

The World Bank

Workforce Skills in the Eyes of the Employers

Results of the Georgia STEP Employer Skills Survey

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Georgia

Workforce Skills in the Eyes of Employers

The objective of this Note is to present the results of the recently completed employer skills survey, and to discuss their policy implications. The analysis finds that there is a skills shortage in Georgia despite high unemployment. It is difficult for employers, especially in the modern sector, to find workers with the required skills. Employers demand not only “hard” technical skills, but also “soft” social and behavioral skills (such as openness to experience) as well as higher-order cognitive skills (such as problem solving and creative thinking). And these are the skills that young Georgians often lack. Box 1 summarizes the main results of the analysis and shows the core employability skills that young workers lack most often.

Box 1. Key employability skills that young workers most often lack in Georgia

This box shows the most important employability skills that young workers lack most often. Only those skills are shown which are reported as missing among young workers by at least 25 percent of firms. Occupation specific technical skills are considered critical for employability by employers, and at the same time a high proportion of firms says that young workers frequently lack them. Workers also often lack higher-order cognitive skills (problem solving) and some key socio-behavioral skills (ability to work independently and in teams).

Highly Skilled Professionals	Less Skilled White and Blue Collar Workers
Occupation specific technical skills Problem solving skills	Occupation specific technical skills Ability to work independently Teamwork skills Problem solving skills

Source: World Bank Employer STEP survey, 2012; Bank staff analysis.

The Georgia Employer Skills Survey was implemented in 2012. A caveat is necessary that the results are subject to a wide margin of error due to a small sample size, and are not fully representative of the population of firms. The sample consisted of 354 firms, most of them (67 percent) from the construction industry. Large firms were oversampled because they hire workers more often than small firms and thus have a better understanding of the demand and supply conditions.¹ Post-stratification weights were used to make the results representative of firms by size (presumably also by industry, although a small number of firms from industries other than construction makes this problematic). Annex 1 provides a more detailed description of the sample.

The Survey looks at three groups of skills: job-related skills, personality traits, and personal characteristics. This typology is different from the more common one, which categorizes skills as cognitive, socio-behavioral, and technical (World Bank 2011). For example, the group of job-related skills includes all three categories, cognitive, socio-behavioral, and technical skills. Personality traits

¹ (Only employers who hired workers in the last 12 months were answering questions concerning problems when trying to hire a new employee.

(openness to experience, conscientiousness, extraversion, agreeableness and emotional stability) represent a sub-set of socio-behavioral skills. Personal characteristics (age, sex, appearance, etc.) influence hiring decisions, but are not skills in the strict sense. The relationship between both typologies of skills is shown in Annex 2.

The survey distinguishes between two worker types: Type A and Type B workers (see Box 2). Type A workers are highly skilled workers: managers, professionals and technicians (associate professionals) and as a rule have higher or secondary technical education. Type B workers are middle- and low-skilled workers, such as clerks, sales and service worker, craftsmen, machine operators, and laborers.

The Note is organized as follows. Section I looks at the supply of and demand for skills, and shows that, despite high unemployment, there is a skills shortage. Section II examines the demand for skills more closely. It identifies skills that determine the employers hiring decisions, and skills that young job applicants most frequently lack. Section III focuses on firm organized training as a way of coping with a skills shortage. Section IV concludes and discusses policy implications of the analysis.

Box 2. Type A and Type B workers

The STEP employer survey distinguished between two types of workers: Type A and Type B.

Type A workers are highly skilled white collar workers, usually with tertiary education. The group comprises three occupational categories: managers, professionals and technicians (lower grade professionals).

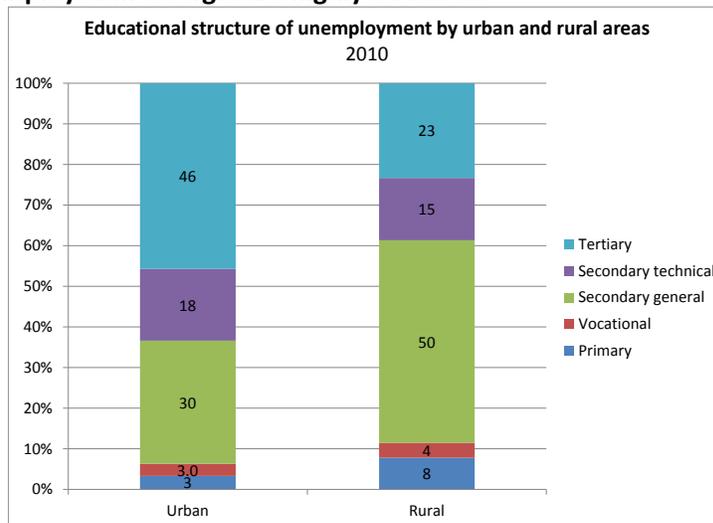
Type B workers are middle- and low skilled workers, both blue and white collar, usually with secondary education, or less. The group comprises the following occupational categories: clerks, service and sales workers, craftsmen, machine operators and assemblers, and elementary occupations.

I. Skills supply, demand and skills shortage

This section shows that despite high unemployment, including among highly educated workers, there is a skills shortage in Georgia. Many firms, especially modern ones, see inadequate workforce skills as a significant obstacle to the operation and growth of their firms. Finding workers with required skills is often difficult, particularly for jobs that require more advanced professional or technical skills. Employers claim that the education system does not meet their skill needs. The discontent over the quality of education is particularly pronounced among modern firms.

Apparently there is an oversupply of highly educated workers in Georgia. Many of the unemployed – as much every second in urban areas – have a college degree (Figure 1). To a large extent the high unemployment rate among the highly educated workers is a result of a limited demand for highly skilled labor, which reflects the traditional economic structure. The Georgian economy is dominated by agriculture and relatively low-skill intensive industries, such as trade, construction, traditional manufacturing, and transport (World Bank 2013).

Figure 1. Many unemployed in Georgia are highly educated



Source: World Bank 2013.

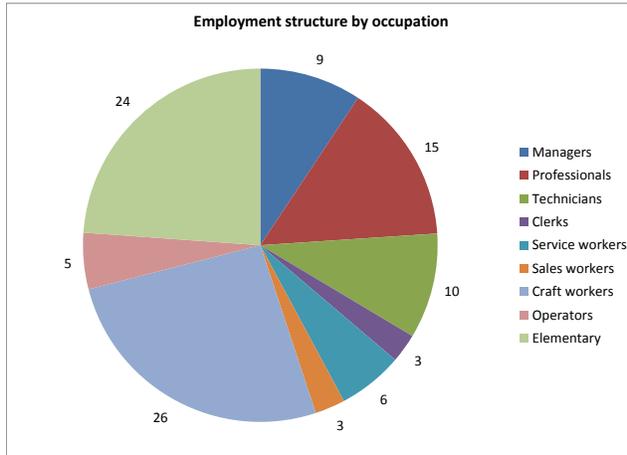
The traditional economic structure means that the majority of jobs are low- and middle-skilled jobs, while the number of highly skilled jobs is relatively low. Figure 2, Panel A shows that about one-quarter of the existing jobs outside agriculture requires just elementary skills, and another one-third require blue collar (manual) skills (such as those possessed by craftsmen, machine operators, or assemblers).² Only one-quarter of all jobs require professional or advanced technical skills.³ The demand for highly skilled labor is even lower when one looks at the skill profile of new hires. The vast majority of them (about 75 percent) were blue collar workers (unskilled and skilled), while only 12 percent of new hires were professionals or technicians (associated professionals). The limited demand for high skills coupled with a large supply of highly educated workers leads to a phenomenon known as overeducation, which leads to occupational downgrading: college graduates taking less-skilled jobs that do not required a college degree (World Bank 2013).

² These figures come from the STEP employer survey and differ to some extent from those coming from the official Household Budget Survey (HBS). The STEP survey sample is biased towards construction firms which entails stronger demand for and greater employment of less skilled blue collar workers. According to the HBS the share of highly skilled white collar workers is significantly higher than that produced by the STEP survey. Here we present the STEP rather the more representative HBS data because of their relevance for the ensuing analysis of the demand for skills reported by the firms in the sample.

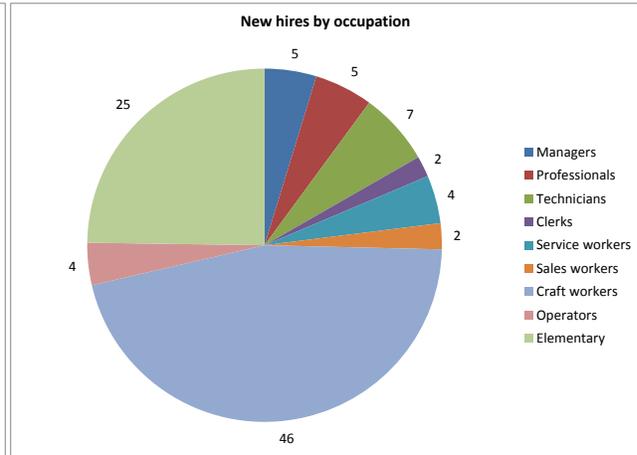
³ Nearly 10 percent of jobs required managerial skills, however managers often have less than tertiary education (especially in micro and small firms that represent the bulk of firms in Georgia (and in the sample)).

Figure 2. Limited demand for highly skilled labor

Panel A



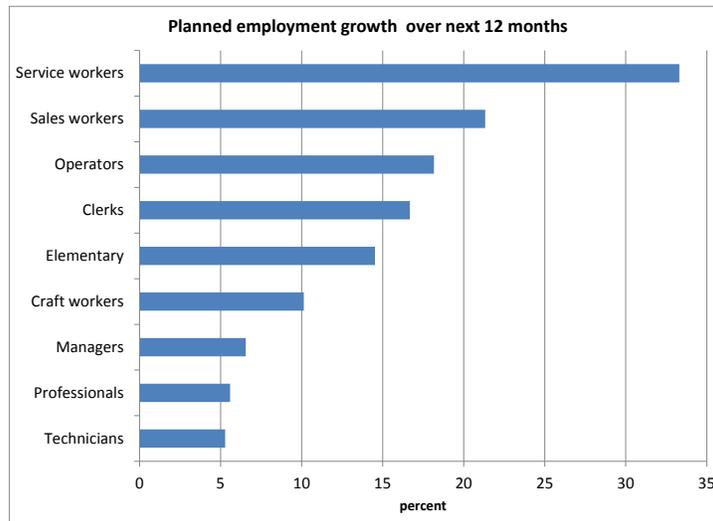
Panel B



Source: World Bank Employer STEP survey 2012; Bank staff calculations.

There seems to be a growing demand for middle-skilled labor, both white and blue collar. Figure 3 shows expected changes in employment over the next 12 months by occupation. The demand for service and sales workers is growing at a particularly high pace. Employment among skilled blue collar workers is also expected to increase, although at a slower pace. In contrast, few firms plan to employ more professionals and technicians; that is highly skilled white collar workers.

Figure 3. Growing demand for middle-skilled workers



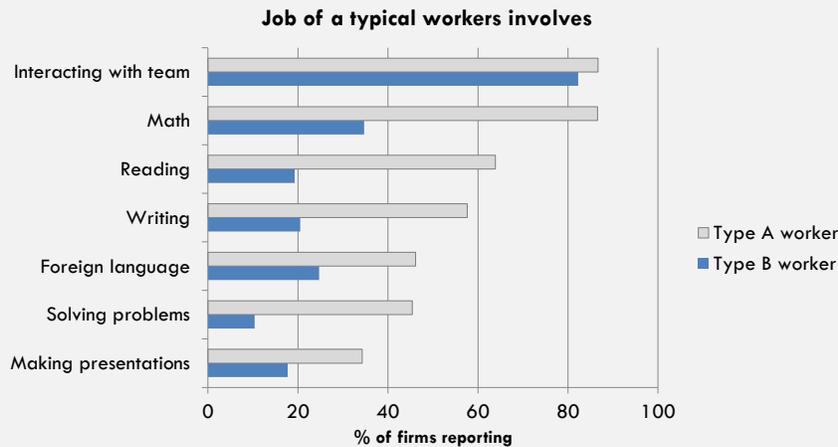
Source: World Bank Employer STEP survey 2012; Bank staff calculations.

The skill profile employment is important for understanding firms' demand for skills and the nature of problems they face when trying to hire new workers. As we will see later the problems are different (although there are commonalities, too) depending whether firms are trying to hire highly skilled workers (such as managers, professionals and technicians) and when they try to hire middle- and less-skilled workers (such as clerks, service workers, or blue-collar workers). Box 3 shows skills that Type A and Type B workers use in their jobs.

Box 3. A typical job requires cognitive and social skills in addition to technical skills

Figure A shows main skills that employees use in their jobs. A vast majority of workers (both Type A and Type B) need to use social (interpersonal) skills; that is to be able to interact effectively with a team of coworkers (the use of these skills is reported by over 80 percent of firms). Literacy and numeracy skills are also essential, especially for Type A workers. Naturally, Type A jobs are significantly more skill-intensive than Type B jobs. Around 40 percent of firms expect Type A workers to use foreign language, solve relatively complex problems and make presentations. The upshot is that a typical job in Georgia involves using a wide set of skills, which includes not only job-specific technical skills, but also socio-behavioral skills and cognitive (including higher-order cognitive) skills. This may seem obvious, but this results clearly indicates that a high quality education system needs to support the development of a wide range of skills, rather than to focus on the development of job-specific technical skills.

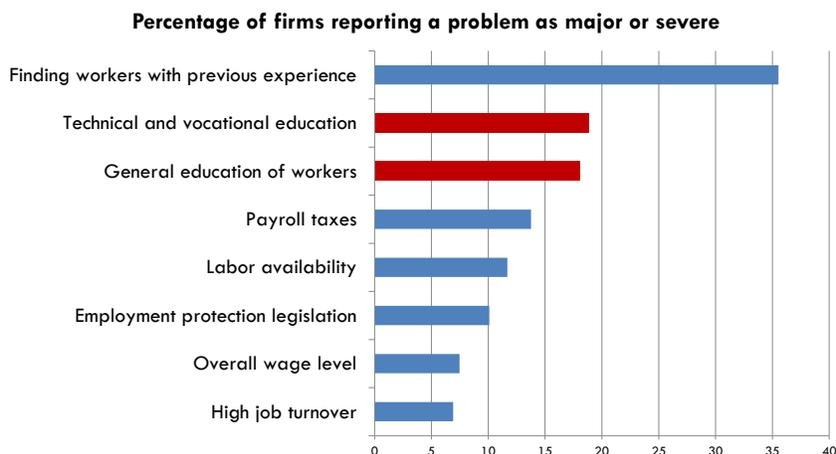
Figure A. MSG – differentiate from box title



Source: Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Many firms in Georgia complain about the quality of workforce education, especially technical and vocational, which is one indicator of a skills gap. Roughly, one firm in five sees workforce education as a major or severe problem. To put this figure into context, workforce education is deemed by a bigger problem than other labor related issues, such as payroll taxes or employment protection legislation. Even more importantly, Georgian employers consider the quality of workface education a bigger obstacle to the activity of their firms than other investment climate factors, such as business licensing, custom and trade regulations, or access to land. This means that the quality of education is indeed a major constraint to the growth of the Georgian economy.

Figure 3. Workforce skills are an obstacle to operation and growth of many firms

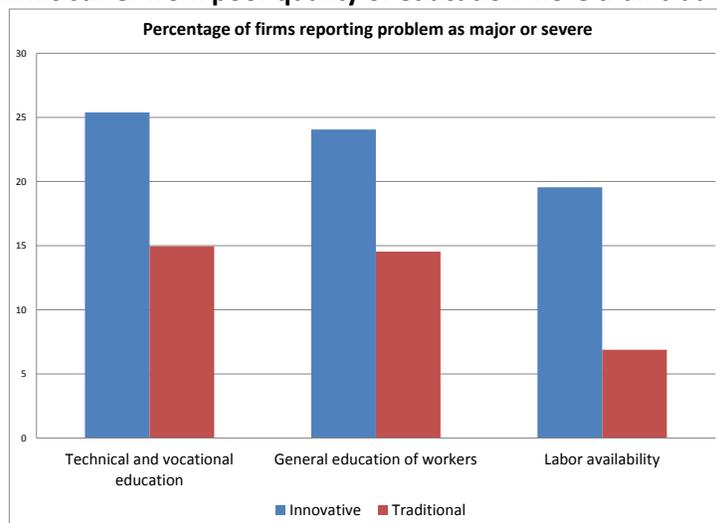


Source: World Bank Employer STEP survey 2012; Bank staff calculations.

The inadequate quality of education has a particularly strong adverse effect on innovative firms.

Figure 4 shows that innovative firms complain about the quality of workforce education much more often than traditional firms. This implies that inadequate education, in particular technical and vocational, may hamper the modernization of the Georgian economy. Accordingly the further sustainable growth of the Georgian economy will hinge on the improvements in the quality of education and equipping workers with skills required in the labor market.

Figure 4. Innovative firms suffer from poor quality of education more than traditional ones



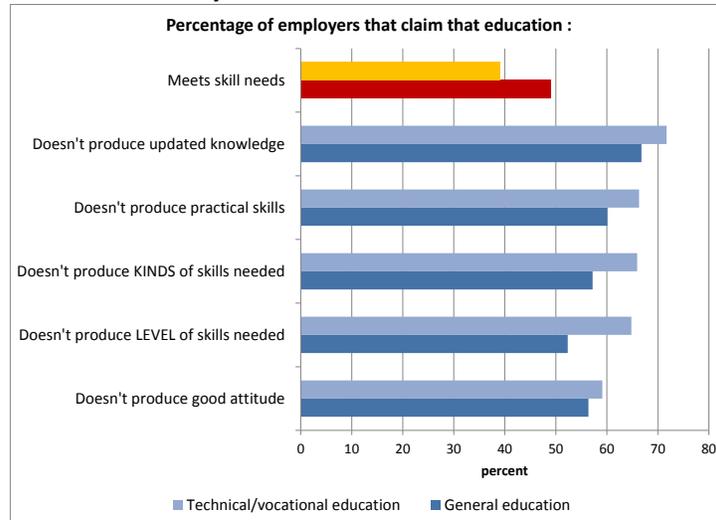
Firms are categorized as innovative if in the past three years introduced new technologies, otherwise they are categorized as traditional.

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Many employers directly say that existing education does not meet their skill needs. For example, less than 40 percent of employers is satisfied with the quality of technical and vocational education (Figure 5). This percentage is even lower among modern firms. For example, among firms with international business contacts (which are here referred to as “global”) the corresponding figure is only 30 percent, meaning that a large majority (70 percent) of global firms is unhappy about the quality of technical and

vocational education. The main complaint, voiced by over 70 percent of all firms, is that the knowledge produce by the education system is *not up to date*. Employers (some two-thirds of them) also claim that education does not produce practical skills, as well as the kinds and levels of skills needed.

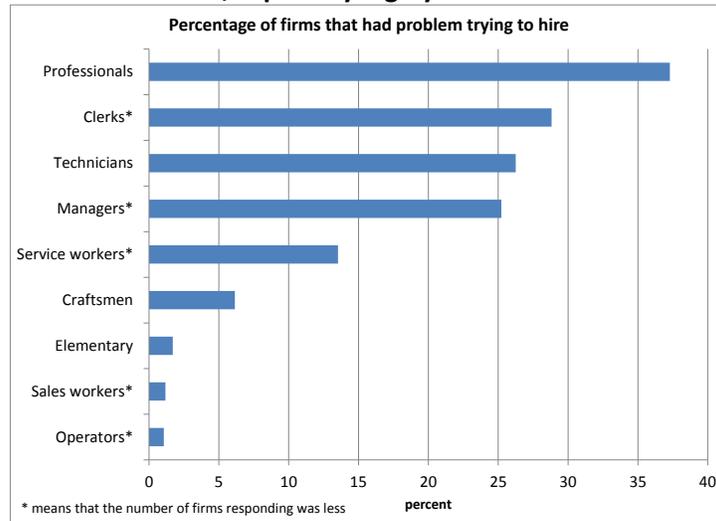
Figure 5. Employers claim education system does not meet their skill needs



Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Georgian employers find it difficult to hire workers with the required skills. One firm in three (among those who were hiring new workers) had problem with hiring a professional worker (Figure 6). Employers also found it difficult to fill job openings for clerical workers, technicians and managers. All these are occupations requiring higher level, white collar skills. This is surprising given the high unemployment rate among college graduates. Still, virtually all firms which reported difficulties in hiring workers cite the lack of required skills as the main reason. For example, among 18 firms that were trying to hire a professional worker 15 give the lack of necessary skills as the main reason why hiring was difficult. Other reasons, such as no applicants (which would point to a shortage of workers with a given occupation rather than a skills gap), excessive wage expectations on the part of job applicants, and applicants not liking the working conditions were rarely quoted. A skills gap is clearly a considerable problem in Georgia, which inhibits job creation.

Figure 6. Hiring worker is often difficult, especially highly skilled ones



Source: World Bank Employer STEP survey 2012; Bank staff calculations.

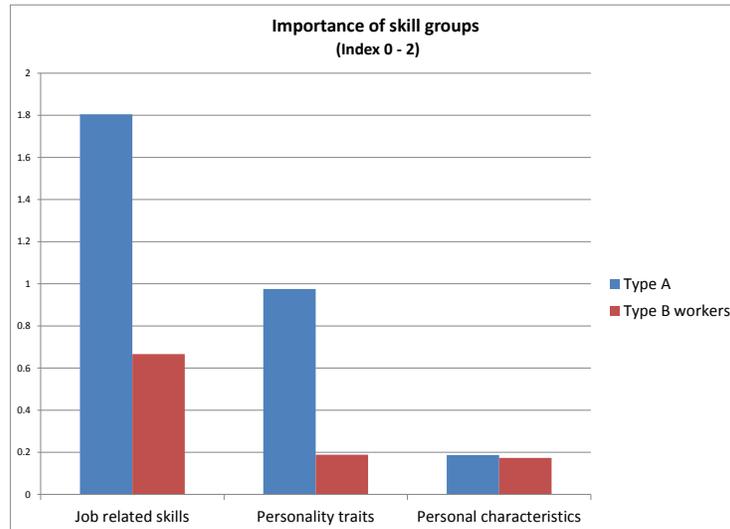
II. Main employability skills and main missing skills

This section looks at skills that influence hiring decisions of the Georgian employers, and at skills that employers consider most often lacking among young job applicants. It finds that technical competences and conscientiousness (also referred to as work ethics) are critical for employability. Job-related skills play more important role when deciding to hire a worker than personality traits, which in turn are more important than personal characteristics. The three most important skills that young workers often lack are openness to experience, technical competences and problem solving skills.

Conscientiousness and technical competences are key employability skills

Among the three broad groups of skills that affect hiring decisions, job-related skills are by far the most important. Personality traits play a secondary role, and personal characteristics matter still less (Figure 7). This pattern holds for both Type A and Type B worker. However, job-related skills are somewhat more important for Type A than Type B workers, while personality traits and personal characteristics are slightly more important for Type B workers.

Figure 7. Job-related skills matter most

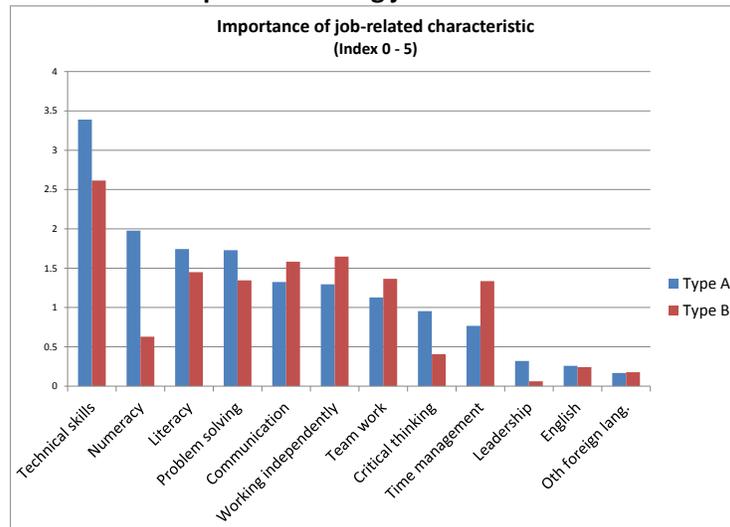


The index = 2 if all employers point to the given skill as the most important one, and the index = 0 if no employer pointed to the skill as important.

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Technical competences are critical for employability. This is the case for both Type A and Type B workers. In the case of Type A workers employers also attach a relatively high value to literacy, numeracy and problem solving skills. In the case of Type B workers, literacy is again highly valued, but then come communication skills, the ability to work independently, and team-work skills. But as Figure 8 shows, the value attached by employers to technical competences is much higher than that attached to other job-related skills.

Figure 8. Technical skills are most important among job-related skills

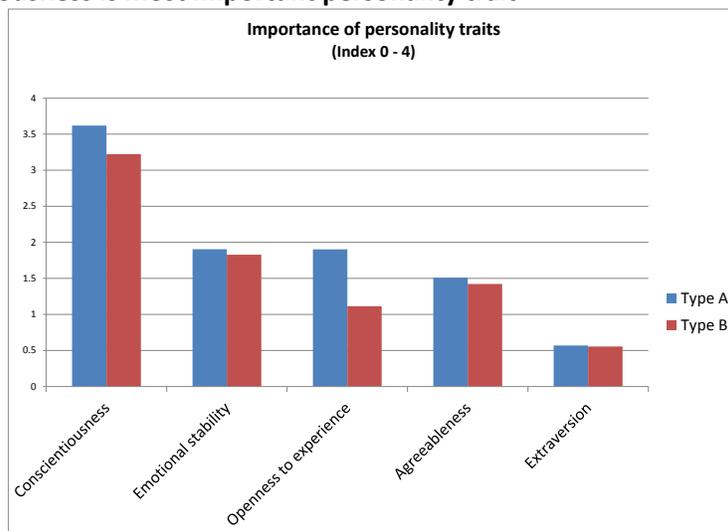


The index = 5 if all employers point to a given skill as the most important one, and the index = 0 if no employer pointed to the skill as important.

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Conscientiousness is the crucial personality trait. First and foremost, employers expect workers to do a thorough job, work hard, and be efficient, and this refers to both Type A and Type B workers. Other personality traits (such as emotional stability, openness to experience, agreeableness), however desirable, are of less importance when it comes to making a decision on whether or not to hire a worker (Figure 9). Extraversion is hardly seen as an important trait in Georgia. The critical importance of conscientiousness is also emphasized in a recent report by the McKinsey Global Institute that presents the results of an employer skills survey implemented in 9 countries (Mourshed et al. 2012).⁴

Figure 9. Conscientiousness is most important personality trait



The index = 4 if all employers point to the given skill as the most important one, and the index = 0 if no employer pointed to the skill as important.

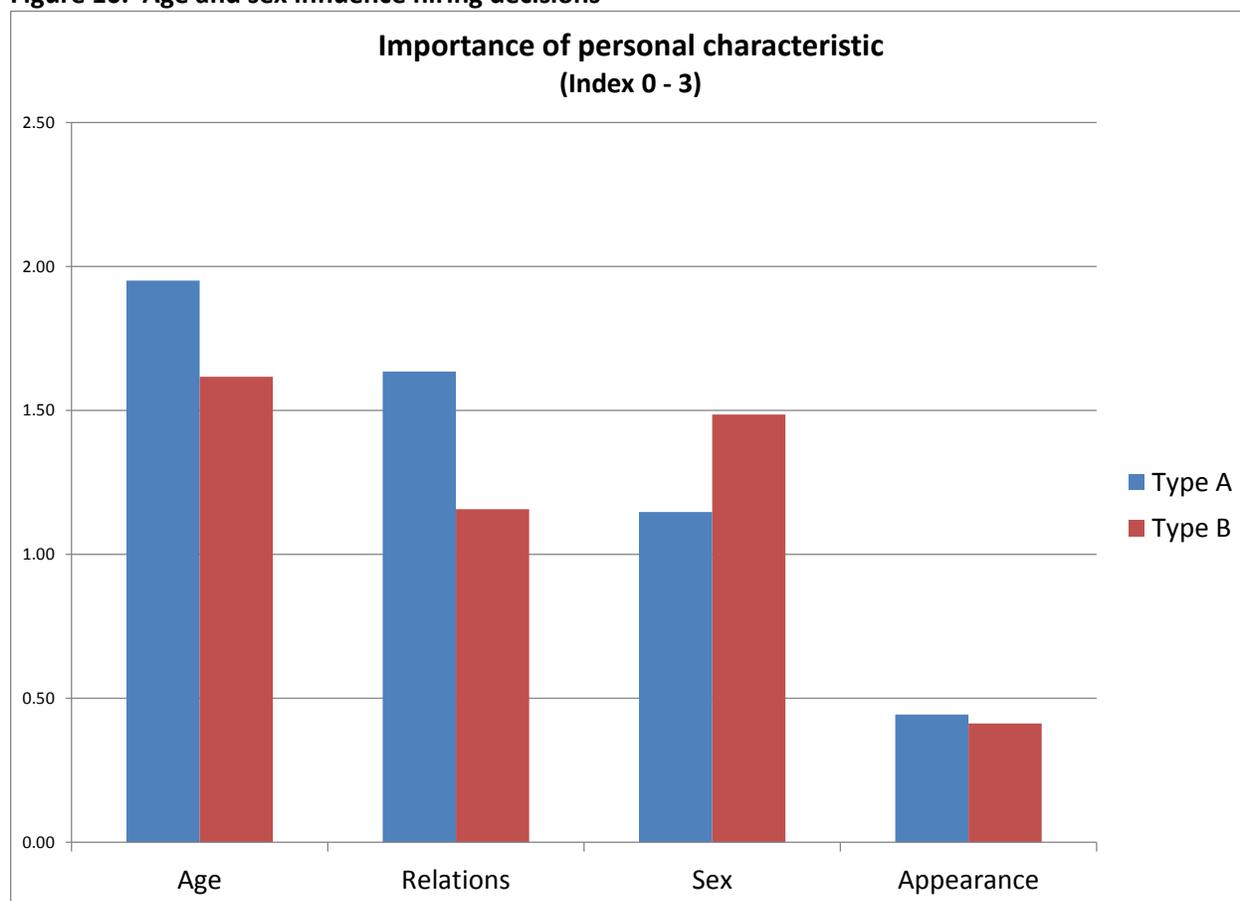
Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Although personal characteristics are less important than job-related skills and personality traits, they do influence Georgian employers' hiring decisions. Age is the most important personal characteristics, for both Type A and Type B workers.⁵ The second most important factor is family relations/personal ties in the case of Type A workers, and sex in the case of Type B workers. The importance of sex for Type B workers reflects the fact that jobs requiring middle-or low-level skills are often categorized as male (e.g. welder, security guard) or female (e.g. beautician, cleaning lady) jobs. In contrast, professional jobs are more often viewed as sex-neutral.

⁴ Given the survey's design, it is not possible to compare the importance of conscientiousness and other personality traits with that of technical competences and other job-related skills.

⁵ The survey does not reveal employers' age preferences.

Figure 10. Age and sex influence hiring decisions



The index = 3 if all employers point to the given skill as the most important one, and the index = 0 if no employer pointed to the skill as important.

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Modern firms demand more advanced skills than traditional ones. Modern firms (such as those which have international business contacts, or introduced new technologies) see some skills as particularly important, more so than traditional firms. Table 1 shows that modern firms attach higher value to higher order cognitive skills (problem solving, critical thinking and creativity), openness to experience, and foreign languages. Modern firms also attach higher value to selected behavioral skills (time management, leadership, ability to work independently), particularly in the case of Type B workers. In general, modern firms require higher skills, be it cognitive, behavioral, or technical skills.

Table 1. Skills that modern firms more frequently indicate as important than traditional firms

	Type A	Type B
Job-related skills	English and other foreign languages Problem solving Critical thinking and creativity	Time management Leadership Ability to work independently Foreign languages Critical thinking and creativity
Personality traits	Openness to experience	Openness to experience

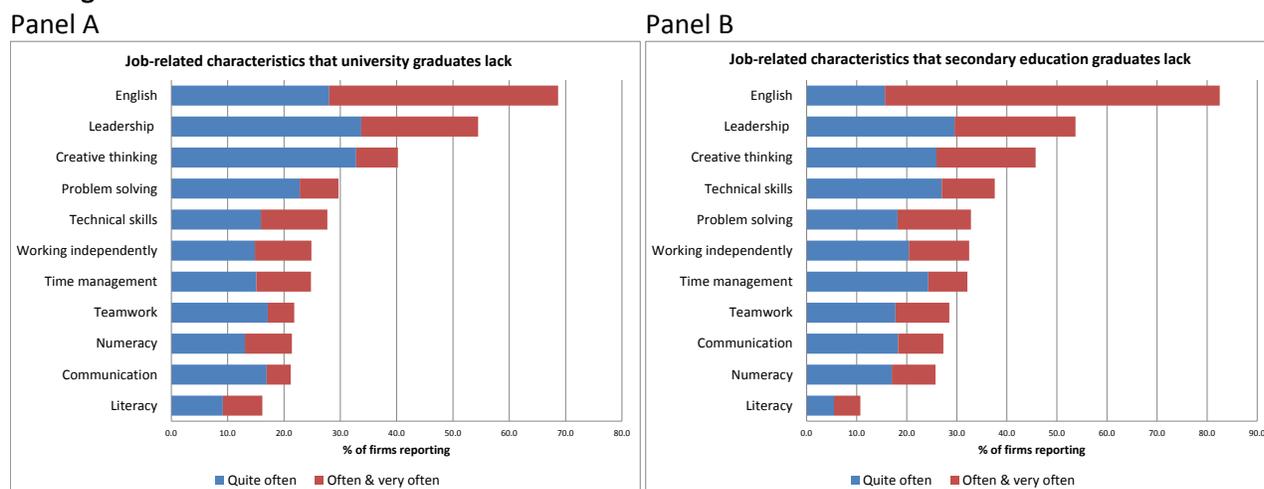
Modern firms: firms that have international business contacts or introduce innovations.

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Young workers don't know English and lack leadership, creativity and critical thinking skills

Young workers often lack some important skills. According to employers, top five skills that young (under 30) workers most frequently lack are English, leadership, creative and critical thinking, problem solving, and technical skills (Figure 11). This refers to both to college and high school graduates. For example, close to 70 percent of employers say that college graduates often don't know English; over 50 percent say they lack leadership skills, and 40 percent say that they lack creativity and critical thinking skills. Occupation specific technical skills are also quite often deemed a problem. College graduates have insufficient technical skills according to almost 30 percent of employers, and high school graduates have insufficient technical skill according to close to 40 percent of employers. Employers' perception that young workers lack higher-order cognitive skills as well as technical skills is consistent with their negative assessment of the quality of education in Georgia. Insofar as this perception is true, it does not bode well for the development of the modern, innovative sector of the Georgian economy, because this sector demands exactly the skills that prove to be rare among young workers.

Figure 11. Young workers most often lack foreign language, leadership, creative thinking and problem solving skills

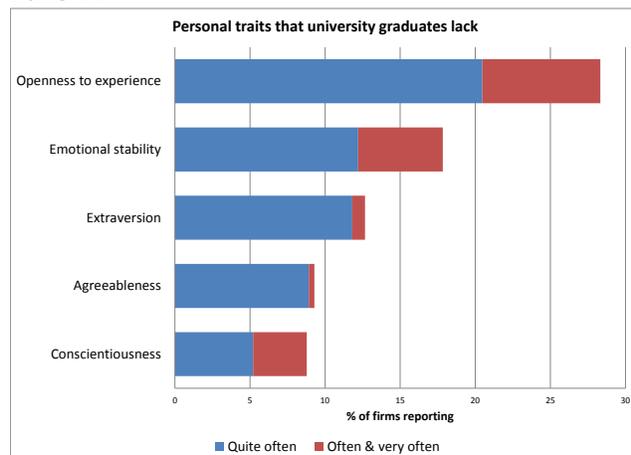


Source: World Bank Employer STEP survey 2012; Bank staff calculations.

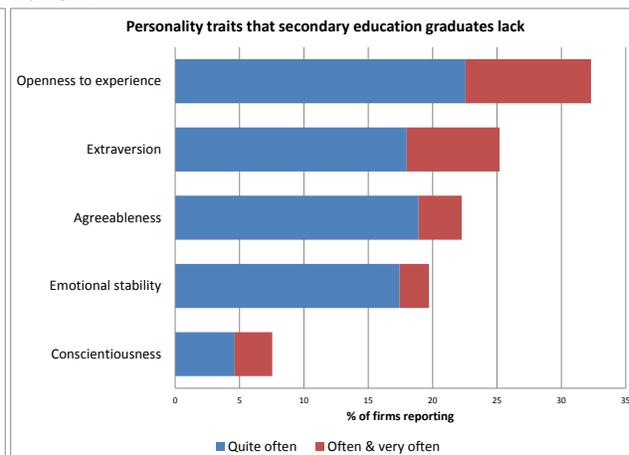
Openness to new experience is the personality trait that young workers lack most often. Roughly one out of three employers claims that young workers are not open to new experience (Figure 12). This is surprising and worrisome, as it is young people who are supposed to be most open to new experiences. (If this trait is rare among young workers in Georgia, it is probably still rarer among older workers). This result strengthens the negative message of the previous paragraph: many young Georgians lack critical skills required in the modern, innovative sector of the economy.

Figure 12. Young workers often are not open to new experience

Panel A



Panel B



Source: World Bank Employer STEP survey 2012; Bank staff calculations.

On a positive note, conscientiousness is rarely seen as a problem. We saw earlier that conscientiousness (work ethics) is among the key employability skills. The survey results indicate that most young workers have the appropriate job attitude: are motivated, dutiful, reliable and hardworking. Work ethic does not seem to be an obstacle to job creation in Georgia.

For most Georgian firms insufficient job-related skills are more of a problem than the lack of the desired personality traits. Only about 30 percent of employers say that inadequate personality traits among young workers are more of a problem for their firms than insufficient job-related skills (accordingly, for 70 percent job-related skills are more of a problem). This proportion is roughly the same for college and high school graduates. Thus the priority is to improve job-related skills, especially those which employers consider the most important, and which at the same time young workers most often lack. This issue is examined below.

Technical and problem solving skills are the two key employability skills that young workers lack most often

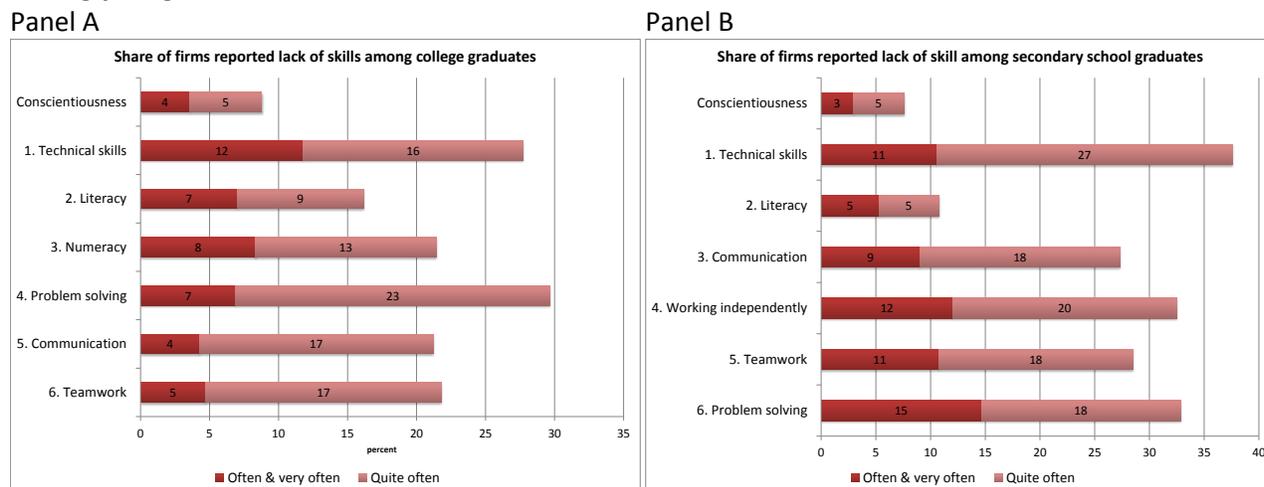
While young Georgian workers rarely know English, English is not viewed by employers as a particularly valuable skill. In fact, English is deemed as one of the least important job-related skills (Figure 8). Hence, the fact that most workers do not know English is *not* a binding constraint for the majority of employers (at least in the short run). The problem arises when workers lack skills that are important. The question is thus, what are the *key skills* that young workers lack most often. Figure 13 provides an answer to this question. Conscientiousness (the most important personality trait) and the top five job-related skills are shown ranked by importance on the vertical axis; the horizontal bars show the percentage of firms that report these skills missing among young workers.

The two important skills that college graduates lack most often are occupation-specific technical skills and problem solving skills.⁶ These two skills are often missing also among high school graduates. However in this case the list of missing skills is longer. In addition to technical and problem solving skills

⁶ We focus on skills that at least 25 percent of employers see as missing among young workers.

high school graduates also often lack the ability to work independently as well as in teams, and communication skills.

Figure 13. Technical and problem solving skills are the two most important skills that are missing among young workers



Note: skills are ranked by importance (see Figure 8).

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Apparently the education system fails to equip young workers not only with technical skills but also with higher order cognitive skills, and some critical socio-behavioral skills. This is an important result, because often public debate on workforce skills focuses on the need to improve technical skills. While necessary, this by itself is not sufficient to raise worker productivity. An improvement in higher order cognitive skills (problem solving) and the development of social and behavioral skills (ability to work independently, team working skills and communication skills) are necessary to reduce the skills gap and to equip young workers with the skills that meet the employers' demand.

III. Firm provided training

This short section examines the provision of training by firms as a way to address the skills gap. It finds that training is mainly provided by large firms, while micro and small firms (which dominate the Georgian economy) seldom provide training. Training is provided mostly internally and predominantly to middle- and low-skilled workers (presumably in the form of orientation and on-the job training). In contrast, external training is provided largely to highly skilled, professional workers, but is rare.

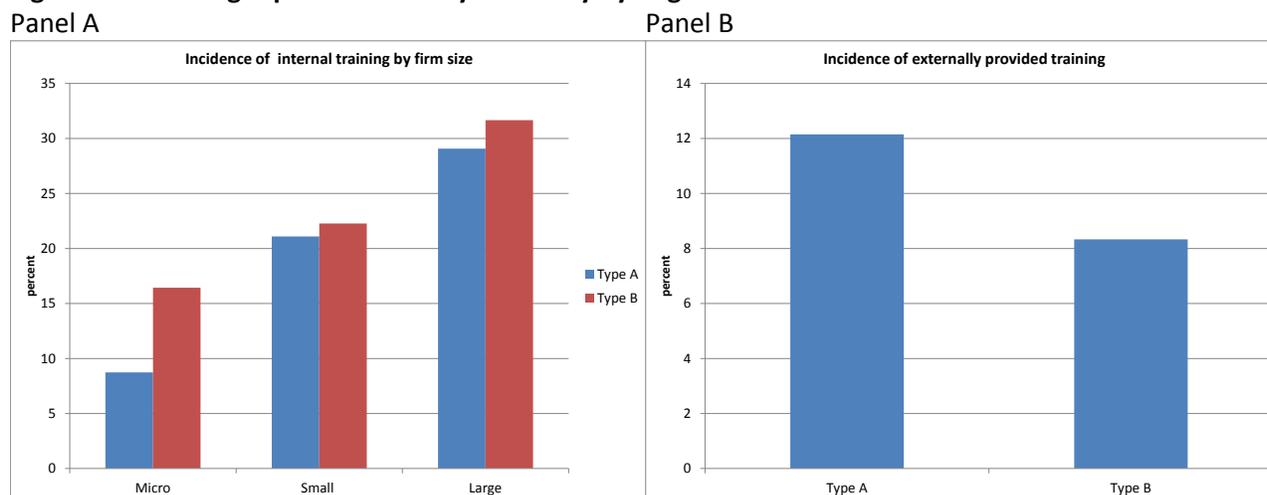
Relatively few Georgian firms provide training to their workers. Only one firm in five provides training to Type B workers, and one in seven to Type A workers. Training is predominantly internal, that is takes place on the premises of the workplace. In most cases training is provided directly by the firm manager; much less frequently by firm or external trainers. The median duration of training provided by the firm manager is 15 days. This suggests that firms provide mainly orientation and basic on the job-training. Firms that see technical and vocational education of the available workers as a significant problem are somewhat more likely to provide training to Type A workers, which is what one would have expected. Specifically, 20 percent of firms that see VET as a significant problem provide training to Type A workers, compared with only 14 percent of firms that do not see VET as a problem. Quite surprisingly, these

firms are less likely to provide training to Type B workers. There is no straightforward answer to the question why this is the case.

The incidence of firm provided training increases with firm size. For example, large firms (employing more than 50 workers) are 50 percent more likely to provided internal training than small firms (11 – 50 workers) and twice as likely as micro firms (Figure 15, Panel A). This is a typical pattern across countries and Georgia is no exception in this respect. However, the Georgian economy is dominated by micro and small firms, which implies that fewer Georgian workers receive training than workers in countries where large firms are more common.

Less skilled workers are somewhat more likely to receive training than highly skilled ones. This difference is particularly pronounced in micro firms (the prevailing firm type in Georgia). For example, micro firms are twice as likely to provide training to Type B workers as to Type A workers (16 and 9 percent respectively). One possible explanation is that easier to provide internal, on-the-job training for less-skilled than for highly skilled jobs. If so, this would suggest that it easier for firms to bridge the gap in the less than in more advanced skills, which is quite intuitive.

Figure 14. Training is provided mainly internally by large firms to middle- and low-skilled workers



Source: World Bank Employer STEP survey 2012; Bank staff calculations.

IV. Conclusions and policy implications

This section summarizes the evidence on a skills gap in Georgia, briefly examines its causes and consequences, and finally presents policy challenges. It argues that improvements in three areas are necessary to address the skills gap. First, the quality of education needs to be improved and the education system needs to become more responsive to the labor market needs. Second, the quality and scope of labor market information needs to be enhanced in order to inform education, training and employment policies, as well as guide career choices of students and jobseekers. Finally, the modern sector of the Georgian economy needs to expand and new more productive jobs need to be created in order to strengthen incentives for workers to invest in skills (and not only in obtaining diplomas).

Skills gap: Evidence

There is convincing evidence of a skills gap in Georgia. Workforce skills are seen by many Georgian employers as a substantial obstacle to the growth of their firms. This perception is particularly pronounced among modern firms, which suffer from skill shortages more than traditional firms. Hiring new workers often proves difficult, mainly because job applicants lack the required skills. This especially refers to hiring professional workers, despite high unemployment among college graduates. Job applicants often lack some critical employability skills in spite of having the required diplomas. Our analysis reveals that young workers lack not only occupation specific technical skills, but also higher order cognitive skills and socio-behavioral skills. Still, it is technical skills that are considered most important for employability and the lack of these skills among young workers (both college and high school graduates) is of primary concern for many Georgian employers. Aside from technical skills, young college graduates lack problem solving skills, which are part of higher-order cognitive skills. Problem solving skills are also missing among high school graduates; in addition they often lack teamwork skills, the ability to work independently as well as communication skills. Employers claim that few young workers know English, but for most Georgian firms the knowledge of foreign language is still not critical for employability. However this is likely to change once more Georgian firms start to compete globally and FDI will grow in magnitude. Finally, employers see young workers not sufficiently open to new experience and lacking creativity and critical thinking skills. Although these skills are currently not among the core employability skills in Georgia, lack of openness to new ideas, as well as lack of creativity and ability to think critically is worrisome because it may hamper the modernization of the Georgian economy.

Skills gap: Causes

Poor quality of education seems to be an important cause of the skills gap in Georgia. The majority of Georgian employers claim that the education system does not meet their skill needs. They are particularly critical of the quality of technical and vocational education. Specifically, in employers view the education system does not produce updated knowledge, practical skills and the kinds and level of skills needed. The fact that there is a large number of unemployed workers with a college degree and it is still difficult to find a professional worker with required skills is a testimony to failings of the tertiary education system. It either produces graduates with a wrong set of skills (e.g. too many sociologists and too few engineers) or graduates who despite having a college diploma lack the necessary skills, not only technical but also higher order cognitive and social skills. The exact nature of the skills mismatch in Georgia requires further more in-depth research.

Clearly, the quality of education in Georgia falls short of employers' expectations. **However, some degree of a skills mismatch is unavoidable and common in the every restructuring and growing economy, and Georgia is no exception in this respect.** This is because in a restructuring economy the skill content of new jobs that are being created differs from that of the old jobs that are being destroyed. We saw that the new jobs in Georgia emerge largely in the service and trade sectors, and there is thus a growing demand for middle-level white collar skills. In contrast, the demand for highly skilled white collar workers (professionals) is limited and not expanding. In order to reduce the skills mismatch the education system needs to respond to the shifts in labor demand.

Skills gap: Consequences

Many Georgian firms, especially modern ones, see workforce skills as a major obstacle to the operation and growth of their firms. This implies that skills gap, if not addressed, may slow down the rate of economic growth, and to impede the modernization of the Georgian economy. Employers may create fewer new jobs, especially in the modern sector, if they cannot find workers with the right skills. The perception that workers do not have adequate skills may also deter investment (including FDI).

The skills mismatch also means higher unemployment. Many people are jobless because they lack the skills required in the new jobs. Those who are employed but underskilled are less productive and earn lower income. In short, inadequate human capital has an adverse effect on the current welfare of the population and on future growth prospects.

Skills gap: Policy challenges

In order to address the skills gap Georgia's education and employment policies need to focus on three priorities. First, on making the education system more responsive to the changing labor market needs. Second, on improving the quality of labor market information and analysis. Third, on fostering the creation of high productivity jobs in the modern sector of the economy to strengthen incentives to invest in skills.

Our analysis indicates that making the education system in Georgia more responsive to labor market needs entails improvements in three related areas: (a) the overall quality of education, (b) the formation of higher order cognitive skills and socio-behavioral skills, and (c) the development of occupation specific technical skills.

Making the education system more responsive to labor market needs

Overall quality of education. Graduates of secondary and tertiary education institutions need to have actual skills, not only diplomas. And diplomas need to certify actual competences and qualifications. It is worrisome that despite the high unemployment among the college educated workers employers find it hard to hire professionals who possess the right skills. Addressing this problem is of paramount importance from the perspective of the modernization of the Georgian economy.

Formation of higher –order cognitive and socio-behavioral skills. Many young workers lack these skills which hampers their employment chances as well as the performance of Georgian firms. Accordingly the education system needs to put more emphasis on the development of these skills. This specifically refers to problem solving skills, creativity and critical thinking, teamwork skills, ability to work independently, and openness to experience. Improvement in this area is critical for the development of the modern sector of the Georgian economy.

Development of technical skills. The shortage of appropriate occupation specific technical skills is the top concern of Georgian employers. Productivity growth and the competitiveness of Georgian firms hinges on improvement in this area. The relevance of technical education to labor market demands can be enhanced by through an institutionalized partnership between education institutions and employers, including employers' involvement in curricula design. At the tertiary level, the technical dimension of education can be strengthened by developing professionally-oriented higher education in addition to the academic stream, which is presently a route pursued by a number of European countries.

Improving labor market information

Better labor market information is necessary to inform education, training and employment policies, and to guide career choices of students and thanks to this to reduce a skills mismatch. This particularly refers to information on the supply of and demand for different occupations and skills. The stakeholders need to know the demand for which occupations and skills is growing and for which it is falling in order to make informed choices. The information on occupational trends can be either quantitative or qualitative. Quantitative information comes from regular labor market monitoring and shows trends (past and projected) in employment, unemployment, job vacancies and wages by occupation. Qualitative information comes from focus group discussions with employers and staff of employment agencies (public and private) and shows their expectations concerning changes in the demand for different occupations and skills in relation to the current supply. Both approaches allow one to determine occupations in short supply, and those in excess supply. Compared with quantitative methods, qualitative methods provide a better insight into the specific skills that employers demand. Additional information on career prospects associated with a choice of different types of schools and fields of study comes from *graduate tracer studies*, which have recently gained in popularity in a number of European countries. This type of information enables prospective students to make informed career choices and as such can contribute to reducing a skills mismatch.

The Government plays a critical role in generating (directly or indirectly) and disseminating information on labor market conditions. *Labor Market Observatories* are institutions established in many countries in order to improve the quality and scope of available labor market information and to analyze labor market developments. Their analysis is tailored to the diverse needs of various users (government agencies including public employment services, education and training institutions, investors, etc.). But is also critical that the relevant labor market information reaches students and job seekers so that they can make informed career choices. This function of turning information into knowledge is played by career development centers as well as by public employment services.

Fostering job creation

Georgian needs to foster the creation of high-productivity jobs in order to strengthen incentives for workers to invest in skills. Currently, job opportunities for highly-skilled workers are limited, which curtails the incentives to invest in skills development. Once the probability of unemployment is factored in, the expected returns to education are relatively low in Georgia (World Bank 2013). If such conditions persist, they may lead to a bad equilibrium: workers do not invest in skills because of the low return to their investment, and employers to not create high productivity jobs because they cannot find workers with the required skills. The symptoms of such situation are already present. To get out of this vicious circle, job opportunities (employment probability and earnings) for highly skilled workers need to improve. This requires investments in new technology in the existing firms, but first and foremost, entry of new, more productive firm (World Bank 2005). Evidence, both international and from Georgia, shows that it is new, young firms that create the most productive jobs (Rutkowski 2008, World Bank 2014). A favorable investment climate is crucial for fostering firm entry and grow. Since the mid-2000s Georgia has introduced major reforms to improve the business environment, and ranks high in terms of the ease of doing business (World Bank 2013). However, the challenge of developing a modern sector of the economy, providing high-value added jobs to the well-educated young Georgian workers, lies still ahead.

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Annexes

Annex 1. Sample structure

Table A1. Sample structure by main firm characteristics, 2012

Percentage distribution

	Original sample structure	Weighted structure
<i>Economic activity</i>		
Construction	66.7	55.1
Hospitality	9.3	10.8
ICT	9.0	13.4
Other services	6.2	9.7
Trade	2.5	2.1
Transport	2.3	3.5
Other	4.0	5.4
<i>Firm size (employment)</i>		
Micro (1 – 10)	31.7	55.8
Small (11 – 50)	41.9	33.7
Large (51+)	26.4	10.5
<i>International business contacts</i>		
Yes	68.4	73.9
No	31.6	26.1
<i>Introduced new technology</i>		
Yes	62.4	75.0
No	37.6	25.0

N = 354

Source: World Bank Employer STEP survey 2012; Bank staff calculations.

Annex 2. Typology of skills: STEP vs. World Bank (2011)

STEP	World Bank (2011)
Job-related skills	
Job-specific technical skills Foreign language	Technical skills
Literacy Numeracy Creative & critical thinking Problem solving	Cognitive skills
Communication Team-work Leadership Ability to work independently Time management	Social and behavioral skills
Personality traits	
Openness Extraversion Conscientiousness Agreeableness Emotional stability (neuroticism)	
Personal characteristics	
Age Appearance Sex Family connections/personal ties	