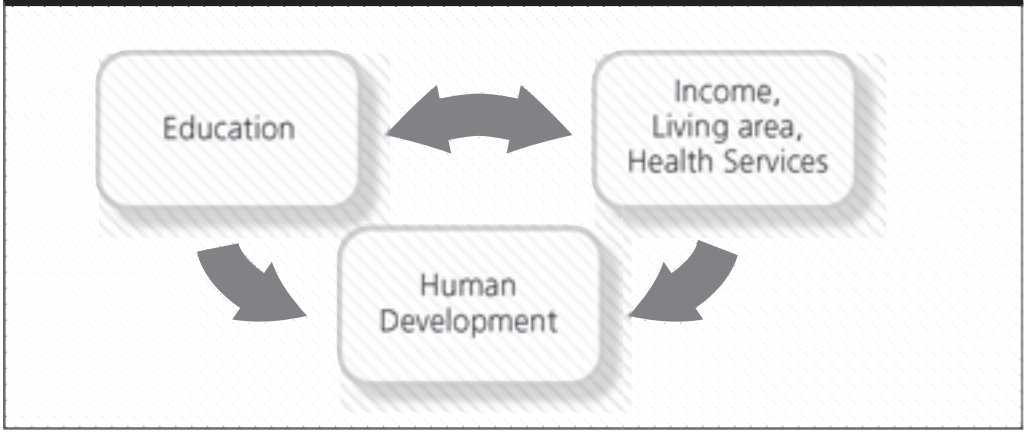
CHAPTER 6
EXTERNAL EFFICIENCY

The previous chapters have examined Tanzania's education system in terms of enrollment, internal efficiency, financing, and learning outcomes. This chapter turns to examine the system's external efficiency, meaning the impact of education and training on economic and social development. It first analyzes the effect education has on social behavior and human development, and then reviews available information on the relevance of education and training to the labor market.

It is important to emphasize that the effect education has on behavior is inextricably linked to the fact that higher income changes social behavior on the one hand, and that higher levels of education create their own behavioral changes, regardless of their impact on income (See Figure 6.1).

Figure 6.1: Relationship between Education, Income and Behavior



Source: Adapted from CSR Malawi, 2009.

Understanding the relationship between education, income and behavior highlights the connection between schooling and a number of social outcomes, such as adult literacy (the probability of being able to read without difficulty) and poverty (the probability of belonging to lowest wealth quintile). This section also focuses on key social outcomes and behaviors for women, such as (i) fertility (the age at first birth, and the total number of births); (ii) access to antenatal care (the probability of receiving antenatal care from a qualified health professional); and (iii) assistance at delivery (the probability of giving birth at a health facility). Child health is also considered, assessing the relationship between women's schooling and the probability of their children aged under five years receiving vitamin A. The data allows the identification of the different behavioral changes (in nature and intensity) that can be attributed to each grade and each level of education. On this basis, a cost-benefit analysis is carried out for each level of education (of course the cost of education varies with each year and each level, just as the social and human development benefits do).

The Impact of Education on Human Development

Data used to analyze the impact of education on social behavior are primarily from the Tanzania Demographic and Health Survey conducted by the National Bureau of Statistics in 2004/05 (TDHS, 2005). Given that human development indicators analyzed here refer to basic social outcomes (literacy, poverty, fertility, behavior during pregnancy, child health), this section focuses on the social impact of primary and secondary education.

Econometric regressions were used to conduct the analysis, to account for the fact that even with the same level of education, two individuals of different ages, gender, levels of income or areas of residence do not share the same social attitudes and behavior. It is therefore necessary to integrate these socioeconomic characteristics as control variables in the model to measure the net effect of education on each of the human development variables of interest, in turn, while all other variables are held constant. Table 6.1 summarizes the results.

Table 6.1: Simulated Net Impact of Education on Social Behavior in Tanzania, 2004/05
Various Human Development Indicators

	Average	Highest Level Completed			
		None	Primary	O-Level	A-Level
Literacy (%) *	81.9%	7.7%	87.3%	98.8%	99.7%
Extreme Poverty (%) **	23.3%	62.9%	21.9%	9.1%	5.6%
Fertility					
Woman's Age at First Childbirth (Years)	19.0	17.9	19.5	20.5	20.9
Total Births (Number)	4.0	4.5	3.8	3.4	3.2
Maternal Health #					
Probability of Receiving Antenatal Care (%)	80.8%	73.5%	81.2%	84.8%	86.3%
Probability of Professionally Assisted Birth Delivery (%)	47.4%	31.6%	53.3%	75.5%	85.3%
Child Health ***					
Probability of Receiving Vitamin A Treatment (%)	22.1%	8.7%	18.6%	27.3%	32.5%

Source: Authors' calculations based on TDHS, 2004-05 data.
Note: * Literacy: based on 5,107 men and women aged 22 to 44 years, assessing the probability of being literate; ** Poverty: based on 6,838 household heads, assessing the relationship between the probability of a household belonging to the first poverty quintile (Q1) and the level of schooling of the head of household. The poverty measure is based on a wealth index derived from available assets in the household; *** Child health: based on 6,650 children aged under five years, assessing the relationship between women's schooling and the probability that their child is given vitamin A; # Other indicators: based on 4,020 to 5,684 women aged 15 to 49 years, with at least one childbirth for the probability of being assisted at delivery by a qualified health professional, and at least two childbirths otherwise.
Reading Note: Figures are not simple descriptive statistics of the different phenomenon according to the highest education level completed; they result from econometric models that identify the net impact of education with all other variables (gender, age, area of residence, income level) held constant. So, the simulated net probability of literacy for a person having completed A-Level is 99.7 percent. This rate being simulated means that it is for a theoretical individual with the same socioeconomic characteristics as an average Tanzanian person, but with complete secondary education.

The impact of education on seven different social behaviors and characteristics has been assessed. In all cases the strong influence of education could be established:

(i) Literacy.[132] Results indicate the strong positive effect that education has on literacy. The average probability of being literate is high (81.9 percent for adults aged 22 to 44 years). Literacy is probably the most important outcome expected from education, especially from the primary cycle. From 7.7 percent for uneducated individuals, the probability of being literate increases to 87.3 percent for those with full primary education and to 99 percent for O-Level leavers;

(ii) Poverty. The greater the level of education, the lower the degree of poverty. In fact, the probability of a household belonging to the Q1 income group (the poorest 20

percent of the population) decreases from 63 percent if the head of household has never been to school, to 22 percent if they have full primary education, and ultimately to only six percent if they have the full 13 years of basic education;

(iii) Women's Age at First Childbirth. Women wait for significantly longer before having children, with education. Age at first childbirth ranges from 18 years for uneducated women to 21 years for those with complete secondary, a three year difference. The average intermediate ages, of those with full primary (19.5 years) and O-Level leavers (20.5 years) show a gradual progression with each successive level of education;

(iv) Total expected number of births.[133] The average number of children is estimated to be four, for a woman of average age (31.4 years). For an uneducated woman the average is estimated at 4.5 children. With seven years of schooling however, a woman is likely to have 3.8 children, and with complete O-Level, just 3.4 children, or one less child. With full secondary education, the average number of births drops to 3.2;

(v) Antenatal care. Although it is common in Tanzania for women to receive medical care during pregnancy, education clearly improves the probability, from 74 percent for an uneducated woman, to 81 percent for those with full primary, 85 percent for an O-Level leaver and 86 percent for an A -Level leaver, a marginal increase;

(vi) Health Assistance during Childbirth. Whereas only an estimated 32 percent of uneducated women seek the assistance of a professional health assistant during childbirth, 85 percent of women with A-Level education are likely to do so; and

(vii) Vitamin A Supplement Use. About 22 percent of children aged six months to five years received a vitamin A supplement (from women of average age - 28.5 years) in the six months preceding the survey. The likelihood of a child having been given the supplement rises with successive education levels, from 8.7 percent for uneducated women, to 32.5 percent for those with complete secondary.

Social Outcomes by Level and Cost-Benefit Analysis

It is possible to determine the contribution of each level of schooling to the total social outcomes. Such disaggregated data is relevant for at least the following two reasons: (i) for policy makers it helps to know which level of schooling is the most effective, to better target poverty reduction or human development efforts. Certain choices, especially regarding public investment, can be made accordingly; and (ii) the duration of schooling varies from one education level to another, as do costs. Data on the extent to which each education level affects human development therefore allows to establish cost-benefit ratios for each level and grade.

Table 6.2: Relative Impact of Primary and Secondary Education Levels on Social Behaviors, by Indicator and Strength of Impact, 2004/05
Percent

	Primary	O-Level	A-Level	Total
High Primary Contribution				
Literacy	87	13	1	100
Extreme Poverty	72	22	6	100
Medium Primary Contribution				
Probability of Receiving Antenatal Care	60	28	12	100
Woman's Age at First Childbirth	54	31	15	100
Total Births	54	31	15	100
Balanced Contribution				
Probability of Receiving Vitamin A Treatment	41	37	22	100
Probability of Professionally Assisted Delivery	40	41	18	100
Average Social Impact *	58	29	13	100

Source: Authors' calculations from Tables 6.1.
Note: * The average social impact is the simple average of the relative contributions of primary education to each of the seven social behaviors.

On average, the primary education cycle represents almost 60 percent of the total social impact of education on the behaviors considered (See Table 6.2). O-Level also contributes significantly to change attitudes, half as much again (29 percent) and A-Level accounts for about half the impact of O-Level (13 percent of the total). When accounting for the number of years per cycle, a year of primary education contributes to 8.3 percent of the total social impact, a year of O-Level contributes 7.2 percent, and A-Level contributes 6.4 percent.

The indicators in Table 6.2 are presented in three groups:

(i) High Primary Contribution. The primary cycle has the highest impact on the basic competencies and social indicators of literacy and poverty. For these indicators, an average of 80 percent of the expected total impact has been achieved by primary completion; O-level still accounts for a further 17% of the change in behavior, and the impact of A-Level is marginal;

(ii) Medium Primary Contribution. The indicators for antenatal care, age at first childbirth and fertility are also mainly influenced by primary education, although slightly less (56 percent). On the other hand, they are significantly influenced by O-Level (30 percent) and although not resounding, A-Level also contributes to the change in behavior, to about 14 percent; and

(iii) Balanced Contribution. There are some indicators however where the impact is more equally distributed. The rise in the probabilities of using Vitamin A or being assisted by a health professional at childbirth are due almost equally to primary and O-Level education (40 percent each) and A-Level also plays a significant part (explaining 20% of the total impact).

Table 6.3: Human Development Related Cost-Efficiency of Education, by Level, 2004/05
Cost-Efficiency Ratio and Relative Efficiency Index

	Primary	O-Level	A-Level
Cost-Efficiency Ratio (= Impact/Spending)	0.90	0.36	0.32
Relative Efficiency Index (Primary = 1)	1	0.40	0.36
Memo Items:			
Average Social Impact (%)	58	29	13
Unit Cost (% of GDP per Capita)	8.3	20.1	20.1
Total Spending for the Cycle (% of GDP per Capita)	65.1	80.4	40.2

Source: Authors' calculations from Tables 6.2 and 3.6.
Note: Costs here are expressed as a percentage of GDP per capita. They were obtained by multiplying the unit cost of each cycle by its duration (seven years for primary, four years for O-Level, and two years for A-Level).

Finally, each cycle's relative contribution is confronted with its costs (See Table 6.3). Results in the second row of the table indicate a very high efficiency of the primary cycle compared with secondary education. All costs being equal, the efficiency of the primary cycle in enhancing human development is 2.4 times higher than that of the secondary cycle.

Relevance of Education to the Labor Market

Arguably, for the issues discussed so far in this report (enrollment, internal efficiency, cost, learning outcomes, equity) to have a real impact for both society, and the economy, it is important that the education system responds to the labor market's demand for skills and knowledge. This issue is complicated and inevitably dynamic in nature. In Tanzania, its complexity has been accentuated by the rapid development of secondary and higher education over the last five years (See Chapter 2). The situation is currently progressively shifting from one with an acute shortage of qualified workers, to one in which a steady flow of school leavers, with at least full primary education, is entering the labor market in search of suitable jobs. The issue then is twofold: (i) Are school leavers finding employment in line with their skills and qualifications? It is important to examine the relevance of education and training to the labor market, here through the value the labor market ascribes to education backgrounds and qualifications; and (ii) Is the investment in producing qualified workers yielding the expected returns? Is equally important to establish whether graduates' skills, particularly in TVET and higher education, match employers' requirements and economic development needs.

Although the sort of data needed for the comprehensive assessment of these issues are scarce, some insights can nonetheless be gained by reviewing cross-sectional data on the overall structure of employment, the education profile of workers, the returns to education by level, and indirect evidence of the school-to-work transition of school leavers having recently entered the labor market. Major primary data sources for these analyses are:

(i) The 2001 and 2006 Integrated Labor Force Surveys (ILFS, 2001 and 2006);
(ii) A study on the impact of folk education (MCDGC, 2009); and
(iii) Vocational education graduate tracer studies (VETA, 2010).

The Structure of Employment

Between 2001 and 2006, both the labor force (individuals working or actively looking for a job) and employment (both paid and unpaid jobs) increased, by 18 percent and 20 percent respectively. The latter increase is equivalent to a net job creation rate of about 744,000 per year. As a result of these trends, the labor force participation rate (see Table 6.4), although already high, has further increased from 96.4 percent in 2001 to 97.4 percent in 2006, and the unemployment rate has decreased from 2.4 percent to 0.9 percent. These trends occurred in a context of 7.2 percent average annual growth. This economic growth has then translated into an annual increase in job creation by 5.3 percent over 2001-06.

Table 6.4: Employment, Unemployment and Inactivity, with Ratios, 2001 and 2006
Thousands of Inhabitants and Percent

	2001	2006	Growth 2001-06
Unenrolled Population aged 15-60 Years (Thousands)	*14,558.00*	*17,024.90*	*17%*
Labor Force (Thousands)	*14,038.10*	*16,575.60*	*18%*
Employed (Thousands)	13,704.10	16,428.70	20%
Unemployed (Thousands) *	334.00	146.90	-56%
Inactive Population (Thousands) **	519.90	449.30	-14%
Labor Force Participation Rate (%) ***	96.4%	97.4%	—
Employment Rate (%) #	97.6%	99.1%	—
Unemployment Rate (%)	2.4%	0.9%	—

Source: Authors' estimates based on ILFS, 2001 and 2006 data.
Note: Based on unenrolled individuals aged 15 to 60 years; * Includes all those actively looking for a job; ** Includes all those unemployed yet not looking for a job; *** *Labor Force* as a percentage of the sample; # *Employed* as a percentage of *Labor Force*.

Although it is growing, the formal employment sector remains small. Of the 744,000 jobs available annually over the 2001-06 period, only 18 percent or 132,000 jobs were created in the formal employment sector (public and private). These have however represented a proportional increase: the share of formal employment has grown from 8.2 percent of the total in 2001, to 10.4 percent in 2006 (See Table 6.5 below). This level is comparable to what is prevalent in other African low-income countries. The net increase in formal employment was mainly fueled by the private sector, where the number of employees has

risen from about 710,000 to 1,220,000 whereas the share of public sector has remained constant. The public sector creates 20,000 new net jobs a year, compared with 113,000 net jobs for the private sector.

Table 6.5: Distribution of Employment, by Sector, 2001 and 2006
Number and Percent

	2001		2006	
	'000s of Workers	%	'000s of Workers	%
Wage Employment	1,121.8	8.2	1,702.1	10.4
Public Sector	409.4	3.0	479.0	2.9
Private Sector	712.4	5.2	1,223.1	7.4
Self-Employment (Nonagricultural)	1,289.8	9.4	2,083.9	12.7
Unpaid Family Helper (Nonagricultural)	457.9	3.3	1,600.2	9.7
Agriculture (Nonwage)	10,720.1	78.2	10,950.9	66.7
Other	114.4	0.8	91.7	0.6
Total	13,704.1	100.0	16,428.7	100.0

Source: Authors' estimates based on ILFS, 2001 and 2006 data.

Agriculture, on the other hand, has remained stable, employing about 10.8 million Tanzanians. The new entrants to the labor force have principally added to the ranks of the unpaid family workers (42 percent) and the self-employed (29 percent), in addition to salaried employment (21 percent). Agriculture continues to provide nearly two-thirds of Tanzanians with jobs.

Wage employment is more diversified than unsalaried employment. Whereas almost 83 percent of unsalaried employment was found exclusively in agriculture in 2006 (including hunting and forestry), wage employment was dispersed among a variety of industries. The top four leading sectors being education, health and social services (accounting for 24.6 percent of salaried employment), services (hotels, restaurants, finance, renting, and so on, accounting for 18 percent), agriculture (11.4 percent) and manufacturing (10.1 percent). However, despite the concentration of unsalaried employment in agriculture, the sector only accounted for 50 percent of unsalaried job creation, whereas the figure was 16 percent for wholesale and retail; and 17 percent for services. These trends suggest that the share of agriculture in unsalaried employment is likely to decrease further in the future, as a consequence of the expected economic growth (See Annex Table 6.1).

Education Profile of the Labor Force

The education profile of Tanzania's labor force has improved. Whereas the pool of available human capital (unenrolled individuals aged 15-60 years) has increased by 17 percent, the number of individuals with no schooling has increased by only nine percent: the educated share of the population (76 percent) has gained two percentage points (See Table 6.6 below). The number of individuals with O-Level education has increased by 32 percent,

those with A-Level by 74 percent, and those with tertiary or higher education have more than doubled over the same period. These patterns are consistent with the improvement in school coverage described in Chapter 2. Recent enrollment dynamics at secondary, technical and higher education levels suggest that the improvement of the education profile of the labor force is likely to continue in the future.

Highly qualified human capital is still limited. Although it declined by two percentage points since 2001, the share of the surveyed population with no schooling was still 23 percent in 2006.[134] Individuals with only primary education constituted a large share of the country's human capital, representing 70 percent of the workforce. The share of individuals with at least secondary education rose slightly over the 2001-06 period, to reach seven percent; and the share of those with higher or tertiary education was just 0.3 percent. The latter figures imply that highly qualified human capital is still very limited, and reflect the government's focus on primary education since the country's independence. However, the situation is changing as has been discussed in previous chapters, and recent improvements in secondary, technical and higher education are not yet reflected in the available data.

Table 6.6: Education Profile of the Labor Force, by Highest Level Attained and Age-Group, 2001 and 2006
Percent

	15-60 Age-Group		25-35 Age-Group	
	2001	2006	2001	2006
No Schooling	25.2	23.4	17	17.3
Primary Education	68.9	69.6	76.1	74.7
O-Level Secondary	5.2	5.9	6.3	7
A-Level Secondary	0.5	0.8	0.6	0.8
Tertiary/Higher	0.2	0.3	0.1	0.2
Total Sample Population	100	100	100	100
Memo Item:				
Thousands of Individuals	14,558	17,025	3,916	5,286

Source: Authors' computations based on ILFS, 2001 and 2006 data.
Note: The distributions are based on the total number of individuals who are not in school. The figures thus include employed, unemployed, and inactive individuals. This is to provide a picture of the available human capital, in the respective age groups. However, given that the share of the nonworking population is very low, the picture presented here is also very close to that of general employment.

The rising levels of education attained by Tanzania's labor force are linked to the improvement in schooling access and coverage (See Chapter 2). From a demand perspective, there have also been strong labor market incentives, particularly for individuals with A-Level, tertiary and higher education.

The relationship of employment and income (economic returns) to educational attainment shows patterns that are consistent with this explanation. Table 6.7 below summarizes the distribution of the Tanzanian population by level of schooling and type of employment, based on the 2006 ILFS. As a complement to the foregoing picture of labor market

dynamics, the table focuses on the employment pattern of individuals aged 25 to 35 years. Given that the majority of workers entering the labor market for the first time tends to be concentrated in this age-group, this sample also captures school leavers' probable recent experience in the transition from school to work.

Table 6.7: Employment Status of the Labor Force (25-35 Years), by Level of Education, 2006
Percent

	No Schooling	Primary	Secondary		Tertiary/ Higher	Total
			O-Level	A-Level		
Labor Force	*97.6*	*98.4*	*98.1*	*95.7*	*100.0*	*98.2*
Employed	*97.3*	*97.5*	*96.2*	*88.0*	*100.0*	*97.3*
Public Sector - Salaried	0.2	0.7	**16.8**	**37.5**	**53.3**	2.1
Private Sector - Salaried	2.1	8.8	**21.6**	**33.6**	**27.2**	8.8
Self-Employed or Family Business	14.6	24.5	**37.7**	13.2	4.0	23.6
Agriculture & Other	**80.4**	**63.5**	20.1	3.7	15.5	62.8
Unemployed	0.3	0.9	1.9	**7.7**	0.0	0.9
Inactive	2.5	1.6	1.9	4.3	0.0	1.8
Total	100.0	100.0	100.0	100.0	100.0	100.0
Memo Item:						
Thousands of Individuals	915	3,950	369	43	10	5,286

Source: Authors' computations based on ILFS, 2006 data.

The unemployment rate for the population aged 25 to 35 years is outstandingly the highest for A-Level leavers: 8.1 percent (compared with two percent for O-Level leavers and 2.0 percent on average). Table 6.7 also shows that Tanzanians are more likely to work in better paying types of employment the higher their education. For instance, people with no education or only primary are overrepresented in the informal agriculture sector (see highlighted cells of Table 6.7). With the completion of primary and access to O-Level, employment in traditional agriculture becomes less prevalent, and the importance of self-employment or working in a family business grows. With A-Level and higher or tertiary education, the probability is highest of working in salaried employment, especially in the public sector.

It is also worth noting that the likelihood of self-employment increases from 15 percent among uneducated individuals to 38 percent among O-Level leavers. However only 13 percent of A-Level leavers are self-employed, and barely four percent of those with higher or tertiary education are. These findings have a clear policy implication. Either postsecondary leavers are not willing to engage in self-employment, or they have obtained salaried employment, in the context of the observed economic growth. If the assertion is valid, the reorientation of the A-Level curriculum or the encouragement of A-Level leavers to follow technical higher education may be a sensible approach to closing the employment gap.

Indeed, technical higher education is the only tertiary or higher level where growth (8 percent over 2006-09) was lower than the estimated growth rate of job creation,[135] based

on the average number of salaried jobs created over 2001-06, that increased by about 10.3 percent per year. Other tertiary and higher education levels' enrollment growth has been higher than the estimated increase in employment: 34 percent for universities and 13 percent for technical nonhigher education.

This may explain why almost 20 percent of tertiary and higher education leavers (aged 25 to 35 years) have been absorbed by the agriculture sector, or have turned to self-employment. Detailed data such as tracer studies are required to better document the job-to-work experience and to better analyze the relevance of postsecondary education to the nonwage sector. Given that such data are lacking, valuable insight can be gained from the regional pattern of the relationship between a country's GDP per capita, and the number of students in postsecondary education relative to the size of the population.

A Cross-Country Comparison of the Size of Higher Education

The more developed an economy, the stronger the demand for highly educated workers, and therefore the larger the expected size of higher education. Generally speaking, economic development occurs in a context of economic growth and of changes in the distribution of employment by sector (for example, with a reduced share of agriculture in total employment). Based on these assumptions, an econometric analysis was conducted relating higher education coverage to the level of GDP per capita and the size of the nonagricultural sector in total employment (See Annex Table 6.2). It found that:

(i) The coverage of higher education tends to be higher in countries with a higher level of GDP per capita and increases with the size of the nonagricultural sector;

(ii) Among African countries, the level of GDP per capita tends to be a stronger engine for the development of higher education; and

(iii) African countries, as a whole, tend to require less highly qualified jobs than other developing countries, when GDP per capita and the size of the nonagricultural sector are held constant.

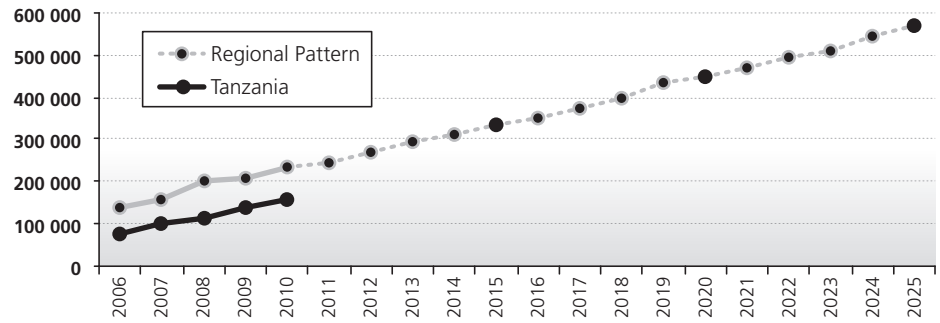
These regional patterns can be used to assess to what extent higher education is underdeveloped (in quantity, and in terms of educational coverage) in Tanzania. They also provide some insight about what the higher education enrollment growth rate should be, to accelerate the closing of the gap with other countries with similar levels of economic development.

In 2006, there were only 64,700 students in higher education (university and technical higher education) in Tanzania, compared with 130,000 on average for countries with similar levels of economic development (in terms of GDP per capita and the size of the nonagricultural sector). This suggests that Tanzania had 50 percent fewer higher education students than expected. In 2009, Tanzania still had considerably fewer (136,000) higher

education students than the average (214,000), although the gap had closed to a 33 percent difference. This catching-up process is likely to continue, as a direct consequence of the development of secondary education.

However, policy makers must adequately plan the expansion of higher education to match labor market needs. According to regional patterns, projections for Tanzania point to there being 332,000 higher education students in 2015, 440,000 in 2020 and 570,000 in 2025 (See Figure 6.2). These enrollment increases should be viewed as the expected consequence of greater economic growth and the projected increase of the size of the nonagricultural sector, through higher demand for a highly qualified labor force. Based on these simulations, Tanzania should have about 687 higher education students per 100,000 inhabitants in 2015, 806 per 100,000 in 2020, and 924 per 100,000 in 2025, denoting the better coverage of higher education. As a comparison, there were 335 higher education students per 100,000 inhabitants in 2009 (See Annex Table 6.3).

Figure 6.2: Comparison of Higher Education Enrollment Trends and Projections, Tanzania and Regional Pattern, 2006-25
Number of Higher Education Students



Source: Simulations based on Table 6.7, and authors' estimates and projections.
Note: 2006-09 data for Tanzania are a consolidation from Table 2.1 and 2010 data are authors' estimates. Projections are based on: (i) the assumption that MoFEA economic growth projections for 2010-14 (7.3 percent annually) will remain constant over 2015-25, and (ii) NBS-corrected population projections.

The gap between Tanzania's higher education enrollment and the region's will progressively close, to become relatively insignificant from 2015, and close fully around 2025. However, policy makers may decide to accelerate the catch-up process. For example, to catch-up by 2015, enrollment would have to increase by 15.5 percent per year until then (from an estimated 162,000 students in 2010 to 332,000 in 2015). To catch-up by 2020, enrollment would need to grow by 10.6 percent per year, and to catch-up in 2025, enrollment growth of 8.8 percent per year would suffice (See Table 6.8 below).

Table 6.8: Projected Higher Education Enrollment Growth, by Catch-up Scenario, 2015, 2020 and 2025
Annual Growth Rate (Percent)

Planned Catch-up Year	Required Annual Enrollment Growth		
	2010 to Catch-up Year	After Catch-up Year (to follow the regional pattern)	
		2015-25	2020-25
2015	15.5%	5.6%	—
2020	10.6%	—	5.3%
2025	8.8%	—	—

Source: Based on Annex Table 6.3.

The current rate of higher education enrollment growth is not economically sustainable. In any of the catch-up scenarios, the required growth in higher education enrollment (including university and higher technical education) will be much slower than over the 2006-09 period, when it increased by 28.2 percent per year. These results suggest that the enrollment growth rate could be maintained at a lower level, making more education expenditure available for secondary education, and while reducing the unemployment risk of university graduates, the rate being aligned with the absorption capacity of the labor market.

On the other hand, it could be argued that the higher recent growth rate was only compensating for very low enrollment prior to 2006, and that current real enrollment growth is on a stable course. Indeed, a closer examination of enrollment trends over the 2006-09 period suggest that the trend was more linear than exponential: it is estimated that the number of higher education students increased by 23,230 per year over 2006-09. If only as many new students enroll every year, the Tanzanian higher education system will never catch-up with the region: the projected number of higher education students in 2025 would be 510,000, compared with 570,000 under any of the other scenarios, a 10 percent difference.

In fact, this linear trend should be interpreted as the lower band of the expected growth in numbers. It is indeed more reasonable to argue that the annual enrollment growth will be (possibly considerably) higher than 23,230, accounting for the expansion of secondary education under the SEDP II. These issues should be discussed in the framework of a simulation model relating the development of secondary education to that of higher education.

There is no doubt that trade-offs will need to be made, given that higher education can not be developed only as a response to the demand from secondary school leavers; the expansion of higher education in the future will increasingly need to be calibrated to the growth of the economy and the creation of jobs requiring highly educated labor.

Returns to Education

The Structure of Earnings

According to the ILFS survey, income differentials between workers in different sectors of the economy are relatively wide.[136] Average self-employed workers earn 25 percent less than their salaried counterparts (See Table 6.9). The gaps are partly explained by levels of educational attainment: self-employed nonagricultural workers have only 6.6 years of schooling on average, compared with 8.5 years for salaried employees. The reason may also be found in part in the difference in the amount of time spent at work: an average self-employed person works only 10.8 months per year.

Table 6.9: Workers' Average Income and Years of Schooling (15-60 Years), Salaried and Self-Employment, 2006

	Income			Months of Work per Year	Average Years of Schooling
	('000s of T Sh)		Multiple of GDP per Capita		
	Monthly	Annual			
Formal Employment	123.0	1,476.0	3.1	12.0	8.5
Public Sector	206.3	2,475.6	5.1	12.0	10.5
Private Sector	82.2	986.4	2.0	12.0	7.5
Self-Employed (Nonagricultural)	102.1	1,099.3	2.3	10.8	6.6

Source: Authors' computations based on ILFS, 2006 data.
Note: GDP per capita was T Sh 483,160 or US$ 386.5 in 2006.

Average public sector earnings are twice the minimum government wage. Public sector earnings (T Sh 206,300 per month) are higher than private sector wages (T Sh 82,200); as is the average income of the self-employed (T Sh 102,100). In terms of the relationship between schooling patterns and earnings, the private sector stands out, with a higher average number of years of education than the self-employed on average, but lower earnings.

This pattern is consistent with the fact that workers having no more than primary education earn more in self-employment than as salaried employees in the private sector. Table 6.10 below highlights the following results:

(i) As expected, greater education leads to higher income, although the pattern varies considerably from one sector to another;

(ii) *In self-employment*, the income of people with primary education is 51 percent more than that of those without schooling; and those with O-Level earn 46 percent more than those with primary education. Primary school leavers earn 33 percent less as salaried employees than their self-employed counterparts. The same apples to uneducated workers, who earn 25 percent more being self-employed;

(iii) *In salaried employment*, people with primary education expect to earn 54 percent more than those without schooling; O-Level leavers expect to earn 103 percent more than the previous level, and A-Level leavers earn an average of 168 percent more than O-Level leavers; but

(iv) *University graduates* only command a 14 percent expected income rise over A-Level leavers;

(v) *The market value of tertiary education* depends on the sector of employment. Its value is close to that of O-Level in the public sector, but in the private sector, a tertiary education leaver earns 30 percent more, although less than half the income of A-Level leavers; and

(vi) *The wage gap between public and private sectors decreases with successive education levels.* For example, postsecondary leavers earn about the same amount in these two sectors whereas the income of a public employee with only primary education is 2.7 times the income of their counterparts working in the private wage sector.

Table 6.10: Annual Income, by Education Attainment and Employment Sector, 2006
Thousands of T Sh

	Wage Sector			Self-Employment (Nonagricultural)
	Public	Private	Average	
No Schooling	1,426.50	526.4	585.4	700.7
Primary	1,663.40	713.7	902.2	1,060.70
O-Level	2,125.60	1,453.10	1,831.80	1,548.80
A-Level	5,361.70	4,100.20	4,906.60	4,029.50
Technical Nonhigher	1,921.60	1,881.00	1,915.50	*
Higher	5,682.70	5,413.50	5,592.10	*
Average	2,475.80	986.7	1,476.30	1,099.30

Source: Authors' computations based on ILFS, 2006 data.
Note: * Too few individuals to compute reliable average income.

If pay levels are determined by the supply and demand of skills on the labor market, this pattern suggests that there is a huge shortage of secondary level skills and qualifications (especially A-Level), which is to be expected given the extraordinarily low enrollment for both levels. It also suggests that in the context of the current shortage of secondary and higher qualifications, the market value of higher education is close to that of A-Level. This may indicate that the Tanzanian economy does not require higher qualifications (or has adjusted to the shortage); or that A-Level workers are being recruited for lack of university graduates, for whom the labor market has significant slack demand.[137] Finally, it could be argued that the low premium paid for university graduates is related to the high proportion of undergraduate courses (80 percent – See Chapter 2), representing lower value-added than postgraduate courses.

TVET Supply and the Labor Market

A high share of potential demand for TVET skills remains uncovered. Although TVET coverage is comparatively higher in Tanzania than in other African low-income countries, the Tanzanian TVET subsector still faces huge demand. Those working as salaried employees are also eligible to some kind of vocational training given that: (i) their employers contribute to the skills' development levy; and (ii) many employees need to upgrade their skills to boost their productivity.

Although it is not straightforward to quantify the magnitude of the potential demand for TVET skills, the following two estimations should enable to assess the extent to which the current supply of TVET services matches the potential demand. The figures indicate that there could be demand for 817,000 TVET graduates per year:[138]

(i) *In 2009, there were 4.67 million workers aged 25 to 35 years with only primary education:* 64 percent (2.96 million) were working in agriculture, 25 percent (1.14 million) were self-employed or working in a family nonagricultural business, and 10 percent (0.44 million) were salaried employees. Although not all these individuals need TVET courses, these figures point to the overall magnitude of potential needs. It is worth noting that there were only 72,313 learners in VET short courses in 2009; also, over the 2005-08 period, only 1,386 informal sector operators have benefited from VET services. VET short courses average 10.4 days' teaching, denoting a huge imbalance between the need for skills and the current supply of short courses; and

(ii) In 2009, 541,000 youth completed Standard VII, and 453,000 left O-Level, including 155,000 Form 4 leavers, amounting to 994,000 youths. This figure could be interpreted as the maximum social demand for VET services in the country in 2009. However, a share of these 994,000 individuals are probably not in need of vocational education and training. For the sake of argument, if one assumes that 100 percent of Standard VII leavers, 50 percent of O-Level leavers, and 25 percent of Form 4 leavers are interested in VET services, the potential annual demand would represent a total of about 729,000 youths (See Table 6.11).

Table 6.11: Long Course TVET Enrollment and Potential Demand, 2009
Number of Trainees

	Stock	Annual Flow
Vocational Education and Training (VET)		
Long Course Enrollments (VTCs and FDCs)	72,938	29,175
Estimated Potential Demand for VET *	—	728,766
Share of Potential Demand Covered	—	4.0%
Technical Nonhigher Education		
Enrollment	28,760	19,523
Estimated Potential Demand for Technical Nonhigher **	—	87,964
Share of Potential Demand Covered	—	22.2%

Source: Authors' computations and assumptions; based on Chapter 2 and NBS-corrected data.
Notes: * Includes the total number of Standard VII leavers (541,000), 50 percent of O-Level leavers (286,000) and 25 percent of Form 4 leavers (155,000); arbitrary shares; ** Includes 50 percent of Form 4 leavers (155,000) and 50 percent of A-Level leavers (21,000).

TVET capacity is far from meeting current needs. The current annual flow of students into vocational education is about 29,175 students, representing less than five percent of the potential demand for VET skills. Although the picture is less problematic for technical nonhigher education, current supply still only covers about 22 percent of the potential demand. There is therefore a real shortage of TVET skills in general, and especially for vocational education and competencies. This shortage calls for the diversification of TVET services, given that: (i) little is on offer in terms of short and tailor-made courses, to enhance productivity and the quality of products and service delivery; and (ii) there is an overreliance on institutional-based training, neglecting the importance of work-based training through formal and nonformal apprenticeships (Manyaga and Athumani, 2010).

The impact of Folk Education

Between academic years 2001/02 and 2009/10, 221,716 (105,169 female and 116,547 male) adults were provided with skills in different trades including agriculture, carpentry, masonry, tailoring, mechanics (MCDGC, 2009). Most of the graduates (54 percent) were self-employed, 39 percent were involved in agriculture and masonry, 33 percent of the female graduates in rural areas were tailors (also involved in agriculture), and 47 percent of urban women were tailors. Very few graduates (about two percent) were engaged in private garages doing mechanical work.

Half those having followed folk education had built decent houses, could pay for their children's education and were healthy, demonstrating a significant impact on people's lives. Also, 57 percent of technicians in the villages surrounding FDCs were graduates from these colleges, mainly in carpentry, masonry and tailoring.

School to Work Transition

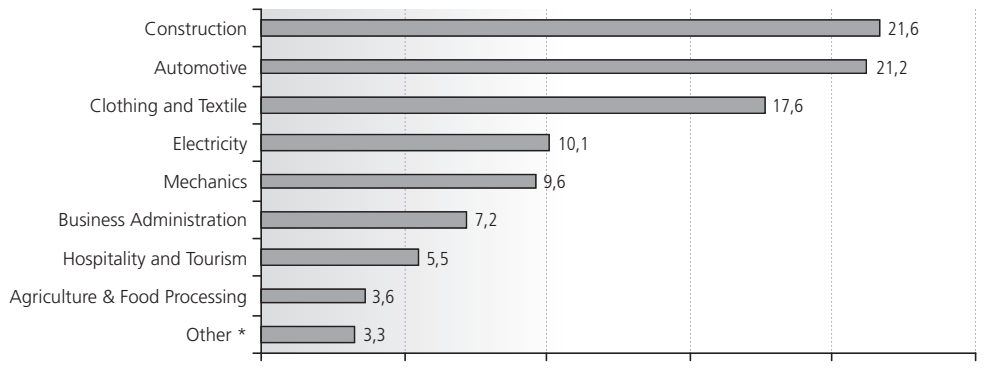
Key Findings of the April 2010 VET Tracer Study

A tracer study was conducted in April 2010 by VETA, on former VET graduates up to 2009. The analyses in this section are based on preliminary tables made available by VETA. Although the database was not yet available when this chapter was drafted, there is no doubt that the following results add substantial value to the understanding of the external efficiency of the VET system.[139] A total of 4,569 VET graduates were surveyed, 34 percent of which were girls. It's important to emphasize that before training, only 12 percent were employed; 53 percent were Standard VII leavers and 35 percent were Form 4 leavers. Almost 90 percent of surveyed graduates were aged 18 to 29 years, and 95 percent graduated over the 2005-08 period.

Almost 80 percent of the graduates were employed (either in salaried or self-employment), 13.4 percent were unemployed (but looking for a job), and the remaining 8.1 percent were inactive. Five main trade sectors account for 80 percent of the graduates traced: construction

(22 percent), automotive (21 percent), clothing and textile (18 percent), electrical (10 percent) and mechanical (10 percent) studies (See Figure 6.3).[140]

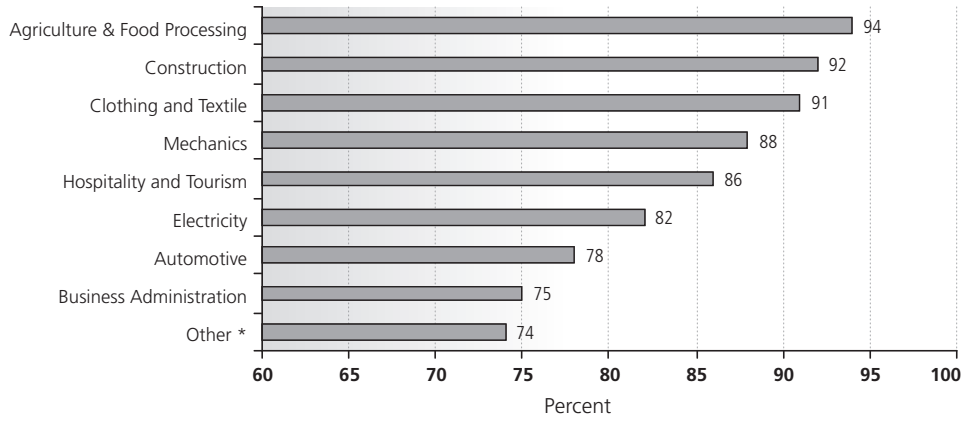
Figure 6.3: Distribution of Surveyed VET Graduates, by Employment Sector, 2010
Percent



Source: Preliminary results of the April 2010 VET Tracer Study, on 4,569 VET graduates (VETA, 2010).
Note: Other sectors include: ICT, laboratory technology, printing, mining, education (pedagogy, adult learning strategies, training of trainers) and general subjects.

Sector employment rates typically vary between 75 percent for graduates in business administration to more than 90 percent for graduates in clothing and textile, construction and agriculture and food processing (See Figure 6.4 below). There does not appear to be a correlation between the supply of graduates in a given sector and their employment rate: construction graduates are the most represented in the sample, and their employment rate is amongst the highest; conversely, although business administration graduates represent only seven percent of the sample (one of the lowest shares) they have one of the lowest employment rates.

Figure 6.4: Employment Rate of VET Graduates, by Sector, 2010
Percent



Source: Preliminary results of the April 2010 VET Tracer Study, on 4,569 VET graduates (VETA, 2010).
Note: Other sectors include: ICT, laboratory technology, printing, mining, education (pedagogy, adult learning strategies, training of trainers) and general subjects.

The survey also provides some positive feedback about the quality of VET training: about 80 percent of graduates who were employed had been in their jobs for more than a year; and 86.5 percent of those who were employed admitted that there was a direct connection between their training and their job. If indeed quality is not an issue, these results suggest that the main challenge for policy makers is to reduce VET graduate unemployment. That qualified graduates remain unemployed represents an unwanted wastage of human resources.

The main reason for not being employed was very positive: 42 percent of graduates were undergoing further training. Of greater concern, in 26 percent of the cases, unemployment was due to the lack of resources at graduates' disposal to start a self-employed activity, or their lack of confidence – See Table 6.12 below). Given that VET students are specifically trained to start a business, their not succeeding to do so may be a matter of policy concern. The data do not enable to determine whether some of these individuals have refused salaried employment (in which case the actual employment rate would have been higher).

In 17 percent of cases, the unemployment situation was related to a mismatch between the training and the labor market, and the lack of demand for the skills acquired or qualifications obtained, again underling the need to conduct more of this type of study to orient course design on the basis of market needs.

Table 6.12: Reasons Stated by VET Graduates for Unemployment, 2010
Percent

	%
Lack of resources to start a self-employed activity	25.2
Lack of confidence to start a self-employed activity	1.2
Lack of demand for the skills acquired	16.8
Housework	6.0
Low salary/wages	4.3
Health reasons	1.4
The business environment	0.3
Other	2.5
Attending further training	42.3
Total	**100.0**

Source: Preliminary results of the April 2010 VET Tracer Study, on 4,569 VET graduates.

The information presented in Table 6.12 calls for a mixed strategy to increase the employment rate of VET graduates. Although supply-side policies cannot be neglected (such as improving the practical relevance of training in selected sectors),[141] demand-side policies may have the greatest impact. For instance by assisting graduates in mobilizing the required resources and assets (access to credit for instance) to start a self-employed activity.

A VET graduate's average monthly income, at T Sh 136,000, is 60 percent higher than the minimum statutory wage, of T Sh 85,000 (See Table 6.13 below).[142] Average earnings vary by sector: surprisingly, agriculture and food processing graduates (studies cover crop production, animal husbandry, poultry farming, fruit and vegetable production and food processing) can expect up to T Sh 351,000 per month. Construction graduates (studies cover masonry, carpentry, painting, design, plumbing, cabinet-making and logging) command an average of T Sh 124,000.

In about four percent of cases, unemployment was attributed to higher salary expectations (See Table 6.12). This appears to be justified: eight percent of VET graduates earn less than T Sh 31,000 (monthly equivalent of USD 1 per day for 22 working days). By international standards, these graduates are considered to be poor. The poverty rate for VET graduates is however much lower than the national average (33.4 percent - See Chapter 1). The particular gender and sector bias of low earnings is important to consider in future policy decisions: 18 percent of clothing and textile graduates (studies cover tailoring, leather confectionery; shoemaking and repair) have income levels that would place them below the poverty line.

Table 6.13: Expected Earnings of VET Graduates, and Share below the Poverty Line, by Sector, 2010
T Sh and Percent

	% of the Survey	Mean Monthly Earnings - Employed Graduates (T Sh)	Employment Rate (%)	Mean Monthly Earnings - All Graduates (T Sh)	Index (Agriculture = 100)	Share Earning less than US$ 1/day (%)
Construction	21.6	135,826	91.6	124,421	35	6.0
Automotive	21.2	164,634	78.2	128,684	37	8.1
Clothing and Textile	17.6	108,705	91.4	99,357	28	17.8
Electricity	10.1	193,431	82.5	159,521	45	4.7
Mechanics	9.6	183,576	87.8	161,178	46	4.3
Business Administration	7.2	151,204	74.8	113,156	32	3.6
Hospitality and Tourism	5.5	126,772	86.0	108,970	31	2.1
Agriculture and Food Processing	3.6	374,291	93.8	351,186	100	1.3
Others	3.3	178,450	74.5	132,888	38	2.1
Total/Average	**100.0**	**159,364**	**85.4**	**136,131**	**n.a.**	**7.6**

Source: Preliminary results of the April 2010 VET Tracer Study, on 4,569 VET graduates (VETA, 2010).
Note: Other sectors include: ICT, laboratory technology, printing, mining, education (pedagogy, adult learning strategies, training of trainers) and general subjects.

It is also important to compare the income of VET graduates to that of other qualified employees in the labor market, in order to appreciate the added value of VET studies for Standard VII or O-Level leavers. Results presented in the previous table (for VET graduates) can be compared with those of earlier Table 6.10 (which provides an overview of earnings differentials by levels of education attainment). Results are presented in Table 6.14 below.

In general, the income of VET graduates compares favorably with that of the self-employed with primary education or O-Level. However, graduates from clothing and textile and hospitality and tourism sectors at best earn the same amount as primary school leavers in general. This is questionable, as it suggests that VET courses have not provided any value added to these graduates. It is more likely that many unskilled people are also engaged in these activities; thus lowering the average level of expected income. Conversely, VET courses have provided significant added value for electricity, agriculture and food processing graduates.

Table 6.14: Comparison of VET Graduates' and Self-Employed Income, by Sector, 2006
Thousands of T Sh

VET Graduate Income is:	Sector	Mean Annual Earnings of Employed VET Graduates (Thousands of T Sh)	
		2006	2010
Lower than the income of self-employed primary leavers	Clothing and Textile	909.4	1,304.50
Similar to the income of self-employed primary leavers	Hospitality and Tourism	1,060.60	1,521.30
2006 Income of self-employed primary leavers		1,060.70	—
Higher than the income of self-employed primary leavers, but lower than that of O-Level leavers	Construction	1,136.30	1,629.90
	Automotive	1,377.30	1,975.60
	Business Administration	1,265.00	1,814.50
Similar to the income of self-employed O-Level leavers	Mechanics	1,535.80	2,202.90
	Other *	1,492.90	2,141.40
2006 Income of self-employed O-Level leavers		1,548.80	—
Higher than the income of self-employed O-Level leavers, but lower than that of A-Level leavers	Electrics	1,618.20	2,321.20
	Agriculture and Food Processing	3,131.30	4,491.50
2006 Income of self-employed A-Level leavers		4,029.50	—
	Average	1,333.20	1,912.40

Source: Tables 6.10 and Table 6.13; MoFEA/IMF data for the GDP Deflator.
Note: Data are based on constant 2006 T Sh prices, as per Table 6.10: the earnings of employed VET graduates have thus been divided by the overall 2006-10 price inflation (143 percent or 6.1 percent annually). Figures are 12 times the mean monthly earnings of employed graduates. Other sectors include: ICT, laboratory technology, printing, mining, education (pedagogy, adult learning strategies, training of trainers) and general subjects.

KEY FINDINGS

Education has an important impact on social and human development. Education has a strong impact on literacy, fertility, and maternal and child health. For instance, with all other factors held constant, women who have never attended school benefit from antenatal care from a health professional in only 73 percent of pregnancies, whereas those who have completed primary education are assisted in 81 percent of all cases, and those who have completed O-Level do so for 85 percent of pregnancies.

Primary education is the level that has the greatest impact on social outcomes. The primary cycle contributes to almost 60 percent of the total impact of education on social development, which further reinforces the justification for efforts made to ensure that all Tanzanian children complete at least the primary cycle. At equal investment, the efficiency of the primary cycle in enhancing human development is 2.4 times higher than that of the secondary cycle.

Education also has a direct connection to the labor market. As expected, improved education leads to higher income. The wage premium for workers with secondary education is particularly higher. For instance, the salary of a worker with ordinary education is 103 percent higher than the salary of workers with primary education. This pattern suggests that there is a severe shortage of secondary qualifications in the economy.

The market value of tertiary education skills depends on the sector of employment. The average income of tertiary education leavers is close to that of O-Level leavers in the public sector, but in the private sector it is 30 percent higher (although still barely half the income of an A-Level leaver). Individuals who never pursued their education beyond primary earn more in self-employment than in the private sector.

Tanzania's labor force has a better education profile today than in 2001, although highly qualified human capital remains limited. The share of individuals aged 15 to 60 years with secondary education and above has increased from 5.6 percent to just seven percent between 2001 and 2006. Although this progress is slow, the number of individuals with tertiary or higher education has more than doubled over the period. The average number of salaried jobs created has increased by about 10.3 percent per year over 2001-06. This rate is likely to be the same over 2010-14. Over 2006-09, enrollment in higher education increased by 28 percent. This subsector is probably growing faster than the absorptive capacity of the salaried employment sector, the main supplier of jobs to higher and tertiary education graduates. To maintain this growth rate, policy makers should critically assess the ability of higher education leavers to join the nonwage sector (and become self-employed, for instance). Currently, the likelihood of being self-employed is extremely low among higher and tertiary education leavers.

Higher education enrollment is rapidly catching-up with that of other low-income countries. In 2006, the number of higher education students in Tanzania was 50 percent lower than the average in other countries with similar levels of economic development. In 2009, this

gap was just 36 percent, as a result of the recent enrollment increase in higher education. This catch-up process is likely to continue, as a direct consequence of the expected development of secondary education.

However, policy makers should adequately plan the expansion of higher education to match labor market needs. According to the regional pattern, Tanzania should have about 570,000 higher education students in 2025, which implies that enrollment should increase by 8.8 percent annually over the 2010-25 period (a much lower rate than the 28 percent average for 2006-09). These issues should be discussed in the framework of a simulation model relating the development of secondary education to that of higher education.

Current VET capacity is far from meeting actual needs. The current annual flow of students into vocational education represents less than five percent of the potential demand for VET services. The picture is less problematic in respect to technical nonhigher education, whose current supply covers about 22 percent of the potential demand. This underlines the urgency for the diversification of TVET provision. In fact: (i) more attention should be paid to short and tailor-made courses for school leavers or those already working, in order to enhance productivity and the quality of products and service delivery; and (ii) the reliance on institutional-based training courses should be reduced, in favor of greater professional experience, to be gained through formal and informal apprenticeships.

There is a strong connection between VET training and graduates' employment. A tracer study conducted in April 2010 by VETA documented the employment and income status of about five thousand VET graduates. The results add substantial value to the understanding of the relevance of VET to the labor market. The average employment rate of VET graduates is close to 85 percent; the likelihood of finding permanent employment is slightly higher still, and in about 87 percent of cases, those who were employed indicated that there was a direct connection between their training and their job. These results, suggesting the reasonable quality of skills acquired and qualifications obtained, suggest that the main challenge for policy makers is to reduce the unemployment risk among VET graduates.

It is necessary to analyze sector-specific causes of unemployment to formulate clear and targeted policy recommendations. The unemployment rate for VET graduates is close to 15 percent. This figure is probably overestimated given that some graduates prefer not to work than to earn excessively low salaries. The main causes of unemployment are: (i) a mismatch between the training followed and the availability of related jobs; and (ii) the lack of resources to start a self-employed activity. This situation calls for both supply-side (improving the relevance and professionalism of training for selected sectors) and demand-side (assisting graduates in mobilizing the required resources and assets) policies to reduce VET graduate unemployment rates. With respect to demand-side policies, the possibility of devoting a share of the skill development levy to business start-up funds should be assessed.

VET studies offer no significant added value, compared with some primary school or O-Level leavers. In general, the income of VET graduates compares favorably with that of self-employed individuals with primary education or O-Level. However, graduates with clothing and textile and hospitality and tourism sector skills appear to earn at best the same amount as primary school leavers in general, which is worthy of more detailed analysis. On the other hand, VET courses have provided significant added value for electricity or agriculture and food processing graduates.

Notes

132 Respondents were asked to read a short sentence in English, Kiswahili or both. Although literacy involves more than just reading skills, this indicator is generally used to analyze the net impact of education on literacy.

133 The total Tanzanian fertility rate is in fact higher than figures presented here (a women can expect to have 5.7 children in her life). In Table 6.1 the average is lower than the total fertility rate given that the analysis is based on a theoretical woman whose age is 31.4 years (the average of the 15-49 years age-group), and younger women are likely to have fewer children.

134 Among the younger generation (those aged 25 to 35 years), the share is much lower (17 percent).

135 According to MoFEA projections, economic growth is expected to average 7.3 percent per year between 2010 and 2014 (close to the 7.2 percent for 2001-06). Based on recent experience, if one assumes the economic growth elasticity of employment (the extent to which economic growth translates into job creation) to be constant, the rate of job creation in the wage sector is likely to continue at the same rhythm over 2010-2014.

136 The 2006 ILFS provides the most up-to-date data on earnings, but the information pertains only to salaried and self-employed workers in nonagricultural activities. Information on the income of those engaged in agriculture is only available for workers in urban areas, which is clearly not representative of the sector. Therefore, the analysis presented in Table 6.9 focuses only on salaried and self-employed workers aged 15 to 60 years. Information on income is available for 83 percent of these workers on average (96 percent of those in the public sector, 77 percent of private sector salaried employees and 84 percent for the self-employed).

137 Detailed data to analyze to what extend this assertion is valid is not available.

138 The first estimation is based on the total number of workers who are unskilled or in need of upgrading. The second estimation is based on the number of youth who are not enrolled in general education, on the presumption that sustained economic growth and poverty reduction would be jeopardized if this group is not offered alternative development opportunities.

139 The available information was not disaggregated by sector, because the database of the tracer study was not yet available when this analysis was drafted.

140 The detail of the courses attended by the survey respondents are presented in Annex Table 6.4.

141 It is not possible to provide specific information about the sectors where graduates can not find jobs because there is no job corresponding to their skills or course; because the tracer study database was not yet available when this chapter was drafted.

142 This figure for all VET graduates takes into account an unemployment risk of 14.6 percent. The average monthly salary of employed VET graduates is T Sh 160,000.