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Tanzania

SKILLS FOR COMPETITIVENESS IN THE SMALL AND MEDIUM ENTERPRISE SECTOR

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EXECUTIVE SUMMARY

We examine the question of workforce skills for small and medium enterprises (SMEs) in Tanzania and find a mixed picture full of potential. On the one hand, education access has expanded at all levels and a more educated cohort is now entering the labor market - signaling the availability of a more skilled workforce for SMEs. On the other hand, acute shortages of secondary and post-secondary graduates persist.

Disturbingly, the quality and relevance of primary education has come into question. It is unclear whether increased access to primary education is actually translating into acquisition of crucial basic skills in the country. In light of this, it is unsurprising that education attainment no longer appears to be a reliable proxy for relevant skills, as perceived by employers. Further, SMEs seem to have very little meaningful connection with education institutions for recruitment of workers.

A related but equally concerning problem relates to the culture of recruitment among SMEs in Tanzania. It is one of passive hiring, wherein firms rely on networks and referrals to identify employees instead of actively seeking them through open advertising and links with education providers.

In this backdrop there is room for cautious optimism. SMEs seem increasingly to realize and emphasize the importance of workforce skills, even though, in relative terms, they are likely to be significantly more pre-occupied with infrastructure constraints. Interestingly, a large share of firms that have recently failed consider inadequate workforce skills to be a contributing factor of above average importance to firm failure.

Tanzanian firms have high propensity to invest in employee training – not just for job-specific technical skills – but also for behavioral and other skills. Rates of the on-the-job training in Tanzania are higher than many other countries in Sub-Saharan Africa and close to global averages. We find that firms that invest more in searching for employees are also more likely to be training employees, indicating that investments in employee search and training are not substitutes but complements.

Firm size and sector appear to be particularly crucial in defining the workforce skills and SME productivity relationship. Not surprisingly, small firms have lower skill profiles and lower propensity to train. Even though this could reflect, in part, financial and informational challenges small firms face in skilling their employees, this behavior might not be entirely constraint driven. Research has shown that returns to training are typically lower for small firms. In terms of sector, firms in the services sector seem to be doing particularly well relative to other sectors, specifically trade and agriculture, on seeking and fostering workforce skills.

Encouragingly, not all skills are in shortage. Skill shortages appear to be most pronounced with respect to numeracy and behavioral skills. On the other hand, only a minority of firms considered skills related to literacy, communication, or ICT to be particularly hard to find. In addition,

managerial skills are increasingly being seen as critical. There is promising evidence, some of it directly from Tanzania, on the potential of fostering relevant managerial skills among entrepreneurs.

This work generates clear directions for policy and future work. On the whole, we find that there is strong potential for unleashing workforce skills for SME development and wider economic growth in the country, provided focused and well-designed policy and program interventions are put in place.

1. INTRODUCTION

The notion that workforce skills are important - even critical - for SME competitiveness and innovation is fairly well-accepted. There appears to be a strong mutually-reinforcing relationship between the supply of skills and the level of innovation in the economy[1]. And some consider this complementarity between technology and human capital as the most important element of productivity improvement[2]. This relationship between workforce skills and firm productivity can be crucial for enabling economic diversification, productivity growth[3], and ultimately raise the standards of living of the population[4].

This is true, perhaps even more so, for developing countries like Tanzania where skill shortages can have far-reaching impacts. If the question of workforce skills is not actively addressed, then it is possible for these countries to get caught in traps of low productivity and low skills. Such traps arise when skills are insufficient to spur innovation and the demand for skills is too low to encourage their acquisition[5]. Does this hold true for Tanzania? We try to examine this question below.

Overtime, our understanding of the relationship between workforce skills and SME innovation has evolved. Traditionally, innovation has been seen primarily as the production of technological change. This type of innovation is close to the technological frontier and relies on advanced scientific, engineering and management skills. Hence, to spur this innovation, the focus has been on higher-level training in science and engineering among the elite in the organizational hierarchy.

However, international evidence shows that the predominant form of innovation in firms is in fact incremental and well- within the technological frontier[6]. It involves the diffusion and adaptation of existing technologies and relies largely on learning-by-doing and learning-by-using. The capacity to engage in such innovation has been shown to depend critically on the technological 'absorptive capacity'[7] of the workforce and not so much on higher-order science and engineering skills. In addition, today's highly inter-linked and specialized market structures imply that innovation encompasses a very broad range of economic activities and requires the engagement of many

[1] Toner, P. (2011), "Workforce Skills and Innovation: An Overview of Major Themes in the Literature", OECD Science, Technology and Industry Working Papers, 2011/1, OECD Publishing. doi: 10.1787/5kgkdgdkc8tl-en
[2] Acemoglu, D. (2002). Directed technical change. The Review of Economic Studies, 69(4), 781-809.
[3] Fernandes (2008) found for Bangladesh that firms' TFP improves with higher levels of human capital. Fernandes, A. M. (2008). Firm productivity in Bangladesh manufacturing industries. World Development, 36(10), 1725-1744.
[4] Almeida, R., Behrman, J., and Robalino, D. (Eds.). (2012). The right skills for the job? Rethinking training policies for workers. World Bank Publications.
[5] World Bank. (2012). World Development Report 2013: Jobs. Washington DC
[6] Toner, P. (2011), "Workforce Skills and Innovation: An Overview of Major Themes in the Literature", OECD Science, Technology and Industry Working Papers, 2011/1, OECD Publishing. doi: 10.1787/5kgkdgdkc8tl-en
[7] Cohen and Levinthal (1989) developed the concept of 'absorptive' capacity to refer to a firm's ability to assimilate existing technology and to adapt it to their own environment. [Cohen, W. M., and Levinthal, D. A. (1990). Absorptive capacity: a new perspective on learning and innovation. Administrative Science Quarterly, 128-152.]

different occupations. These shifts in our understanding of the innovation process have important and far-reaching implications for our understanding of the types of skills that are crucial for SME growth.

These insights have fundamentally altered the policy landscape against which the questions of youth unemployment and SME development are being grappled with. They have provided more granularity and specific evidence on the types of skills needed to foster firms' innovative behavior and help explain the growth constraint of SMEs.

This chapter will attempt to outline what this means for Tanzania. Specifically:

- Are the businesses in Tanzania getting the talent they require?
- How does the demand for skills vary across different types of firms?
- What types of skills matter for SMEs?

In the Tanzanian context, the overarching question is – why despite high growth rates, the daily lives of people have not improved significantly? One clear answer is that economic growth is not translating into better job opportunities for a large part of the population. This is a matter of urgent concern, even more so, because Tanzania has one of the youngest and most rapidly growing populations in the world.

There is no dearth of aspirations in the country. Almost 90 percent of the firms interviewed for this report considered innovation to be of above average importance for their firm. Why then are we not seeing a more dynamic private sector in Tanzania? A plausible, though partial, explanation could lie with the supply and utilization of workforce skills in the economy. Resolving bottlenecks to skills creation and absorption for a more productive private sector can make all the difference to how economic growth manifests in the lives of the common people.

2. METHODOLOGY

This chapter undertakes a review of country-specific evidence around the question of workforce skills and SME growth and productivity. In addition, primary data, both qualitative and quantitative has been generated to buttress existing diagnostics with targeted information.

The primary data collection undertaken is described below:

I. Focus Group Discussions (Nov 2012): Owners and managers of 20 SMEs from Dar Es Salaam were invited to a one-day focus group discussion (FGD) session; out of these 16 attended. The sample of SMEs that received the invitation was randomly selected from a larger directory of firms and was stratified by sector of operation to maximize the representativeness of the interviews.
   Semi-structured interviews were held with groups of attendees focusing on issues of workforce hiring and skills.
   Henceforth, these data are referred to as **FGD data**.

II. Quantitative data collection from Employers (Feb-March 2013): Phone-based data collection was undertaken with owners or senior managers of SMEs all around the country. Using the Chamber of Commerce Directory of Firms, 1000 currently operational, as well as, 1000 recently failed firms were identified. From this universe, a set of firms was randomly selected for a detailed quantitative survey focusing on workforce hiring and skills.
As a part of the survey, owners or senior managers of 264 firms were interviewed (out of which 80 firms were recently failed firms). The final sample of interviewed firms was:

- Predominantly urban (81%),
- Had an over-representation of Dar es Salaam (37%)
- Included different economic activities as follows:

Economic Activity	No. of Firms
Agriculture, forestry and fishing	56
Mining	5
Construction	6
Manufacturing	11
Transportation and public utilities	12
Trade	77
Finance, insurance and real estate	15
Other services	82
Total	264

Henceforth, these data are referred to as **Employer data**.

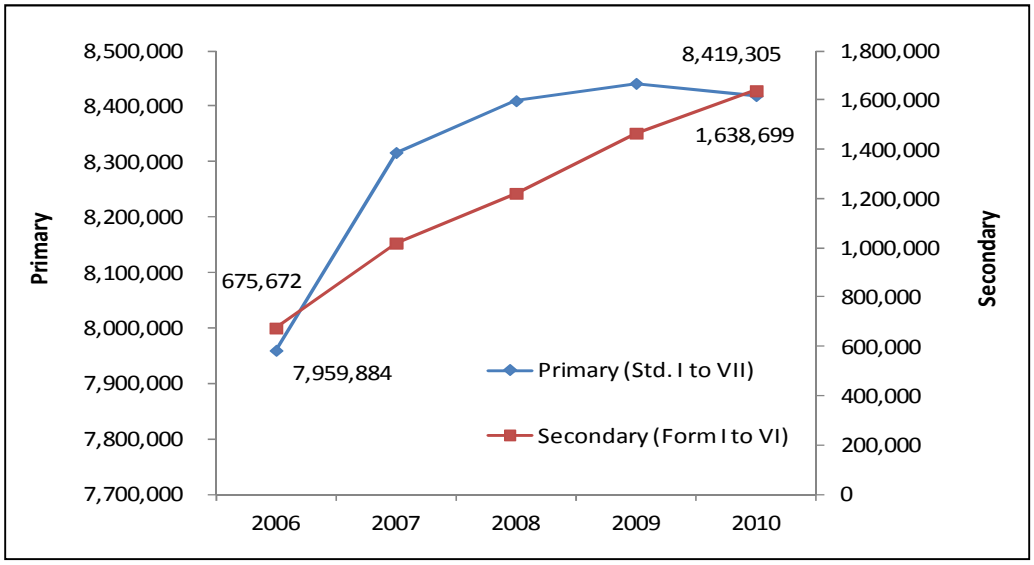
We also rely extensively on World Bank enterprise survey data for Tanzania (2006). As a part of this survey, a total of 419 firms were surveyed from 4 regions (Dar es Salaam, Zanzibar, Arusha, and Mbeya). These data are henceforth referred to as **Enterprise survey data**.

3. A MORE EDUCATED WORKFORCE

Viewed from the education lens, the story of skills in Tanzania is a positive one. The country has significantly expanded access to education for its population. At the primary level, coverage is nearly universal (the Gross Enrollment Ratio (GER) was 114 percent in 2007). At the secondary level, rates are lower but expansion has been extremely rapid with the GER more than quadrupling from 7 percent in 2003 to over 29 percent in 2010[8].

[8] Government of Tanzania (2013) Basic Education Statistics of Tanzania (BEST)

FIGURE 1: TREND OF STUDENT ENROLLMENT IN PRIMARY AND SECONDARY EDUCATION



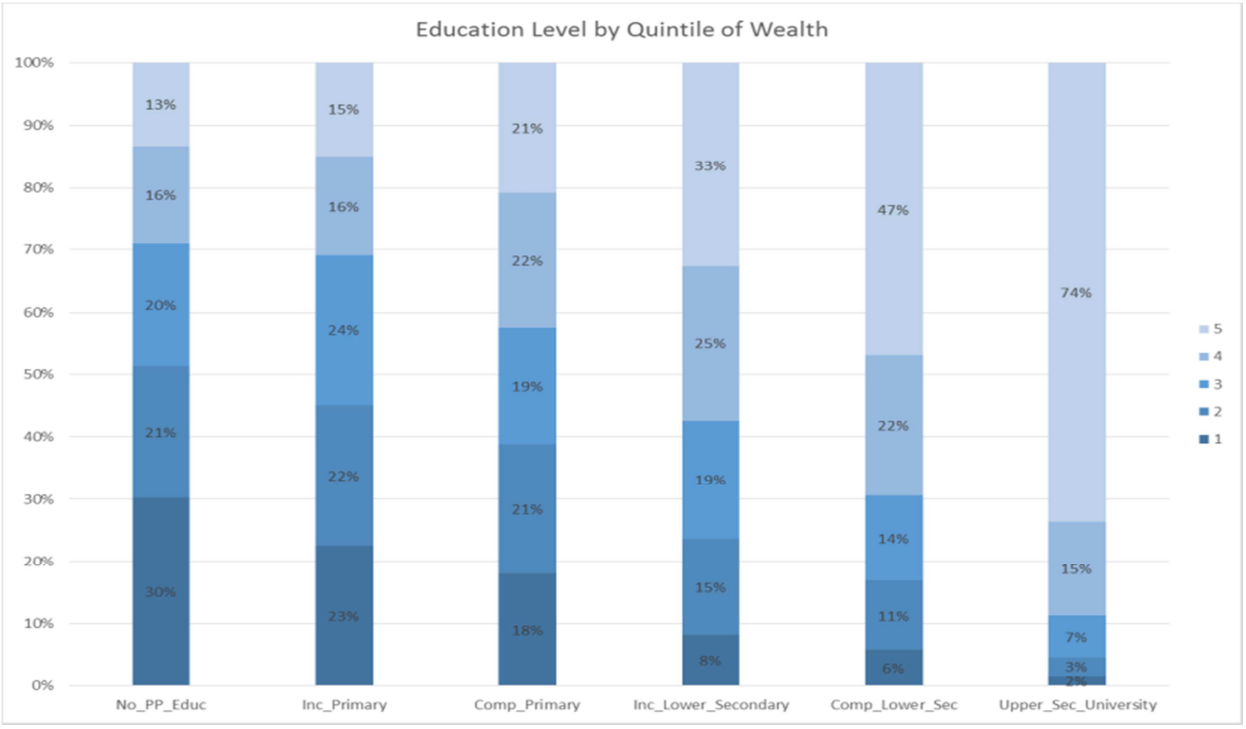
Enrollment is also rising fast in post-secondary education. Over 2006-2009, a 34 percent annual increase was recorded in University education. These trends are helping Tanzania catch-up with other East African countries in terms of tertiary enrollment. The Technical and Vocational Education and Training (TVET) sub-sector, which comprises of Technical Education and Training (TET) and Vocational Education and Training (VET), has also registered an expansion.

Table 1: Trend in Tertiary Gross Enrollment Rates (%GER) in East African Countries

Country	1985	2001	2002	2004	2009
Burundi	0.55	1.14	1.81	2.33	2.68
Kenya	1.28	2.81	2.81	2.9	4.05
Rwanda	0.34	1.71	1.94	2.66	4.82
Uganda	0.79	2.75	3.04	3.48	3.69
Tanzania	**0.26**	**0.69**	**0.81**	**1.25**	**3.86**

Like in many other countries, we find that household wealth is highly correlated with post-basic educational attainment. Analysis using Tanzania National Panel Survey (NPS, 2005/06), shows that 77 percent of the population who attended upper secondary or beyond came from the richest quintile. The corresponding rate for the 15-29 year olds is 74 percent, suggesting that access is slowly becoming more equitable. Participation of the lower quintiles in the lower secondary or upper secondary and university has also improved (21 percent of 15-29 year olds are from the lowest two wealth quintiles versus 17 percent of 15-64 olds).

FIGURE 2: EDUCATIONAL LEVEL BY QUINTILE OF WEALTH FOR 15-29 YEAR OLDS



Source: Team calculations based on Tanzania National Panel Survey (2010-11)

The other important predictor of access to post-basic education appears to be mother's educational attainment. About 72 percent of the young generation who attend upper secondary or university are from a family where the mother completed secondary or attended higher education level

Despite some challenges, the impacts of the education expansion are beginning to be perceptible in the labor force. Labor supply trends suggest that a growing number of people, usually better educated than their parents, are going to be looking for jobs, especially in urban areas. Comparing data from the two recent rounds of the Tanzanian labor force surveys (ILFS 2001 and 2006) we see that the share of individuals aged 15-60 with at least secondary education has increased from 5.6 percent to 7.0 percent between 2001 and 2006. In terms of absolute numbers, individuals aged 15-60 with some post-secondary education have more than doubled over 2001-2006[9].

Does this better educated workforce imply a more skilled workforce?

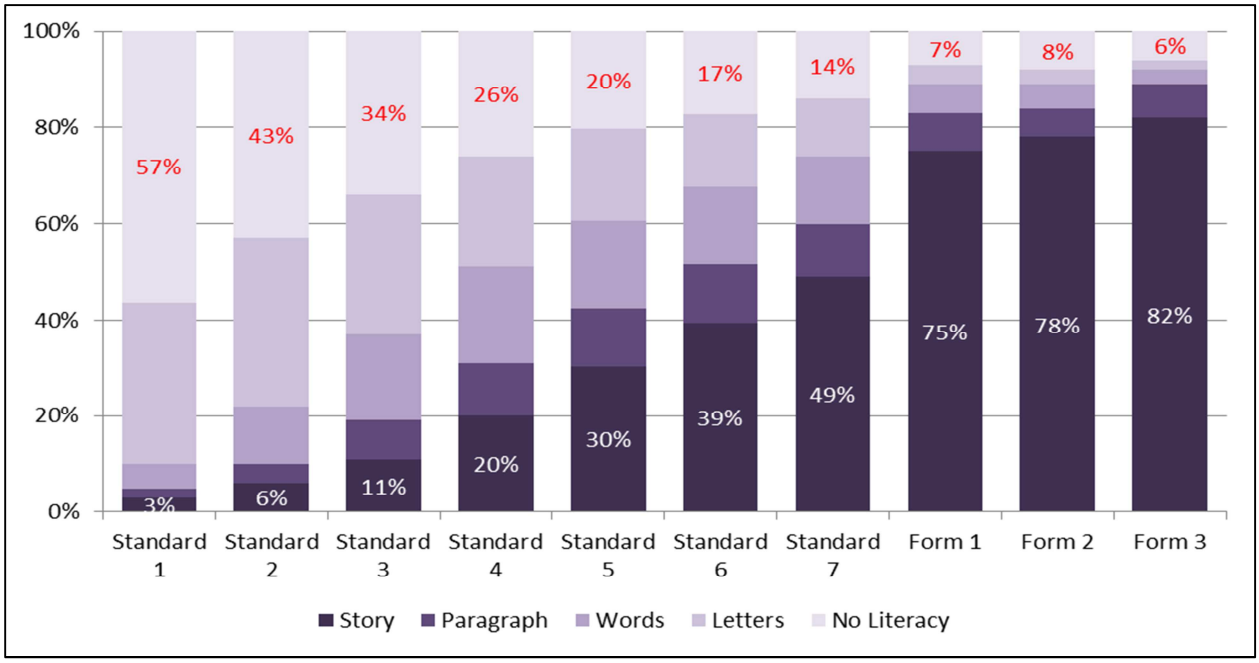
[9] Education Sector Analysis (RESEN Tanzania): beyond primary education, the quest for balanced and efficient policy choices for human development and economic growth. (2012). Dakar, Pôle de Dakar.

4. A MORE SKILLED WORKFORCE?

Increasingly, the relationship between education attainment and skill formation has come under scrutiny. Unfortunately, in Tanzania, just like in many developing countries, this relationship is not straightforward.

There is evidence that primary education is not producing the expected basic skill levels[10] among students. Results from the latest round of Uwezo[11] student assessments (May 2011, covering over 128,000 children) show that among grade 3 students - only 3 in 10 could read a basic Kiswahili story, only 1 in 10 could read a basic English story and only 3 in 10 could add, subtract, and multiply. In fact, Uwezo report contends that among children 10 and younger, there is not much difference between being enrolled in a public school and not being enrolled at all.

FIGURE 3: ENGLISH READING LEVELS BY GRADE, 2011

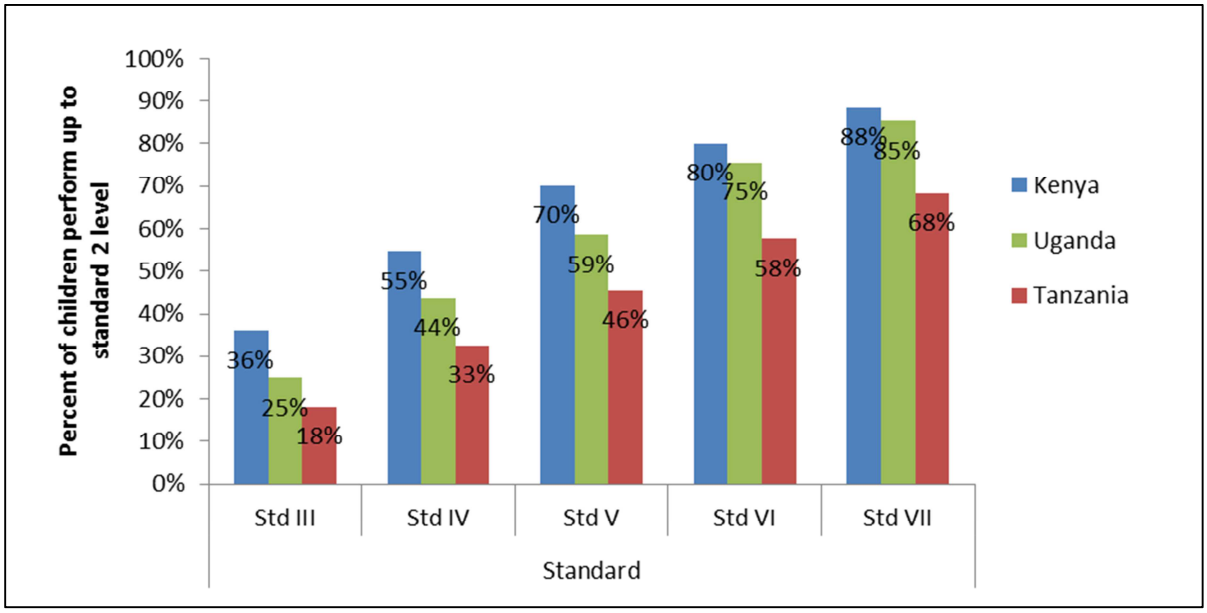


Clearly, skill formation at Tanzania's primary education level is low – not just in absolute terms but also compared with that of neighboring countries.

[10] Defined as literacy, numeracy, and problem solving skills

[11] "Learning Across East Africa," Dorica Andrew and Hans Hoogeveen, Uwazi at Twaweza housed by Hivos Tanzania, forthcoming 2011

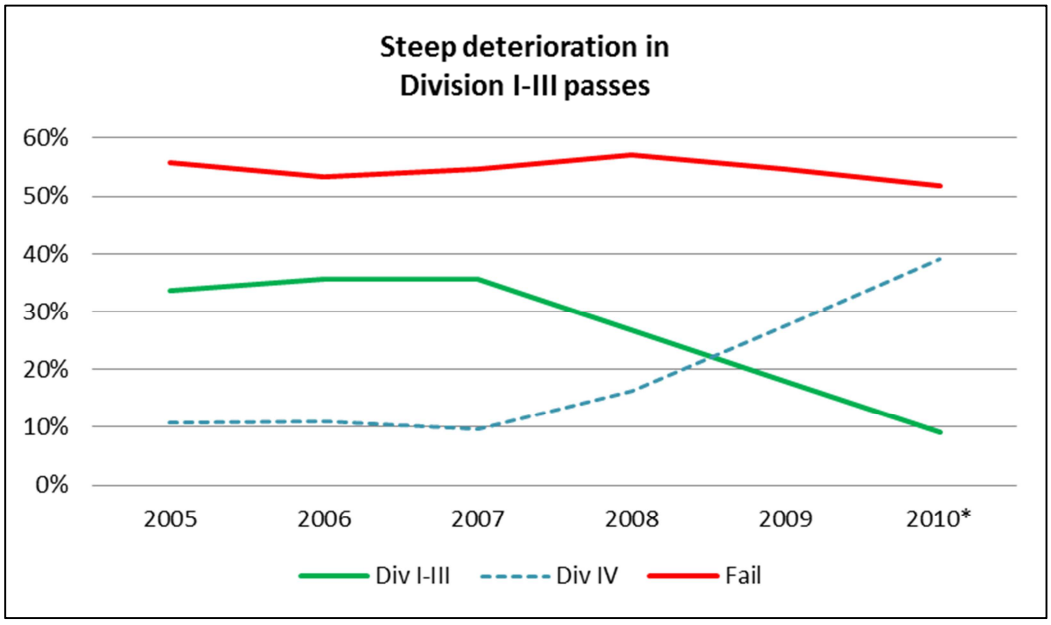
FIGURE 4: RESULTS OF UWEZO'S STANDARD-II (8-9 YEAR OLD LEVEL) MATHEMATICS TEST IN PUPILS FROM STANDARD III TO STANDARD VII (9-14 YEAR OLDS)



The quality of primary school leavers has direct implications for SME productivity in Tanzania. Employer data reveals that out of 264 firms interviewed, 37 percent have a majority employee base (50 percent or more employees) composed of workers with only primary education or less. This is significantly more likely to be the case for small firms and firms in agriculture.

Learning outcomes appear to be low at the secondary level as well. In 2009, the average candidate in 96 percent of schools scored either Division IV or Fail on the Certificate of Secondary Education Examination (CSEE) exam.

Figure 5: Percentage CSEE Candidates, by Grade



It is clear therefore that currently Tanzania produces primary school and Form 4 "graduates" with low levels of basic skills. These basic skills, such as literacy, numeracy, and problem-solving are critical for the general productivity of workers. Acquisition of basic skills makes it easier for workers to acquire job-specific skills[12]. They also allow workers to be adaptable to changing circumstances and be more open to new ideas. Having a significant share of labor supply with low basic skills can constrain industries and firms to a low-skill equilibrium[13]. Recent studies have shown that it is cognitive abilities that are strongly related to productivity and economic growth, much more so than school attendance rates[14].

Therefore, quality of education service delivery in Tanzanian schools is an issue of pressing concern. Low quality implies not only that school leavers are poorly equipped to perform in the labor-force but also that they have a poor foundation for acquiring further skills. This could translate into a lifetime of low earnings and high poverty for the workers themselves, and low productivity in the private sector in general.

What lies behind the low quality of education service provision in Tanzania? Evidence points to several key issues, most of which relate to the rapid expansion of enrollment in primary and secondary grades that have put intense pressure on the existing system and led to some service delivery failures.

At the primary and secondary school level, there appear to be high rates of teacher absenteeism and low rates of teacher time on task (SDI 2011). Data shows that:

- About one in four teachers is absent from school on any given school day
- Even when in school, the teachers are absent from the classroom more than half of the time
- On average, students in primary schools in Tanzania are taught 2 hours a day, and half an hour less in urban areas (instead of the 5 hours and 20 minutes required for primary school teachers)
- In general, an association is observed between teacher absenteeism and student test scores

These low performance indicators are in turn related to issues of incentives and accountability among service providers. Preliminary findings from the ongoing SABER15 exercise on Teacher policies shows that in Tanzania entry requirements, teacher pay, and working condition may not be appealing for talented candidates, signaling teaching as a low-status profession. In addition, SABER interviews demonstrate clear policy-gaps in terms of teacher motivation. Specifically, professional development of teachers is ad hoc and not systematic and there are no clear rewards linked to good performance.

[12] World Bank. (2012). World Development Report 2013: Jobs. Washington DC

[13] *Ibid*

[14] Hanushek, E. A., and Woessmann, L. (2008). The role of cognitive skills in economic development. Journal of economic literature, 607-668.

[15] SABER stands for Systems Approach for Better Education Results. It collects information about different education systems' policy domains including one on Teacher policies, analyzes it to identify common challenges and promising solutions, and makes it widely available to inform countries' decisions on where and how to invest in order to improve education quality.

These findings are strongly corroborated when we examine information coming out of Focus Group Discussions (FGD) with teachers16. The FGDs reveal that many teachers are on a "go-slow" strike due to what they perceive as long unmet demands. Aside from complex, politically charged, system-level issues of low salary, poor conditions, and unsystematic promotions, teachers also complained about egregious system inefficiencies, such as delays in salary payments, that appear fixable in the short-term.

Extremely high failure rates in PLSE and CSEE exams also suggests that lower performing students are either not identified early on and/or do not get adequate attention to address their learning needs.

Further, there are indications of input shortages. To ensure adequate input provision at the school level, capitation grants are made available to schools for procuring various items and services, including textbooks and other teaching materials and for instituting fee subsidies etc. However, evidence from the 2009 Public Expenditure Tracking Survey suggests widely variable levels of allocations and timeliness of grant receipts at secondary schools. In fact, according to the SDI survey (2011), leakage, defined as the share of resources intended for schools, but not received by them, represents 37 percent of the capitation grant budget. This clearly signals compromised ability of schools to address needs for teaching and learning materials.

What of the skills being acquired at the post-secondary level? Among Higher Education Institutions there is a concern about shortage of science graduates[17]. However, based on employer data overall perceptions about quality seem positive. Around 35 percent of firms find the quality of graduates from higher institutions to be average, and 48 percent find their quality to be above average.

In employer data we find that around 45 percent of the firms have at least one employee with university or college level education. This is significantly more likely for alive firms than firms that have ceased functioning (referred to henceforth as failed firms). The likelihood of having some employees with university or college level education is three times lower for small firms[18] than their larger counterparts. It is also more likely for firms in the services sector.

With respect to TVET, provision has expanded and these graduates are being leveraged by firms - as many as 72 percent of the firms in the employer data have at least one worker with post-secondary technical or vocational education. However, concerns about quality persist - one study[19] argues that employers are dissatisfied with the quality of graduates from the country's main public training provider - VETA[20]. It has been argued that VET curriculum is largely theoretical and there is an over-reliance on institutional based training, neglecting the importance of work-based, on-the-

[16] A series of FGDs were held with teachers as a part of the BRN design process
[17] Tanzania Education Sector Analysis (2011), Pole de Dakar Education Sector Analysis (RESEN Tanzania): beyond primary education, the quest for balanced and efficient policy choices for human development and economic growth. (2012). Dakar, Pôle de Dakar.
[18] Firms with 10 employees or less.
[19] Johanson, Richard and Goodwill Wanga (2008). "Skills Training for the Informal Sector in Tanzania", mimeo
[20] Vocational Education and Training Authority (VETA), a semi-autonomous organization, is the main public training provider in Tanzania

job training through apprenticeship training[21]. A study in Tanzania found post-TVET employment rate of only 14% [22]

Despite these shortcomings employer data reveals positive perceptions with respect to quality of graduates from vocational institutions. Around 37 percent of firms found the quality of these graduates to be average and 50 percent found their quality to be above average.

However, labor market signals reveal less cause for optimism. A careful empirical analysis of returns from higher academic education versus TVET reveals some interesting findings. Students appear to enter vocational and technical colleges at different points along the educational path – they either enter vocational school after primary (66% of those attending vocational school in the sample) or enter technical college after O-level (80% of those attending technical college in the sample). However, the academic stream - from primary to O-level, to A-level, to professional or university – appears to be the preferred route and entry into vocational colleges appear to be a result of being unable to proceed though the academic stream. This is because high levels of academic education have far higher returns than those available either from vocational or lower levels of academic education. While the return from vocational schooling can exceed that for the academic, at the level at which entry occurs, at no level does the return from vocational schooling remotely match that at the higher academic levels[23].

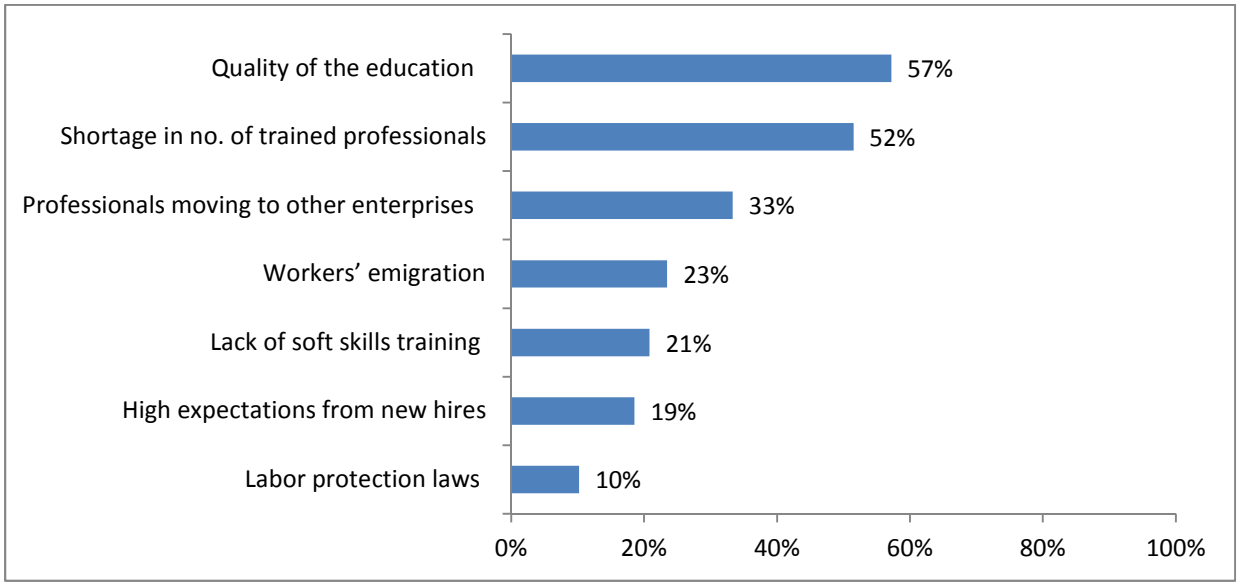
Another study shows that in some sectors, VET education offers no significant added value over primary or O-Level. VET graduates from clothing and textile, and hospitality and tourism sectors appear to earn at best the same amount as primary school leavers[24].

Note that the educational system is not the only avenue for skills acquisition among the young. A critical part of skill acquisition for the labor market occurs outside of the educational system – in the form of on-the-job training (OJT) and apprenticeships. These training mechanisms are discussed in Section 8.

On the whole, there appears to be a clear disconnect between education provision and skill acquisition for private sector – both in terms of quality and quantity. In employer perception data - 79 percent of the firms interviewed claimed that there is a skills shortage in Tanzania. In addition, 57 percent of the firms consider low quality of educational institutions to be the main reason for skills shortage. This perception does not vary systematically between different types of firms. Overall perceptions regarding reasons for skills shortage are summarized below.

[21] Manyaga, T. and A. Athumani. 2010. "Relevance of TVET to Market Demands: Skills for Employability." Paper presented at the Joint Education Sector Annual Review 2010. Dar es Salaam.
[22] Fluitman, Fred. (2001). Working, But Not Well: Notes on the Nature and Extent of Employment Problems in Sub-Saharan Africa. Turin, Italy: International Training Center, International Labour Organisation
[23] Kahyarara, G., and Teal, F. (2008). The returns to vocational training and academic education: Evidence from Tanzania. World Development, 36(11), 2223-2242.
[24] Education Sector Analysis (RESEN Tanzania): beyond primary education, the quest for balanced and efficient policy choices for human development and economic growth. (2012). Dakar, Pôle de Dakar.

FIGURE 6: REASONS OF ABOVE AVERAGE IMPORTANCE FOR SKILLS SHORTAGE

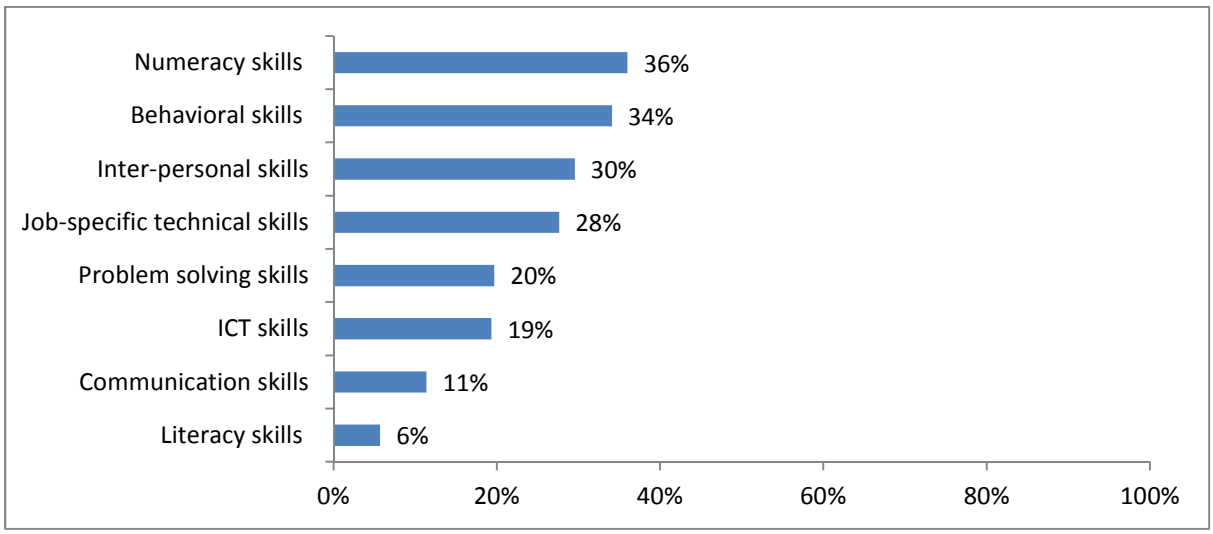


Source: Employer Survey Data (2013)
Responses not mutually exclusive

Negative perceptions with respect to the quality of education institutions also manifests in the hiring patterns of the firms. Out of the 264 firms interviewed, only 2.7percent have relationships with educational institutes for hiring workers. In addition, a small but significant share of firms hire expatriates (16 percent), providing another signal of skill shortages in the country. More damningly, 63 percent of failed firms considered shortage of skills to be a factor of above average importance in explaining firm failure.

What types of skills are deemed to be in shortage in Tanzania? Skills related to numeracy and behavioral skills that top this list. On the other hand, most firms seem more or less satisfied with provision of skills related to literacy, communication, and ICT.

FIGURE 7: SKILLS THAT ARE EXTREMELY HARD TO FIND IN TANZANIA (% FIRMS)



Source: Employer Survey Data (2013)

Given these perceptions, it is worth asking what the increasing access to education really means for the Tanzanian labor force and private sector. This question is explored in the next section.

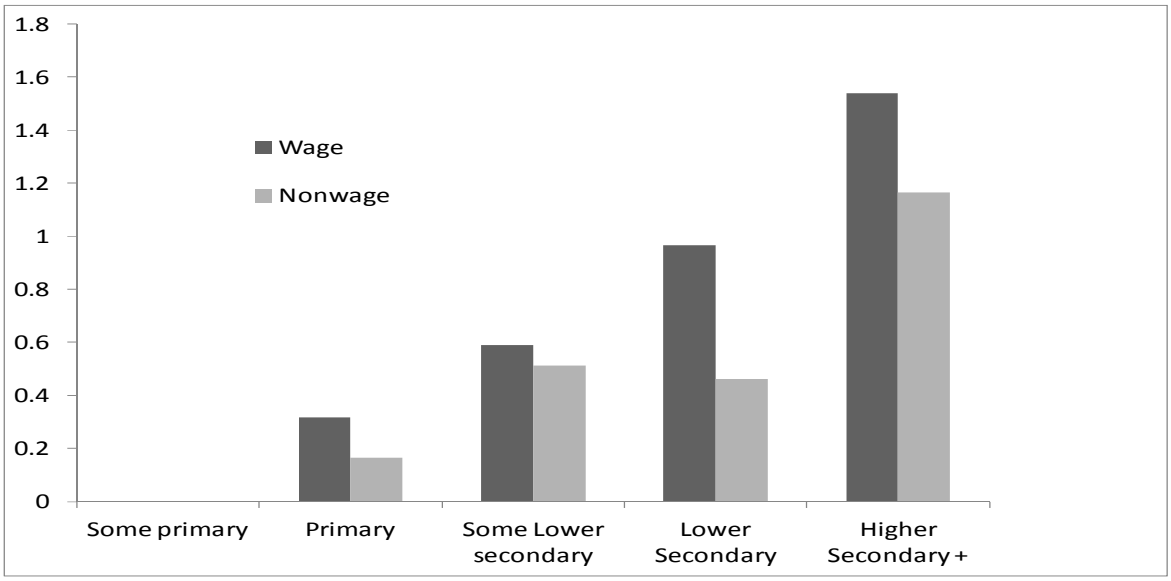
5. RETURNS TO EDUCATION

In this landscape of rapidly expanding access but declining quality of basic education, one critical question is: are there positive returns to increased educational attainment in Tanzania? Evidence, based on returns to education computations, suggests that they are.

Educational attainment is linked to higher earnings at all levels of education. Higher levels of education are associated with higher wage incomes among those in paid employment and with higher earnings among the self-employed[25].

[25] Quinn, S., and Teal, F. (2008). Private sector development and income dynamics: A panel study of the Tanzanian labour market.

FIGURE 8: RETURNS TO EDUCATION FOR WAGE WORKERS VS. NON-WAGE WORKERS



Source: World Bank (2012). Estimates based on Tanzania ILFS 2005/06

In the wage sector, the gain in the expected income for people with primary education compared to those without schooling is 54 percent; this difference increases to 103 percent for those with O-level secondary; and up to 168 percent for those with A-level[26].

However, the manner in which labor market rewards educational attainment appears to be shifting. Traditionally, education policies in developing countries have tended to assume that returns to education are greatest for primary education and gradually decrease for higher levels of education[27] [28]. However, this is no longer the case for Tanzania, where returns are higher at higher levels of education. Specifically, marginal return on post-secondary education is higher than the returns before the secondary level[29]. This reflects a convex earnings function.

Why is the earnings function convex? There are two plausible explanations for Tanzania.

First, these patterns seem to reflect an imbalance between access to higher levels of education and labor demand for workers with these levels of education. Specifically, there appears to be an enormous shortage of secondary and post-secondary qualifications in the economy. As seen from

[26] Education Sector Analysis (RESEN Tanzania): beyond primary education, the quest for balanced and efficient policy choices for human development and economic growth. (2012). Dakar, Pôle de Dakar.
[27] Psacharopoulos, G. (1994). Returns to investment in education: A global update. World development, 22(9), 1325-1343.
[28] Psacharopoulos, G., & Patrinos*, H. A. (2004). Returns to investment in education: a further update. Education economics, 12(2), 111-134.
[29] Kahyarara, G., and Teal, F. (2008). The returns to vocational training and academic education: Evidence from Tanzania. World Development, 36(11), 2223-2242.

the table below, access to post-primary education remains extremely limited – less two-thirds go beyond primary levels, and out of these very few finish secondary education.

Table 2: Access to Education in Tanzania

	1999	2008
Primary Gross Enrollment Rate (%)	67	105
Lower Secondary Gross Enrollment Rate (%)	8	36
Higher Secondary Gross Enrollment Rate (%)	3	4
Tertiary Gross Enrollment Rate (%)	0.6	1.5

Source: World Bank (2011)

These estimates of returns to education suggest that the very low supply of secondary and post-secondary graduates constitutes a constraint for labor markets. Secondly, a convex earnings function can also be a consequence of poor quality primary education.

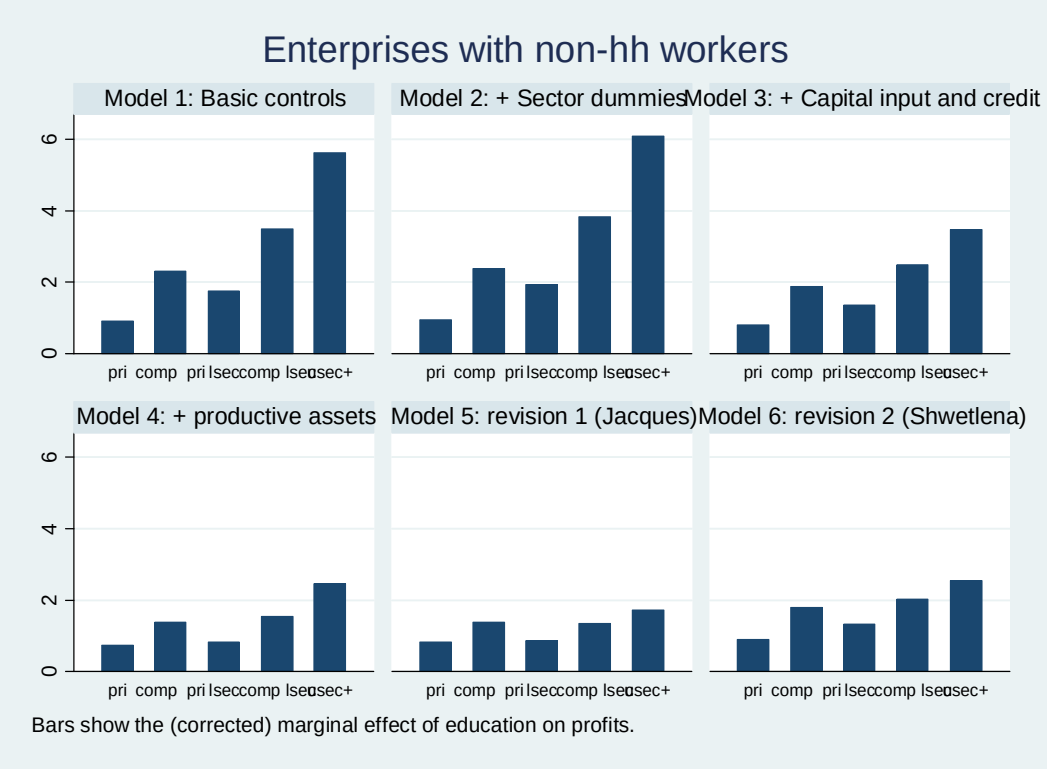
However, there some evidence (outlined in Section 4) to suggest quality deficits in secondary and post-secondary education as well. How do we explain the remarkably high returns to secondary and post-secondary education in light of these quality gaps? Plausible explanations could lie with the distribution of post-secondary education. When the more educated are inherently different from the less educated, the observed relationship between wages and education levels ceases to be a reliable indicator of the causal impact of education on wages and productivity. If the more educated are significantly more likely to come from advantaged backgrounds, as is the case in Tanzania (see Figure 2), then what seems to be returns to education could in part be the returns to family background or connections in labor markets. Job referrals from family members appear to be particularly important in this context.[30] Firms might also form informal networks in response to credit market failures and weak contract enforcement, which could also explain why a firm would want to offer jobs based on family background[31] [32].

There could be another factor contributing to the unusually large gap in premiums between primary and higher education. In a fluid market where workers easily move to firms where they earn the highest returns, the wage earned by two workers with identical skills should be the same even if they worked in different firms. But some African firms persistently pay more than others firms in the same country and industry to seemingly identical workers. This hints at some inefficiency in the allocation of labor, for if the higher paying firm is more productive, it should hire workers from less productive firms until wages equalize. Workers with secondary and tertiary education are much more likely to have jobs with such unexplained wage premiums. This suggests that part of the strikingly high return to higher education reflects limited labor mobility across firms, which if improved would lower the extra premiums and also lead to greater efficiency.

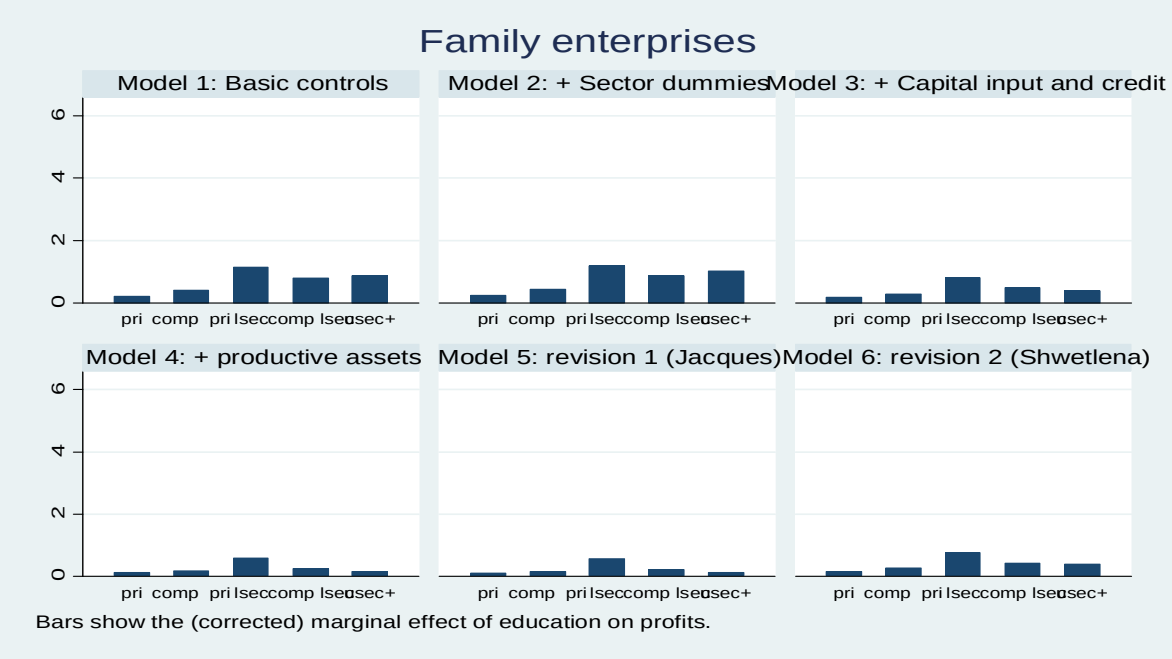
[30] Beaman, L., and Magruder, J. (2012). Who gets the job referral? Evidence from a social networks experiment. The American Economic Review, 102(7), 3574-3593.
[31] Khwaja, A. I., and Mian, A. (2005). Do lenders favor politically connected firms? Rent provision in an emerging financial market. The Quarterly Journal of Economics, 1371-1411.
[32] Banerjee, A., and Munshi, K. (2004). How efficiently is capital allocated? Evidence from the knitted garment industry in Tirupur. The Review of Economic Studies, 71(1), 19-42.

Despite these caveats, there are positive returns to education in wage employment, and at least part of these returns are linked to productivity gains associated with higher educational attainment.

Positive returns to education also manifest in self-employment. Analysis, using pooled data from Tanzania National Panel Survey 2008/09 and 2010/11 shows that education has strong effects on profits for enterprises that hire external workers, and the returns increase with the level of education. These results are robust to a variety of specifications which control for a considerable array of entrepreneurial and firm characteristics.



For enterprises that do not hire external workers the picture is more nuanced. In the raw model (few controls), the marginal effect increases from 21% for some primary to 114% for some lower secondary, but then slightly declines (79% for completed lower secondary, 86% for upper secondary pr more). If we add further controls the marginal effects decline further but the overall pattern remains the same.



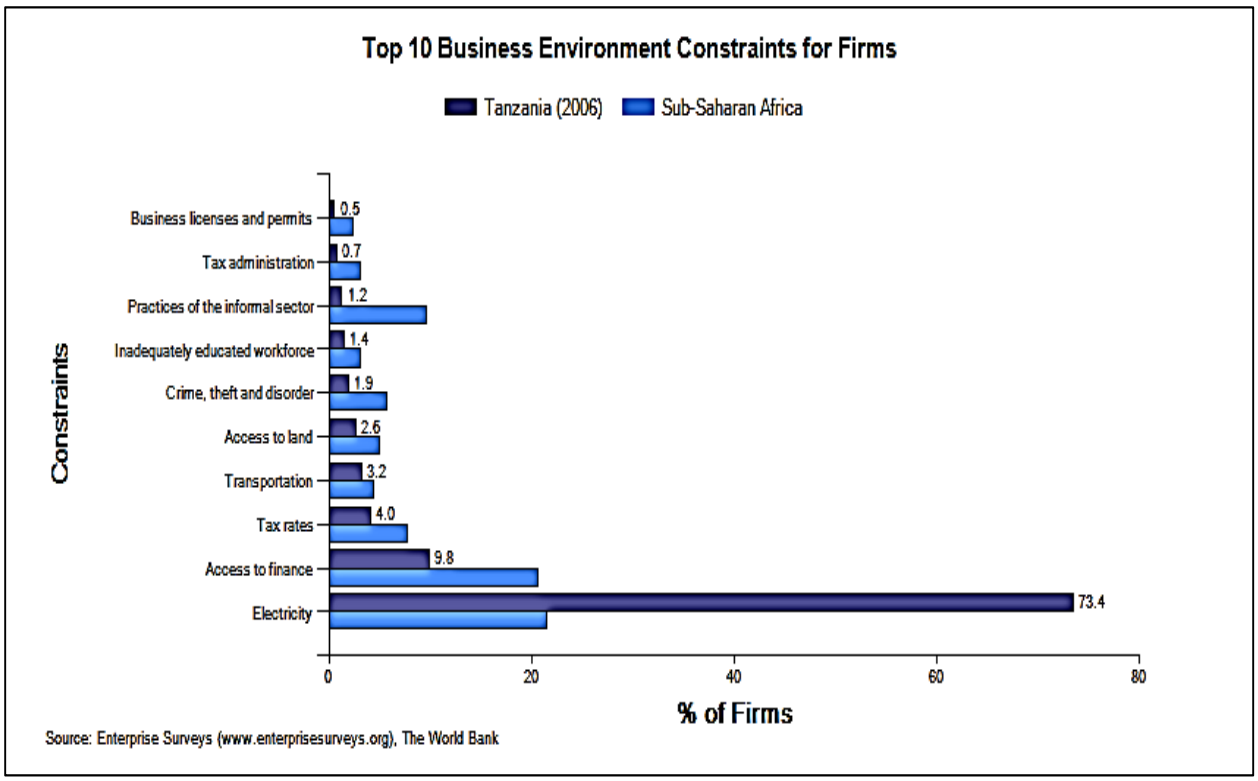
6. SKILLS CONSTRAINT VS OTHER CONSTRAINTS

To get a holistic picture of the severity of the skills constraint as perceived by firms, we need to compare perceptions regarding skills with perceptions regarding other constraints. This comparison can provide some indication about the likelihood of potential action (on the part of firms and/or policy-makers) on the skills front amid other competing priorities.

So what do firms perceptions with respect to skills look like in comparative terms? Within Enterprise survey data firms were asked to name their main business constraint. Only about 1.5 percent of the firms in Tanzania rated 'an inadequately educated workforce' as being the biggest constraint[33]. This is much lower than the Sub-Saharan Africa average (3.0 percent) and the World average (7.8 percent).

[33] About 5% mentioned it as a second biggest obstacle and 8% as a third

FIGURE 9: RELATIVE IMPORTANCE OF DIFFERENT BUSINESS ENVIRONMENT CONSTRAINTS



In contrast, an overwhelming majority of firms in Tanzania (73 percent) ranked access to electricity as the biggest obstacle (compared to 22 percent in Sub-Saharan Africa and 14 percent in the World). This is corroborated by a recent study on business perceptions[34]. These numbers suggest that firms in Tanzania are much more pre-occupied with stark infrastructure constraints compared to workforce issues. So even though in absolute terms, firms appear dissatisfied with the skills supply in the country, in relative terms they are significantly more likely to lobby for action on electricity than on provision of skills.

What explains this pronounced skew in the subjective ranking of different business environment constraints in Tanzania? These subjective rankings implicitly combine an assessment of the issue being ranked with an assessment of how important that issue is to the respondent. Hence, the disproportionate focus on electricity could indicate: (a) access to electricity is huge problem in Tanzania (disproportionately so, compared to other countries in SSA) or (b) access to electricity impacts a relatively large number of firms compared to other constraints or (c) both. An objective assessment of (a) is beyond scope of this chapter, however, there is some evidence to support (b). First, note that in a comprehensive review of evidence from enterprise survey data originating from 105 countries from all over the world, authors found that electricity is one of the few categories where there is no significant difference in the subjective ranking of the constraint across firms of

[34] Business leaders' perceptions of the investment climate in Tanzania (2013) Irwin Grayson Associates. Dar Es Salaam, Tanzania

different sizes[35]. In contrast, for other categories, firm characteristics affect the relative importance of different constraints. Hence, if access to electricity is an issue of undue importance in Tanzania, then all firms are likely to rate it as such in their subjective ranking of different constraints.

In contrast, constraints around workforce education are unlikely to impact all firms uniformly. Firm size and sector significantly impact the degree to which these constraints come into play in the day-to -day functioning and overall survival and growth of firms (see Section 9). A disaggregated analysis of enterprise data for Tanzania reveals that the extent to which workforce education is perceived to be a key constraint differs quite substantially by firm characteristics in the Enterprise data. Firms that are more likely to identify workforce education as a major constraint are:

- Exporting firms
- Firms with some foreign ownership.
- Medium size firms
- Manufacturing and Services firms

These findings correspond with the international trends which confirm to the assumption that workforce requirements by non-retail service providers, exporting firms and foreign-owned firms is relatively skill intensive and it is therefore harder to find adequately skilled staff for these firms. However, a surprising result is that medium-sized firms appear to have more problems finding appropriately educated workers than large firms; this is in contrast to global numbers. This could partly be explained by the fact that large firms in Tanzania are significantly more likely to provide employee training (see Section 7).

A second explanation is that firms might feel particularly helpless in the face of electricity and other infrastructure constraints; while in contrast, there is room for some control in dealing with workforce skills-related constraints (such as provision of on-the-job training, hiring expatriates etc). However, this does not explain the overwhelming attention to electricity in subjective rankings in Tanzania compared to other countries in SSA.

A third explanation is that while the enterprise survey attempts to get to the skills issue by framing the question in terms of workforce education, this is not the appropriate proxy for measuring the intensity of the skills constraint. In enterprise data for Tanzania almost 80 percent of small firms, which constitute an important part of the private sector, do not consider education of the workforce to be a major constraint. Does this imply that 80 percent of small firms are satisfied with the quality of their workforce?

During Focus Group Discussions (FGD) with small and medium firms in Dar, a more nuanced picture emerges. Firms were asked if they found the level of skills and education of their employees adequate, 15 out of 16 firms responded to say they did not. One entrepreneur summarized the issue as follows:
'' [Employees] may be educated but they lack skills; where they have skills, they lack commitment"

[35] Hallward-Driemeier, M., & Aterido, R. (2009). Comparing Apples with.... Apples: how to make (more) sense of subjective rankings of constraints to business.

-FGD Participant

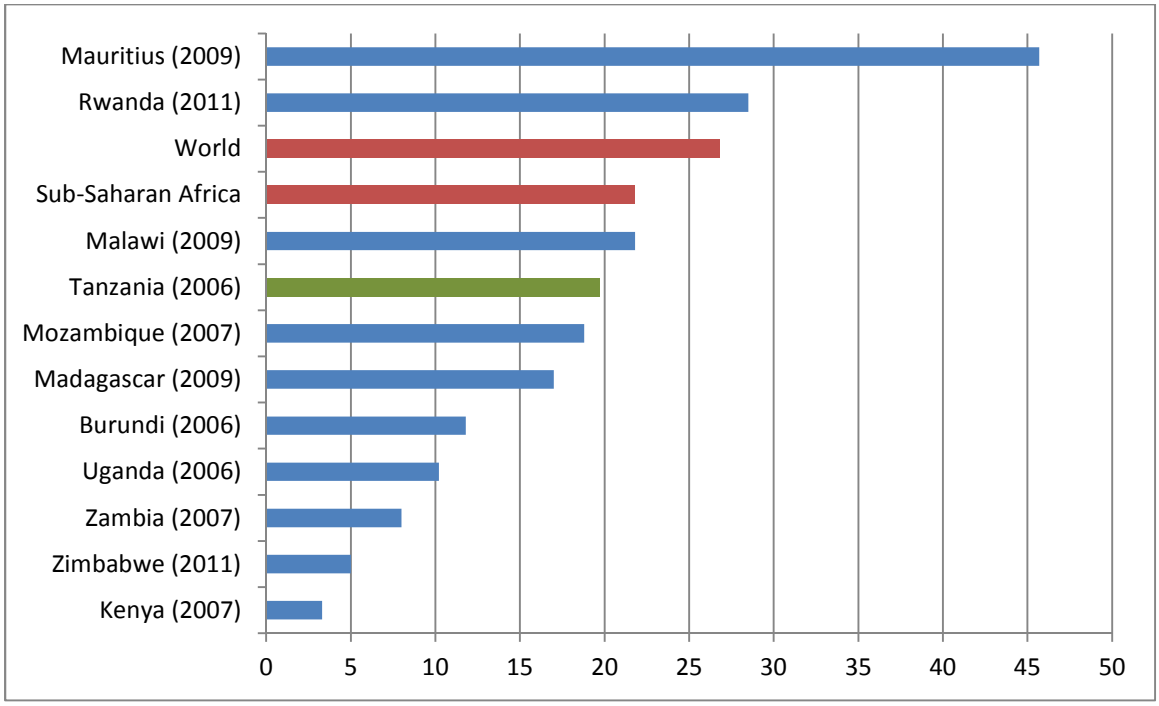
This suggests that entrepreneurs make a distinction between education levels and skill attainment. A finding that makes intuitive sense in light of the disappointing learning outcomes associated with primary and secondary education levels in Tanzania. If educational attainment does not produce the expected level of cognitive skills in the workforce, then employers will be hesitant to use education levels as a reliable proxy for skills. This is confirmed in Employer data. When asked about important considerations while hiring, a little more than half the firms (52 percent) rated education as a consideration of only average or below average importance. Therefore, firms might not perceive a shortage of educated employees while still perceiving a shortage of skilled employees in the economy.

However, the skew in subjective rankings of business constraints in Tanzania – towards electricity and away from workforce skills – does beg the question of whether firms are focusing on the right issues. Note that enterprise surveys only target incumbent enterprises. The surveys do not reach those enterprises that recently closed down to ask why they are no longer in business. Thus the issues that may have an important role in shaping who is even asked the questions are unlikely to be identified. Consider, for instance, the fact that in the Employer data, 63 percent of failed firms considered shortage of workers with the right skill profile to be a contributing factor of above average importance in firm failure.

Also note that even though an 'inadequately educated workforce' does not rank as a big constraint in relative terms, a small but significant share of firms (20 percent) do consider it as an important constraint[36] in absolute terms. This is pretty close to both the regional average (22 percent) and the world average (27 percent).

[36] Firms identify 'inadequately educated workforce' as a major or severe obstacle to the functioning of the enterprise.

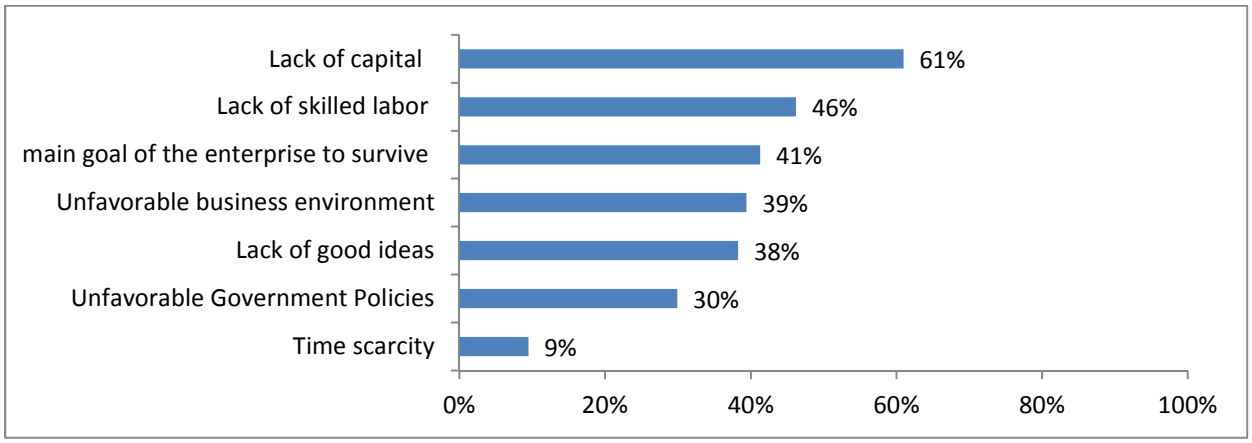
FIGURE 10: PERCENT OF FIRMS IDENTIFYING INADEQUATELY EDUCATED WORKFORCE AS A MAJOR CONSTRAINT



Source: Enterprise Surveys, The World Bank

Skills as a constraint, in absolute (not relative) terms, comes across more starkly in the Employer data where nearly 79 percent of firms consider there to be a skills shortage in Tanzania. In addition, almost half the firms (46 percent) find lack of skills to be an obstacle of above average importance to innovation. In fact, after lack of capital, lack of skills manifests as the second most important constraint associated with innovation.

FIGURE 11: OBSTACLES OF ABOVE AVERAGE IMPORTANCE TO INNOVATION



Source: Employer Survey Data (2013)

Also note that in absolute terms, alive and failed firms, old and new firms, small and big firms, are all equally likely to report lack of skills as a constraint of above average importance to innovation. However, firms in services are significantly more likely and firms in trade are significantly less likely to report lack of skills as a constraint of particular importance to innovation (more details in Section 9).

7. PASSIVE HIRING

It has been argued that many Tanzanian small enterprises do not expand over a certain threshold and remain at the subsistence level employing few workers. Anecdotal evidence suggests that many small firms avoid expansion, almost strategically.

One study shows that Tanzanian entrepreneurs tend to have up to 10 different micro firms (0-9 employees) rather than increasing the size of one of them[37]. Another study found that only 56 percent of owners or managers interviewed said that that they planned to make further investments in their current businesses[38]. In addition, many owners and managers did not have realistic investment plans for their enterprises, if any plans at all.

These findings seem to suggest that many firms in the country are not leveraging employees (skilled or otherwise) as a means of expansion and growth – either as a strategic choice or due to lack of planning. This behavior can be viewed both as a preference and as a constraint. Small enterprises, particularly those in the informal sector, might find it hard to compete with bigger firms for skilled workers. This is reflected in comments received at the FGD.

In response to the question, 'Do you feel you can easily find good employees?', 14 out of 16 firms claimed they could not. Some responses were as follows:

"No. People are always moving, looking for greener pastures."

-FGD Participant

"Not easy, as we cannot pay good salaries"

-FGD Participant

The workforce challenge for firms is not just confined to competing for good employees. Firms might also find it hard to identify, articulate, and pursue their skills needs and requirements. In general, employer data reveals that firms in Tanzania seem to exhibit a culture of passive hiring. A large share of firms (79 percent) rely on referrals or networks for identifying and recruiting

[37] Olomi, D. R. (2001). Entrepreneurial motivation in a developing country context: Incidence, antecedents and consequences of growth-seeking behaviour among Tanzanian owner/managers. Unpublished Ph. D., University of Dar es Salaam, Dar es Salaam.

[38] Harding, A., Söderbom, M., and Teal, F. (2002). The Tanzanian manufacturing enterprise survey 2002. Centre for the Study of African Economies.

employees. Only about 21 percent of firms appear to undertake an active search for employees through job advertisements and in rare cases through educational institutes (2.7 percent). Even in this category, active search is not a practice that is followed exclusively. These firms often rely on existing database of candidates who have previously applied for jobs in the firm.

Over-reliance on referrals for hiring can be a response to information asymmetries in the labor market, with the referrals serving to convey information about unobserved workers ability or skills. This pattern of hiring can also be a consequence of prevailing perceptions about quality of education and more specifically, perceptions about education levels as a proxy of skills. Arguably, firms are likely to be more comfortable with identifying candidates through open advertisements if they feel confident in their ability to screen candidates based on objective, observable criteria like education and training. However, as seen earlier, in Tanzania education is not seen as a reliable proxy for skills, implying an information asymmetry on the part of firms which could (arguably) inhibit active employee search. Employer data reveals that less than half the interviewed firms consider education levels to be a criterion of above average importance in hiring.

However, recent evidence suggests that networks can be a highly inefficient mechanism for matching skills to jobs. Network referrals are often based on social considerations, and therefore not necessarily incentivized to find the best person for the job. There is a strong inter-generational persistence in job search networks, with fathers' network being very important to sons' job market outcomes.[39] Archival data from the British colonial army in Ghana reveal that referred recruits were more likely than other recruits to desert or be dismissed as 'inefficient', 'unfit' or for 'misconduct'.[40] Also, referrers are not necessarily well-informed for matching skills to potential workers. A laboratory experiment from urban India, in which participants were asked to refer acquaintances for a cognitively intensive task, finds that only those who are good at the task themselves seem capable of identifying other well-suited individuals.[41] Moreover, even though some referrers are capable of identifying good recruits, the quality of their actual referrals is no better unless their reward for making referrals depends strongly on how well those whom they refer perform.

Passive employee search can be inefficient in other ways as well. Employer data reveals that it takes firms on average 40 days to search for candidates (45 days for alive firms). Interestingly, search time is typically longer for firms in the services sector and among firms that provide training. Such inefficiencies in job search networks are also egregiously unfair as they imply that without the right contacts, having the right entry level skills is probably not enough to get the right job.

[39] Magruder, Jeremy (2010), Intergenerational networks, unemployment, and persistent inequality in South Africa." AEJ: Applied Economics, 2, 62{85.
[40] Fafchamps, M., and Moradi, A. (2009). Referral and Job Performance: Evidence from the Ghana Colonial Army.
[41] Beaman, L., and Magruder, J. (2012). Who gets the job referral? Evidence from a social networks experiment. The American Economic Review, 102(7), 3574-3593.

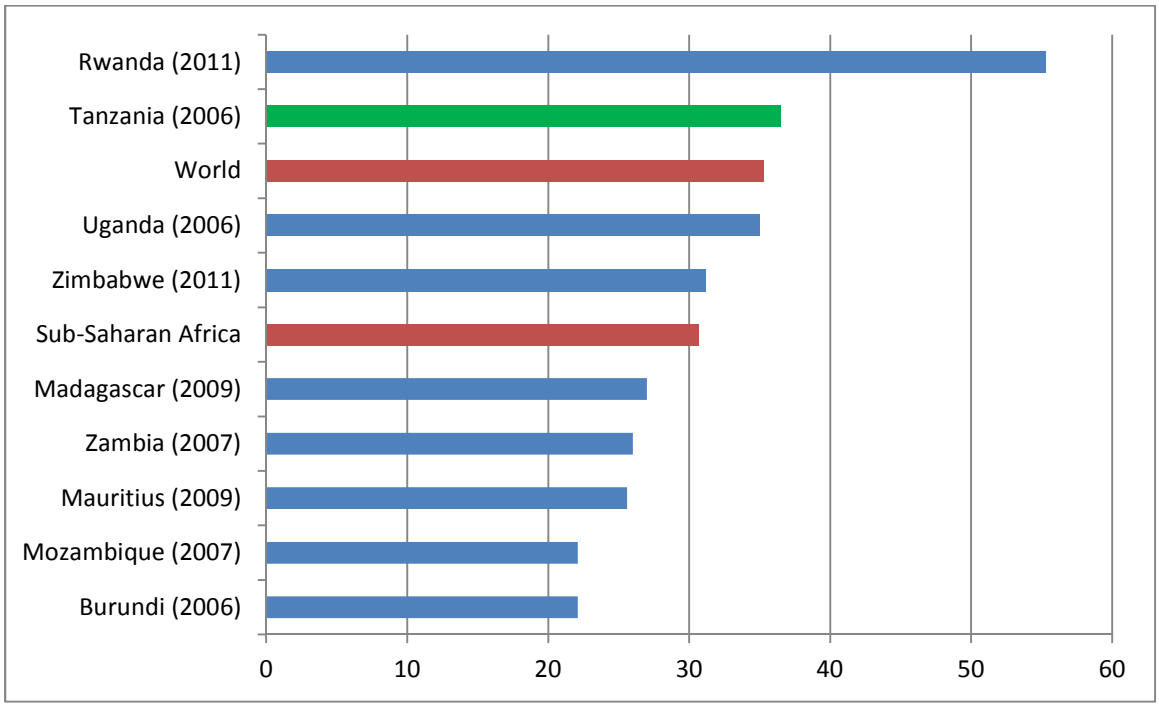
8. ACTIVE TRAINING

Firms can deal with skills shortages by hiring unskilled workers and providing training. It appears that firms in Tanzania commonly use this strategy.

Employer data provides evidence on the hiring of relatively unskilled workers. Out of 264 firms interviewed, 37 percent have a majority employee base (50 percent or more employees) composed of workers with only primary education or less. Less than half the firms (45 percent) have at least one employee with University or college degree.

What of on the job training (OJT)? According to enterprise data, 37 percent of the firms interviewed provide formal training to it employees. This is much more in evidence for large firms, firms that export, and firms that have some foreign ownership. The propensity to train in Tanzania is higher than many other countries in East Africa and SSA and is close to the global average.

FIGURE 12: PERCENT OF FIRMS OFFERING FORMAL TRAINING, INTERNATIONAL COMPARISONS



Source: Enterprise Surveys, The World Bank

The numbers emerging from employer data are significantly higher. According to these data, 68 percent of firms provide some kind of OJT to their employees. As in the enterprise data, small firms are significantly less likely to provide OJT. This could signal higher financial and informational constraints among small firms for skilling their employees. However, this behavior could also signal

lower skill needs for small firms relative to their larger counterparts. For instance, it has been shown that returns to OJT are higher for large firms than small firms[42].

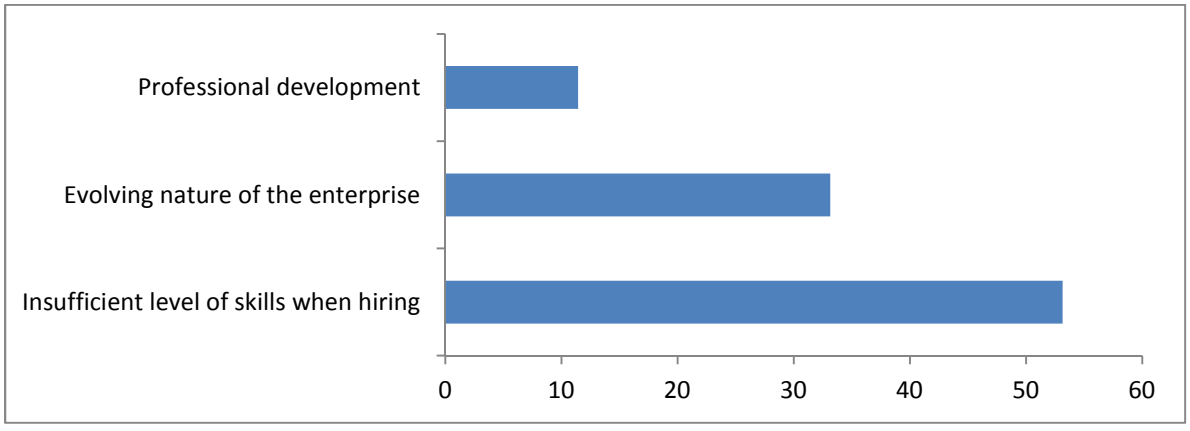
In terms of sectors, employer data shows that firms in the services sector are significantly more likely to provide OJT and firms engaging in trade or agricultural activities are significantly less likely. Also, new firms are significantly less likely to have provided OJT.

The share of firms providing OJT in Tanzania appears to be extremely high compared to international numbers. International evidence suggests that typically is under-provided by firms[43]. This is due to several reasons, including: (a) fear of not reaping the return on their investment in OJT, because their trained workers may leave for another company; (b) lack of finances for OJT; (c) lack the information needed to identify skills gaps. Why then do we see such high levels of OJT in Tanzania?

Employer data reveals that firms in Tanzania do not appear to fear poaching of trained employees. Around 56 percent of the firms that provide OJT claimed to have a strategy to prevent trained employees from leaving. Further questioning yielded information from only a small sample of these firms and suggested that these strategies are usually related to financial and non-financial incentives. This is corroborated by empirical evidence which shows that in Tanzania firms which train also pay more[44].

Other reasons for relatively high levels of OJT provision in the country could plausibly be linked to high shares of unskilled workers and the low levels of skills acquisition in primary and secondary schools. Slightly more than half the firms providing OJT claim to do so because level of skills of employees at hiring is insufficient. Data on reasons for OJT provision is summarized below.

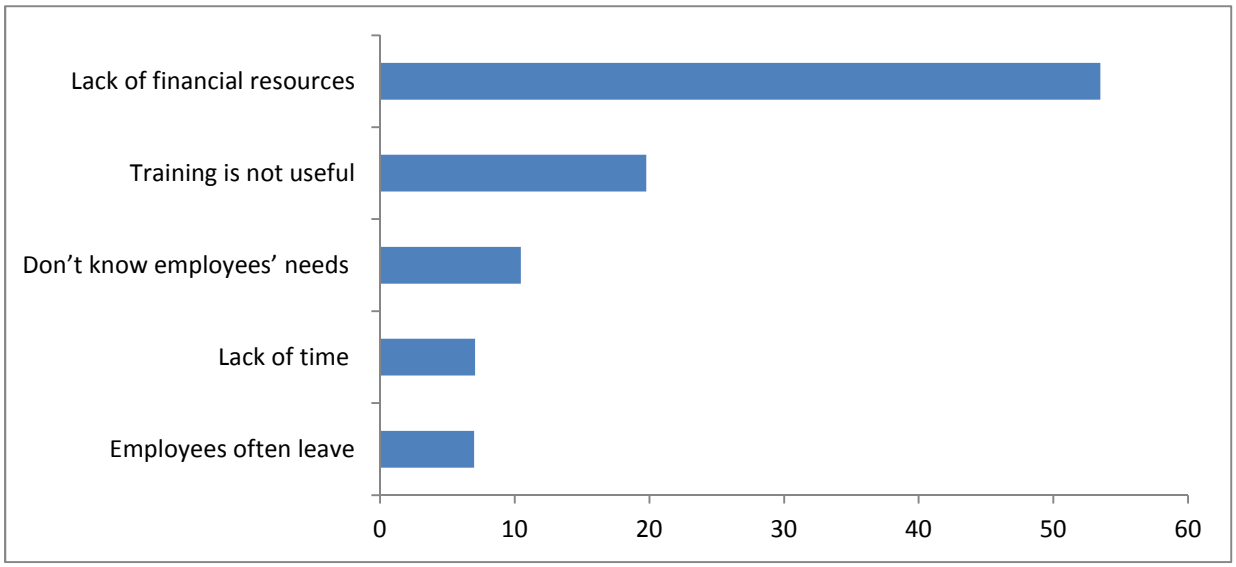
FIGURE 13: MAIN REASON FOR EMPLOYEE TRAINING



[42] Kahyarara, G., and Teal, F. (2008). The returns to vocational training and academic education: Evidence from Tanzania. World Development, 36(11), 2223-2242.
[43]World Bank. (2012). World Development Report 2013: Jobs. Washington DC
[44]Söderbom, M., Teal, F., Wambugu, A., and Kahyarara, G. (2006). The Dynamics of Returns to Education in Kenyan and Tanzanian Manufacturing*. Oxford Bulletin of Economics and Statistics, 68(3), 261-288.

Interestingly, firms that don't provide OJT usually don't do so because of lack of finances and sometimes because they don't think training is useful, very seldom is it because of fear of poaching.

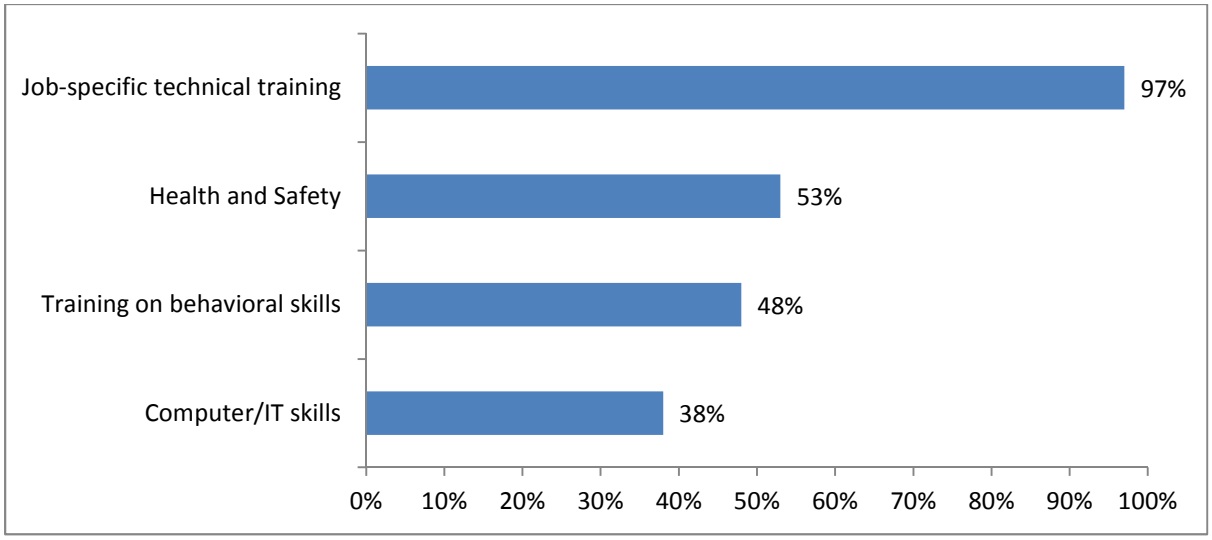
FIGURE 14: MAIN REASON FOR NOT PROVIDING TRAINING (86 FIRMS)



Source: Employer Survey Data (2013)
Responses not mutually exclusive

In almost all cases, firms that provide OJT do so on job-specific skills (97 percent). However, training provision is common for other types of skills as well, most prominently for behavioral skills.

FIGURE 15: TYPE OF TRAINING PROVIDED



Source: Employer Survey Data (2013)
Responses not mutually exclusive

Which types of workers are receiving this OJT? As in the rest of the world, OJT in Africa is strongly related to workers' general education and skill levels, with more educated workers much more

likely to be given formal training on the job[45]. A 1980 survey of formal training in enterprises in Dar-es-Salaam (and Nairobi) found that unskilled and semi-skilled manual workers were significantly less likely to have received formal training from their current employer than skilled production, clerical and supervisory workers[46]. Surveys conducted in Kenya and Zambia in 1995 found that workers with no formal education received no OJT at all[47]. The positive correlation between workers' schooling attainment and the likelihood of getting OJT suggests that the latter is a complement to general education.

Also, from the employer data, it appears that investments in employee search and training are not substitutes but complements. Certain types of firms, such as firms in services sector and larger firms, are more likely to invest in both at the same time. Service firms, for instance, are both more likely to train employees and less likely to train employees because they had insufficient skills at hiring. This makes sense if we consider training as an expensive investment; firms that make this investment are likely to be more careful in screening potential employees in the first place. These factors could also be systematically related to a general emphasis on skills – firms that consider skills important are more likely to invest both in employee search and training.

We also see the phenomenon of skills acquisition through learning-by-doing among smaller, informal enterprises. The model for this training is straightforward: an experienced tradesperson or master craftsperson teaches a trade to younger apprentices and workers. A significant amount of training in the informal sector occurs through such apprenticeships. A small informal sector survey of 350 enterprises in Dar es Salaam concluded that more than half of the operators had apprentices, with on average about two apprentices per firm[48]. Informal apprenticeships have several advantages - they are flexible, dynamic skills, and inexpensive. But they are often based on traditional and outdated technologies and quality of training can be very heterogeneous. The range of skills taught tends to be narrow, limited to a particular product or phase in production. These skills may quickly become outdated in rapidly changing labor markets.

9. THE CHANGING LANDSCAPE OF SKILLS DEMAND

9.1 BEHAVIORAL SKILLS ARE BEING SEEN AS KEY

An interesting insight that emerges from this work is that employers are seeking not just technical or cognitive skills but also behavioral skills. This finding is echoed in the following assertions made during the FGD:

[45] Filmer, Deon; Fox, Louise. 2014. Africa - Youth employment in Sub-Saharan Africa. Washington, DC ; World Bank Group. http://documents.worldbank.org/curated/en/2014/01/19330634/africa-youth-employment-sub-saharan-africa

[46] De Beyer, J. (1990). The incidence and impact on earnings of formal training provided by enterprises in Kenya and Tanzania. Economics of Education Review, 9(4), 321-330.

[47] Rosholm, M., Nielsen, H. S., and Dabalen, A. (2007). Evaluation of training in African enterprises. Journal of Development Economics, 84(1), 310-329.

[48] Nell, M and Shapiro, J. (1999). Traditional apprenticeship practice in Dar es Salaam: A Study, consultancy report prepared for GTZ/VETA, Dar es Salaam, Sep./Oct. 1999 (VETA and GTZ Tanzania).

"Certification is adequate but [employees have] low competencies, knowledge, and commitment"
-FGD Participant

"Most employees lack self-esteem which undermines their performance and career development"
-FGD Participant

This finding is also validated in the Employer data. As many as 48 percent of the interviewed firms provide employees with training on behavioral skills. New firms, large firms, and firms in the services sector are significantly more likely to provide behavioral training to employees. In fact, behavioral skills (along with numeracy) were most frequently rated as being the hardest to find the Tanzanian population – by firms in all sectors. However, the tendency to report shortage of behavioral skills was significantly higher among new firms.

The finding makes sense in the current local and global context. In an increasingly globalized, specialized, and interlinked business environment, interaction and cooperation between different actors in the innovation process will clearly be important. These interactions require communicating and negotiating skills. In India, employers of engineers stress reliability, willingness to learn, and entrepreneurship as more important than specific technical skills, or the command of mathematics, science, or English. Hence, the importance of behavioral and other soft skills is being recognized, not just in Tanzania, but in other developing countries as well. In Botswana, theoretical and practical knowledge of the job, as well as other job-specific skills, are generally considered to be less important than skills such as commitment, communication, and basic problem-solving. In Peru, 40 percent of employers complain about the lack of dependable work ethics and personal qualities such as team work, persistency, ability to reach consensus, or initiative among their employees. This subjective assessment is confirmed by harder evidence showing that returns to the socio-emotional trait of perseverance are as high as returns to average cognitive ability[49].

9.2 SIGNIFICANT GAPS AROUND MANAGERIAL SKILLS

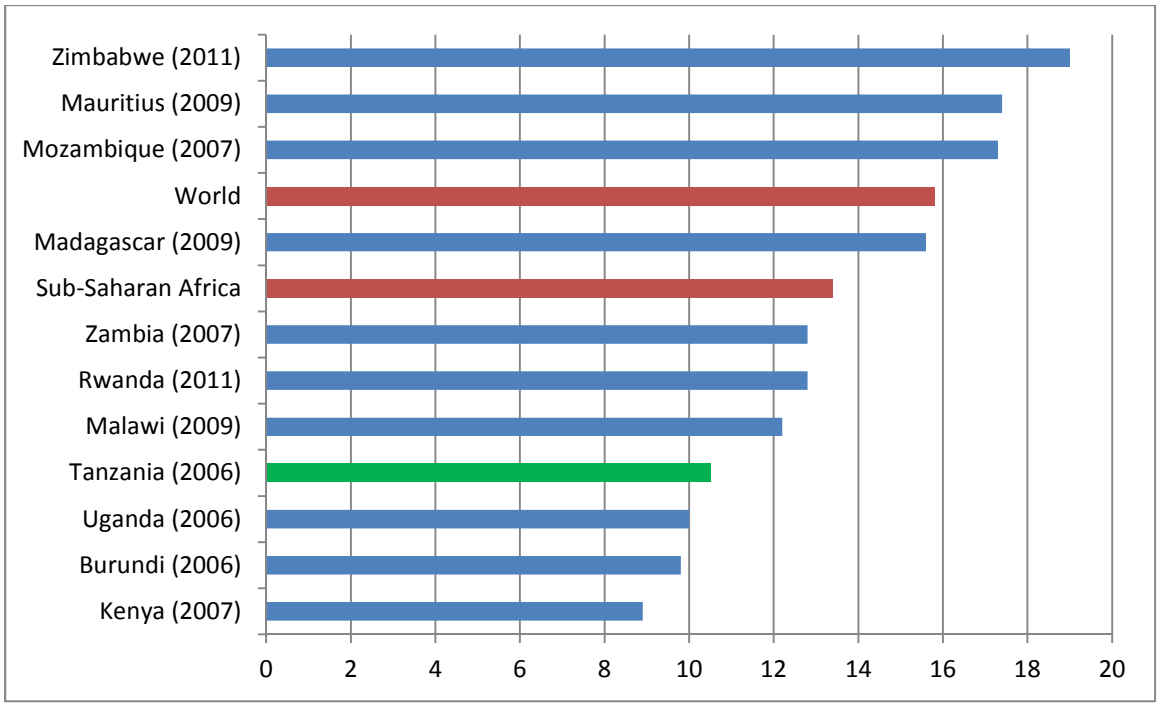
Several factors linked with skills issues such as insufficient recognition of skills constraints, non-expansion of enterprises, passive hiring etc are likely to be linked to the management of SMEs. Research has shown that managerial capital is a limiting factor in the growth of firms in developing countries. Some recent studies from Sub-Saharan Africa show that many firms, big and small, have observably poor management. A survey of metal work entrepreneurs in Ghana found only 27 percent keeping business records[50] and only 33 percent kept enterprises, tools and implements in designated places. Similarly, in a cluster of large metalwork firms in Ethiopia (38 employees on average), only 20 percent were found to have an unlettered floor, and only around 50 percent

[49] World Bank. (2012). World Development Report 2013: Jobs. Washington DC
[50] Mano, Y., Iddrisu, A., Yoshino, Y., and Sonobe, T. (2012). How can micro and small enterprises in Sub-Saharan Africa become more productive? The impacts of experimental basic managerial training. World Development, 40(3), 458-468.

routinely conducted the maintenance of their machines weekly or more frequently[51]. Encouragingly, there is also some suggestive (though inconclusive) evidence emerging that managerial skills can be taught and fostered among entrepreneurs[52].

According to Enterprise survey data, Tanzania falls at the lower end of the East African distribution in terms of top manager's years of experience working in the firm's sector. The average for the country is also significantly lower than the regional and global averages.

FIGURE 16: YEARS OF TOP MANAGER'S EXPERIENCE WORKING IN FIRM'S SECTOR, INTERNATIONAL COMPARISONS



Source: Enterprise Surveys, The World Bank

Not surprisingly, managerial experience tends to be lower for small firms. Even within the category of small firms, Tanzanian firms compare unfavorably to the regional and global averages. This is corroborated by employer data – despite high levels of overall training provision, only 13 percent of interviewed firms had provided any kind of training aimed specifically at managers.

These missing aptitudes: managerial skills and business acumen play an important role in restricting the potential scaling up of entrepreneurial activity and innovation. Research shows that lack of managerial capital has broad implications for firms' growth as well as the effectiveness of other input factors. Better managers may motivate and retain workers better, may make fewer

[51] Sonobe, T., Akoten, J. E., and Otsuka, K. (2009). An Exploration into the Successful Development of the Leather-Shoe Industry in Ethiopia. Review of Development Economics, 13(4), 719-736.
[52] Bruhn, M., Karlan, D., and Schoar, A. (2010). What capital is missing in developing countries?. The American Economic Review, 629-633.

mistakes in how they employ physical capital such as maintaining machinery, or may identify better marketing or pricing strategies when selling their services.

In Tanzania, where the managerial skills level compares unfavorably with the rest of the region and the global trends, the question about the feasibility of programs addressing these gaps among business owners or skilling entrepreneurs is particularly important.

A group that requires particular attention on this dimension is the group of the 'self-employed'. Several characteristics of the self-employed set them apart. These workers, typically, are found at the lower end of the educational attainment distribution. Data from a broad sample of African countries show that on average, 15-24 year olds in wage employment are about twice as likely as those in self-employment to have secondary or higher education[53]. Also, youth often view self-employment as a stop-gap or queuing measure for better labor market opportunities. More educated youth are also more likely to hold on to wage jobs or to move from self-employment to wage jobs as they grow older[54].

Further, in contrast to other workers, the self-employed have to perform a considerably wider range of tasks (see Figure 17). Even the self-employed who have no employees need basic business and managerial skills such as: keeping records, separating their business from personal finances, finding ways to enhance productivity and finding strategies to compete. There is considerable scope to improve these skills among the self-employed in Tanzania. A study of a cluster of small garment firms in Tanzania (3 employees on average), found that only 53 percent kept records.

[53] Filmer, Deon; Fox, Louise. 2014. Africa - Youth employment in Sub-Saharan Africa. Washington, DC ; World Bank Group. http://documents.worldbank.org/curated/en/2014/01/19330634/africa-youth-employment-sub-saharan-africa

[54] *Ibid*

FIGURE 17: SKILLS NEEDED BY SELF-EMPLOYED

Skill area	Training needs
Technical	• General upgrading of technical skills used in trade • Improved knowledge of materials used in trade • Practical ways to reduce waste of materials • Basic reading of designs and drawings • Repair of own equipment • Skills required for new product designs • Understanding of more advanced equipment and improved technologies • Basic knowledge of industrial production techniques
Management	• Costing, pricing, and related aspects of financial administration • Various aspects of marketing, including rudimentary market research • Customer relations, including creation of a customer data base • Division of labor in the workshop and personnel management • Input stock planning • Qualityc ontrol • Workshop layout • Legal and fiscal regulations
Literacy and numeracy	• Functional language skills and higher educational attainment (to enhance trainability)
Other	• Knowledge of recent technological developments in the trades • Improvement in the teaching skills of master craftspeople (to increase the effectiveness of the training) • Ability to work cooperatively (why and how to work together, informally, or as a trade association)

Source: Johanson and Van Adams 2004.

All these factors suggest that the training and skill-development needs for the self-employed might be significantly different from those required by other segments of the working population. This means that there is need for targeted interventions for this group with the objective of getting self-employed workers increase their productivity or to diversify into higher-value-added activities. Evidence suggests that successful programs of this kind package technical training with training in business skills (for example, mentoring or bookkeeping); literacy; and life skills (including counseling to improve risk behavior). They can also be linked to other business services, including access to credit[55]. However, programs directed at supporting self-employment need to be further evaluated before more specific lessons can be drawn on what works.

Some available cross-country evidence on such training programs presents a mixed picture. A recent study[56] presents results of an entrepreneurship training program in Peru directed at female microcredit clients. The authors find that business knowledge increased, but that no consistent improvements occurred for business revenue, profits, or employment (although there is some suggestive evidence of stronger impacts for those with less interest in receiving training as self-reported in a baseline survey, and some suggestive evidence of an increase in the revenues during bad months). Another study tests different approaches of teaching record keeping skills to micro entrepreneurs[57]. They find that a simple, rule-of-thumb based approach to teaching does better

[55] Almeida, R., Behrman, J., and Robalino, D. (Eds.). (2012). The right skills for the job?: Rethinking training policies for workers. World Bank Publications.

[56] Karlan, D., and Valdivia, M. (2011). Teaching entrepreneurship: Impact of business training on microfinance clients and institutions. Review of Economics and Statistics, 93(2), 510-527.

[57] Drexler, A., Fischer, G., and Schoar, A. (2014). Keeping it simple: Financial literacy and rules of thumb. American Economic Journal: Applied Economics, 6(2), 1-31.

than a more sophisticated training program. The results suggest that an improvement in these skills increases sales, and in particular helps to reduce months of very poor sales outcomes. Another set of researchers[58] examine whether lack of managerial knowledge can be alleviated by providing consulting services to supplement the managerial skills of the business owners. The results of a randomized control trial in Mexico, where small business owners were paired up with management consultants from local companies for period of 1 year, showed significant improvements in productivity.

The impact of managerial capital constraint has also been studied in Tanzania as a main objective in a research project "Teaching entrepreneurship to microfinance clients in Tanzania"[59]. This work investigates impacts of separate treatments offering business training and a business grant, of a similar size to the cost of training, for micro entrepreneur clients of a microfinance institution in Dar es Salaam area. A study has shown a strong positive effect of business training on business outcomes of male entrepreneurs, increasing their profits by around 20-30 percent; as well as on the business knowledge and business practices of both male and female entrepreneurs. At the same time there is no effect of the business grant for either women or men.

Those results provide evidence that managerial skills might be a limiting factor of some importance in growth of the firms, but also that this knowledge can be taught. The results also indicate that there is a lot of heterogeneity in the treatment effects and possible approaches to training.

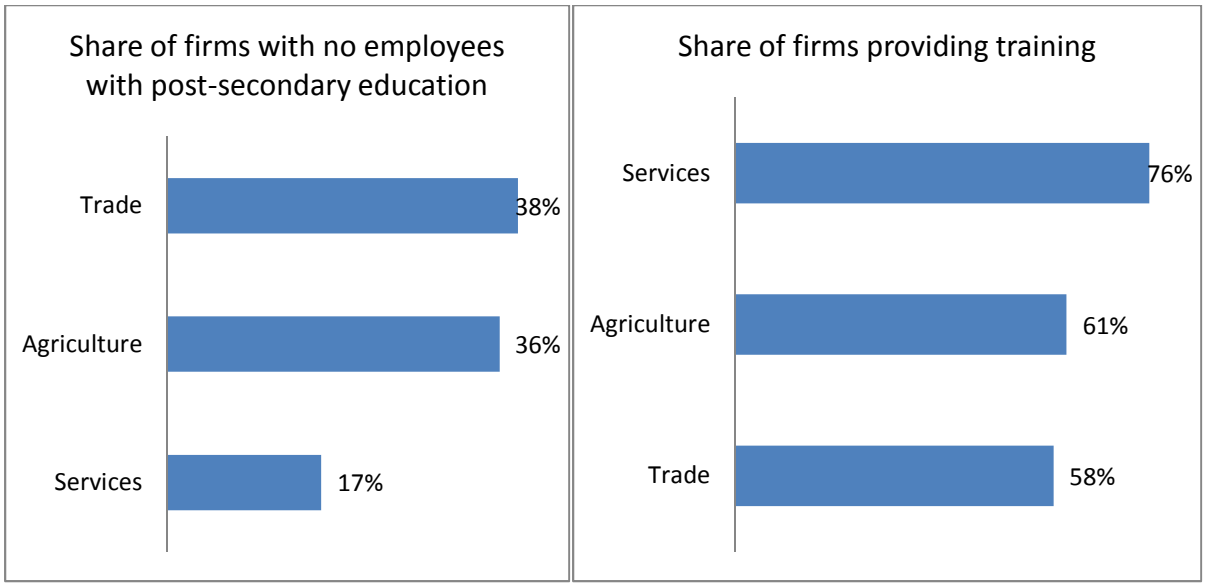
10. HETEROGENEITY IN THE SKILL PROFILE OF FIRMS

The preceding sections demonstrate that skills matter for SME growth and productivity. But clearly, they do not matter to the same extent or in the same way across all firms. In particular, firm sector and firm size can strongly determine the manner in which workforce skills interact with other inputs and impact firm productivity.

Data from the employer survey shows that on terms of economic sectors, the workforce skills appear to be of relatively higher importance in the services sector. These firms invest more in skills of the workforce - both in terms of searching for the right candidates and then training these employees. These firms are more likely to undertake an active search for employees (advertise instead of relying on referrals and networks), take longer to find employees, and are more likely to hire employees with high education attainment. Search effort also manifests in their higher propensity to recruit expatriates. This higher investment in employee search appears to bear fruit. These firms are significantly less likely than non-services firms to provide training due to insufficient skill level of employees at the time of hiring. In addition, services firms are more likely to provide training on the whole (76 percent of these firms provide training), including that on behavioral skills. Interestingly, these firms are also more likely to hire younger employees.

[58] Bruhn, M., Karlan, D., and Schoar, A. (2010). What capital is missing in developing countries?. The American Economic Review, 629-633.

[59] Berge, L. I. O., Bjorvatn, K., Juniwaty, K. S., and Tungodden, B. (2012). Business Training in Tanzania: From Research-driven Experiment to Local Implementation. Journal of African Economies, ejs016.



Source: Employer survey data, 2013

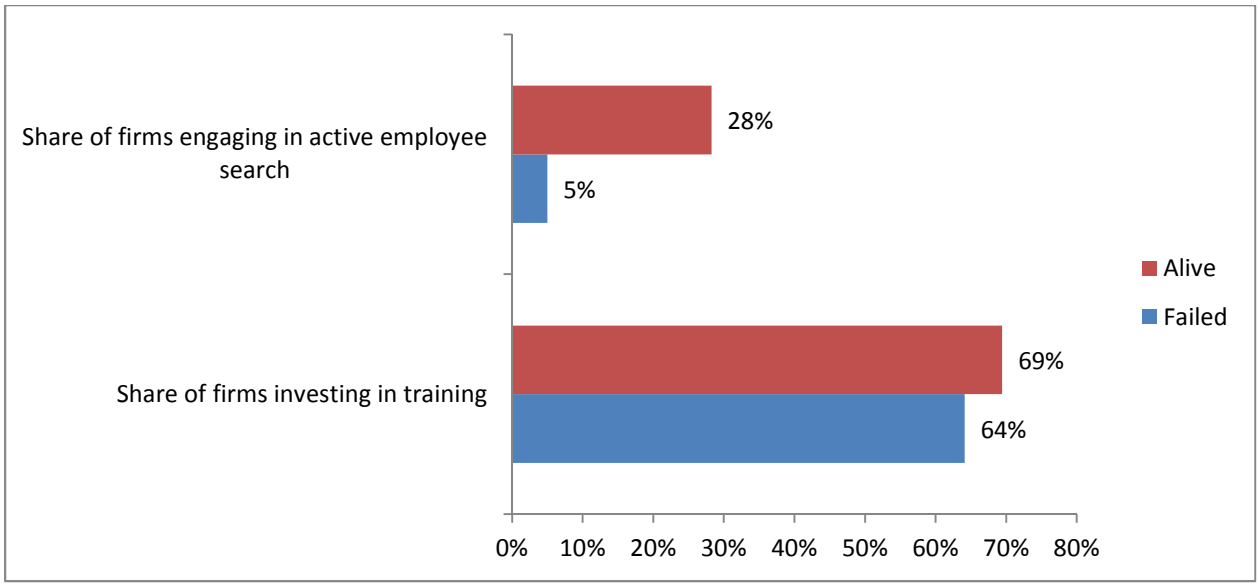
In contrast, firms in trade and agriculture-related activities exhibit lower skill profiles. They are more likely to have a majority share of employees with only primary education or less. At the same time, they are less likely to invest in training.

With respect to firm size, not surprisingly, smaller firms typically have lower skill profiles than larger firms (Employer Survey data, 2013). These firms are more likely to have a majority of employees with primary education or less, less likely to undertake an active search for hiring, and less likely to provide training, However, these firms are no less likely than their larger counterparts to consider lack of skills as being a constraint of above average importance to innovation.

These differences in skill profiles of small and large firms make intuitive sense. Empirical analysis suggests that returns to education and returns to training vary by firm size. For instance, returns to academic education rise much faster with firm size than those for vocational education[60], suggesting different skills needs across the two groups in terms of technical sophistication. It is also important to note that the small firms are also more likely to need mutli-skilled workers as opposed to workers with specialized skills.

Coming to the interesting (and relatively uncommon) comparison between alive and failed firms in the employer survey data, we see some intriguing patterns emerge through the Employer Survey data (2013). Both types of firms are equally likely to recognize skills as a factor of above average importance to innovation. However, failed firms were found to be less likely than alive firms to invest in hiring of employees. Specifically, failed firms were significantly more likely to have employed workers with lower levels of education. They were also less likely to undertake active search for workers.

[60] Söderbom, M., Teal, F., Wambugu, A., and Kahyarara, G. (2006). The Dynamics of Returns to Education in Kenyan and Tanzanian Manufacturing*. Oxford Bulletin of Economics and Statistics, 68(3), 261-288.



Source: Employer survey data, 2013

However, there was no difference between alive and failed firms with respect to likelihood of training provision, even behavioral training. There is also no difference in the extent to which these firms consider skills to be a constraint of above average importance to innovation.

Employer survey data also shows that failed firms appear to regard the skills question as an important one. As mentioned earlier, 63 percent of these firms considered shortage of workers with the right skills profile to be a contributing factor of above average importance to firm failure. Interestingly, failed firms were significantly more likely than alive firms to identify behavioral skills as being particularly hard to find in Tanzania.

Finally, enterprise survey data shows that exporting firms and firms with some foreign ownership are more likely to rate workforce skills (proxied by education) as an important business constraint.

11. WHAT DOES THIS MEAN FOR POLICY?

Equipping the current and future workforce with relevant skills has to be a key element of any strategy aimed at generating sustained productivity growth and poverty reduction. To this end, there are two policy challenges: (a) promoting the development of market-relevant skills; and (b) matching the right skills to the right jobs. Potential policy solutions to these challenges can be framed in terms of short- and medium-term solutions and long-term solutions.

11.1 SHORT- AND MEDIUM-TERM SOLUTIONS

Despite the inherently long-term and cumulative nature of the skill-building policy agenda, the Government can take concrete steps in the short and medium-term to address some specific gaps around workforce skill acquisition and deployment. These include:

I. Linking TVET with the private sector: TVET can be effective only when it is closely aligned with the needs of potential employers. Data shown in this paper demonstrates that this

alignment is weak in Tanzania. To address this, the connection between the TVET system and employers (particularly SMEs) needs to be strengthened. This has to be an ongoing and sustained effort, but by inviting private sector stakeholders to provide feedback and inputs on TVET content and using this information to re-think TVET curriculum and provision can be an effective short-run strategy to enhance the economic relevance of TVET.

Increased connectivity between TVET institutions and private sector needs to work in two ways. First, it needs to help ensure that TVET curriculum is aligned with the needs and requirements of the private sector. This can only be done through intensive collaboration wherein industry, SMEs, and other employers work together to define the required workforce competencies in detail. Secondly, connectivity between TVET and private sector needs to provide an avenue for increasing students' access to on-the-job training opportunities through apprenticeships or internships.

By leveraging latest technology in a targeted and well-planned way, the overall quality and relevance of TVET provision can be enhanced in the short-run. Traditional formats of TVET provision are expensive and whole-scale overhauling of TVET curriculum can be an extremely costly and time-consuming exercise. Major investments are needed to upgrade facilities and equipment, develop and retain new staff, and design curricula and materials. However, there is now the possibility of leveraging technology as a possible cost-effective solution that can be leveraged in the short-run. Open and distance learning, e-learning, and MOOCs (Massive Open Online Courses) in particular can be a low-cost and scalable strategies for updating curriculum, linking it with global standards, bring in international expertise, and increasing access.

II. Delivering well-designed and well-targeted training programs: To address well-defined skill gaps in the short-run, government often steps into the provision of training programs. These programs can be critical in resolving issues of skills-related coordination failures in the economy - it is possible that there are market relevant skills with high returns provided there are enough firms with the technology to employ that skill effectively, but firms will not invest in this technology in the first place, unless they know that there is an ample supply of that skill. To address this problem, critical skill gaps in key sectors and occupations can be addressed through the provision of well-designed and well-targeted training programs – both for workers and for entrepreneurs. There is scope to enhance the effectiveness of such programs and the latest global evidence shows some clear ways in which this can be done.

Countries in the region have a variety of training, public works, and self-employment assistance programs, operated by the government as well as by private and nongovernment sponsors. If well targeted and efficiently implemented, such programs can incorporate both a safety net perspective (helping workers manage income-related risks) and an activation perspective (helping them improve their capacity to generate income). Besides providing job-specific skills, these programs can also be designed to help address some of the

decision-making and communication problems facing individuals with interventions such as training in life skills and counseling. Therefore before designing the programs, there needs to be a rigorous assessment of potential market and government failures that need to be addressed.

Tailored program design and proper targeting are key. Evidence suggests that tailored interventions can be effective if they are designed after assessing labor market demands and adopt a targeted approach that develops different skills sets (cognitive, socio-emotional and job-specific) for different occupations. Successful interventions tend to incorporate targeted, customized programs that link to clearly defined and identified employment opportunities. Increasingly, we are seeing programs which outsource the provision of services to private companies with contracting and payment systems based on specific outcomes (for example, the number of job placements).

A critical aspect of training-related programs is whether they intend to help beneficiaries become self-employed or get wage employment. Programs oriented towards self-employment often combine class-room training with start-up capital. Some also incorporate apprenticeships as a means of providing on-the-job learning. On the other hand, programs aiming at wage jobs often include elements of labor market intermediation, such as job-search assistance, as well as subsidized internships with firms.

III. Information provision to the youth: Part of the issue with respect to the current skills mis-match has to do with information asymmetries. Specifically, young peoples' decisions about which skills to acquire may be based on outdated stereotypes or misguided perceptions. Further, lack of information about private TVET providers can constrain youth from making informed choices.

This suggests that government can play an important role in providing information to prospective students about career prospects, the relevance of different programs, and even the quality of different providers. A coherent communications plan that involves making intensive and continuous efforts to engage young people to provide them with information, guidance, and help on market-relevant skills acquisition can go a long way in helping address skill mis-matches in the economy.

Evidence presented in this chapter shows how highly employers value soft-skills. Hence, educating youth on the importance of 'soft-skills' might be an important short-run strategy for bridging skills gaps. To the extent that interpersonal soft skills can be taught, this opens up a role for different types of soft skills training for services and manufacturing. Investing in interpersonal skills could in particular help Tanzania become a bigger destination for outsourcing of service sectors jobs, such as call centers. In addition, a better awareness of inherent personality types can help young people make better career choices, even in entry level jobs.

IV. Helping match jobs and skills: Data presented in this paper shows that not all the issues of skills mismatch have to do with skills acquisition or provision. There are also problems of matching the right jobs with the right skills as implied by the over-reliance of employers on referrals for hiring. Clearly, better labor market intermediation is needed to match skilled workers to the right SMEs, perhaps in the form of both generalized and niche placement agencies

11.2 LONG TERM SOLUTIONS

Clearly, there is urgent need to address issues of skills mismatch in the Tanzanian economy. However, in the search for quick-fixes and silver bullets, it is important to remember that promoting the acquisition and effective use of relevant skills is a demanding endeavor that requires a long-term strategic vision and investments. To this end, the following issues are critical:

I. Building robust skills system: It is important to think of skills provision as a coherent system. What Tanzania needs is a flexible and adaptable skills development system that can cope with rapidly changing skills demand.

   It has also been contended that there is need for system integrators (one or several) responsible for taking a high-level view of the entire heterogeneous and fragmented landscape of education-to-work transition. The role of the system integrator is to work with education providers and employers to develop skill solutions, gather data, and identify and disseminate information. Such integrators can be defined by sector, region, or target population.

   Governments may not be the best deliverer of training, but they have an important role to play as facilitators. Instead of delivering training themselves, governments might be better-served focusing on creating an environment to support non-public providers and find ways to foster competition in the training market to ensure more optimal TVET provision. For instance, in some surveys, private training providers in Africa have mentioned the lack of start-up capital, access to land, and low capacity of trainees to pay as important constraints to their functioning[61].

II. Improving the quality of education: Human capital formation is a cumulative process. Therefore, improving the quality of basic education (primary and lower secondary) needs to be an overarching priority because of the foundational role of basic cognitive skills. Policy makers need to strengthen the quality of learning at all levels to equip tomorrow's workers, not only with academic and technical skills, but also with the behavioral, creative thinking, and problem solving skills employers increasingly demand. To this end, improving quality of education service provision through better performing and better equipped teachers and schools is critical.

[61] Johanson, R. K., and Adams, A. V. (2004). Skills development in sub-Saharan Africa. World Bank Publications. Washington DC

III. Provision of Early Childhood Development: Research has established that the first months and years of life are the most crucial for skill formation. This is when intelligence and learning abilities, the foundations for the development of core cognitive and social skills, are cemented[62] [63]. Brain maturation occurs in steps, with new skills building on earlier ones. If the foundation is strong, higher-order cognitive and social skills can be added later on. This leads to higher adaptability in rapidly changing job environments and the acquisition of job-specific techniques. The reverse is also true, poor nutrition in early childhood impairs cognitive development before children get to school, reducing the payoff from subsequent educational investments. In all countries, adults who participated in early childhood interventions have higher scores for openness to experience which is important for learning, innovation and exploration. Therefore, policies and interventions around Early Childhood Development and Education are of crucial importance.

[62] Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., and Strupp, B. (2007). Developmental potential in the first 5 years for children in developing countries. The Lancet, 369(9555), 60-70.

[63] Knudsen, E. I., Heckman, J. J., Cameron, J. L., and Shonkoff, J. P. (2006). Economic, neurobiological, and behavioral perspectives on building America's future workforce. Proceedings of the National Academy of Sciences, 103(27), 10155-10162.