

Skills supply and demand in Macedonia: deriving lessons for future policy interventions

Abstract

During the past two decades the unemployment rate in Macedonia has constantly remained above 30 per cent. In addition, long-term unemployment has significantly contributed to an erosion of the skills and motivation of unemployed workers. Significant sectoral shifts have occurred on the demand side of the Macedonian labour market during the past two decades, but these need to be accompanied by changes on the supply side, consisting of appropriate reforms in the education system and active labour market policies that would lead to an improved match between supply and demand. We are interested in this article in assessing the implications of the skill mismatch for the unemployment rate and the degree to which structural imbalances contribute to high and sustained unemployment. Our aim is to assess the potential supply side deficiencies and to propose appropriate policy recommendations to improve the match between supply and demand of skills as a strategy for fighting persistent unemployment in Macedonia.

Keywords: unemployment, labour market, skills, transition

Introduction

The initial transitional recession had salient effects *inter alia* on the performance of the labour market. Furthermore, in general, the initial transitional reforms also had negative effects on labour markets, manifested in declining participation rates and in persistent high unemployment. The processes of ownership restructuring and sectoral reallocation assumed a large-scale transformation of state-owned firms into privatised ones, as well as a reallocation of a substantial part of the labour force from the manufacturing and agricultural sectors towards the expanding service sector (Blanchard, 1997). The experience in almost all transition countries, including Macedonia, shows that the creation of new jobs in the emerging private sector was not at the outset strong enough to absorb the mass of workers laid-off from restructured state-owned firms. At the same time, the mismatch between the skill requirements of the newly-created jobs and the effective skills owned by workers has become a substantial problem (Svejnar, 2002). Consequently, the labour markets in early transition became less dynamic, with a relatively stagnant unemployment pool leading to increases in unemployment and, especially, to long-term unemployment (Cazes and Nesporova, 2003). The initial ‘transitional unemployment’ differed in several respects from other types of unemployment in that it was characterised by pronounced labour market segmentation, a long average duration of unemployment and a low probability of exiting unemployment into employment (Nikoloski, 2004).

Macedonia is among the rare countries in the world in which, during the past two decades, the unemployment rate has constantly remained above 30 per cent. The sustainability of this extremely high unemployment rate is an inexorable phenomenon that imposes the need for further investigation. According to the composition of the unemployed population by various socio-economic characteristics, empirical analysis reveals striking labour market segmentation, meaning that some segments of the labour force such as young people, less educated workers and some minority ethnic groups face a much higher probability of becoming and/or remaining unemployed than the rest of the labour force (Nikoloski, 2011). In addition, long-term unemployment has significantly contributed to an erosion of the skills and motivation of unemployed workers, making them less employable over time. In these circumstances, alongside the traditional forms of adjustment in Macedonia, additional mechanisms have emerged, such as employment in the informal sector, inactivity and emigration (Nikoloski, 2009).

During the past two decades, significant sectoral shifts have occurred on the demand side of the Macedonian labour market. However, these changes need to be accompanied by changes on the supply side: appropriate reforms need to be made in the education system and in connection with active labour market policies that would lead to improved matching between the supply and demand of skills.

Recently, the problem of skill mismatch on the Macedonian labour market has received a considerable degree of attention from a number of relevant institutions. In this context, the role of the government has been particularly evident, following the adoption of the National Employment Strategy (NES) 2015 and the National Employment Action Plan (NEAP) 2011-2013. These two documents represent significant milestones in planning the development of the supply of and demand for labour in Macedonia. On the national level, the main actors involved in debates and policies about skills requirements and matching are the Ministry of Labour and Social Policy, the Ministry of Education and Science, the Vocational and Educational Training Centre (VET Centre) and the Employment Service Agency (ESA).

The problem of skill mismatch on the Macedonian labour market has been identified from the outset of the transitional process. This is particularly emphasised in the World Bank country assessments in 2003 and 2005 where, among other things, problems related to the acquisition and development of human capital are pointed out as reasons for the high and sustained level of unemployment in the country.

Firstly, the effective skills of workers that were acquired in the previous socialist system became obsolete and inconsistent with the shifting labour demand. Secondly, the long duration of unemployment implied an increased depreciation of human capital. Thirdly, the result of the heritage of the previous socialist system was that employers in the private sector lacked entrepreneurial skills. Finally, the education system remained rigid and unresponsive to labour market needs. In consequence, many employers found it difficult to hire workers with required skills despite high unemployment – and they continue to do so.

Skill mismatch appears to be of significant importance for several labour market actors. It is likely to generate lower job satisfaction for employees, associated with increased workplace stress and, possibly, lower wages. In this context, some labour

market segments, such as young people entering the labour market, older workers, women, people from minority ethnic groups and those with disabilities are disproportionately affected by skills mismatch. Furthermore, employers may suffer from lower productivity since skill shortages and skills gaps can, potentially, lead to a loss of competitiveness. Finally, at the macro level the economy may suffer from a loss of output and lower economic growth (CEDEFOP, 2010).

The aim of this article is to analyse the match between the supply of and demand for skills in Macedonia in order to assess the potential deficiencies and to propose appropriate policy recommendations. In addition, we are interested in assessing the implications of the skill mismatch for the unemployment rate and the degree to which structural imbalances contribute to high and sustained unemployment. For this purpose, we apply a comprehensive analysis of skills supply and demand, and attempt to derive the lessons for future policy interventions. From this, we expect to come up with viable policy measures that will improve the matching between the supply of and demand for skills as a strategy for fighting persistent unemployment in Macedonia.

Supply of skills

The supply of skills on the Macedonian labour market may be analysed using data from the Labour Force Survey. The LFS is one of the most valuable sources of information regarding trends in the labour market. The first LFS in Macedonia was conducted in 1996 by the State Statistical Office and, since then, we have detailed data concerning labour market trends. The goal of the LFS is to provide comparable data concerning the size and the structure of the active population according to international standards. The LFS has been conducted since 2004 as a continuous survey throughout the year on the basis of a quarterly processing of the data.

In this context, we may pay attention to labour force structure disaggregated with respect to the level of education and occupation. For this purpose, we apply internationally-adopted classifications, and as used in the LFS: the International Standard Classification of Education (ISCED); and the International Standard Classification of Occupations (ISCO).

In addition, the LFS provides data referring to lifelong learning, both in the formal and non-formal education system. The purpose of lifelong learning is to describe the structure of participation in formal and non-formal education, the reasons for non-formal education, time spent in learning, etc. In this context, it is particularly important to describe the relationships between participation in education and the labour market situation.

Analysis of the educational structure of the labour force as contained in the 2012 LFS shows that 21.4 per cent have completed some higher education;¹ 24.6 per cent have only primary or incomplete primary education; while the majority of the labour force (53.9 per cent) have completed secondary education. According to human capital theory, educational attainment is considered, alongside workers' experience, to be a crucial determinant of labour supply. In the previous socialist period, emphasis was

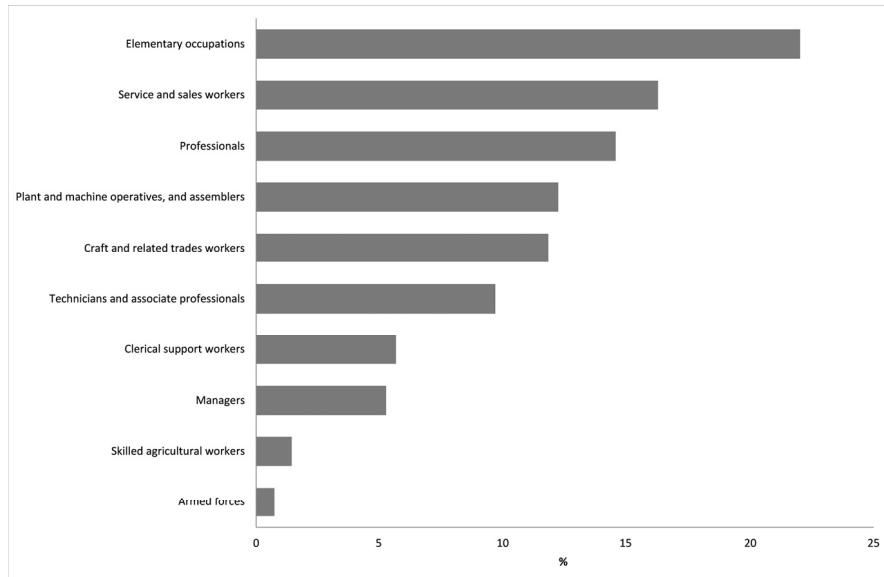
1 Higher education includes all types of university-level education.

given to vocational secondary education. In contrast, during the transition general secondary and higher education became more valuable because they increased workers' employment prospects with respect to the structural changes taking place in the pattern of employment (Cazes and Nesporova, 2003). Additionally, as mentioned above, employers' requirements for newly-created jobs have become more demanding regarding the key competences that workers must possess.

Workers with a university level of education experience the highest employment rate, followed by those with secondary education and, finally, by those with only primary education. In contrast, workers who have primary, or incomplete primary, education face the highest unemployment rate (37.5 per cent) followed by workers with secondary education (31.6 per cent) and, finally, the lowest unemployment rate is experienced by workers with a university level of education (23 per cent). These findings are in accordance with the underlying theoretical background, as well as with the empirical evidence in other transition countries where, despite the initial recession, workers with higher education enjoy better economic prospects relative to those with lower levels of education. Hence, in Macedonia, like in other transition countries, the unemployed are mostly people with a lower level of education. However, the unemployment rate of workers with tertiary education is still extremely high compared to more advanced transition countries.

Regarding the occupations of employed workers, analysis shows that highest represented are elementary occupations, the share of which reaches 22 per cent of total employment, followed by service and sales workers, and then professionals. Least-represented occupations are clerical support workers, managers and skilled agricultural and fishery workers. The entire structure of the employed workforce on the basis of occupation in 2012 is presented in Figure 1.

Figure 1 – Employment by occupation in Macedonia, 2012



In addition, the Macedonian labour market is characterised by a relatively stagnant unemployment pool that has been translated into increased long-term unemployment.² For instance, long-term unemployment accounts for more than 80 per cent of total unemployment, which represents a high relative share compared to international standards. Long-term unemployment has significantly contributed to the erosion of the skills and motivation of unemployed workers, making them less employable over time. The deterioration of skills further reduces the attractiveness of the labour force and contributes to a blurring of the difference between the states of unemployment and non-participation. The long-term unemployed are not viewed by employers as attractive fillers of vacancies, meaning that their employability is relatively weak.

After remaining unemployed for a long period of time, a considerable part of unemployed workers stops looking for jobs and quits the labour force. This is known as the phenomenon of ‘discouraged workers’, a characteristic of depressed labour markets in which labour demand is insufficient and unemployed workers face poor employment prospects. Discouraged workers do not fulfil the requirements of job search as a precondition to be counted as formally unemployed. On the other hand, they can easily re-enter the labour force if conditions improve on the demand side of the labour market (Kingdon and Knight, 2006). The estimated number of discour-

2 Long-term unemployment includes all unemployed workers that have been looking for work for more than one year.

aged workers, according to the LFS in 2012, was 30 322, representing more than 10 per cent of the total number of the unemployed.

The attractiveness of labour supply might be improved through continuous investment in formal education and training, as well as in other learning activities outside regular education. In the case of Macedonia, according to LFS data, among employed workers some 25 884 are attending formal education, whereas 11 591 workers are attending informal education, representing 4 and 1.8 per cent respectively of the total number of those in employment. In addition, among unemployed workers some 10 223 are attending formal education, while 2 670 workers are attending informal education, representing respectively 3.5 and 0.9 per cent of the total number of unemployed people.

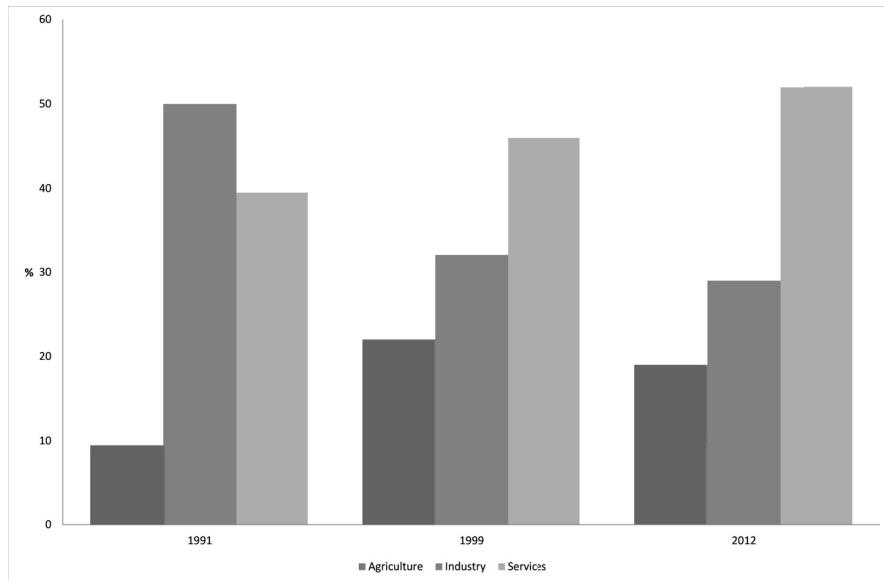
Hence, it is evident that only a negligible portion of the Macedonian workforce is investing in additional human capital accumulation. This can be considered one reason for the persisting under-skilling which particularly concerns unemployed workers.

Demand for skills

Significant sectoral shifts have occurred on the demand side of the Macedonian labour market during the past two decades. The sectoral reallocation of labour at the outset of the transition has been characterised by a significant increase in subsistence agriculture and in other non-standard forms of employment at the expense of a rapid shrinkage of employment in industry (European Training Foundation, 2007).

These trends in employment by sector indicate that new jobs have not predominantly been created in more productive industries and in the service sector, but rather in agriculture and low productivity services (Micevska, 2008). The increase in the share of employment in agriculture suggests that this sector became a buffer for some people who have lost their jobs in the state-owned industrial enterprises. However, recent changes show that the service sector is gradually coming to play an increasingly important role, absorbing more than one-half of the employed workforce, whereas the agricultural sector has started to shrink (Figure 2).

Figure 2 – Sectoral trends of employment in Macedonia



The size of employment in the informal sector in Macedonia is relatively large compared with more advanced transition countries. For instance, according to data from the 2012 LFS, the share of employment found in the informal sector was estimated at about 22.5 per cent. However, bearing in mind the nature of the informal sector, any assessment based on self-reporting, as in the case of the LFS, will potentially underestimate its true size.

The Macedonian informal sector predominantly consists of small-scale agricultural production carried out by workers with low levels of education who are either employees without stable contracts or unpaid contributing family workers. Thus, workers in the informal sector are usually low-skilled or unskilled and, consequently, they are less competitive in the labour market: they include young people, workers around the retirement age and workers with low levels of education or without a vocation (Nikoloski *et al.* 2012).

In addition, a majority of these workers experience the so-called ‘informal employment trap’, i.e. they face a low probability of exiting informal employment (Bernabe, 2002). At the micro level, workers who work in the informal sector experience an increased level of human capital erosion due to the labour-intensive characteristics of informal employment and the absence of vocational training.

It is worth mentioning that Macedonia has not remained apart from the negative global macroeconomic trends engendered by the recent economic crisis. The recession started one year later but, after three consecutive quarters of negative GDP growth, macroeconomic performance was, by the end of 2009, already demonstrating some signs of recovery. However, the labour market during the recession mani-

fested increased rigidity which can be attributed to the role of alternative labour market adjustment mechanisms. This recent experience confirms the important role of these alternative mechanisms, such as employment in the informal sector, emigration and non-participation, in cushioning the social and economic consequences of the high and persistent unemployment rate.

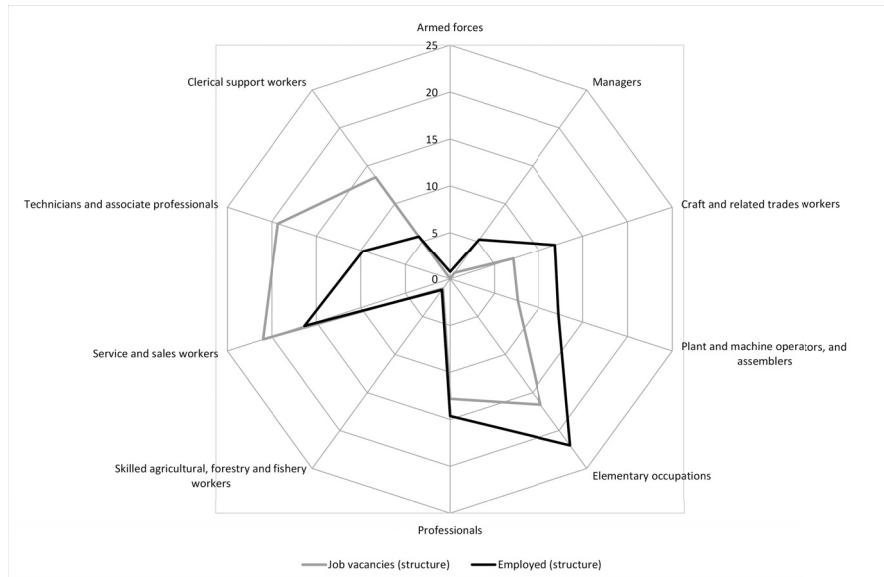
In analysing the number of job vacancies, we use the output of the Job Vacancy Survey carried out by the Macedonian Statistical Office. The objective of this survey is to obtain information on job vacancies in enterprises in Macedonia, which is important in monitoring macroeconomic movements and labour market policies. According to the data of the State Statistical Office, the job vacancy rate in the fourth quarter of 2012 was 1.23 per cent.³ Regarding occupation, the highest number of jobs was created for service and sales workers, whose share is 21 per cent of the total number of job vacancies, followed by technicians and associated professionals whose share is 19.3 per cent. At the other end of the scale, the lowest number of jobs was created for managers and skilled agricultural, forestry and fishery workers. The most significant generator of new jobs in 2012 were small enterprises, with a job vacancy rate of 1.45 per cent, followed by medium and large enterprises, where the job vacancy rate was 1.19 per cent.

In comparing the structure of employed workers with the structure of job vacancies by profession, we can identify those professions where the demand for labour is biased either upwards or downwards (see Figure 3).

It is evident that trends in job creation are in favour of service and sales workers, technicians and associate professionals, and clerical support workers, since their shares among job vacancies are greater compared to the shares that each hold of the employed workforce. On the other hand, demand is rising at a slower pace for professionals, workers in elementary occupations, plant and machine operators and assemblers, craft and related trades workers and managers.

3 The job vacancy rate is calculated as the ratio between the number of job vacancies and the total number of jobs (both occupied and vacant).

Figure 3 – Shares of employment and job vacancies, by occupation (2012)



In order to analyse the demand for skills, we may use results from the survey *The analysis of skill requirements on the labour market in Macedonia*, carried out by the Employment Service Agency. The aim of this survey is to provide short-term indicators about fluctuations in the labour force and in employers' forecasts/expectations with regard to new hires in the following twelve months. The consequence is that this survey contributes to an increased awareness of the current situation and expected changes in the labour market through highlighting employer information regarding the occupational and skill needs of planned new hires.

Analysis of the results of the survey carried out in 2012 shows that about 48 per cent of the companies surveyed were planning to take on new people during the following six to twelve month period. The result is that around 10 261 new jobs were expected to be created, dominant among which were jobs in the processing industry, trade, construction and transportation. According to the required level of education, some 9.1 per cent of the new jobs were created for workers with a university diploma, while an additional 74.0 per cent were suitable for workers with secondary education. Just 10.4 per cent were for workers who had completed only elementary education.

Assessment of skill mismatch

In the literature, we found several approaches to assess skill mismatches; these can be classified in three broad categories: objective; subjective; and empirical. The objective measure is obtained by a systematic evaluation so as to determine the precise level of qualifications required to perform a particular job. The subjective mea-

sure is based on individual perceptions about the level of education required to perform a particular job. According to the empirical method, mismatch occurs when the level of education is more than one standard deviation above or below the mean for education required within an occupation (CEDEFOP, 2010). Moreover, the mismatch can be vertical or horizontal. A vertical mismatch reflects a situation in which the level of education or skills is higher or lower than the required level of education or skills. In contrast, the mismatch is considered to be horizontal where the level of education or skills possessed matches the job requirements, but the type of education or skills is inappropriate for the current job.

A proxy measure of skill mismatch based on a subjective approach might be derived from the LFS. According to the 2012 Macedonian LFS data, more than 62 000 employees were looking for another job, representing 9.5 per cent of the total number of those in employment. Among other reasons for searching for another job is the need to find a suitable job according to the acquired level of education. The share of this category of workers represents about 12.5 per cent of the total number of people in employment who intend to find another job. The majority of workers in this category have higher or secondary education and feel that they over-educated or over-skilled for the jobs they are performing.

On the other hand, the survey of skill needs carried out by the ESA might be used in deriving a measure of skill shortages. In this context, about 14 per cent of surveyed firms stated that they faced difficulties in filling job vacancies due to skill shortages. Furthermore, employers in the survey emphasise the need for workers with certain levels of work experience, as well as that they have acquired additional knowledge and general skills such as: proficiency in foreign languages; IT skills; communication skills; etc. These required skills are more relevant for workers with higher levels of education (secondary or tertiary) compared to those with elementary education. The majority of employers who reported experiencing shortages of a suitable workforce point to the absence of such skills as a reason for their difficulties. For instance, insufficient work experience and additional skills are generally perceived as obstacles in filling about 17.6 per cent of vacant jobs.

The estimated shortage of workers with adequate skills in 2012 was, according to survey data, 406. From an educational point of view, the majority of unfilled vacant jobs were generated among workers with a secondary education (65.8 per cent), followed by those with tertiary education (19.2 per cent).

With respect to occupation and level of education, shortages of workers were mostly identified in the following fields:

- university level of education: construction engineer, mechanical engineer, architect, IT engineer, programming engineer, engineer of technology
- higher level of education: electro-technical engineer, electronic technician, mechanical technician, computer-electrical technician, graphic designer, technician in the foodstuffs industry
- secondary level of education: sewer, cook, waiter, welder, sales representative, locksmith, shoemaker, baker
- primary level of education: wine production, ironing, carpentry.

The results from an analysis of skills needs are used as a basis for the creation of active policies and measures for the employment of unemployed workers in order to improve their competitiveness on the labour market. Moreover, this analysis is used in the preparation of local action plans for employment, as well as for designing new vocational education and training programmes in line with labour market demand.

Conclusions and policy implications

The Macedonian labour market is characterised by a high and sustained unemployment rate, accompanied by relatively low participation and employment rates. Besides this, there exists a pronounced degree of labour market segmentation and an emphasised role for alternative adjustment mechanisms, such as employment in the informal sector, emigration and a reliance on social transfers. One of the main reasons for this phenomenon, that has persisted for more than two decades, is insufficient labour market demand, manifested in modest levels of job creation.

However, persistent unemployment has also affected the supply side, which can be viewed in terms of the depreciation of skills or the lack of personal motivation for investment in human capital. Hence, there is wide room for investigating the issues related to the acquisition and development of human capital, as well as the problem of matching between supply and demand on the labour market.

With respect to data availability, it is evident that there are various sources in Macedonia that provide data on the supply of and demand for skills. Publications from government authorities, such as the State Statistical Office and the Employment Service Agency, are quite comprehensive, but some data shortages are still present. Thus, it is evident that, in order to gain useful information within a wider survey context, separate questions should be asked in relation to skill shortages, skill gaps, over- and under-education, over- and under-skilling and skills obsolescence. Some of the information could be obtained from employers, some from employees and some from both in order to check for consistency (CEDEFOP, 2010).

Anticipation of skills demand in Macedonia is characterised by a number of shortcomings. Firstly, there is no use of modern forecast techniques based on econometric modelling. Secondly, there is an absence of a clear delineation between different horizons for the anticipation of the demand for skills i.e. short-term, medium-term and long-term. Finally, policymakers have still not developed alternative scenarios for the future development of the supply of and demand for skills on the labour market.

Bearing in mind the results from our assessment of issues in skills supply and demand, a variety of opportunities exists for policy interventions.

Firstly, we have identified a lack of co-ordination among key institutions and social partners, implying the need for future improvements. In this context, it is worth mentioning the current initiative to establish a task force of representatives from various institutions involved in the planning of the development of human capital.

Secondly, policies on the supply side should be focused on appropriate reforms in the education system, including both vocational education and training and higher education. Given that awareness among the social partners involved in the process of

the design of new curricula and the modernisation of existing ones is still at a relatively low level, incentives should be created among employers to participate in designing study programmes for formal vocational education and training, as well as for the informal vocational education of adults.

Thirdly, active labour market policies have to be designed carefully in order to target the most vulnerable labour market segments, particularly with respect to the increased employability of young people and the reduced share of workers with a low level of qualifications.

Finally, policies on the demand side have to generate incentives for additional job creation, predominantly in competitive industries where skill requirements roughly match the qualification structure of the workforce.

References

Bernabe, S (2002) *Informal Employment in Countries in Transition: A Conceptual Framework* Centre for Analysis of Social Exclusion, Working Paper No. 56.

Blanchard, O (1997) *The Economics of Post-Communist Transition* Clarendon Press: Oxford.

Cazes, S and A. Nesporova (2003) *Labour Markets in Transition, Balancing Flexibility and Security in Central and Eastern Europe* International Labour Office: Geneva.

CEDEFOP (2010) *The skill matching challenge – Analysing skill mismatch and policy implications*.

Employment Service Agency of the Republic of Macedonia: *Annual report 2012*.

Employment Service Agency of the Republic of Macedonia: *National report from the Analysis of skill needs in the Republic of Macedonia 2012/2013*.

European Training Foundation (2007) *Labour markets in the Western Balkans, Challenges for the future*.

Kingdon, G and J. Knight (2006) 'The Measurement of Unemployment when Unemployment is high' *Labour Economics* 13(3): 291-315.

Micevska, M (2008) 'The Labour Market in Macedonia: A Labour Demand Analysis' *LABOUR* 22(2): 345-368.

Nikoloski, D (2004) 'Some Aspects of the Problem of Unemployment in Macedonia' *Economic Development* 6(1-2-3): 241-260.

Nikoloski, D (2009) *The sustainable rate of unemployment in transition countries – A case study for Macedonia* VDM Verlag.

Nikoloski, D (2011) Labour market segmentation in the Republic of Macedonia; *Economics and Business* 154, March, Skopje.

Nikoloski, D, Lj. Pechijareski and G. Pechijareski (2012) *Entrepreneurship in the informal sector as a form of labour market adjustment – The case study of Macedonia*

nia, Proceedings from the 5th International Conference for Entrepreneurship, Innovation and Regional Development, Sofia, 1-2 June, 2012.

State Statistical Office of the Republic of Macedonia *Labour Force Survey 1996-2012, Basic definitions, methods and final results*.

State Statistical Office of the Republic of Macedonia *Job Vacancy Survey*.

Svejnar, J (2002) *Labour Market Flexibility in Central and East Europe* William Davidson Working Paper No. 496.

World Bank (2003) *FYR Macedonia Country Economic Memorandum – Tackling Unemployment* Report No. 26681-MK.

World Bank (2005) *FYR Macedonia Poverty Assessment for 2002-2003* Poverty Reduction and Economic Management Unit, Europe and Central Asia Region.

