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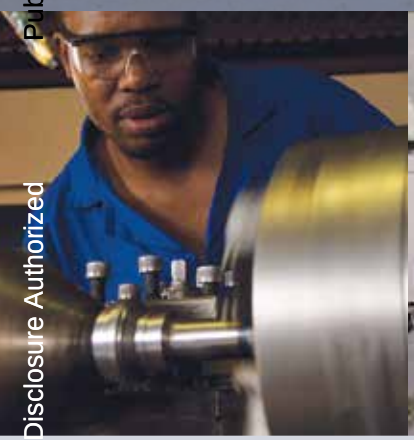
POLICY NOTE 3

SKILLS NEEDS OF THE PRIVATE SECTOR IN BOTSWANA



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POLICY NOTE 3

SKILLS NEEDS OF THE PRIVATE SECTOR IN BOTSWANA

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Outputs of the "Skills for Economic Growth and Diversification in Botswana" analytical work:

Policy Note 1: "Raising Botswana's Human Resource Profile to Facilitate Economic Diversification and Economic Growth"

Policy Note 2: "Labor Market Signals on the Demand for Skills"

Policy Note 3: "Skills Needs of the Private Sector"

Policy Note 4: "Skills Implications of Botswana's Diamond Beneficiation Strategy"

Summary Report

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Initial versions of the background papers were presented to key education stakeholders in Botswana at a workshop in December 2010. The workshop was co-organized by the Ministry of Education and Skills Development (MoESD); critical input provided during the workshop helped shape the current version of this report.

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Abbreviations and Acronyms

BOTA	Botswana Training Authority
CPS	Country Partnership Strategy
CTIF	Constructing Industry and Trust Fund
EESB	Employer and Employee Survey in Botswana (2010)
ESW	Economic and Sector Analytical Work
IT	Information Technology
MoESD	Ministry of Education and Skills Development
MoLHA	Ministry of Labour and Home Affairs
PATHS	Promoting Alternative Thinking Strategies
R&D	Research and Development
STEM	Science, Technology, Engineering, and Mathematics
TVET	Technical and Vocational Education Training

All dollar amounts in U.S. dollars unless otherwise indicated.

Context of the Study

Human development is one of the pillars of Botswana's Country Partnership Strategy with the World Bank (2009–13). The Country Partnership Strategy (CPS) is in line with Botswana's "Vision 2016," which, in terms of human development, envisions the transformation of Botswana to "an educated and informed nation" and to "a prosperous, productive and innovative nation" as two key cornerstones of the strategy. In line with these objectives, the World Bank with support from the Ministry of Education and Skills Development (MoESD) embarked on analytical study entitled "Skills for Economic Growth and Diversification in Botswana." The work is informed by Botswana's need to diversify its economy to facilitate stronger, more sustainable economic and employment growth and, concurrently, equip its workforce with a variety of skill sets that meet employer needs.

The objective of the exercise is to provide the government of Botswana with concrete suggestions for policy interventions that strengthen the skills base of the workforce and thus facilitate economic growth, diversification, and employment. The recommendations offered by this and the other notes that make up the study, are based on analyses of available data and international best practices. Four policy notes were developed, each of which touches on crucial aspects of strengthening the country's skills base: "Raising Botswana's Human Resource Profile to Facilitate Economic Diversification and Growth" (note 1), "Labor Market Signals on the Demand for Skills" (note 2), "Skills Needs of the Private Sector" (note 3), and "Skills Implications of Botswana's Diamond Beneficiation Strategy" (note 4). The key findings and recommendations of these four notes were then integrated into a short Summary Report.

The first note assesses the strengths and weaknesses of Botswana's education system (i.e., basic, technical and vocational, and higher education) and recommends policy interventions to strengthen students' acquisition of relevant knowledge and skills. The second note examines both current labor and skills demand (based on available labor market data) and expected skills demand (based on the government's economic strategies). On the basis of this analysis, the note offers recommendations on skills development and government programs. The third note uses the findings of an employer-employee survey conducted in Botswana in 2010 to identify skills needs and gaps from the viewpoint of the private sector. The last note examines the skills implications of the government's diamond beneficiation (processing) strategy and suggests actions that can be undertaken to ensure that the nation's skills base supports, rather than hampers, implementation of the strategy.

1. Human Capital and Employer Demand

Human capital enhances labor productivity, aiding the adoption and adaption of technology and stimulating innovation for economic growth. Countries with better-educated workforces have higher growth rates in the long run (see Policy Note 1). A well-skilled workforce is also an incentive for foreign investors. However, employers in Botswana itself, appear unsatisfied with the skill levels of their employees, and the labor force available in the country. The *Global Competitiveness Report 2010–2011* (WEF 2010), for example, reports that firms in the country consider two of the top constraints to doing business to be a poor work ethic and lack of an appropriately educated labor force (figure 1).

Recent research emphasizes that certain key competencies provide the basis for the adaptability and continuous learning of workers in a rapidly advancing knowledge economy. These competencies include cognitive, academic, and technical skills; behavioral (or "soft") skills, such as problem solving, creativity, interpersonal skills, and work ethics; and management skills. Information on the demand and supply of behavioral and management skills is not commonly collected by labor or household surveys, or by student learning assessments. Given Botswana's need to diversify its economy, it is important to analyze the skills that employers demand and how well employees in the country match that demand. Such an analysis can help focus policy on the critical needs of the economy.

The World Bank, in collaboration with the Ministry of Education and Skills Development (MoESD) of Botswana, undertook a survey of employers and employees in the country in 2010 to identify the educational background and skill set of the workforce in firms of different sizes. The ultimate aim of the survey was to assist the government in developing policies to achieve Botswana's vision of a diversified knowledge economy. Some of the issues of interest included the incidence and role of training in increasing labor productivity, as well as patterns in the demographic characteristics and skills of the workforce. Both employers and a small sample of their employees were surveyed to identify employer assessments of worker skills, labor demands, job vacancies, and training availability. The survey was conducted during August and September 2010 and covered a random sample of small, medium, and large enterprises in two cities. Details of the survey's objectives, scope, and dimensions are provided in box 1.[1]

A unique aspect of the survey was the detailed information it provided about self-reported employee skills, the skills expectations of employers, and the skills of coworkers—variables that are not typical of labor market surveys. This note synthesizes the key findings of the EESB, including labor market rewards to education, the evolution of worker earnings over time, growth and change in wages, the effect of certain employee self-reported characteristics and skills on their wages, and the value of such characteristics and skills to employers.

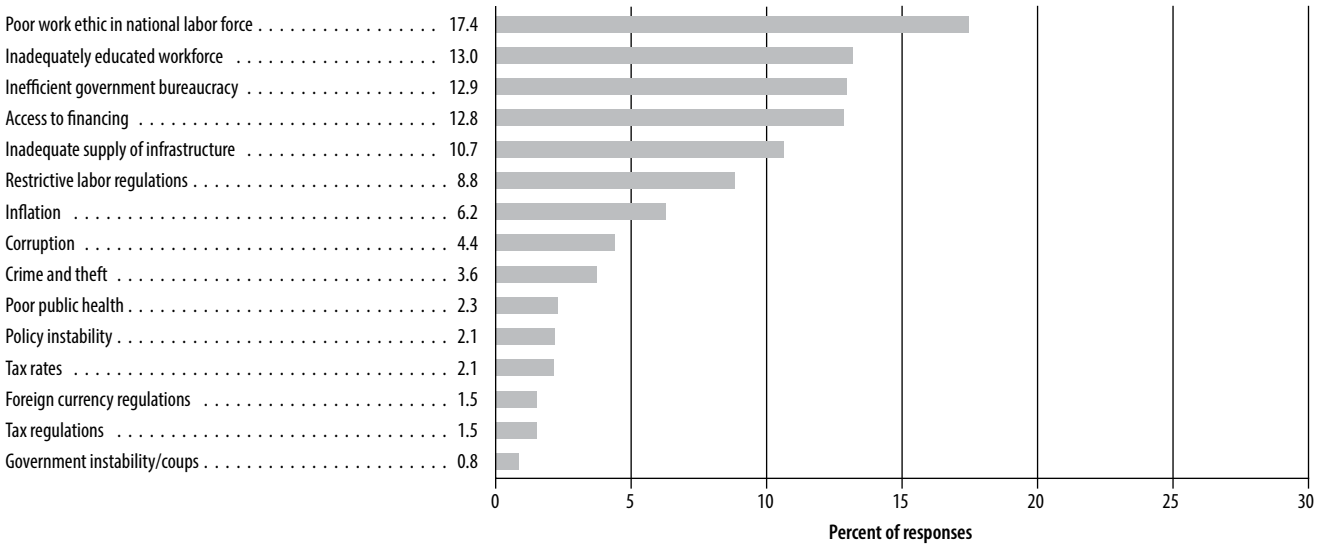
This note is divided into six parts. The following section (section 2) provides a profile of surveyed firms; sections 3 and 4 present the findings of employer and employee evaluations of the types of skills needed for employment. Section 5 presents the results of econometric analysis of the determinants of wages and wage growth for employees. The final section proposes some concrete recommendations on how to support the development of the skills valued by the private sector in Botswana.

2. Profile of Surveyed Firms

Looking at the profile of the firms that were surveyed, the distribution by firm size is virtually identical to the sample population of firms in Gaborone and Francistown. Almost 91 percent of all firms in Gaborone and Francistown employ

1 Gaborone and Francistown are dominated by small firms. The database of the Central Statistics Office, as referenced in the Enterprise Survey dataset note, suggest that there whereas a total of 30 establishments in the two cities have 100 or more employees, a large proportion of firms—virtually 1,300 of 1,428—employ between 5 and 30 employees (World Bank 2010c).

Figure 1. Problematic Factors for Doing Business in Botswana



Source: Reproduced from WEF (2010).

Box 1. Employer and Employee Survey in Botswana

The Employer and Employee Survey in Botswana (EESB) aimed to identify policy directions and options that could align skills demand and supply in Botswana. The purpose of the survey was to probe deeper into human resource requirements and skills gaps from the viewpoint of employers and employees, and to use this information to shape the debate on how to make both the education system and labor market in the country more conducive to growth.

Specifically, the survey was designed to help answer the following groups of questions:

- What are the characteristics of job vacancies (skills requirements and wages offered)? What skills are in high/low demand? Are the skills of the available workforce a constraint to hiring, firm growth, and good performance on the job? How difficult is it to find a worker with required skills? Is the skills mismatch (gap) a significant problem? Where are the main skills gaps?
- What is the role of training? Does your firm provide such training?
- What are the characteristics of young workers hired by the firm? What skills do they bring? What are their main skills gaps and how do they relate to their education qualifications? What are the firm's policies for ensuring that the skills of these young workers are upgraded?

The survey consisted of a series of structured face-to-face interviews with senior human resource managers and/or owners of 500 employers and 2,500 employees of firms in two cities, Gaborone and Francistown, which represented most economic sectors and firm sizes. The survey was administered using 2 types of questionnaires: one for employers and one for employees.

Given the size of the firm population—960 firms with more than 5 employees—an attempt was made to interview every firm in the population. With a non-response rate of 47 percent, the final sample consisted of 511 establishments with at least 5 full-time employees. In addition, an employee questionnaire was administered to 18 percent of full-time employees, yielding a total of 2,500 completed questionnaires. The final geographic distribution of the sample was 315 firms in Gaborone and 196 in Francistown.

The sample of employees interviewed can be summarized as follows:

- Three employees were interviewed in each of the 240 establishments with up to 7 employees
- Four or five employees were interviewed in each of the 199 establishments with 8 to 27 employees
- Between 6 and 19 employees were interviewed in each of the 54 establishments with 28 to 97 employees
- Between 20 and 30 employees were interviewed in each of the 18 establishments with more than 97 employees

Sources: Author; World Bank 2010c.

between 5 and 29 employees. In the EESB sample, this proportion was 86 percent. Although only 4 percent of the sample consisted of large firms (employing 100 or more employees), almost 53 percent of the workforce is employed by these larger firms (figure 2). In terms of sectoral distribution, a large proportion of the establishments surveyed were engaged in wholesale and retail trade (table 1).[2]

Wholesale and retail trade, along with manufacturing and construction, accounted for about half of all employment. Within manufacturing, the garment industry accounted for 21 percent of firms, followed by fabricated metal products (13 percent) and textiles (10 percent).

In terms of the composition of the workforce, most employees fell between the ages of 25 and 54 (77 percent), with roughly only two out of ten workers between the ages of 15 and 24. (None were less than 15 years of age.) In terms of changes in the size of the workforce, 60 percent of the 511 establishments experienced no change between 2008 and 2009; 28 percent increased and 13 percent reduced their number of employees. Table 2 lists the main reasons for firm expansion or contraction. Specifically, 21 percent of firms grew due to an increase demand for goods and 20 percent, in order to deliver higher-quality goods. Interestingly, of the firms that contracted, similar proportions cited a reduction in the demand for goods as the reason for the reduction in the number of workers; however, almost 25 percent cited the economic downturn (this reason was expected, given that 2008–09 was a period of global recession).

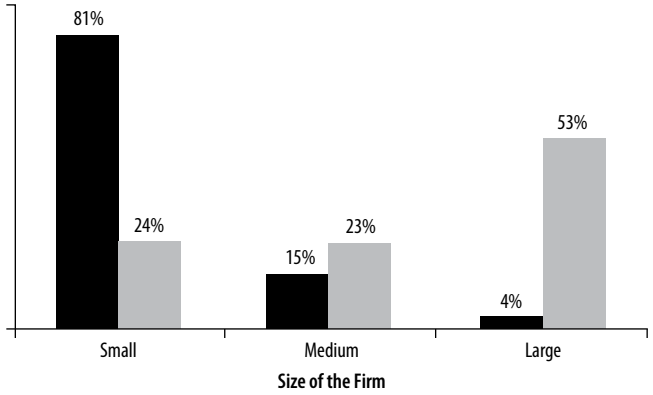
3. Employer Findings

Employers identify skills constraints as an important factor in doing business in Botswana. Issues related to work ethics and the need for appropriate behavioral skills were also repeatedly cited as an important concern, as the lack of such skills appears to effect productivity.[3] Additionally, it appears that the workforce lacks job-specific skills, in particular, the higher-order skills associated with mid-level management positions, as well as engineering, science, and technology skills.

2 Of the 511 establishments interviewed, 6 were owned by the government and accounted for 3.9 percent of the total number of employees of all establishments interviewed. Thus a small proportion of the sample represented the government-owned sector.

3 Behavioral skills are understood in this paper to include job attitudes, communication, team work, and problem solving.

Figure 2. Distribution of Firm Size and Employment
(percentage)



Source: World Bank (2010c).

Table 1. Distribution of Firms by Sector and Employment
(percentage)

Type of firm	% of all surveyed firms
Agriculture, hunting, and forestry	1.8
Mining and quarrying (natural resource extraction)	0.2
Manufacturing	14.9
Construction	5.1
Wholesale and retail trade; repair of motor vehicles and motorcycles	49.7
Hotels and restaurants	3.5
Transport, storage, and communications	5.1
Financial intermediation	2.3
Real estate, renting, and business activities	3.3
Public administration and defense; compulsory social security	1.8
Education	2.7
Health and social assistance	2.7
Other	6.8
Total	**100.0**

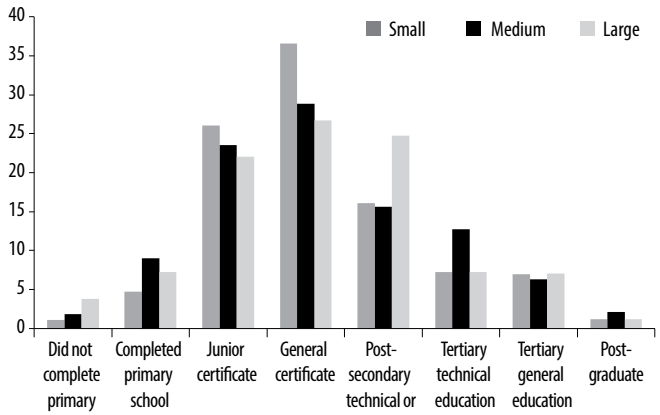
Source: World Bank (2010c).

A shortage of "employability" traits in the labor force is frequently cited as a major obstacle to private sector development throughout the developing world and even in a number of developed countries. Such perceptions can be real or a manifestation of other labor market constraints, but are often easier verbalized as lack of appropriate skills. In fact, the constraints faced by employers might be a skills mismatch, that is, an appropriately trained labor force, but trained in fields that are not in demand. Alternatively, employers may be experiencing poor skills matching, that is, they are unable to find the people with the right skills due to inefficient labor market clearing mechanisms, such as job placement services and efficient dissemination of information on job availability. In the same way, the workforce, young workers in particular, may be unable to signal to employees the skills that they have—in other words, the constraint is poor signaling. Each of these issues can be viewed by employers as skills constraints, but the policies to deal with them are very different. This section attempts to identify which of these constraints best reflects the reality of the private sector in Botswana.

There is a mismatch between employers' educational requirements and the actual educational attainment of their workers

The highest proportion of permanent employees working in the 511 establishments interviewed in the EESB had a General Certificate, that is, they had completed upper secondary education or form 5 (figure 2). The surveyed firms reported very few temporary employees (a total of 422 employees among the 511 establishments), but almost 50 percent of these workers had post-secondary technical and vocational education and training (TVET) (figure 3). Since the general secondary education completion rate is relatively high in Botswana, a large number of workers in the labor force have a General Certificate. Yet when employers were asked about the required minimum level of education for specific occupations, the highest proportion responded that tertiary education was needed (see table 3).

Figure 2. Level of Education of Permanent Workforce, by Firm Size
(percentage of total employees)



Source: World Bank (2010c).

Table 3 reveals that the minimum level of education that employers seek for various categories of workers is surprisingly high; for instance, it is expected that a General Certificate is required for elementary occupations.[4] The actual education level of their employees is much lower. Though the EESB does not allow for a qualitative assessment of these numbers, as there are no open-ended questions in the survey, this note speculates on a few possible explanations. First, either employer expectations are too high in terms of skills needs or

4 As defined by Sondergaard and Murthi (2012, 44, note 4), "Elementary occupations consist of simple and routine tasks that mainly require the use of hand-held tools and often some physical effort."

Given high enrollment and universal pass rates in basic education (standard/grades 1–7), a high proportion of the population in Botswana has a completed General Certificate, that is, upper secondary education.

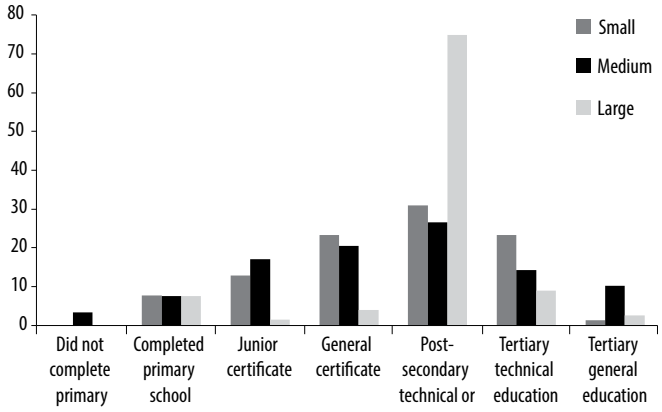
Table 2. Reasons for Firm Expansion or Contraction

	Firms that increased employment		Firms that decreased employment	
	Number	%	Number	%
Non-response	38	27.0	0	0.0
New production methods	14	9.9	12	18.8
Increased/decreased demand for goods	30	21.3	14	21.9
Increased demand for higher-quality products	28	19.9	11	17.2
New products require new skills	7	5.0	11	17.2
Economic upturn/downturn	24	17.0	16	17.2
Total	**141**	**100**	**64**	**100**

Source: World Bank (2010c).

they have low expectations of the outputs of the Botswana education system. Alternatively, this finding may signal a skills mismatch where employers are unable to hire the right individuals for available jobs.

Figure 3. Level of Education of Temporary Workforce, by Firm Size
(percentage of all temporary employees)



Source: World Bank (2010c).

Skills gaps are particularly acute for skilled workers

The EESB asked employers to list the most important skill for an occupation, with skills grouped into one of three categories: personal characteristics, core skills, and job-specific skills. Personal characteristics were defined as innate traits, such as honesty, commitment, hard work, and punctuality. Core skills were defined as aptitudes required for employment that could be learned over time, either at school or elsewhere. This category included such skills as basic literacy, numeracy, communication, problem solving, and team work. The last category, job-specific skills, was defined as theoretical knowledge, educational attainment, and specific job experience related to particular occupations.

A telling picture emerges when looking at how employers rank the difficulty of finding appropriate candidates with certain specific skills (figure 4). Potential candidates lack different types of skills, depending on the occupation, but the most glaring gap appears to be in the job-related skills of craft and related trade workers, as well as plant and machinery operator skills. This finding identifies a clear weakness in the vocational and technical education system in Botswana. A similar picture, but of lesser intensity, appears to apply to managers, although in their case, employers also lament the difficulty of finding valued personal traits and core skills. Appropriate personal traits appear to be a difficult skill to find among professional workers, technicians, clerical workers, and service and sales workers—most likely not due to a lack of these specific skills in the workers employed in these positions, but rather, to the premium value of such skills in these client-oriented jobs.

A large majority of surveyed firms provide on-the-job training

For employers who hire candidates with less than the desired educational and/or skills level for a particular occupation, on-the-job training can help bring employees up to the desired skill level. According to the EESB, almost 71 percent of the firms surveyed offer training to their employees and 67 percent offer some kind of training to new hires. In other words, only 33 percent of the firms surveyed consider new hires ready for work without additional training. Indeed, in interviews with major firm owners in Gaborone, employers admitted that they do not encourage new employees to operate sophisticated plant machinery without supervision or training.

Specifically, almost 55 percent of all firms surveyed provide training in job-specific technical skills (table 4). The intensity of training varies in terms of the number of days, with smaller firms on average providing around 17.5 days a year in job-specific skills training, plus 18 days per year of information technology (IT) and computer skills training. It is interesting to note that almost 50 percent of the firms surveyed also train workers in behavioral skills. The implications and benefits of such training to both employers and employees are discussed below in section 6 of this note.

Hiring times increase with the level of skills needed

The extent of the skills mismatch encountered by the firms can also be identified by the time it takes to fill vacancies. Based on EESB data, it appears that it takes the longest time for a firm to hire a manager (7.1 weeks) or professional (6.4 weeks), whereas it takes on average only 1.7 weeks to hire a worker for an elementary occupation or a sales or service position (table 5). Although this finding indicates a lack of qualified applicants for management and skilled worker positions; part of the short

Table 3. Minimum Required and Actual Levels of Worker Educational Attainment, by Occupation

	Education level	
	Minimum required*	Actual average**
Managers	Tertiary technical (39%) Tertiary general (36%)	General certificate (24%) Junior certificate (23%) Post-secondary TVET (21%)
Professionals	Tertiary general (54%) Tertiary technical (43%)	Tertiary technical (38%) General certificate (33%) Post-secondary TVET (28%)
Technicians	Tertiary general (39%) Tertiary technical (25%) Post-secondary TVET (22%)	Post-secondary TVET (40%) General certificate (34%)
Clerks	Tertiary technical (29%) Tertiary general (26%) Post-secondary TVET (26%)	General certificate (31%) Junior certificate (30%)
Service and sales workers	Tertiary technical (43%) Post-secondary TVET (26%) Tertiary general (26%)	General certificate (26%) Junior certificate (24%) Primary education (22%)
Skilled agriculture, fishery, and forestry workers	Tertiary technical (67%) Tertiary general (33%)	Post-secondary TVET (56%) Tertiary technical (33%)
Craft workers	Tertiary general (35%) Tertiary technical (48%)	Completed primary (37%) Junior certificate (32%) Not completed primary (30%)
Plant and machine assemblers and operators	Tertiary general (35%) Tertiary technical (48%)	Primary education (37%) Junior certificate (32%) Not completed primary (30%)
Elementary occupations	General certificate (43%) Junior certificate (37%) Primary education (21%)	Not completed primary (24%) Primary education (24%) Junior certificate (20%)

Source: World Bank (2010c).
Notes: General certificate means General Certificate of Completion of upper secondary education.
Junior Certificate means a certificate of completion of lower secondary education.
* Lists educational levels that 20 percent or more employers indicated as the minimum for an occupation.
** Lists educational levels that 20 percent or more employees have actually attained.

Table 4. Percentage of Firms Offering Training to Employees, by Export Status

Type of training	Exporting firms	Non-exporting firms	**Total**
Job-specific technical skills	58.4	53.9	**55.0**
General thinking skills	52.8	43.0	**45.4**
Behavioral skills	56.8	50.3	**51.9**
Health and safety skills	59.2	49.7	**52.1**
Computer and IT skills	52.0	32.9	**37.6**

Source: World Bank (2010c).

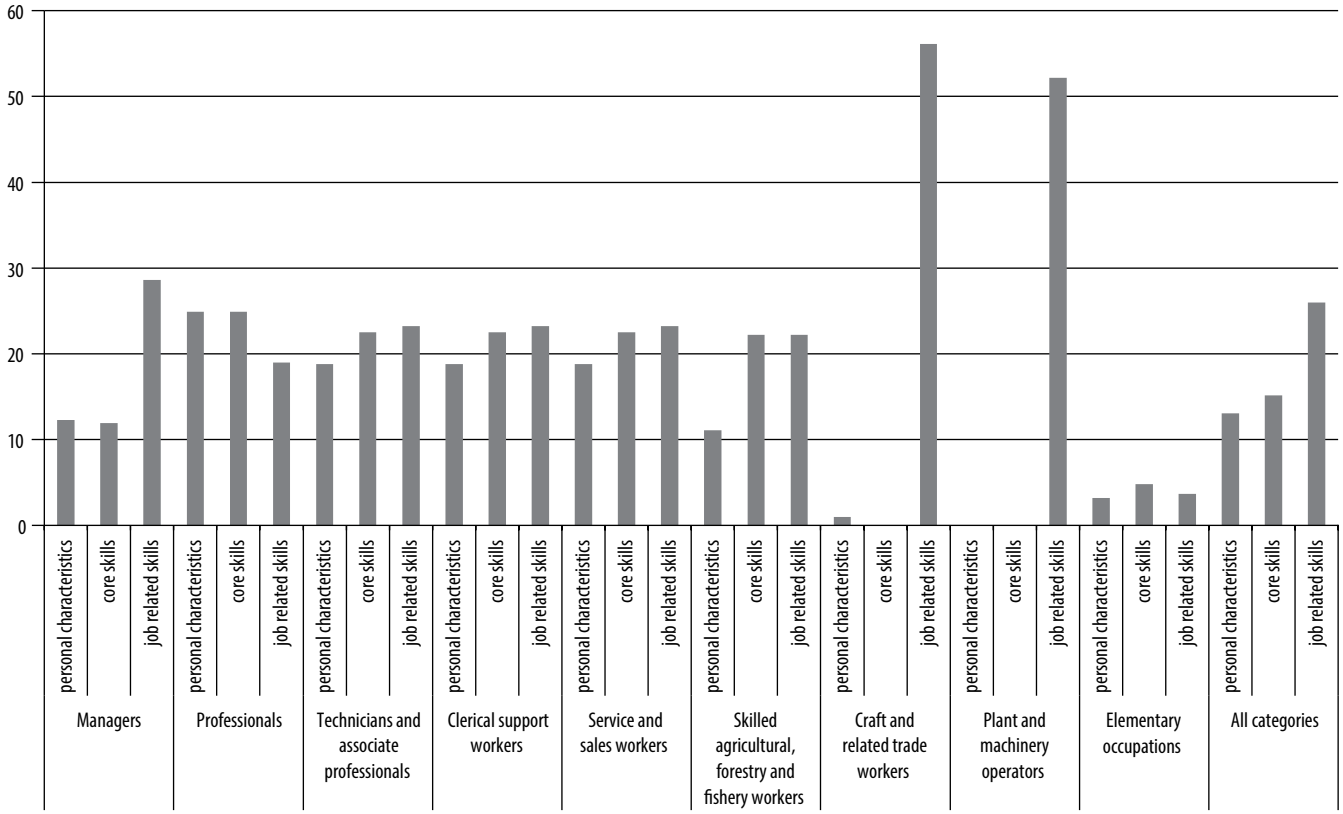
hiring time for elementary occupations can be attributed to the simplicity of the contractual processes for such occupations.

A substantial number of expatriate workers are employed in the country, even in elementary occupations

When faced with skills shortages in a country, governments often turn to expatriates to fill skills gaps. However, the perception among employers in Botswana is that it is quite cumbersome to hire expatriates. Employers must first advertise a vacancy and wait for a mandated period for qualified applications. If no such applications are submitted by Botswana, the employer can write to the Ministry of Labor and Home Affairs (MoLHA) and request permission to hire an expatriate, providing proof that no Botswana with appropriate skills

Figure 4. Difficulty in Finding Candidates with Appropriate Skills, by Occupation

(% of firms rating a characteristic "very difficult" or "almost impossible" to find)



Source: World Bank (2010c).

was available for the job. The application is then reviewed by special sector committees for verification and identification of any unemployed Botswana with relevant skills registered with the MoLHA's employment services unit. Once this process is completed, the employer is allowed to submit an application for an employee work permit.[5]

EESB findings show that almost 30.7 percent of the firms surveyed reported hiring an expatriate in the two years before the survey. On average, expatriates were a larger percentage of the workforce of larger firms than that of smaller and medium firms (table 6). The most common occupations for which they were hired were, in order of frequency, engineering, accounting, and management; these workers were most commonly hired from Zimbabwe, South Africa, and India.

The government of Botswana maintains a good database on foreign workers in the country. The figures provided by Statistics Botswana (CSO 2011) indicate that a large proportion of total work permit holders (11,966) in 2010 worked in elementary occupations (30 percent), professional occupations (18.5 percent), and as craft workers and technicians (almost 15 percent each). In terms of sectors, the highest number of work permit holders in 2010 (and for a few years preceding that) were in agriculture (30 percent), followed by construction (22 percent).

These numbers present quite a paradox, particularly when examined with the findings of a graduate tracer survey conducted by the Construction Industry Trust Fund (CITF) in 2006. On one hand, almost 41 percent of those who completed CITF training institutes did not find employment, while on the other, 22 percent of foreign workers with work permits in Botswana were employed in the construction sector. As discussed in Policy Note 2, this discrepancy is most likely a manifestation of the high reservation wages of Botswana. Alternatively, it could indicate that CITF training is of such poor quality that employers are unable to find sufficient skilled workers in the country and succeed in obtaining work permits for foreign workers, despite the cumbersome process described above.

Employers agree that poor education is a major cause of skills shortages

When asked about their perceptions of the cause of skills shortages, larger firms felt labor laws and regulations were not conducive and that the employees were not well prepared in behavioral skills by local educational institutes. Medium and small firms both attributed the shortages to the poor quality of education provided by local educational institutions.

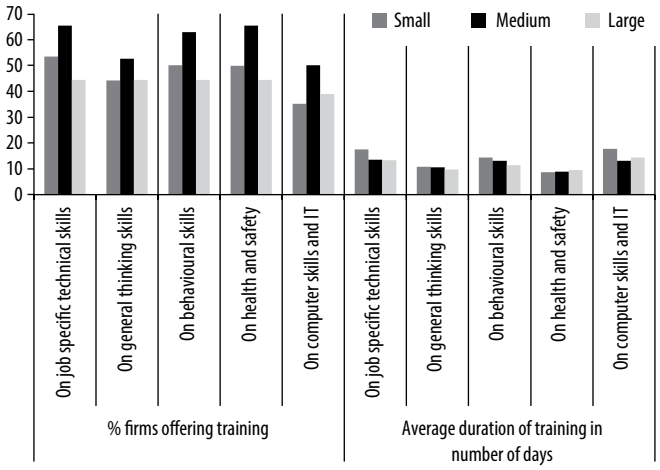
Skills constraints in Botswana appear very real

A skills mismatch appears to be one of the key factors causing the skills constraint. There also appears to be poor skills matching if, as discussed above, the unemployment level of

5 Process explained by MoHLA staff in a February 2012 meeting.

CTIF graduates is comparable to the percentage of foreign workers employed in the construction industry. This finding may, however, reflect another reason for the skills constraints: the high reservation wage of Botswana workers, whose salary expectations keep them from accepting jobs. The next section on employee findings helps clarify whether these findings indicate an issue of poor skills signaling or poor skills matching.

Figure 5. Percentage of Firms Offering Training, plus Average Number of Training Days



Source: World Bank (2010c).

4. Employee Findings

Most workers surveyed were between 25 and 39 years old

As mentioned earlier, 2,500 employees of the 511 surveyed establishments were interviewed. The objective of these interviews was to understand their perceptions of the skills and education requirements of their current and previous jobs. Of the 2,500 employees interviewed, the largest proportion (70 percent) were between 25 and 39 years of age; less than 15 percent were younger than 25. There appears to be strong employer loyalty in the country, as workers 40 years and older had been with their current employers for more than 8 years on average. However, this finding may also indicate hiring and firing rigidities in the labor market.

Workers consider educational attainment—but not vocational skills—an important determinant of employment

In terms of educational attainment, EESB data on employee education levels reflects the current educational profile of the country's population. The largest number of employees who have a General Certificate i.e., a certificate of completion of higher secondary education are less than 25 years of age. For those above 40, this proportion is much lower (less than 25 percent; figure 7).

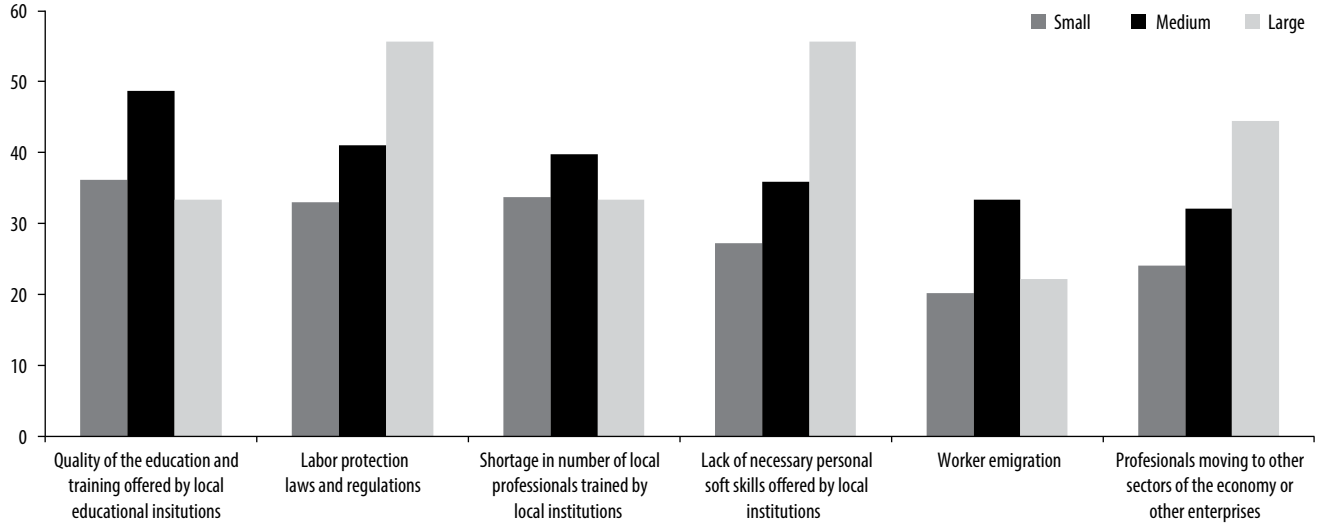
Almost three-quarters of employees consider their education to be helpful to them in their current jobs, a proportion that falls slightly (to 70 percent) among the cohort over 40. This finding is not unexpected, as experience in a job gains more value than educational qualifications do over time. Most employees consider practical knowledge of a job and educational attainment as the main reasons why they are employed in their current positions (figure 8). A high proportion also believe practical knowledge of a job is appreciated by managers. Interestingly, they do not consider general or advanced vocational, job-specific skills a strong determinant of employment, nor do they think managers appreciate these skills. Transcripts and grades did not rank highly in any of the four survey questions on education and employment; it thus appears that transcripts may not be the only way to signal appropriate skills sets. Of note, transcripts appear slightly

Table 5. Average Time Needed to Fill Vacancies, by Firm Size, Export Status, and Type of Occupation
(weeks)

	Size of firm			Export status		Total
	Small	Medium	Large	Exporting firms	Non-exporting firms	
Managers	7.1	7.2	8.5	7.1	7.2	**7.1**
Professionals	5.1	7.6	10.2	4.1	7.3	**6.4**
Technicians and associate professionals	4.8	4.0	5.7	6.0	4.4	**4.6**
Clerical support workers	3.4	2.5	6.3	4.0	3.2	**3.3**
Service and Sales workers	1.4	2.3	7.0	1.1	2.0	**1.7**
Skilled agricultural, forestry, and fishery workers	—	—	—	—	—	**—**
Craft and related trades workers	3.2	2.0	6.0	4.0	2.9	**3.0**
Plant and machine operators and assemblers	1.5	2.0	4.0	3.0	1.7	**1.9**
Elementary occupations	1.5	1.5	1.7	1.7	1.5	**1.7**
All categories	**5.2**	**4.8**	**6.0**	**5.2**	**5.1**	**5.1**

Source: World Bank (2010c).
Note: —: not available.

Figure 6. Causes of Skill Shortages, as Identified by Firm Size
(percentage of firms identifying a cause)



Source: World Bank (2010c).

more relevant to getting hired for workers between 25 and 39 than workers younger than 25 or those 40 and above. It may simply be that fresh graduates find another way to be introduced into the labor market, while the older cohort becomes employed more on the basis of experience. The 25–39-year-old cohort, on the hand, needs transcripts to signal ability (World Bank 2010c).

Similar to employers, employees consider personal characteristics most important for becoming employed

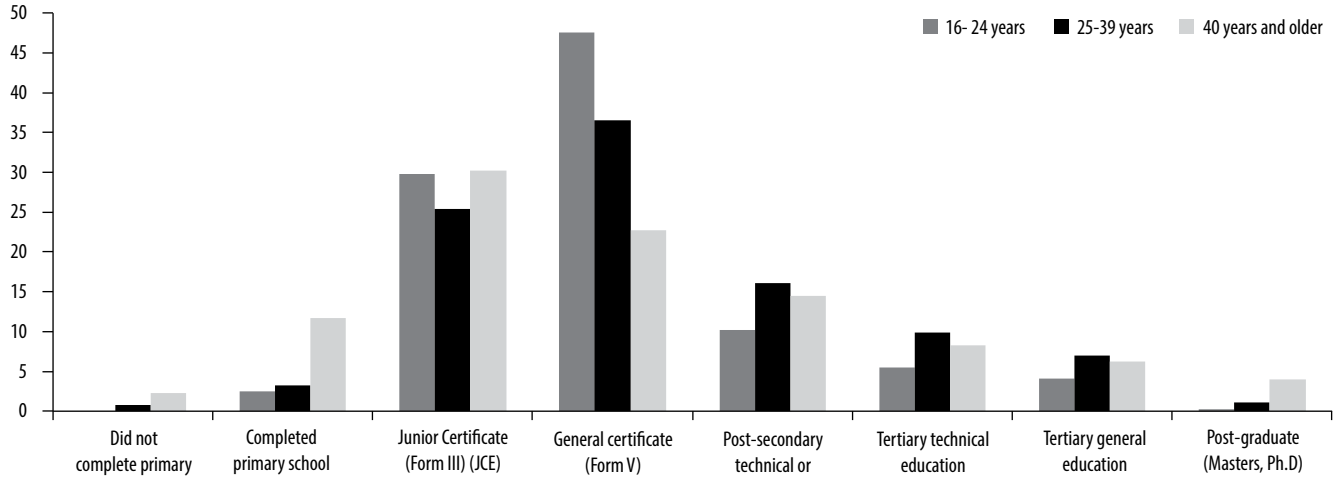
A high proportion of employees consider personal characteristics, such as their commitment and hard work, to be among the main reasons for being hired in their current jobs, followed by reliability, punctuality, and honesty. Workers also believe these characteristics, together with the desire to learn and the ability to work independently, are appreciated by management (figure 9). Of note, reliability and punctuality is also a trait that employees would like to see more in their coworkers.

Asked to rank core skills, employees considered communication and team work most important for getting hired, whereas they believed managers valued client/customer care, communication, and team work skills, together with trustworthiness, most highly (figure 10). With respect to their coworkers, employees believed colleagues needed better team work and communication skills.

Employees overwhelmingly find job training beneficial

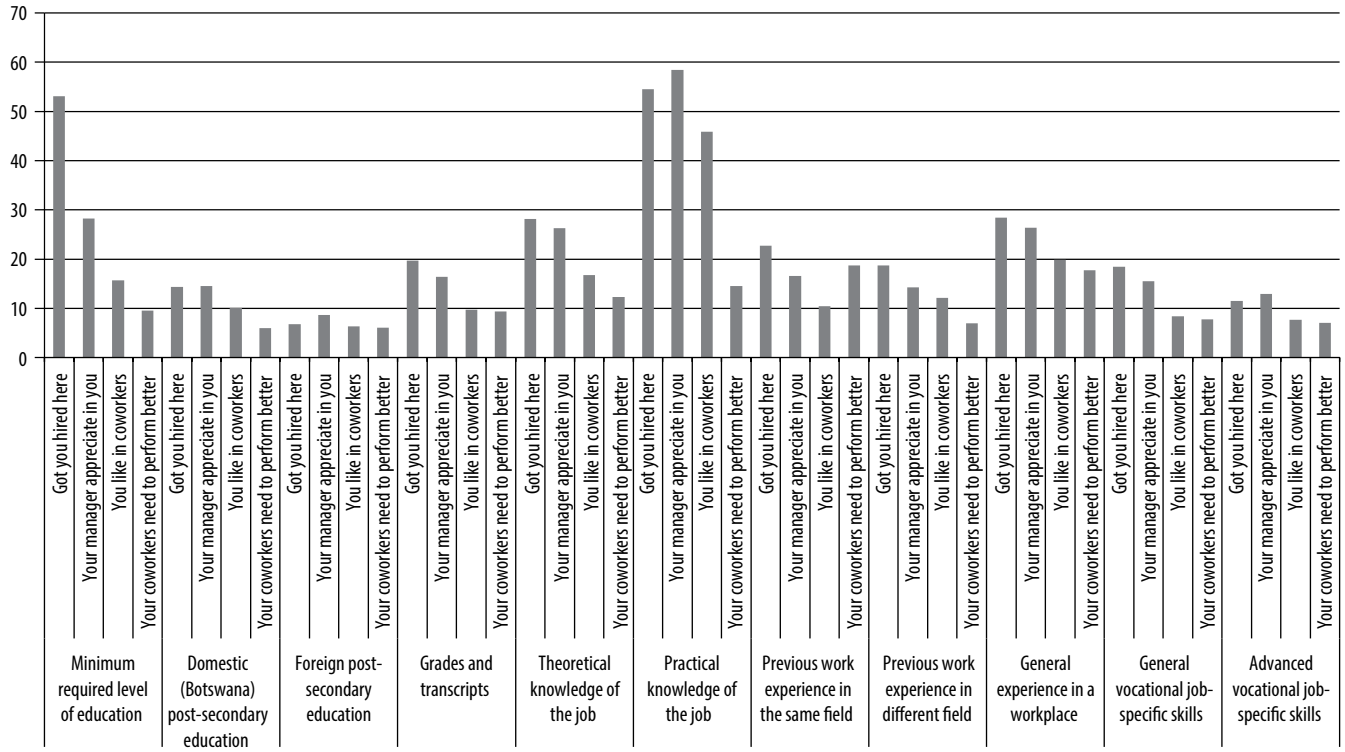
Approximately 40 percent of employees interviewed had received training in their current jobs. Employees younger than 25 years of age were more likely to have received training than older workers. And almost 94 percent of employees who had received training agreed that it proved beneficial in their job.

Figure 7. Highest Level of Education Achieved by Surveyed Employees, by Age Group
(percentage of all respondents)



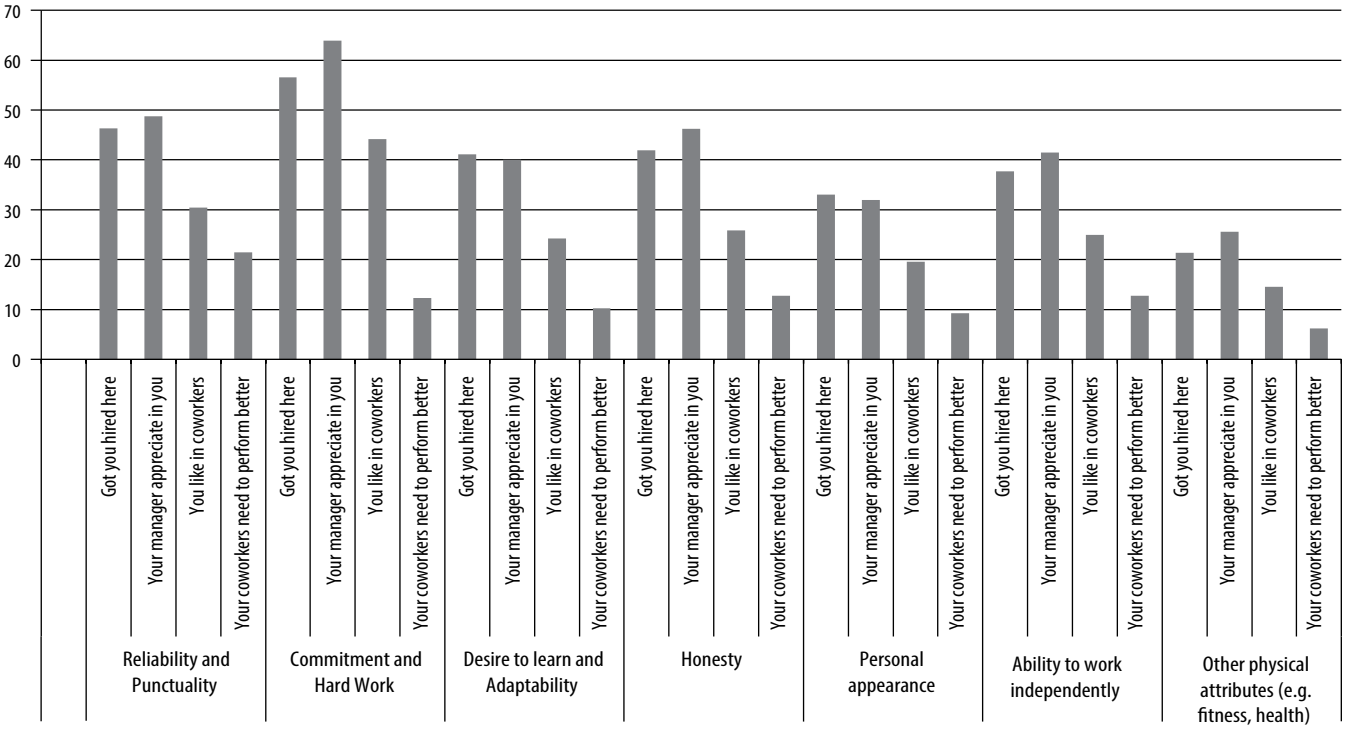
Source: World Bank (2010c).

Figure 8. Employee Perceptions of the Value of Education and Job-Related Skills
(percentage in agreement)



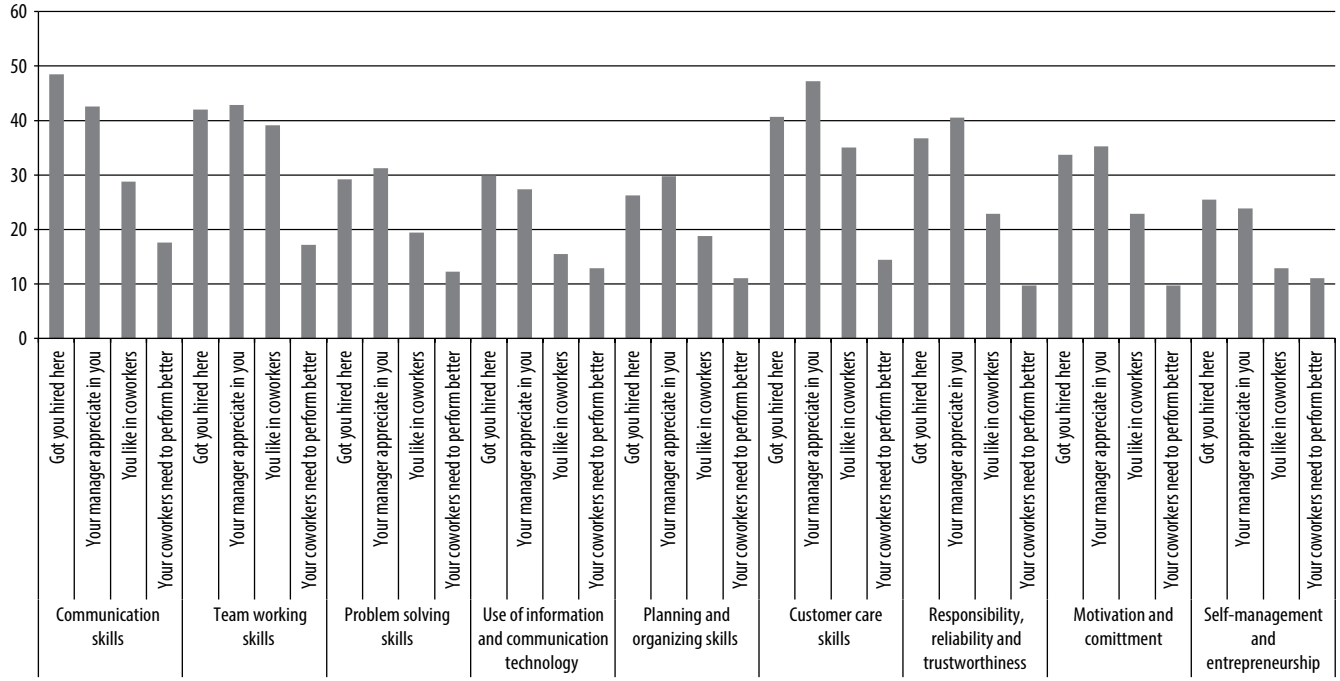
Source: World Bank (2010c).

Figure 9. Employee Perceptions of the Value of Personal Characteristics
(percentage in agreement)



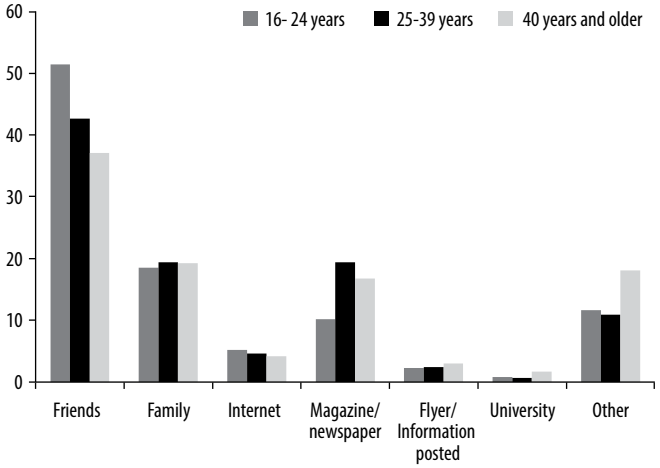
Source: World Bank (2010c).

Figure 10. Employee Perceptions of the Value of Core Skills
(percentage in agreement)



Source: World Bank (2010c).
Note: Core skills were defined by the ESSB as aptitudes required for employment that could be learned over time, either at school or elsewhere. This category included skills such as basic literacy and numeracy, as well as "soft" (or "behavioral") skills such as communication, problem solving, and team work.

Figure 12. Method by which Employees Heard of Current Job Opening, by Age Group



Source: World Bank (2010c).

Most workers find jobs through informal networks

In order to identify whether individuals face difficulty in finding the right jobs, figure 12 shows how employees report finding their current employment. It appears most of them find jobs through informal networks of family and friends rather than through formal mechanisms. It should be noted that these mechanisms tend to benefit well-connected and/or better-off segments of society much more than other groups and can thus perpetuate inequality.

5. Wages and Earnings Analysis

This section presents the main findings and statistics from a detailed econometric analysis of EESB data.[6] Its goal is to identify those skills that are better rewarded in the private sector, in other words, the skills that are in high demand in the economy.

Returns to education are highest for tertiary education in the private sector

Education almost universally helps improve earning power. Rates of return to education identify the marginal increment of return to each level of education. For Botswana, wage analysis of EESB survey data reveals that the attainment of tertiary education or higher, increases a worker's wages by 67 percent. This finding is consistent with earnings trends in other developing countries (Di Addario and Patacchini 2008; Buchinsky et.al. 2010). On the other hand, a General Certificate has no significant effect on a worker's wages. As discussed above, there appears to be employer loyalty in Botswana, which seems to benefit employees. Looking at job tenure, as measured by years of employment with a firm, the longer an employee stays with a firm, the higher his or her wages and the faster his or

6 The details of the econometric modeling have not been included here; however, background equations and estimations can be provided upon request (tfasih@worldbank.org). Policy Note 2 of this series also addresses the rates of returns to education, but because these rates are based on the Labor Force Survey of 2006, the returns relate to all sectors, including the public sector.

her wages grow over time. On the other hand, experience (not necessarily with the same firm) only affects current wages and has no impact on other measures of wages.

Wage analysis appears to confirm high reservation wages among Botswana workers

EESB data show an average unemployment duration of almost one year prior to being employed among employees between 16 and 39 years old, and of almost 1.5 years for workers 40 years and older. The length of previous unemployment increases current wages, albeit by a small factor. The positive impact of length of unemployment on wages implies that workers in Botswana hold out for better jobs, and thus a longer search means a greater reward.[7]

Training and skills levels impact current wages and wage growth differently

Training. Training provided by employers was measured by both incidence (trained or not) and intensity (number of days trained). By both measures, it does not appear to be a significant predictor of current wages, although being trained is positively associated with accelerated wage growth within a firm.

Core skills. The core skills (see figure 10 above) related to the hiring of an employee have a strong and positive impact on current wages. But once the employee is hired, these skills do not contribute to rapid wage growth. For job-related skills, there is a positive impact of an almost 9 percent increase in current wages. Workers' estimation of the skills needed by their coworkers are negatively related to their current wages, implying that general incompetence tends to lower everyone's productivity.

Skilled occupations. Generally speaking, being in a high-skilled occupation (relative to low-skilled elementary occupations) has a positive and significant effect on wages. For instance, managers receive a 60 percent wage premium, while professional workers earn a 71 percent wage premium, compared to workers in elementary occupations. On average, managers earn over 7 times more and professionals, more than 5 times more, than these workers.

When looking at the occupational distribution of average earnings by year (table 6), ESSB data show that roughly one-third of workers in the sample are in elementary occupations, which are the lowest-paid occupations in Botswana.[8] The next lowest-paid occupations are agriculture, forestry, and fishing, but that group represents less than 1 percent of the employee sample. The low proportion of these occupations is due to the nature of the survey, which focused on firms, whereas most Batswana in agriculture, forestry, and fishing are self-employed and engaged in subsistence household production. It is clear that the differences in educational levels and skills required for different occupational categories translate into occupational wage differentials that persist over time with only modest differences in relative earnings.

7 The issue of high reservation wages is also discussed in Policy Note 2.

8 The EESB collected information on wages for three years: 2008, 2009, and 2010.

6. Conclusion and Policy Recommendations

This note used the findings from the Employer and Employees Survey in Botswana to identify the labor market rewards to education, the effects of self-reported characteristics and skills by employees on wages, the value of such characteristics and skills to employers, the determinants of wage gain over time. In addition, EESB data provided a number of interesting insights into the demand for skills in the private sector in Botswana. Given that there is a common perception of skills constraints in the private sector, the note analyzed EESB data in order to identify whether these constraints represent an actual lack of skills, a skills mismatch, poor skills matching of workers to the requirements of their jobs, or a skills signaling issue.

Based on the major findings outlined below, it appears that skills constraints in Botswana reflect both a lack of skilled labor and a skills mismatch:

- **Employers have high expectations of the skill levels of prospective employees and highly over-rate the educational requirements of various occupations.** For instance, even for elementary occupations, the minimum education level required by the majority of employers was a General Certificate. This finding **points either to a skills mismatch or a low perception of the quality of the Botswana education system**.
- **ESSB data also appear to indicate a poor vocational and technical education system**, given that employers find it difficult to hire plant operators and craft-related trade workers, and that a very low proportion of employees consider vocational skills to have been important in their hiring.
- **It takes firms a relatively long time to fill vacancies, and employees seem to get information on existing vacancies mainly through informal channels**, such as family and friends.
- Employees hold out for better jobs for up to an average of one year, **indicating a high reservation wage among workers**.
- **Practical knowledge of a job and possession of the minimum level of education required for a job appear to be the main self-reported reasons for getting hired**. Managers value personal characteristics, such as commitment, hard work, punctuality, reliability, and honesty. Employees confirm the importance of these characteristics, and also report team work and communication skills as reasons for being hired.
- **Wage regressions shows that higher education and highly skilled occupations (e.g., managers and professionals) are associated with high wage premiums**. The core skills and personal characteristics cited by both employers and employees as important for employment have a positive impact on current wages, but not on wage growth.

Policy recommendation #1: Make a strategic shift and expand tertiary education

Botswana has high enrollment and completion rates at the basic and secondary education levels. Admittedly, the issue

Table 6. Predicted Annual Wages by Industry and Occupational Category

	2008		2009		2010	
	Wage **(in pula)**	Index	Wage **(in pula)**	Index	Wage **(in pula)**	Index
Industry[a]						
Agriculture, hunting, and forestry	48,528	1.11	48,854	1.11	49,021	1.12
Mining and quarrying	176,663	4.04	177,849	4.04	178,082	4.06
Manufacturing	48,510	1.11	48,836	1.11	49,021	1.12
Construction	61,302	1.40	61,714	1.40	61,698	1.40
Wholesale and retail trade	60,059	1.37	60,462	1.37	60,476	1.38
Hotels and restaurants	56,512	1.29	56,890	1.29	56,954	1.30
Transport, storage, and communications	55,980	1.28	56,356	1.28	56,387	1.28
Financial intermediation	73,783	1.69	74,278	1.69	74,608	1.70
Real estate, renting, and business activities	61,818	1.41	62,232	1.41	62,318	1.42
Public administration and defense	46,976	1.08	47,291	1.08	47,099	1.07
Education	43,692	1.00	43,984	1.00	43,915	1.00
Health and social assistance	58,636	1.34	59,029	1.34	59,278	1.35
Other	56,954	1.30	57,526	1.31	57,662	1.31
Occupation[b]						
Managers	121,714	7.38	122,530	7.36	123,007	7.39
Professionals	92,627	5.62	93,249	5.60	92,967	5.58
Technicians and associated professionals	61,711	3.74	62,124	3.73	62,318	3.74
Clerical support workers	39,662	2.41	39,929	2.40	39,736	2.39
Service and sales workers	38,488	2.34	38,745	2.33	38,561	2.32
Skilled agricultural, forestry, and fishery workers	35,108	2.13	35,343	2.12	35,596	2.14
Craft and related trades workers	38,548	2.34	38,806	2.33	38,561	2.32
Plant and machine operators and assemblers	39,212	2.38	39,475	2.37	39,736	2.39
Elementary occupations	16,482	1.00	16,647	1.00	16,647	1.00

Source: Author's econometric analysis of EESB data.
Note: Pula is the national currency of Botswana.
a. Index is occupational wage relative to the average for the education industry.
b. Index is occupational wage relative to the average for elementary occupations.

of quality education remains a challenge at these levels.[9] As a middle income country, Botswana has achieved close to universal primary education and has a high enrollment rate at the secondary education level. However, low returns to completed higher secondary education (i.e., the General Certificate) and the demand for tertiary-educated individuals even for less academically demanding occupations point to a need to build the higher education system in the country.

Given the high wage premium to tertiary and higher levels of education, the private benefits of tertiary education are high. As such, tertiary education should not be as heavily subsidized as it is in Botswana.[10] If the country is to move towards a knowledge-based economy, however, postgraduate and doctoral level studies need to be encouraged, with a strong focus on science, technology, engineering, and mathematics (STEM) skills, as well as on research and innovation. However, the country's current grants/loan program does not support postgraduate study, thus either employers or students will need to pay for it. Since the private sector in Botswana is not yet robust, students and/or employees who are funded for postgraduate studies, work predominantly in the public sector.

In order to support skills training that will facilitate the growth of the private sector, the government urgently needs to prioritize the delivery of good-quality tertiary education, particularly STEM skills. The grant/loan program should accordingly gradually shift towards post-graduate education in these disciplines in order to provide a cadre of highly skilled workers for the private sector.

Policy recommendation #2: Support the development of core skills throughout the education cycle

As discussed, core skills such as honesty, reliability, team work, communication, and problem solving are considered important for employment in the private sector. A concerted effort

9 See Policy Note 1 of this ESW.

10 The government of Botswana offers a grant/loan program to all students at the undergraduate level of tertiary education. Because of low recovery rates, however, even the loans end up effectively being grants (see Policy Note 1).

Table 7: Identified Constraints for Skill Provision for the Private Sector

Constraints		Interventions	
		Short term	Medium to long-term
Job relevant skills constraints	Lack of skills gained at tertiary level of education	Financial incentive to enter post-graduate studies. Intensive pre-entry courses to remedy lack of appropriate skills for tertiary level	Good quality basic and secondary education; Industry-university R&D partnerships
	Lack of appropriate core skills	Comprehensive training programs with specific core skills training components;	Introduction of specific curricula to develop critical thinking and behavioral skills from early childhood.
Skills mismatch	Mostly General Certificate holders in the labor markets	Intensive on the job training; Internship programs; Hiring skilled foreign workers	Move the educational profile of population further towards the right for a knowledge based economy
	Lack of specific technical/ vocational skills	PPP model of providing required training through government facilities with private sector/industry experts	Well operating sector committees to identify skill needs for industry and a responsive training sector

Source: Adapted World Bank 2010a for Botswana context.

to systematically develop such skills throughout the education cycle is needed. Certain successful pedagogic approaches at the preschool and primary school levels have been introduced to accomplish these goals in developing countries. One of the leading examples is the "Tools of the Mind" approach, which teaches strategies to help children gain control of their behavior and the practice of self-regulation using developmentally appropriate games and activities (World Bank 2011). Another approach called "Promoting Alternative Thinking Strategies" (PATHS) teaches self-control, emotional awareness, and social problem-solving skills to elementary school children (Ibid.). In addition, programs that bundle short, technical training courses with training in behavioral skills, as is the practice of many of Latin America's Jovenes programs (box 2), would be useful for individuals who have graduated from the education system without marketable skills.

The government of Botswana does operate an internship program that to date has provided internships to almost 4,500 individuals, one quarter of who have been absorbed into employment. Such internship programs can provide excellent work-based experience and aid employer-employee matching without significant cost or risk to the employer. However, in Botswana these programs are still mainly concentrated in the public sector. The training levy collected by the government should be tapped to provide incentives for the private sector to develop well-designed programs for the interns that they absorb. Specifically, there is a need to integrate fixed modules on general behavioral skills and work-based ethics into the internship programs. In addition, a monitoring component needs to be built into such programs so that both employers and employees can provide input on its efficacy.

Policy recommendation #3: Promote on-the-job training

Botswana is endowed with a relatively high share of lower and upper secondary graduates. If the quality of basic education is good, this pool of individuals should be an asset for the country. More specifically, graduates of basic education should be a trainable and flexible group of workers who can adapt to employer needs. On-the-job training can help new hires acquire skills in areas of need to the employer, provided that they have certain pre-requisites, for instance, basic knowledge of science and mathematics for technical work. Such training could be at the job site or off-site with an accredited training provider. Yet employers do not always prefer on-the-job training due to the fear of poaching (that is, they incur sunk costs if a trained employee is hired by another firm). In order for Botswana's government to support this type of training, the training funds collected via the training levy need to be utilized. As discussed in Policy Note 1, these funds are underutilized due to cumbersome procedures. The government needs to simplify these procedures for employers.

Policy Recommendation #4: Use Public Private Partnership Models for Specific Vocational Training

Most employees did not rank job-specific vocational skills as important for getting hired. It also appears that specific TVET training has no relevance to the skills demand of the labor market. Personal interviews with employers, for example, revealed that training for specific industries appears to be a concern. One way to address these concerns is to partner with the private sector and provide tailor-made training courses for specific industries in a public-private partnership model. Such short, intensive training modules would need to be developed in partnership with the private sector, with employers committing expert trainers from their pool of employees and the government providing training facilities at one of their well-equipped TVET colleges. Such courses would, moreover, need to be flexible and reviewed on a regular basis to ensure their relevance.

In conclusion, the challenge for the government is to create an optimal framework for training based on well-defined roles and responsibilities of the public sector, private firms, and households.

Box 2. A Comprehensive Training Program for Youth: The Jovenes Program in Latin America and the Caribbean

The Jovenes Program in Chile began in 1992 and was based on the experience of youth training programs in Great Britain and the United States. There are three basic features of this training model. First, it targets youth and disadvantaged populations with low chances of joining the formal labor market. Second, it seeks to increase the social capital and employability of participants. In this context, the social skills or job readiness training module and the internship phase that follows training allows participants to gain valuable skills and then gain experience in a formal sector job. Third, the Jovenes Program relies on the market to reveal the demand for training (the participation of the private sector, which provided internships, was intended to guarantee the pertinence of training courses) as well as its supply (the provision of courses is determined in a market of training institutions where public and private training providers competed to offer courses).

To explore the effect of the Jovenes Program on earnings in the Latin America and Caribbean region, a rigorous impact evaluation was conducted of the program implemented in the Dominican Republic. The results of a randomization of training among eligible interested applicants show that members of the treatment group have monthly labor earnings of RD$484—17 percent higher than those of the control group. Examining various subgroups, the estimated earnings impacts are larger for the youngest age group and residents of Santo Domingo. The impacts also seem to be larger for those with some secondary education (a 21 percent positive impact versus 9 percent for people with only primary education). In terms of cost-effectiveness, even a modest impact on monthly earnings (conditional on employment) is economically significant and large enough to potentially offset the costs of the training over the course of two years, if the impact persists.

Sources: Galhardi (2002, p 13); Sehnbruch (2006); Betcherman et al (2007, p50).

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