



Skills mismatches and unemployment spells: The case of Macedonia's youth

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Unemployment, particularly youth unemployment, remains high despite many active labor policies in Macedonia since the country's independence and transition to a market economy in the early 1990s. A team of local researchers investigates the impact that the length of the job search period has on the eventual skills mismatch of the individual. The researchers use probabilistic logistical models to empirically analyze data from the 2012 School-to-Work transition survey. The team finds that the longer job seekers look for work, the higher the probability is that they will end up in a position that does not match their education level, which is likely to reduce job satisfaction and productivity.

Unemployment in Macedonia

Unemployment, particularly among youth, remains high in Macedonia despite many active labor policies over the past two decades.

Many expected Macedonia's labor market to become more competitive when the transition (from a socialist state with a centrally planned economy to a parliamentary democracy with a market economy) began in Macedonia in the early 1990s. Unfortunately, the workforce was not ready for the fast market changes, leading to high job losses.

The Macedonian government has implemented a number of active measures that aim to reduce unemployment, supported by Foreign Direct Investment, particularly in the automotive and textile industries.

The number of students enrolled in higher education has more than doubled over the last 20 years. However, this trend was not followed by a proportional increase in the number of job vacancies for highly educated workers. This means that many graduates are forced to take non-graduate level jobs, which may go some way to explaining the ongoing unemployment issue. In 2013, the total unemployment rate was 28% but among youth it was 50% (see Figure 1).

The 2012 School-to-Work transition survey found that 19% of Macedonian youth settle for lower skilled jobs, while 14% hold positions above their education level. This means that the education

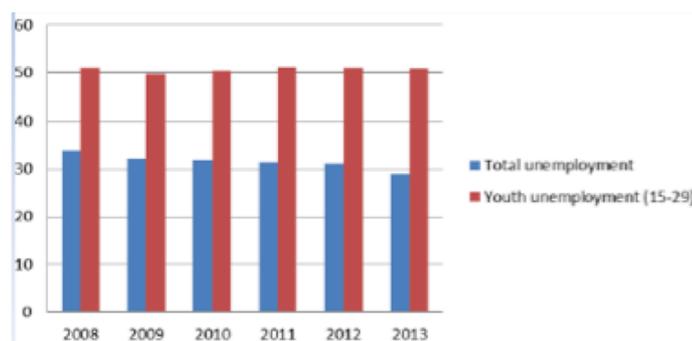
level of a substantial proportion of young workers does not match the job requirements.

These mismatches lead to reduced job satisfaction and productivity, which in turn lead to job losses – bad for the employee, the employer and the country as economic growth is limited.

When an employee's education level does not meet the job requirements, they are likely to experience a prolonged job search period. Extended periods of unemployment, due to long and inefficient job searches, have been shown to lead to emotional distress for the potential employee as well as wider societal costs (Green et al., 2000).

A team of local researchers therefore chose to examine what impact the length of the job search period has on whether an employee is undereducated, overeducated, or matched for their eventual position.

Figure 1: Unemployment rates in Macedonia



Source: State Statistical office and authors calculations

Data and methodology

This study uses data from the 2012 School-to-Work transition survey (SWTS), which includes information about the youth (15-29 years) labor market. The survey provides information about demographics (personal, family, and household), formal education/training, young workers, and non-working youth. The team uses a sample of 1239 respondents (employed or job seekers).

The research team uses probabilistic logistical models for empirical analysis of the data, as some questions in the survey were conditional upon a previous response (e.g. if a person is employed then they can be overeducated, undereducated, or matched for the position). Separate regressions were estimated for the three possible education levels (i.e. elementary, secondary and university) in order to analyze how the job search length can influence job matching at each education level.

This investigation is accompanied by a survival analysis to verify the reliability of the results.

Key findings

Data from the SWTS suggests that 77% of young people in Macedonia seek a job for more than a year and more than 54% claim there are not enough available positions related to their qualifications, thereby resulting in a mismatch (see Table 1).

The results suggest that a longer job search period is linked to a decrease in the probability of being matched for the eventual position. This was true for all education levels (elementary, secondary/vocational, and university).

Furthermore, as job creation for university-level positions in Macedonia is very limited, the longer that university graduates wait for a matched position, the greater the probability they will end up in a position for which they are overeducated (twice that of individuals with secondary education).

Not all groups are equally penalized by the unemployment spell, as individuals with tertiary education are the least affected, whereas the elementary-educated group is the least likely find a matched job.

The search period for employees with secondary/vocational education tends to be shorter than for those with elementary education.

There is a tremendous discrepancy between the supply and demand on the labor market associated with the high levels of labor supply from university graduates as job creation, although slow, is mainly for positions requiring secondary education.

The results also indicate a difference in the labor conditions in different regions of Macedonia and

very low internal migration, except to the capital city. This can be partly assigned to inefficiencies in the education system and a lack of cooperation between the policy makers in education and labor. However, this issue requires further investigation.

The majority (73%) of survey respondents believed they were in a matched position whereas the objective definition of skills matching (the International Standard Classification of Occupations (ISCO) rating compared to the education level required for each ISCO group) showed that fewer than half were in matched positions (see Table 2). Furthermore, only 3.6% of respondents perceived themselves to be undereducated for their position whereas the objective definition shows that more than 20% are undereducated, thereby signaling favoritism or nepotism.

Table 1: % of undereducated, match and overeducated, by level of education

	University	Secondary	Primary	total in %
undereducated	5.37%	6.07%	0.00%	11.44%
match	12.31%	42.98%	8.32%	63.61%
overeducated	2.95%	5.89%	16.12%	24.96%
total in %	21%	55%	24%	

Table 2: Skills mismatch in %

	subjective	objective
Overeducated	23.74	36.7
Matched	72.71	42.84
Undereducated	3.55	20.46

Implications for policy

It is without a doubt that youth unemployment is one of the most serious and devastating problems facing Macedonia today. This phenomenon is related with a wide range of problems from social tensions to brain drain.

The team's findings lead them to make the following recommendations for future policy:

- When creating labor policies to reduce unemployment levels, policy makers should take account of the discrepancy between the supply and demand for university graduates, particularly when creating policy that is directed towards young workers;
- There should be policy support for increased communication and education for young people on how to plan their education so as to improve their employability (and therefore reduce the job search period);
- Implementing monetary social schemes directed towards young people would encourage them to get more involved with elementary occupations and vocational careers, as job creation is mostly found in the technical and manufacturing fields;
- There should be policy support to improve cooperation between the social employability and education policy makers so that communication between education institutions and the real sector entities can be encouraged and promoted. This is important as the education institutions will have to adjust their programs to the market needs and produce professionals that can enter the market with specific skills, thereby reducing skills mismatch and the job search duration in the long run.



In 2012, with support of the UK Department for International Development (DfID or UK Aid) and the International Development Research Centre (IDRC) of Canada, PEP launched a new program to support and build capacities in “Policy Analyses on Growth and Employment” (PAGE) in developing countries.

This policy brief is based on the PEP project [PMMA-12699](#) supported under the 2nd round of the PAGE program. To find out more about the research methods and findings, read the full PEP [working paper \(forthcoming\)](#)