

Demand for Skills in FYR Macedonia

Technical Note, to serve as Input for a World Bank Workshop and the Government of FYR Macedonia¹

June 16, 2010

Introduction

Unemployment in Macedonia is very high and persistent. Many workers are unemployed for a long time. The causes of high unemployment in Macedonia are still not fully understood. Do they lie primarily on the demand, or on the supply side of the labor market? This technical note aims to shed some light on this question by looking at the issue of the skills mismatch – that is, the difference between skills sought by employers and those possessed by available workers. It presents the results of a specifically designed employer survey of the demand for skills that was carried out in 2009. The survey aimed at identifying the core employability skills and skills that workers are most frequently lacking. It found that it is mainly “soft” skills, such as job attitudes and behavioral skills, that – in the view of Macedonian employers – many job applicants are lacking. There is thus a skills gap that contributes to unemployment in Macedonia. Many of the unemployed seem to lack some essential employability skills, and thus despite high unemployment employers find it difficult to hire workers with required skills. The existence of the skills mismatch indicates that unemployment in Macedonia is to some extent structural. Accordingly, investment in skills, including “soft” skills, is necessary in order to reduce unemployment in Macedonia. The analysis of the skills mismatch based on an employer survey is by its nature incomplete, and Box 1 discusses its limitations. Nonetheless, by determining the key skill gaps, and by identifying types of firms that are affected by skill shortages, the analysis provides important input into education, training and employment policies.

The ensuing section presents the main findings of the analysis. Box 2 provides context for further analysis by comparing the level of the skills shortage in Macedonia to that in other countries in the region.

¹ This technical note has been compiled as part of a World Bank technical assistance to the countries of the Western Balkans (ECCU5) and serves as an input to a workshop with the government on FYR Macedonia to be held in November 2010. The note has been prepared by Jan Rutkowski (Lead Economist, ECSHD). Generous financial support has been provided by the governments of Austria, Germany, Korea, and Norway through the **Multi-Donor Trust Fund on Labor Markets, Job Creation, and Economic Growth**.

Box 1. Employers' views account for only a part of the skills mismatch story

This box points to the limitations of the analysis of the skills mismatch that is based on employers' assessment. At least three factors limit the scope of the analysis:

- The analysis provides *subjective* rather than *objective* assessment of the supply of skills relative to the demand;
- The analysis is *partial* in the sense that it represents the demand side (employers and their needs) of the labor market, while it does not represent the supply side (employees and their skills);
- The analysis is *qualitative* rather than *quantitative*. It presents employers' qualitative assessment of skill shortages, but it does not produce a measure of the intensity of excess supply of some skills and of the shortages (unmet demand for) of other skills.

Moreover, the analysis does not cover the labor market institutions, including wage setting practices, which may be an important factor accounting for the skills mismatch. In particular, skill shortages may reflect the failure of wages to adjust to the changing demand and supply conditions.

Despite these limitations, the survey's results shed light on the skills mismatch problem in Macedonia by determining the proportion and types of firms that are affected by skill shortages, and by identifying skills that on the one hand employers see as essential for employability, and on the other workers are most often lacking. Such information provides an important input into education and employment policies.

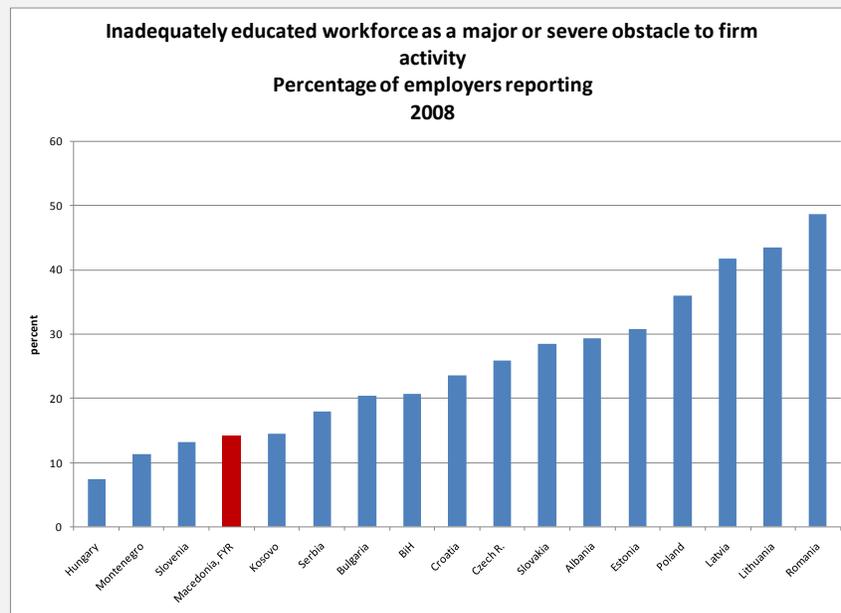
Source: Bank staff analysis.

Box 2. Macedonian employers are less concerned about workforce skills than their counterparts in other countries in the region

There is no commonly used objective measure of the skills mismatch, that is the difference between the skills required by employers and those possessed by workers. This renders the assessment of the magnitude of the skills mismatch difficult. In particular, it is hardly possible to objectively compare the magnitude of the skills mismatch across countries. However, one can use some proxy indicators based on employers' assessment of workforce skills. An advantage of using such subjective indicators is that they provide an assessment of workforce skills relative to employers' demand for skills. At the same time, the disadvantage of using them is that they are subjective in nature and say little about the actual supply of skills.

One way of comparing the magnitude of the skills mismatch across countries is to use the results of the IBRD World Bank Business Environment and Enterprise Performance Survey (BEEPS). Employers are asked about different constraints to the operation and growth of their firms, including workforce skills. Figure A below shows the results for the selected European transition economies in 2008.

Figure A. In Macedonia fewer employers see workforce skills as a major obstacle to operation of their firms than in most other countries in the region



Source: IBRD-World Bank BEEPS 2008; Bank staff calculations.

Inadequate workforce skills are viewed as a major or severe obstacle by 14 percent of employers in Macedonia. This is significantly less than in other countries in the region. For example, in the neighboring Bulgaria and Serbia about 20 percent of employers complain about workforce skills, and as many as 50 percent in Romania. This suggests that largely the supply of skills meets the demand and that the skills mismatch is less than in other countries in the region. This may be either because the supply of skills is high, or because the demand for skills is low. The indicator used does not tell us which factor prevails.

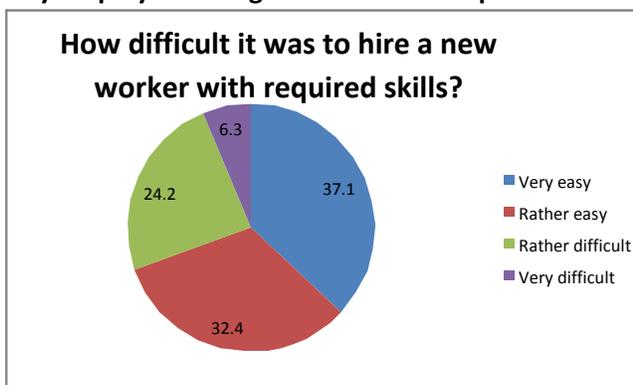
The relatively favorable results should not be a reason for complacency. This note shows that Macedonian firms which demand higher skills, that is firms that are innovative and growing, are significantly more likely to view workforce skills as a major obstacle to their growth than firms which demand lower skills. Accordingly, workforce skills may limit the growth potential of the Macedonian economy despite the fact that the percentage of firms complaining about skill shortages is relatively low.

Source: Bank staff analysis.

Main Findings

1. **Despite high unemployment, it is difficult to hire a worker with required skills in Macedonia.** Some 30 percent of employers claim that hiring a worker is either difficult or very difficult (Figure 1). This indicates that the unemployed lack skills that are required by employers. This may be one important hurdle to the reduction of unemployment in Macedonia.² One source of the skills mismatch is enterprise restructuring (see below). The question of the types of skills that the unemployed are lacking is addressed later in this paper.

Figure 1. For many employers hiring a worker with required skills is difficult

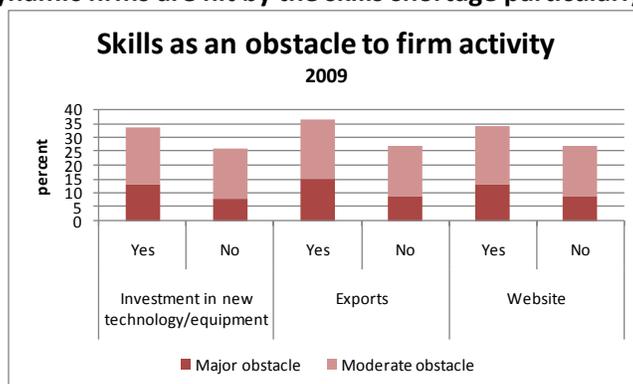


Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

2. **The skills shortages affect modern and dynamic firm more than traditional firms.** For example, inadequate workforce skills are a significant obstacle to one-third of firms that recently invested in new technology, and to “only” one-fourth of firms that did not (Figure 2). A similar picture emerges when one uses other proxies for “modernity”, such as export orientation or the firm having a website. Modern and dynamic firms are more affected by the skills shortage because they are likely to demand higher skills than traditional firms, an issue that is addressed later. The consequence of the fact that the skills shortages hit mainly modern and dynamic firms is that – if not addressed – they may become a binding constraint to the modernization and growth of the Macedonian economy.

² The link between unemployment and skills is not straightforward. The improvement of the skills of the unemployed will lead to a reduction in unemployment only under certain assumptions regarding reservation wages and the wage distribution. Specifically, we are assuming here that the improvement in skills does not raise the reservation wages above the market clearing level, and that it does not raise job search costs by increasing wage dispersion. If these assumptions are not met, then the improvement of skills may lead to an increase, rather than decreases, in unemployment. However the improvement in skills will unambiguously lead to an increase in labor productivity and thus will contribute to economic growth.

Figure 2. Modern and dynamic firms are hit by the skills shortage particularly hard

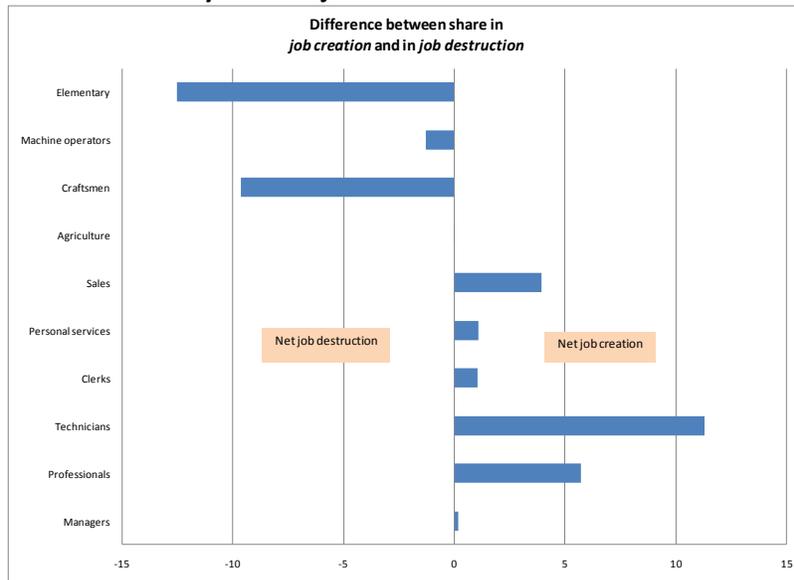


Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

3. **One reason why the unemployed lack skills demanded by employers is enterprise restructuring.**³ Newly created jobs differ in terms of the skill content from the old jobs that are being destroyed. Jobs that are being destroyed required low skilled and manual labor. In contrast, most newly created jobs require high professional skills, or medium-level non-manual skills. Accordingly, workers who lost their jobs may find it extremely difficult to secure a new job, because the skills that they possess do not meet skill requirements of the newly created jobs. For instance, persons who lost their jobs in 2009 were either unskilled laborers or manual workers, such as craftsmen (Figure 3). At the same time, newly created jobs required either more advanced technical skills or professional skills. Obviously, few workers who lost jobs in blue collar occupations could move to the newly created white collar jobs. Thus the occupational pattern of job reallocation contributes to the skills mismatch and thereby to unemployment in Macedonia.

³ In 2009 about 5 percent of all jobs in Macedonia were reallocated away from contracting enterprises towards expanding ones. The job creation rate was close to 6 percent, while the job destruction rate was less than 5 percent.

Figure 3. Skills needed in the newly created jobs differ from those needed in the old jobs



Note: The net job creation/destruction index is constructed under the assumption of a steady-state, that is zero aggregate employment growth (i.e. job creation = job destruction). For example, the index value of -10 means that 10% of all workers who lost their jobs will not be able to find new jobs in the same occupation.

Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

4. **There are lots of job vacancies of which some are hard to fill.** The aggregate job vacancy rate, which is a measure of unmet demand for labor, approaches 3 percent in Macedonia.⁴ But for some occupations the rate is significantly higher. It is particularly high for personal services workers (9 percent), pointing to a large shortage of this type of labor. Vacancies that are particularly difficult to fill are those for highly skilled workers. For example, it takes on average 5 weeks to hire a professional, compared with about 2 weeks needed to hire a sales worker (Figure 4). Thus it is especially difficult to recruit workers for the newly created jobs. The newly created jobs require high skills and at the same time it is most difficult to fill vacancies for highly skilled workers. This again points to the shortage of highly skilled workers in Macedonia. But surprisingly, it is also relatively difficult to fill vacancies for workers with only elementary skills, who are prevalent among the unemployed.

⁴ The job vacancy rate is the ratio of vacancies to the employment plus vacancies – that is the ratio of the unmet demand to the total demand for labor.

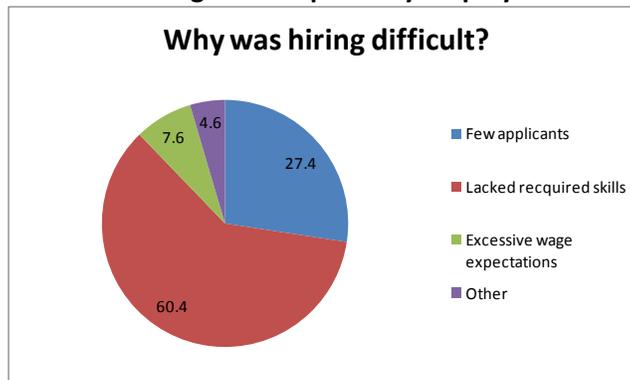
Figure 4. Recruiting highly skilled workers is a lengthy process



Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

5. **The dominant reason why it is difficult to recruit workers is that they lack required skills.** This is the main reasons for as many as 60 percent of employers in Macedonia (Figure 5). But many employers (27 percent) also say that there are few job applicants, which is astonishing given very high unemployment in Macedonia. Presumably there are few unemployed interested in taking low-paying jobs in elementary occupations, which would be consistent with the above mentioned fact that it is hard to hire laborers. These results suggest that unemployment in Macedonia is due to inadequate skills among workers with tertiary education applying for professional jobs, and to weak incentives to take jobs among less educated workers in elementary occupations. In the former case, the remedy lies in rendering worker skills more relevant to the needs of the labor market by reforming the educational system; in the latter in strengthening labor supply incentives through reforming the social protection system. Activation policies, which make benefit receipt dependent on active job search or participation in training, may play a particularly important role in this respect.

Figure 5. Many job applicants are lacking skills required by employers

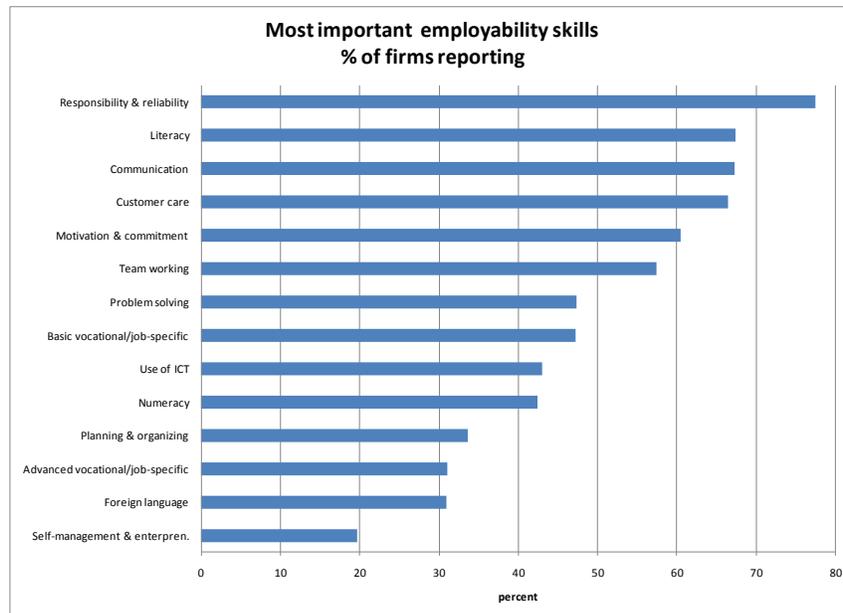


Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

6. **The most important skills that employers expect job applicants to possess are a sense of work ethics, overall literacy and communication skills.** Figure 6 shows that Macedonian employers (as employers in most other countries) value “soft” or generic skills more than “hard” or technical and job-specific skills. Appropriate job attitudes (responsibility and reliability, motivation and commitment) are

the most critical for employability. So is overall literacy, which is the ability to read and write, but more broadly involves the ability to identify, understand, interpret, use and communicate information. Naturally, employers do expect job applicants to have technical or vocational, job-specific skills. However, basic technical skills are more critical for employability than advanced technical skills. In short, employers want trainable workers with broad general skills, and not necessarily trained workers with narrow, job-specific skills.

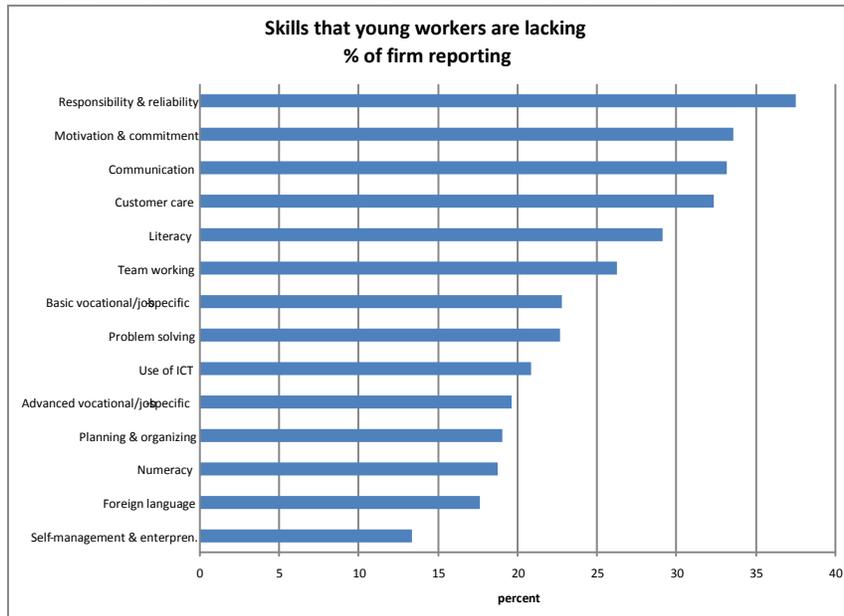
Figure 6. Appropriate job attitude and literacy are the most important employability skills in Macedonia



Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

7. **Many jobseekers are lacking the key skills that employers require.** According to Macedonian employers, job applicants are frequently lacking work ethics as well as basic literacy skills. Jobseekers thus seem to be lacking the core employability skills. Employers complain that young workers applying for jobs in their firms do not demonstrate responsibility and reliability, nor motivation and commitment. They seem to have poor communication skills and lack general literacy skills (Figure 7). For example, responsibility and reliability is the job attitude that is considered absent among young workers by almost 40 percent of Macedonian employers. In contrast, “only” around 20 percent of employers complain that young workers are lacking technical/vocational and job specific-skills. And interestingly, basic technical skills are more often viewed as missing than advanced technical skills. It is thus the lacking sense of work ethics among jobseekers that seems to be an important factor behind unemployment in Macedonia.

Figure 7. Many young job applicants are lacking the core employability skills



Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

8. **Modern firms demand different skills than traditional ones.** Table 1 shows the key differences. Employers in modern firms attach a particularly high value to the knowledge of a foreign language and to ICT skills. They are also more likely to demand solid technical/vocational skills. Finally, modern firms seek workers who have higher level cognitive and behavioral skills, such as problem solving, initiative, and ability to organize ones' work. These differences imply that in order to meet the demands of the modern sector of the Macedonian economy, the educational system would need to put more emphasis on the provision of skills which are particularly important to modern firms, as listed in Table 1.

Table 1. Skills that modern firms value more than traditional firms

Skills	Difference in the “importance” index between modern and traditional firms ^{a)}
Foreign language	.54
Use of ICT	.52
Problem solving skills	.27
Technical/vocational skills (basic & advanced)	.25
Planning and organization	.23
Self-management & initiative	.21

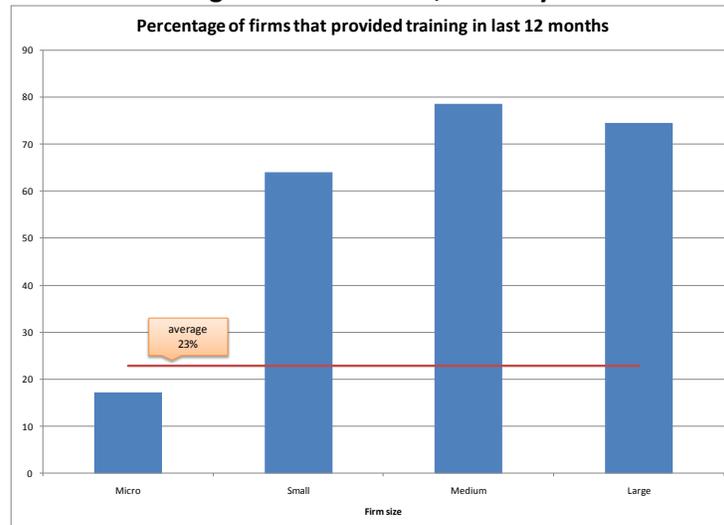
a) The index ranges from 1 to 5.

Modern firms = firms that have their own website.

Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

9. **Many Macedonian firms provide training to their employees to upgrade their skills.** Macedonian firms, especially large ones, have adopted an active approach to the skills gap. Three out of four firms with more than 50 employees provided training to their workforce within a year. However, it is micro firms (up to 10 employees) that constitute the bulk of the Macedonian economy. And micro firms are much less likely to provide training than larger ones. In fact, among micro firms only one in six provided training to its workers. Accordingly, the overall incidence of training provision by firms is relatively low: only 23 percent. Further research is required to determine whether micro firms do not provide training because they cannot afford it, or because their skill needs are less than those of larger firms.

Figure 8. Larger firms invest in training for their workers, but they are few



Source: Macedonia Demand for Skills Survey, 2009; Bank staff calculations.

10. **To conclude, there is evidence of a skills mismatch in Macedonia.** Jobseekers lack skills that are demanded by employers. And despite high unemployment employers find it difficult to hire workers with required skills. Consequently, skill shortages are an obstacle to firm growth. At the same time, the skills gap contributes to unemployment. It is particularly difficult to recruit workers who possess skills required in the newly created jobs. Most of these jobs require high and medium-level non-manual skills. However, in addition to “hard”, technical, job specific skills employers expect job applicants to pose also “soft” skills, most importantly a sense of work ethics. Unfortunately, in employers’ view many of young workers are lacking the key employability skills, mainly the critical “soft” skills. Modern and dynamic firms are hit by the skills shortages particularly hard. Also because they tend to demand higher level skills – such as foreign language and ICT skills -- than the traditional firms.

11. **A two pronged strategy could support closing the skills gap.** First, the educational system would need to become more responsive to the changing labor market needs. This requires, among other things, greater involvement of employers in the design of the curricula as well as adequate labor market information. Second, more emphasis would need to be put on the development of “soft” skills. This is a challenging objective as it goes beyond the traditional function of the educational system, which is focused on teaching the “hard” skills. Soft skills are acquired largely outside the school system: within family and peer groups, and are thus strongly influenced by one’s social background. Early childhood development programs may be considered as a way of assisting children coming from disadvantaged social background.

Annex. Sample description

Sampling frame: Central Registry of the Republic of Macedonia.

Sample size: 2,500 firms and institutions.

Number of firms surveyed: 1702.⁵

Number of firms that provided valid information (N): 1697.

Sampling method: disproportionate stratified random sampling, with large firms oversampled. (The within-group estimates were weighted using the sampling fraction to arrive at overall population estimates). The strata were defined based on firm size (small, medium, large), and industry (ten 1-digit NACE industries).

Sample structure: see Annex Table 1 below.

Annex Table 1. Employment structure: sample and general population (2009)

Percent

	Sample	General population
Size (employment)		
Micro (1-10)	62.5	88.7
Small (11-50)	18.2	8.1
Medium (51-250)	15.0	3.0
Large (251+)	4.2	0.3
Industry		
Agriculture	3.8	5.3
Manufacturing	17.0	11.7
Trade	49.9	55.2
Hotels & restaurants	5.0	7.1
Transport & communication	8.1	10.2
Financial services	3.5	0.7
Business services	0.4	1.0
Public administration	2.3	0.5
Education	3.5	1.8
Health	6.5	6.6
Ownership		
Private	85.4	96.4
Privatized	2.4	0.8
Public ^{a)}	12.2	2.8

a) Including mixed ownership and cooperatives.

Source: Macedonia demand for skills survey, 2009; Bank staff calculations.

⁵ The relatively low response rate is accounted for by the fact that 11 percent of enterprises refused to participate in the survey, 6 percent could not have been contacted during the survey period, and 15 percent could not be identified because of incorrect contact information, or were no longer active.

