Chapter 3

Skills for Productive Employment

A critical part of the policy agenda for youth employment in Africa is to strengthen human capital. Although training alone will not deliver more and better jobs for youth—much also depends on policies to strengthen the business environment, as discussed elsewhere in this report—the education that young people receive and the skills they acquire can expand the spectrum of employment opportunities they can access and the earnings they are likely to command. Skills strongly influence where people work and how much they earn. A key problem is that across Africa rapid increases in school participation and educational attainment have come at the cost of quality, contributing to a serious shortfall in the skills for productive employment. Those skills include basic and higher-order cognitive skills, behavioral and socioemotional skills, technical or vocational skills, and business skills.

To facilitate entry, improve productivity, and raise earnings across the range of employment in agriculture, household enterprises (HEs), and the modern wage sector, the most pressing priority is to increase the quality of schooling and ensure that it delivers actual learning and skills. Other important priorities are to identify and directly build the socioemotional and behavioral skills that contribute to productivity, including the skills demanded by employers, and to build the evidence needed to guide specific programs to improve skills for youth employment. Governments must also bear in mind that a dynamic private market exists for training and avoid introducing undue distortions in this market. Priority areas for government intervention are to provide information and facilitate access to existing training for disadvantaged youths (such as young women or the poorest) as well as to ensure the availability of better-quality training options. In the presence of active training markets, public interventions need to be selective, performance driven, and evidence based.

Low educational achievement and limited skills contribute to difficult transitions into work and limited employment mobility among African youth. Education and skills open pathways into productive employment. Schooling is a good predictor of an individual’s eventual occupation, but the quality of education also matters for productivity. In Africa more children attend school than ever before. Yet the generally poor quality of the education they receive means that schooling has relatively small effects on productivity, earnings, and poverty reduction. Rapid improvements in the quality of education and training are needed in order to deliver the skills that will enable Africa’s youth to access better opportunities and move from youth to work.
of learning provided in school are critical to increase the productivity and earnings of Africa’s youth.

**Schooling, Educational Attainment, and Work**

Measured against the objective set by the Millennium Development Goal for education—“ensure that all boys and girls complete a full course of primary schooling”—Sub-Saharan Africa has made remarkable progress. Across the region, the share of children completing primary school rose from 51 percent in 1990 to 70 percent in 2011. Some countries made exceptional progress (figure 3.1). Burkina Faso, Chad, Ethiopia, Madagascar, Malawi, Mauritania, Mozambique, and Niger more than doubled their primary completion rates; Benin, Guinea, Guinea-Bissau, and Mali more than tripled theirs. These achievements rival those of countries with the best historical increases, such as the Republic of Korea, and far exceed those typical of most developing countries since 1960 (Clemens 2004). An average young Ghanaian or Zambian today has more schooling than an average French or Italian person in 1960 (Pritchett 2013).

Nevertheless, these improvements started from a very low base, and Sub-Saharan Africa lags behind other world regions in primary school completion. The young people entering Africa’s labor force right now have more schooling than any previous generation, but they still have little overall schooling. Nearly 60 percent of 15- to 24-year-olds have completed only primary school (figure 3.2). Among the group that is most likely to have exited school for good—those who are 25–34 years old—30 percent have no education, 21 percent have completed only some primary schooling, and 14 percent have completed only primary education. About 35 percent have continued beyond primary school, and 19 percent have gone beyond lower-secondary school. Educational attainment is higher in urban areas, although more than 40 percent of 25- to 34-year-olds in those areas have not completed lower-secondary school.
Younger generations are likely to do better. Thanks to recent progress in getting children into school, incoming cohorts should have substantially higher levels of education than past cohorts—in fact, they will be the most highly educated cohort ever in Africa. By 2020, more than half of men ages 15–24 are projected to have attained secondary education; women will cross that threshold in 2025 (figure 3.3). Of course these projections depend on policies to come, and they are only a rough guide to actual outcomes. Moreover, greater access to schooling has come at the cost of learning outcomes, as discussed later.

**Schooling and Sector of Employment**

The links between educational attainment and sector of employment are very clear. Most people who never finish primary school work in agriculture. Those with a primary or lower-secondary education work in nonfarm household enterprises (HEs), whereas those with higher levels of education are more likely to enter the modern wage sector.
Since schooling strongly influences the sector in which people work, the educational profile of wage earners is very different from that of workers in the agricultural and HE sectors in Africa. The great majority of youths and young adults working in agriculture never completed primary school. Close to 80 percent of those ages 25–34 who work in agriculture have primary schooling or less; 40 percent have no education at all (figure 3.4). The educational attainment of youths and young adults who work in HEs is only somewhat better, but about half have not completed even primary schooling.

Completion of primary or additional education becomes the norm only among young adults in the wage sector. Almost 65 percent of 15- to 24-year-olds who work for wages have completed primary school. Because youths who transition out of school later are more likely to enter the wage sector, the share of young adults (25–34) who finished primary school and are employed in that sector increases to over 80 percent. Wage employees are significantly more likely to have a secondary or a tertiary education: among 25- to 34-year-olds, wage employees are more than twice as likely as the self-employed to have completed secondary schooling.

Wage workers with more schooling are also more likely to work under contract—an indicator that they perform more formal modern wage work (figure 3.5). Close to 70 percent of wage employees without primary schooling lack a contract, compared to less than 40 percent of those with upper-secondary schooling.

The relationships between schooling and work in each sector are broadly similar across various subgroups of the population, with two main distinctions. First, women are substantially more likely to work in the nonfarm HE...
sector as their educational attainment rises, suggesting that education facilitates women’s transition out of agriculture (figure 3.6). Second, participation in the wage sector begins at lower levels of educational attainment in urban areas, reflecting the larger pool of educated youth in urban areas as well as the greater availability of jobs for relatively unskilled workers in the modern wage sector.

**Will Workers’ Increasing Educational Attainment Change Employment Patterns?**

There is potential for employment patterns to shift, if current patterns in educational attainment and sector of work persist in Africa and if educational attainment improves as projected. Africa is positioned for a large shift of workers out of the farm sector and into HEs, along with an increase in modern wage sector employment.

Analysis of past trends in four countries (Al-Samarrai and Bennell 2007) suggests that increasing shares of secondary school graduates are working in self-employment (Malawi, Tanzania, and Zimbabwe, for example), except where economic growth has led to the creation of substantially more self-employment and wage jobs (Uganda). The employment projections in chapter 1 suggest that even a growing modern wage sector cannot absorb the incoming cohorts of youth. The majority of young people will still create their own livelihoods. As a result, a growing share of workers in agriculture and nonfarm HEs will probably have higher levels of schooling.

Shifts in employment patterns will not occur automatically. Additional years of schooling that impart actual competencies will be needed for young people to develop the skills that can promote such a shift. Research has suggested that higher levels of educational achievement and cognitive skills are associated with overall economic growth (Hanushek and Woessmann 2012) as well as with the employment of a larger share of youth in modern wage jobs outside of agriculture (Lee and Newhouse 2012). If increases in educational attainment are not associated with a greater accumulation of skills, schooling will have a limited effect on overall growth and composition of employment. Then there is the demand side of the labor market to consider. The economy will need to generate new employment opportunities to make use of the learning and skills acquired by young people. As discussed throughout this report, policies to address human capital are not sufficient in themselves to address the youth employment challenge; improvements in the business environment are needed as well.

“Education guarantees a better job and a stable life.”

Togo
Schooling Increases Productivity and Earnings
Schooling is associated not only with the sector in which youth—and older workers—work, but also with greater productivity and earnings. Therefore, in addition to facilitating entry into nonfarm HEs and modern wage jobs, education is also essential to tackle the policy challenge of increasing workers’ productivity across the spectrum of employment.

The education level of household members is a strong determinant of standards of living. Households where adults have attained higher levels of schooling have substantially higher consumption levels per capita than households where members have less schooling. This difference partly reflects the selection of workers into sectors described previously.

Considerable research in the agricultural sector indicates that farmers with primary schooling tend to have higher profits than farmers without schooling, even for those holding similar assets. Educated farmers generally are the first to adopt new seeds, tillage practices, fertilizer, and animal breeds (see, for example, Welch 1970; Huffman 1977; Besley and Case 1993; Foster and Rosenzweig 1995; Abdulai and Huffman 2005). The benefit of education is particularly pronounced in environments undergoing rapid technical change (Foster and Rosenzweig 2010). More educated farmers are more likely to adopt new agricultural technologies first, either because they initially have more information about the technology or because they are able to learn more than less educated farmers exposed to the same information. Schooling enhances the capacity to learn throughout life. The introduction of new technologies is a learning opportunity that reveals the complementarity between schooling and the adoption of profitable new technology.

Outside of agriculture, in the HE and wage sectors, the link between education and earnings is strong. Figure 3.7 shows that higher levels of education among HE owners are associated with higher earnings in Ghana, Rwanda, Tanzania, and Uganda. Figure 3.8 shows the average wage increment associated with increasing levels of education by comparing wage workers at each education level to uneducated workers in a sample of nine African countries. In both figures, earnings differentials are adjusted for the age, gender, and rural or urban location of the worker. The figures should not be understood as indicating “returns to education.” They merely capture an association between education and earnings and may not fully control for factors that confound the analysis (box 3.1 discusses the challenges in estimating returns to education).

![Figure 3.7 Education is associated with higher earnings in household enterprises](image)

Source: Based on standardized and harmonized household and labor force surveys (see appendix).
Note: Figure displays net average earnings (sales minus expenditures per month) for a sample of self-employed owners of HEs by level of education (relative to HE owners without education).

Earnings Tend to Increase Little with Only a Few Years of Primary Schooling
A review of rates of return to education across several developing countries finds that the mean rate of return to an additional year of education is almost 9 percent (Banerjee and Duflo 2005). In other words, six years of primary schooling yield an increment of almost 70 percent. Although figures 3.7 and 3.8 do not necessarily represent estimates of rates of return to education (box 3.1), they illustrate an association between earnings and education that is substantially lower than the link documented in other developing countries. A few years of basic education appear to yield much lower productivity gains in Africa than in other regions.

For instance, owners of HEs who have not completed primary education do not earn sig-
significantly more than owners of HEs without any education—suggesting that minimal productivity gains are associated with a few years of primary school (figure 3.7).1

In contrast, HE owners who have completed primary education earn significantly more than HE owners who have no education. The earnings increment associated with primary school completion ranges from 25 percent in Ghana to 46 percent in Rwanda. Low earnings differentials at low levels of education are a serious issue, because most young people in the HE sector have not completed primary school.2

In the wage sector, workers with incomplete primary schooling earn a modest premium (10–25 percent on average) compared to workers with no education, and often the difference is not even statistically significant (Ghana, Mozambique, and Sierra Leone).3 In contrast, wage workers who have completed primary education earn consistently more than uneducated wage workers. The wages of primary school completers typically are more than 20 percent higher than the wages of workers without education; the gap reaches as much as 32 percent in Cameroon. Wage workers with upper-secondary education typically earn wages that are 100–150 percent higher than those without education.

Earnings Increase Faster with Education beyond Primary School

In contrast with the limited earnings gains associated with a few years of basic education, earnings and wages increase faster when education extends beyond primary school. For owners of HEs, the increment in earnings associated with completing lower-secondary education ranges from around 35 percent in Ghana and Tanzania to around 60 percent in Rwanda and Uganda. Upper-secondary and postsecondary education are associated with even higher increments to earnings, although few individuals in the HE sector acquire that much education.4

These descriptive patterns are consistent with more robust econometric evidence tackling the selection issues involved in estimating returns to education (Fasih et al. 2012), particularly in Africa and in the HE sector.5 An analysis of seven cities in West Africa found evidence of strong associations between education and earnings in HEs as well as evidence of an increase in the earnings premium across education levels (figure 3.9; Kuepie, Nordman, and Roubaud 2009). In particular, the study found that marginal returns for an additional year of postprimary education are higher than marginal returns associated with an additional year of primary education.

As seen in figure 3.8, individuals in the wage sector who have completed upper-secondary school earn 30–155 percent more than individuals without any schooling. Postsecondary education is associated with a premium of 70–200 percent over no schooling. As in the HE sector, the increment in earnings is substantially higher at higher levels of education (Teal 2010; Söderbom, Teal, and Harding 2006; Bigsten et al. 2000). Each additional year of schooling in Kenya, for example, is estimated to increase earnings by 3 percent among those with only 1–7 years of schooling, 9 percent among those with 8–11 years, and 24 percent among those with 12 years or more (Söderbom, Teal, and Harding 2006). A review of studies concludes...
that while the wage gains associated with an additional year of secondary or higher education are in the 10–15 percent range, gains associated with an additional year of primary schooling are only 3–10 percent (Bigsten et al. 2000; Schultz 2004). Here again, patterns are consistent with more robust econometric results of increasing returns to education, including evidence from urban West Africa (figure 3.9).

Returns to Education Change with Educational Attainment

Returns to education change over time as the relative shares of the population with no, primary, and secondary schooling change. In other regions of the world, these shifts were often accompanied by a decline in the earnings increment associated with being a primary or secondary school graduate. In India in 1994, for example, the wage increment for a primary school graduate versus someone with no education was 50 percent, but by 2010 it had fallen to 30 percent. The wage increment for a university graduate versus an upper-secondary graduate was 10 percent in 1994, but had risen to 36 percent by 2010. Similar changes occurred in other South Asian countries (Nayar et al. 2012). In Latin America between the mid-1990s and the late 2000s, the wage increment associated with completing secondary relative to primary schooling declined systematically—for example, from around 40 percent to about 30 percent in Brazil and Peru—while the increment
Skills for productive Employment rose associated with being a tertiary graduate rose (Aedo and Walker 2012).

All else being equal, the rising share of Africa’s population with completed primary schooling should put downward pressure on the earnings increment to schooling. However, all else is not necessarily equal. The returns to schooling depend on the quality of schooling and the skills it supplies, as discussed in the remainder of this chapter. Returns also depend on the demand side of the labor market. The productivity of the work done by individuals with a given level of schooling, in the particular economic environment where they put their skills to work, will determine how effectively their schooling turns into earnings. Chapters 4, 5, and 6 elaborate on how to improve employment opportunities and the business environment on the demand side of the labor market.

**Building a Foundation: Cognitive, Socioemotional, and Behavioral Skills**

Many types of skills are needed for productive employment. Weak education systems are contributing to a critical shortfall in two key sets of skills—cognitive skills as well as socio-emotional and behavioral skills. These shortfalls can prevent youth from reaching their full potential. Cognitive, socioemotional, and behavioral skills create the foundation for acquiring higher-order cognitive and technical skills, whether through more formal education, training, or on-the-job learning. Improvements in the quality of basic education are urgently required to ensure that incoming youth acquire the necessary foundational skills.

Schooling aims to develop an assortment of skills, including literacy and numeracy as well as higher-order cognitive, socioemotional, and behavioral skills. The skills shaped by the education system explain part of the gains in earnings that are associated with more schooling. The fact that a few years of education confer only a small increase in earnings is related to the low quality of basic education in Africa as well as other economywide factors beyond the education system. Moreover, the pattern of increasing marginal returns to education in Africa suggests that productivity increases faster at higher levels of education—consistent with the notion that skills can complement one another and that “skills produced at one stage raise the productivity of investment at subsequent stages” (Cunha and Heckman 2007). The fundamental issue is that many African

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**Figure 3.9** The convex relationship between earnings and education: Schooling and earnings in urban West Africa

Source: Kuepie, Nordman, and Roubaud 2009, based on 1-2-3 surveys on employment and earnings in urban West Africa. Reproduced with permission of the authors.

Note: In the study, household enterprises are defined as “production units with no fiscal or statistical identity or without any formal accountancy” and labeled as “informal sector” by the authors. We use the term “household enterprises” for consistency with terminology used in this report.
children never acquire the skills that are the foundation for a productive life because of the low quality of basic education systems.

This section discusses how skills are built through the education system, in early childhood, and through other avenues for learning. Productivity-enhancing skills can be categorized as follows:

- **Basic cognitive skills**, such as numeracy and literacy
- **Higher-order cognitive skills**, such as problem solving and critical analysis
- **Behavioral and socioemotional skills** (also called soft skills or life skills), including a broad range of skills, such as social skills, self-regulation, self-confidence, and conscientiousness
- **Technical or vocational skills**, often specific to each occupation
- **Business skills**, such as entrepreneurship skills, managerial skills, and financial literacy.

The track record of the education system in producing these skills, including basic cognitive skills, has been abysmal in Africa. If the quality of education does not improve rapidly, productivity and earnings are likely to remain low—a problem that will only become more acute as new generations of Africans enter and graduate from school in larger numbers. Without substantial improvements in quality, the rewards that graduates of primary and lower-secondary school can expect to reap in the labor market will surely fall as more graduates enter the workforce.

To some extent, such outcomes can be mitigated by urgent improvements in the education system that enable young people to develop more productivity-enhancing skills. Of course, education is only a starting point; graduates will also need an economic and business environment where they can use their skills productively.

The relevance of the range of productivity-enhancing skills can vary by sector of employment as well as across occupations. For instance, the mix of skills required for productivity in wage employment will depend on the complexity of the job. Higher-order cognitive skills matter more when jobs are more complex. Analytical thinking is an absolute requirement for professors and scientists, but less so for entry-level or “semi-skilled” workers. Technical and vocational skills matter in technical occupations. Other characteristics of personality, such as “openness to experience” and “agreeableness,” have been shown to matter for particular career paths (Cobb-Clark and Tan 2010). Still, the first step is a basic education of sufficient quality that lays the foundations for young people to acquire a range of relevant skills later in life—through additional formal education, training, on-the-job learning, or other means.

**Education Systems in Africa Are Failing to Produce Critical Foundational Skills**

Rapid increases in school participation and educational attainment have undoubtedly come at the cost of quality. Empirical evidence confirms that poor learning outcomes—a few years of low-quality education, producing individuals who are barely literate and numerate—are hampering the potential for education to increase productivity, even in African economies that have been performing well. Learning assessments in Africa show that most primary students still lack basic proficiency in reading at the end of second or third grade. In several countries, a very large proportion of primary school students are illiterate. For example, more than 80 percent of Malian third-graders and more than 70 percent of Ugandan third-graders cannot read a single word (figure 3.10). Household surveys that measure numeracy and literacy are consistent with these troubling results. In Tanzania, for example, a 2011 assessment of children’s abilities revealed that 70 percent of students complete standard two without meeting the numeracy standards of that level (Uwezo Tanzania 2011). Assessments in Kenya and Uganda revealed similar shortfalls in students’ cognitive skills.

Even children who complete primary school have low levels of basic skills. In the regionally benchmarked Southern Africa Consortium for Measuring Educational Quality (SACMEQ) in 2007, 43 percent of sixth-graders in Tanzania and 74 percent in Mozambique did not get beyond the “basic numeracy” level, while 44 percent in Mozambique could not “read for meaning” (figure 3.11). The results from an
earlier round of SACMEQ (in 2003) were generally similar.

Beyond primary school, learning outcomes remain a cause for concern. Botswana, Ghana, and South Africa all participated in the latest round (in 2011) of globally benchmarked learning assessments, the Trends in Math and Science Study (TIMSS). Among the eighth-grade (Ghana) and ninth-grade (Botswana and South Africa) students tested, 79 percent

**Figure 3.10** The ability to read in early grades is alarmingly low

![Graph showing the ability to read in early grades](image)

**Sources:** Cloutier, Reinstadtler, and Beltran 2011; Gove and Cvelich 2010.

**Note:** These findings refer only to students who have stayed in school. Those who have dropped out—who would have scored even lower on these assessments—are excluded from these calculations. The many primary school dropouts who lack the most basic skills, including simple numeracy or literacy, are largely young people who will find work in agriculture and HEs.

**Figure 3.11** By the end of primary school, many students have not mastered even basic competencies: 2007 SACMEQ results for math and reading proficiency

![Graph showing math and reading proficiency by country](image)

**Source:** Hungi et al. 2010.
of Ghanaians and 76 percent of South Africans did not surpass the lowest benchmarked level of mathematics proficiency (figure 3.12). In other words, all of those students failed to meet the proficiency criterion for this level—for example, “students have some knowledge of whole numbers and decimals, operations, and basic graphs”—which is a low threshold, especially given the grade in which this test is administered. (The international mean was 25 percent; the result was 67 percent for Indonesian students and 45 percent for Jordanian students.)

School-age children are building skills too slowly. The amount of learning that takes place in schools from one year to the next is very low. Household surveys that include the same measures of skills for all children, regardless of the grade they are attending, illustrate this phenomenon. Learning trajectories demonstrate just how slowly school-age children are acquiring skills. A study from Guinea-Bissau that mapped performance in basic literacy and numeracy by children’s ages (figure 3.13) shows that only half of 8-year-olds recognize single digits, while less than half of 9-year-olds recognize letters of the alphabet (Boone et al. 2013). Literacy and numeracy performance improves only very slowly with age. An average 16-year-old still cannot read a paragraph and cannot subtract a single-digit number from a two-digit number. These low learning trajectories are widespread: 351 schools were visited as part of the Guinea-Bissau study, but in only 6 of them could an average student read a paragraph. In none of the schools could an average student multiply or divide.

Learning trajectories are flat not only for basic literacy or numeracy but for a range of other cognitive skills, such as language, math-

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**Figure 3.12** Secondary school students in Sub-Saharan Africa perform poorly on internationally comparable assessments: TIMSS results for math proficiency, 2011

Source: Mullis et al. 2012. Note: Students tested in grade eight in Ghana and grade nine in Botswana and South Africa.

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**Figure 3.13** Learning trajectories by age are flat in Guinea-Bissau

Source: Boone et al. 2013. Reproduced with permission of the authors.
Skills for productive Employment

Problem-solving skills are associated with education in samples from Ghana, Malawi, and South Africa. Learning trajectories from Ghana show that the median level of problem-solving skills is higher for individuals who have completed more schooling. Nevertheless, the increases are very slow. The poorest-performing students in lower-secondary school (the twenty-fifth percentile) perform roughly the same as the median performer among those with incomplete primary school. This finding is consistent with the results of another analysis using TIMMS data to infer learning trajectories, which shows that they are very flat in Ghana (Pritchett 2013). The learning trajectories for problem-solving skills in Malawi or South Africa are likewise very flat (figure 3.14). Overall, students at each level vary greatly in their problem-solving skills, but across levels of schooling, the accumulation of skills varies little around a generally low level. Africa’s schools are not effectively imparting basic numeracy or literacy skills, nor are they imparting other cognitive skills such as problem solving or critical analysis.

**Figure 3.14** Learning trajectories by grade are flat: Performance on test scores in selected African countries, by educational achievement

- **a. Ghana**
- **b. Malawi**
- **c. South Africa**

Sources: Calculations from Ghana 2004 living standards survey, Malawi Zomba Pilot control group, and South Africa 2008 national income dynamics study survey.

Note: Standardized score tests are different and cannot be compared across countries. In South Africa, different tests were administered at different grades; scores on the two tests have been anchored at grade eight.
Poor Cognitive Skills Contribute to Poor Employment Outcomes

Because returns to schooling depend considerably on the quality of education (Card 1999), returns to basic education will remain low as long as new cohorts of young people enter the labor force with more schooling but limited skills. Studies seeking to disentangle the returns to cognitive skills from other effects that schooling might have on earnings have demonstrated a strong association—including in Africa.8 For example, one careful study of wage earners in Ghana found that cognitive skills have significant positive effects on wages. An earlier study of urban wage earners in Kenya and Tanzania produced similar findings (Glewwe 2002).

Recent evidence from Kenya documents the chain of causation from schooling to cognitive skills to employment outcomes.9 Secondary school graduates were shown to perform significantly better than comparable non-graduates on vocabulary and reasoning tests in adulthood. Test scores were higher by 0.6 standard deviation, which is a large effect. By their mid-20s, school completers had a roughly 50 percent lower probability of low-skilled self-employment compared to noncompleters. They were about 30 percentage points more likely to be in formal employment.

How can African countries overcome the problem of limited accumulation of cognitive skills? For those who have already dropped out, especially younger workers, one option is to expand access to second-chance education. Second-chance education is an option to assist the large stock of young workers who have already dropped out of school, but it is potentially expensive and has had mixed success (see boxes 3.2 and 3.3).

For current and future schoolchildren to become productively employed, however, an immediate priority is to address the lack of learning in basic education. Improving the quality of basic education will not be easy. Surveys of schools reveal substantial failures in service delivery. For example, absenteeism among teachers is on the order of 16 to 20 percent on a given day in Kenya, Senegal, and Tanzania; primary school students in those countries experience only about two to three hours of learning a day.10 Reforming the accountability framework that allows such poor performance to persist is key (World Bank 2003; Bruns, Filmer, and Patrinos 2011). Better information on performance must be complemented by targeted approaches that increase oversight by the people who are most affected: students and their parents. Steps to ensure that teachers are well prepared for teaching and supported in their tasks are critical for creating a cadre of high-performing professionals. What teachers know and what they do is the cornerstone of good teaching and learning. The rise of private schools in Africa—schools that deliver superior performance often at lower costs—should not be stifled; rather they should be encouraged and channeled to give more students the opportunity to learn. Such strategies would need to be undertaken in tandem with efforts to ensure that children are prepared for learning when they attend school.

Children Acquire Limited Cognitive and Socioemotional Skills before Entering School

There are strong signs of cognitive delays among African children even before they enter school. Data from the Democratic Republic of Congo, Nigeria, Sierra Leone, and Togo show that young children acquire cognitive skills more slowly than expected (figure 3.15). Signs of delays are already apparent at age 36 months and get worse as children grow older (Naudeau et al. 2010). Some children acquire skills faster than others, however. For instance, the accumulation of cognitive skills in early childhood is associated with household socioeconomic status. Children from poorer households score worse on measures of cognitive skills such as receptive language or memory than children in better-off households. In addition, the gap in cognitive skills between the poor and nonpoor widens with age. These results are consistent across the region, including detailed studies in Madagascar and Mozambique as well as other parts of the world.11 Delays in early childhood development can affect children throughout their lives, limit school readiness, and contribute to the slow accumulation of skills in school (Shonkoff and Phillips 2000).
A second chance at education for African youth

Many young people in Africa have not completed basic education and lack numeracy and literacy skills. In the school year ending in 2010, it is estimated that 23 percent (31 million) of 132 million primary school–age children (5–14 years) in Sub-Saharan Africa were out of school or not enrolled. A large proportion of children never attend school (28 percent of young people ages 25–34 never started school). Many who manage to start school drop out after just a few years (figure B3.2.1). As learning achievement tests demonstrate, when the quality of education is poor, even formal schooling is no guarantee that students will master basic literacy and numeracy skills.

Accelerated learning programs (ALPs) give children and youth an opportunity to catch up on missed education in a short period (Mattero 2010). They use intensive, flexible methods or schedules to complete the curriculum faster than in traditional education and help youth to reenter the formal primary or secondary school system. Such programs are common in countries where children’s schooling was interrupted by armed conflict or other kinds of social upheaval:

- **Republic of South Sudan.** ALPs provide basic education to those who missed the opportunity during the civil war. The eight primary grades are reduced to four years of learning. The programs are part of a broader alternative education system that reaches more than 165,000 students (mostly ages 12–18), roughly equal to the number of fourth-grade students in primary schools nationwide (Government of South Sudan 2011).

- **Sierra Leone.** The Complementary Rapid Education Programme for Schools, implemented in three districts, reduced the traditional curriculum and introduced teaching strategies, thereby shortening the six-year primary cycle to three years.

- **Northern Ghana.** The School for Life Program, described in box 3.3, was implemented to address a shortage of teachers in areas where literacy among 12- to 18-year-olds was only 5 percent. The program recruited volunteer teachers with some secondary education and gave them modest incentives along with a short induction training to teach out-of-school youth.

Nonformal education programs provide youth with instruction equivalent to formal education, focusing on essential learning needs and basic skills such as literacy, oral expression, numeracy, and problem-solving skills (Delors 1996). Most nonformal education courses range from a few months to years and can be offered on a part-time or full-time basis. They are normally delivered face-to-face in formal school facilities and learning centers but can also be provided through e-learning and radio. Community schools are a well-known example of nonformal education programs in Africa. In Zambia, community schools enroll individuals who are 14 and older and are vulnerable, orphaned, or unable to meet the costs associated with formal schooling. In Mali, community schools originally designed for adults have been extended to rural children, offering primary school education up to sixth grade. In Eritrea, to ensure basic education for all (especially girls), a UNICEF-supported Complementary Elementary Education Program provided nonformal education to children and young adults (ages 10–14 years old)

(continued)
who missed an opportunity to complete a five-year primary school curriculum.

Equivalency degree programs are nonformal education programs leading to qualifications equivalent to those gained through formal education programs. Equivalency degree programs target primary or secondary school dropouts and provide corresponding degrees, signaling that the recipient has demonstrated the ability to read, write, think, and compute at the level for which the degree was offered (Boesel, Alsalam, and Smith 1998). Equivalency programs vary in terms of admission, age, place, and pace, and they are delivered either via face-to-face learning or distance education.

Systematic evidence on the effectiveness of second-chance programs is quite limited and mixed. In Sierra Leone, students in ALPs performed consistently better than students in traditional schools, with a 91 percent passing rate on primary school achievement tests. Students progressed to secondary schooling at similar rates (Nicholson 2006). For students in Ghana’s School for Life, the transition back into the formal system is close to 90 percent (DeStefano et al. 2006). However, in the Republic of South Sudan the dropout rates for ALPs during the 2010–11 school year were 52 percent for females compared to around 20 percent in formal schools (Government of South Sudan 2011). Results are better for males; only 5 percent dropped out of the ALP versus around 25 percent in formal schools. In Zambia students in community schools performed well on math and English proficiency tests compared with students in public schools. Students who attended community schools in Mali outperformed their public school counterparts in school completion examinations (DeStefano et al. 2006).

Studies suggest that the costs per learner can be higher in second-chance programs than in traditional public schools (table B3.2.1), but the limited information on the ultimate outcomes of interest makes it hard to evaluate their cost-effectiveness. Much more data are needed to understand how these programs can cost-effectively build skills and increase youth productivity and earnings.

Table B3.2.1 Costs per pupil in second-chance education programs and formal public schools

<table>
<thead>
<tr>
<th>Country and type of education</th>
<th>Annual cost per pupil (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td></td>
</tr>
<tr>
<td>School for Life</td>
<td>39</td>
</tr>
<tr>
<td>Public</td>
<td>27</td>
</tr>
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<td>Mali</td>
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<td>Community schools</td>
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<td>Zambia</td>
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<td>Community schools</td>
<td>39</td>
</tr>
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<td>Public</td>
<td>67</td>
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Source: DeStefano et al. 2006.

Northern Ghana’s School for Life second-chance education program

School for Life (SfL) offers a nine-month literacy cycle in the mother tongue for children ages 8–14. The curriculum aims to meet the first three years of the formal school system’s requirements and transition participants into the formal system on graduation. Facilitators—volunteers selected by the community—receive an initial three-week intensive training, supplemented with follow-up workshops and training. Communities provide their own teachers or facilitators, who are literate in the community’s language; the mother tongue is both the language of literacy and the medium of instruction; the community is actively involved; the school calendar and hours are flexible and adapted to local conditions, allowing children to maintain daily duties; and training takes place in primary school classrooms after school, which provides a link with formal education.

The program’s reach is broad and growing. Approximately 800 facilitators served 20,000 learners in 17 districts in 2012–13, up from 10,000 in 9 districts the previous year. The vast majority complete the program—the graduation rate was 97 percent in 2011–12—and most join the formal schooling system. As many as 90 percent of the 2011–12 cohort entered primary school on leaving SfL.

Sources: CREATE 2010; DFID 2012.
Skills for productive Employment

Multiple factors contribute to the slow acquisition of skills in early childhood. Nutrition is one factor, but parenting practices and stimulation also matter greatly. Poor nutrition in early childhood can hinder the accumulation of cognitive skills and affect reading or problem-solving skills in adulthood (Maluccio et al. 2009). Parenting practices and psychosocial stimulation also shape cognitive and socioemotional skills. Programs that encourage stimulation as well as nutrition have been shown to be more effective than programs that only aim to improve nutrition. They increase skills as well as earnings in adulthood (Grantham-McGregor et al. 2007; Gertler et al. 2013). In Mozambique, a recent preschool program led to gains in school readiness and improvements in a range of cognitive skills. Similar effects on skills in early childhood have been found in other developing countries for interventions focusing on improving parenting practices and stimulation through home visits, community-based centers, or preschools.

Early childhood is also a critical window for the development of socioemotional and behavioral skills, including skills involved in forming relationships, communication or socialization, and self-regulation of behaviors and emotions (table 3.1; Lundberg and Wuermli 2012; Tubbs and McCoy 2012; Aber and Jones 1997). Stressful experiences such as conflicts or other shocks can trigger behavioral

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**Figure 3.15 Cognitive skills increase slowly, especially for the poorest**

![Graphs showing cognitive skills increase slowly, especially for the poorest](image)

*Source: Based on Multiple Indicator Cluster Survey 4 data.*

*Note: Graphs show the proportion of respondents who can perform two of the following three tasks: identify or name at least 10 letters of the alphabet; read at least four simple, popular words; know the name and recognize the symbols of all numbers from 1 to 10.*
problems and affect socioemotional development through depression, anxiety, or self-esteem. Parenting practices and psychosocial stimulation contribute to shaping these socioemotional skills—as shown recently in Mozambique, where children participating in a preschool program showed improved emotional maturity, including self-regulation (Martinez, Naudeau, and Pereira 2012).

**Socioemotional and Behavioral Skills Are a Neglected Part of the Skill Set for Productivity**

Socioemotional and behavioral skills complement and extend cognitive skills to improve productivity, but they are often neglected. Socioemotional skills develop through early and middle childhood. Social competencies are consolidated through increasing interactions and socialization in school and in communities (Lundberg and Wuermli 2012). As children reach adolescence, they further hone their social skills, become increasingly autonomous, and forge a sense of identity (see chapter 2). Depending on the context in which they live, including the social expectations surrounding them, adolescents shape aspirations and set goals for themselves. Concurrently, they experience deep socioemotional changes that can challenge their self-confidence or self-regulatory skills and make them vulnerable to depression, anxiety, or risky behaviors (Lundberg and Wuermli 2012). Long after cognitive skills have been acquired, socioemotional and behavioral skills remain malleable, reflecting the many changes and transitions characteristic of adolescence. Cognitive skills are largely acquired by the time individuals are 15 years old, whereas many behavioral skills are acquired between the ages of 15 and 30 (figure 3.16).

Psychology has a long history of studying domains of human functioning. In practice, socioemotional and behavioral skills are often taken to encompass a broad set of “soft skills” or “life skills,” which have come to include a mix of skills and less well-defined individual characteristics such as social skills, self-regulation, goal-setting behavior, personal initiative, achievement orientation, proactivity, action planning, deliberate practice, or self-confidence. Sometimes behavioral skills also include life skills linked with avoiding risky behavior or more general measures of psychological well-being, attitudes, or aspirations. They are sometimes linked to personality characteristics such as the “big five”: extraversion, emotional stability, agreeableness, conscientiousness, and openness to experience. These traits can continue to change in adulthood (Roberts and Mroczek 2008).

Socioemotional and behavioral skills such as self-regulation have been linked to educational achievement and those such as self-confidence, social skills, or emotional stability have been shown to affect employment outcomes (Heckman, Stixrud, and Urzua 2006). In fact, employer surveys and qualitative research from
various African countries suggest that employers are looking for soft skills in young hires. In Botswana, employers report that they seek workers with skills such as “honesty, commitment and hard work, reliability and punctuality, communication, and team working skills” (World Bank 2012a). In Lesotho, employers rate soft skills (the “appropriate personal characteristics”) as among the hardest to find in prospective employees. Of the soft skills they seek when recruiting professionals or skilled workers, employers rate “punctuality and reliability” and “honesty and trustworthiness” as the most important.14 In Sierra Leone, focus group discussions revealed that the young are perceived to lack “work attitudes” appropriate for formal jobs, such as punctuality and the ability to follow instructions (Peeters et al. 2009).

Behavioral skills also matter for HEs for many reasons, including the firm’s dependence on the skills of the owner, who is often the sole worker (chapter 5). In South Africa and Zimbabwe, for example, the owner’s “entrepreneurial orientation”—measured by personal initiative (proactivity and persistence) and achievement orientation (taking responsibility for one’s own performance, taking on challenges, and setting high goals for oneself)—are positively associated with success in operating a small business.15 A similar link between personal initiative and business success was found in Uganda (Koop, De Reu, and Frese 2000, quoted in Krauss et al. 2005). Other work has emphasized how the “deliberateness” of business owners is linked to success. Examples include the role of “elaborate and proactive planning” skills in Namibia, South Africa, and Zimbabwe (Frese et al. 2007) and “deliberate practice” (self-regulated and effortful activities showing a willingness to learn) in South Africa (Unger et al. 2009). Self-control—a behavioral skill that builds on cognitive capacity—also appears to be an important influence on the savings and investment behavior of HE owners in Kenya (Dupas and Robinson 2013).

Despite the recognized importance of behavioral skills, it is not yet well understood which ones matter most or the extent to which different behavioral skills are required for different occupations and sectors. New research from the United States suggests that not all behavioral skills matter in the same way across different types of work or even across relatively unskilled tasks. For example, sociability (or “extraversion”) has higher returns in the service sector—specifically in sales jobs—than in unskilled manual work (Almlund et al. 2011; Fletcher 2012).

The relative importance of behavioral and cognitive skills is also not well established. Fundamentally, many behavioral and cognitive skills are interconnected. For instance, the ability to regulate one’s behavior or emotions also depends on cognitive abilities. Research suggests that for less complex tasks, such as those required for relatively “unskilled” work, the role of behavioral skills can be relatively larger. For more complex tasks, the contribution of cognitive skills can be relatively higher, although soft skills matter there as well (Almlund et al. 2011). For wage jobs, two personality characteristics, in particular, seem to have strong predictive power for job performance and wages: conscientiousness (the tendency to be organized, responsible, and hardworking) and emotional stability. Almost all such evidence comes from developed countries, although similar findings are emerging from developing countries. A recent study in Peru shows that cognitive skills and perseverance—a behavioral skill—have similar effects on earnings in wage employment (box 3.4).

Overall, socioemotional and behavioral skills matter for productivity. Such skills can be shaped through experience in early childhood, through education, as well as through a range of experiences and programs in adolescence and adulthood. The relative effectiveness of different approaches to building these skills needs to be better understood, and this is an area that warrants policy attention.

Schooling Can Contribute to Building Socioemotional and Behavioral Skills

The link between education and behavioral skills is complex. Part of the association between behavioral skills and employment
Outcomes stems from their effect on higher educational achievement—and the cognitive skills that underlie higher educational achievement. Behavioral skills such as perseverance or personal initiative are correlated with success in school. It could be that people who are inherently more conscientious both acquire more schooling and perform better at work (Almlund et al. 2011). Recent work on China found a positive association between behavioral skills and educational achievement, even after accounting for cognitive skills (Glewwe, Huang, and Park 2011).

Education systems have scope for developing skills other than cognitive skills. Research in the United States suggests that elementary or even preschool programs that enrich the early learning environment can have lasting effects on later-life outcomes through positive impacts on behavioral and socioemotional skills (Almlund et al. 2011). Increased attention to imparting behavioral skills through schooling may take several forms, including modes of instruction as well as the modeling of appropriate behaviors, including teachers’ behavior, in the school environment.
Schooling imparts behavioral skills in several ways. First, school success itself increases self-esteem and confers a greater sense of self-determination, as shown in research among high school and college graduates in the United States. Second, the way that teaching and learning are delivered may influence behavioral skills. Teaching approaches that encourage participation, group activities, and exploration instill different mind-sets among students than approaches that emphasize rote learning. Third, the experience of education and the habits learned in school matter. Teacher absenteeism on the order of 20 percent, with little or no consequence to teachers, has been documented in several African countries (World Bank 2003). Students’ exposure to such an environment will likely instill a sense that punctuality (one of the skills that some employers say they are seeking) is not important.

There are little data on the extent to which education builds socioemotional and behavioral skills, including the soft skills demanded by employers. The education system could be leveraged to build further behavioral skills and reach a large number of children and young people. Policies that aim to improve the quality of education—for instance, by decreasing teachers’ absenteeism and improving their behavior—might also contribute to improving students’ behavioral skills through their demonstration effect. Teaching approaches that are more interactive and group based may facilitate the acquisition of both cognitive and behavioral skills, for instance. Curricular reforms that explicitly seek to improve behavioral skills may also be considered. However, such reforms may entail a trade-off requiring a decision about what to prioritize. Curriculum reforms introducing behavioral skills should not come at the cost of neglecting urgent improvements in the acquisition of basic literacy and numeracy skills. Reforms might be more relevant for higher grades where potential trade-offs with other teaching may be more limited. Given the limited evidence on the effectiveness of such approaches and the importance of their development in local contexts, they should be introduced in an experimental setup and rigorously tested before being rolled out widely.

Beyond education, other more focused approaches are showing promise in reaching youths and building behavioral skills. They include targeted interventions in postconflict settings (box 3.5). Programs that integrate behavioral skills into more comprehensive youth employment programs can also improve behavioral skills (box 3.6). Chapter 5 (for the

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**Box 3.5**

**Developing socioemotional and behavioral skills in postconflict settings**

Children exposed to violence such as rape or killing can develop conditions such as depression or anxiety that might lead to behavioral problems. In Sierra Leone, where the long civil war has had deep psychosocial consequences, a Youth Readiness Intervention has focused on rebuilding skills related to anger management, interpersonal relations, and goal setting. The intervention is delivered to groups of young people. The groups meet for weekly sessions over two months. The intervention seeks to “increase adaptive coping, health-promoting behavior, and the development of life skills, such as goal setting and positive self-efficacy; decrease maladaptive coping strategies, such as high-risk sexual behavior and substance use; decrease trauma-related distress, including aggression, depressive symptoms, social isolation, and poor interpersonal skills; [and] increase prosocial behavior, including community involvement and successful integration into educational or livelihoods initiatives, and positive peer, family, and community relationships.”

The Sierra Leone pilot intervention was developed through an approach building on rigorous use of qualitative methods to ensure that the training modules and intervention strategy were culturally appropriate and could be delivered by local providers. A randomized control trial is under way to test the intervention’s effectiveness. Such pilots have yet to be tested at scale, and the employment outcomes remain to be documented. Still, this type of well-designed model to foster socioemotional and behavioral skills is an example of potential interventions that could be integrated more systematically into youth employment programs.

*Source:* Draws from FXB Center for Health and Human Rights 2012, including quoted material.
Skills Build on Each Other

A growing body of research documents how cognitive and socioemotional skills build on each other, starting in early childhood (Helmers and Patnam 2011). Cognitive skills such as literacy and numeracy form the foundation for acquiring higher-order and technical skills later in life, whether through more formal education, training, or on-the-job learning. Basic cognitive skills are necessary for learning more advanced concepts, and better foundational skills lower the costs of any additional investments.

One way to understand how skills build on each other is to observe that the productivity returns to investments in further schooling are higher when foundational skills are stronger. Figure 3.17 presents an example from Ghana, Kenya, South Africa, and Tanzania. Returns to schooling tend to be lower for individuals with lower ability compared to those with higher ability—with the pattern being starkest in Kenya and Tanzania. This finding suggests that education has the greatest benefit among people who start with greater ability or better foundational skills.

Basic cognitive skills also underlie the development of business skills, which are often particularly low for young people and women (Xu and Zia 2012). A study of small HEs in Ghana found that owners with more schooling are more likely to keep written records: Only 23 percent of HE owners who had not completed basic education kept accounts, compared to 52 percent of owners who had completed basic education (Fafchamps et al. 2011). Low business skills are observed even among more formal firms. In a survey of owners of small and medium enterprises in Ghana, only 27 percent of owners were found to keep business records (Mano et al. 2012). Throughout the world, financial literacy is associated with higher educational attainment (Xu and Zia 2012).

Another study from Ghana measured a range of business practices among HE owners, such as whether “the owner keeps written business records, has a written budget, has a sales target, visits competitors’ business to observe prices, asks existing customers if they had interest in other products.” The number of management practices adopted by the owners of micro and small enterprises was found to
vary substantially. In addition, these business practice scores also predicted business performance (Fafchamps and Woodruff 2012). The adoption of better management practices was significantly higher among respondents who scored better on various cognitive tests.

Although business skills are not taught in school, they are correlated with education, because they are rarely acquired without basic cognitive skills. A more direct measure of this effect, however, is the interaction between education and the effectiveness of interventions to build business skills. A program to provide business training to small-scale entrepreneurs in Tanzania found larger impacts among participants with higher initial cognitive (math) test scores (Bjorvatn and Tungodden 2010).

Basic cognitive skills also complement on-the-job learning for wage workers, including learning through the use of instructions. Although literate workers can be trained in job specifications and procedures partly through detailed and complex written instructions, such training is rare in Africa, where literacy is low. Among firms surveyed in Ghana, Kenya, and Zimbabwe, 80 percent said that they rarely use technical documentation or procedural manuals (Biggs, Shah, and Srivastava 1995). A recent study in Ghana found that, in a job involving the handling of money, more educated workers were more likely to pick up math skills while working (Aslam and Lehrer 2012). Perhaps because of the complementarity between basic education and on-the-job learning, firms in Africa (as in other parts of the world) are more likely to provide formal on-the-job training to more educated workers (Rosholm, Nielsen, and Dabalen 2007).

Beyond the complementarities between basic skills and business skills, there may be potential for incorporating entrepreneurship education or financial literacy education into school curricula. Yet it remains unclear whether the education system can provide such skills effectively. Some developed countries have attempted to include entrepreneurship training at the primary and tertiary level (see Rosendahl Huber, Sloof, and van Praag 2012 for efforts in primary school; Oosterbeek, van Praag, and Ijsselstein 2008 for efforts in tertiary education).

In Tunisia, a middle-income country, entrepreneurship training was introduced in the university curriculum and led to changes in behavioral skills (Premand et al. 2012). Initial evidence on a pilot financial education program provided through the schools in Brazil suggests some positive impacts: 59 percent of students who benefited from the program saved, compared to 55 percent among the control group, and knowledge about savings increased (Bruhn et al. 2013). Similar efforts are under way in some African countries (for example, in secondary education in Uganda). An important challenge is that soft skills for self-employment and wage employment may differ, requiring careful attention to curriculum development and program effectiveness.

Building Skills through Post-School Training

A wide array of institutions throughout Africa offer skills training for nonfarm employment. This array of institutions and programs can be described as a market, since it involves those who supply training coming together with those who demand training. Informal training is normal. Most training is offered by private providers, and the offerings vary in price and quality. The rationale for public investment in training needs to be made in the context of this existing market, based on careful analysis of its added value and cost-effectiveness.

Pathways from Training to Sectors of Employment

Four main kinds of youth training provide skills for employment outside agriculture: apprenticeships, public formal technical vocational education and training (TVET), private formal and informal TVET (“formal” meaning integrated into the formal education system; “informal” meaning outside of the formal education system), and stand-alone programs. Training is delivered through a mix of private and public institutions, and each type of training tends to lead to a different type of work (nonfarm HE or modern wage sector).
Two of the most common forms of training pursued by young people are apprenticeships and TVET. Apprenticeships are the more prevalent type of training, particularly in West Africa. Detailed survey data on apprenticeship are limited, but in five countries with comparable data, 20 percent of young adults ages 24–35 have had experience as an apprentice (figure 3.18), although there is variation across countries, from 6 percent in Uganda to 35 percent in Ghana.

Enrollment in formal TVET, delivered in the classroom and leading to a formal degree after two to three years, is low throughout Africa. Overall, around 4 percent of young people between 25 and 34 have ever attended formal TVET, and only 1 percent currently attend. Because most TVET requires some secondary schooling, the majority of young people lack the general qualifications even to enroll in a technical or vocational institute.

The prevalence of apprenticeship in Ghana is well documented (for example, see Atchoarena and Delluc 2001; Frazer 2006; Monk, Sandefur, and Teal 2008). A 2006 urban labor market survey found that one-third of respondents between ages 16 and 65 had some form of training (Monk, Sandefur, and Teal 2008). Apprenticeship was by far the most common form (55 percent had been an apprentice), followed by on-the-job formal training in a firm (25 percent), and formal vocational training (16 percent). An earlier study estimated that traditional or informal apprenticeships supply 80–90 percent of all basic skills training in Ghana, while public training institutions supply 5–10 percent (Atchoarena and Delluc 2001). Ghana may have as many as four informal apprentices for every trainee in either a formal public or a private training center (Darvas 2012; Haan and Serrière 2002; Monk, Sandefur, and Teal 2008). Apprenticeships are widespread elsewhere in West Africa as well, including in Benin and Côte d’Ivoire (AfDB and OECD 2008).

Traditional apprenticeship can also be the dominant form of training for nonfarm occupations in East Africa. In Kenya, enrollment in traditional apprenticeships delivered by master craftsmen is much higher than enrollment in formal TVET. A small survey of 350 informal enterprises in Dar es Salaam found that more than half of the operators had apprentices, on average about two per firm (Nell and Shapiro 1999).

Beyond the more traditional apprenticeship and formal TVET models, a broad range of
private providers offers various types of skills training. Private providers of informal vocational training (in other words, training outside the formal education system) include for-profit private institutes and firms, nongovernmental organizations (NGOs), and community organizations. While the distinction with master craftsmen providing apprenticeships can be fuzzy, the vast majority of providers of informal vocational training are self-financing and operate with little government oversight or support. Many informal private providers are not registered (World Bank 2003). Many operate at a very small scale; these micro training providers provide short, intensive training based on a curriculum of their own design and may offer certificates (Johanson and Gakuba 2011). Assessing their reach is challenging. Household surveys rarely ask respondents about training other than apprenticeships, on-the-job training, or formal TVET. A recent tracer study of cohorts of secondary and university graduates suggests that the use of private post-school training may be rising (Al-Samarrai and Bennell 2007).

Apprenticeships (as well as other types of informal training) are typically geared toward individuals who have completed primary school or less, while formal TVET is geared toward individuals with at least some secondary schooling (figure 3.19). For example, among young adults ages 25–34 in Uganda who had done an apprenticeship, 95 percent had no more than a primary education. A study in Ghana found that apprenticeships are undertaken primarily by persons with a junior high school or lower level of education (Monk, Sandefur, and Teal 2008). Among those who had entered a TVET program, almost all had some education beyond primary.

The type of training pursued maps closely to the subsequent sector of employment. Apprenticeship is mainly a pathway to work in an HE, since apprentices are most likely to become self-employed. By contrast, formal TVET is mostly a pathway to wage employment.

As a result, the training experience of workers in different sectors is quite different. For young adults ages 25–34 working in the HE sector, apprenticeships are the most common form of post-school training: 32 percent have been an apprentice at some point, compared to 30 percent of young adults in the modern wage sector and 13 percent in the agricultural sector.

**Figure 3.19** Apprenticeships are geared toward youths with lower levels of education

![Chart](chart.png)

Source: Based on standardized and harmonized household and labor force surveys, latest data available (see appendix).
Returns to apprenticeships may be particularly high in HEs. A study from Ghana found that former apprentices earn about 49 percent more a year being self-employed than working as a wage worker, despite having slightly fewer years of schooling and being slightly younger. Relatively few young workers enter the HE sector after obtaining formal technical or vocational training. Only 6 percent of individuals between 25 and 34 in the HE sector have attended a formal TVET institution (figure 3.20). The share of workers in the wage sector who have attended formal TVET is much higher (17 percent).

**Apprenticeships and Informal Private Training**

The distinction between apprenticeship and informal private training (two of the most prevalent forms of youth training) is fuzzy. Both types of training encompass a range of offerings delivered by private providers.

Apprenticeships in Africa overwhelmingly occur in small informal firms with a master craftsman. They are private arrangements between an apprentice and a master crafts-person or another relatively skilled person, who provides practical training in the workplace over a period of a few weeks or months to as much as three or four years. Many apprenticeships build technical skills in a narrow range of traditional vocations or crafts, such as metalworking, carpentry, mechanics, or tailoring. Some offer certification, but most do not. Apprenticeships can be offered in return for a fee or reduced earnings while learning.

In an apprenticeship program in Malawi, master craftsmen were primarily in carpentry and joinery (19 percent), tailoring (18 percent), auto mechanics (11 percent), and fabrication and welding (11 percent). A large share of the observed apprenticeship training in Rwanda was concentrated in tailoring (Johanson and Gakuba 2011).

The duration of apprenticeships can vary greatly. Many youths only spend a few months as an apprentice. In Rwanda, 56 percent of HE owners with experience as an apprentice reported that their apprenticeship lasted less than a month (Johanson and Gakuba 2011). In Malawi, participants in an apprenticeship program reported that apprenticeships lasted on average 3.3 months; training for auto mechanics spanned more than three months, whereas
training for hairdressers lasted only three weeks (Cho et al. 2013). By contrast, in countries such as Côte d’Ivoire or Ghana, where the institution of apprenticeship is more established, apprenticeships can last several years and can be hard to leave.

The range of private informal training in Africa is quite wide. Many micro training providers develop their own teaching programs, market their services, and deliver a mix of theoretical and applied training to individuals in small groups. For example, in Rwanda, 97 percent of all training providers are private, and they account for 90 percent of enrollment (figure 3.21; Johanson and Gakuba 2011). Individuals own about half of all private training enterprises, and associations and cooperatives own the other half. Just over half of all providers are micro training providers, such as associations, cooperatives, or training centers, enrolling 12 or fewer trainees. Micro training providers enroll only 8 percent of private trainees, but total enrollment in micro training still exceeds enrollment in all public, formal vocational training in Rwanda (figure 3.21). Individuals who choose training heavily concentrated in a few trades: tailoring (38 percent), carpentry (24 percent), metalwork (13 percent), hairdressing (8 percent), and business or management (5 percent).24

The duration of informal training can be quite short. In Northern Uganda, where youths engaged in informal training for an average of about 321 hours over two years, they increased their investment in training to 560 hours after receiving a cash grant. When grant recipients enrolled with private formal TVET providers, the training was substantially longer, ranging up to two years (Hicks et al. 2011).

Formal TVET
Formal TVET runs parallel to general schooling at the secondary or tertiary level and meets the need for intermediate or advanced technical skills. Entry requirements often include having completed primary or secondary school. Therefore, participants in formal TVET have substantially more schooling than participants in other forms of post-school training.

In Nigeria, technical colleges at the secondary level produce craftsmen and master craftsmen, focusing on traditional technical vocations (electricians, vehicle mechanics, and 

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“For many long years, I worked as an apprentice and had to follow the masons... It wasn't until I turned 30 that I got my license.” Madagascar
masons). At the tertiary level, vocational institutions (polytechnics) produce technicians, professionals, and engineers. Business-oriented vocational training is prevalent. Nearly half of all polytechnic graduates pursue qualifications in accounting, business studies, marketing, and banking and finance (World Bank 2011a). In Rwanda, technical secondary schools prepare students for entering the labor market at roughly the same level as an upper-secondary school graduate. Vocational training centers prepare basic education graduates or dropouts to enter the labor market (World Bank 2011a).

Several types of nongovernmental entities also provide technical and vocational training, including for-profit private institutes and firms as well as NGOs. However, data on the extent to which the private sector provides formal TVET are scarce; household surveys rarely ask respondents to identify whether they attended a public or a private TVET institute. Nevertheless, studies suggest that the private sector is a large and increasingly important provider of pre-employment TVET. In some countries, the majority of trainees are enrolled in nongovernmental institutions. Examples include Mali (where nongovernmental training accounts for two-thirds of all TVET), Tanzania (90 percent), and Zambia (82 percent). Private technical institutes in Ghana enroll about six times as many trainees as public institutes (Haan 2001 for Tanzania; Atchoarena and Esquieu 2002 for Mali; Kitaev 2003 for Ghana and Zambia). A recent study in Ethiopia estimates that 30–50 percent of TVET students are enrolled in private institutions (Shaorshadze and Krishnan 2013). A recent World Bank report, using statistics from 33 countries in the region, found that the private sector currently accounts for about 35 percent of formal TVET enrollment (Mingat, Ledoux, and Rakotomalala 2010).

Compared with public institutes, private training providers tend to focus on “light” vocational skills such as business, commercial, and service skills, possibly owing to the high fixed costs of providing more industry-oriented sorts of skills. Private providers in Uganda, for instance, focus on office qualifications and various business skills that require only a limited investment (Haan 2001). Private providers also tend to be concentrated in specific regions—often those with larger populations and greater demand for training (Ghana and Zambia are examples).

Besides pre-employment TVET, post-employment formal training paid for by employers can also be a source of technical or vocational skills. About 30 percent of African firms provide formal on-the-job training, a rate comparable to other developing regions (box 3.7).

### Government Interventions and the Post-school Training Market

Governments the world over are active in skills development, but before designing public policy, it is essential to assess the rationale for government intervention. Given the large array of training already provided by the private sector, the rationale for governments to invest in specific programs is not obvious. As a general principle, public interventions need to be based on clearly identified “market failures” and weighted against “government failures.”

Market failures for skills development take specific forms—all of which can lead to underinvestment in training (see the discussion in Almeida, Behrman, and Robalino 2012; World Bank 2011a). These failures can be grouped into four main categories:

1. **Imperfections in labor markets**, such as “poaching externalities,” whereby the firm that trains an employee loses the benefits of that training if the worker moves to another firm, or information and signaling failures, whereby a potential worker cannot effectively show her level of skills to a potential employer
2. **Imperfections in credit markets**, whereby it is hard to get financing to pay for training
3. **Coordination failures**, occurring, for example, when workers and firms need to make investments, but those investments pay off only if both parties invest, which can lead to neither side making the first move
4. **Limited information at the individual level**, which can lead to too little or too much investment in particular types of skills development
On-the-job training varies by country and type of firm, and it is not for everyone

In the United States, one-quarter to half of human capital accumulation occurs through on-the-job training (Heckman, Lochner, and Taber 1998). Even in developing countries (including African countries), many firms provide training to their workers. Estimates from the World Bank’s enterprise surveys indicate that, on average, about 30 percent of formal firms in Africa provide training (figure B3.7.1), only slightly below the average for low- and middle-income countries. In Africa, the percentage of firms training workers varies between 15 and 30 percent in most countries, but in some (such as Botswana, Malawi, and Rwanda), the incidence is as high as 50 percent.

Variations in the rates of on-the-job training across Africa do not appear to be related to per capita income levels. Since firm surveys tend to focus on formal, officially “registered” firms and often miss unregistered firms, some of the variation might arise from differences in the share of firms that are registered. In most countries around the world, the incidence of training in firms is strongly related to firm characteristics such as size and export orientation. Smaller firms are less likely to provide formal training to employees. So are nonexporters. This pattern is borne out in Africa as well (figure B3.7.2). Thus African countries with larger, more outwardly oriented firms may have more on-the-job training.

Firms providing on-the-job training do not train all of their workers. As figure B3.7.2 suggests, African firms that provide on-the-job training rarely provide it to more than half of the workforce, perhaps because levels of education are low. As in the rest of the world, in Africa workers with more education and skills are much more likely to receive formal training on the job. A 1980 survey of formal training in enterprises in Dar es Salaam, Tanzania, and Nairobi, Kenya, found that unskilled and semi-skilled manual workers are significantly less likely to have received formal training from their current employer than skilled production, cler-
These various forms of market failure provide general rationales for government intervention, but their prevalence needs to be carefully assessed in specific country contexts. They also provide guidance as to the range of activities that the public sector might want to support. For example, credit constraints may provide a rationale for policies to improve access to training. Limited or inaccurate information at the individual level has also led to underinvestment in training or suboptimal choice of training and can provide a case for public intervention. Governments need to recognize that there is a market for training and avoid introducing undue distortions in this market. Overall, there are two broad areas for government intervention: (1) providing information and facilitating access to training and (2) intervening to ensure the availability of better-quality training options. Those two areas are discussed next.

Facilitating Access to Training
Public policy should facilitate access to existing training opportunities, including those available in the private market. One strategy, for example, is to provide information or incentives to young people who have the least access to training, starting with individuals from the poorest households, women, and individuals in rural areas. Better provision of information about employment and training opportunities can start in school.

Existing forms of training are not equally available to everyone (figure 3.22). Patterns of training across income groups suggest that financial constraints reduce access to training among the poorest households. Among youth from households in the top income quintile, 11 percent have ever enrolled in TVET and 2.7 percent are currently enrolled. By contrast, in the bottom income quintile, only 1.6 percent have ever enrolled in TVET and 0.1 percent are currently enrolled. This inequality in access to training holds not only for formal vocational training but also for informal apprenticeships: 25 percent of youth in the top quintile have taken an apprenticeship and 7.6 percent are currently in an apprenticeship, compared with 7.3 and 2.5 percent, respectively, of youth in the bottom quintile.

Women also have limited access to training opportunities, and when they do receive training, it often focuses on a limited range of occupations. Women are less likely than men to be enrolled in formal TVET or apprenticeships (see also Atchoarena and Delluc 2002). Across the region, 18 percent of individuals ages 15–34 have ever been an apprentice, but only 12 percent of women. Women who manage to pursue informal technical training or apprenticeships tend to end up in heavily concentrated sectors with limited demand, such as tailoring or hairdressing. In Uganda, 91 percent of training hours taken by females
who were not involved in the Youth Opportunities Program were in tailoring (Blattman, Fiala, and Martinez 2011). In Kenya, the most popular courses for women were tailoring, hairdressing, and computer packages, whereas men preferred training to become mechanics, drivers, or masons (figure 3.23).

Youths in rural areas also have less access to training, since more training providers are located in urban areas and distance to training centers is a constraint for access. Across Sub-Saharan Africa, 25 percent of 15- to 34-year-olds living in an urban area have ever been an apprentice, compared with only 11 percent of those living in a rural area. In Kenya, women were significantly more likely than men to cite proximity to training opportunities as a determining factor (50 and 43 percent, respectively), suggesting that female participants are more geographically constrained than their male peers (Hicks et al. 2011).

In the presence of financial and other constraints on access to training, there is scope for policies to facilitate access to training among youth, particularly women and the poor. Interventions that provide targeted financial incentives to increase participation in training have been shown to help. In northern Uganda, a program providing large cash grants to self-created groups increased the proportion of youth enrolled in vocational training from 15 to 74 percent, and recipients also engaged in more intensive training. Some training opportunities were already available in the community, but the young people participating in the project had not purchased much of this training before. Although youths in the program did not have to buy training, most chose to spend a large part of their cash grants on training prior to starting a business. This finding suggests that programs that help to finance access to training might be effective. Among those who did not get a grant (the control group), some participants did acquire training on their own, but it was of much shorter duration. Of the 15 percent of individuals who took training without the program, only 6 percent paid for it.

Voucher programs can be effective when recipients have the option to choose a private training provider. In Kenya, the Technical and Vocational Vouchers Program offered young people vouchers worth approximately US$460 to encourage them to enroll (Hicks et al. 2011). Voucher winners who were closer to private schools were more likely to take up training compared to winners who were farther away. Among voucher winners, a random half received a voucher that could be used only in a public (government) vocational institution, while the other half received a voucher that could be used in either a private or a public school. The broader choice and access to private providers increased the use of training: 69 percent of individuals who were awarded the restricted vouchers attended vocational train-
ing, compared with 79 percent of individuals who were awarded unrestricted vouchers. Winners of unrestricted vouchers were also more likely to complete training.

Voucher programs can also have an effect on skill providers and stimulate the supply of training available. In Kenya, a large program that provided vouchers to workers in the informal sector (called Jua Kali) not only increased access to training but also led to the emergence of new training providers relevant for the HE sector, such as master craftsmen (see box 3.8; Adams 2001; Johanson and Adams 2004). Evidence from a smaller-scale pilot of training vouchers in Kenya suggests that programs or schools that received voucher students were significantly more likely to expand their course offerings (Hicks et al. 2011). Although such programs have not been scaled up yet and would likely require some prior identification of eligible providers, they have the potential to be effective, given the vast diversity of existing providers.

There might also be scope for interventions that provide information on employment and training opportunities to help young people to decide which training to undertake. Research in Kenya has shown that young people have inaccurate perceptions about the returns to vocational training (including misconceptions about which trades provide the highest earnings) and that their perceptions have a strong gender bias (Hicks et al. 2011). In such a context, there is a role for interventions to increase participation in training by providing information to better match trainees to training. In Kenya, young people changed their training choices after receiving information on actual labor market returns—including differences in expected earnings for trades dominated by men (such as electrician) and women (such as seamstress)—and viewing inspirational videos about successful female car mechanics. In particular, the provision of information caused more women, especially young and more educated girls, to take up training in male-dominated trades.

Such information failures have long been recognized, but public policy has rarely been able to address the issue successfully at scale. Many employment programs aim to improve information on the labor market, but most focus almost exclusively on formal training providers and wage employment. Despite the lack of evidence and thorough testing of such approaches, the cost of providing information is low and the potential for impact is high. Governments could systematically disseminate and communicate data on labor market earnings or training options collected through household surveys or surveys of training providers. Schools could also provide information on employment and training opportunities.

**Intervening to Ensure Better Training Options**

Given that governments have often stumbled in their efforts to promote skills development, interventions to address market failures must be assessed against the risks of government failures in the provision of training or training subsidies. Inefficiencies in public interventions usually involve challenges in the policy-making process, governance, and institutional arrangements—especially as they relate to accountabil-

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**Box 3.8**

**Kenya’s Jua Kali voucher program**

In the mid-1990s, Kenya’s Jua Kali Program (Kiswahili for “work under the hot sun”) offered training vouchers to HEs operating small fabrication or repair workshops. Eligible participants had to pay 10 percent of the training cost and received vouchers to cover the remainder. The vouchers produced a positive supply response, predominantly from NGOs and master craftsmen in the informal sector. These suppliers developed new programs tailored to the needs of voucher recipients and offered the programs at times that suited participants’ work schedules. Public institutions showed little interest in adapting their traditional programs to respond to this new source of demand (Adams 2001). In its pilot stage, the Jua Kali Program successfully expanded the supply and reduced the cost of training for workers in the informal sector. There is evidence that the training had a positive effect on participants’ earnings and strengthened the capacity of the local Jua Kali associations responsible for distributing the vouchers. When the program was scaled up, problems in governance led to high administrative costs (Adams 2001; Riley and Steel 2000). Ghana offered a similar voucher program targeted at informal sector enterprises in the early 1990s, but it failed largely because of flaws related to the marketing and distribution of vouchers (Johanson and Adams 2004).

ity—and mismatches between the rationale for government intervention and the ways governments actually intervene (such as limited attempts to incorporate the role of information in an effective way). Examples of wasteful institutions abound. Training is often provided in a fragmented way by a large number of ministries with limited accountability, creating substantial inefficiencies and distortions. Many TVET systems are inefficient and create distortions by subsidizing the supply of technical training of similar or inferior quality to the types of training widely delivered by the private sector. Given this experience, public intervention should not only be based on a clear understanding of market failures but also emphasize efficiency and quality service delivery. Whenever public provision or financing is considered, the efficiency of the institutions involved and the quality of service delivered require careful attention.

Given the large number of training institutions and wide range of private providers, the training available to Africa's young people varies greatly in price and quality. In the presence of active training markets, public interventions need to be selective, performance driven, and evidence based.

**Measuring the Cost of Training**

Large variations in training costs, as well as in the share of costs borne by participants, prevail across types of training—although systematic data are hard to come by. Data from Kenya, illustrated in figure 3.24, give some idea of patterns in training costs.\(^{28}\) The data include formal TVET (postsecondary TVET, postsecondary National Youth Service, and postprimary youth polytechnics) as well as informal training delivered through faith-based institutions, private TVET providers, or apprenticeships. Training costs range from US$113 for the cheapest private TVET to US$204 for apprenticeships, US$1,942 for National Youth Service, and US$1,704 for the most expensive private TVET. The share paid by participants ranges from all (in private TVET or apprenticeships) to nothing (National Youth Service). The vouchers supplied in the Technical and Vocational Vouchers Program were approximately US$460, which the program designers calculated was “sufficient to fully (or almost fully) cover tuition costs for both government and private vocational programs” (Hicks et al. 2011).

The data from Kenya reflect three patterns in training costs that appear to be common in other countries:

- **Formal TVET is very expensive.** In Ghana, the cost of TVET per pupil is about five times the cost of primary education and almost three times the cost of senior secondary education, in line with international averages, in which TVET costs range from two to three times the cost of secondary education (Adams et al. 2009). In Mozambique, TVET costs four times more than secondary school (Fox et al. 2012).

- **The cost of private training varies substantially.** The median cost of private training in northern Uganda, for example, ranges from US$24 to US$444, depending on the type

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“Even if training was available for free, it would be hardly possible for me to get time to attend, lest I lose the little income that I get daily in order to survive.” —Tanzania
of training (Blattman, Fiala, and Martinez 2011).

- Informal apprenticeship is often among the cheaper training options. Sometimes payment is not even required. Among Rwandan owners of HEs who have been trained through apprenticeships, only 40 percent paid for the apprenticeship (Johanson and Gakuba 2011).

Measuring the Quality and Effectiveness of Training

The quality of various training providers is rarely measured directly. A survey of training providers in Kenya found few differences in observable quality between public, private formal, and private informal training providers (Hicks et al. 2011). When young people were offered vouchers to take vocational training, they had a slight preference for public training centers (56 percent) compared to private providers (44 percent). Instructors in public institutions were more likely to have taken the secondary school exam and completed college, yet the profiles of instructors in all institutions were similar in many respects (they had the same practical experience, for example). Differences in infrastructure also appear limited. Urban and formal private institutions were more likely to have flush toilets and electricity than their public, rural, and informal counterparts, but they had comparable instructional capital per student.

Systematic evidence on the quality of TVET institutions is hard to compile. Key indicators of the quality of training are attendance, dropout rates, and graduation rates. Better attendance leads to better learning (Bjørvatn and Tungodden 2010), and high-quality programs have fewer dropouts. Many providers do not track the percentage of participants who complete training, however; when data are available, it is common to find that 25-50 percent of participants do not complete training. Yet high dropout rates are not inevitable (box 3.9).

The share of enrollees who graduate from a training program (in other words, complete and pass the final exam) is often reported to be very low. For example, the pass rates for the Malawi craft and advanced craft examinations are less than 70 percent. For the trades, the pass rate is closer to 50 percent, and it is even lower (on the order of 10-20 percent) in the trades for which delivery is more complex, such as the electrical and mechanical trades (World Bank 2013). Moreover, the constraints facing young women tend to lead to even higher dropout rates for them (Cho et al. 2013).

Can incentives improve training quality and participation?

Beneficiary assessments consistently highlight serious issues with the quality of training. For example, a qualitative assessment of the Youth Empowerment Project in Kenya found that the implementation of various training modules varied substantially in quality, and those variations played a key role in participants’ evaluation of the modules and decisions to drop out (KEPSA 2012).

Dropout rates can be limited by motivating training participants as well as providers. In Liberia, the Economic Empowerment of Adolescent Girls and Young Women (EPAG) Program used innovative strategies to ensure high participation and training quality (World Bank 2012b). Participants signed commitment forms, received small stipends contingent on attendance, were offered free child care, and were assigned to small teams with mentors. In addition to those incentives, trainees participated in a variety of contests and competitions. All of the measures contributed to a retention rate surpassing 95 percent and an attendance rate of 90 percent.

Incentives to provide good-quality training can also improve attendance. In a business skills program in Tanzania, attendance, subjective evaluations of course quality, and self-reported knowledge were higher when professional trainers did the teaching (Berge et al. 2011). A qualitative assessment of training in life skills under the Liberia Youth Employment Project found large variations in quality among community trainers (World Bank and Republic of Liberia 2012). In the EPAG Program, training providers were incentivized through performance bonuses, and frequent and unannounced visits to monitor the quality of training also helped to make the training program effective (World Bank 2012b).
Another indicator of quality is the probability of securing a job after graduation. A 2008 study from Nigeria (Billetoft 2010), for example, estimates that less than 30 percent of polytechnic graduates secure a paid job within their area of competence after completing their education. Polytechnic graduates with technical or scientific training do better, however, than those with more general training oriented toward white-collar jobs. A study of public TVET graduates in Tanzania in 1996 found that only 14 percent had found work upon graduation (Fluitman 2001). Studies in the mid-1990s in Mali and Madagascar estimated employment rates of 44 and 45 percent, respectively, one to three years after graduation (Johanson and Adams 2004). In Uganda, although two-thirds of TVET graduates were working, only 31 percent had a “permanent” job (Johanson and Adams 2004).

Aside from tracking employment outcomes among graduates more systematically, impact evaluations are required to compare employment outcomes among graduates to counterfactual employment outcomes, as well as to assess cost-effectiveness by comparing measured impacts to costs. Overall, the evidence from Africa to guide specific programs for improving skills remains thin. Building that evidence base is an urgent priority for action (box 3.10).

Given the large array of skills training available in the private sector, public financing or direct provision of training needs to be selective, performance driven, and evidence based. Governments need to have rationales for the value-added of public intervention in the market for skills, and they must be sure not to displace privately provided training. In addition, the objectives of funding or providing training need to be clear; it is particularly important to clarify whether such training aims to provide pathways to productive employment in HEs or wage employment.

**Box 3.10**

**Impact evaluation to build the evidence base on youth employment programs**

Impact evaluations provide rigorous evidence of a program’s effectiveness by estimating the program’s effects on final outcomes, based on an estimate of the counterfactual (the outcomes that would have prevailed for program beneficiaries if they had not participated in the program; see Gertler et al. 2010). The hallmark of sound impact evaluations is that they ensure that the counterfactual is credible—that the only difference between treatment and control groups is participation in the program.

Randomized assignment is the gold standard for impact evaluation. It generates fully comparable treatment and comparison groups by assigning program benefits randomly (for example, by lottery) among equally eligible individuals, households, or communities. Impact evaluations can rely on other methods, although those methods typically require additional (often untestable) assumptions. Most impact evaluations require baseline data as well as a solid comparison group, and they are best designed before a program is implemented, to ensure that baseline data are collected and valid comparison groups identified.

Impact evaluations are often implemented at the scale of pilots, with the result that the scalability and ultimate affordability of the evaluated programs remain a matter of debate, even when the results are positive. Moreover, it may not always be possible to achieve similar positive results in other contexts. Despite these caveats, impact evaluations provide critical information about whether a program can work. When scaled-up programs are evaluated rigorously, the results provide evidence on their effectiveness in “real-world” conditions.

Few interventions to support young workers in Africa have been subject to impact evaluations over the years (Betcherman, Olivas, and Dar 2004; Cho and Honorati 2012). The impacts of a small number of programs targeting the self-employed were evaluated between 2002 and 2012, and recent studies add somewhat to this tally, but more high-quality impact evaluations are greatly needed. Such studies would specifically evaluate the best ways of designing youth employment programs (including the best components to package together), the cost-effectiveness of those programs at scale, and their general equilibrium effects.
Conclusion: A Skills Agenda for Youth

This chapter has reviewed aspects of the skills agenda that cut across the three sectors of employment: agriculture, HEs, and the modern wage sector. The most urgent policy action is to ensure that children and youths acquire foundational skills through quality basic education. The abysmal performance of education systems throughout Africa results in low worker productivity, and the lack of foundational skills prevents youths from acquiring additional skills and reaching their full potential. It is a pressing priority to improve substantially the quality of schooling so that it results in actual learning and skills acquisition for the growing cohorts of youth who will enter the labor force in the next 10 years. Early childhood development and nutrition must also be promoted actively to ensure that children are more ready to learn when they enter school.

Having a range of skills, beyond cognitive and technical skills, matters for productive employment. Behavioral and socioemotional skills are often a neglected skill set. More attention is required to identify and build the behavioral skills that contribute to productivity—including the skills that employers demand. There is room to leverage education systems to impart behavioral skills as well as to consider including a behavioral skills component in youth employment programs.

Skills “markets” are active in Africa, operating through the private provision of apprenticeships in the HE sector, on-the-job training in the modern wage sector, and other channels. In this context, there is a role for governments to provide information to youth about training and occupational choices as well as to facilitate greater access to existing training opportunities among disadvantaged groups, such as women and the poor.

The scope for direct government intervention in the skills market is more limited. It needs to be well motivated by clearly identifying the rationale for public sector engagement, and it needs to be evidence based. Chapters 4–6 review the evidence for each sector and identify interventions and approaches that are more promising and worthy of public investment. More evidence on what works in improving employment outcomes among youth, including careful evaluations, is clearly needed across the board.

Chapter 4 discusses the scope and priorities for skills training in the agricultural sector. Traditional agricultural TVET and extension have had a mixed record. However, new models of service delivery that empower farmers and allow them to choose across a range of providers appear promising. These models include participatory farmer field schools as well as beneficiary-driven models to deliver extension services, build skills, and facilitate access to information among young people.

Chapter 5 reviews the evidence on the effectiveness of training for the HE sector. Young people often face multiple constraints in starting a business. Programs attempting to build one skill at a time (such as technical skills, business skills, or behavioral skills alone) have had limited impacts. “Integrated” interventions that build a range of complementary skills together are more promising. Especially promising are “bundled interventions” that deliver integrated skills training along with assistance with accessing start-up capital. Finally, informal training delivered by private providers is normal in the HE sector, so there is scope for governments to leverage NGOs and private providers to support youth through demand-driven, performance-based models.

Chapter 6 outlines specific policy recommendations to build skills for the modern wage sector. Overall, the experience with TVET has been disappointing. Governments in Africa should focus on support for public goods in TVET, such as quality assurance and information, and they should facilitate access to training for poor and disadvantaged youths. Post-school vocational training should only be provided selectively, based on careful targeting and demand-driven models that link employers and training providers. To the extent that governments support specific training options, those options should emphasize portable skills rather than the firm- or job-specific skills that employers should already have an incentive to provide. Programs for disadvantaged youths...
that integrate training with internships show promise—but the challenge is to make them cost-effective.

Overall, education and skills matter. The starting point in meeting the youth employment challenge is to improve human capital by providing education and allowing youths to acquire the skills needed for productive work. At the same time, it is only the starting point. Governments cannot solely “train their way” to more and better jobs for youth. Policies addressing the economic and business environment have a critical role to play, and chapters 4–6 examine the relative roles of policies that promote skills and those that promote the business environment for the agricultural sector, the HE sector, and the modern wage sector.

Notes

1. Only in Ghana do self-employed workers with incomplete primary education earn significantly more (20 percent) than self-employed workers without education.

2. Low differentials in earnings premiums cannot be explained by the recent surge in primary school enrollment and completion in Africa. Most of that surge happened in the late 2000s, when the cohorts benefiting from increased enrollment had not reached the labor force.

3. In Ghana, the mean wage for workers with incomplete primary schooling was lower than the mean wage of workers without any education, but the difference was not statistically significant.

4. The general patterns for earnings increments hold for both men and women, as well as across urban and rural areas. In Rwanda, Tanzania, and Uganda, earnings differentials tend on average to be higher and steeper for women. In Rwanda and Uganda, earnings differentials are higher in urban areas, while in Ghana and Tanzania, differentials are higher in rural areas.

5. See Aromolaran (2006); Rankin, Sandefur, and Teal (2010). For example, Rankin, Sandefur, and Teal (2010) find clear evidence of convexity in the returns to education for the self-employed in urban Ghana and Tanzania, along with low average returns. Söderbom, Teal, and Hardinge (2006) find convex earnings functions in both Ghana and Tanzania. They suggest that “convexity may be part of the explanation as to how rapid expansion of education in Africa has generated so little growth if expansion has been concentrated at lower levels of education.” As Teal (2010) finds, “Returns to education, measured both by macro production functions and by micro earning functions, are highest for those with higher levels of education.” He argues, “Growth has been more closely linked to investment in physical capital than in education, and this may well reflect the fact that education is most valuable when it is linked to technology which requires higher skills.” See also Moll (1996); Appelton, Hoddinott, and Krishnan (1999); Schultz (2004); and Lassibille and Tan (2005).

6. This categorization is only indicative, and many skills are interconnected. For instance, self-control is a behavioral skill that also builds on cognitive ability.

7. In Botswana form-two and in South Africa grade-nine students were tested, corresponding to nine years of schooling; in Ghana form-two students were tested, corresponding to eight years of schooling.


9. Ozier (2010) is based on the fact that in Kenya the probability of admission to a government secondary school rises sharply at a score close to the national mean on a standardized eighth-grade examination. The causal effect of schooling is estimated by comparing those who score just below the national mean to those who score just above it.

10. See www.sdindicators.org.

11. For Madagascar, see Fernald et al. (2011); for Mozambique, see Naudeau et al. (2010); for other parts of the world, see Paxson and Schady (2007); Case, Lubotsky, and Paxson (2002).


13. For home visits, see Attanasio et al. forthcoming; Macours et al. forthcoming. For community-based centers, see Martinez, Naudeau, and Pereira (2012). For preschools, see Attanasio and Vera-Hernández (2004); Behrman, Cheng, and Todd (2004); Berlinksi, Galiani, and Gertler
(2006); Berlinks, Galiani, and Manacorda (2008).
15. See Krauss et al. (2005), who study a sample of owners of firms employing seven persons on average. All had been active for more than a year, and half had started with less than US$1,000; 37 percent of the firms were informal. Krauss and her co-authors measure business success as business growth or number of employees. They find that other skills (learning orientation, autonomy orientation, competitive aggressiveness, innovative orientation, risk-taking orientation) are less strongly associated with business success than entrepreneurial and achievement orientation.
16. Heckman, Stixrud, and Urzua (2006). The Rotter Scale measures the degree of control that individuals feel they possess over their lives.
18. The remainder of this discussion focuses on young adults ages 25–34, because younger individuals may still be in school, and results including them would not reflect the apprenticeship or TVET experience accurately.
19. In Ghana, only 12.7 percent of students who advance beyond lower-secondary education enroll in a TVET institution (World Bank 2009). Low enrollment partly reflects limited capacity; only 5 percent of junior secondary students could have expected to obtain a place in a public TVET institution. If private TVET capacity is included, the percentage rises to 7.2 percent. In Nigeria, less than 1 percent of university enrollment is in a technical college and about 20 percent is in a more advanced polytechnic (World Bank 2011b). Rwanda's vocational training centers enroll just over 10,000 trainees; of these, about 4,700 are enrolled in a public training center—a modest number compared to the roughly 260,000 students enrolled at the secondary level (World Bank 2011a).
20. An estimated 100,000 youths are enrolled in formal TVET, compared with 150,000 in traditional apprenticeships (Franz 2011).
21. Other studies point to similar patterns. In Nigeria, it is estimated that more than half of small business operators acquired their skills in the informal sector from master craftsmen or master trainers (Billetoft 2010). In Rwanda, 25 percent of HE owners report having been trained as an apprentice (Johanson and Gakuba 2011).
22. Frazer (2006) finds that apprenticeship training increases an individual's productivity in the current firm but not in any other firm. Still, individuals are willing to fund apprenticeships because they can reap the returns to the specific training if they manage to acquire the capital to start their own firm and replicate the technology and business practice of the apprenticeship firm. Apprentices are constrained only by capital from becoming apprenticed entrepreneurs.
23. In northern Uganda, when youth groups were provided cash to pay for training as part of the Youth Opportunities Program, 33 percent chose to obtain training from local artisans and 32 percent chose to obtain it from informal training institutions. In Nigeria, the volume of informal training far exceeds that of formal TVET. Despite being short and of varying quality, informal training is in great demand (Billetoft 2010, 185). Kenya also has a remarkably large, diverse array of private training providers (Hicks et al. 2011; Franz 2011).
24. Youths who did not receive cash grants chose a slightly different mix of training. Short courses on business and management (27 percent) or agribusiness and farming (7 percent) were more common.
25. In the statistics based on household surveys used in this chapter, for example, it is not possible to apportion TVET enrollment between public and private providers or even to know with certainty whether the numbers correspond to both public and private TVET or to public TVET alone.
26. A recent review of training in Malawi estimates that, over the past 10 years, female enrollment in apprenticeships was 21–35 percent of male enrollment (World Bank 2013).
27. While the program was mainly for “industrial courses,” it also allowed students to enroll in more academic courses (for example, computer training) and to cover fees up to the level of the average two-year industrial course.
28. These costs exclude opportunity costs, which can be large for training of long duration.

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