimal use of land resources in both urban and rural areas. Deininger and Goyal (2023) discuss the potential for expanding registration, citing successful cases from the region, such as Ethiopia and Rwanda. Public policies in these countries have facilitated registration and formalization of use rights, which in turn have had significant payoffs through higher individual earnings and greater revenue mobilization from property taxation. Last, but not least, a special focus on women is necessary; across 37 countries, only around 8 percent of married women own land or housing, compared with about 25 percent of married men (World Bank 2023b). Eliminating regulatory barriers for female asset ownership, including through inheritance and family laws, would go a long way toward reducing inequality of opportunities for women.

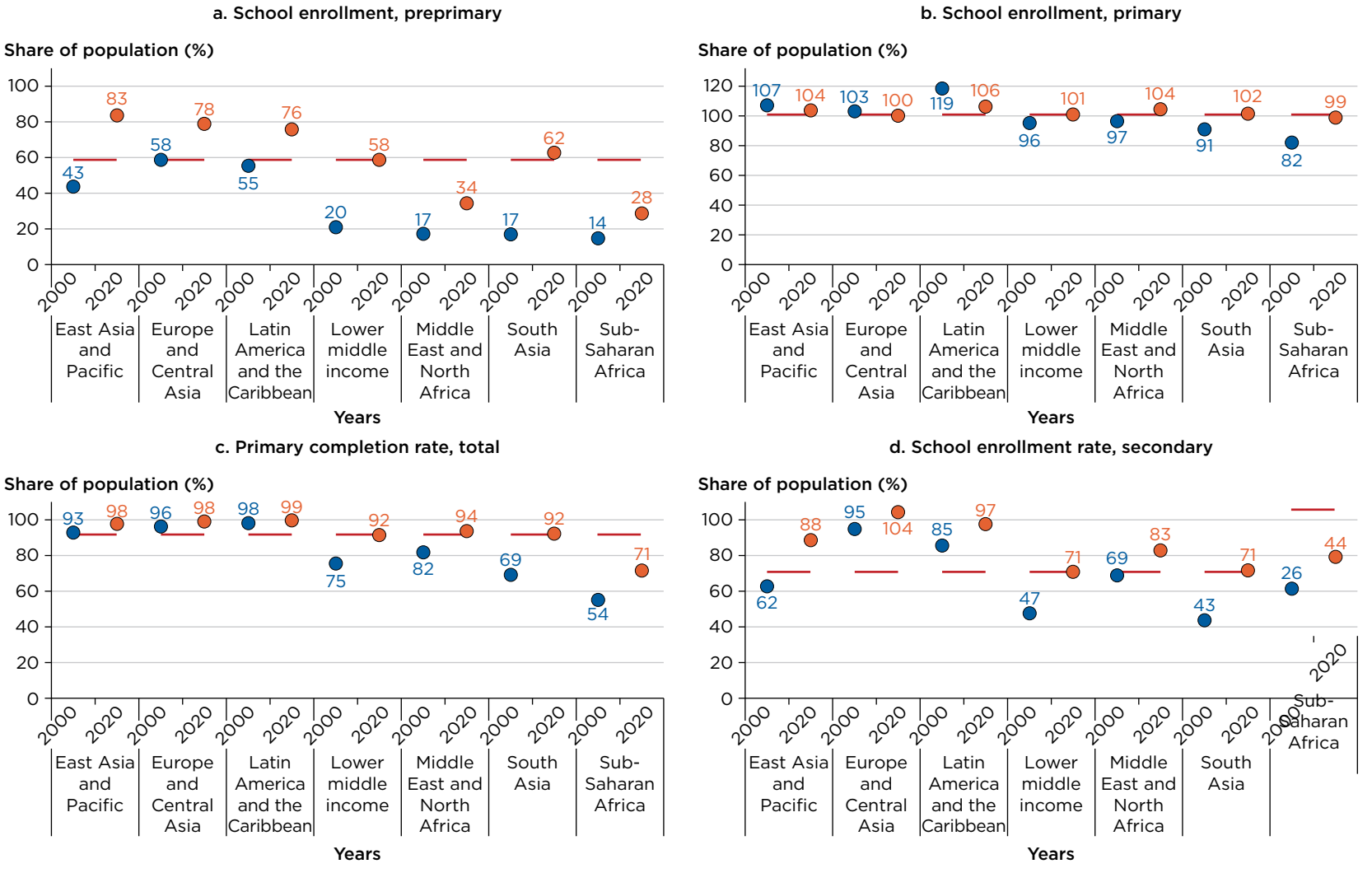
Annex 3A: Additional figures

FIGURE 3A.1 Access to basic infrastructure across regions and years



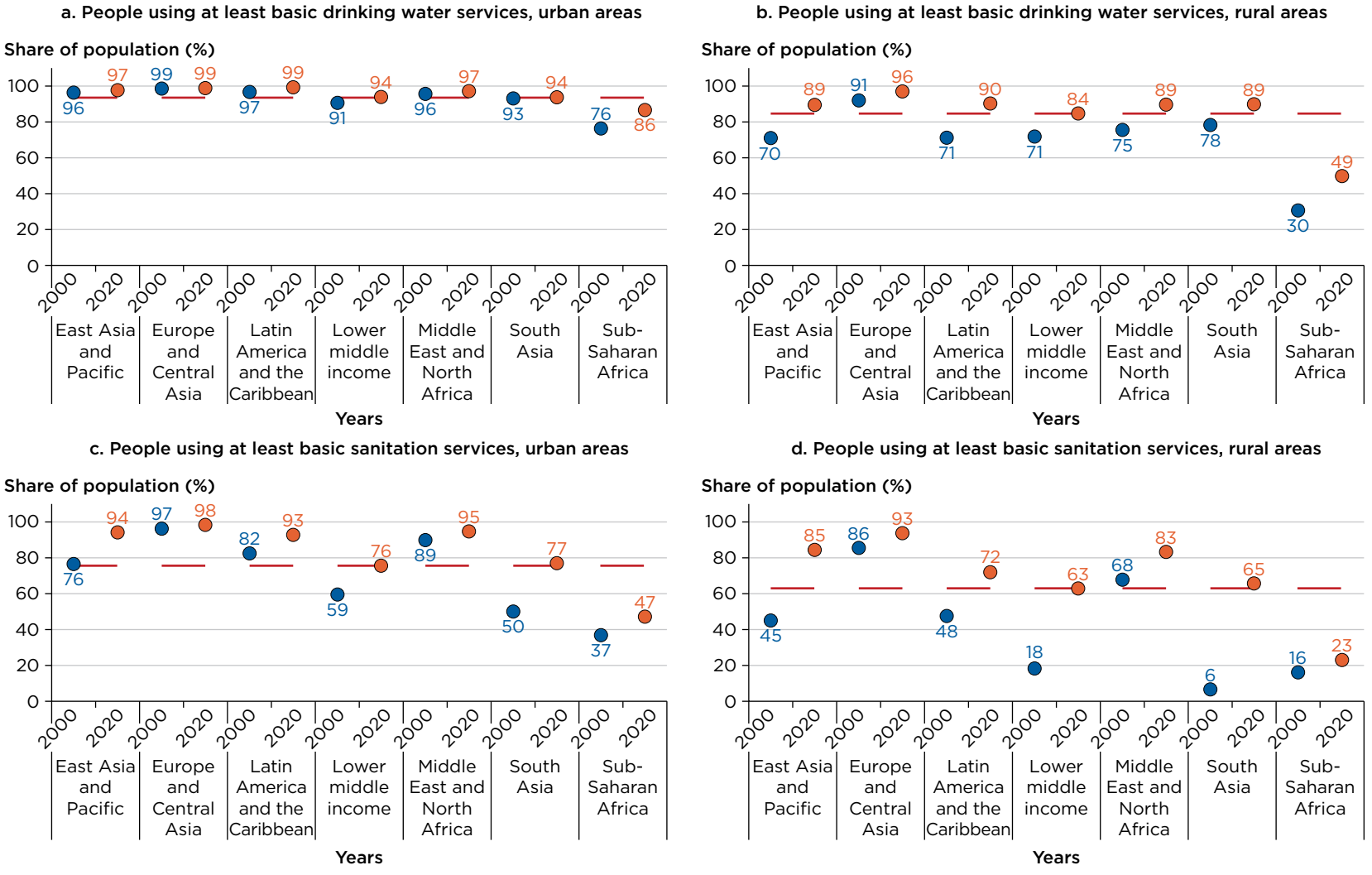
Source: World Bank staff calculations using World Development Indicators.

FIGURE 3A.2 Access to education across regions and years



Source: World Bank staff calculations using World Development Indicators.

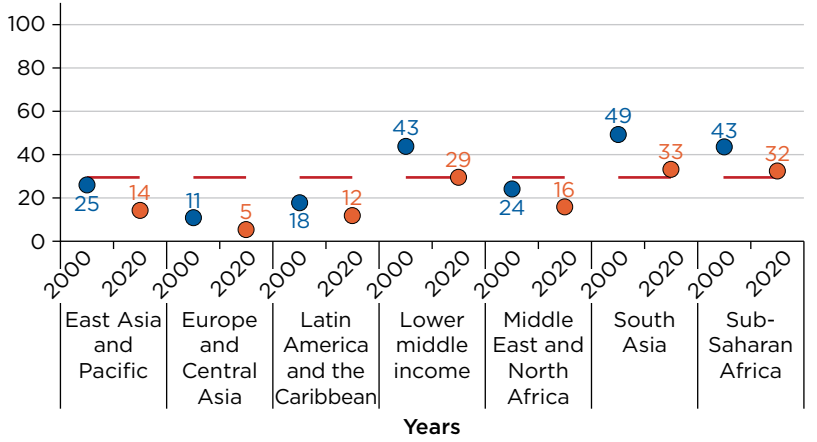
FIGURE 3A.3 Urban–rural divide in access to water and sanitation services across regions and years



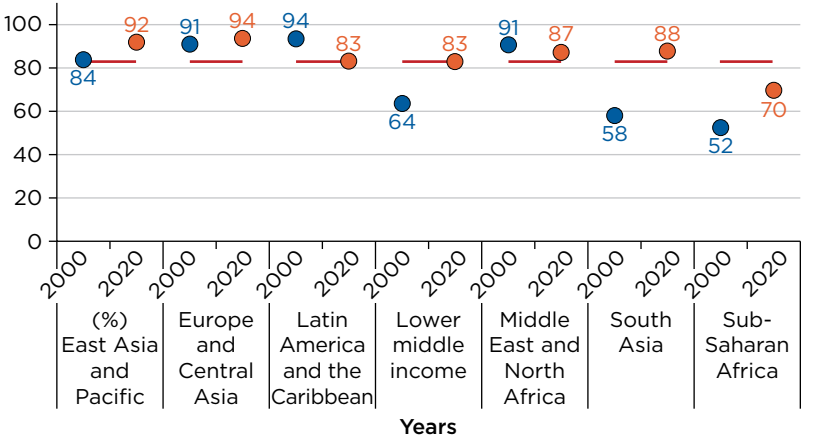
Source: World Bank staff calculations using World Development Indicators.

FIGURE 3A.4 Access to health services using proxy indicators across regions and years

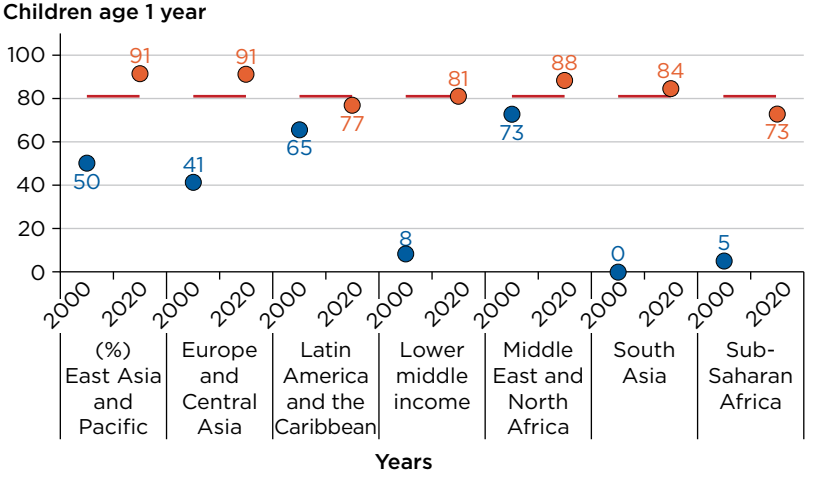
a. Modeled estimate, share of children younger than five (%)



b. Share of children ages 12–23 months



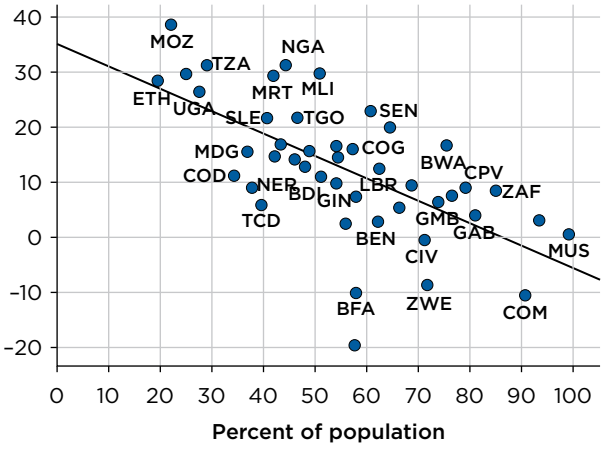
c. Share of children age 1 year



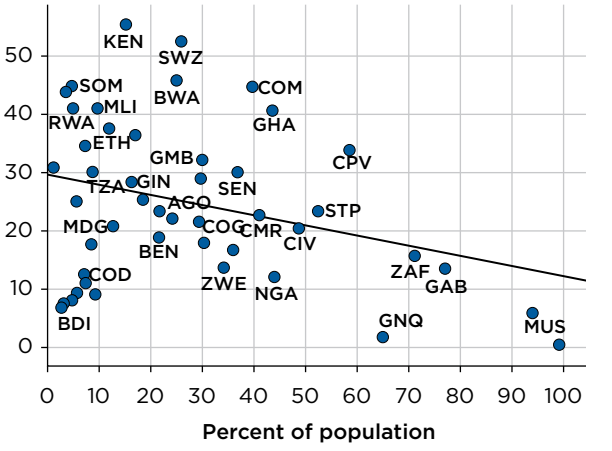
Source: World Bank staff calculations using World Development Indicators.
Note: HepB3 = three-dose hepatitis B vaccine.

FIGURE 3A.5 Changes in access to selected basic services in AFR in percentage points during 2000–20 conditional on performance in 2000

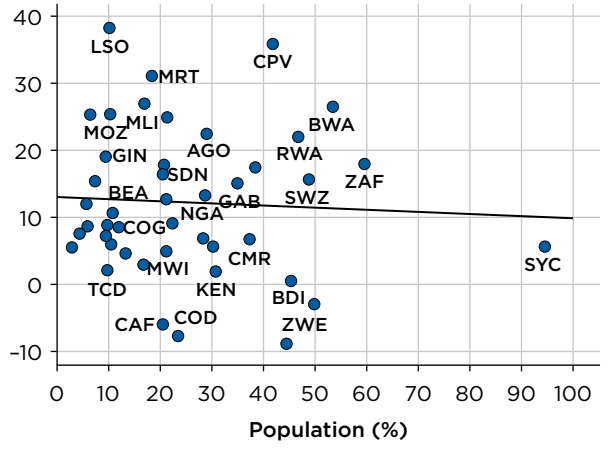
a. Basic drinking water



b. Electricity



c. Sanitation



d. Stunting

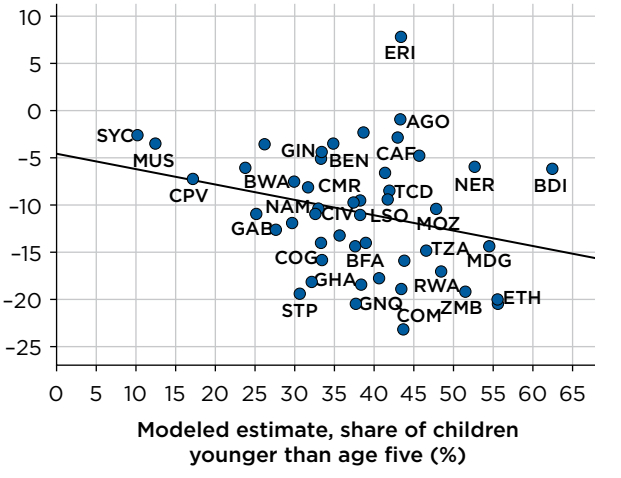
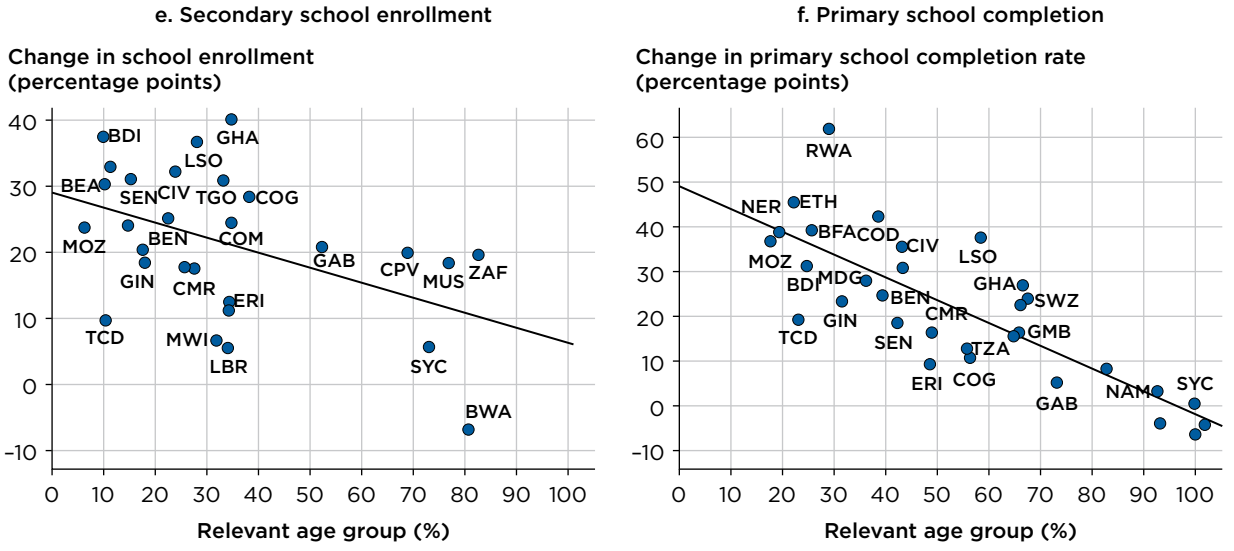
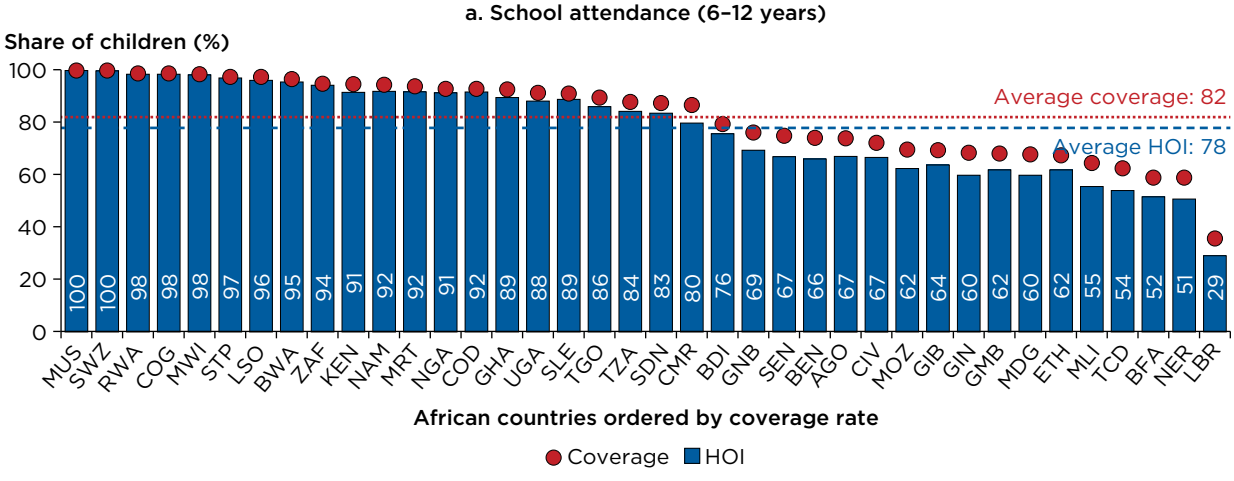


FIGURE 3A.5 Changes in access to selected basic services in AFR in percentage points during 2000–20 conditional on performance in 2000 *(continued)*



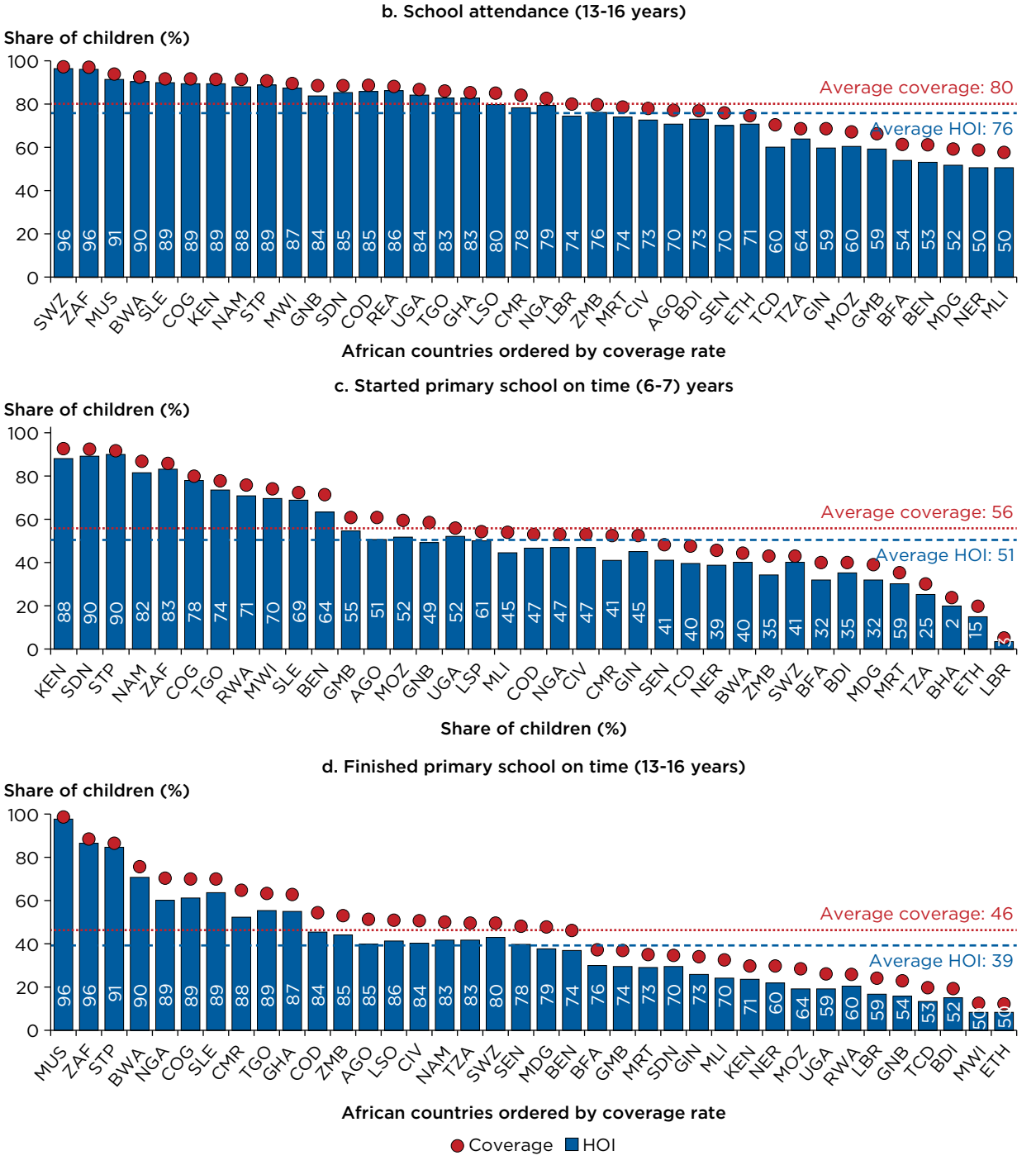
Source: World Bank staff calculations using World Development Indicators.
Note: Numbers of 2000 and 2020 are calculated using the median for values during 1998–2002 and 2018–20, respectively. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

FIGURE 3A.6 HOI and coverage rates for education across countries



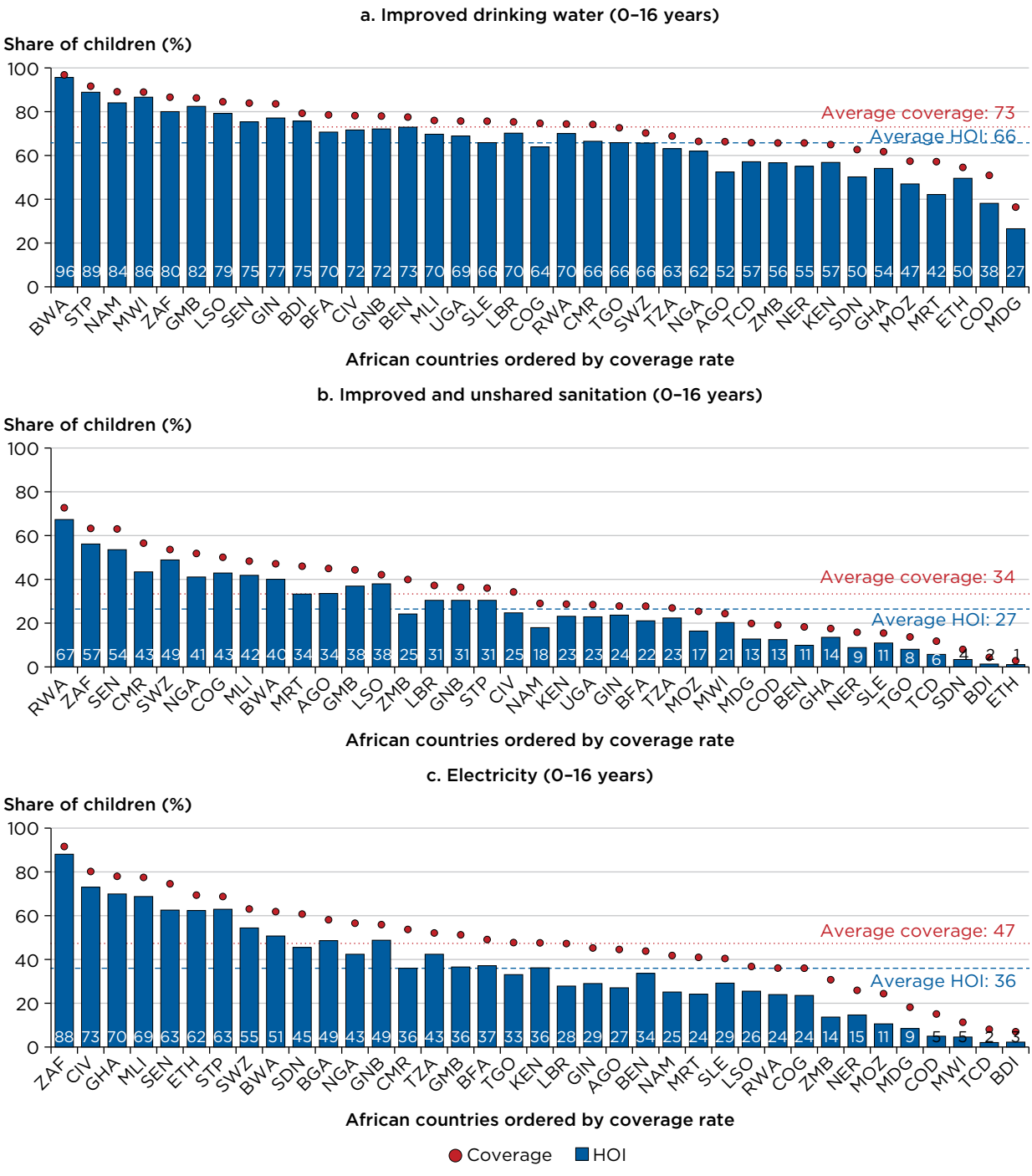
(continued)

FIGURE 3A.6 HOI and coverage rates for education across countries *(continued)*



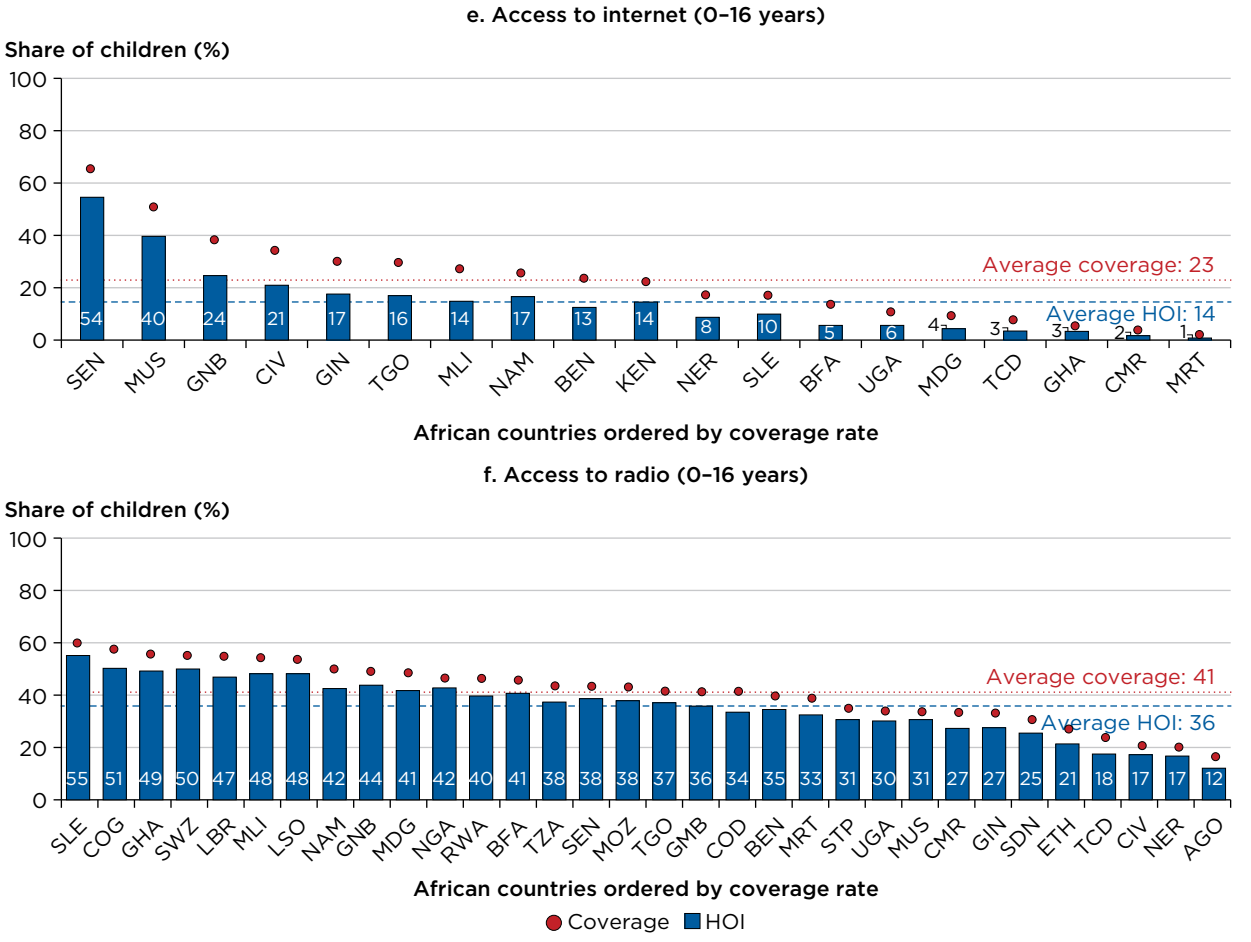
Source: World Bank staff calculations using the Global Monitoring Database.
Note: HOI = Human Opportunity Index. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

FIGURE 3A.7 HOI and coverage rates for basic services across countries



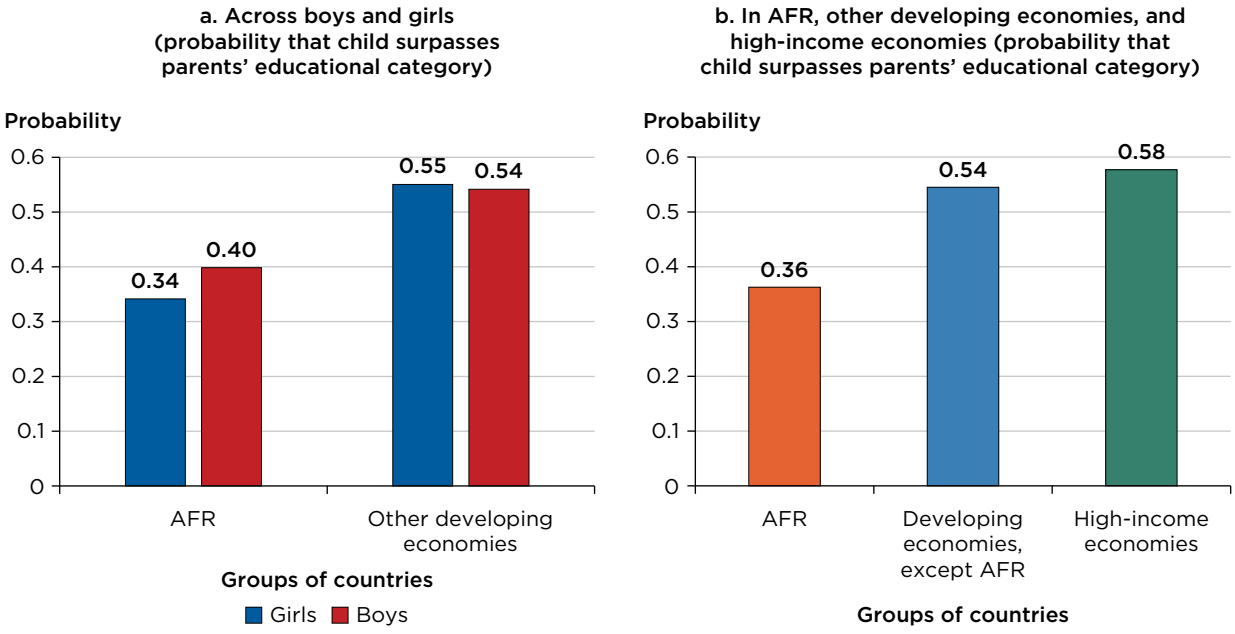
(continued)

FIGURE 3A.7 HOI and coverage rates for basic services across countries *(continued)*



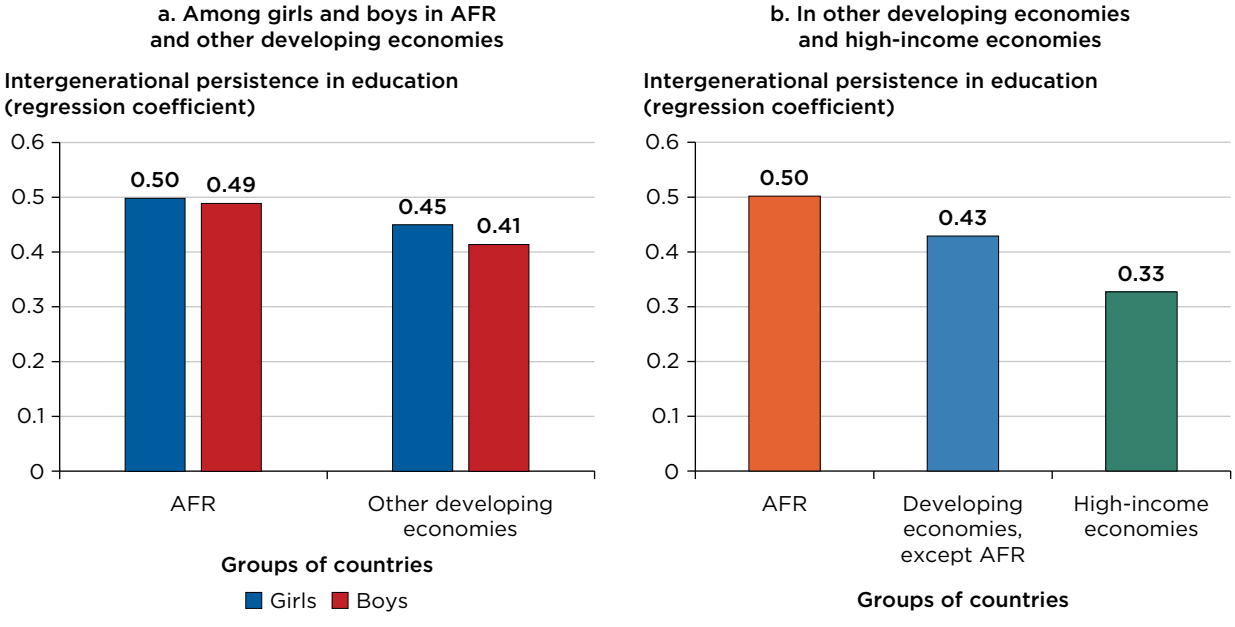
Source: World Bank staff calculations using the Global Monitoring Database.
Note: HOI = Human Opportunity Index. For country abbreviations, refer to https://www.iso.org/obp/ui/#search.

FIGURE 3A.8 Absolute upward mobility, 1980s cohort



Source: IGM database from March 2023, World Bank staff calculations.
Note: Using all surveys with retrospective and coresident questions. AFR = Sub-Saharan Africa.

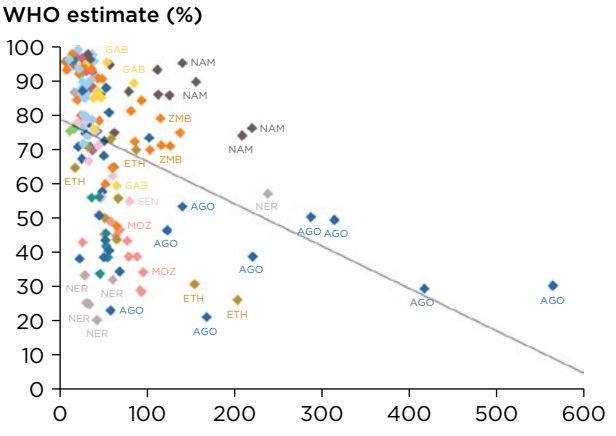
FIGURE 3A.9 Relative mobility, 1980s cohort



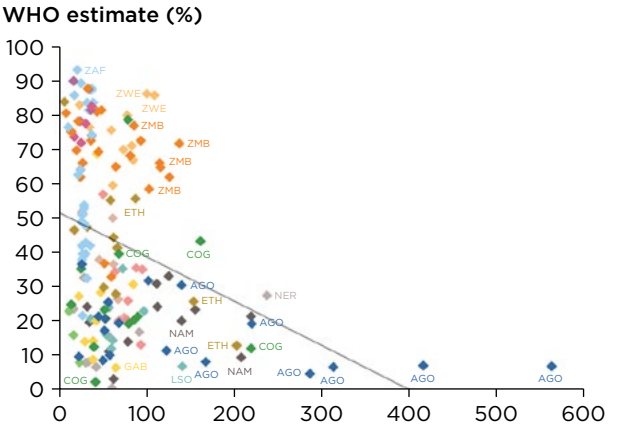
Source: IGM database from March 2023, World Bank staff calculations.
Note: Higher persistence indicates lower mobility. Using all surveys with retrospective and coresident questions. AFR = Sub-Saharan Africa.

FIGURE 3A.10 Distance to health facilities

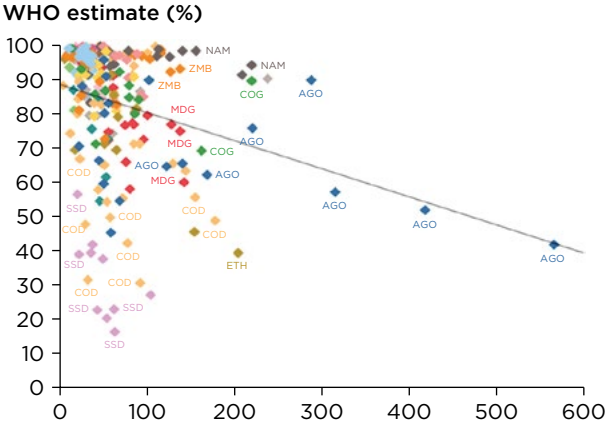
a. Versus births attended by skilled health personnel in the five years preceding the survey



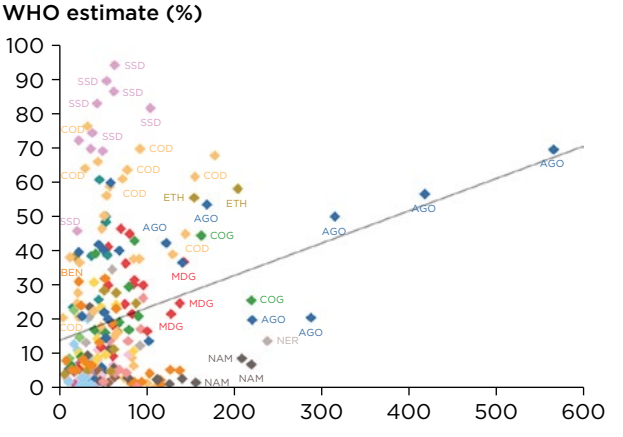
b. Versus share of newborns who received postnatal care within two days of delivery



c. Versus BCG immunization coverage among 1-year-olds



d. Versus the share of 1-year-old children who did not receive any doses of the DTP vaccine



Source: Health Inequality Monitor, WHO (https://www.who.int/data/inequality-monitor/data).
Note: BCG = Bacillus Calmette-Guerin; DTP = diphtheria–tetanus–pertussis; WHO = World Health Organization.

Annex 3B: Measuring the Human Opportunity Index

Conceptually, the Human Opportunity Index (HOI) is based on idea that there is a set of basic opportunities that are necessary to achieve society's economic potential and that should universally be provided to everyone regardless of the circumstances. Opportunities are operationalized as access to basic goods and services, which makes it easy to measure them.[13] Because HOI is calculated for children, it limits the issue of endogeneity, making sure that all observed inequality can be safely assumed to be inequality of opportunity because a child cannot be held responsible for their actions, and access to opportunity is controlled by family or society. Focusing on childhood also limits the space of opportunities to those that are critical for human development and affordable. Typically, these opportunities include access to education, basic infrastructure, immunizations, minimum nutritional levels, and a birth certificate.

Measuring HOI in its simplest interpretation involves calculating the coverage rate for services necessary to progress in life (C), discounted or "penalized" by how unfairly the services are distributed among the population (P). HOI can range from 0 to 100, with 100 percent being universal provision:

$$HOI = C - P.$$

Alternatively, HOI can be computed as

$$HOI = C(1 - P/C),$$

where P/C is called the dissimilarity index (D-index), which can be viewed as a proxy measure of inequality of opportunity. It shows a share of the total number of opportunities that should be reallocated among all groups of the population with different circumstances to ensure equality of opportunity. Consider the simple example in table 3B.1 to illustrate how the HOI and D-index are constructed.

TABLE 3B.1 Hypothetical example for HOI: Number of children ages 6 to 10 enrolled in primary school in countries A and B, by welfare group

Groups by circumstance	Country A	Country B
Group 1, top 50 percent richest households	40	35
Group 2, bottom 50 percent poorest households	20	25
Total	60	60

Source: World Bank.
Note: HOI = Human Opportunity Index.

Imagine two countries, each having a population of 100 primary-school-age children. The average primary enrollment rate in both countries is 60 percent; however, education opportunity is not distributed equally across groups. In each country, children are grouped into the 50 poorest and 50 richest groups based on per capita household income. The principle of equality will hold only if each group has 30 children enrolled in primary school and the same coverage rate (50 percent). However, only 20 children from the bottom 50 percent of income in country A are enrolled in primary school, and only 25 children from the bottom 50 percent of income in country B are enrolled in primary school. This suggests inequality in opportunity in both countries and that country A is more unequal than country B. More formally, the D-index for country A is 10/60 (10 opportunities need to be reallocated from group 1 to group 2 to achieve parity) and 5/60 for country B (five opportunities need to be reallocated from group 1 to group 2 to achieve parity). Therefore, for country A the HOI index is equal to 0.50, and for country B it is equal to 0.55. In sum, despite equal coverage rates, the HOI is lower and the D-index is higher for country A, signaling that inequality in access to education opportunities is higher than in country B:

$$HOI_a = C_a\,(1 - D_a) = 0.6 \times (10/60) = 0.50 \text{ and}$$

$$HOI_b = C_b\,(1 - D_b) = 0.6 \times (1 - 5/60) = 0.55.$$

Calculating the D-index when there are multiple circumstances becomes more complex and is done econometrically. The HOI has several appealing features. For example, the HOI will increase by a factor k if coverage for all groups increases by a factor k. If coverage for one group increases without coverage for other groups decreasing, the HOI increases. If inequality declines and overall coverage remains constant, or overall coverage increases while inequality remains constant, the HOI will always improve.

HOI was constructed for the first time for 19 countries of the Latin American and Caribbean region (Paes de Barros et al. 2009) for the following set of opportunities: completion of sixth grade at age 13; school attendance for children ages 10–14; and access to water, sanitation services, and electricity for children ages 0–16. HOI was lower for sanitation than for water services, with a regional average of 67 percent in the case of water and 43 percent in the case of sanitation. Regarding electricity, only several countries have reached universal access, and many others had HOI scores of around 50 percent. In terms of the role of different circumstances, parental education was an important divide in educational opportunity in Latin America and the Caribbean. Location was the most important circumstance in explaining inequality of opportunity in housing conditions for children.

HOI has been constructed for African countries as well. A regional study (Dabalen et al. 2015) constructed HOI for 20 African countries, using Demographic and Health Survey data from the late 2000s. HOI was estimated for the following opportunities: school attendance rates; starting and finishing primary school on

time; access to water, sanitation, and electricity; and being fully immunized and not being stunted. Circumstances included gender of the child, presence of children and elderly people in the household, rural or urban location, education of the head of household, and wealth index quintiles. Dabalen et al. (2015) found that school attendance in most countries was much higher than indicators of achievement such as primary school completion. Depending on the standard used to define adequacy, access to safe water, sanitation, and electricity in African countries ranged from uneven to poor. Inequality of opportunity was higher for immunization than for nutrition in most countries, with a caveat that nutrition depended on many factors other than just access to health care. During the period considered, the 1990–2000s, HOI increased for many countries and for most opportunities. In terms of circumstances, a child's socioeconomic background (wealth and parental education) was crucial in explaining their chances of accessing basic services and goods, followed by location (rural or urban) of the household. For all opportunities, being in a richer, urban household with educated parents was favorable. Mother's education was important in explaining inequality of opportunities in health.

In this report, HOI is constructed for the most recent household budget surveys of 38 African countries (20 of them were conducted in 2017 and later).[14] Following previous regional studies, three broad groups of opportunities were selected for HOI: education, basic infrastructure, and telecommunication services. The full list of opportunities with definitions and age groups considered is provided in table 3B.2.

TABLE 3B.2 Opportunities to construct the HOI for African countries

Opportunity	Definition
Education	School attendance (6–12 years)
	School attendance (13–16 years)
	Started primary school on time (6–7 years)
	Finished primary on time (13–16 years)
Basic services	Improved drinking water (0–16 years)
	Improved and unshared sanitation (0–16 years)
	Electricity (0–16 years)
Access to information and communication technology	Mobile phone in the household (0–16 years)
	Internet (0–16 years)
	Radio (0–16 years)

Source: World Bank.
Note: HOI = Human Opportunity Index.

For education, two indicators measure school attendance, and other two aim to capture achievements for school quality and a child's ability to use education to attain a basic level of learning. Age groups for school attendance broadly capture primary and secondary school ages. This distinction is important because in most countries primary school is compulsory and fully free, whereas access to secondary school is associated with costs even in countries where secondary education is free. Starting and completing primary school on time are equally important and reinforce one another. Children starting primary school on time are more likely to get the necessary educational inputs at an early age. Starting school later than official entry age was one of the factors for overenrollment in first grade in Africa. Children who complete primary school on time are more likely to have achieved the minimum learning to progress through grades without repetition, which is another common problem in many African countries (Bashir et al. 2018).

Access to basic infrastructure is captured by indicators of access to improved drinking water, improved and unshared sanitation, and electricity. Access to clean drinking water and improved sanitation are key drivers of public health that reduce the incidence of diarrhea and other preventable diseases, malnutrition, and other health issues. Access to electricity is an important determinant of the quality of life and facilitates access to other opportunities, including access to digital technologies, information, and studying. Households' access to information and communication technology (ICT) is believed to bring large economic gains in Africa (Calderón and Cantu 2021). However, access to ICT was not typically used in measuring HOI in previous studies, mostly because few surveys collected this information. Nowadays, most surveys include questions about access to digital services. Three indicators were selected to measure ICT opportunities: access to mobile phones, internet, and radio. Inclusion of radio makes sense in Africa because it is one of the most-used mass communication mediums.[15]

Given that HOI in this report is based on household budget surveys, which do not typically measure health opportunities and access very well, secondary sources are used to illustrate discrepancies for selected indicators such as immunization and stunting (low height for age). The opportunity to be adequately nourished is a key factor affecting human capital and lifelong earnings. In contrast to other indicators, it is not an input indicator but an outcome of multiple different policies, including access to water, sanitation, health services, and so forth.

The circumstances, defined as exogenous characteristics of the child, are not supposed to affect access to selected opportunities. The following set of circumstances were used: household demographic composition measured by the number of children in the household, child's gender, head of household's education level, monetary well-being, and location captured by rural–urban and regional dimensions (refer to table 3B.3). It is important to remember that the HOI changes if circumstances change, so the results of this study hold for a selected set of circumstances and are subject to change if circumstances are changed. If new circumstances are added, the HOI will always be lower and inequality higher, meaning that HOI and inequality always serve as an upper and lower bound of the "true" HOI and inequality based on all circumstances.

TABLE 3B.3 List of circumstances used to construct the HOI for African countries

Circumstance	Definition
Household member characteristics	Number of children in the household (ages 0–16 years)
Child characteristics	Gender
Head-of-household characteristics	Gender
	Education level
Monetary well-being	Average household consumption per capita in 2017 US$ PPP
Location	Urban–rural areas
	Regions

Source: World Bank.
Note: HOI = Human Opportunity Index; PPP = purchasing power parity.

Annex 3C: Measuring intergenerational mobility

Parental characteristics are often included as potential factors contributing to inequality of opportunity and inequality in access to basic services. Inequality will be transmitted across generations if a child's outcome depends on parental characteristics. Intergenerational mobility (IGM) directly measures whether people's life outcomes, such as earnings, education, and occupation, depend on those of their parents. In a society with more equal opportunities, the link between the children and parental outcomes would be weak, and people would be more socially mobile. Given that education is a key dimension of human progress—in particular, of earnings—educational mobility is important on its own and is an essential element of economic mobility. There are other reasons for using information on intergenerational education instead of intergenerational income to measure economic mobility. First, education data across generations are much more widely available. Second, it is easier for respondents to report parental education with high-level precision than it is their income. Third, adult education level does not vary much over the life cycle, and one survey round can capture all necessary information, whereas accurate tracking of individual income will require panel data.

To measure IGM, this report relies on the World Bank's (2023a) Global Database on Intergenerational Mobility (GDIM), used in van der Weide et al. (2021, 2024).[16] This is the largest database covering 153 countries of the world and representing 97 percent of the global population. The database contains estimates of IGM in education by 10-year cohorts, covering individuals born between 1940 and 1989 and using mostly representative household budget surveys. The estimates of IGM for the generation born between 1980 and 1989 contains IGM estimates by the type (subpopulation) of parental educational attainment (mothers, fathers, average, maximum) and the

type (subpopulation) of child's educational attainment (sons, daughters, all respondents to the surveys). This allows more granular estimation between, for example, the relationship of mother's to daughter's IGM.

Depending on each survey, parental education is measured differently. Some surveys measure parental education asking all adult respondents retrospective questions on the education of their parents, as well as their own education. Some surveys do not collect retrospective data, and coresident data are considered instead. In these surveys, the information on parental educational attainment is obtained for the subset of all respondents ages 21–25 who coreside with their parents. This limits information from these surveys to only one cohort: the 1980s. The largest number of coresident surveys is observed among African countries: 21 of 43. This makes it challenging to measure intergenerational mobility over time in Africa. Therefore, the most accurate comparison of Africa with other regions can be done for the latest 1980s cohort, whereas IGM estimates over time in Africa are based on only a limited set of surveys with retrospective questions.

Notes

1. All dollar amounts are US dollars unless otherwise indicated. Dollar amounts adjusted for purchasing power parity are noted in the text. For example, gross domestic product (GDP) per capita in 2017 purchasing power parity constant prices was US$6,544 in lower-middle-income countries in 2020 compared with US$3,655 in Africa (developing countries only).
2. An important caveat here is the difference in the period in which data were collected in different countries, which may have a significant impact on the results.
3. The rank correlation coefficient between GDP per capita and the average dissimilarity index (D-index) was -0.56 ($p = 0.0003$).
4. The rank correlation coefficient between international poverty and the average D-index was 0.4732 ($p = 0.0027$).
5. Relative intergenerational mobility can be measured by using correlation coefficients between children's and parents' years of schooling, coefficients from regressing children's on parents' years of schooling, or both.
6. The results remain qualitatively the same for the 1980s cohort if all surveys are used, regardless of how parental education is measured.
7. Determined through Living Standard Measurement Surveys for Burkina Faso, Ethiopia, The Gambia, Ghana, Malawi, Mali, Niger, Nigeria, Tanzania, and Uganda.
8. Learning-adjusted years of schooling is simply the product of a country's expected years of schooling and its harmonized learning measure (test scores) benchmarked against a standard.
9. The four countries are the Democratic Republic of Congo, Ethiopia, Nigeria, and Tanzania. See Stanley (2023).
10. Tertiary education spending is undoubtedly important for skill development and potential economic growth; however, additional efforts are needed to ensure that this spending is more inclusive, including through scholarships aimed at talented low-income children.
11. Kerwin and Thornton (2021) warn, though, that reducing the costs of a highly effective program can make it less effective, leaving some students worse off.

12. That is, 10,000 conflict deaths per 100,000 people in the setting of their formative years.
13. By using access as a synonym for opportunities, we assume that access implies usage of a services. Having a school nearby does not imply access, but school attendance will be viewed as access (opportunity). It is also important to make sure that quality is taken into consideration in defining access by having a minimum threshold of quality for each basic good or service.
14. This is not the full list of countries with surveys available, but the list of countries with surveys for which it was possible to construct all selected opportunities and create all circumstances.
15. For illustrative purposes, the Human Opportunity Index for basic services will be expanded to account for the quality of services. For example, access to electricity will consider hours of services available and access to drinking water will consider the distance to the source. This is done for several countries for which this information was collected.
16. The database is being constantly updated, and this report uses version 3 (March 2023).

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SPOTLIGHT 2

Poverty and Inequality Influencers: Gender Equality

ANA MARIA OVIEDO AND HUGO ÑOPO

> Every woman shall have the right to respect as a person and to the free development of her personality.
>
> —Article III.2, *Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa* (African Union 2003)

Gender equality is a fundamental tenet of social justice and a driver of economic development. It fosters a fair playing field while contributing to equal access to opportunities and resources. Equality of opportunities allows the full use of human capital by broadening the talent pool and stimulating innovation and entrepreneurship, all of which contribute to a more robust, inclusive, and sustainable economy (World Bank 2012). However, in Africa, gender equality is still far from a reality, with varying progress across the region (AfDB and UNECA 2020; Beegle and Christiaensen 2019; Broccolini, Fruttero, and Jain 2023).

The basics: equality before the law, social norms, and early investments

By 2022, 47 countries had signed the *Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa*, or Maputo Protocol (African Union 2003), committing to equalize women's rights. However, many legal barriers persist. *Women, Business and the Law 2024* (World Bank 2024) indicates that, of 2.5 billion working-age women lacking equal legal rights globally, 346 million are in Africa. Although the region has recently made notable progress, there is wide cross-country variation in women's legal rights, with 24 economies scoring below the global average (77.9) and four scoring below 50, meaning that in these countries, women have fewer than half of men's rights in the domains considered. The 2021–23 period deserves

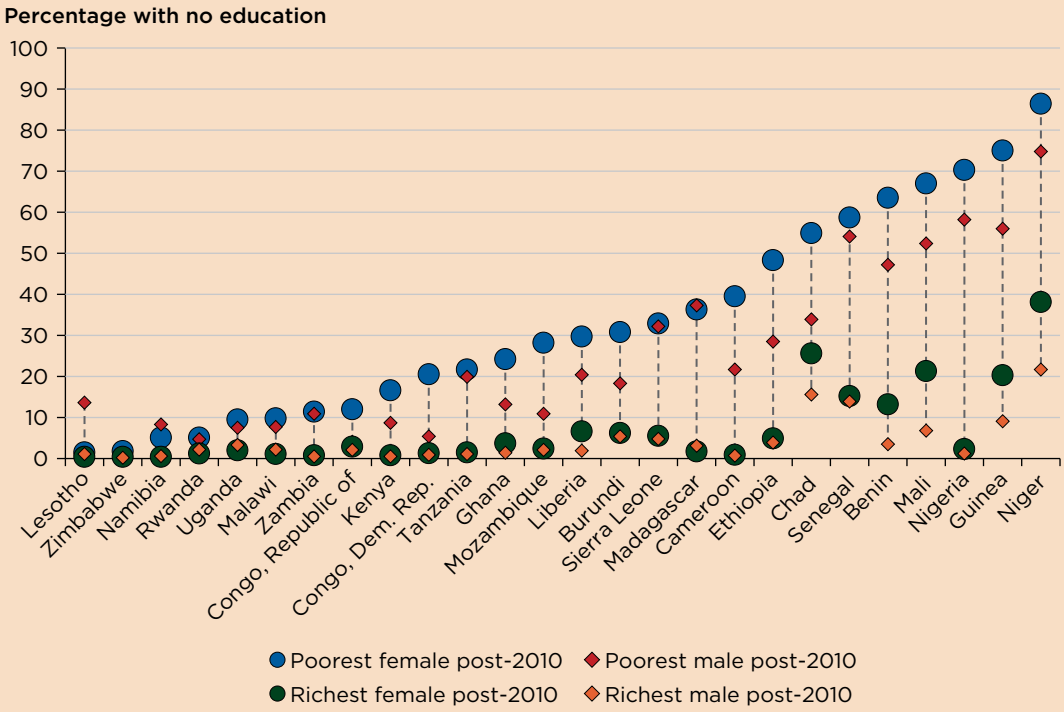
special attention because it has witnessed a notable surge in reforms aimed at fostering gender equality in Africa. *Women, Business and the Law 2024* shows a 1.15-point increase in the region's average score since October 2022, reaching a score of 74, higher than that for East Asia and the Pacific. This positive trend can be credited to the substantial contributions in the past two years of Benin, Côte d'Ivoire, Equatorial Guinea, Gabon, Lesotho, Malawi, the Republic of Congo, Rwanda, Senegal, Sierra Leone, Togo, and Uganda. Over time, Rwanda, Sierra Leone, and Togo implemented multiple reforms that resulted in scores above 90. Recent reforms encompass diverse and crucial measures, including legal adjustments to enhance women's involvement in all sectors, the implementation of parental leave policies, ensuring equal pay for equal work, and the prohibition of gender-based discrimination in accessing credit, among other significant steps.

Gender inequality manifests throughout the life cycle, disproportionately affecting impoverished women (Beegle and Christiaensen 2019). Intrahousehold disparities subject women to human rights abuses, such as female genital mutilation (FGM), early family formation, and increased household work. These factors consistently hinder human capital accumulation and limit opportunities, perpetuating poverty across generations. Concerningly, FGM persists in 33 African countries, with high prevalence in The Gambia, Guinea, Mali, and Somalia, affecting more than 7 in 10 women ages 15–19 (UNICEF 2024). Positive trends have emerged in Burkina Faso, Chad, Côte d'Ivoire, Ethiopia, Mauritania, and Sierra Leone, where advocacy, legal reforms, and changing social norms have lowered the prevalence in younger cohorts.

Weak legal protections, cultural norms, and limited access to education and economic opportunities contribute to prevalent early marriages and parenthood among young women in Africa (Melesse et al. 2021; Parsons et al. 2015). In the region, a minority of countries (13) have enacted legislation setting the legal age for marriage at 18, whereas 17 countries have no minimum age, and the rest have set a minimum age younger than 18 (Costa et al. 2023). In Western Africa, 40–60 percent of women ages 15–19 are in unions or married; this is also prevalent in high-poverty countries, such as Madagascar and Mozambique, trapping poor girls in a cycle of poverty (Melesse et al. 2021; Parsons et al. 2015).

Notwithstanding the expansion of primary education since 1990, children in the poorest quintile consistently show lower attendance and completion. Secondary education gender gaps widen toward the end of lower secondary school, most notably in West Africa, Ethiopia, and Madagascar. Moreover, in the Sahel region, post-2010 Demographic and Health Survey data reveal that significant proportions of women ages 15–24 in all wealth quintiles lack any education (refer to figure S2.1). Additionally, increased hours of unpaid household work during adolescence negatively affect job quality and earnings in adult years (Carmichael et al. 2023).

FIGURE S2.1 Share of women ages 15–24 with no education, by wealth quintile, Africa



Source: World Bank, Demographic and Health Survey data, various years (https://dhsprogram.com/).

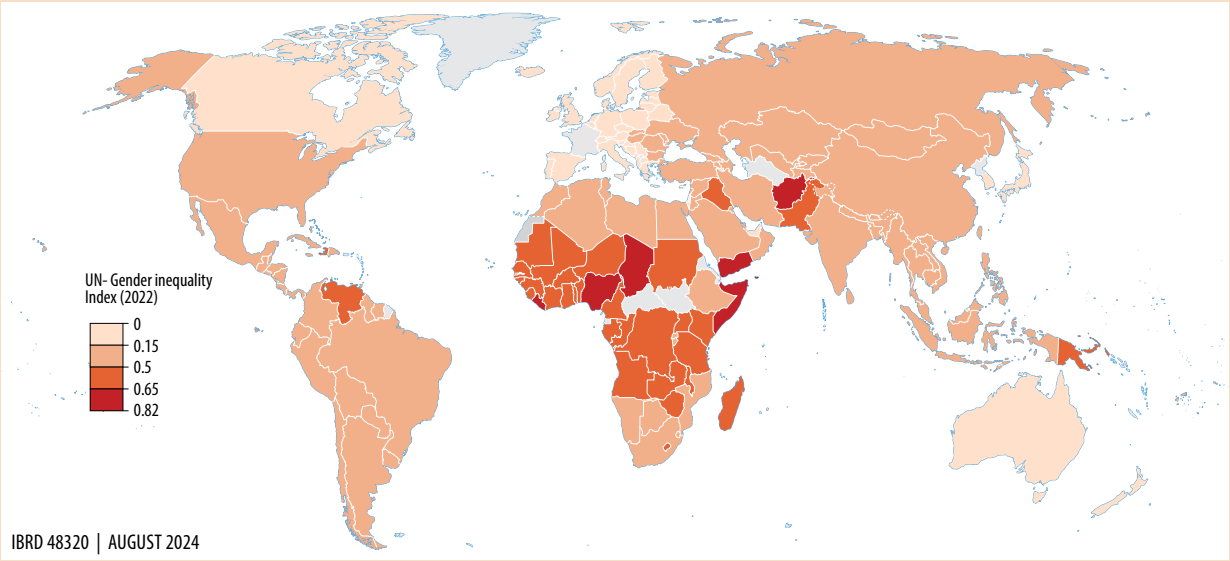
Development outcomes: the elusive economic parity

Although progress on the legal front is visible, gender gaps in human development and economic outcomes remain so wide in Africa that it is now the most gender-unequal continent (refer to map S2.1). The UN Gender Inequality Index for 2022 places the region below all others and shows little progress over time (UNDP 2022a, 2022b). Women in Africa are more active in the labor force and public services than women in other regions, but their human development indicators, such as secondary education, maternal mortality, and adolescent fertility, significantly lag those of other regions (Costa et al. 2023).

Moreover, women in Africa predominantly work in vulnerable jobs, and their productivity and earnings trail those of men (Costa et al. 2023). The documented gender differences in employment quality, productivity, and earnings contribute to a heterogeneous gender pay gap, closely linked to countries' stage of structural transformation and economic development. Indeed, in wealthier countries workers have greater access to wage employment (generally superior to self-employment), and

the gender gap is narrower. This is also true for earnings (Van den Broeck, Kilic, and Pieters 2023). For example, Nigeria, at a more advanced stage, exhibits a smaller gender pay gap compared with Malawi and Tanzania. Educational discrepancies, occupational segregation, and location (urban versus rural) also explain the earnings gap.

MAP S2.1 Gender inequality across the world



Source: UNDP 2022b.

Productivity gaps affect entrepreneurs and agricultural workers alike. Female-owned businesses consistently underperform male-owned ones, facing challenges such as fewer employees, lower sales, and less value added (World Bank 2019). Agricultural productivity is similarly estimated to be 13–25 percent lower for women-controlled plots, even when accounting for size and region (World Bank and ONE 2014).

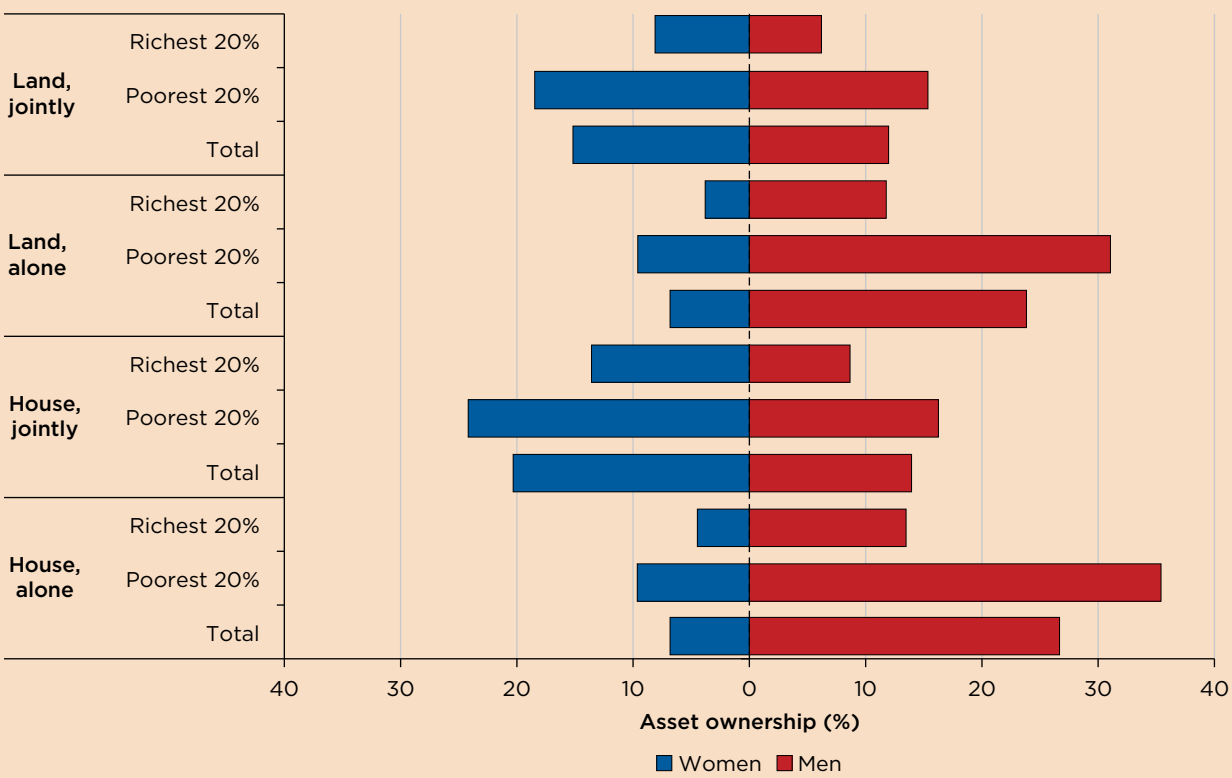
For these outcomes, equality before the law is crucial. For women entrepreneurs, legal constraints and societal norms pose obstacles, limiting business ownership and perpetuating discriminatory practices (World Bank 2019). Gender-based violence further impedes well-being and managerial capacities (Morrison and Orlando 2004; Ouedraogo and Stenzel 2021). Education and skills gaps undermine women's confidence and resources to compete in male-dominated sectors (Carranza, Dhakal, and Love 2018; World Bank 2022). Limited access to financial resources hampers investment capacity (Suri and Jack 2016). In agriculture, factors such as land tenure systems, control issues, and restricted access to social networks undermine productivity for women, who also contend with reduced authority over household resource allocation (Gaddis, Lahoti, and Li 2018; World Bank and ONE 2014) and substantial time dedicated to nonremunerated activities (Dinkelman and Ngai 2022).

Social norms and the legal framework perpetuate a key inequality: agency

In Africa, gender gaps are largely fueled by disparities in agency, which are particularly evident in legal constraints surrounding marriage and divorce. Notably, four countries—Equatorial Guinea, Mali, Mauritania, and Sudan—have legal provisions mandating wives to obey husbands, and nine countries impede women from assuming head-of-household roles similar to those of men (World Bank 2024). Dissimilar divorce procedures for men and women exist in 10 countries, and 25 nations maintain distinct remarriage procedures. Shockingly, 12 countries lack specific legislation addressing domestic violence.

Legal recognition of women's nonmonetary contributions to households remains absent in 40 percent of African economies, limiting their economic autonomy. Nine economies deny women equal ownership rights to immovable property, and the same number restrict women from controlling jointly owned assets. Property inheritance rights are also unequal in 12 economies, favoring sons over daughters. Not surprisingly, systematic gender disparities persist in property ownership (refer to figure S2.2), with around 8 percent of married women owning land or housing alone, compared with about 25 percent of married men across 37 countries. These gender gaps are most pronounced in West Africa, whereas Southern Africa exhibits more even ownership.

FIGURE S2.2 Sole ownership of assets among women and men



Source: World Bank, Demographic and Health Survey data, latest year available.

Studies underscore the pivotal role of women's asset ownership for household-level outcomes, affecting decision-making power, consumption, human capital investment, and intergenerational transfers. Maternal status significantly influences the well-being of the next generation, shaping nutrition, health, and overall development. However, an observed trade-off between women's increased agency and intimate partner violence (IPV) indicates a positive association between women's employment and both acceptance and experience of IPV, especially in areas with higher abuse tolerance and economic inequality (Cools and Kotsadam 2017; González-Brenes 2004).

Gender and the unrealized economic potential

The impact of gender inequality on a country's economic potential is often underestimated, particularly when focusing on poverty as the primary dimension. In Senegal, gender disparities in nonfood consumption within households were found to increase overall consumption inequality by 14 percent (De Vreyer and Lambert 2021), highlighting the significance of intrahousehold gender inequality in identifying vulnerable populations. Notably, nonmonetary deprivations persist among women, even in households not categorized as poor (Brown, Ravallion, and van de Walle 2019).

Addressing gender disparities is not only a matter of social justice but also a crucial step toward unlocking the full economic potential of the region. Several studies emphasize the economic benefits of addressing gender disparities, particularly in the labor market. Global estimates suggest that gender gaps in economic activity, including labor force participation, occupational segregation, and wage disparities, contribute to an average income loss of 15 percent, with 40 percent attributed to entrepreneurship disparities, disproportionately affecting developing countries (Cuberes and Teignier 2016). Conversely, enhancing women's labor market opportunities, measured by their increased share of employment, enhances aggregate technical efficiency and fosters economic growth, particularly in developing economies (Bargain and Lo Bue 2022; Bertay, Dordevic, and Sever 2020; Hazarika, Khraiche, and Kutlu 2023; Pervaiz et al. 2023).

The way forward: breaking the inertia of slow progress

Although gender disparities are prevalent across the region, some progress can be seen in recent years, especially on the legal front. A key fact conveys both good and bad news: most of the legal progress of the region is explained by about one-fourth of the countries. A pessimistic view is that most legislative bodies in the region have taken no action toward gender equality. An optimistic one is that there are about a half-dozen interesting models to follow. What did these countries do? What sparked the action? Are there replicable experiences? The answers to these questions will be valuable in paving the way for action on the legal front, reducing unnecessary barriers impeding equal opportunities for men and women.

However, the much-needed change must transcend the law, converting the vicious cycle that links norms and laws into a virtuous one (Benabou and Tirole 2011). This involves addressing inequality both in households (human rights abuses, gender roles, and human capital investments, among others) and in public spaces (equal opportunities in the labor market, in business developments, and in assets accumulation, among others). For most of these issues, single interventions and policies are not enough, and recent evidence clearly shows that the most significant progress results from multisectoral approaches that combine addressing financial barriers, building skills, increasing access to sexual and reproductive health, and changing the narrative around gender roles for men and women (Costa et al. 2023; Starrs et al. 2023).

Investing in women's human capital, reforming laws to ensure basic rights, and influencing social norm changes will boost the sustainability of incipient progress in human capital and economic outcomes, in this way expanding the virtuous cycle and realizing the potential of more egalitarian societies on their path to development.

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