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Issue No. 17

# Kenya: Capturing Skills Requirements and Assessing Skills Gaps in the Modern Economy

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**Firms' Perspective**



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# Kenya: Capturing Skills Requirements and Assessing Skills Gaps in the Modern Economy

Results from the STEP Employer Survey

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## ABBREVIATIONS

CEM	Country Economic Memorandum
ICT	Information and Communication Technology
ISCO	International Standard Classification of Occupations
KNBS	Kenya National Bureau of Statistics
LMI	Labor Market Information
STEP	STEP Skills Towards Employment and Productivity
TVET	Technical and Vocational Education and Training

## ACKNOWLEDGEMENTS

This paper was prepared by a team comprising Maria Laura Sanchez Puerta, Sara Johansson de Silva and Anam Rizvi. The team benefited from the leadership of David Robalino. Financial support to implement the STEP skills measurement survey was received from the Multi Donor Trust Fund for Labor Markets, Job Creation and Economic Growth (MDTF). Helpful peer review comments were received from Sudha Bala Krishnan, Michael Mutemi Munavu and Abla Safir.

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## Executive Summary

**This paper finds that skills constraints – related to a broad set of skills - have an effect on job creation and labor market outcomes in Kenya.** Most seriously, skills shortages negatively impact recruitment and have been identified across a broad set of socioemotional skills and cognitive skills that are necessary for any occupation. Employers have reported concerns with the level and relevance of skills amongst job applicants and recently hired workers, which implies that these jobs are now being occupied by ‘mismatched’ workers. These findings also relate to high levels of job dissatisfaction reported in the STEP Household Survey indicating that educational investment of the workforce is ineffective. Skills mismatches are reported by workers who are not able to apply what they have learnt at work, do not have access to training opportunities on the job, and do not have the qualifications required to grow in their jobs.

**Employers focus on transversal skills - such as reading and writing, numeracy, communication skills and conscientiousness<sup>1</sup> - over more technical skills.** This is determined by the reported skills intensity for worker types and the skills employers look for in recently recruited workers. Surprisingly, the skills demanded by employers are fairly congruent while recruiting both white-collar and blue-collar workers. More than 60 percent employers have reported that reading and interacting with co-workers are skills used in high intensity for both white-collar and blue-collar workers. Also, when evaluating a ranking of skills of employers, after conscientiousness, employers have ranked numeracy for white-collar workers and interpersonal skills for blue-collar workers as the most important when deciding to retain new recruits.

**Advanced computer skills<sup>2</sup> for white-collar workers and foreign language<sup>3</sup> skills for blue-collar workers have been identified as the most significant skills gaps in the current workers employed by firms (compared to other skills).** However, less than 30 percent employers have identified these gaps, implying that they are less concerned with their current employees and more critical of the skills of new applicants. Innovative firms perceive a higher gap in problem solving skills compared to other firms.

**While the lack of skills and lack of previous experience contribute significantly to recruitment difficulties, the cost of labor has been identified as the key constraint to hiring.** Of the firms reporting difficulty in recruitment, high reservation wages – applicants expecting higher wages than the firm would offer – was considered a problem by 50 percent of the firms that struggled with recruitment of white-collar workers and 40 percent of the firm struggling with recruiting blue-collar workers. Between 30 and 35 percent of those firms that experienced difficulties in hiring report that lack of required skills was the most important problem; a similar percentage reported that applicants lacked the requisite work experience. A majority of firms that tried to

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<sup>1</sup> The STEP Methodology defines ‘conscientiousness’ in a worker as “does a thorough job, is hard-working, does things efficiently.”

<sup>2</sup> The STEP Employer Survey defines advanced computer skills as using a computer for making presentations and/or other purposes like creating and managing databases, or using specialized computer programs, etc.

<sup>3</sup> This implies language other than English.

recruit workers in the past three years met with difficulties. However, Most employers rely on informal channels to recruit workers. Personal characteristics, specifically gender, also influences hiring as reported by employers.

**Most employers have not indicated the availability of on-the-job training for their workers, in fact less than one third of employers provide training to either worker types - including on-the-job training or external training opportunities.** Furthermore, a majority of employers have reported that they do not have regular interactions with educational and technical training institutes. This indicates that there limited ways for workers to learn about what skills are in demand and where they could acquire them. Also, firms do not have strong channels to connect with potential workers who may only require minimal amounts of reskilling or upskilling. The incidence of employers connecting with education and technical training institutes is 30 percent in connection with white collar workers and only 20 percent for blue collar workers. The overall skills development system - including the public education and TVET system and training provision by employers - must be flexible and responsive to enable workers to move to higher productivity jobs via reskilling or upskilling.

**Innovative firms are concerned with the practical experience and skills provided by the education and training systems.** Employers find that the public education system does not produce graduates with practical experience. Moreover, they find that graduates from technical training and vocational institutes do not meet the required skills.

**Evidence of job dissatisfaction on both the demand and supply side suggests that to workers are not being matched with the right jobs.** STEP Household Survey results show that there is a high degree of skills mismatch amongst individuals where they are not utilizing all the skills that have learnt or they feel inadequately qualified for their jobs. Moreover, results from the STEP Employer Survey show that while employers use media postings and the internet to recruit workers, over 50 percent rely on informal channels to recruit workers. There is a need to create better opportunities for employers to find the appropriately skilled job-seekers in the labor market.<sup>4</sup>

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<sup>4</sup> Banerji, Arup; Cunningham, Wendy; Fiszbein, Ariel; King, Elizabeth; Patrinos, Harry; Robalino, David; Tan, Jee-Peng;. 2010. Stepping up skills for more jobs and higher productivity (English). Washington, DC: World Bank.



## Introduction

**Job skills - workers' ability of to do their job well – are central to increasing job creation, improving the access to jobs and income opportunities, and fostering higher rates of productivity growth.** Skills mismatches occur when workers are trained or educated in skills that are not relevant or do not coincide with those that are being demanded by employers. This reduce productivity and increases turnover in jobs. Similarly, skills shortages occur when there is a lack of training and education in certain skills amongst the working population which increases cost of hiring and adopting new technology. Together, skills mismatches and skills shortages can be referred to as a '*skills gap*'.

**The World Bank's Skills Towards Employment and Productivity (STEP) Employment Survey help inform such strategies by providing in depth information about the demand for skills.** In particular, the STEP Employer Survey provides information on the kind of skills that are utilized by the existing workforce and are demanded by firms when hiring new workers. This paper explores the key outcomes of the STEP Employer survey undertaken in Kenya - where the lack of an adequately skilled workforce is growing in to an important constraint too doing business.<sup>5</sup> The following sections aim to outline the impact of skills on the labor market, the current skills situation in Kenya as reported by employers, the extent of skills mismatch, the incidence of on-the-job trainings and the role of education and Technical and Vocational Education and Training (TVET). The final section includes relevant outcomes for informing policies surrounding the skills of the workforce in Kenya.

### Impact of Skills on Labor Productivity, Job Creation and Labor Market Outcomes

**Skills matter for labor market outcomes - including access to relevant jobs and good wages.** Skills have a positive impact on individuals' earnings, independently from education. An additional year of education increases earnings by 6.5 percent, but this effect is reduced by two percentage points when socio-emotional, technical and cognitive skills are taken into account.<sup>6</sup> Openness (including both creativity and flexibility), conscientiousness (ambition to do a task well) are correlated with higher earnings, as are cognitive skills like problem solving and learning and technical skills like computer use.

**Skills constraints play a significant role in repressing labor productivity growth, job creation and growth of income.** There is significant evidence that skills gaps (combination of skills mismatches and skills shortages) can negatively affect productivity at work, growth of wages and

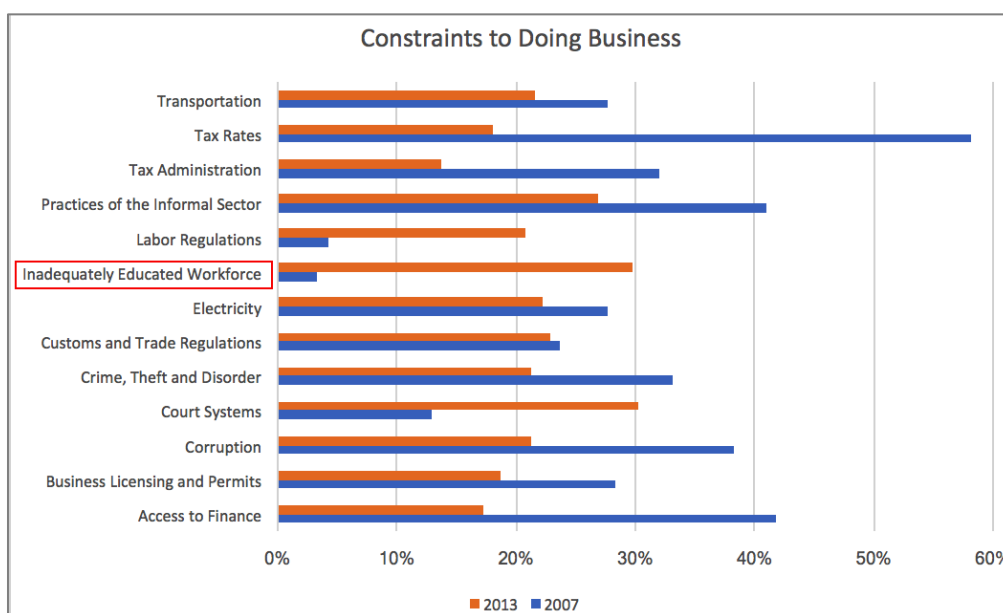
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<sup>5</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>6</sup>World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

job satisfaction.<sup>7</sup> In low-income and middle-income countries skills constraints tend to become more important as economies develop, as is the case in Kenya. Skills are an important driver of firm capabilities for competitiveness and growth and an inadequately educated and trained workforce has been identified as an increasingly important business constraint.<sup>8</sup> According to the World Bank Enterprise Survey 2013, 30 percent of Kenyan firms reported that inadequately educated workforce is a major obstacle to their operations and growth, compared to only 3 percent from the 2007 Enterprise Survey (Figure 1).

Figure 1: Workforce Qualification is Growing into a Major Obstacle for Employers



Source: <http://www.enterprisesurveys.org/>

**Accelerating technological change and a shifting economy structure is changing production and skills needs** - signaled by an increased automation of tasks and growing opportunities for developing countries to provide outsourcing services. Technology not only changes the number of jobs that are required but also affects labor conditions. On one hand, the use of technology by workers can improve job quality and working conditions, and results in increased wages based on knowledge to use this technology. On the other hand, this can also lead to stagnating wages or jobs being traded for cheaper labor.<sup>9</sup> This has led to emphasis being placed on more “new economy skills” as automation and technology is evolving job functions – i.e. non-routine skills

<sup>7</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>8</sup> <http://www.enterprisesurveys.org/>

<sup>9</sup> <http://blogs.worldbank.org/jobs/governance/future-work-number-jobs-not-only-thing-stake>

requiring problem solving, creativity, flexibility, and team work.<sup>10</sup> Therefore, it can be posited that employers would demand a broad skill-set, encompassing generic or transversal cognitive skills and behavioral skills along with job-specific technical skills.

### The STEP Skills Measurement Surveys

**The STEP employer survey was carried out in urban areas of Kenya between June, 2016 and February, 2017, and covered responses from 506 firms.** The sampling frame was based on a 2016 register by the Kenya National Bureau of Statistics (KNBS) of all establishments with 5 or more employees, in three different regions: Nairobi, Mombasa and Other Urban Regions. Within each region, the frame of establishments was stratified by three employment size groups: 5-19 employees, 20-99 employees and 100+ employees. The Survey provides information about skills use, skills demand, training, etc., concerning two types of workers:

- White-collar workers: job profiles which generally require higher skill levels, including managers, professionals, and technicians. (ISCO 08 levels 1-3). This category of workers tends to be more intensive in their use of “new economy skills”.
- Blue-collar workers: job profiles which tend to require medium or low skill levels; this type includes clerical support workers, service workers, sales workers, skilled agricultural workers, craft and related trade workers, plant and machine operators, and elementary occupations. (ISCO 08 levels 4-9).

**Additionally, a STEP household survey was also implemented in Kenya earlier in 2013, with field work carried out from August to November 2013.** The target population was the urban population ages 15 to 64. The sample was stratified by 4 geographic areas: 1-Nairobi, 2-Other Large Cities (over 100,000 households), 3- Medium cities (60,000 to 100,000 HHs) and 4-Other Urban Areas. War marred and unstable regions of Kenya were excluded from the survey and Itinerants (as classified in the Population Census 2009 in Kenya) were also excluded.

**This paper primarily focuses on results obtained from the STEP Employer survey.** It is important to emphasize that the STEP Employer Survey focuses on firms in the formal sector – where levels of education may be higher - whereas the STEP Household survey selected a variety of individuals from the sample household. As a consequence, the employer survey focuses more on post-secondary levels of education than the household survey. Moreover, findings presented from the STEP Employer Survey are economy wide and not sector specific. Both surveys focus on urban region of Kenya and no rural areas were covered in either sample. The STEP Methodology has been discussed further in Box 1 below.

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<sup>10</sup> Autor, Levy, and Murnane (2003), “The Skill Content of Recent Technological Change: An Empirical Exploration.” *Quarterly Journal of Economics*, 118(4), November 2003, 1279-1334.

### Box 1 - STEP Methodology and Background

The STEP Employer survey focuses on skills demanded by the employer and covers cognitive skills, socio-emotional skills, personality traits, along with job specific technical skills.<sup>11</sup> The survey collects information on the skills that employers look for when they recruit staff, the skills that staff most often apply, the skills-related constraints that employers face, and the way employers attempt to mitigate skill constraints, such as through training provision and exchanges with education and training providers (Box 1). The survey also captures firm characteristics, the environment in which employers operate, and the structure of their workforce.<sup>1</sup>

Traditionally, cognitive skills include foundational skills such as reading, writing, and numeracy, and increasingly this may also include ICT literacy. Job specific skills include both transferrable cognitive and socio-emotional skills such as supervising others, making presentations, working in teams, autonomy, and specific technical skills related to the job like operating machinery or driving. They also include higher-order skills like problem solving, learning, and advanced computer skills. Socio-emotional skills or personality traits include openness, conscientiousness, extraversion, agreeableness, emotional stability, as well as grit, decision making ability, interpersonal skills, flexibility, persistence in the face of difficulties, and resistance to stress. These are also referred to as “soft” skills.

Job diagnostics, including research on the determinants of labor outcomes, has traditionally tended to equate “skills” with “years of education” or “level of education completed” (including TVET). However, skills and schooling are not the same for several reasons: i) poor quality education systems may not produce skills relevant for jobs, and ii) even if they do, the skills developed may differ from what employers are looking for.

Against this background, the World Bank STEP Skills Measurement Program, launched in October 2010, is the first systematic attempt to fill knowledge gaps related to skills that enhance productivity and earnings. The program is designed to provide policy relevant information on labor market characteristics and how they relate to skills, much beyond basic information on education levels and literacy. Among large-scale surveys, the program provides a macro-level review of the private sector and is unique in measuring a broad set of skills, including not only cognitive ability, but also socio-emotional skills, and in providing firm level views on skills needs.

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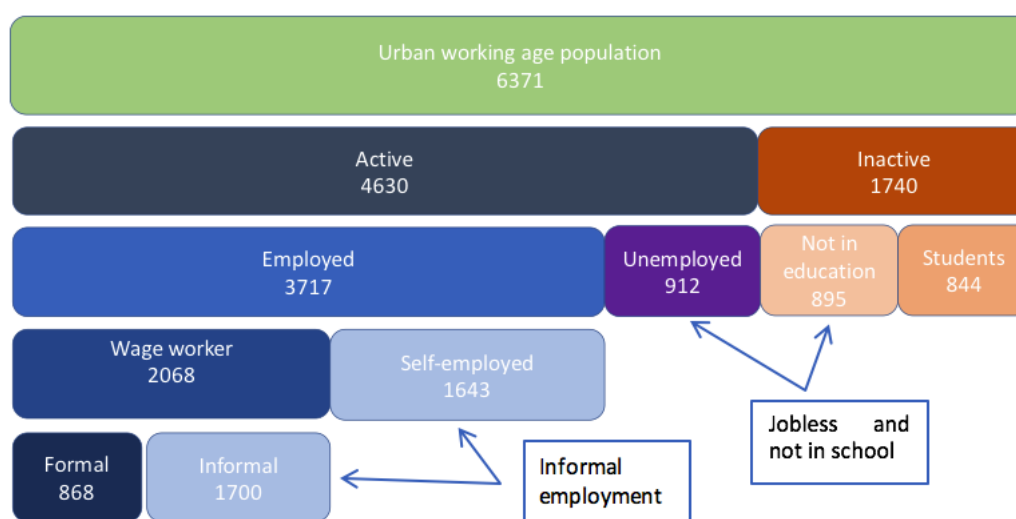
<sup>11</sup> This refers to specific skills utilized by a worker in their particular role and would vary for each occupation category.

## Overview of Kenya’s Labour Market & Skills Level

### Labour Market Trends

**A lack of good job opportunities is a key concern in Kenya.** This emerges as a major issue for Kenyans according to the latest Afrobarometer survey and one which they feel the Government needs to address, over and above infrastructure, food shortages, and poverty.<sup>12</sup> These concerns reflect pervasive challenges existing in the labor markets (Figure 2).<sup>13</sup>

Figure 2: In Urban Labor Markets, many are out of a Job or Working Informally (In thousands)



Source: Estimates based on STEP Household Survey

Nearly two million urban residents between ages 15 and 64 have reported that they are neither working nor are they in education. Urban unemployment rates are indicated at 20 percent and affect young people and women more than others. According to the Kenya Jobs for Youth report, between 2015 and 2025, the working age population will increase by nearly nine million people (net increase). One third of this population would be made up of young people, between ages 15 and 24 that need to be put to productive use. This indicates that there is an urgent need to create more jobs, that are better (more productive) and inclusive (to vulnerable populations).<sup>14</sup> According to the same report the urban formal wage sector in Kenya employs less than 900,000 people – which constitutes less than one quarter of the work force – while 2.5 million workers

<sup>12</sup> Afrobarometer (2015), Summary of Results, Afrobarometer Round 6 Survey in Kenya, 2014.

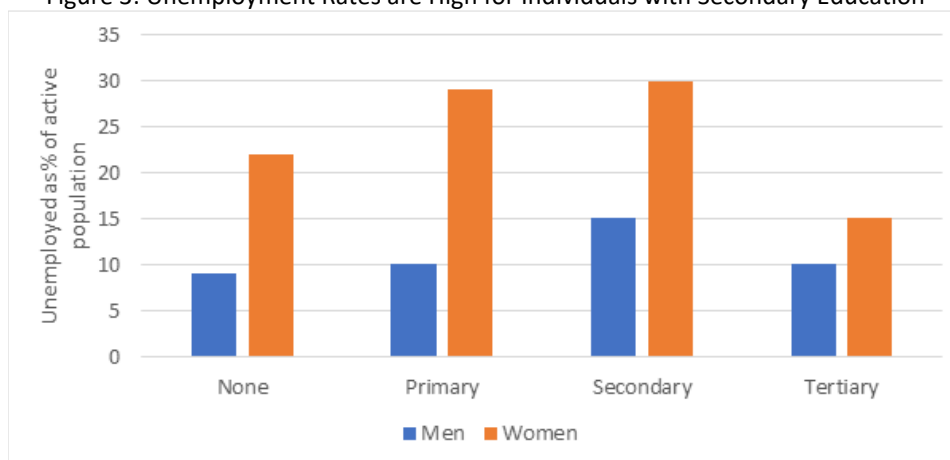
<sup>13</sup> This data draw on the STEP Household Survey 2013, which is focused on urban areas. Currently, a more recent national household level survey is not available to gauge labor market developments in all of Kenya.

<sup>14</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

are in either informal wage employment, engaged in self-employment or undertaking unpaid work for other family members, mostly in the wholesale and retail trade sector.<sup>15</sup>

**Unemployment rates have been reported as the highest for those with secondary levels of education, who also make up a majority of the labor force.** Although university graduates make up less than ten percent of the adult population, ten percent of male university graduates and fifteen percent of female university graduates are unemployed (Figure 3). This suggests significant skills mismatches in the labor market. Moreover, the gap between men and women in unemployment is significant - on average female unemployment rates are twice as high as those of men, reaching 30 percent for those with primary and secondary education, and 15 percent for university graduates.<sup>16</sup>

Figure 3: Unemployment Rates are High for Individuals with Secondary Education



Source: Estimates based on STEP Household Survey

**Labor productivity (GDP per worker) is reported lower in Kenya compared to many African peers** (Figure 4). There is further evidence showing that between 2009 and 2013 labor moved to sectors with 'below average productivity' with low job creation potential. The financial services and communications sectors had rapid employment growth (7 percent annually between 2009 - 2013) but only saw an increase of 10,000 jobs per year. Job seekers tend to be employed in the trade and hospitality sectors in jobs that offer significantly lower income and less job security.<sup>17</sup>

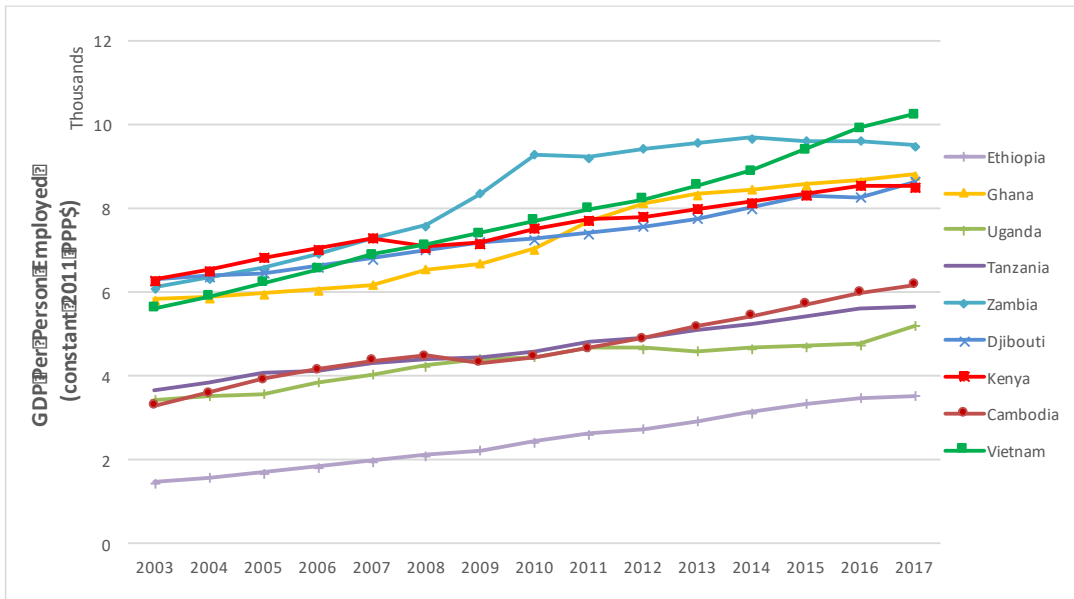
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<sup>15</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>16</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>17</sup> Handjiski, Borko et al. 2016. Kenya - Country Economic Memorandum: From Economic Growth to Jobs and Shared Prosperity (English). Washington, D.C.: World Bank Group.

Figure 4: Labor Productivity is Low Compared to African Peers



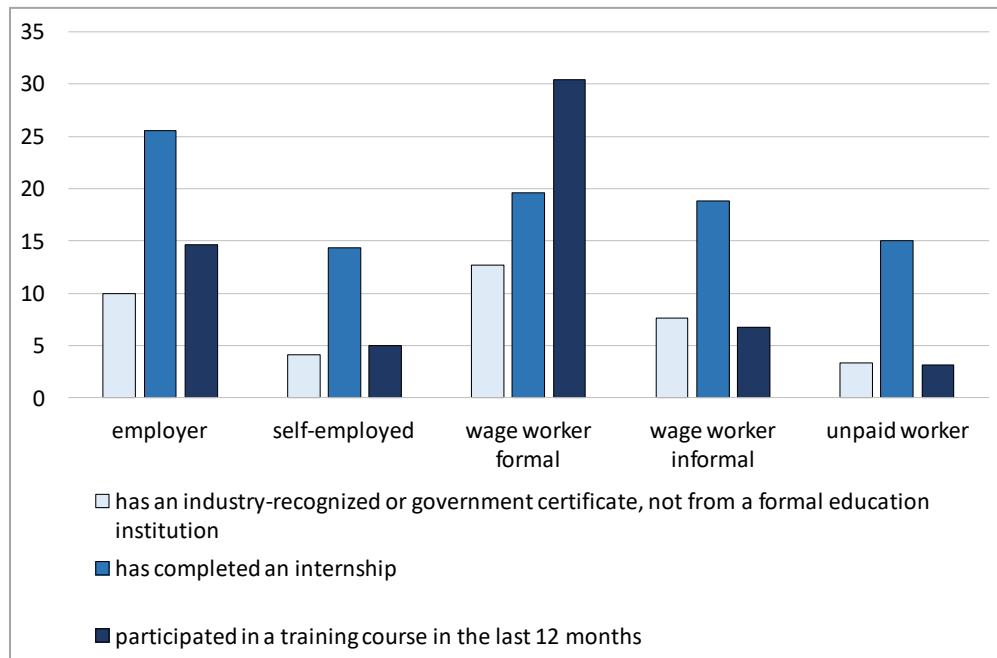
Source: Estimates based on World Development Indicators

Although there is a reported incidence of the usage of foundational skills - such as reading, writing, or basic tasks on the computer - at their jobs, basic skills proficiency estimates for workers in formal wage jobs are considerably low.<sup>18</sup> The STEP Household survey reveals that a vast majority of adults that have completed secondary levels of education remain functionally illiterate in English (scoring below level 3 out of 5 in the test) and even among tertiary levels of education, three in four are not, in fact, functionally literate.<sup>19</sup> The share of the Kenyan urban population who reported receiving any training (including on-the-job-training) is approximately 27 percent. Access to further training is linked to formal wage jobs which in turn is strongly correlated with the existing education level of the worker (Figure 5). This indicates that life-long learning for workers is path dependent - i.e. higher education levels provide access to formal sectors where workers are more likely to continue to receiving ay training provided by employers.

<sup>18</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>19</sup> The OECD defines a person as functionally literate “who can engage in all those activities in which literacy is required for effective functioning of his group and community and also for enabling him to continue to use reading, writing and calculation for his own and the community’s development.” <https://stats.oecd.org/glossary/detail.asp?ID=1536>

Figure 5: Access to Training by Occupational Status of the Worker



Source: Estimates based on STEP Household Survey

**The intensity of cognitive skills (reading, writing, numeracy, ICT literacy) on the job, as reported by workers, is also low.** This is especially the case for workers with lower levels of education. Those workers with secondary education and tertiary education have reported that intensity of reading or writing documents at their job is higher. The share of workers using calculations beyond basic levels is low at all levels. There is an important digital gap across levels of educational attainment as well: those with low or primary education, and half of those in secondary education, do not use computers at work. The youngest workers (ages 15-19) are generally less likely to use skills than older workers, possibly because they represent early school drop-outs, with poorer job prospects.

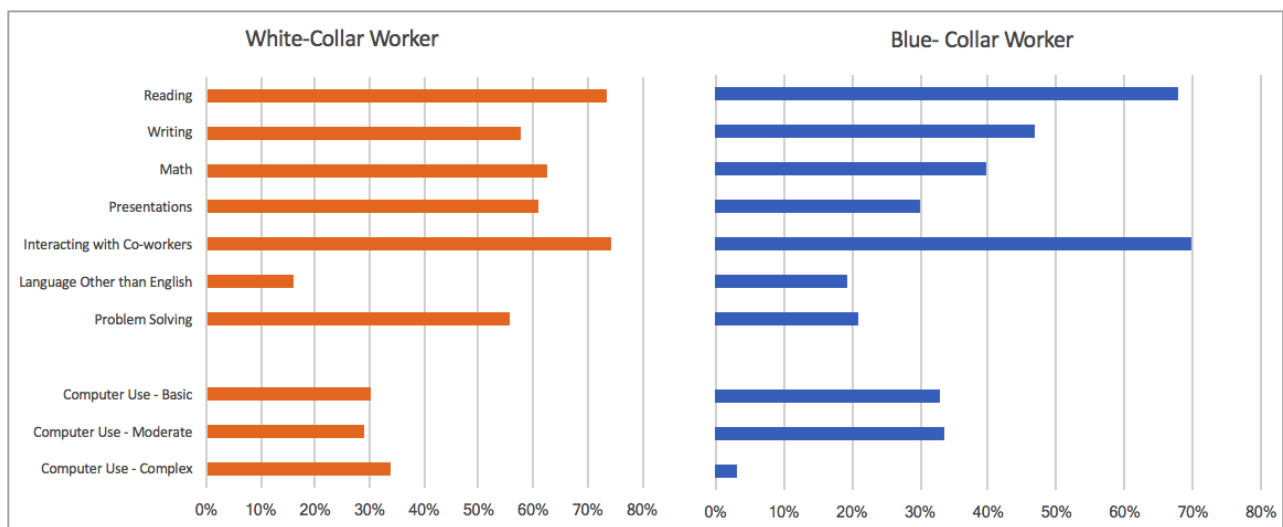


## STEP Employer Survey Findings

### Demand for Skills Determined by Recent Recruitments and Skills Used at Work

**According to employers, both white-collar and blue-collar occupations<sup>20</sup> have high levels of skill intensity for reading as well as team work skills.** More than 60 percent employers reported that reading and interacting with co-workers are the skills used most by both white-collar and blue-collar workers as compared to other skills. The other significant skill usage reported for each occupation was numeracy for white-collar workers and writing for blue collar-workers. This reported usage of skills was congruent in different types of firms for both worker types - i.e. large and micro firms, firms identified as innovative, as well as firms with international contacts. Computer usage intensity was reported by around one third of employers ranging from basic to complex (or specialized use by white-collar workers and basic to moderate use by blue-collar workers (Figure 6).

Figure 6: Skills Usage at Work for Both Worker Types



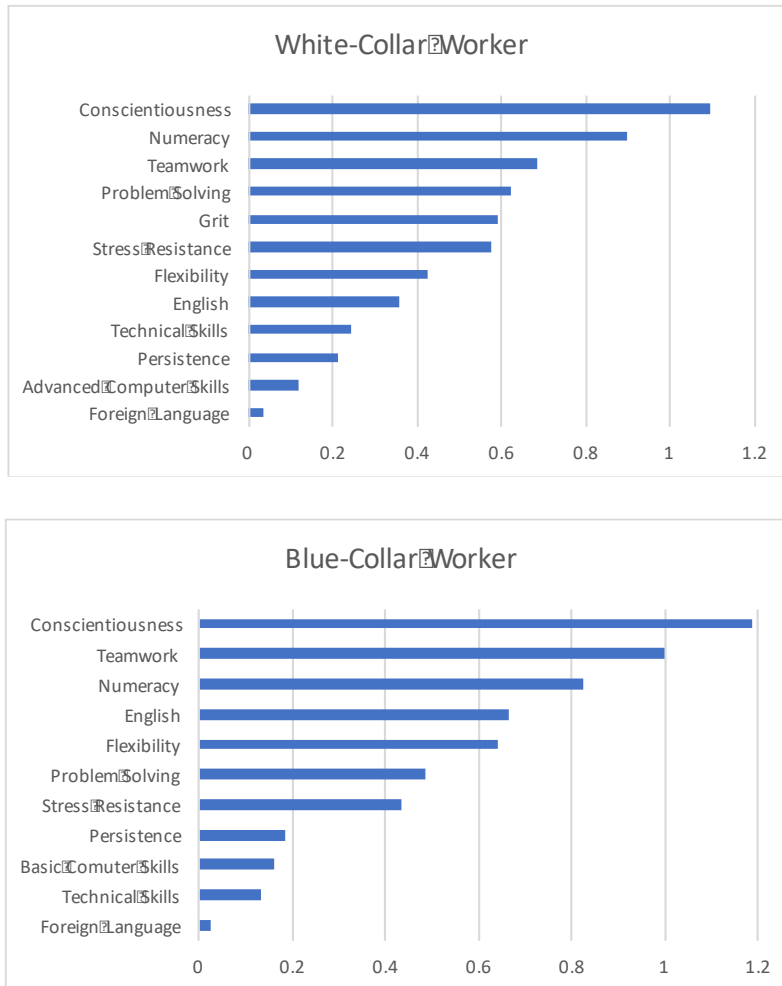
Source: Estimates based on STEP Employer Survey

**Employers ranked conscientiousness, i.e. whether a person can be relied upon to get a task done, as the most important skill when deciding to retain a recently hired worker.** The priorities are different for white-collar and blue-collar workers as shows in Figure 7 below. The second highest ranked skill for white-collar workers was numeracy and for blue-collar workers it was interpersonal skills i.e. their ability to work with other people. Unlike findings from many other

<sup>20</sup> White-collar occupations include managers, professionals and technicians. Blue-collar occupations include clerical support workers, service workers, sales workers, skilled agricultural workers, craft and related trade workers, plant and machine operators, and elementary occupations. These categories are applied generically across all firms surveyed in the manufacturing, services and trade sectors.

countries where the STEP Employer survey has been implemented, technical skills have not been highly ranked compared to more generic transversal skills that apply across a range of occupations.

Figure 7: Index for Importance of Skills in New Recruits



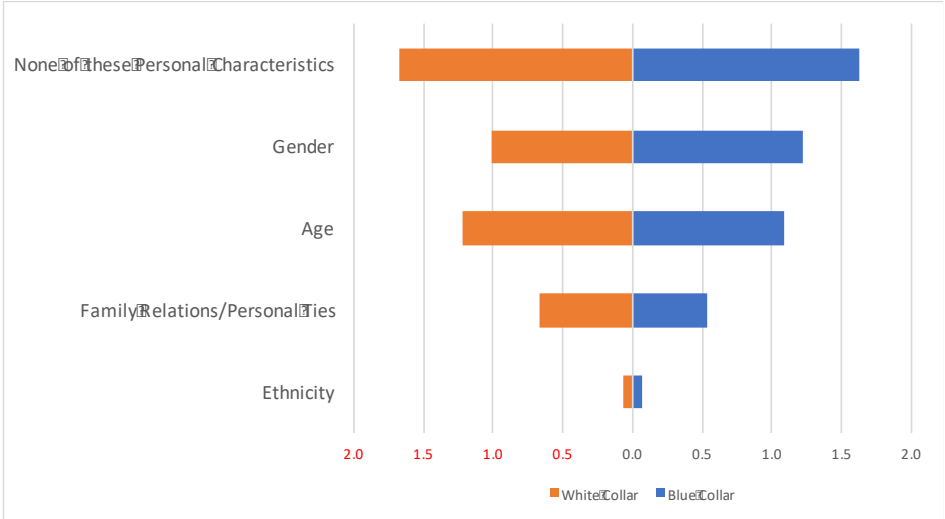
Source: Estimates based on STEP Employer Survey

**Unsurprisingly, “new economy skills”<sup>21</sup> are ranked highly for white collar workers, but also feature higher than technical and ICT skills for blue-collar workers.** “New economy skills” include the ability to identify new and better ways of doing things (problem solving), the ability to stay on a long and difficult task until it is finished (grit), and adaptation to new tasks and conditions in the work place (flexibility) and are characteristic of a non-routine dependent format for the intended work. Given the relatively intense usage of computers reported by employers, the limited value placed on ICT skills is surprising.

<sup>21</sup> These include non-routine skills requiring problem solving, creativity, flexibility, and team work.

**While most employers stated that personal characteristics such as ethnicity, family ties and age do not play a big role in hiring workers, gender featured as an important factor when recruiting workers.** Apart from skills and experience, employers were also provided an option to rank personal characteristics as to the role they play in recruitment decisions. From those that selected the latter, over 60% stated a hiring preference for male rather than female workers (Figure 8).

Figure 8: Index for Importance of Personal Characteristics when Recruiting Workers.

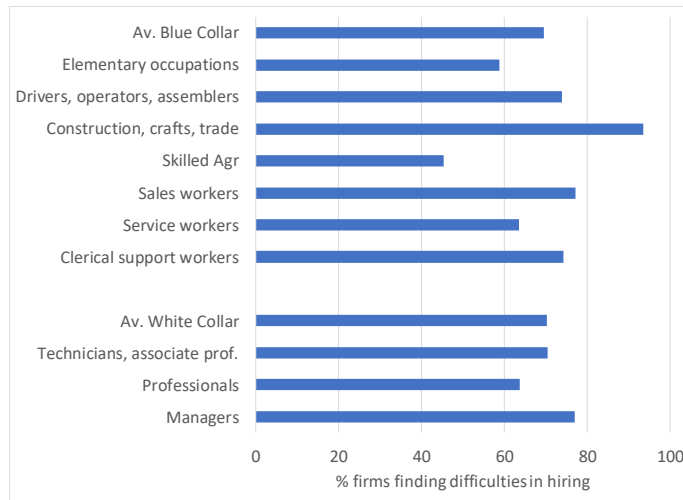


Source: Estimates based on STEP Employer Survey

Skills Shortage Illustrated by Constraints in Recruitment

**A majority of firms that tried to recruit workers in the past three years met with difficulties.** Over thirty percent of employers reported that they attempted to hire white-collar workers and over twenty percent attempted to hire blue-collar workers over the past three years. With the exception of skilled agricultural workers, demand for new recruits spanned across all occupational categories, with a specific emphasis on sales workers, and professionals (which includes business and ICT professionals). On average, it took firms 30 days to fill a white-collar job, and 17 days to fill a blue-collar job. Over 60 percent employers reported difficulty in hiring for both worker types (Figure 9).

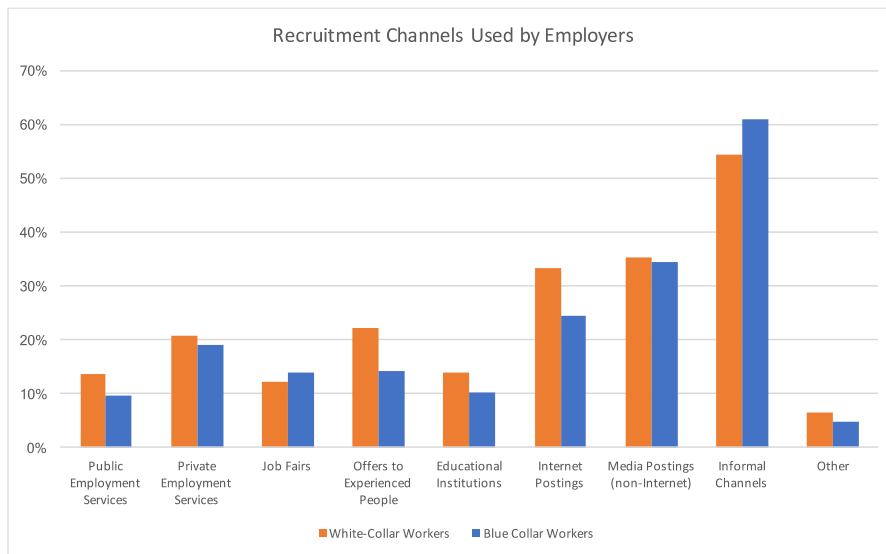
Figure 9: Percentage of Employers Experiencing Difficulties in Recruiting Workers



Source: Estimates based on STEP Employer Survey

**Most employers rely on informal channels to recruit workers.** Results from the STEP Employer Survey show that while employers use media postings and the internet to recruit workers, over 50 percent rely on informal channels to recruit workers. Informal channels typically include word-of-mouth recruitment through personal contacts or hiring people recommended by others (Figure 10).

Figure 10: Recruitment Channels Used by Employers



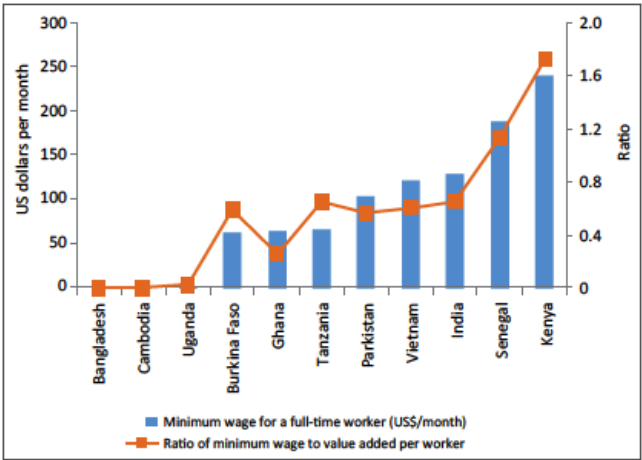
Source: Estimates based on STEP Employer Survey

**The cost of labor is reported as an important constraint to recruitment.** This is consistent with recent findings showing that the ratio of the minimum wage to the value added per worker is much higher in Kenya as compared to its peers. As of 2016, the minimum wage in Kenya was reported as Kenyan Shilling 7,000 (US\$80) (Box 2)<sup>22</sup>. The importance of the cost of labor, compared to skills related constraints, is also evident when employers are asked to rank different labor related constraints in general: payroll taxes and wage levels are more often considered a major constraint than many other labor related factors (Figure 11).

**Box 2: Labor Legislation Around Minimum Wage May Also Be Contributing to Shifts in Labor Market Trends**

Recent changes to the labor regulations may also be contributing to shifts in labor market trends from formal wage to informal wage jobs. Minimum wage in Kenya is the highest among its peers (figure below). High costs of hiring, which may not be supported by equally high productivity, may cause firms in competitive markets to import skilled workers at management level. This is being cited as a business constraint. Moreover, strict policies around employer-employee disputes may be seen as a constraint to business operations.

Minimum Wage in Kenya is the Highest Among its Peers

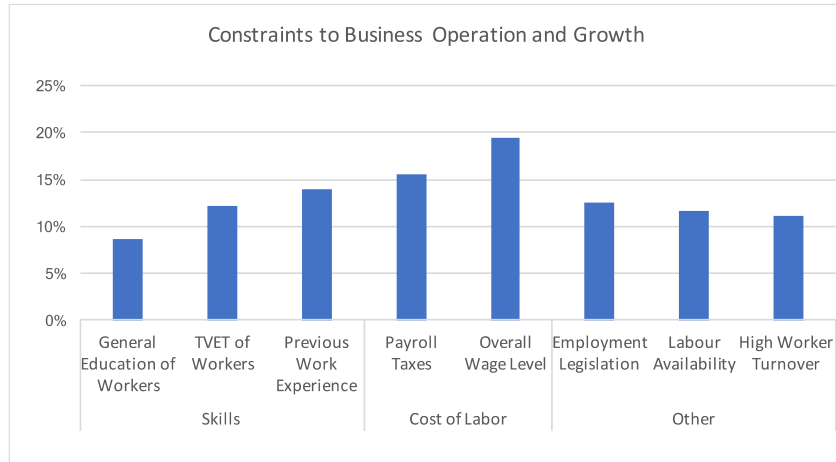


Source: Kenya Country Economic Memorandum (CEM), World Bank 2016

Source: Handjiski, Borko; Sanghi, Apurva; Bogoev, Jane; Larbi, George Addo; Angelique, Umutesi; Randa, John; Kiringai, Jane Wangui; Chege, Patrick Nderitu; Whimp, Kathy; Gubbins, Paul Michael; Mistiaen, Johan A.; Farole, Tom; Nishiuchi, Toru; Battaile, William G.; Van Doorn, Ralph; Saez, Juan Sebastian; Hollweg, Claire Honore; Cirera, Xavier; Mogollon, Maria Paulina; Dowdall, Georgia Frances Isabelle; Onder, Harun. 2016. Kenya - Country Economic Memorandum: From Economic Growth to Jobs and Shared Prosperity (English). Washington, D.C. : World Bank Group.

<sup>22</sup> Handjiski, Borko et al. 2016. Kenya - Country Economic Memorandum: From Economic Growth to Jobs and Shared Prosperity (English). Washington, D.C.: World Bank Group.

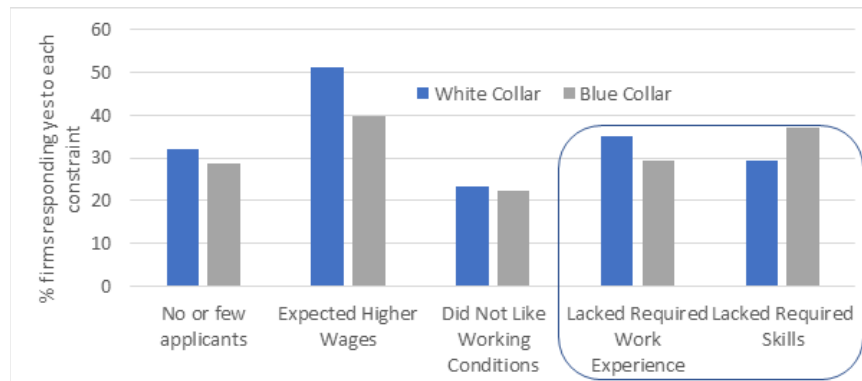
Figure 11: Labor Costs are a Significant Constraint to Doing Business



Source: Estimates based on STEP Employer Survey

However, the lack of skills and experience contribute significantly to recruitment constraints as well. Between 30 and 35 percent of those firms that experienced difficulties in hiring considered the lack of required skills in workers along with a lack of work experience in applicants constituted major hiring constraints (Figure 12). Employers perception of high reservation wages can also be taken to signal that the cost of labor is considered high relative to labor productivity.

Figure 12: Applicants Lacking Skills and Experience are Constraints for Recruitment



Source: Estimates based on STEP Employer Survey

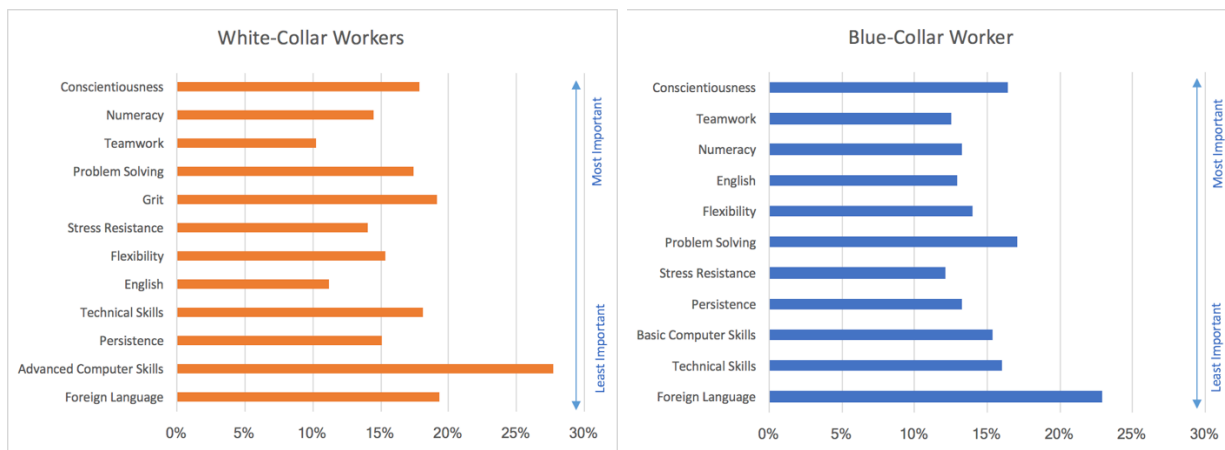
High reservation wages, closely followed by a lack of skills and previous experience are consistent recruitment constraints reported by all firm types. The analysis compared results between large, medium and small sized firms (by number of employees), between innovative

and non-innovative firms<sup>23</sup>, as well as between firms with and without international business contacts. However, the challenges in recruitment remained consistent across the different types of firms - despite the potential differences in skills needs.

### Skills-profile of the Workforce Reveals Gaps and Mismatch

**Advanced computer skills for white-collar workers and foreign language skills for blue-collar workers have been identified as the most significant skills gaps in the current workers employed by the firm (compared to other skills).** However, less than 30 percent employers have identified these gaps, implying that they are less concerned with their current employees and more critical of the skills of new applicants. In particular, the skills which are considered most important in new recruits – conscientiousness, numeracy, and interpersonal skills - are not areas identified by employers when considering the skills-profile of their current typical white-collar or blue-collar worker (Figure 13).

Figure 13: Percentage of Employers Identifying Skills Gaps in their Current Workers, Arranged by Skills Ranking

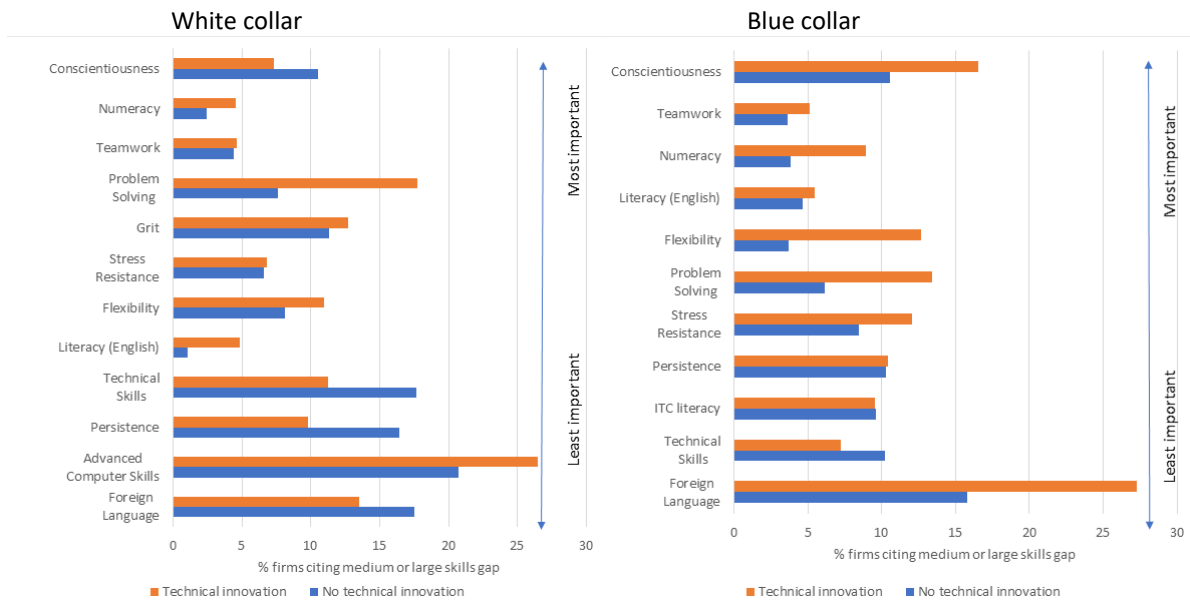


Source: Estimates based on STEP Employer Survey

**Innovative firms perceive a higher gap in problem solving skills compared to other firms.** Firms that are more innovative with respect to technology identify skills gaps slightly differently to other firms. They are more likely to consider a skills gap in problem solving, flexibility and advanced computer skills for white-collar workers and in conscientiousness, numeracy, flexibility, problem solving and stress resistance for blue-collar workers (Figure 14).

<sup>23</sup> Innovative employers are defined as those who have, in the past three years, introduced any new or significantly improved products, services, manufacturing or logistical processes, management practices, or other similar innovations and have spent on R&D.

Figure 14: Percentage of Innovative Employers Identifying Skills Gaps in their Current Workers, Arranged by Skills Ranking



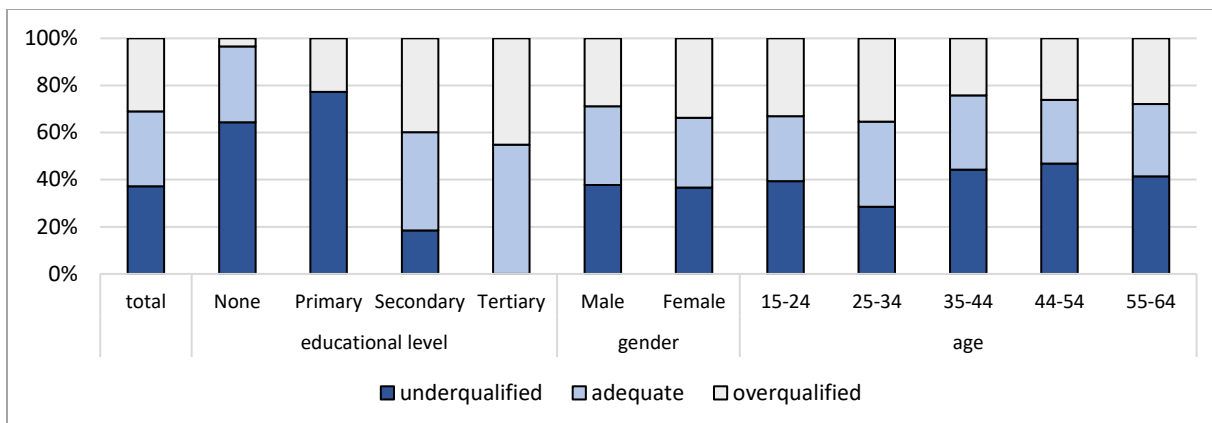
Source: Estimates based on STEP Employer Survey. Note: (i) The charts represent those employers that were identified as innovative under the STEP methodology; (ii) The charts further distinguish between employers that have been identified as applying ‘technical innovation’ (introduced any new or significantly improved products or services or methods of manufacturing or producing goods or services in the past 3 years) versus those applying non-technical innovation (introduced any new or significantly improved procedures (logistics, delivery or distribution methods) or supporting activities for your processes (accounting, maintenance, or computing systems, etc.) or improved organizational structures or management practices in the past 3 years).

**The skill mismatch is also evident from the STEP Household survey of the labour force, indicating that educational investment of the workforce is ineffective.** In order to make the most of investing in the skill set of a workforce, there is a need to understand how these skills are being put to use. In order to fully exploit the potential contribution of skills to improving productivity and employment outcomes this mismatch needs to be understood.

**Workers consider themselves mismatched - either overqualified or undereducated - for their current jobs.** Almost half the workers with education and forty percent of those with secondary education consider themselves overqualified for their jobs. Those with lower levels of education consider themselves underqualified (Figure 15). Taken together, the significant levels of unemployment and reported mismatch indicate that current educational investment is not optimal (Box 3).

Figure 15: High Levels of Mismatch Reported by Workers





Source: Estimates based on STEP Household Survey

### Box 3: Skills Development System - Returns to Schooling and Skills

A skills development system stretches from early childhood interventions through to university education and different training and re-training programs. “Skills” begin to form in early childhood and are honed throughout childhood, youth and adult life, building a basis for developing foundational and higher order cognitive, socio-emotional/behavioral, job relevant skills, and facilitating labor mobility (Table 1).

Table 1: Skills towards Employment and Productivity: the five STEPS.

STEPS	Preschool age	School age	Youth	Working age
5. Facilitating labor mobility and job matching			Apprenticeships, skills certification, counselling	Intermediation services, labor regulation, social security portability
4. Encouraging entrepreneurship and innovation		Fostering inquiry	Universities, innovation-clusters, basic entrepreneurship training, risk management systems	
3. Building job-relevant skills		Basic vocational training, socio-emotional skills	Vocational training, higher education, apprenticeships, targeted programs	Firm-provided training, recertification, reskilling
2. Ensuring that all students learn		Cognitive skills, socialization, socio-emotional skills	Second chance education, behavioral skills	
1. Getting children off to the right start	Nutrition, psychological and cognitive stimulation, basic cognitive and social skills	School health and remedial education		

**Access to education has increased considerably over time, but there are still important gaps: for girls, for inland regions, and for individuals from less wealthy households.** A majority of the adult population has now completed secondary education in urban areas. However, women are less likely than men to go beyond primary education, and there are also significant regional differences, with inland zones offering less access to school. There are also persistent gaps in access between individuals from low wealth households and those from families that are better off. Importantly, these gaps appear to have increased over time. This affects skills development, obviously for cognitive abilities but also for socio-emotional/behavioral skills. Those with low socio-economic status at the age of 15 score lower on some socio-emotional skills, like grit, and openness.

**Access to higher levels of education is linked to higher skills.** Those with education are more likely to have more skills intensive jobs: the use of cognitive skills (reading, writing, numeracy, computer) on the job is higher for workers with higher levels of education, although only tertiary educated workers use skills with medium-to-high intensity.

**Nonetheless there are strong signals that higher access to school has not translated into sufficient learning, even concerning foundational skills.** A vast majority of adults that have completed secondary levels of education remain functionally illiterate in English (scoring below level 3 out of 5 in the test) and even among tertiary levels of education, three in four are not, in fact, functionally literate.<sup>24</sup>

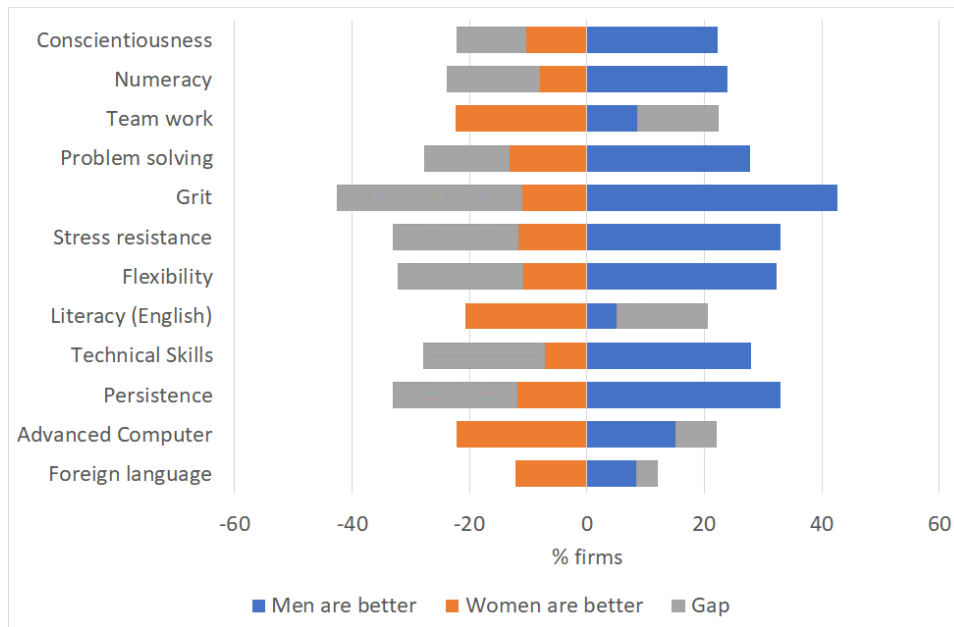
Source: World Bank, 2010.

**Employers also perceive a skills gap between women and men, specifically with regards to ‘new economy skills’.** Although a majority of employers responded that there are no differences in skills between the male and female workers employed, some firms perceive gaps in specific skills, and a majority of these gaps are in favor of men. Employers ranked male workers as demonstrating higher grit (the ability to stay on a long and difficult task until it is finished), stress resistance, flexibility, persistence, problem solving and technical skills compared to female workers (who only ranked higher in team work and literacy) (Figure 16).

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<sup>24</sup> The OECD defines a person as functionally literate “who can engage in all those activities in which literacy is required for effective functioning of his group and community and also for enabling him to continue to use reading, writing and calculation for his own and the community’s development.” <https://stats.oecd.org/glossary/detail.asp?ID=1536>

Figure 16: Employer Perception of Skills Gaps Between Male and Female Workers

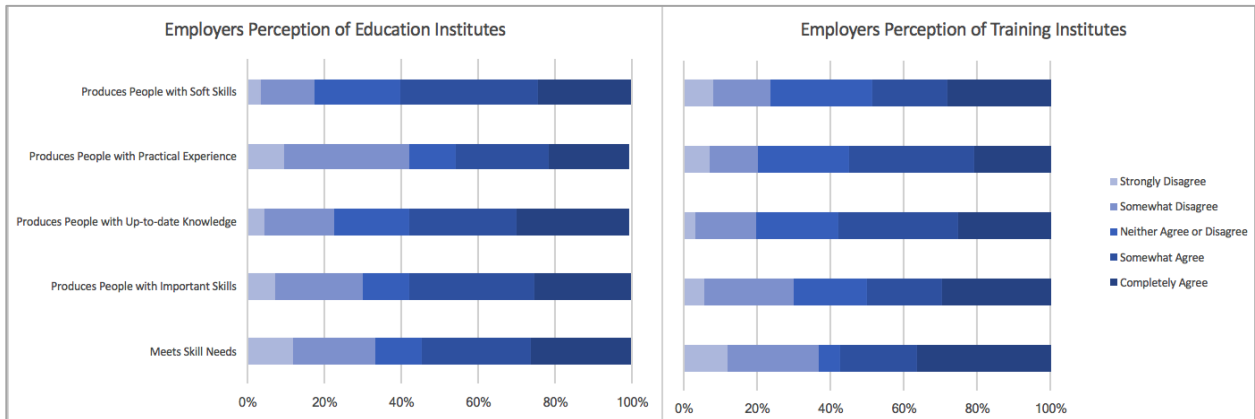


Source: Estimates based on STEP Employer Survey. Note: (i) Ordered by importance for white collar worker jobs; (ii) “There is no difference” was also an option, not presented here, but it is the residual of the two options above. For every skill except grit, a majority of firms responded that there was no difference.

### Employers’ Perception of Education and Training Institutes

**Employers find that the education system does not produce graduates with practical experience. Moreover, they find that graduates from technical training and vocational institutes do not meet the required skills.** Over 40 percent of firms disagree with the statement that the education system provides graduates with practical experience. Whereas, nearly 40 percent employers answered that graduates from technical and vocational training institutes do not meet the skills needs of the business (Figure 17). This is interesting to note since a majority of employers are satisfied with the level of education of a typical white-collar and blue-collar worker in their employ: 85 and 83 percent respectively answer that they are happy with the level of education. Also, among other constraints to doing business, educational and TVET institutes are not seen as a major constraint.

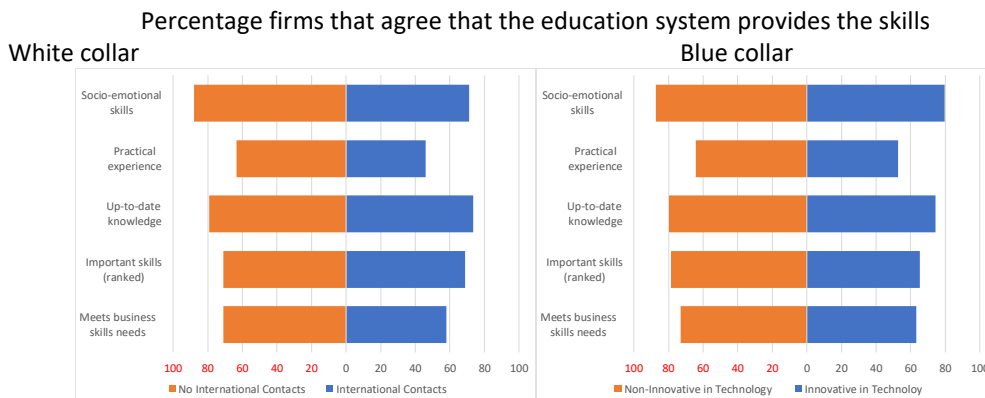
Figure 17: Do Education (left) and TVET Institutes (right) Provide Workers with the Necessary Skills?

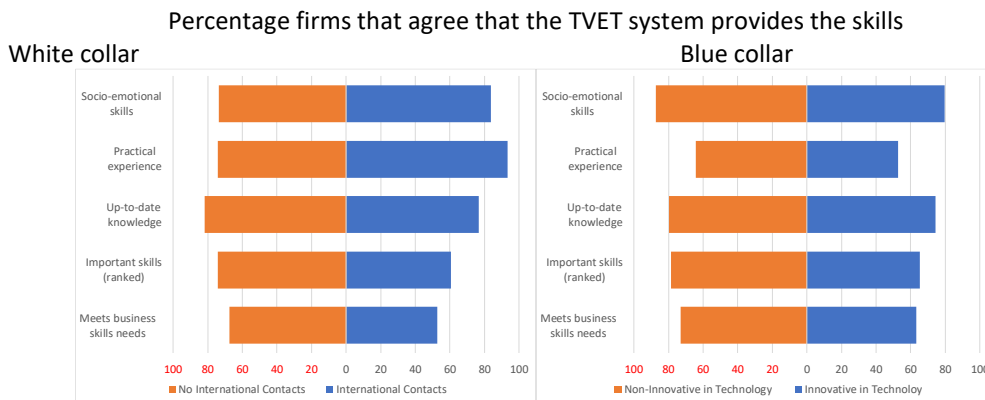


Source: Estimates based on STEP Employer Survey.

**Innovative firms are more concerned with the practical experience and skills provided by the education and training systems.** Along with employers that have international contacts, these two groups of firms are, on average, less inclined to agree that the educational and technical training systems produce workers with the necessary skill-set. They are also less likely to find that the education systems produce practical skills, and skills that are meeting their business needs. Finally, they are also less likely to find that the TVET system produces the required skills, compared to other types of firms (Figure 18).

Figure 18: Innovative and Internationally Connected Firms are More Critical of the Education and Technical Training System

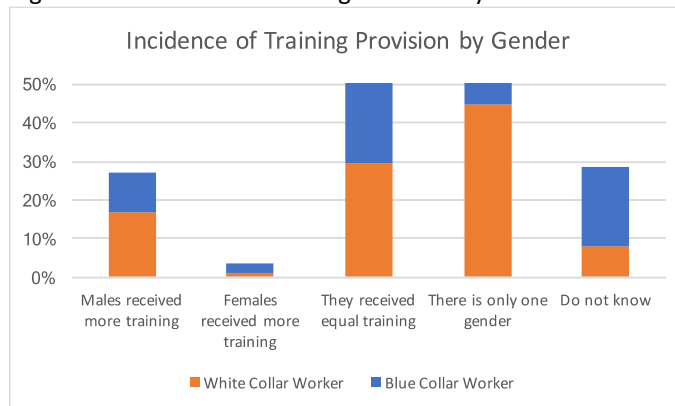




Source: Estimates based on STEP Employer Survey. Reflects on the share of employers that responded strongly agree or somewhat agree.

**Despite this perception, training opportunities by employers are limited in Kenya and a majority of formal firms do not invest in further skills development for their employees.** The share of the Kenyan urban population who benefited from some kind of training including on-the-job-training is around 27 percent according to the STEP Household survey (2013). Access to further training seems strongly linked to formal sector work which in turn is a strong correlate of education levels. Life-long learning hence becomes path dependent as more education gives access to sectors where one is more likely to continue to receive training. These relatively low shares of training are mirrored in the employer survey. Less than one third of firms provide any form of training, to either worker type and ten percent or fewer provide forms of training (other than on-the-job training). Also, firms with reporting both gender type workers reveal some disproportionate training provisions. 17 percent firms provide more training to white-collar male workers and 10 percent firms provide more training to blue-collar workers compared to female workers (Figure 19).

Figure 19: Incidence of Training Provided by Gender of Worker



Source: Estimates based on STEP Employer Survey.

Firms that find difficulties in hiring because of skills problems are only marginally more likely to address these skills problems by providing training on the job and are, in fact, less likely to provide

other forms of training (Figure 20a and 20b). The same holds for firms that were dissatisfied with the general education system – they are no more likely than others to provide training to their white-collar workers (i.e. those who are graduates from the general education system). Conversely, firms that did not find the TVET system satisfactory were significantly more likely than other firms to provide training to blue collar workers. However, overall the provision of training by employers is reportedly low.

Figure 20a: Incidence of Training Provided by Firms with ‘Lack of Skills’ as Recruiting Constraint Compared to Others

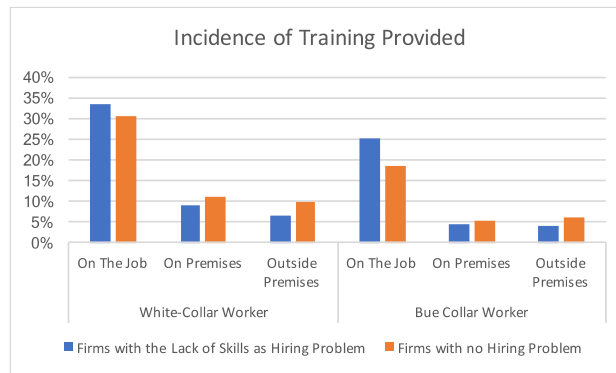
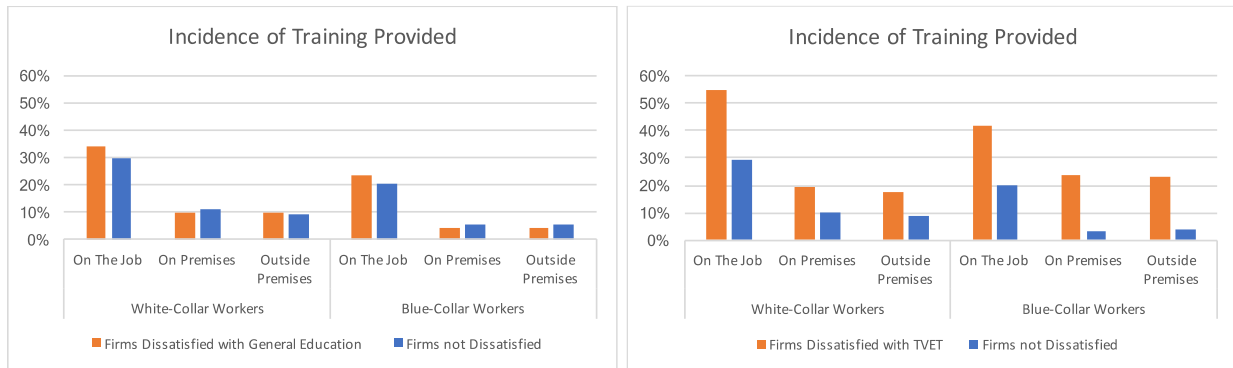


Figure 20b: Incidence of Training Provided by Firms Dissatisfied with General Education and TVET Systems Compared to Others

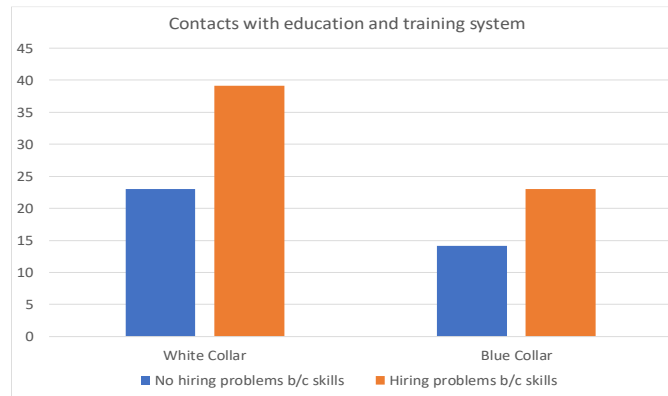


Source: Estimates based on STEP Employer Survey.

**Furthermore, employers do not report having regular and meaningful interactions - such as curriculum development and knowledge exchange - with the general education and technical training institutes. Less than one third of firms are in contact with education or technical training**

institutes in relation with their white-collar workers, and only one fifth established contact in relation to their blue-collar workers. Moreover, firms that experience problems with hiring due to skills are significantly more likely to be in touch with education systems (Figure 21).

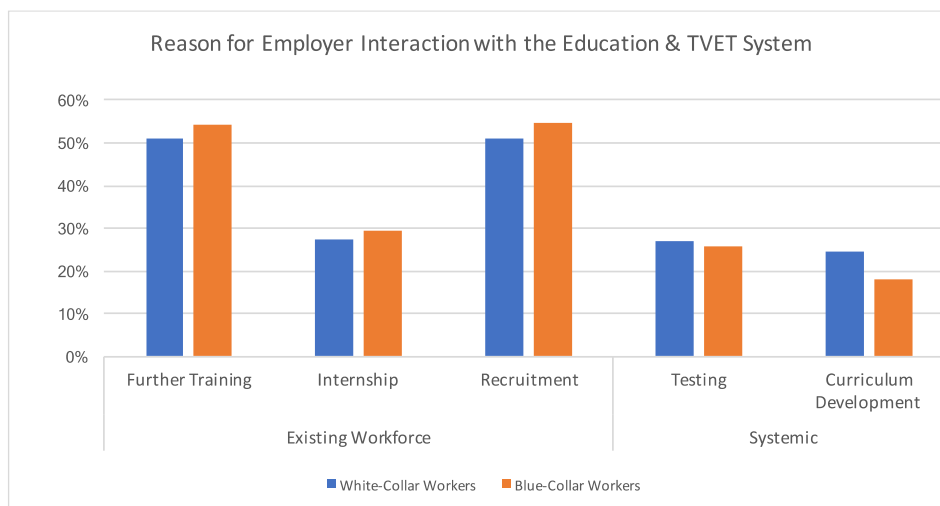
Figure 21: Incidence of Contact with General Education and Technical Training Institutes by Firms with 'Lack of Skills' as Recruiting Constraint Compared to Others



Source: Estimates based on STEP Employer Survey.

However, firms that are in touch with general education and technical training institutes are primarily concerned with providing internships, arranging training for existing workers, or for recruitment purposes. These interactions are not addressing systemic quality issues - less than 30 percent firms engage with these institutes for testing skill levels or for the development of curriculum (Figure 22).

Figure 22: Nature of Interactions Between Employers and General Education and Technical Training Institutes



Source: Estimates based on STEP Employer Survey.

## Policy Implications

Developing a workforce with the right skill-set can lead to the creation of more productive jobs which can help firms compete and grow, and thereby further increase labor demand that justify the higher wages as these firms become more competitive. Skills are an important development challenge for Kenya as more young people will need jobs and they need to be adequately trained with the relevant skills to meet potential job requirements. More emphasis is needed to support an enabling environment for firms to coordinate with education and training systems so they can help ensure workers are trained on up to date technology and skills.

This calls for coordinated actions between public and private sectors such as improving conditions for information exchange between employers and educational institutes, creating more targeted opportunities for training and finally, improving access to skills training and education programs which would improve labor productivity - including both short vocational courses, as well as, program targeting basic literacy skills.

### Incentivizing On-the-Job Training and Developing Technical Training Opportunities

**Worker mobility and resilience to new challenges requires the continuous upgrading of skills through on-the-job and other training opportunities.** While initial schooling provides the foundation for future skills development, individuals need to be afforded continued access to training opportunities. This allows both for workers to improve their competency and for unemployed individuals to become reskilled or enter alternate careers. Employers can play an active role in improving skills levels in the economy and within their own firms. Work-based training leads to higher productivity and improves the scope for innovation - which in turn leads to job creation.

As a regulating authority, the Government can coordinate with industry associations and firms such as KEPSA (Kenya Private Sector Alliance) or the Federation of Kenya Employers (FKE) to encourage an active role in the financial and technical assistance, providing resources for strategic planning and training-needs assessments and developing training policies within their sectors. Conversely, it is essential for graduates of the general education and TVET systems to be equipped with the basic skills necessary to qualify for this further training. These courses could be supplemented with programs involving internships with master craftsmen or potential employers to further prepare candidates for future work.

### Creating Inclusive Systems to Drive Future Skills Demand

**With the projected population growth rate for young people, between ages 15 and 24, there is an urgent need to foster more jobs, that are better (more productive) and inclusive (to**



**vulnerable populations).**<sup>25</sup> Efforts need to be made to extend education and training opportunities to all regions and especially to girls and women. With employers citing a clear focus on transversal skills - such as reading and writing, numeracy, communication skills and conscientiousness, the education system needs to be geared to provide these skills - with equity and quality control. Dialogue with employers on ways to improve opportunities for young workers as well as female workers will allow for a better understanding on how to create the appropriate avenues for these vulnerable groups. Collaboration is required between the private sector and general education and TVET institutes to improve the relevance and quality of the system as a whole through a demand-driven process.<sup>26</sup> An example of this policy at work is the Employment and Skills for Eastern Africa Initiative in Kenya (E4D/SOGA) introducing competence-based courses five occupations, such as electricians and welders, in coordination with the Technical University of Mombasa and the Technical University of Kenya. This program collaborates with institutes, such as universities and business associations, and offers internships and placements for graduates from vocational colleges and unskilled employees to improve their employability. This could also be more effective to consider at the county level where targeted efforts can be made at inclusive service delivery.

Skills challenges, including shortages and mismatches, create barriers for firms and reduce their competitiveness and growth and ability to create more jobs. The right skills are essential for a productive labour market geared to improving the outcomes of both employers and workers. Therefore, the overall skills development and utilization system must be flexible and responsive to enable workers to move to higher productivity jobs via reskilling or upskilling. Looking at both the demand and supply side strategies, cohesive policies can be developed to reduce the skills gaps, skills shortages and degree of mismatch in the current labour market.

### Labour Market Clearing - Connecting People to Jobs and Jobs to People

**Comprehensive labor market information is necessary to understand job creation trends and guide student career choices by providing unemployment data, job vacancies and the level of wages by occupation type.** Based on the results from the STEP Employer Survey, while skill gaps exist, they seem to affect firms' competitiveness - their ability to grow and increase labor demand as they expand (hiring of new applicants i.e. skills mismatch) significantly - more than productivity (skill shortage within the current workers). Currently, the educational investment by individuals is not optimal, requiring qualified graduates to take less-skilled jobs or conversely, fall into informal jobs that are low paying and less skills intensive. Therefore, there is a need to involve employers and recruiters in the process of informing employment trends, discussing their need and expectations and becoming partners in skills development. The Government can play a critical role in reinforcing educational and technical training institutions and reinforcing the

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<sup>25</sup> World Bank (2016), Kenya, Jobs for Youth, February 2016, Report No. 101685-KE, February 2016, Social Protection and Labor Global Practice Africa Region

<sup>26</sup> Liang, Xiaoyan, and Shuang Chen. Developing Skills for Economic Transformation and Social Harmony in China: Study of Yunnan Province. Washington, DC, USA: The World Bank, 2013.

existing network for the purposes of taking this knowledge from employers and disseminating it for general use.<sup>27</sup>

This approach will enable prospective graduates to make informed decisions regarding their educational investment and assist workers to move in to high-productivity jobs. This type of organic process will also ensure that the skills-profile of workers is responsive to demand and evolves as the Kenyan economy restructures.

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<sup>27</sup> Rutkowski, Jan J.. 2013. Workforce skills in the eyes of the employers : results of the Georgia STEP employer skills survey (English). Washington, D.C. : World Bank Group.

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