

Skills Development in the Informal Sector: Tanzania

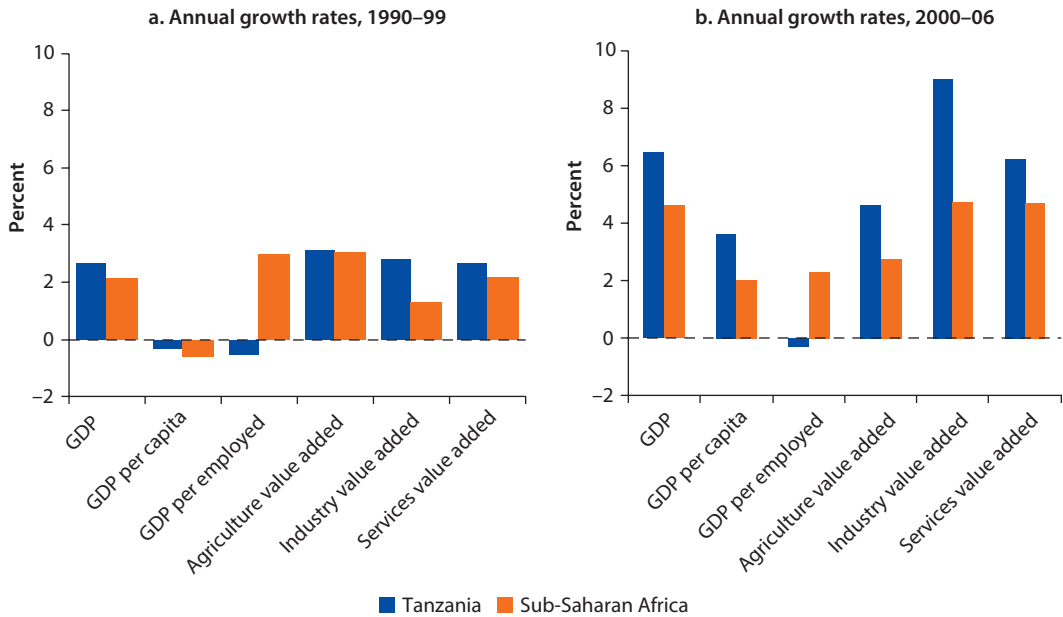
In This Chapter

In Tanzania, employment off the farm in small household enterprises of the informal sector is growing much faster than in the formal wage sector and is helping absorb the wave of youth now entering the workforce. Women are over-represented in these enterprises, as are urban areas. Better earnings can be found in the formal sector, but the earnings of the informal sector offer gains when compared with those in agriculture. Education and skills are shown to be effective instruments for attaining employment off the farm and improved earnings. The Tanzania case, like others in this volume, illustrates the challenges to improving skills for the informal sector. It provides examples of programs that address these challenges but highlights the need for more rigorous evaluations.

Introduction

Tanzania's economy has experienced a significant and positive turnaround in recent years.¹ In the 1990s, real gross domestic product (GDP) increased by less than 3 percent per year (figure 9.1, panel a). Although the economy performed better than that of many Sub-Saharan Africa countries, low growth rates coupled with high population and labor force growth still meant that GDP per capita and labor productivity fell by 0.3 and 0.5 percent per year, respectively. The past decade has seen a reversal of this pattern. GDP growth rates exceeded 6 percent per year between 2000 and 2009, translating into GDP per capita growth, with sustained labor productivity growth of close to 4 percent per year—almost twice the Sub-Saharan average. The services sector increased by over 6 percent per year, second only to farming (figure 9.1, panel b).

Still, in spite of the economy's dynamics, Tanzania's economic structure, social indicators, and labor markets remain representative of a typical low-income country (table 9.1). Farming continues to dominate the economy. Employment rates are high (around 80 percent for men and women), reflecting high poverty

Figure 9.1 Economic Indicators, Tanzania and Sub-Saharan Average, 1990–99 and 2000–06

Source: World Bank 2011.

Note: Data are for 2006 or latest available. GDP = gross domestic product.

Table 9.1 Key Indicators, Tanzania

Indicator	Percentage
Growth 2000–09	
Average GDP	6.7
Average GDP per capita	3.8
Annual working-age population	2.1
Employment-to-population ratio	78
Farm, share of employment	82
Farm, share of GDP	45
Rural Poverty Headcount Index	37
Urban Poverty Headcount Index	22
Income, share held by lowest 20 percent	7.3

Source: World Bank 2011.

Note: Data are for 2009 or latest available. GDP = gross domestic product.

that obliges most people to be employed in some way or another. An overwhelming share of this employment is in subsistence farming.

Diversification of employment from low-productivity farming into the nonfarm sector offers a pathway out of poverty. The link between the high prevalence of low-productivity jobs in farming and poverty is incontestable. Recent analysis shows that rural households in Tanzania that operate nonfarm household enterprises and have access to markets and infrastructure improve

their livelihoods (Kweka and Fox 2011). Opening employment opportunities in the nonfarm sector promises better earnings and the reduction of poverty.

Small-scale enterprises in the nonfarm sector are a likely source of employment for the growing influx of youth. With a population growth of about 3 percent, Tanzania is still in the early stages of its demographic transition,² and its population is very young, with the share under 15 years of age accounting for 44 percent of the population in 2002. Current population projections up to 2025 show a steady increase, with an average of more than 850,000 people a year coming of working age. The majority of these will find employment in farming and, increasingly, as self-employed in small enterprises of the nonfarm sector. Improving the productivity of the latter will be a key ingredient to increasing the earnings of Tanzania's low-income households.

This chapter sets out to provide a better understanding of employment off the farm in small household enterprises of the informal sector of Tanzania. Different definitions of the informal sector are examined. The chapter looks at the statistical importance of this employment and its demographic structure in relation to the formal economy. It examines the skill level of workers in the formal and informal sectors of the economy and how different sources of skills influence employment opportunities and earnings potential. It highlights different sources of skills development open to workers, particularly those in the informal sector, and factors influencing accessibility and outcomes.

Skills, Employment, and Earnings

Household survey data from the Integrated Labour Force Surveys (ILFSs) of 2006 and 2001 (NBS 2002, 2007b) provide an overview of employment in the informal sector. In Tanzania, informal activities are mostly undertaken as own-account work. The sector is more open to male workers and more prevalent in urban areas; women remain relatively more likely to be informal than formal workers than do men. Informal workers are younger than formal workers, especially in urban areas. They have some formal education although less than formal sector workers, and informal sector workers are almost as likely as private formal sector workers to have been exposed to some form of training, mostly in the form of apprenticeships.

Measuring the Informal Sector in Tanzania

Informality in the labor market can be examined through several prisms. In Tanzania, the national definition of the informal sector adopted for statistical purposes follows the definition adopted by the 1993 15th International Conference of Labour Statisticians. The informal sector is considered as a subset of household enterprises or unincorporated enterprises owned by households. They are enterprises that are not separate legal entities independent of the households or household members who own them. They do not have a complete set of accounts that permit a clear distinction of production activities of the enterprises from the other activities of their owners and the identification of

flows of income and capital between enterprises and owners. The enterprises may or may not employ paid labor, and the activities may be carried out inside or outside the owner's home. All or at least some of the goods or services of the business have to be produced for sale (NBS 2007a).

The informal sector includes the self-employed, unpaid workers, and those informally employed. The definition of the informal sector begins with the self-employed. This includes employers who work on their own account and with unpaid family members and other employers who engage workers for wages. Those working on their own account or as employees in these enterprises are considered to be working in the informal sector. The self-employed who work on their own account comprise a larger share of the self-employed in most developing countries. The definition of the informal sector used in this chapter follows the national definition in which a nonfarm enterprise is considered to be in the informal sector if it meets the following criteria:

- It falls into the following categories: household economic activities (other than fetching water or firewood); unregistered cooperatives; private own-account enterprise; unregistered partnership; and other private enterprises.
- If employs fewer than 10 employees.
- It does not keep written records or accounts to monitor the activities of the enterprise.

Almost half of all Tanzanian employment off the farm is engaged in the informal sector, mostly as own-account operators (table 9.2). The focus here is on the primary job. People working in the informal sector as a secondary activity are excluded. In 2006, the number of workers 15 years of age and older (15+) in the informal sector was estimated at around 2.2 million. With total employment of about 19 million people, and three-quarters in farming, the informal sector

Table 9.2 Informal Sector for Main Economic Activity in Tanzania, 2006

<i>Sector</i>	<i>Share of total nonfarm employment (%)</i>	<i>Absolute number of workers (thousands)</i>	<i>Share of informal sector (%)</i>	<i>Median monthly earnings (T Sh)</i>	<i>Females (%)</i>
Informal employers ^a	4.7	226	10.1	72,000	33
Informal wage workers (regular) ^b	0.1	4	0.2	92,500 ^e	52
Own-account operators ^c	40.6	1,947	86.9	40,000	46
Informal wage workers (casual) ^d	0.6	27	1.2	30,000 ^e	38
Unpaid family workers	0.7	34	1.5	n.a.	56
Total informal sector	46.7	2,238	100	40,000	45
Total nonfarm employment	n.a.	4,789	n.a.	n.a.	43

Source: Elaborations based on NBS 2007b.

Note: Column totals may not sum exactly because of rounding. n.a. = not applicable.

a. "Informal employers" correspond to "self-employed with employees."

b. "Informal wage workers (regular)" are those with permanent contracts.

c. "Own-account operators" correspond to the "self-employed without employees" operating in the informal sector.

d. "Informal wage workers (casual)" includes both written and oral casual contracts, those "on contract," and those with no contract.

e. Median paid employment income.

accounted for about 12 percent of total employment. As elsewhere in Africa (cf. Becker 2004 and Haan 2006), a vast majority of the informal sector is composed of own-account operators: in 2005, they constituted 87 percent of the informal sector in the primary economic activity and contributed 41 percent of total nonfarm employment. Similarly, those reporting to be self-employed without employees are also more likely to be located in the informal sector: 93 percent of the self-employed without employees were in the informal sector in 2006, compared with 77 percent of the self-employed with employees.

Using this definition, informal sector activities have expanded much faster than total employment, helping absorb the large waves of new labor force entrants. From 2001 to 2006, the number of workers whose primary activity was in the informal sector increased by 700,000 on a net base, equivalent to a rate of roughly 9 percent per year. This is considerably faster than the 4 percent annual growth rate of overall employment (for the 15+ age group). This phenomenon is common among African economies, where rapidly expanding populations result in labor markets being continuously flooded by new job seekers and the formal sector is unable to absorb the new entrants (Fox and Gaal 2008).

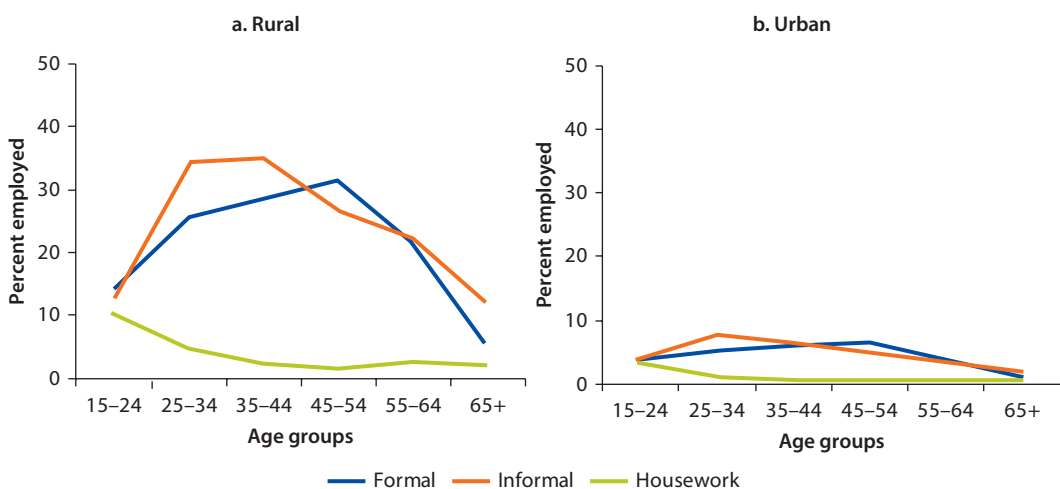
Comparing the Formal and Informal Sectors

Distinct employment patterns separate the formal and informal sectors with age, gender, residence, education, and earnings playing important roles.

Demographics

Younger workers in Tanzania are more likely to be in the informal sector than older workers, particularly urban workers (figure 9.2).³ This is in line with Perry

Figure 9.2 Share of Employed across Sectors within Each Age Group (15+) in Tanzania



Source: Elaborations based on NBS 2007b.

Note: "Housework" in the International Labour Force Survey data corresponds to the "household employed" sector, which includes those employed as household servants.

and others (2007), who suggest that in Latin America, the informal sector serves as a point of entry into the labor market among the young, as they queue to find a job in the formal sector or accumulate more experience (unfortunately the ILFS data do not allow us to test the job-queuing hypothesis explicitly). As seen in figure 9.2, urban youth (where there is an inverted *U*-shape pattern) enter the informal sector. Possibly with age and experience, some find a job in the formal sector, but only panel data could give evidence of such mobility. It is also possible that youth today will not have the opportunities in formal sector employment when they grow older that older workers have today, and that the share of informal activities in the nonfarm economy is increasing. In that case, today's youth will remain in the informal sector into older ages.

Women remain overrepresented in the informal sector, even though the male share of informal activities is dominant and increasing. In 2000/01 and 2006, men accounted for more than half of those employed in the informal sector. In the main economic activity, the share of men increased from 51 percent in 2000/01 to 55 percent in 2006, a statistically significant change (table 9.3). However, the dominance of male workers is because of their higher participation rate. Although the share of women in the informal sector may appear low if compared with such other African countries as Benin, Kenya, Mali, or South Africa, where women account for 60 percent (or more) of total informal sector employment (Chen 2004), women are nevertheless overrepresented in the informal sector, as compared with other sectors of the economy. For instance, in the government sector men accounted for 68 percent of employees in the 15+ age group in 2006, and in the private formal sector they accounted for more than 70 percent of the total (table 9.3). The figures above also show that women in

Table 9.3 Distribution of Informal Sector Employment in Tanzania, by Type of Activity and Gender
Percent

	2000/01			2006		
	Male	Female	Total	Male	Female	Total
By type of activity						
Paid employee	47	53	100	60	40	100
Self-employed (with employees)	69	31	100	67	33	100
Self-employed (without employees)	50	50	100	54	47	100
Unpaid family worker	40	60	100	44	56	100
Total	51	49	100	55	45	100
By gender						
Paid employee	11	13	12	2	1	1
Self-employed (with employees)	12	6	9	12	7	10
Self-employed (without employees)	77	80	78	85	90	87
Unpaid family worker	1	2	1	1	2	2
Total	100	100	100	100	100	100

Sources: Elaborations based on NBS 2002, 2007b.

Note: Totals may not sum exactly because of rounding.

the nonfarm sector are more likely to be in the informal sector than the formal sector. This is not the case with men.

Women are relegated to more vulnerable and lower-paid occupations within the informal sector. Male workers in the informal sector are more likely to be higher up in the occupational pyramid or hierarchy. Although for both men and women self-employment without employees is by far the most prevalent category of employment in the informal sector, the share is higher for women. Men are more likely than women to be self-employed with employees: more than two-thirds of those in this category for the main economic activity were men. Given the generally lower earnings among own-account workers (see table 9.2), this highlights the higher level of vulnerability among women employed in the informal sector, who tend to be unpaid employees in smaller-scale household enterprises (table 9.3).

Informal sector activities are concentrated in trade. Three-quarters of informal employment is in the services sector, more than half of it in trade alone, and women are less diversified in their sectors of work. In fact, more than two-thirds of informal sector jobs were in the trade, and hotel and restaurant sectors in 2006 (table 9.4). Wholesale and retail trade was the main sector of activity in the informal sectors among both males and females, accounting for more than half the total in both categories. Hotels and restaurants occupied a further 20 percent of the total among females, with a much lower share (5 percent of the total) among males, who instead were in areas such as mining, construction, and transport. Manufacturing is one of the biggest categories for both men and women, although the occupations represented in this sector are quite different by gender.

Among males, almost half the workers in the informal sector who are in manufacturing are “extraction and building trades workers,” with a further

Table 9.4 Sector Distribution of Informal Sector Jobs in Main Economic Activity in Tanzania, 2006

<i>Main sector</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>
Farm	2	1	1
Industry	27	19	23
Mining and quarrying	5	1	3
Manufacturing	16	18	17
Electricity, gas, and water supply	0	0	0
Construction	7	0	4
Services	71	80	75
Wholesale and retail trade, repair of motor vehicles	56	56	56
Hotels and restaurants	5	21	12
Transport, storage, and communications	5	0	3
Other	6	4	5
Total	100	100	100

Source: Elaborations based on NBS 2007b.

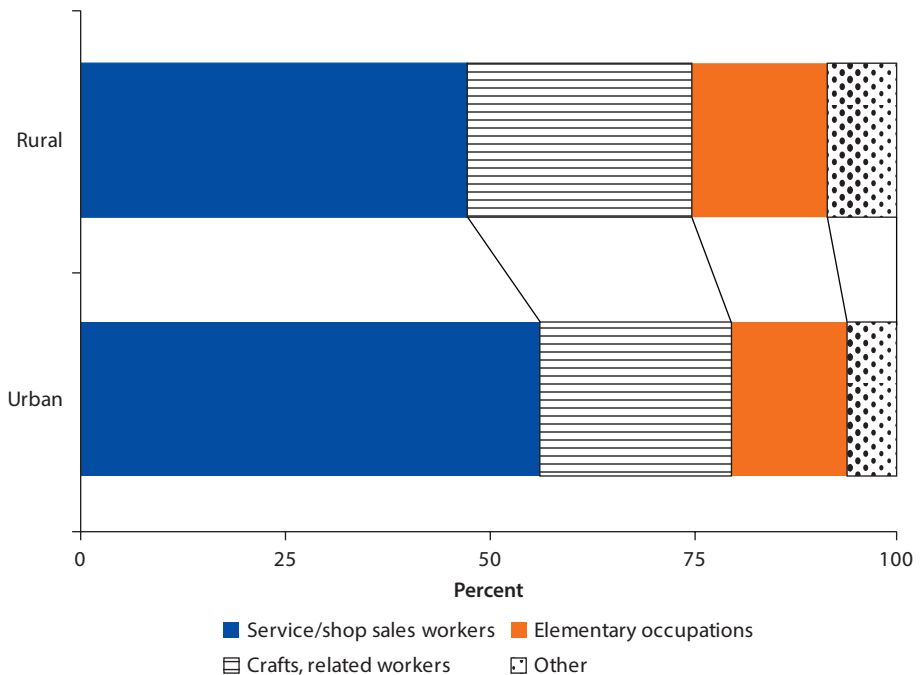
Note: Totals may not sum exactly because of rounding.

30 percent in the “other crafts and related trades workers” category; whereas among females, the latter constitutes 80 percent of the total. Overall, women are less diversified than men, thereby adding to their vulnerability. Manufacturing, trade, and hotels account for 94 percent of all female employment. The sectors accounting for the three largest groups of employment for males (trade, manufacturing, and construction) account for 77 percent of total male employment.

Informal sector activities are largely urban. Urban areas accounted for two-thirds of total informal sector employment, and Dar es Salaam alone contributed 28 percent of informal sector employment in 2006. The service sector accounted for the largest share of informal sector employment in both urban and rural areas. Service and shop sales workers accounted for more than 50 percent of informal sector workers in urban areas and for 48 percent of the total in rural areas (figure 9.3).

Push factors (lack of other options) seem to dominate over pull factors (attractive opportunities) in motivating informal sector activities. A full 70 percent of workers in the informal sector in 2006 cited inability to find other work, additional income needs of the family, or release from other employment as the reasons for being in the informal sector. Less than 20 percent of those operating in the informal sector invoked good business opportunities or low capital requirements, while only 4 percent chose the informal sector for reasons of independence and flexibility.

Figure 9.3 Main Occupations in Informal Sector of Tanzania, 2006



Source: Elaborations based on NBS 2007b.

Pull factors play a more important role for men than for women and for rural than urban areas. Women work in the informal sector mainly because of their need for additional income, whereas men are there because they see more attractive business opportunities. Pull factors play a larger role in rural areas where the option is lower-paying farming. Employment in the formal sector in rural areas is limited, and farming is the residual low-earnings option. Employment off the farm in the informal sector becomes the “preferred” option for many in rural areas. This pattern follows rural workers who move to urban areas because migrants in urban areas are more likely than nonmigrants to be in the informal sector (see tables 9A.1–9A.3).

Skills and Access to Different Occupations

Informal sector workers have less education than those working in the formal sector but more than those engaged in farming (table 9.5). The education system in Tanzania is based on a 7-4-2-3 system, including seven years of primary education, four years of lower-secondary education, two years of higher-secondary education, and three years (or more) of university education. The hierarchy of education levels is consistent with evidence from other countries (see, for example, Liimatainen 2002) and from the other country studies presented in this book. Overall, 12 percent of workers in the informal sector had no education, compared with 31 percent of those in small-scale farming. In urban areas, the share of workers with no education in the informal sector falls between the numbers for the government and private formal sectors and those of farming. Similarly, in urban areas, only 10 percent of workers in the informal sector have completed lower-secondary levels of education or more, compared with 21 percent in the formal private sector and 61 percent in the government sector. This level is nonetheless higher than the cumulative share of completed

Table 9.5 Education Profile by Main Sector in Tanzania, 2006

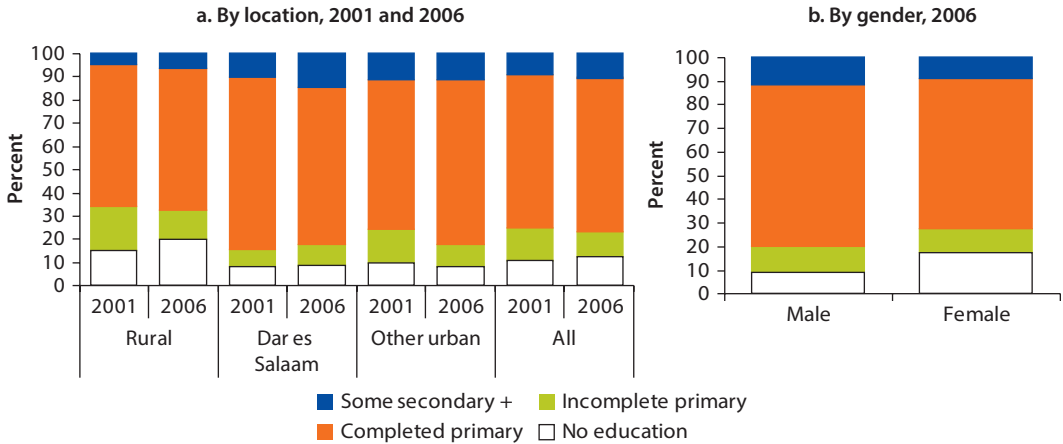
Education level	Overall				Urban only			
	Private				Private			
	Government	formal	Informal	Farm	Government	formal	Informal	Farm
No education	1	8	12	31	1	5	9	20
Incomplete primary	4	10	11	18	3	7	10	18
Completed primary	35	63	66	49	32	65	69	55
Incomplete lower secondary	2	3	3	1	2	3	3	3
Completed lower secondary	40	13	7	1	39	16	9	4
Higher secondary or university ^a	18	4	1	0	23	5	1	1
Total	100	101	100	100	100	101	101	101

Source: Elaborations based on NBS 2007b.

Note: Columns may not add to exactly 100 because of rounding.

a. “Higher secondary or university” category includes “some or completed higher secondary” and “some or completed university.”

Figure 9.4 Education Profile of the Informal Sector in Tanzania



Sources: Elaborations based on NBS 2002, 2007b.

lower-secondary education and above for farming (4 percent of total). A majority of informal sector workers has completed primary education.

Education of informal sector workers favors those in urban over rural areas, and the education gap has increased over time. In Dar es Salaam, the share of workers in the informal sector in 2006 with some secondary education was twice that in rural areas, while those with no education were half the level registered in rural areas (figure 9.4). Overall, education levels did not improve with the expansion of the informal sector between 2001 and 2006. As the education levels increased in Dar es Salaam (at higher levels) and other urban areas (with higher levels of completed primary), rural areas saw a decline in education. The rural-based informal sector accounted for this with an increase of workers with no education. People leaving farming without education were finding their way into rural informal sector activities. Women are likely to have less education than men because 17 percent of women had no education, compared with 8 percent of men.

Skills development also takes place outside the formal education system with a bias toward those in the formal sector. Close to one in four workers in the informal sector received some form of training in 2006. About 1.7 million workers had benefited from some type of training—enterprise training, apprenticeships, vocational training—in 2000/01. The number increased in 2006 to over 2 million. Those working in the formal sector were more likely to receive training than those in the informal sector. A vast majority of government sector workers had training opportunities. One-third of workers in the formal private sector participated in these training opportunities. This percentage fell to 23 percent of workers in the informal sector, much higher than the training incidence among those engaged in small-scale farming or employed by a household (table 9.6).

Table 9.6 Training Incidence across Sectors in Tanzania, 2006

<i>Main sector</i>	<i>Percent who received training</i>
Government	82
Parastatals	60
Private formal	34
Informal	23
Traditional farm	5
Household employed	7
Total	12

Source: Elaborations based on NBS 2007b.

Table 9.7 Types of Training within Informal Sector of Tanzania, 2006

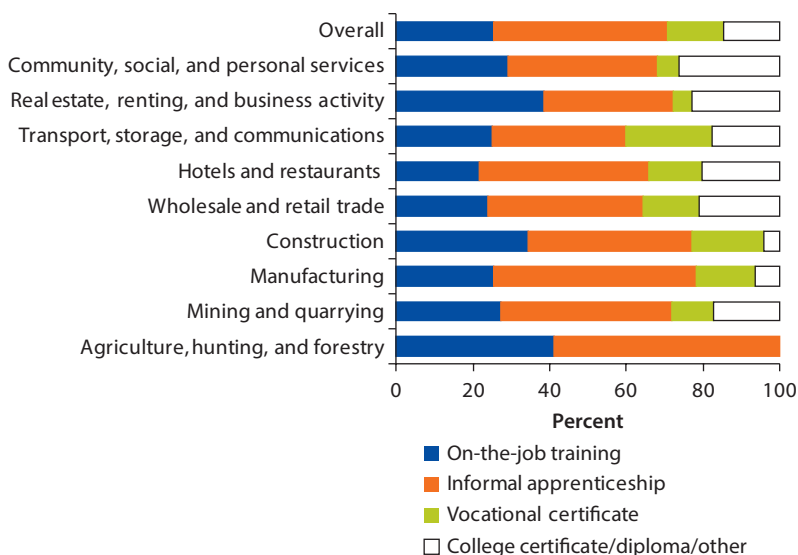
<i>Type of training</i>	<i>Urban</i>	<i>Rural</i>	<i>Total</i>
Informal apprenticeship	46.8	39.4	45.0
OJT	22.6	35.6	25.7
Vocational certificate	15.4	13.4	14.9
College/certificate	12.3	8.8	11.4
Diploma	1.4	0	1.1
Advanced diploma/university degree	0.5	0	0.4
Other	1.0	2.8	1.5
Total	100.0	100.0	100.0

Source: Elaborations based on NBS 2007b.

Apprenticeships are the primary mode of training for the informal sector, followed by on-the-job training (OJT) and vocational certificates. Together, these three categories account for 86 percent of total training in the informal sector (table 9.7). The difference between urban and rural areas among these modalities is generally insignificant (in the statistical sense) with the exception of OJT, which accounts for a higher share of those trained in rural areas. Most of the training is concentrated in (a) craft or trade and industrial programs and (b) construction at 41 and 31 percent, respectively (table 9A.4). The training incidence (percentage of employees with training) is highest in construction, manufacturing, and real estate but low in the sectors where most people are employed. Thus, in the wholesale and retail trade sector, and in the hotel and restaurant sector (which together account for two-thirds of informal sector workers), training incidence is relatively low (16 and 11 percent, respectively).

The type of training in the informal sector varies by industry. Across sectors of the informal economy, the training differences are notable (figure 9.5). Although informal apprenticeships dominate as a source of training, OJT is more prominent in sectors such as manufacturing, construction, real estate, and farming than in trade or hotels and restaurants. The cumulative share of vocational certificates and college certificates or diplomas is relatively low in the construction and manufacturing sectors, compared with the transport, storage, and communications sectors or the wholesale and retail sectors. In construction

Figure 9.5 Distribution of Training Modalities in Informal Economy of Tanzania by Sector, 2006



Source: Elaborations based on NBS 2007b.

Table 9.8 Training and Formal General Education in Informal Sector of Tanzania, 2006

Level of schooling	Training incidence across education levels			Training incidence by education level		
	None	Some	Total	None	Some	Total
No education	15.3	3.1	12.4	94.3	5.7	100.0
Incomplete primary	11.6	7.9	10.7	82.9	17.1	100.0
Completed primary	65.7	67.5	66.2	76.2	23.8	100.0
Incomplete lower secondary	2.0	4.0	2.5	62.7	37.3	100.0
Completed lower secondary	4.9	15.0	7.3	51.9	48.1	100.0
Higher secondary or university	0.4	2.5	0.9	36.3	63.7	100.0
Total	100.0	100.0	100.0	76.7	23.3	100.0

Source: Elaborations based on NBS 2007b.

Note: Numbers may not sum exactly because of rounding.

and manufacturing, informal training appears to substitute for, rather than complement, formal technical training.

Education influences access to training. Those who report any form of training at all also report higher levels of education, and only 3 percent of those with some training had no education, compared to 15 percent of those with no training (table 9.8). The training incidence in the informal sector increases with education level: 6 percent of those with no education report training, compared with 64 percent of those with advanced secondary or university education.

This pattern is confirmed in the multinomial analysis of table 9A.5. Even in the informal apprenticeship system, formal education is an important determinant of receiving training. The education level of those seeking to become an apprentice is reported to be one of the main criteria applied by master craftspersons to select apprentices (Haan 2006; Nübler, Hofmann, and Greiner 2009).

Access to training varies by residence and gender. Urban and male workers are more likely to have access to some form of training than rural or female workers. A regression of the incidence of training against individual characteristics supports much of the simple correlations discussed above (see also table 9A.5). People completing a primary education have a 40 percent higher likelihood of having training than those with an incomplete primary education, and those completing a secondary education are three times as likely to have had training. The chances of receiving training also increase with age, are considerably smaller for female and rural workers as well as own-account operators (compared to employers), and are higher in the manufacturing and construction sectors than elsewhere. The nature of training modalities may be one important reason why women have a lower training incidence: most training in the informal sector occurs either through informal apprenticeships or, in the case of formal vocational training, through faith-based training centers, both of which favor men (Johanson and Wanga 2008).

Training favors those in urban areas and in larger enterprises of the informal sector. The likelihood of training is 50 percent higher for urban than for rural workers, controlling for the sector of employment. Supply factors likely play a role in this pattern with more training centers available in cities than in the countryside. The likelihood of training is 70 percent higher for those working in informal sector enterprises that hire wage workers than those who do not. The self-employed who have reached a stage of profitability where they can afford to expand and hire wage workers are more likely to be able to invest in training for their workforce. They may also use more modern methods of production and require workers with skills to use the capital available.

Education also plays a role in attracting individuals to the informal sector to pursue good business opportunities. The motivation for being in the informal sector varies significantly for different levels of education. Of people with no formal education, only 8 percent were attracted into the informal sector by good business opportunities, whereas 41 percent claimed to be in the informal sector because of their inability to find other employment. Among people with more than a secondary education (higher secondary and university), 21 percent identified good business opportunities in the informal sector as the reason for undertaking their main economic activity there, and only 18 percent invoked inability to find other employment.

Like training, education is connected with the sector where one works. Multinomial logit regressions over the sample of those employed across different sectors show education to be associated with a higher probability of being employed in sectors with higher levels of formality relative to farming (tables 9A.6 and 9A.7). People who have a secondary education or more are also more

likely to be employed in the public and private formal sectors, controlling for other factors. This highly educated group is more likely to be in wage work, or to work as employers, than as own-account workers or unpaid household workers. Higher levels of education are associated in particular with a higher probability of working in the government and parastatal sectors.

People leaving the farm receive more training. Having some training beyond general education—on the job, apprenticeship, vocational, or college certification—is associated with a greater probability of working off the farm in the formal or informal sector. Apprenticeships appear to be associated with a higher probability of being both self-employed and wage employed relative to being in small-scale farming. The probability is in fact higher for employers than for the self-employed without employees, suggesting that these apprenticeships serve to raise skills and lead to occupations that offer higher earnings. The likelihood estimates associated with informal apprenticeships are on par with those for OJT or vocational certificates for self-employment with or without employees. The estimates also confirm the fact that being female, young, and rurally based is an obstacle to accessing higher-paying sectors.

Skills and Earnings

Education and skills go beyond the type of job held to influence the earnings attained in the job. Multivariate analysis was used to investigate the returns to education and training, focusing on wage employment compared with self-employment.⁴ It showed the following:

- Higher levels of education are associated with higher wage incomes among those in paid employment and with higher earnings among the self-employed, and the returns increase more rapidly at higher levels of education (table 9A.8). These findings are consistent with those of a recent study by Quinn and Teal (2008), using urban panel data for Tanzania. Here the earnings function was found to be convex in education, suggesting that investments in primary education may have limited effect on poverty (except for those who proceed to higher levels of education).
- Returns to education are higher in the wage sector. For all levels of education, except for incomplete secondary, the effect of having a given education level relative to the no-education baseline is higher in the wage sector than for the self-employed. And although the coefficient on completed secondary education is 1.6 times higher than the coefficient on incomplete secondary education in the wage equation, it is actually lower in the earnings equation, suggesting that among the self-employed, completing secondary education does not seem to convey an obvious premium beyond its effect on type of employment. The completed primary dummy is significant in both the income and earnings equations.

- Vocational training is also associated with higher hourly wages, particularly for training modalities other than informal apprenticeships. At the same time, only vocational and college certificates offer statistically significant earnings gains among the self-employed over the baseline of no training. OJT does not appear to have a statistically significant effect on the earnings of the nonfarm self-employed, while the effect of apprenticeships is significant only at the 10 percent level. Thus, apprenticeships seem to influence earnings only through access to higher-paying sectors.

Beyond education and training, experience and gender also influence earnings. Both incomes and earnings increase concavely with age, which can be viewed as a proxy for experience in the labor market and thus would be expected to positively affect earnings. Women earn less, accounting for age, education, and training profiles, as well as for the area of residence, the negative effect being twice as high for the self-employed as for those in paid employment.⁵

The informal sector is a diverse entity shaped by the education and skills of those who work in it. Education levels in the informal sector are higher than those in the farm sector—a majority of operators have finished primary school—but lag behind those of formal sector workers. Access to training is also limited. Such skills development outside formal education mostly comes in the form of apprenticeships. Apprenticeships and some formal education appear important to access the informal sector, but higher levels of education (secondary) are needed to access the formal sector and raise earnings. In contrast, apprenticeships offer no premium in terms of actual earnings in the informal sector, unlike vocational training.

Acquiring Skills for the Job Market in Tanzania

Constraints exist to attaining skills in the informal sector. The question is how informal sector workers can access skills from different providers—public and private, formal and informal. Access to skills development will depend not only on what the level of supply is, but also on how well different institutions or specific programs can cater to the constraints that informal sector workers face: among other things, their initial low level of education; their lack of time and money to spend on training; and their need for entrepreneurial, business management, and technical skills as mostly self-employed.

Skills for the informal sector are often neglected as a policy issue. The assumption seems to be that what works for the formal sector will also work for the informal sector. However, the preceding data show otherwise. Constraints to acquiring skills faced by those in the informal sector appear to be more binding than those of the formal sector. Although the role of technical and vocational education and training (TVET) is formally recognized in policy, little evidence exists of its adaptation to the special circumstances of the informal sector. The limited outreach of the formal TVET system implies that whatever training is

taking place in the informal sector is in enterprises, the vast majority through apprenticeships.

Education

Education levels and literacy rates are rising in Tanzania, yet progress at postprimary levels is limited. In the 20 years after independence (1961–81), primary enrollment rates increased from 33 percent to 93 percent for the 7–14 age cohort, decreasing during the 1980s and then recovering to 84 percent by 2000. In contrast, secondary enrollment rates increased considerably from the early 1980s onward (Kahyarara and Teal 2006). By 2008, primary gross enrollment rates reached 105 percent, the number of out-of-school children (under 15) had been cut by 90 percent compared with 10 years earlier, and lower-secondary enrollment rates had more than quadrupled (table 9.9).⁶ However, access to postprimary education remains limited; less than 6 percent proceed beyond lower secondary, and two-thirds do not go beyond primary levels.

Formal Sources of Skills Development

The national education strategy mentions the importance of strengthening TVET and training for the informal sector, yet few concrete steps have been taken to implement changes to the system. At the policy level, both the National Employment Policy and the National Strategy for Growth and the Reduction of Poverty recognize the importance of training for the informal sector. Action plans, grounded in careful analysis of labor market and training needs, are lacking to implement the policy pronouncements. Moreover, which agency is charged with executing the policies is unclear. The system remains fragmented and underfunded and does not cover key sections of the population, such as those in the informal sector.

The formal TVET system does not cover informal sector firms or workers. The system is divided between two regulatory and accreditation agencies also in charge of the direct provision of training: the National Council for Technical Education (NCTE), which regulates and provides relatively higher levels of skills (diploma and above), and the Vocational Education and Training Authority (VETA), which focuses on lower levels of skills training (technical skills mainly

Table 9.9 Education Statistics, Tanzania

<i>Indicator</i>	<i>1999</i>	<i>2008 or latest available</i>
Primary gross enrollment rate (%)	67	105
Primary completion ratio (%)	57	102
Out-of-school children, primary (thousands)	3,185	268
Lower-secondary gross enrollment rate (%)	8	36
Higher-secondary gross enrollment rate (%)	3	4
Vocational and technical as a percentage of secondary	9	—
Tertiary gross enrollment rate (%)	0.6	1.5

Source: World Bank 2011.

Note: — = not available.

at the certificate level or below a diploma). Established in 1994, VETA coordinates policy, sets standards, provides training, and tests skills. Yet the emphasis of vocational training for the informal sector appears to be in the early stages, and the tendency within VETA veers toward the continuation of traditional training methods and focus areas (Haan 2006). Indeed, training for the informal sector did not appear among the eight strategic issues in VETA's Corporate Plan III (2007–11), which focused on building VETA systems, enhancing training capacity in VETA training institutions, and implementing competency-based training and training of instructional staff.

The system is financed by a 2 percent vocational education and training levy collected by the Tanzania Revenue Authority on behalf of VETA. Only a third of that contribution is spent on VETA; the rest is considered government revenue and reallocated to other vocational training activities, such as the NCTE. Both VETA and NCTE activities are reputed to be undersourced by employers, and there have been calls for the two entities to merge. Moreover, donor funding for TVET has waned in recent years.

The enrollment in formal TVET is limited. As seen from table 9.9, only 1 in 10 students at a postprimary level is enrolled in TVET training. In 2007, only about 80,000 students were enrolled in different vocational institutions—less than one-third of the total number of out-of-school children. Females made up almost half (45 percent) of students enrolled and graduates. Nongovernmental institutions (private institutions, foreign-based owners, and nongovernmental organizations [NGOs]) accounted for about three-quarters of providers, and public providers (central government, local government, and VETA) the remainder. Throughout the country, VETA operates 21 training institutions, which in 2007 graduated 11,200 students. Only 18 informal sector training programs were conducted in 2006/07, with total enrollment of about 450.

Outreach to the informal sector is missing. A number of factors constrain the expansion of VETA training for the informal sector, including (a) the levy financing of VETA paid by the formal sector, which makes it more difficult to implement training for the informal sector; (b) high training fees, which are particularly constraining for informal sector workers (especially youth); and (c) pervasively negative opinions among informal sector operators about the quality of training offered by vocational training centers (VTCs). In addition to the VTCs, the government operates Folk Development Colleges, which are designed to develop farm, home economics, and technical skills as part of the efforts to stem rural–urban migration. Yet many of the Folk Development Colleges lack equipment and qualified personnel, and the effectiveness of training is unclear. Last, there is little demand orientation and partnership with informal sector operators in designing and running the programs.

Nonformal Sources of Skills Development

Most vocational training is provided by small-scale nongovernmental institutions. The training offered seems to focus predominantly on production skills, which contrasts with the need to provide training in basic bookkeeping and skills in

marketing and product development that ongoing formalization efforts would generate. Generally, these small-scale institutions provide preemployment services and are financed through fees as well as production of goods during training. The quality of training and its relevance for the labor market, whether through donor-funded NGOs, churches, or private commercial operators, is undetermined.

Programs that successfully reach out to smaller informal operators with a package of services appear to have seen some success (table 9.10). An alternative model was designed with the help of GIZ (the German Agency for International Cooperation, formerly GTZ), targeting existing and potential informal sector operators. The Integrated Training and Entrepreneurship Promotion Program (INTEP) provided integrated training programs designed to cover both technical and business skills, plus literacy if necessary. The INTEP model included pretraining assessments of markets, target groups, and training capacity as well as provision of follow-up services.

Table 9.10 Programs That Partly Address Informal Sector Operators

<i>Program or organization</i>	<i>How does it address specific constraints for informal sector operators?</i>
<p><i>SIDO</i> provides a wide range of development business services, including technology, training, marketing, and financing to (a) people who have not yet started a business, (b) existing small enterprises, and (c) business service providers.</p> <p>Training programs are grouped in three areas: (a) entrepreneurship skills; (b) business management skills; and (c) acquisition and upgrading of technology, for example, in food processing and preservation, bamboo craft, leather products development, recycling, timber seasoning, and cashew nut processing.</p>	<p><i>Filling multiskilling needs:</i> Provides a range of training programs in business and technical areas to assist the small-scale self-employed.</p> <p><i>Lowering barriers to entry with respect to education and cost and payment method:</i> (a) no prior training or education is needed; (b) accepts in-kind contributions, easing the burden of payment and difficulties of cash flow.</p> <p><i>Raising training capacity in the informal sector:</i> Generates potential master craftspersons who take on traditional apprentices.</p>
<p>Implemented from 1998 to 2002 by the government of Tanzania and GIZ (formerly GTZ), <i>INTEP's</i> concept involved initial assessments of markets, target groups, and existing training capacity (potential suppliers of training) and subsequent provision of integrated training programs.</p>	<p><i>Provided in-service training.</i></p> <p><i>Lowered barriers to entry,</i> through subsidized training schemes.</p> <p><i>Filled multiskilling needs:</i> Provided technical and business skills plus literacy if needed.</p>
<p>An early assessment reportedly showed that the modules and courses were cost-effective, provided adequate training, and were successful in integrating trainers into the informal sector. Training resulted in improved quality of goods and services produced by the informal sector firms, which in turn led to greater sales and profits. The evaluation pointed to the importance of providing a mix of skills, providing follow-up services, and subsidizing training. It also suggested that the training for those already in business was more successful than for the unemployed, pointing to the payoff of in-service skills upgrading.</p>	

Source: Based on Johanson and Wanga 2008.

The Small Industries Development Organization (SIDO) is another such example. It provides both in-service and preemployment programs with the purpose of developing small firms in both the formal and informal sectors, and business extension services, including loans. The training offered is intended to generate entrepreneurship, improve business management skills, and assist with technological upgrading. SIDO reduces barriers to entry by putting no preconditions on training and accepting fees in kind.

Recently, SIDO and VETA have started to cooperate so that VETA graduates are introduced to SIDO programs and services to generate successful businesses through self-employment. With a combination of entrepreneurship training, on-the-job placements with firms, incubators, stronger labor and product market information on demand and needs, and credit, the program set-up strengthens the link between graduates and the work of self-employment.

A failure to evaluate costs and effectiveness to ensure that programs can be scaled up in a sustainable way is problematic. The INTEP program, while judged to be successful, was ended because it was considered very costly because of the staff intensity required for initial surveys of markets and target groups, training, and follow-up services. More generally, no formal evaluations are available of SIDO's past or current activities, cost-effectiveness, or end results in terms of employment numbers and earnings. Although this finding is relevant to programs for the informal sector, it is equally relevant to those of the formal sector.

Traditional Sources of Skills Development

Apprenticeships can benefit from reforms. A small informal sector survey of 350 enterprises in Dar es Salaam concluded that more than half the operators had apprentices, with on average about two apprentices per firm (Nell and Shapiro 1999). Apprenticeship systems have appreciable advantages: they are entirely self-financed and are cost-effective in transferring rudimentary skills. However, the Tanzanian apprentice system tends to exclude women, provides low-quality training, lacks appropriate instructional skills, and perpetuates old technologies. The apprentice system also appears less well organized than in other African countries. In Kenya, Zimbabwe, and West African countries, formal contracts and even payments to the master craftsperson are typical; in Tanzania, because of the connection with family or friends, no contracts exist to define the duration and type of skills to be offered.

Instructional reforms are needed. Learning on the job while producing goods and services for profit produces a strong link to the demand side and relevant technical skills but limits uptake of broader knowledge, such as business skills. The method of training is entirely skills based and focused on production; no theory is taught, and no training material is used. The apprentice observes and helps the master craftsperson and is expected to contribute as quickly as possible, often after only a few months, possibly creating a trade-off between wider learning and production in the firm. Indeed, trainees often learn only a part of the skills that are required for the enterprise—as an example, the apprentices in motor vehicle shops often learn only mechanics,

auto electrical, or panel beating. Moreover, the skills are almost exclusively technical, rarely exposing apprentices to the commercial and business side of the firm. This weakness is significant (and prevalent in many more formal forms of training) because the most probable future for the apprentices is self-employment. The study by Nell and Shapiro (1999) showed that the vast majority of past apprentices had a job related to the trade in which they were trained: however, only 30 percent of the former apprentices were employees (10 percent remaining in the enterprise where they had been apprentices, 20 percent in another informal enterprise) while 50 percent had set up their own business.

Combining apprenticeships with education and formal training provides extra benefits. More recent evidence (Nübler, Hofmann, and Greiner 2009) suggests that workers often benefit from combining elements of formal education and training with informal training. Master craftspersons prefer apprentices with some formal education, though VETA graduates suffered in reputation. Incomes were found to be higher among those who combined apprenticeship training with formal training. This should be increasingly possible as a new “modular” approach to formal training is developed (box 9.1). Offering apprentices who lack basic education a second chance to acquire educational qualifications can further improve outcomes.

Addressing gender imbalances in the labor market is important. The distribution across trades, again drawing on the small Dar es Salaam survey, suggests significant division along traditional gender stereotypes. The male-dominated trades (motor vehicle mechanics, welding, carpentry, masonry) were more likely to offer apprenticeships, but only about one in four apprentices were females. Women held apprenticeships predominantly in tailoring, hairdressing, catering, and child care. In trades considered “male,” the participation of women was strongly discouraged. The survey also suggested that actions and prejudices of enterprise operators served as a barrier for women entering the system; fear of pregnancy and loss of time while training a female apprentice underpinned these actions (Nell and Shapiro 1999).

The lack of formal recognition of skills achievements reduces the value of apprenticeship training in the labor market. Formal testing and certification of skills can provide employers with information about the potential productivity of a worker regardless of where he or she was trained. The recognition of skills is mostly informal. Although VETA offers certification through skills testing in some trades, few apprentices try to receive formal accreditation this way. No recognition is available in the marketplace for the skills obtained or use of certification to assess the quality of the training offered. The reasons underlying the lack of interest in pursuing skills certification include cost of preparatory courses, language barriers, and the low reputation of VETA among craftspeople.

Strengthening the organization of informal sector operators can help overcome constraints to training in the informal sector and advocate for further

Box 9.1 Informal Apprenticeship in Tanzania

A recent survey conducted in Mtwara and Lindi in southern Tanzania analyzed the practices, institutions, and labor market outcomes of informal apprenticeship in car mechanics, electricity services, tailoring, carpentry, plumbing, local arts, and food processing. The study found the apprenticeship system to be widespread and well established in the various craft sectors.

Training is based mostly on unwritten contracts between master craftspersons and apprentices. Training commonly lasts one to two years, with an average duration of 21 months. Unlike the situation in many West African countries, the average age of apprentices was quite high at 23.5 years, especially considering that most apprentices have only completed primary education (seven years). Master craftspersons had more education, on average, although most learned the skills of their trade in informal apprenticeships as well. The level of formal education is one of the three main criteria (together with age and talent for the work) for the selection of apprentices, reported by almost one-third of master craftspersons, who are concerned with the trainability and productivity of apprentices.

Most apprentices reported having decided to apprentice for pull reasons, such as (a) desire to learn the skills of the trade, (b) liking the trade, and (c) viewing apprenticeship as a cost-effective or good way of skills acquisition. At the same time, third parties (NGO workers, researchers, government employees) gave informal apprenticeships low rankings in terms of how well respected a skilled worker who learned through an apprenticeship is, or in terms of the contribution of apprenticeships to national development.

Skills recognition is mostly informal, through social networks and based on the good reputation of the master craftsperson in the community. Very few apprentices took the skills tests offered by VETA. Among reasons for not seeking formal recognition were the high cost of preparatory courses, language barriers (higher-level tests require knowledge of English), and the low reputation of VETA among craftspeople.

Skills acquired through apprenticeships are mostly technical; acquisition of theoretical or business skills is less frequent. Apprenticeships lead to employability of graduates, with most apprentices starting their own enterprises. Apprenticeships also appear to yield good returns in terms of income: a separate survey in Mtwara and Lindi suggests that incomes of unskilled daily laborers in urban areas are less than half the average wage of a skilled worker trained through an apprenticeship. At the same time, incomes are higher among those who combined apprenticeship training with formal training.

Source: Nübler, Hofmann, and Greiner 2009.

reforms. The informal sector in Tanzania is less organized than in other African countries (e.g., Kenya) and as such, the development of informal sector associations has been fairly recent. Some informal sector associations do exist,⁷ and an umbrella organization, the Association of Small Informal Businesses, has been created. To date, it has done relatively little in terms of training services but sees training as an important priority for the future (box 9.2).

Box 9.2 Training Provision by Informal Sector Associations in Tanzania

The Association of Small Informal Businesses (VIBINDO) is an umbrella nonprofit NGO established in 1995 with 312 groups as members, representing 40,000 individuals. Since 2007, it has established offices in all 22 regions of Tanzania. The members are divided into three categories: producers, vendors, and service providers. Among other functions, VIBINDO's strategic plan calls for it to provide training services to members on the assumption that workers in the informal sector need to acquire skills through training to improve productivity as a necessary condition for formalization. So far, VIBINDO has organized two training programs for its members.

In collaboration with the United Nations Industries Development Organization, VIBINDO provided training to 500 members in 2003/04 in carpentry work, food processing, and business leadership and management skills. In 2006, with support from the International Labour Organization/United Nations Development Programme, VIBINDO helped train 30 trainers on acquisition and management of urban land for informal sector training activities. VIBINDO carried out a training needs analysis in 2007 that revealed a lack of knowledge and skills among informal sector operators in product quality, packaging, marketing, pricing, and bookkeeping.

One of the main constraints to expansion of its training services is financial, a consequence of the inability of most informal sector operators to afford the costs of training. Its new strategic plan (2009–11) is expected to feature training in business development.

Source: Johanson and Wanga 2008.

Conclusions

Growth in the informal sector has provided jobs for new labor force entrants in urban and rural areas. This growth is expected to continue. Its economic import has shifted and so must its position in economic policy and programs. Understanding what prevents informal sector operators from becoming more productive and from expanding employment through hiring workers on the market will be essential to improving the labor market outcomes of those employed in the informal sector (and particularly of youth) and capturing the characteristics of the jobs that the economy is creating.

Removing barriers to expansion will encourage small firms with the potential to grow. Addressing infrastructure constraints, such as energy and roads to improve connectivity, or improving the provision of credit to medium-size firms, could encourage expansion and presence of larger firms that are both more productive and more likely to train their employees. World Bank Investment Climate Assessment data suggest a particularly large productivity gap in Tanzania between small firms and medium or large firms as compared to Kenya and Uganda. Ensuring that the investment climate is friendly to new business start-ups is necessary, as is striking an appropriate balance in labor market regulations.

At the same time, a more general need exists to improve productivity in the informal sector through skills development, where training levels remain low.

Very few workers in the informal sector have any education beyond the primary level; yet earnings improve with higher levels of education or vocational training. In addition, the lack of business skills among own-account workers is hampering the growth of their enterprises. Although access to primary education has been improved, few children pursue secondary levels of education (general or TVET). For those who do not complete primary school, few options exist for further formal training. Gradual expansion of the secondary level will allow for improving quality and access. The likelihood of further training increases with education, even when other personal characteristics are controlled for.

Training for the informal sector is not sufficiently promoted in Tanzania by either the government or donors. Unlike the situation in many other countries, initiatives have been launched to address informal sector skills development. However, the government's institutional system is fragmented, with no clear assignment of responsibilities for informal sector strengthening. Furthermore, existing programs lack rigorous evaluations of cost-effectiveness and outcomes. In all, informal sector training initiatives, where they exist, tend to be one-off rather than continuous and only weakly linked with credit and business advisory services. Donors are not filling the training gap in the informal sector.

Recognition of the constraints to training faced by the informal sector operators is essential. The financing of training by the informal sector is constrained by low cash flow, limited ability to pay, and high opportunity cost of time away from work for training. These constraints can be addressed by providing subsidized training and modular forms of delivery to lower time constraints for those working. More consideration needs to be given to the share of the training levy allocated to informal sector training. The potential is there for the informal sector to become a valuable part of the value chain of formal sector firms by producing intermediate goods and services. The reform of the levy system could also include separating it from other levies for transparency and financing in-service rather than preemployment training for youth, as the former has proven more efficient.

A strategy to address gender imbalances is needed. Programs and policies should look at the specific constraints in terms of access and earnings. Women have less access to the informal sector than men (compared with the farming sector) and are more likely to be in the informal sector because of "distress work" (the family needs more income) than good business opportunities. They earn less and are relegated to specific sectors. They are generally excluded from some of the male-dominated trades, which offer higher earnings and have less access to private or NGO-run training schemes. These gender gaps may be the result of different household responsibilities as well as related cultural and societal norms, but they need to be considered in policy interventions. For example, efforts to increase information about payoff to less traditional female occupations may help women make choices that increase their lifetime earnings.

Upgrading master craftspersons can improve training. Apprenticeships will continue to be an important source of skills for the informal sector. The apprenticeship system can be strengthened by "training the trainers" (i.e., master craftspersons). Providing master craftspersons with upgraded technical skills and

knowledge of how to deliver effective training programs can improve apprenticeship outcomes. Targeting master craftspersons and giving them business and pedagogical skills can improve the quality of informal apprenticeship training in Tanzania and the employment outcomes of those relying on apprenticeships for skills acquisition.

Strengthening informal sector associations is important. The informal sector is becoming more organized in Tanzania. Associations with close ties to the informal sector could be strengthened and encouraged to fill a more important role in terms of advising members of the benefits of training, overseeing quality of different initiatives, providing feedback on the type of training needed, or organizing training directly. Associations can aggregate the training needs of smaller members and deliver training on a more economical scale that can be afforded by members. Associations can also play an important role in policy development by encouraging attention to the needs of the informal sector.

The certification of skills required by the informal sector can improve labor market efficiency. Skills recognition for those who complete apprenticeships remains largely informal and thus primarily local in the geographical sense. This not only limits the portability of skills into formal markets but also makes it harder to promote quality in training and use apprenticeships for additional formal training. Certification through VETA, while available, is not common because of a combination of the associated fees for preparatory courses and certification tests, and the skepticism vis-à-vis VETA within the informal sector. Addressing these problems could lead to a more efficient labor market. Informal associations can work with VETA to ensure that apprenticeship skills are part of the testing and certification system.

More attention needs to be given to rigorous evaluation of programs providing skills for the informal sector. The improvement of skills in the informal sector is one of the steps needed to improve productivity and income in this sector. The evidence offered in this chapter from household surveys points to the importance of skills in reaching better-paying jobs in both informal and formal sectors. As in many other countries of the region, finding training programs in Tanzania whose effect on earnings and welfare has been rigorously evaluated is difficult to do. Careful monitoring and rigorous evaluation is a first step to identifying effective strategies for skills development and avoiding pitfalls. More attention to evaluation by government and donors will improve policy development for the informal sector and allow people to identify the best programs for their needs.

Annex 9A: Tables

This annex includes two sets of tables. The first describes the reasons for working in the informal sector and the types of training taken, as mentioned in the main text. The second contains the multinomial regressions results used in the text to explain the determinants of training in the informal sector and the impact of different levels and forms of education and training on the sector and type of employment and earnings.

Table 9A.1 Reasons for Informality in Main Economic Activity (15+), by Gender

Reason	2000/01			2006		
	Male	Female	Total	Male	Female	Total
Cannot find other work	43.8	48.1	45.8	37.9	35.2	36.7
Released from other employment	5.0	2.4	3.8	2.3	1.2	1.8
Retirement from other employment	1.6	0.9	1.3	1.2	0.6	0.9
Family needs additional income	19.9	28.6	24.0	25.1	38.6	31.2
Business has good income opportunities	8.6	4.1	6.5	15.8	7.9	12.2
Business does not require much capital	6.3	8.2	7.2	6.7	7.7	7.2
Can keep production costs low	0.4	0.6	0.5	0.6	0.4	0.5
Desire to be independent	2.7	1.4	2.1	2.2	1.9	2.0
Can choose hours and place of work	3.5	0.9	2.3	2.3	0.9	1.6
Can combine business and household responsibilities	2.2	2.2	2.2	2.4	4.2	3.2
Traditional line of business of respondent tribe	3.8	1.0	2.5	2.3	0.8	1.6
Other reasons	2.2	1.5	1.9	1.2	0.7	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Elaborations based on NBS 2002, 2007b.

Table 9A.2 Reasons for Informality in Main Economic Activity (15+), by Urban/Rural

Reason	2000/01				2006			
	Urban (non-Dar es Salaam)	Rural	Dar es Salaam	Total	Urban (non-Dar es Salaam)	Rural	Dar es Salaam	Total
Cannot find other work	56.7	31.9	44.9	45.8	38.8	27.4	45.0	36.7
Released from other employment	2.4	1.3	10.0	3.8	1.5	0.7	3.5	1.8
Retirement from other employment	1.4	0.9	1.6	1.3	1.0	0.4	1.5	0.9
Family needs additional income	22.5	30.6	17.8	24.0	33.7	32.1	26.8	31.2
Business has good income opportunities	4.7	10.5	4.1	6.5	10.4	16.4	9.6	12.2
Business does not require much capital	4.2	10.9	7.5	7.2	6.5	10.3	4.4	7.2
Can keep production costs low	0.3	0.6	0.8	0.5	0.5	0.5	0.5	0.5
Desire to be independent	0.9	2.8	3.5	2.1	1.5	1.6	3.3	2.0
Can choose hours and place of work	1.5	3.3	2.4	2.3	1.1	2.4	1.4	1.6
Can combine business and household responsibilities	1.3	2.5	3.5	2.2	2.4	5.1	2.2	3.2
Traditional line of business of respondent tribe	2.3	2.3	3.1	2.5	1.6	2.4	0.8	1.6
Other reasons	1.9	2.6	0.9	1.9	1.1	0.8	1.1	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: Elaborations based on NBS 2002, 2007b.

Table 9A.3 Share of Migrants and Nonmigrants in Informal Sector Because of Inability to Find Other Work

Percent

Status	Male		Female	
	Urban	Rural	Urban	Rural
Nonmigrant	37.9	27.6	37.0	26.0
Migrant	52.9	37.1	43.3	25.5

Source: Elaborations based on NBS 2007b.

Table 9A.4 Main Subjects of Training in Informal Sector (15+), 2006

Percent

Training subject	Urban	Rural	Overall informal
Other craft, trade, and industrial programs	43.9	33.6	41.4
Construction trade programs	28.3	38.7	30.8
Transport and communication programs	5.9	4.9	5.7
Service trade programs	4.3	10.2	5.7
Commercial, clerical, business and public administration programs	6.0	1.5	4.9
Medicine and health-related programs	3.3	2.8	3.2
Education training	1.7	2.4	1.9
Fine and applied arts programs	2.0	1.4	1.9
Agriculture, forestry, and fishery programs	1.0	1.7	1.1
Other	3.7	2.9	3.6
Total	100.0	100.0	100.0

Source: Elaborations based on NBS 2007b.

Table 9A.5 Determinants of Training in Informal Sector (15+), 2006

Variable	Overall informal	Manufacturing	Wholesale and retail	Hotels and restaurants
Age	1.064*** (0.017)	0.993 (0.029)	1.067** (0.031)	1.042 (0.060)
Age squared/100	0.946*** (0.018)	0.999 (0.033)	0.961 (0.033)	0.978 (0.064)
Females	0.490*** (0.045)	0.406*** (0.074)	0.411*** (0.052)	0.968 (0.324)
No education	0.204*** (0.044)	0.152*** (0.064)	0.251*** (0.074)	0.273* (0.192)
Incomplete primary	0.626*** (0.102)	0.422*** (0.120)	0.704* (0.149)	0.439 (0.223)
Incomplete secondary	2.478*** (0.600)	1.498 (0.943)	2.701*** (0.815)	1.990 (1.326)
Completed secondary	3.148*** (0.457)	3.179*** (1.188)	3.113*** (0.592)	4.106*** (1.803)
Advanced secondary/university	4.884*** (1.866)	2.214 (2.245)	5.951*** (2.994)	1.358 (1.683)
Paid employee	1.029 (0.300)	0.289 (0.287)	0.546 (0.366)	2.875 (2.919)
Self-employed with employees	1.707*** (0.238)	1.259 (0.376)	2.474*** (0.556)	1.079 (0.339)
Unpaid family helper	0.732 (0.306)	0.202* (0.181)	0.961 (0.527)	
Urban	1.489** (0.234)	2.119*** (0.489)	1.173 (0.229)	1.379 (0.592)
Recent migrant (<5 years)	1.195 (0.178)	1.474 (0.366)	0.960 (0.238)	1.045 (0.564)
Migrant (5+ years)	1.520*** (0.174)	1.922*** (0.447)	1.306* (0.206)	2.337** (0.803)
Agriculture/hunting/forestry	0.676 (0.354)			

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Table 9A.5 Determinants of Training in Informal Sector (15+), 2006 (continued)

Variable	Overall informal	Manufacturing	Wholesale and retail	Hotels and restaurants
Mining/quarrying	0.982 (0.398)			
Manufacturing	4.544*** (1.238)			
Construction	4.200*** (1.254)			
Wholesale/retail trade	0.620* (0.157)			
Hotels and restaurants	0.490** (0.145)			
Real estate/renting	1.464 (0.627)			
Public administration	3.910 (5.845)			
Education	0.662 (0.523)			
Health/social work	0.766 (0.422)			
Other community/social work	1.057 (0.310)			
Private household employed	1.122 (0.570)			
Constant	0.084*** (0.036)	1.402 (1.120)	0.036*** (0.023)	0.056** (0.075)
Regional and quarter dummies	Yes	Yes	Yes	Yes
Observations	4,966	817	2,794	542

Source: Elaborations based on NBS 2007b.

Note: Weighted estimates. Taylor-linearized standard errors clustered at primary sampling unit level in parentheses. Odds ratios reported in place of estimated coefficients. Dependent variable equals one if any training reported and zero otherwise. Education baseline: completed primary; migration baseline: since birth; sector baseline: real estate/renting; work-type baseline: self-employed without employees.

Significance level: * $p < .1$, ** $p < .05$, *** $p < .01$.

Table 9A.6 Sector Location Logit (15+), 2006

Variable	Government	Private formal	Informal	Household employed
Age	1.355*** (0.037)	1.005 (0.012)	1.084*** (0.016)	0.819*** (0.013)
Age squared	0.713*** (0.023)	0.961*** (0.014)	0.900*** (0.017)	1.195*** (0.022)
Females	0.549*** (0.054)	0.361*** (0.022)	0.716*** (0.039)	3.986*** (0.369)
Education (baseline: no education)				
Incomplete primary	3.141*** (0.953)	1.153 (0.140)	1.112 (0.106)	0.544*** (0.100)
Completed primary	5.466*** (1.534)	1.743*** (0.177)	1.723*** (0.158)	1.052 (0.142)
Incomplete secondary	7.271*** (2.976)	1.536** (0.302)	1.550** (0.281)	2.135*** (0.483)
Completed secondary	49.063*** (14.630)	4.695*** (0.774)	3.338*** (0.537)	3.072*** (0.720)
Advanced secondary/university	73.021*** (29.474)	6.271*** (2.104)	3.588*** (1.213)	6.140*** (2.881)
Training (baseline: no training)				
On-the-job training	16.698*** (2.894)	4.465*** (0.619)	2.699*** (0.365)	0.632 (0.200)
Informal apprenticeship	3.345*** (0.705)	2.941*** (0.386)	2.986*** (0.367)	1.323 (0.378)
Vocational certificate	13.524*** (2.839)	5.482*** (0.964)	3.560*** (0.660)	1.325 (0.453)
College certificate	45.179*** (7.347)	5.832*** (0.831)	2.101*** (0.312)	1.007 (0.326)
Diploma	24.187*** (8.724)	4.170*** (1.646)	1.114 (0.510)	0.226 (0.257)
Advanced diploma/university degree	18.050*** (9.698)	3.314** (1.870)	0.255** (0.175)	0.000*** (0.000)
Other training	6.502*** (2.151)	2.167*** (0.532)	0.567* (0.166)	0.000*** (0.000)
Urban	6.876*** (1.078)	9.988*** (1.547)	12.058*** (1.692)	6.669*** (1.222)
Constant	0.000*** (0.000)	0.032*** (0.011)	0.011*** (0.005)	0.159*** (0.093)
Observations	34,671	34,671	34,671	34,671

Source: Elaborations based on NBS 2007b.

Note: Weighted regression. Relative risk ratios presented instead of coefficients: baseline category: agriculture. Taylor-linearized standard errors clustered at primary sampling unit level in parentheses. Quarter-year and regional dummies included but not reported.

Significance level: *10 percent, **5 percent, ***1 percent.

Table 9A.7 Multinomial Logits for Work Type (Main Employment, 15+), 2006

<i>Variable</i>	<i>Wage employee</i>	<i>Self-employed with employees</i>	<i>Self-employed without employees</i>	<i>Unpaid family help (nonfarm)</i>
Age	1.032*** (0.011)	1.167*** (0.028)	1.084*** (0.016)	0.830*** (0.013)
Age squared	0.938*** (0.013)	0.829*** (0.026)	0.899*** (0.018)	1.181*** (0.021)
Females	0.384*** (0.022)	0.415*** (0.041)	0.734*** (0.042)	2.987*** (0.264)
Education (baseline: no education)				
Incomplete primary	1.212 (0.146)	1.616* (0.417)	1.118 (0.106)	0.633*** (0.106)
Completed primary	1.849*** (0.193)	3.246*** (0.640)	1.719*** (0.160)	1.117 (0.140)
Incomplete secondary	1.697*** (0.337)	4.263*** (1.403)	1.433* (0.265)	2.409*** (0.497)
Completed secondary	8.196*** (1.257)	11.271*** (2.677)	3.499*** (0.553)	4.624*** (0.958)
Advanced secondary/university	11.782*** (3.242)	11.361*** (4.965)	2.669*** (0.819)	4.955*** (2.160)
Training (baseline: no training)				
On-the-job training	6.584*** (0.891)	5.479*** (1.105)	2.666*** (0.346)	1.285 (0.458)
Informal apprenticeship	3.141*** (0.409)	4.214*** (0.730)	2.834*** (0.358)	1.244 (0.283)
Vocational certificate	7.016*** (1.161)	5.916*** (1.533)	3.391*** (0.662)	1.184 (0.394)
College certificate/diploma/university/other	10.585*** (1.497)	3.445*** (0.680)	1.294* (0.188)	0.660 (0.195)
Urban	9.367*** (1.325)	10.833*** (2.060)	11.769*** (1.644)	7.168*** (1.196)
Constant	0.021*** (0.008)	0.000*** (0.000)	0.009*** (0.004)	0.210*** (0.107)
Observations	34,671	34,671	34,671	34,671

Source: Elaborations based on NBS 2007b.

Note: Weighted regression. Relative risk ratios presented instead of coefficients; baseline category: agriculture. Taylor-linearized standard errors clustered at primary sampling unit level in parentheses. Quarter-year and regional dummies included but not reported.

Significance level: *10 percent, **5 percent, ***1 percent.

Table 9A.8 Selectivity Corrected Wage Regressions (15+), 2006

<i>Variable</i>	<i>Ln (hourly wage)</i>	<i>Ln (hourly earnings)</i>
Age	0.057*** (0.010)	0.041*** (0.010)
Age squared	-0.048*** (0.012)	-0.051*** (0.012)
Females	-0.179*** (0.041)	-0.390*** (0.038)
Education (baseline: no education)		
Incomplete primary	0.152 (0.119)	-0.011 (0.078)
Completed primary	0.317*** (0.080)	0.164*** (0.060)
Incomplete secondary	0.588*** (0.128)	0.512*** (0.133)
Completed secondary	0.966*** (0.109)	0.460*** (0.112)
Advanced secondary/university	1.537*** (0.136)	1.165*** (0.190)
Training (baseline: no training)		
On-the-job training	0.476*** (0.072)	0.096 (0.088)
Informal apprenticeship	0.251*** (0.064)	0.097* (0.057)
Vocational certificate	0.499*** (0.093)	0.308*** (0.092)
College certificate/diploma/university/other	0.970*** (0.112)	0.510*** (0.149)
Urban	0.023 (0.084)	0.102 (0.115)
m1	-0.017 (0.101)	0.748** (0.363)
m2	-1.368*** (0.264)	-0.056 (0.102)
m3	1.276*** (0.392)	0.341 (0.468)
m4	-0.661*** (0.232)	0.221 (0.291)

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Table 9A.8 Selectivity Corrected Wage Regressions (15+), 2006 (continued)

Variable	Ln (hourly wage)	Ln (hourly earnings)
m5	-0.717*** (0.218)	0.411* (0.240)
Constant	2.362*** (0.308)	4.231*** (0.430)
Observations	3,629	4,540
R-squared	0.493	0.137

Source: Elaborations based on NBS 2007b.

Note: Weighted estimates. Bootstrapped standard errors (100 replications), clustered at primary sampling unit level in parentheses. Regional and quarter-year dummies included but not reported. m1–m5 are consistent estimators of conditional expected values of the residuals derives from the multinomial logit model, such that the coefficients estimate the covariance between the residual in the second-stage regression and the residuals from the multinomial logit.

Significance level: * $p < .1$, ** $p < .05$, *** $p < .01$.

Notes

1. This chapter is based on Cojocar (2010) and Johanson and Wang (2008).
2. Fertility rates declined from 6.3 in 1991/92 to 5.7 in 2004/05; infant and child mortality declined from 115 to 95 and from 192 to 154 between 1988 and 1991/92 and between 1991/92 and 2002, respectively.
3. The omitted category in the age profile graphs is the sum of inactive, unemployed, and farm workers. Because farming is the prevalent employment category in rural areas, the remaining categories depicted in the graph account for only a small share of the total.
4. The underlying specification is based on the model outlined by Mincer (1958), modified as follows: (a) because employment experience cannot be inferred directly from the data, we use age and age squared instead; (b) education enters as a set of dummy variables for each additional education level, since we would like to investigate how wages or earnings vary across education levels and across different types of training. Given the underlying specification, the use of the term “returns to education” here is imprecise, as pointed out by Heckman, Lochner, and Todd (2005). Technically, we investigate the growth rate of earnings with additional schooling or training.
5. Some caution is nonetheless needed with regard to the earnings regressions, because the explanatory value of the regression is low: only 14 percent of the variation in earnings is explained by the variables included. Significant education variables may be picking up other effects that are omitted from the regression, including unobservables such as the innate ability of a worker.
6. The education system is based on a 7-4-2-3 system, including seven years of primary education, four years of lower-secondary education, two years of higher-secondary education, and three years (or more) of university education.
7. These include the Handcraft Organization of Tanzania, the Tanzania Crafts Association, and the Tanzania Food Processors Association.

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