

# Labour Market and Skills in the Western Balkans

---

Edited by

**Mihail Arandarenko**

Professor of Economics  
University of Belgrade

**Will Bartlett**

Senior Research Fellow  
London School of Economics



LSEE is part of the LSE's European Institute, a Jean Monnet Centre of Excellence

**Published by**

FREN - Foundation for the Advancement of Economics

**Edited by**

Mihail Arandarenko & Will Bartlett

**Managing Editor**

Ioanna Antonopoulou, Cristina Maza & Aleksandar Radivojević

**Printed by**

Grafolik

**Cover Photo**

Grafolik

**Print run**

300 pcs

Belgrade, November 2012

ISBN 978-86-916185-0-6

# Contents

<b>Part I: Introduction</b>		<b>01</b>
1	The Labour Market, Skills and Growth in the Western Balkans: An Introduction	03
<b>Part II: The Labour Market and Skills Mismatch</b>		<b>17</b>
2	Skills Mismatch in the Western Balkans-Empirical Analysis	19
3	Skills Surveys in Serbia: An Overview and a Case Study	37
4	Skill Needs on the Labour Market in the Republic of Macedonia	63
5	Educational Origins and Occupational Destinations? Dissecting the Education-Job Mismatch in School to Work Transitions in Croatia	73
<b>Part III: The Education System and Skills Mismatch</b>		<b>101</b>
6	Lifelong Learning Policies in Southeastern Europe: From Emulation of EU policies to Tailor-made Reform?	103
7	Is Government Effective in Promoting Human Capital? The Case of Macedonia	129
8	Skills Matching in Croatian SME sector and Competence-based Education and Training: Progress and Prospects	155
9	Reversing the Bosnian “Brain Drain”: Opportunities and Challenges	177
<b>Part IV: Conclusion</b>		<b>199</b>
10	Conclusions: Improving Skill Policies in the Western Balkans	201
<b>References</b>		<b>207</b>



## Notes on the Contributors

**Mihail Arandarenko** is Professor of Economics and Vice Dean for International Cooperation at the Faculty of Economics, University of Belgrade, Serbia

**Sasha Barnes** is Project Manager at the International Organisation for Migration in Sarajevo, Bosnia and Herzegovina

**Will Bartlett** is Senior Research Fellow in the Political Economy of South East Europe at the European Institute, London School of Economics and Political Science, UK

**Nevenka Čučković** is Senior Research Advisor at the Department for International Economic and Political Relations in the Institute for International Relations, Zagreb, Croatia

**Debora Gatelli** is a statistical officer at the European Training Foundation in Turin

**Jens Johansen** is a Quantitative Analyst at the European Training Foundation in Turin, Italy

**Alexander Kleibrink** Research Fellow at the Hertie School of Governance, Free University Berlin, Germany

**Teo Matković** is Assistant Professor at the Social Policy Unit of the Faculty of Law, University of Zagreb, Croatia

**Nikica Mojsoska-Blazevski** is Dean of the School of Business Administration and Head of the Macroeconomic and Development Department at the University American College, Skopje, Macedonia

**Galjina Ognjanov** is Associate Professor at the Faculty of Economics, University of Belgrade, Serbia

**Nermin Oruc** is Senior Researcher at the Centre for Economic Development and Research, Sarajevo, Bosnia and Herzegovina

**Jovan Pejkovski** is Professor at the Institute of Social Work and Social Policy at the Faculty of Philosophy, University of St Cyril and Methodius, Skopje, Macedonia

**Maja Ristovska** is an MBA candidate at the American University College in Skopje, Macedonia

# **Part I: Introduction**



# CHAPTER 1.

---

## **The Labour Market, Skills and Growth in the Western Balkans: An introduction**

Will Bartlett and Mihail Arandarenko

---

---

### **Introduction**

In modern economies, continuous economic restructuring, innovation, and globalisation have led to major transformations in labour markets, giving rise to pervasive skill gaps and skill mismatches. This turbulence in the labour markets has been even greater in the transition economies of the Western Balkans where entire industries that previously relied on subsidies and operated under soft budget constraints have all but disappeared. Additional changes have been brought about by armed conflicts, while the creation of new states has led to more intense labour market changes than in other parts of Europe. The pace of structural change has been accelerated by the adverse impact of the recent economic crisis, which has led to a further large-scale loss of jobs in traditional industries in the region.

The issue of skills has come to prominence in the context of the current global economic crisis which has brought the former growth model based on inflows of external resources in the form of bank credit and foreign direct investment and remittances to a sudden end (Bartlett and Prica, 2011). These inflows of financial resources fuelled a consumption-led model of growth in which

current account deficits soared as consumers took advantage of increased incomes to import new cars and household goods from the West, at the same time as indigenous manufacturing industries inherited from the former communist regime collapsed. During that time there was little investment in upgrading education systems and the skills of the workforce have deteriorated despite the inheritance of high levels of human capital from the former system. The economic crisis has therefore brought into sharp relief the need for a new growth model based on greater reliance on indigenous resources (FREN, 2010; Snoy, 2011).

While the region benefits from impressive natural resources and a fertile agricultural sector, the main resource is the human capital of its people. From this perspective the development of education and the improvement of labour force skills is a key factor that will underpin future economic recovery and growth of the Western Balkan economies. Enhanced labour force skills are needed to support investment in high technology industries and new service sectors, increase competitiveness and enable countries to expand their exports to the EU<sup>1</sup>. In the absence of an improved skill base, economic convergence to EU living standards is likely to be postponed for decades to come.

---

<sup>1</sup> It is widely recognised that an essential element of a new growth model for the Western Balkans will require an improved export performance in order to overcome the balance of payments constraint to growth (Ehrke, 2011). However, the role of investment in new skills to underpin improved competitiveness is less often appreciated.

## **Skills mismatch in the Western Balkans**

The economic transition in the Western Balkans has involved large-scale structural change which has come about through the processes of privatisation and enterprise restructuring which have destroyed jobs in old state and socially owned enterprises and which have made the stock of skills inherited from the former system obsolete. Foreign direct investment has brought new technologies requiring new skills while new firm entry due to the initiative of entrepreneurs has brought new working practices in small and medium sized enterprises requiring 'soft' adaptable skills. *Ad hoc* skill needs surveys of employers, often undertaken by donor-funded programmes, have identified skill gaps in 'soft' skills (communication, entrepreneurial attitude, team work and positive attitudes to work) in Western Balkan transition countries (Masson and Fetsi, 2008). This increase in demand for generic skills has reflected the decline of manufacturing and growth of new services sectors.

Although unemployment rates had been on a falling trend up to 2008, long-term unemployment has been persistently high leading to a corresponding obsolescence of skills among a large section of the workforce. After almost a decade of sustained economic growth, the global economic crisis brought about an abrupt reversal of fortunes and unemployment began to increase in most countries of the region. Unemployment rates have reached as high as 32% in Macedonia and 47% in Kosovo. Long-term unemployment is a serious problem, which especially affects older workers with obsolete skills. Youth unemployment is also very

high and increasing. On the demand side of the labour market, many old large scale industries have declined or closed down, while most new jobs have emerged in the service industries among which a range of new skills are needed (Bartlett, 2007).

The process of transition and associated long-term unemployment has also encouraged many workers to drop out of the labour force or take up low paying jobs in the informal economy. Skilled workers who cannot find a job in the formal sector may accept an informal sector job at a skill level below that corresponding to their qualifications, so that the phenomenon of “overeducation” may also be present in the informal economy. Many countries have also seen a growth in self-employment which is often a ‘push’ phenomenon providing for self-subsistence, not necessarily matching skills to activities.

Skill mismatch appears to be a more permanent phenomenon in the Western Balkans than in more developed EU countries where mismatch mainly affects younger people and tends to decline with age due to occupational mobility, movement up the career ladder in larger firms and investment by employers in on-the-job-training. In the Western Balkans, such mismatch tends to be more persistent for a number of reasons. Firstly, old skills quickly become redundant when new technologies are introduced through restructuring. Secondly, employers invest relatively little in on-the-job-training due to uncertainty induced by the poor investment climate. Thirdly, old skills have gradually become obsolete due to the persistence of long-term unemployment. Fourthly, re-skilling has been inhibited by the low provision of

adult education and life-long learning opportunities. Such skill mismatch could in principal be overcome through on-the-job training or career mobility, but employers are often reluctant to spend on employee training, while career mobility is often severely limited by structural factors such as lack of retraining opportunities and the costs of moving house.

It has been claimed that skills mismatches in transition economies are related to the poor quality of education and low levels of public expenditure, which have reduced the available stock of skilled labour (Murthi and Sondergaard, 2010). It is also often argued that curricula inherited from the former system are unsuited to the development of a service-oriented market economy and they have not been adapted to reflect the new occupations that have emerged in the service sectors and in high technology industries. Skills that are taught in vocational education institutions tend to be too specialised in obsolete occupations. Education methods often out-dated and depend on rote learning rather than problem solving. There is generally a deficit of education in transferable skills (so-called 'soft skills').

The upgrading of the education system is not simply a problem of low administrative capacity but also of the lack of incentives for change embodied in political systems. Several factors are involved including reform resistance by the teaching profession; corruption in the state education system which reduces education quality; the growth of private tertiary education with little quality control; and the lack of incentives for entry of new vocational training providers, whether for-profit or not-for-profit, to provide life-long

learning opportunities. All of this result in very low participation in lifelong learning for the adult population. Remedying such policy gaps will be just as important as dealing with individual skill gaps and mismatches as a means to underpin the new growth model in the future.

## **Overview of the book**

Part I of the book focuses on the labour market side of the mismatch between jobs and skills. In chapter 2, Will Bartlett, Jens Johansen and Debora Gatelli provide an empirical analysis of skill mismatch in the Western Balkans. The chapter provides several empirical findings on the nature of skill mismatches. Firstly, the degree of mismatch changes over time quite markedly implying that strong underlying market forces affect the degree of skill matching. Secondly, there tends to be an inferior matching of women compared to men. Thirdly, the degree of mismatch varies across education qualifications; there is a divide between workers with at most high school and vocational education who suffer high levels of mismatch, and more highly educated workers with college or university education who have a better experience in the labour market. These findings can be explained by the enormous structural changes in the labour markets brought about by the transition process combined with an education system that is unreformed and poorly adapted to the new needs of the labour market and also far less resourced than in the past. Vocational and high school graduates often have inappropriate skills and qualifications and have difficulty finding a job. University graduates, while increasing in number, find jobs relatively easily

because restructuring and technological change has increased the demand for highly skilled workers. Although demand for skilled labour is increasing due to technological change in both manufacturing and service industries, many university graduates take jobs that would be more appropriate for high school and vocational graduates leading to the phenomenon of 'bumping down', increasing the problem of mismatch for high school and vocational school graduates who suffer excess unemployment. The analysis in this chapter is based on aggregate data derived from labour force surveys. However, the extent to which skill mismatch can be identified from this data is limited in the absence of more detailed skill surveys.

The analysis of skills surveys and their reliability is the subject of the following chapters. In chapter 3, Mihail Arandarenko and Galjina Ognjanov provide an analysis of employer skill needs surveys in Serbia where several such surveys have been conducted in recent years. They point out their promising features but also identify some problems, focusing on the example of the "South Serbia occupational skills survey" carried out in February 2011 in the districts of Nisavski, Jablanicki, Pomoravski and Pcinjski. The survey provides information for the design and targeting of training programmes to firms most likely to create jobs in the short and medium-term by size, economic sectors, occupations and skills. On the basis of a careful analysis of the results, the authors demonstrate the methodological and policy limitations of such occupational skill surveys. They suggest that Serbia needs a generalised, strategic discussion on how to reform the education and training systems but argue that while skill

surveys are useful inputs to such a discussion, they do not provide reliable information about the future trends, produce over-optimistic forecasts and overestimate skill gaps. They argue that structured expert thinking is needed to interpret such survey data. In Chapter 4, Jovan Pejkovski sets out a critical analysis of employer skill surveys in Macedonia. He points out that the surveys cover only a section of the labour force and therefore are likely to contain an inherent bias towards those sectors, such as large firms, which are easier to monitor and to measure. Policies based on such surveys run the risk of neglecting the skill needs of small and medium sized firms as well as firms that operate in the informal sector. Their skill requirements may be quite different to those that are measured and monitored by formal skill surveys, and policy-makers should beware of implementing reforms that fail to address their needs. In Chapter 5, Teo Matković analyses employee surveys in Croatia and traces the transition from jobs to work and the consequent evolution of skills mismatches. He shows that horizontal education-job mismatch among young people entering the Croatian labour market is widespread and persistent but rejects the 'mechanistic mismatch' hypothesis for such outcomes. In other words, the problem of youth integration in the labour market is not one of exclusion from a chosen field as young people seem quite capable for finding jobs outside their chosen field (reflecting field of study mismatch). In his fascinating empirical analysis, Matković demonstrates that while many graduates are employed in jobs for which their education does not provide a good match, those educated in fields that correspond to the sectors in which they find work obtain their job only slightly faster than others. He argues that this evidence

shows that the Croatian labour market is not an occupational labour market and that many young people end up in a job completely unrelated to the one they trained for. While this form of horizontal field of study mismatch may not be too much of a problem (in that young people find a job – just not the one they studied for), the author suggests that the credibility of vocational education is nevertheless diminished by the failure of the educational system to train students in sectoral skills for which there is a real demand. Moreover, university graduates often take jobs away from graduates of vocational schools ("bumping down"). He suggests that policy makers should improve coordination between the education system and employers and that the development of evidence-based sectoral standards, occupational profiles and qualification frameworks currently underway in Croatia will only succeed if such efforts are inclusive of all the stakeholders in the labour market and the education system.

Part II of the book focuses on the education side of the jobs and skills matching puzzle and questions the extent to which the education systems in the Western Balkans offer young people an educational experience which is adequate to prepare them for their future working life. It also covers the issue of lifelong learning and retraining throughout the life course.

In Chapter 6, Alexander Kleibrink addresses the issue of life-long learning in the Western Balkans. He explores the introduction of National Qualification Frameworks designed to provide comparability in education and training qualifications as a means

to underpin labour mobility within the EU. His critical assessment argues that the countries of the Western Balkans have rather unthinkingly adopted the European Qualification Framework without paying sufficient attention to adapting it to local conditions and institutional environments. In consequence the countries of the region have not been able to develop effective lifelong learning systems and training programmes that would respond to the specific problems of the region.

The following two chapters provide a critique of education policies in providing appropriate skills for the labour markets in two Western Balkan countries: Macedonia and Croatia. In chapter 7, Nikica Mojsoska-Blazevski and Maja Ristovska provide a critical assessment of education policy in Macedonia in promoting human capital. They argue that this policy has focussed too heavily on expanding university education leading to a situation of over-education, to the detriment of education investment in the primary education level. They show that despite the growth of education expenditure in Macedonia, many students have poor basic skills in literacy, reading, maths and science and leave school early with a low level of human capital. While the number of university graduates is increasing, employers require mainly workers with secondary and primary education. Returns to higher education are declining as ever more young people pass through the university system leading to an increasing problem of over-education, carrying out lower-skill jobs where their productivity is below their potential. They argue that education policy would be improved by rebalancing education expenditure to pre-school and primary education. They also argue that there is a need for

improved matching between the supply and demand for skills by engaging employers in the design of curricula through focus groups and employer surveys in different sectors. In chapter 8, Nevenka Čučković and Will Bartlett provide an analysis of the skills gaps facing small and medium sized enterprises in Croatia. They argue that the current system of education and training is failing to meet the needs of SMEs and that a reform of the training system is needed to improve the skills of the labour force in this sector, which is of critical importance to an improved competitive performance of the Croatian economy as it approaches full membership in the EU.

The issues of the 'brain drain' and the migration of skilled workers are taken up in chapter 9 by Sasha Barnes and Nermin Oruc who analyse a survey of skills of emigrants from Bosnia and Herzegovina. In the 1990s, Bosnia and Herzegovina experienced the mass emigration of more than 25% of its population which, combined with a political reluctance for educational reform, has created significant skills mismatches in the Bosnian labour market. Because many young Bosnians living abroad have acquired new skills in developed countries that are scarce in the home labour market, their return may partly alleviate the problem of skills mismatch. This chapter explores the potential of the Bosnian diaspora community to fill these skills gaps. They propose that the skilled diaspora provides a rich pool of talent that could contribute significantly to the development of the Bosnian economy if at least some could be persuaded by adequate incentives to return home and take a skilled job, whether on a permanent or temporary basis. The chapter suggests that such policies could go

some way to reducing skills shortages and mismatch created as a consequence of the lack of coordination between educational and labour market policies in BiH.

An assessment of what has been learnt from the research reported in these chapters is presented in the final chapter of the book. It suggests that a broad range of policies are needed in the Western Balkans to bring about the necessary adjustment to provide for better skills matching and reduction of skills gaps in the region. The reduction of skill mismatch and the filling of skill gaps may not be thought to be a priority in the context of high and rising unemployment in the region. Employers can more or less pick and choose between many prospective job candidates, while mass unemployment holds down labour costs, despite the support to reservation wages provided by large inflows of remittances. However, even in this period of recession, many employers find that they are unable to obtain workers with the right mix of skills that are needed, and especially seem to be concerned that the workforce is widely lacking in the modern 'soft' skills needed to enable increased productivity and competitiveness to overcome the economic downturn.

Moreover, even if during the period of crisis the issue of skills mismatch appears to be less pressing than many other urgent calls on policy makers attention, it is nevertheless vitally important that the skills of the workforce are developed in preparation for the demands of future economic recovery and growth. Regional cooperation also has an important role to play in providing coordinated action across the wider regional labour

market which can assist with a rebalancing of skills supplies and demands linked to increased labour mobility between countries.

Without action taken now to reform and modernise education systems, and to put in place effective information and education and guidance systems to ensure that young people are making the right choices, the lack of skills will continue to place a heavy constraint on economic growth and will hinder the eventual catch up in living standards and economic performance of the region to the rest of Europe for decades to come. As the chapters in this book emphasise, the issue is of vital importance to the future of the region and the research findings presented here make a substantial contribution to the evidence base on which appropriate policies can be formulated. They also provide a critical perspective on the existing policy approaches, which are often inadequate to meet the goal of improving the skill matching on the labour market and reforming the education system to better meet the needs of students and employers alike.



**Part II:  
The Labour Market  
and Skill Mismatches**



## CHAPTER 2.

---

### **Skills Gaps and Mismatches in the Western Balkans: A Comparative Analysis**

Will Bartlett, Jens Johansen and Debora Gatelli

---

#### **Introduction**

Skill shortages and surpluses emerged early on during the process of economic transition in the Western Balkans as a consequence of privatisation and economic restructuring<sup>2</sup>. Newly created jobs typically required different skills to those that were destroyed, while the demand for new skills took place more rapidly than the education and training system was able to adapt, leading to widespread skill shortages. Moreover, because of structural change, it seems that skill mismatch is a more permanent phenomenon in transition countries than in the developed economies resulting in high levels of long-term unemployment, and that skills mismatch increases with the age of workers, rather than falling as it does in the developed economies.

---

<sup>2</sup> Of course, the problem is not unique to the Western Balkans. A recent study of the development of skills mismatches in all transition countries found that “even when people hold the correct qualification for an occupation they may not necessarily have the skills needed to effectively perform the job and satisfy employer expectations. Rapid technological and economic change makes difficult to predict what types of skills will be needed in the near and more distant future and what kinds of new jobs will appear” (ETF 2011: 229).

During the economic transition unskilled workers lost employment disproportionately as the skill content of blue-collar work increased due to technological change. Job creation in new firms was biased against workers with low educational attainments, while skills and technological changes gave rise to shortages in the supply of skilled blue collar workers (Commander and Kollo, 2008). Analysis of several large-scale employer surveys has shown that, as transition progressed, constraints on business growth due to skill gaps became more prominent (Mitra et al., 2010). Skill gaps have placed constraints on labour reallocation from low to high productivity sectors and have consequently slowed down the rate of economic growth (Brixiova et al., 2009). In the Western Balkans, skill mismatches have emerged in the higher range of qualifications, with labour surpluses and consequently relatively high unemployment rates among secondary school leavers (Bartlett, 2007). Moreover, skills mismatch is a more long-lasting phenomenon than in the developed economies suggesting a relatively high social cost of skill mismatch.

While the unemployment rate of university graduates is rather low in many transition countries, it is typically much higher among those with only primary or secondary education. In some countries, the highest unemployment rates are found among the graduates from secondary vocational education. Secondary schools, according to enterprise surveys, do not equip students with the sort of skills that would make them attractive to employers. Consequently, youth unemployment is high in the region. Vocational schools continue to teach out of date curricula in most countries, providing skills that are of little use in the

labour market (Masson and Fetsi, 2008: 82). The returns to improved efficiency and effectiveness in the vocational school system are therefore likely to be rather high (Bartlett 2009).

The economic crisis has only worsened pre-existing public sector budget constraints, and has put downward pressure on already low education budgets in the region. Skills mismatches and skills shortages have therefore become a priority concern for policy makers, especially since the onset of the global economic crisis and its intensification through the crisis in the euro zone. In the Western Balkans, economic growth can no longer be achieved through reliance on inflows of external resources of finance, direct investment, and remittances as in the past. While these will continue to be important sources of growth, their contribution to growth will not be as great in the future as it has been over the last decade and countries will need to rely much more on their own resources.

One of the key resources for growth is the human capital of a country's residents, which will need to be nurtured and mobilised so that economic growth can be maintained in the future. While there are many aspects to this complex process, the efficiency with which existing resources are used on the labour market must surely be a priority for policy makers. The process of matching skilled workers to the most appropriate job is central to this concern. Yet, currently there is much evidence to suggest that the extent of mismatch in the Western Balkans is rather high. Efficient matching will ensure that frictional and structural unemployment is reduced if not minimised, that people with the right

qualifications and skills fill available jobs and that skill shortages are minimised (Bartlett, 2012).

The issue of skill mismatch has two dimensions –the demand for skill on the labour market, and the supply of skill from the education and training system. This chapter focuses on the labour market demand side of this issue. Other studies have focused on the education system. For example, one recent study has argued that education systems in the transition countries need to undergo deep-seated structural reforms in order to become more responsive to the needs of the labour market (Sondergaard and Murthi, 2011).

This chapter argues that simultaneous actions are needed on the institutions of the labour market and education systems to ensure that matching is improved through the design of policies to enable a better use of available skills. It also argues for the provision of improved information and forecasts about the likely direction of skills needs in the future which could be used by individual labour market participants, including job seekers, employees and employers, and by labour market brokers including careers and education guidance professionals and employment agencies both public and private.

The main aim of the chapter is to provide a comparative empirical analysis of mismatch in a subset of Western Balkan countries. It is based upon data compiled from national Labour Force Surveys<sup>3</sup>. In

---

<sup>3</sup> The data were gathered through the European Training Foundation MATCH project. For a full account of the data and the calculations performed see Johansen and Gatelli (2012).

the following section data are analysed through three related methods that identify different aspects of the problem. The analyses are synthesised into an overall discussion of the patterns of mismatch over time, across educational levels and by gender. The final section provides some policy conclusions.

## **Comparative analysis of skill gaps and mismatches**

The analysis in this section aims at a comparative cross-country comparison. Existing survey data is not suitable for this purpose so we make use of aggregate data from labour force surveys. The class of measures of skill mismatch we adopt makes use of information on the qualification distributions of employed and unemployed people. The most straightforward measure looks at the standardised variance of the unemployment rate across groups of workers with different levels of educational qualification. The justification is the hypothesis that in the absence of mismatch, each qualification group would have an equal employment probability and the variance of unemployment rates would be zero. The main drawback of this measure is that does not identify the source of mismatch. We therefore use a second measure, designed to pinpoint the source of mismatch, which compares the share of each educational qualification (skill) group among the employed and the unemployed. The hypothesis is that in the absence of mismatch, a skill group would be equally proportionally represented among the employed and the unemployed. The existence of mismatch within a skill group is revealed by such an imbalance and the measure therefore enables

the identification of where mismatches lie within the labour market.

The above statistics provide a measure of ‘horizontal’ skill gaps within different educational qualification (skill) groups on the assumption that there is no substitutability in employment between workers with different levels of educational qualification<sup>4</sup>. For example, a finding that the unemployment rate among university graduates is relatively low would be interpreted as evidence that there is a deficient supply of graduates, in other words as a skill gap for highly qualified workers. This interpretation is based on an assumption that there is no substitutability in employment between workers with different levels of educational qualification. This is a strong assumption. In practice, employers are likely to choose workers with higher education levels (higher levels of human capital) to those with lower levels of education, even for jobs that do not require the higher level of education. This phenomenon is commonly referred to as ‘bumping down’ (McGuinness, 2006). It is a symptom of ‘vertical’ mismatch across levels of educational qualification (skill). Given rational profit-maximising behaviour by employers we would not necessarily expect to see perfect horizontal matching in the sense of equal proportionality of unemployment and employment across education groups<sup>5</sup>. Nevertheless, private rationality is not the same as social efficiency. The bumping down phenomenon also has a social cost, since it implies that too much

---

<sup>4</sup> This is rather similar to the idea of a “mechanistic” model of mismatch developed in Chapter 5 below by Teo Matković.

<sup>5</sup> We are grateful to Mihail Arandarenko for bringing our attention to this interpretation.

investment is being allocated to producing an excess of highly educated people for which appropriate jobs are not available. It also implies that people with lower education levels are likely to suffer disproportionately from unemployment and that the investment in their human capital is going to waste. Overall, there are significant social costs involved where there is a high degree of such mismatch, even in the presence of substitutability between skill groups and rationality of employers' behaviour. Unfortunately, there is no information in the aggregate data that would enable us to test the assumption of no substitutability, and therefore to distinguish between the two interpretations, i.e. whether the statistical measures reflect horizontal or vertical mismatch. In order to do this, detailed employer and employee surveys are needed. The uses of such surveys, and their drawbacks, are discussed in the three chapters that follow in Part I of this book. In the remainder of this chapter we set out our analysis of the statistical measures we have used for three Western Balkan countries: Croatia, Serbia and Macedonia.

### Variance of relative unemployment rates

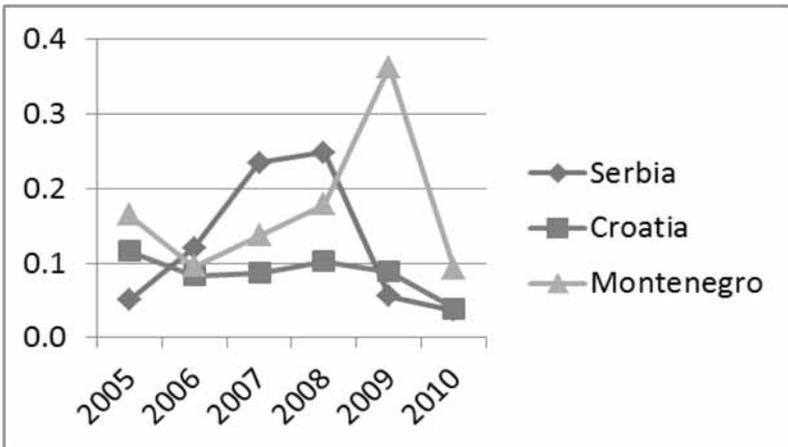
As indicated above, the variance of relative unemployment rates is a summary measure of mismatch on the labour market (Lipsey, 1960). Higher values of the statistic *indicate* a greater scattering of unemployment rates among educational groups. It therefore identifies the extent to which some educational groups are in greater supply/demand imbalance than are others. The higher the value of the variance, the higher is the level of mismatch. However, without further evidence on the degree of

substitutability between workers with different educational levels, we cannot identify the nature of such mismatch – whether it is horizontal or vertical. Moreover, this measure only indicates the existence of mismatch and does not pinpoint its source. Technically, it is expressed as

$$m_u = \text{Var}\left(\frac{u_i}{u}\right)$$

Where  $u_i$  is the unemployment rate for group  $i$  while  $u$  is the total unemployment rate. If the unemployment rate of all educational groups is the same then the variance is zero. The more different are the unemployment rates of the various education groups, the higher will be the variance.

**Figure 1: Variance of relative unemployment rates, 2005 to 2010**



Source: Labour force survey data

Overall, the variance of relative unemployment ranges from a high of 0.36 in Montenegro (2009) and a low of 0.04 in 2010 in both Croatia and Serbia. Over time, it displays an 'inverted U-shape' in both Serbia and Montenegro and to some extent also in Croatia. Mismatch appears to have increased during the boom years followed by a decrease as the effects of the global economic crisis began to be felt. A particularly high peak can be observed in Montenegro at the end of the boom period.

#### Proportional measures of mismatch by education level

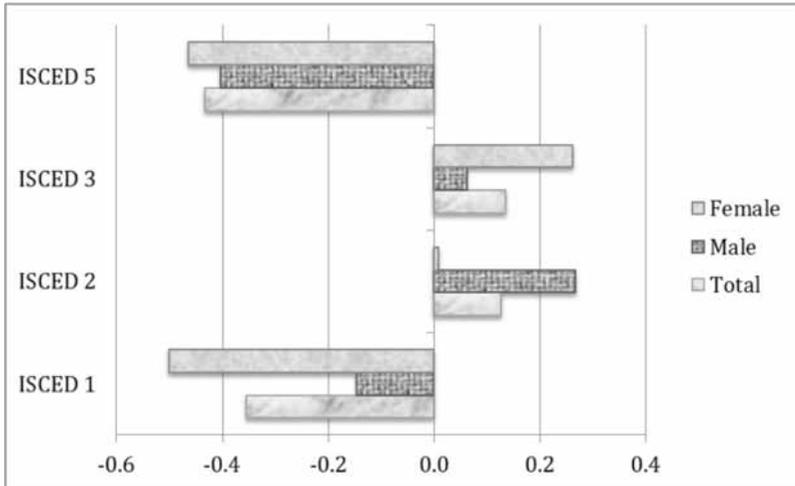
This measure of mismatch compares the share of unemployed people with a given education level to the share of employed people with the same level of education (Johansen and Gatelli, 2012). The proportionality index measures the deviation from unity of this ratio. If the share of unemployed people with a given education level is less/more than the share in employment the mismatch ratio there will be a negative/positive mismatch (under the assumption of non-substitutability this could be interpreted as a skill shortage). Only when the shares of an education group in both unemployment and employment are identical will there be a situation of perfect matching for that group. Alternatively, on the assumption of substitutability discussed above, a negative statistic for university graduates could be due to 'bumping down' and therefore interpreted as an excess supply rather than a skill gap. On this view, there would be a potential over-supply of university graduates reflecting the critique of systemic 'overeducation'. Consequently, although the proportions measure does provide some evidence on where skill mismatches may lie, it is by no

means straightforward to interpret such evidence. This means that the measures proposed in this chapter should be used by policy makers with caution and should be supplemented by other research evidence from the rich variety of options discussed at length in other chapters in this book.

The overall pattern of mismatch in the data for the three Western Balkans countries we consider in this chapter is one of an 'inverted U-shape' across education categories, with positive mismatch in intermediate levels of education, and negative mismatch in lower and upper levels of education. Thus, positive mismatch (the proportion in unemployment greater than the proportion in employment) occurs in Croatia in ISCED levels 2 and 3, in Serbia among those with 'intermediate' level of education, in Montenegro among those with vocational education. Both lower and higher education groups tend to have negative mismatch (the proportion in unemployment less than the proportion in employment) in Croatia (ISCED 1 and ISCED 5-6), Serbia ('low' and 'high' education) while in Montenegro positive mismatch is observed among those with primary education.

In Croatia, workers with a low level of education (ISCED 1) and those with a high level of education (ISCED 5-6) are negatively mismatched while those with a medium education (ISCED 3-4) have a positive mismatch (see Figure 2). The pattern of gender mismatch shows a greater degree of mismatch for women than for men (women are further from balance between shares in employment and unemployment than men) for all education levels other than for ISCED 2.

**Figure 2: Proportional mismatch by education group, Croatia, 6-year average (2005-2010)**

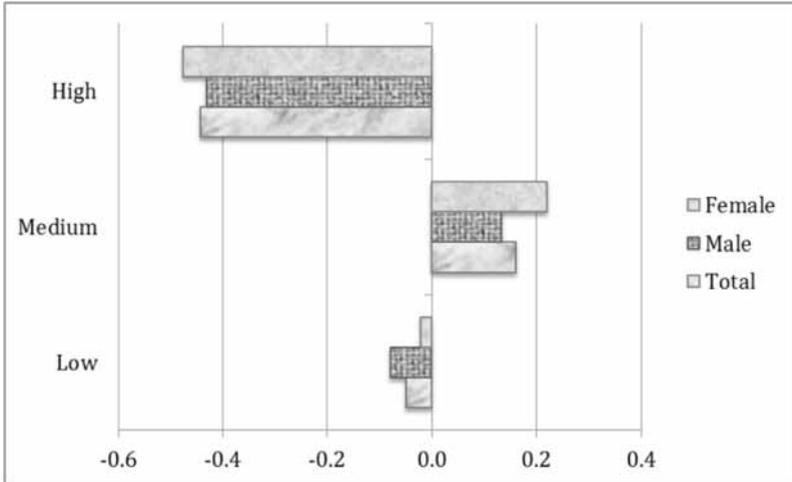


Source: Labour force survey data

On an assumption of no substitutability the pattern of mismatch would imply that there is a skills gap for highly skilled workers. In contrast, an assumption of substitutability would imply ‘bumping down’ and an oversupply of highly educated workers. However, the bumping down hypothesis can hardly be an accurate explanation of the negative mismatch among the least educated workers. The relatively low unemployment share among this group, compared to their share in employment, suggests that the non-substitution assumption may be more relevant in the Croatian case (otherwise these low skilled workers would have been ‘bumped down’ by those with an immediately higher education level [ISCED 2] and they would have experienced positive rather than negative mismatch). This suggests that there

may be a real problem of skill gaps in Croatia rather than overeducation of highly skilled workers.

**Figure 3: Proportional mismatch by education group, Serbia, 6-year average (2005-2010)**

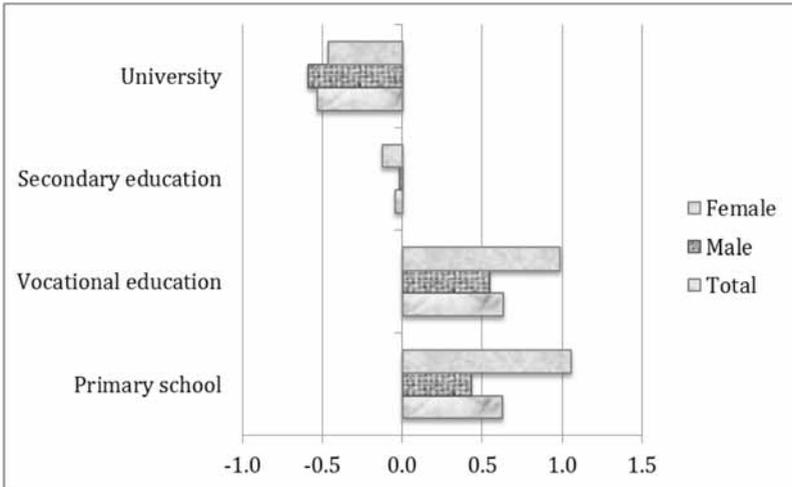


Source: Labour force survey data

Serbia has a similar inverted U-shaped pattern of mismatch with respect to education level. Workers with a medium level education have a positive mismatch; while less educated and highly educated workers have a negative mismatch. Women are less well matched than men for both high and medium education levels. On the assumption of no substitutability the pattern of mismatch would imply that there is an excess demand for workers with a high education level, i.e. a skills gap for highly skilled workers. On assumption of substitutability the pattern would imply the existence of bumping down and an oversupply of highly educated workers, reflecting extensive overeducation. As pointed

out above, the data need to be supplemented by employer and employee surveys to distinguish between these possibilities.

**Figure 4: Proportional mismatch by education group, Montenegro, 4-year average (2007-2010)**



Source: Labour force survey data

In Montenegro, the pattern of mismatch is similar to that in Croatia and Serbia, with the exception of the lowest education category. Workers with both primary and vocational school education experience a higher degree of positive mismatch than other educational categories, while workers with higher education experience strong negative mismatch. There is an especially high degree of positive mismatch for women with primary and vocational education. However, female university graduates are less mismatched than men, although the difference is not large. The pattern of mismatch, with negative mismatch among

university graduates and positive mismatch progressively worsening among lower educated groups is consistent with the bumping down hypothesis and the substitutability hypothesis. It suggests that there may be a problem of overeducation in Montenegro rather than one of skill gaps.

## **Conclusions**

Several conclusions on the nature of skill mismatches emerge from the analysis presented in this chapter. First and foremost, from the analysis of the variance of relative unemployment rates it can be seen that in some years the degree of matching seems to have improved dramatically, in others it has worsened. The measure shows some clear patterns. Overall, mismatch appears to have increased from 2005 to 2008. This could be explained as a consequence of changes in employers' hiring decisions during periods of boom and slump. On this view, when economic growth was relatively high (GDP in the Western Balkans for example grew at an average of 4.6 per cent per annum from 2005-2008) employers were less careful whom to hire. They may have been willing to take on workers irrespective of whether they were well matched to the job, leading to an increase in mismatch. We may infer that this pattern reflects the behaviour of employers during the boom period in countries in which skilled labour is scarce. As the situation deteriorated with the onset of the global economic crisis (GDP fell at an average of 1.3 per cent per annum from 2009-2010), the opposite occurred. This suggests that, during the downturn, mismatched workers are the first to be dismissed leading to an improvement in the mismatch indicator. Such a

pattern of change in mismatch reflects inefficiency in the labour market during the boom period as well as deficiencies in education systems that failed to produce well-matched workers to meet the demands of the new jobs that were created at that time. This interpretation implies that the crisis only had labour market effects relatively late in Montenegro, as the mismatch improved until 2009. The pro-cyclical nature of the change in the measure of mismatch over time implies that there are underlying dynamic market forces at work which affect the degree of matching. It is implausible that changes in policy could have produced such large oscillations in the matching process. This should provide a caution as to the extent to which any policy initiatives can influence the matching process in the labour markets of dynamic economies.

A second finding concerns the different degree of matching efficiency across education qualifications, our proxy for skill levels. The proportions indicator of mismatch gives an insight into which education categories the main problems occur. In some countries there is a clear contrast between the experience of workers with secondary general school and vocational education who suffer high levels of positive mismatch, and more highly educated workers with college or university education who experience negative. This pattern is found in the transition economies including Montenegro and Serbia, while it is similar in Croatia with the exception that the least well educated also experience negative mismatch. Overall women appear to experience greater mismatch than men. Whether that has a positive or a negative welfare implication depends on the assumptions made concerning substitutability. In Croatia it seems that the non-substitution assumption may be appropriate as there is some evidence that

the bumping down hypothesis may not apply at least at lower levels of education. The implication is that in Croatia the evidence reveals the existence of skills gaps, and these are greater for women than for men. This is likely to translate into higher wages for female university graduates than would otherwise be the case. It also implies a need for an expansion of education provision in Croatia. In Montenegro on the other hand there is more evidence in favour of the non-substitution assumption and the bumping down hypothesis. This implies that there may be some evidence that there is overeducation in Montenegro and that women experience more overeducation than men. It suggests that the expansion of higher education in Montenegro has gone far enough and resources should be expended on lower levels of the education system in order to enable less educated workers to compete more effectively on the labour market.

A further implication of the above is that the pattern and nature of mismatch and of skills gaps and mismatches seems to vary across the countries of the Western Balkans. In some countries there appear to be skill gaps for highly educated workers, while in other countries there appear to be an oversupply amounting to overeducation. This suggests a natural avenue for improved regional cooperation in the establishment of a regional labour market in skilled labour, in which the excess supplies and excess demands could be profitably matched to the benefit of workers and employers alike. For example, regional cooperation that enabled skilled workers from Montenegro to more easily fill skilled vacancies in Croatia would lead to an overall welfare improvement for all concerned.

Of course, in present circumstances of recession this particular example may be less relevant than it was in the period covered by the data in this chapter. However, it suggests a general point that especially in periods of economic recovery, a regional cooperation in labour markets for skilled labour may have much to recommend it.



## CHAPTER 3.

---

### **Skills Surveys in Serbia: An Overview and a Case Study**

Mihail Arandarenko and Galjina Ognjanov

---

#### **Introduction**

‘Skill’ is most often literally translated into Serbian as ‘*veština*’ – a word which everyday meaning implies practical, including artistic skills, as well as in-born skills, for which education and knowledge are not the necessary prerequisites. Although another translation of ‘skill’ is ‘*kvalifikacija*’ (such in skilled labour = *kvalifikovani rad*), it is still relevant to mention that the everyday connotation of skill in Serbian implies a certain tension between ‘skill’, on the one side, and ‘knowledge’ and even ‘competences’, on the other side. For example, juxtaposing the abundant but impractical ‘knowledge’ of recent graduates with their lack of ‘skills’ represents a common place in the public discourse. This statement is most often only another way to say that the education system in Serbia requires knowledge accumulation from the students rather than problem solving and creativity.

Public perceptions of skill deficiencies and mismatches in Serbia are centred on two groups of problems. First, the average education level of the population lags behind the most frequently used comparator countries, such as those of Central and Eastern Europe, especially with respect to university graduates. Second, there is a widespread perception that the skills (qualification)

mismatches are growing and are larger than elsewhere, notably among persons with secondary education. Especially, VET is considered to be inadequate in terms of curricula and types of skills provided.

There is a growing recognition that inadequate skills represent an important bottleneck for the growth of Serbian economy. The European Commission considered this problem important enough to mention it using rather strong wording in its *Opinion* on Serbian application for membership of the European Union (October 12, 2011): ‘Serbia needs to urgently address structural rigidities on the labour market, including the mismatch between demand for and supply of skilled workforce’.

In general, it is very difficult to forecast labour demand in conditions characterized by high levels of uncertainty and risk associated with global and regional crises, as well as related to domestic factors, including both economic and political risks. The analysis of labour market trends points to the decisive role of macroeconomic and structural demand side challenges to employment generation in Serbia.

### **Inventory of data sources on skills and skill mismatches**

Apart from general data related to labour market and educational statistics, in recent years there has been a growing number of specific primary sources on skills and skill mismatches. However, they are mostly available as special one-off pilots rather than in the form of regularly conducted official surveys. Table 1 below

presents an effort to compile the full list of available general and specific sources in the past five years.

**Table 1: Inventory of data sources on skill needs and skill mismatches**

Name of Data-base	Provider and kind of data	Regular or occasional time scale	Availability to actors, to researchers	Categories, international classifications	Disaggregation (national, regional, local, institutions, sectors)
<b>Data about the transition from education/training to employment</b>					
LFS Youth module	SORS (YEM Project) Survey	2009 April and October	Yes		National
School to work transition survey	Strategic Marketing and ETF Survey	2007 one-off	Yes		National
<b>Data about the utilisation of education/training (income; assessment by individuals, enterprises; etc.)</b>					
Skills enterprise survey 'Support to Unemployed and Human Resource Development'	Strategic Marketing, EU Project	2007-2008 One-off	Yes		Three districts (Belgrade and two Banat districts) regional
Skills gap enterprise survey	USAID	2008 One-off	?		Four sectors (Business education, IT, Apparel, Film)
Labour market forecasts - skill needs enterprise survey	ESPI and NES	2009 One-off	Yes		Three districts of major cities (Belgrade, Novi Sad, Nis)
Occupation and skills needs enterprise survey	SORS and Youth Employment and Migration Project	2009 One-off	Yes		National Regional Sectoral
Occupation and skill needs enterprise survey, Southern Serbia	SORS and Youth Employment and Migration Project	2011 One-off	Yes		Regional (four districts of Southern Serbia)
Employer survey	National Employment Service and EUNES project	2011 Possibly to be repeated annually	Yes	NACE, KD2010 (sectors) Codebook of occupation groups and levels	All levels regional sectoral

The Labour Force Survey (LFS) Youth Module was attached to the standard questionnaire conducted within the LFS in April and October 2009 with the standard sample boosted for the age group 15-29. It provides additional information on youth, including on the school to work transition and could be assessed as reliable and well researched (for example: Krstić and Corbanese, 2009).

The School to Work transition (school leaver) survey was commissioned from the Strategic Marketing agency by the European Training Foundation and was done under the supervision of ETF consultants. It also could be considered to be available and well researched, for example by Kogan (2011) and ETF (2008).

The skill needs enterprise survey within the EU project 'Support to Unemployed and Human Resource Development' was executed by the Strategic Marketing agency for the regions of Belgrade and Banat. The survey provides some interesting insights but it should be borne in mind that the sample size is limited.

The skills gap enterprise survey conducted by the USAID Competitiveness Project has been the only sector specific survey thus far, covering the sectors of Business Education, Information Technologies, Apparel and Film Production. The information is interesting, but the database might not be available anymore, since the project is now closed.

The Labour Market Forecasts - Skill Needs enterprise survey was conducted by ESPI Institute in 2009 in cooperation with the National Employment Service. The sample of enterprises was taken from the districts of Belgrade, Nisavski and South-Backa,

where the three major cities are situated. The project report is available online (ESPI Institute, 2009).

The Occupation and Skill Needs enterprise survey was conducted by the Statistical Office of Serbia in 2009 and was financed by the multi-donor Youth Employment and Migration Project. It is a comprehensive and well-structured employer survey, with sectoral and regional breakdowns available. The database and project report are available.

The Occupation and Skill Needs enterprise survey in Southern Serbia was also conducted by the Statistical Office of Serbia in 2011 and was financed by the multi-donor Youth Employment and Migration Project. However, it focused only on four districts of Southern Serbia. The database is available. It will be further analyzed as a case study in Section 5 of this chapter.

The Employer Survey was conducted in 2011 within the EUNES project 'Labour market analysis and forecasting of labour market needs in the Republic of Serbia'. The survey was designed in cooperation with members of the working group composed of NES, Ministry of Economy and Regional Development and other ministries' and social partners' representatives. This is the most comprehensive survey so far in terms of the size of the questionnaire, sample size and it also provides full coverage of districts. The database and full project report in English and Serbian are available. In 2012, the survey will be repeated by the NES itself. Further surveys are planned under a follow-up EU project, and it is planned that this survey becomes fully

internalized by the NES and that it will be conducted on a regular annual basis.

## **The main findings of skill surveys and broad generalizations**

It is rather difficult to provide generalised statements about the observed mismatches and skills requirements since various surveys provide different assessments, and, given their largely pilot and preliminary nature, none of these surveys is established as an official or widely trusted source of information. Still, some conclusions are quite common across these surveys.

In the first place, it is a general finding from practically all surveys that the labour force members lack to a large degree many of the so-called 'soft skills'. According to *Occupation and skills survey* (2009) these skill needs include flexibility and adaptability, problem solving and decision-making skills; information management; and team working. Similar to *Occupation and skills survey*, according to *Employer survey* conducted in 2011 within the EUNES project, regarding the employers' needs for employees' special knowledge, skills and competences in 2010 the most dominant were transferable knowledge and skills as well as broader competences and personal characteristics. Requirements with respect to these special professional, transferable knowledge and skills as well as broader competences and personal characteristics employers mostly associated with occupations requiring the III, IV and V level of educational attainment.

However, the two main national surveys found very different importance that firms attach to basic skills, such as numeracy and literacy skills, from insignificant – probably because commonly held - as per *Occupation and Skills Survey 2009*, to very important as per *Employer Survey 2011*. This large difference is possibly an artefact because of the different wordings used in two surveys but in any case points out at the need to analyse survey findings very cautiously and to use cross checking in the process.

According to *Employer Survey* (EUNES, 2011) conducted most recently, in May 2011, in the group of special professional knowledge and skills, the most frequently sought were technical-technological and social-humanistic knowledge and skills. Among the transferable knowledge and skills, mostly demanded were those in the field of information-communication technologies, foreign languages and possession of various types of permits/licenses.

In terms of educational attainment, among those with secondary and tertiary education levels, the most frequently hired were persons with knowledge and skills in the field of information-communication technologies; those with primary education were mostly required to have various permits/licenses; persons with post-graduate level were required to know foreign languages; and those with VI-2 level of educational attainment were most frequently required to have knowledge and skills associated with safety and protection at work.

With respect to broader competences and personal characteristics, the most frequently posted requirements referred

to readiness to work in a team, precision, courtesy and communication skills. Observed by the level of educational attainment, the most frequently demanded characteristics associated with the primary education were persistence, precision and courtesy as well as readiness to work in a team. Among those with higher education the most demanded skills were in communication; numeric skills, initiative and entrepreneurship, decision-making ability, ability to focus on achieving objectives and change management ability.

#### Procedures of anticipation of skills requirements in the enterprise sector

There is little empirical research or systematic knowledge about the procedures of anticipation of skills requirements within enterprises. Only large companies have separate departments for human resource management and they are typically not equipped to deal with strategic directions with regard to changing patterns of knowledge and skills in their industries.

A recent study found that global corporations tend to introduce well-established organizational cultures and human resources management (HRM) policies into Serbia along with all other company functions, while this is less likely if the companies are locally owned. Nearly half of the participants with HR departments have created them within the past three years. The topics of greatest importance to the research participants appear to include internal communications, customer service or client management, and appropriate offerings for manager development, including change management and leadership skills.

However, the demand is more ad hoc than strategic and thus training is used as a specific need identified, rather than directed toward the achievement of business goals (Cromer, 2008). In such a context, anticipation and long-term thinking on future skills needs are yet to be developed.

### Sectoral study of skills requirements

There was only one sector-specific empirical study with more in-depth-analysis of skills requirements. The study was based on survey conducted by USAID Competitiveness project in 2008, which conducted *Skills Gap Analysis* in the sectors of Information and Communication Technologies, Education (particularly Business Education), Apparel, and Film & Production.

In the *Business Education* sector it was found that the demand for training is increasing although financial constraints are a dominant decision factor when trainings are considered. Clients are mostly foreign companies operating in Serbia or larger local firms. A small number of SMEs participates in training, due to the lack of time and resources in SMEs and a lack of awareness on the importance of continuing education. Trainings are offered as in-house trainings targeted for the needs of specific clients, and open seminars by training providers that are generally small companies who often outsource trainers. The content of training programs is mostly developed by using examples from similar training centres abroad that are adjusted to local market needs, or through franchising systems and licensed training programmes. According to private sector training providers, skills gaps exist in many areas

including management, soft skills (communications, problem solving and teamwork) and marketing.

In the sector of *Information Technologies* it was found that technical skills (software development, engineering, hardware design, IT services and System Integration) are strong and stable, with 26,963 graduates in technical areas relevant to ICT in 2005. A major gap exists at the management level, as there is a lack of experienced managers who have been exposed to international best practices in both general and software development project management. The ICT industry still faces a threat related to workforce development through the brain drain, with a loss of talented technology professionals who are able to make significantly higher incomes in Europe or the US. The growth of the IT industry is also constrained by the educational and workforce development systems. University technical education programs have excellent faculty and curricula that provide students with a strong foundation in the theoretical aspects of their technical fields. However, they generally do not provide the practical experience students need the most, especially in relatively demanding higher technology but also in general management fields. In the surveyed IT firms in this study, 63 per cent of employees are industry specific, while remaining 37 per cent are in management and administrative positions. The survey found that the first three industry specific occupations for IT are computer programmers, computer software engineers (applications) and engineers, who are at the same time most difficult to recruit.

In the *Apparel* sector the study found a lack of a competitive strategy and a need for stronger leadership and qualified management to underpin further growth. Although all of the surveyed companies were production companies with a significant number of employees and expensive equipment, only 6 of the 11 have a production manager, and only 3 reported having operations managers. Only one company had a human resource manager, and only four companies had marketing and sales managers. Only 50% of the surveyed companies have job descriptions for their working positions. Companies identified several problems in finding people for high impact jobs. These included the low mobility of employees, a lack of market orientation and flexibility among fashion designers, and a deficit of pattern-makers. The existing workforce also lacks significant skills such as soft skills (35% of firms), technology skills (25%), basic workplace skills (15%), foreign language skills (15%), and basic literacy (10%). Companies identified the most important training needs as being for teamwork skills, problem solving skills, foreign languages, leadership, technical job performance, and communication and change management.

There are also some regional-specific studies of general type, such as ESPI Institute's survey of three districts (Belgrade, Niš and Novi Sad) in 2009 and the more recent employer survey in the area of South Serbia conducted by SORS in 2011.

### Tracer and school leaver surveys

Currently, there are no tracer surveys of recent graduates in Serbia. The Ministry of Education and Science plans to engage Statistical Office and National Employment Service to conduct a pilot research in 2012. The results of the survey will be used to inform the allocation of enrolment slots to institutions of higher education.

The Statistical Office of Serbia carried out an *ad hoc* youth module attached to the semi-annual Labour Force Survey (LFS) in 2009, in order to research the patterns of the transition from school to work of young people.

The data of the *ad hoc* youth survey indicate that the years from 2002 to 2005 were characterized by a rather lengthy transition, with over two thirds of young people able to start working only within four years from graduation. After a temporary improvement recorded in 2006 and 2007, the transition from school to work remains troublesome and fragmented for many young Serbians (combining schooling with work and alternating inactivity, work and/or unemployment). This is especially true since October 2008, after the start of the economic crisis, when the relative labour market situation of the youth worsened the most compared to other age categories. In general, young people are confronted with a lack of demand for their newly acquired skills, which often do not match those required by the labour market.

## **National Employment Service skills forecasting (anticipation) efforts**

The procedures of anticipation of skill needs are being intensively developed within the National Employment Service (NES), but have not yet been established as a regular practice. Labour market needs analysis and forecasts should serve the purpose of monitoring and predicting employers' needs in terms of specific occupations, skills and competences. A number of pilot projects have run in succession since 2007, with the ultimate goal to integrate skills needs assessment into standard operational practice of NES. The most ambitious effort to mainstream the labour market and skill forecasting was done within the first component of the EUNES project '*Technical Assistance to enhance the data management, forecasting and monitoring and evaluation capacity of the National Employment Service – Republic of Serbia*', which was operational between 2009-11. As one of the project's main achievements, the staff of the NES conducted an Employer Survey in the spring 2011. Staff within all 27 NES branches have been trained and involved in the implementation of the *Employer Survey*. The new phase of the EU support project to the NES is expected to become operational in 2012, and it will again contain a strong skill forecast and anticipation component.

The final report of the EUNES project's first component '*Labour market analysis and forecasting of labour market needs in the Republic of Serbia*' (2011) contains information on the employer survey methodology and practical implementation of the survey,

job creation and destruction analysis, data analysis and survey results, and labour market forecasts based on a macro-model.<sup>6</sup>

Formal procedures of projecting or forecasting skills requirements are currently in the process of integration into the standard operational practice of the NES. The skill survey was conducted for the first time in 2011 by the NES staff, who received training from the EUNES project. The survey tool was designed in cooperation with members of the working group composed of NES, MoERD, other ministries' and social partners' representatives.

To cover all the relevant areas of the given analysis, the employers' questionnaire was designed to collect a large amount of information on employers and their needs related to labour force and their skills. The data are collected data in the following eleven areas:

- Employer data: name, address, registration number, code of the prevailing economic activity
- Employment in the past two years: the number of employees (on an open-ended and fixed-term basis) at the end of 2009 and 2010
- Inflow and outflow of employees in the previous year: the number of employees that left the enterprise in 2010 (broken down by occupations, and due to a decline in the volume of activity); the number of persons hired in 2010 (broken down

---

<sup>6</sup> The report includes information on data sources, data manipulations and model output, the macroeconomic environment, structural change and sector-specific macroeconomic dynamics, anticipated dynamics of labour market stocks and flows and the downsizing and hiring processes by educational attainment and competences

by occupations, stating specific knowledge and skills, and due to an increase in the volume of activity)

- Planned inflow and outflow of employees in the current year: the planned number of employees (on an open-ended and fixed-term basis) at the end of the current year; the number of employees to leave the enterprise in 2011 (broken down by occupations, and due to a decline in the volume of activity)
- The number of persons to be hired in 2011 (broken down by occupations, stating specific knowledge and skills, and due to an increase in the volume of activity)
- Employment of persons with disabilities: the number of employed persons with disabilities (on an open-ended and fixed-term basis) at the end of 2010; the number of persons with disabilities to be hired in 2011 (broken down by occupations, stating specific knowledge and skills)
- Problems in hiring new workers: whether there were problems with labour force shortage in filling vacancies in 2010; stating occupations (with specific knowledge and skills) that were difficult to find in the labour market, as well as reasons for unmet needs for workers
- Missing skills and needs for training employees in enterprises: specific occupational knowledge, skills and broader competences that are missing or insufficient in employees in the enterprise

In parallel with the micro-level skills anticipation survey, The *LM-Macro/RS model* has been developed within the EUNES project, as a workhorse for the macro-level labour market forecasting. The model, which is tailor made for the simulation and forecasting of

the Serbian labour market dynamics at a high level of disaggregation has been built along the lines of some recent labour market modelling experiences in the EU and seeks to meet the standards of the Cedefop approach (Cedefop, 2010) to the anticipation of changing skill needs in the medium term. This requires taking into account formal representation and forecasting of labour market stocks (labour force, employment and unemployment) and flows (firing, replacements and hiring). Also, labour demand and supply are broken down in the model by educational attainment and specific competences in order to provide an anticipation of the skill needs and to inform decision-making.

The model is composed of three main building blocks. A theory-based ‘core’, or ‘pilot’, New Keynesian DSGE (Dynamic Stochastic General Equilibrium) model describes the evolution of the fundamental macro-variables of the system. Auxiliary blocks of stochastic equations, derived from empirical relations, define the breakdown of the employment stocks and flows by sector of economic activity. Auxiliary blocks of deterministic equations, define the breakdown of the employment stocks and flows by educational attainment and qualification (competences). The ‘pilot’ model structure is derived from the solution of constrained maximization problems by firms and workers under fully specified theoretical hypotheses regarding the market structure, the production technology and individual preferences.

The model employs macroeconomic data from both official sources (the Serbian Statistical Office and the National Bank of Serbia) and EUNES survey-specific sources. In particular, aggregate

separation and hiring rates (and their breakdown by educational attainment and competence) are obtained from the elementary data of the EUNES survey on the Serbian labour market.

The model outputs are forecasts for all the model variables including macroeconomic aggregates, labour force and employment stocks and flows (separations and hiring) by sector of economic activity, educational attainment and qualification.

### Main findings

Despite the general negative employment outlook and permanent worsening of labour market conditions, the EUNES 2011 survey revealed a substantial optimism among the surveyed enterprises with respect to the expected employment trends throughout 2011. Enterprises in manufacturing industry, other business services and trade sector expected a high inflow of employees, but similarly positive expectations were shown in the sectors of agriculture, construction and transport, communication and tourism. Actually, each and every sector planned a net increase in the number of employees. At the level of Serbia, net job creation was expected to exceed 2 per cent based on a sample representing a universe of firms comprising over half of Serbian formal employment. Reportedly, similar results were obtained in the 2012 survey conducted on a permanent enterprise sample.

Although in 2011 the expectation-based forecast was somewhat moderated by the use of the macro-model, it is clear that the surveyed enterprises show a sort of over-optimism, which is manifested in two ways. First, quantitatively, whereby the firms

systematically overestimate inflows and underestimate outflows of their labour force. And second, qualitatively, whereby the firms report skill and qualification needs in the forthcoming period not justified by their past and subsequent actual behaviour.

While it is possible that the main reasons for the firms' reported over-optimism are psychological and reputational, other potential problems should be also taken into consideration. These may include changes in relevant macroeconomic and business environment over the year; sample selection bias; and problems in the creation, implementation and data processing of the survey.

### **Occupational skills survey in South Serbia: a case study**

Southern Serbia, as defined here, covers the four districts geographically located in the south of the country: Pomoravski, Nisavski, Jablanicki, and Pcinjski. The districts account for 13.2% of the territory of Serbia with a total population of approximately 1 million (14.4%). The largest district is Nisavski (with 5.1 per cent of the population), while the other districts account for approximately 3 per cent each of the overall population (Jablanicki 3.2%, Pomoravski 3% and Pcinjski 3%). Each of the districts comprises of several local municipalities (Nisavski – 12, Pcinjski – 7, Pomoravski - 6 and Jablanicki – 6). According to their overall development, the majority (17) of those municipalities belong to the underdeveloped local municipalities of Serbia, with many of them even being categorized as devastated (15) (Official Gazette of RS, no 51/2010).

Based on various data on economic and social conditions in South Serbia the labour market situation seems rather challenging. For example, the available data for 2010 and 2009 show lower employment and higher unemployment rates, lower average gross salaries and lower skills levels than the national averages (Ognjanov and Corbanese, 2011).

According to Labour Force Survey 2010, the unemployment rates in the four districts of South Serbia range from 26.9% in Nisavski to 16.8% in Jablanicki district (Pcinjski -24.8% and Pomoravski - 24.2%). With an exception of Jablanicki, those are all above the national average (22.9%). On the other hand, the wages in South Serbia were found lower than those paid in other regions, ranging from 76.1% to 83.2% of the national average gross salary.

As regards the skills of available workforce in South Serbia, educational structure of population 15+ in the four districts is below average. For example, the share of population with secondary education (ranging from 28.1% in Pcinjski to 38.5% in Nisavski) and university education (ranging from 3.6% in Jablanicki to 3.8% in Pcinjski and Pomoravski) is substantially lower than the national average (41.1% and 6.5% respectively). Moreover, the share of non-qualified workers is higher than the national average in Jablanicki, Pomoravski and Pcinjski districts. The only exception is Nisavski district where the educational structure similar to the national average.

### Survey purpose and methodology

The *Occupational Skills Survey in South Serbia* was carried out in February 2011. The research was supported by the joint programme on *Youth employment and migration* (YEM) financed by the Millennium Development Goals Fund and by the project *Capacity building for inclusive local development in Southern Serbia* (PBUILD), funded by the Governments of Sweden, Norway and Switzerland. The main purpose was to identify occupations and skills most demanded by enterprises. The *Survey* enriches the data set on labour demand initially made available by the *Occupations and Skills Survey 2009* (Bozanic, 2009) and confirms a number of trends.

A total of 666 enterprises and 487 entrepreneurs (i.e. unincorporated businesses) were surveyed. The Republic Statistical Office (RSO) carried out the sampling and fieldwork. The sample frame comprised of 5,267 enterprises and 8,073 unincorporated businesses generated at country level by cross-referencing the records of the business register and of the tax administration. Sampling was based on stratified random sampling procedure (by district, enterprise size class and economic sector). The fieldwork was administered by phone.

The instrument used was a structured questionnaire, comprising of both closed and open-ended questions. The issues addressed in five different sections were: 1) Job creation and job destruction among enterprises and entrepreneurs, 2) Trends in workforce recruitment, 3) Skills and proficiency of the workforce, 4) Training practices and 5) Cooperation with the National Employment

Service. The instrument was based on International Standard Classification of Occupations (ISCO 2008), thus allowing data analysts to derive occupational skills needs based on international classification of occupations. This was the major change in the methodology since the first establishment survey of 2009, which addressed the employers' needs for "non-vocational" as well as vocational skills. In contrast, the goal of *Occupational Skills Survey 2011* was to apply a more informative instrument which would allow better understanding of skills needed thus offering a valuable input for subsequent provision of adequate measures and policies.

### Main findings

The collected data on job creation and destruction were used for mapping the employers' skills needs. A two-step approach was implemented. Firstly, the occupations most likely to create new jobs were listed according to survey findings on 1) occupations creating jobs in last 12 months, 2) current vacancies and 3) occupations to create jobs in the next 12 months. In the second step, the skills needed to professionally perform these occupations were mapped on the basis of ISCO 2008.

The survey found that the occupations most likely to create new jobs, and hence the likely skills needs, were grouped into four broad categories: (1) Sales (mainly shop sale assistants, but also managers and sales demonstrators), (2) Clerical (office, stock, accounting and bookkeeping clerks), (3) Food preparation (cooks, butchers, bakers, pastry makers) and (4) Machine operators and assemblers (food preparation, metal and wood).

In addition to the vocational skills listed above, some new occupations related to engineering and management also require a set of intellectual skills (for example, consultancy in civil engineering, developing and creating structures such as bridges, roads and management, evidence based planning, developing strategies and consultancy related to advertising).

According to the survey findings, only 20 businesses consider that their workers had insufficient skills, and it can therefore be concluded that overall, entrepreneurs in South Serbia consider that their current workforce is quite competent. Increasing training and recruitment are the main strategies employers have adopted to overcome the existing skills gaps. Trainings are mostly provided in-house, financed by the employers' own resources and are generally rather short (a week or two).

Finally, other general findings stemming from *Occupational Skills Survey 2011* were that the age group 25 to 45 years old was most likely to receive training and that enterprises preferred to invest in workers with higher initial skills levels rather than in low-skilled workers.

#### Assessment of skills needs using establishment surveys

The main issue arising from the implementation of the occupational skills surveys for the assessment of skills needs in South Serbia is connected with its potential contribution to training and education, i.e. developing adequate measures and policies. On the one hand, the survey provides enough information for creating active labour market measures and for

the provision of vocational skills training in the medium and short run. More specifically, it provides clear indications for the design and targeting of employment programmes in terms of enterprise size (micro and small enterprises), economic sectors (trade, manufacturing and, to a lesser extent, construction and professional services), occupations (sales assistants; office and bookkeeping clerks; bakers, butchers and food preparers; and machine tools operators) and the skills most likely to create jobs in the short and medium-term.

On the other hand, it is hard to say that the survey also provides adequate information for shaping formal educational programmes and policies in the long run. For example, one of the survey findings was the overall satisfaction of local employers with the competences and proficiency of the workforce. This may indicate that the current educational system is adequate to supply the local labour market with workers skilful enough for available occupations. However, future changes of the local labour market are hard to anticipate on the basis of employers' surveys and therefore call for the use of other methods as well.

The major problem of this type of establishment survey is related to the low ability of entrepreneurs to communicate the workforce skills that they need. In Serbia, this problem was already noted in the first establishment survey in 2009. In one section, the instrument included a list of non-vocational skills whereas the needs for vocational skills were to be filled in by the employers. The data analysis showed that employers were mostly opting for listed non-vocational skills while not providing adequate data on vocational skills needs.

The *Occupational Skills Survey 2011* was therefore improved to overcome the above problem. The employers were not directly asked about their occupational skill needs, but rather the skill needs were estimated through an *a posteriori* analysis. Based on the employers' answers on current and anticipated job creation and destruction as well as current vacancies, the occupational skills needs were mapped using ISCO 2008. However, while this allows a more precise insight into the skills needed in the short and medium run, at least two serious methodological problems still remain.

Firstly, this approach leads to more difficult data collection since all the occupations must be listed and coded in accordance with ISCO. Therefore, field researchers must be adequately trained to provide help to the employers to accurately state their occupational needs. Secondly, the approach only provides raw data that require rather difficult *a posteriori* analysis. Such an analysis includes both the interpretation of the data in accordance with ISCO as well as its generalization to provide adequate recommendations for policy makers. Skills are interpreted in terms of competences required for completion of tasks related with specific occupations as stated in ISCO. Rather than directly expressed by the employers, the occupational skills needs are mapped indirectly. The method relies on the accuracy of the mapping of skills to occupations, and it is to be hoped that improvements to the methodology in the future will yield more accurate results.

## Conclusions

A weakness of the Serbian education system that is most often emphasised is a clear disconnect between 'school' and 'work'. The scope for co-operation between education and the economy has been mapped out and concrete proposals are made on how to ensure it. However, the institutional separation between education policy and employment policy continues to exist and as yet there are no joint policy-making bodies that could work together to reduce skill mismatches.

Mismatch is certainly an important mid- and long-term problem, but is currently overshadowed by the diminishing demand for labour as a consequence of prolonged economic crisis. As a result of decreased demand, the supply of qualified workers, in particular the supply of recent college graduates has temporarily improved. Employer surveys find the lack of soft skills as the most pressing problem; however, in the longer run, with the expected recovery in the demand for labour and diminishing supply of new entrants, skills gaps will most likely widen for many occupations, especially in the modern services sector and quite likely in some industrial sectors which are expecting a revival in the next decade.

At this moment Serbia needs a generalised, strategic discussion on how to reform the education and training systems in order to adjust them to growing internal and external uncertainties. Occupation and skills gap surveys are useful aids for such a discussion, although they are still basically snapshots of present situation and are not fully reliable in informing policymakers about the future trends. Forecasts are based on trends, and

discontinuities are difficult to project by objective methods. In addition, employer surveys tend to produce over-optimistic forecasts of labour market trends and consequently to overestimate skill needs and skill gaps. Therefore there is a strong need for informal but structured expert thinking to complement objective methods of analysis of matching and anticipation.

## CHAPTER 4.

---

### **Skill Need of the Labour Market in the Republic of Macedonia**

Jovan Pejkovski

---

#### **Introduction**

The economic situation in the first quarter of 2012 was characterised by post-recession trends and deterioration in exports to Macedonia's traditional trading partners. The decline of economic activity in most neighbouring states, the post-recession situation in Europe, the crisis in the euro zone, the debt crisis, the decrease in foreign investment and the increase in energy prices seriously affected the Macedonian economy. These conditions were reflected in decreased hiring of new workers.

According to the State Statistical Office, in the fourth quarter of 2011 the economically active population increased to 937,326, of which 31.8% were unemployed. The activity rate was 56.5% and the employment rate was just 38.5%. Although extremely high, unemployment has decreased from 37.2% in 2004 to 32.2% at the end of 2009 and 31.8% in 2012 while the poverty rate is 30%. Therefore special measures to reduce unemployment and poverty are needed.

Macedonia has experienced low growth rates for a long time. After independence in 1991 Macedonia experienced a recession due to the processes of transition and loss of traditional

markets. From 1996 to 2000 the growth rate increased from 1.2% to 4.5%, giving an average growth over the period of 2.3% per year. The armed conflict in 2001 led to renewed recession with GDP falling by 4.5%. From 2004 to 2008 steady growth at well over 4% per annum was achieved. Owing to all these difficulties, Macedonia did not reach its 1990 level of GDP until 2006. The positive growth of GDP was interrupted in 2009 due to the global economic crisis, with a fall in GDP of 0.9%. In 2010 the economy returned to growth at a rate of 1.9% and in 2011 economic growth reached 3%. Estimates for GDP growth in 2012 are around 2.0%.

## **Characteristics of the labour market**

Just as in other Western Balkans countries, the labour market in Macedonia is insufficiently inclusive, despite legislation in the field of labour relations and equal employment opportunities. The inclusion of certain groups of the population such as young and old workers and ethnic minorities remains a major challenge, taking into account the very high unemployment rates in these population groups. The basic reasons for high unemployment are the loss of traditional markets and the slow transition process that has not created opportunities for opening new jobs combined with relatively high labour costs, demographic pressures and the large informal economy. Economic embargoes and internal conflict have only made a bad situation worse.

In February 2012, the Employment Agency recorded 279,727 unemployed persons of whom a majority were people with little education and few qualifications.

**Table 1: Unemployment by education (February 2012)**

Degree	Number of unemployed	%
Total	279,727	100
Unqualified	127,959	45.6
Semi-skilled and incomplete education	9,740	3.5
Qualified and highly qualified	43,579	15.6
Secondary education	71,865	25.6
Higher education	4,554	1.6
University level	21,473	7.4
Master's degree	531	0.9
PhD	26	0.0

Table 1 shows that almost half of the unemployed are unskilled or unqualified workers, while one quarter had only secondary level education. Also incomplete education leads to insecure, low paid jobs and thus to poverty and social exclusion. Those without or with low level of education tend to experience long-term unemployment. Those with University level education are less likely to be unemployed, with an unemployment rate of just 7.4%.

According to the data from the State Statistical Office there were 73,118 active business entities in the Republic of Macedonia in 2011. The sectors with the highest share in the structure of business entities were wholesale and retail trade; repair of motor vehicles and motorcycles (37.6%) and manufacturing with (11.2%). Most workers (82.9%) were employed in small firms with 1-9 employees, while only 3.8% were employed in firms with 10-19 employees and 2.3% in firms with 20-49 employees; only 1.6% of

workers were employed in medium-sized firms with 50-259 employees while only 0.3% of workers were employed in large firms with 250 or more employees.

## **Skill needs of the labour market**

The Employment Agency conducts an annual skills needs survey of employers. Its results are very significant, not only for ESA, but for employers and social partners at regional and local level. The survey provides information about the conditions and expected changes in the labour market. The employers express their demand for new hires in the 6 to 12 months following the survey and their demand for skilled workers. The survey is based on a sample of employers with 10 or more employees in eight sectors: agriculture, hunting and forestry, manufacturing industry, construction, trade, hotels and restaurants, transport, storage and links, financial intermediation and real estate services. The survey covers only firms from the private sector; the public sector is not included in the survey.

The results of the last survey (2010) provide some insights about the expectation of the employers. As could be expected, the demand for labour fell as a result of the expectations about the economic situation in Macedonia and in the countries in its neighbourhood especially due to the Greek debts crisis, and the difficulties in euro zone countries. Despite these circumstances, the survey showed that only a small proportion of the firms predicted a reduction of their economic activity (11.8%). Most firms (56.5%) expect steady demand for their products, and almost a third of firms (31.7%) expected an increasing demand. In

terms of predictions for new employment, the survey showed that 43% of firms planned to create jobs with a total expected increase in employment of around 10,000. About half of new jobs were expected to be created in the manufacturing sector, while demand for new jobs was also expressed in firms in trade (21.2%), construction (8%) and transport (5%). About one third of new jobs were expected to be created in small firms (37.6%) and another third in medium sized firms (34.1%). In terms of required knowledge (education) and occupation of total expected new hires, employers expected that almost one tenth (9.6%) of new hires would be persons with a university education; 15.2% would have secondary or college education; almost two thirds (62.3%) would have completed secondary education; 12.9% would have just primary education.

In connection with requests for special knowledge and skills of new employees, the survey shows that employers require knowledge of foreign languages, especially English language skills, and knowledge of information technology and basic computer applications (MS Office, Auto CAD), as well as the possession of relevant education certificates. Other skills that were emphasized included communication skills, responsibility, teamwork, reliability, precision, skill input and read data, flexibility, skills, sales and marketing and knowledge of software packages.

A small number of firms (9.8%) faced a shortage of employees with work experience and appropriate skills. Industrial firms faced the most problems of this type. Medium and large firms faced more problems in filling vacancies in relation to small firms. Skill shortages were widely distributed across occupations especially

among university graduates such as mechanical engineers, computer scientists, programmers, engineer-technologists for food products, and construction engineers. Skill shortages were reported among workers with secondary education especially for electrical technicians, electronics technicians, mechanical technicians for installation works, computer technicians, graphic designers, and technicians in the food industry. Skill shortages were also reported at lower education levels. The survey of skill needs analysis is used for the preparation of active employment programs, policy measures to reduce unemployment such as training and retraining, and job search counselling. The survey also provides useful information for preparing local action plans for employment, for revising enrolment policy and creating new educational programs aligned with the needs of the labour market.

## **Discussion and conclusion**

Although the survey provides an important and useful tool for policy makers, it nevertheless suffers from several disadvantages and weaknesses. First of all, the analysis of skills needs is based on a restricted sample of employers with 10 and more employees. Secondly, the selection of firms in the survey is taken from only eight sub-sectors, which account for only two thirds of total employment. Thus, the survey does not cover activities that account for 37% of GDP including fishing, mining, electricity supply, gas, water supply and waste management, information and communications, and professional, scientific and technical activities. Since the public sector is also excluded from the survey,

several further important areas of activity are missed out including public administration, defence and social insurance, education, health and social care, arts, entertainment, recreation and sport activity. The exclusion of these activities and industries, which generate 37% of GDP and employ 29.7% of the workforce, prevents the survey from providing a true picture of the needs and demands of the labour market. It is especially important that some of the most dynamic activities and branches are not included in the survey, including information technology and communications - a sector that is an important potential employer of people with new skills and knowledge. Since the survey covers only these eight industries and is limited to just private employers it has a limited reliability in providing a forecast of potential demand for skills. It does not reflect the actual needs of the labour market or can be seen in the general skills needs among different categories of workers.

Moreover, as stated above, most employees (82.9%) work in small companies with 1-9 employees, but these are not included in the survey. This means that a significant part of the business sector is not included in the survey, which further reduces its reliability and significance. The exclusion of the public sector further inhibits the analysis of the skills gaps in Macedonia and presents a bias in the forecasts of the emerging educational needs in the economy. Moreover, while there are over 73,100 active business entities in Macedonia, the survey covers only 2,390 business entities (only 3.2%), which means that its scope is hardly sufficient to provide a representative picture of the needs of labour market.

Based on the evaluations and conclusions presented above, it follows that there is a need for a re-evaluation of the methodology on which the survey is carried out in order to get correct picture of the future demand for skills on the labour market.

The Macedonian labour market faces many adverse effects from the complex multidimensional measures and policies that have been implemented to pursue structural reforms. Well-coordinated macroeconomic policies and employment policies are therefore required at all levels, while microeconomic reforms are being implemented to improve the business climate to ease the administrative procedures for the start-up and growth of firms. Such endeavours, together with measures to reduce labour costs, should encourage the creation of new jobs, given the low demand for labour.

Coordinated macroeconomic policies should be designed to create a stable business environment and provide greater dynamism in the economy. New investment based on domestic resources and manpower will give a boost to domestic business. Amid recession, taking measures to encourage domestic factors of production is necessary to create a dynamic environment for economic growth and increased employment. Economic convergence of the Republic of Macedonia to the European Union requires policies to encourage skill matching in the labour market and an adjustment and coordination with the policies of European countries.

National priorities for action also ought to comply with the strategy for Europe 2020, which includes smart growth, sustainable growth and inclusive growth. This requires attracting and retaining more people in employment, improving the adaptability of workers and enterprises, and increasing investment in human capital through acquisition of knowledge and skills tailored to the needs of the labour market. The realization of these targets should be formed in accordance with policies designed and promoted in accordance with the level of development of the country.

Programs for increasing the employment and retention of existing jobs are necessary to encourage lifelong learning and investment in human capital. The opening of new jobs should be based on local action plans for employment and the design and implementation of active employment measures aimed at young people, long-term unemployed, women, elderly, and other vulnerable groups including Roma and other minorities who experience discrimination and exclusion on the labour market. Differences in educational levels, age and gender, should be recognised in creating a skills policy based on of the principles of social inclusion.



## CHAPTER 5.

---

### **Educational Origins and Occupational Destinations? Dissecting the Education-Job Mismatch in School to Work Transitions in Croatia**

Teo Matković

---

---

#### **Introduction**

The existence of a mismatch between the education system and the labour market has become an everyday hypothesis in the policy sphere in Croatia, but one that repeatedly fails to be precisely articulated. Often, there is a mechanistic slant to the term, seeing the problem as a mismatch between the structure of occupations in demand and education programmes providing such education. This line of understanding carries a cognitive legacy of occupational labour markets, in particular of the credentials-based workplace assignment from socialist times (Müller, 2005). The mechanistic mismatch hypothesis merits an empirical validation for the case of Croatia, which I explore in this chapter with respect to school-to-work transitions by following four confirmatory steps.

First, I investigate the incidence of the horizontal education-job mismatch among young people entering the Croatian labour market and how persistent such a state might be. For the abovementioned articulation of the mismatch problem to hold in

the labour market, horizontal mismatch should be substantive in scope and persistent in duration.

Second, the mechanistic hypothesis of education-job mismatch assumes that some educational programmes and fields are in greater demand than others, therefore leading to substantially faster job acquisition and less mismatch among youth graduating from those fields, and less favourable outcomes for graduates from other fields of education. The mechanistic hypothesis will hold only if there exist both sectors with low and high incidence of mismatch and if the majority of placements into occupations with no shortage of educational supply are filled with graduates from appropriate vocational fields.

Third, differences in outcomes between (horizontal) fields of education will be compared to differences in outcomes associated with achieved (vertical) levels of education. If the later (levels) outweigh the former (fields), and there is a clear hierarchy of outcomes with respect to the level of education, then focusing on horizontal mismatch is not likely to be the most suitable approach for understanding the structuring of outcomes on the labour market.

Fourth, both the crisis and structural changes are purported to have resulted in a change in employability and an increase in the frequency of job-education mismatches for certain "phased-out" or "crisis-struck" fields of education. The corollary of such a development, if found, would be that the structurally induced deterioration in employability and an increase in mismatch in the general labour market are driven by graduates from such fields.

But if similar developments have occurred across the vocational spectrum, then mismatch is unlikely to be compositional as the mechanistic approach assumes.

As a theoretical backdrop to those analyses and potential alternative explanations, I will resort to some concepts commonly used in research on education-employment linkages. For one, there is human capital, a concept directly indicating the productive skills of workers, gained through education and experience (Becker, 1962). While some human capital is job or firm-specific and best learnt on-the-job, and some is general and completely transferable (e.g. generic competences), there is “industry-based” or “occupation-based” human capital, transferable within the same occupations or industries, that can be gained within the education system (Estevez-abe et al., 2001). Alternatively, education can serve as a signal for the productive capacity – upon which employers might rely when screening for suitable candidates (Spence, 1973; Stiglitz, 1975). As productivity in various jobs depends on characteristics such as endurance, perception, communicative or cognitive capability, “a characteristic may be a signal with respect to some types of jobs but not with respect to others” (Spence, 1973: 359). Regardless of the skill content that the field of education might (or might not) provide, the choice of field and success in graduating from it conveys signals about a job-seeker's aptitude (capability to finish it) and attitude (commitment to choosing it and following its rules) for the given field. Therefore, the signal provided by education is not universal and various courses might signal different types of “productive capability”. As well, along the lines

of the signalling approach, education might be conceived as a positional good, effectively ranking the candidates.

On the institutional level, skill production regimes, i.e. patterns of recruitment, training and promotion might have great implications for understanding and importance of horizontal mismatch. It might be a valid issue in countries (or sectors) where occupational labour markets, coordinated and organized along the lines of sanctioned qualifications are in effect (Marsden, 1999). On the other hand in internal labour markets (where training and promotion is done internally) and external labour markets (for general labour), the specific human capital gained through education is largely irrelevant – and so is the notion of horizontal mismatch.

This chapter will explore the above three steps via two rich data sources on school-to-work transitions. First, data from a 2008 Survey on Educational and Employment Careers of Croatian Youth will be used in order to establish the incidence of education-job mismatches in the first job using various criteria, and identify subsequent career patterns as well as fields and levels of education where education-job mismatch is more likely. The second dataset covers all new young registrants to the Public Employment Service register between 2006 and 2010 including the date of their first exit to employment and their detailed occupational destination. This population data was used to obtain reliable outcome estimates for each vocational sector and depict developments for cohorts entering the labour market in the years prior to the crisis and during the initial two recession years.

## **Measuring horizontal matching between field of education and acquired job**

Despite the commonplace notion of "working in one's own vocation (*raditi u svojoj struci*)" in colloquial speech and expectations, so far there have been no empirical investigations into the actual matching of achieved education with the occupations obtained at the outset of the career. This horizontal aspect of mismatch, between the field of education pursued and subsequent occupation (given the level of education) has seldom been investigated in the literature, and papers on the topic are few and far between (Nordin et al. 2009; Solga and Konietza, 1999; Witte and Kallberg, 1995; Wolbers, 2003). The focus in these papers is not on the appropriateness of the level of education or the complexity of skills required by the occupation, but on the match between specific vocational content of education and occupation of job found. In the literature, there are three ways mismatches are commonly assessed: job analysis, self-assessment and realised matches (Hartog, 2000). The "realised matches" estimate identifies mismatch for some occupation in terms of deviation from the most common (modal, median) education profile being employed there, and as such is more suitable for estimating vertical mismatch (overeducation or undereducation) and limited in application when considering fields of education and horizontal mismatch. The "self-assessment" approach is reliant upon self-reporting (on part of the worker or the employer) of skill utilization or the appropriateness of education for the job, and is commonly used for estimating education-job mismatch (Allen and de Weert, 2007; Garcia-Espejo and Ibanez, 2006; Witte and Kalberg, 1995), but it

could be applied only to one of the datasets used here. For those reasons, this chapter will rely on the job analysis approach.

Within the “job analysis” approach, mismatches are identified according to administrative or expert evaluations of the appropriate education needed for certain jobs. Since every vocational course, and most academic courses are aimed at a specific set of occupations, such objective criteria are easier to use for determining horizontal occupational mismatches than for (vertical) overeducation or undereducation. This approach was pursued in most academic contributions exploring ‘field of study’ and occupational matching (Nordin et al. 2009; Solga and Konietza, 1999; Van der Werfhorst, 2002; Wolbers, 2003). As both datasets used in this chapter contain detailed information on both educational background and occupational destinations, it is feasible and plausible to apply the “job analysis” horizontal matching approach for this exercise.

I will apply a slightly modified version of the correspondence scheme developed by Wolbers (2003) when analysing data from the 2008 “Survey on Educational and Employment Careers of Croatian Youth”. The horizontal match was determined with respect to the fit between the two-digit ISCED code for the field of study in which the respondent graduated and the three-digit ISCO code of the job. The two-digit “narrow fields of study” was chosen as the level at which study programs are broadly congruent and from which graduates might compete for the same groups of occupations (e.g. teacher training, humanities, law, business, computing, and construction). This relaxed matching criterion states that if any of the courses present in the field of

study fit any of the occupations within the three-digit occupational group then the occupation is “matched” with the field of study. Managerial positions are considered to be “matched” whatever the field of study. While matches established in such a fashion suffer from “false positives” (i.e. potential mismatches being classified as matches), it is fairly safe to claim that few matches would be classified as mismatches with such a procedure. Therefore, such relaxed matching procedure produces a “lower bound” of horizontal mismatch incidence.

The matching criterion applied to the data from the Public Employment Service register will be based on an expert classification of occupations aligned with thirteen educational sectors developed by the Croatian Agency for Vocational Education and Training <sup>7</sup>. In this exercise, each of 3,847 ISCO-derived National Classification of Occupations (*Nacionalna klasifikacija zanimanja*) was assigned into one of thirteen educational sectors and provisional subsectors. As Croatian vocational upper secondary education programmes are officially classified within vocational fields grouped into educational sectors, it was feasible to perform a "job analysis" matching. However, the applied matching criterion was a relaxed one, as graduates from any programme belonging to some educational sector were considered to have made the transition to a matching job if the occupation was deemed appropriate to that educational sector (e.g. an occupation in food processing would be considered to be a match for a graduate in agriculture). However, with this

---

<sup>7</sup> This correspondence was developed under IPA component IV project "Strengthening of the institutional framework for development of VET occupational standards, qualifications and curricula"

approach it was possible to establish horizontal (mis)match only for vocational secondary education graduates, as tertiary education is not officially categorised along the lines of educational sectors.

## **Data and methodology**

Two distinct data sources are used in this chapter, as mentioned in the introduction. The first is the 2008 “Survey on Educational and Employment Careers of Croatian Youth”, produced as a joint effort of the UNDP Croatia, the Ministry of Health and the Department of Social Welfare at the Faculty of Law, University of Zagreb, based upon research priorities established by the Croatian Joint Inclusion Memorandum. The survey design itself was modelled after the ETF school leaver surveys used in Ukraine and Serbia (Kogan, 2008) as well as the European Labour Force Survey Ad-hoc module 2000 “Transitions from education to work”. The survey targeted the population that left continuous education between 2003 and 2008, and collected valid responses from 2,429 respondents in the random sample (about 1% of population), with a response rate of 44% among the eligible households. The survey included detailed education history and retrospective information about respondents' significant jobs during their studies, first job after leaving education and their current labour market status. Although being the smaller of the two datasets used, it includes more background information and follow-up about the subsequent jobs.

The other data source used was an anonymised excerpt from the Public Employment Service (PES) register. This dataset included all

persons who had registered with PES for the first time between 2006 and 2010, aged 20 or less at the time of registration. This is a large, crisis-spanning data collection that includes precise information on first exit to employment (if it happened) and detailed occupational destination. While such a selection criteria targeted the population of recent school leavers with upper secondary education but no substantive formal work experience, the sample retrieved is prone to selection bias towards the less employable (especially during "good years"), as it is likely that unemployed youth do not enter the unemployment register randomly<sup>8</sup>.

The handling of data will be for the most part descriptive, comparing outcomes and their trends for different educational sectors. Such aggregated description should suffice to develop the issue presented at the outset of this paper, following the steps outlined in the introduction. However in one section a piecewise exponential survival model will be applied with respect to job search dynamics.

## **The extent and persistence of horizontal mismatch**

The first step in the analysis is to explore the incidence of horizontal mismatch based on the Survey on Educational and Employment Careers of Croatian Youth. When the formal correspondence criterion is applied, it turns out that 42% of

---

<sup>8</sup> A more detailed overview of the methodology and definitions used can be found in user the manual (ASOO, 2011, pp. 57–71) and findings on a programme-by-programme basis can be found in the published sectoral profiles.

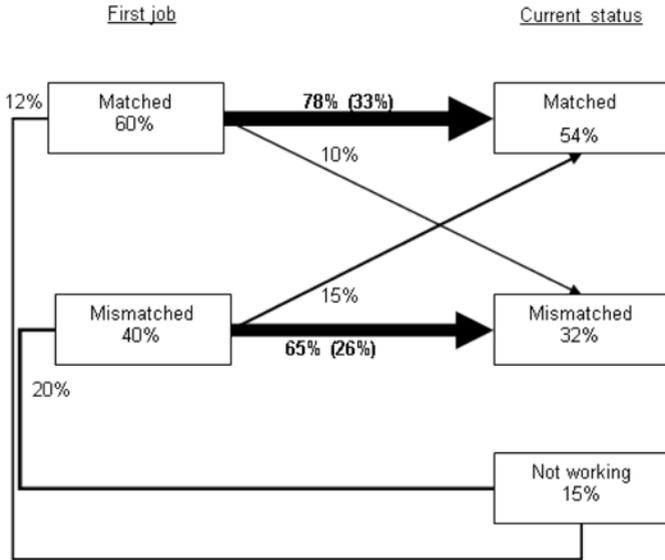
recent school leavers from the 2003-2008 period did not obtain their first job in an occupation that was even broadly related to their field of education. Thus, horizontal mismatch seems to be rather high. An earlier application of this methodology to the European LFS ad hoc Module data from 2000 (Wolbers, 2003) identified horizontal mismatch among 30% to 40% of recent school leavers in most European countries, Italy being an outlier at 50%.

Even if horizontal education-job mismatch is widespread at the beginning of the career, it could be of little consequence if such a state were a transient stage in the process of eventually obtaining a suitable job. The retrospective nature of the survey provides the opportunity to estimate the career dynamics emerging from horizontally matched or mismatched jobs a few years later in the career.

A high degree of path dependency can be established with respect to the initial matching of a job and the matching status observed at the time of survey. About one in five who had initially found a mismatched job were not working any more at the time of survey - almost twice the proportion of respondents who initially found matched jobs and subsequently became unemployed. Two-fifths of respondents had continued working in a mismatched job and another quarter had changed jobs, but still worked outside of occupations for which they were educated. A transition from a mismatched job to a horizontally matched job only took place in about 15% of cases. Among the youth who initially found a matched job, stability of employment is higher, but about tenth of

them left their job for one not matched with their field of education.

**Figure 1: Early career dynamics for youth entering labour market via horizontally matched and mismatched jobs**



Notes: Status in autumn 2008 for persons who have found first job between 2003 and 2007. Line width indicates frequency of transition. Number in parentheses indicates cases where a job change had happened, but did not lead in change in horizontal (mis)match. Does not include youth with general secondary education, tertiary or secondary education dropouts. N: 1002

While it would be unwise to interpret such differences in causal terms, primarily due to the non-random selection into horizontally mismatched jobs (Halaby, 1994; Matković, 2009), the evidence for the persistence of horizontal mismatch seems rather solid. Taken

together with the comparatively high incidence of horizontal mismatch, it warrants proceeding towards the next step: identifying whether there are fields and levels of education where mismatch is endemic.

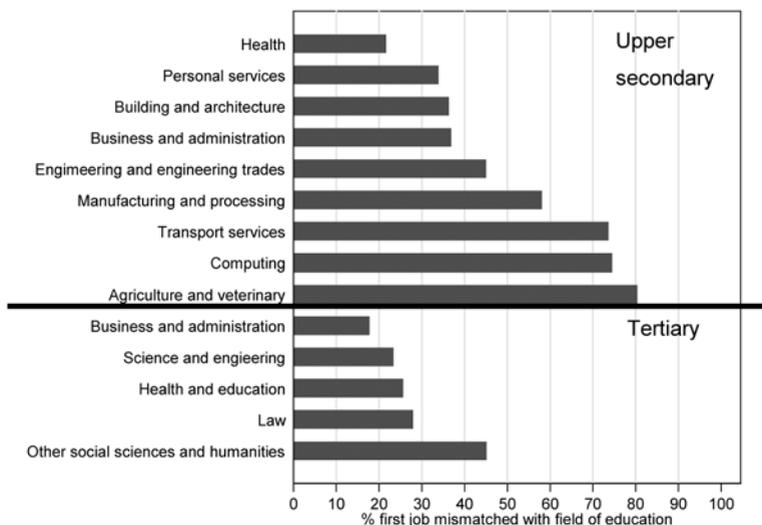
## **Achieved education, job search dynamics and horizontal mismatch**

A high incidence of horizontal job-education mismatch is not by itself a sufficient support for accepting the mechanistic hypothesis, as large imbalances in educational supply and occupational demand should lead to variation in incidence of mismatch between fields of education. This section identifies such fields of education where horizontal mismatch is more common and job search dynamics less favourable.

### Field of education and horizontal mismatch

A substantial variation in incidence of horizontal mismatch can be established among graduates from various fields of education, in particular in the secondary vocational education. Findings from both the Croatian Survey (Figure 2) and exit destinations from the unemployment register (Figure 3) provide a consistent picture.

**Figure 2: Incidence of horizontal mismatch in the first job after leaving education, by ISCED field of education**



Source: Survey on educational and employment careers of the Croatian youth. Note: Due to low numbers, some fields of education have been merged, in particular within tertiary education.

Horizontal mismatch is rather uncommon for graduates from the health and tourism service sectors, moderate in business administration and construction (note the higher estimate in the unemployment register data covering the crisis period) and engineering. At the upper secondary level, graduates from most manufacturing and processing fields (in particular food processing and textiles), computing, transport or agriculture seldom manage to reach a job suiting their achieved field of education.

**Figure 3: Incidence of horizontal mismatch for upper secondary education graduates leaving the unemployment register for the first time, by education sector**



Source: Unemployment register data, compiled and published within the project “Strengthening of the institutional framework for development of VET occupational standards, qualifications and curricula”.

The mechanistic mismatch hypothesis is based upon assumption that those educational sectors with high mismatch ought to suffer from weak demand for sectoral occupations. This can be explored by comparing composition of first-time entrants to the unemployment register with respect to the sector of education completed and the composition of occupational destinations for the same population over the observed five-year period.

**Table 1: Sectoral composition of educational origins and occupational destinations for vocational education graduates**

	First-time register entrants with sectoral education (A)	Found first job in sectoral occupation (B)	Registrants from sectoral education vs. jobs found in sectoral occupation (C=A/B)	Jobs in sectoral occupations filled by registrants with sectoral education
Agriculture and food processing	6.3%	4.7%	1.36	37.0%
Forestry and wood processing	1.8%	4.2%	0.44	25.0%
Textile and leather	2.7%	3.0%	0.91	33.4%
Engineering, shipbuilding, metal	16.3%	9.7%	1.67	74.4%
Electrotechnics and IT	12.7%	5.0%	2.53	78.3%
Construction and geodesy	3.9%	6.6%	0.59	29.1%
Economics, trade and business administration	19.9%	23.0%	0.86	50.5%
Tourism and hospitality	11.9%	20.4%	0.58	45.1%
Transport and logistics	6.3%	6.5%	0.97	28.9%
Health	7.0%	6.5%	1.08	96.9%
Personal and other services	8.6%	9.5%	0.91	40.7%
<b>Total</b>	<b>97.4%<sup>a</sup></b>	<b>99.1%<sup>a</sup></b>		<b>49.7%</b>

Source: Unemployment register data. Note: two sectors comprising less than 2% of graduates (geology, mining, oil & chemical and graphical and AV technology) are not shown. This is why column (A) does not sum up to 100%.

Indeed, the results shown in Table 1 indicate that among vocationally educated youth, the vocational structure of first-time entrants to unemployment and the occupational structure of first jobs are not sectorally balanced. For cohorts reporting to the

public employment service between 2006 and 2010, demand in (and consequently outflow towards) occupations aligned with sectors of forestry and wood processing, construction and geodesy and tourism and hospitality greatly exceeded their share in educational supply (values in column C are greater than 1). On the other hand, in agriculture food processing, and particularly in engineering, electrotechnics and IT the situation was opposite – as outflow was anaemic compared to number of graduates registered (values in column C are less than 1). In those sectors, mismatch fits the mechanistic hypothesis.

However, there is high mismatch observed in several sectors in which educational supply and labour demand were broadly balanced, such as textile and leather, transport and logistics, personal services (and to certain extent agriculture and food processing). Despite the high supply of appropriately educated workers, only a minority (25-40%) of occupational destinations in those sectors were filled by graduates from appropriate educational sectors. This runs against expectations of the mechanistic mismatch hypothesis. Therefore, the problem of horizontal mismatch more likely stems from the non-occupational character of recruitment (employers resorting to internal or external labour markets instead), or from employers not recognizing either the educational signal or the specific human capital gained from a vocational education in those sectors as relevant. The opposite is visible in the regulated health sector (where entry to occupations is legally closed to graduates without medical training), but also in sectors with weak demand but high skill specificity, such as electrotechnics and engineering where three-quarters of sectoral occupations are filled by youth with an

appropriate education. For those sectors the mechanical hypothesis of horizontal mismatch might hold.

### Field of education and job acquisition dynamics

Before jumping to conclusions solely upon findings on horizontal education-occupation (mis)match based on "job analysis" criteria, it is important to consider another fundamental measure of mismatch: the ability of individuals with certain educational backgrounds to find a job. Even in the "naïve" mechanical view of sectoral mismatch between supply and demand, the disputed outcome (and alleged effect of mismatch) is not only the inability of youth to find a job they were trained for, but difficulty of finding job at all. If a graduate from a certain field of education has no problem in obtaining a job outside the occupational destinations she or he trained for, this might not bode well for the performance of the occupational labour market (and might bring in question the value of public investment in such vocational education), but at least this means that employers recognized her or his education as relevant enough for the job at hand. However, a low employability for pupils from a certain field might indicate that the education they have completed presents a bad signal to employers or is associated with skills with little demand or recognition on the labour market.

The observed differences between education sectors with respect to the job search dynamics of upper secondary education graduates are rather modest (see Table 2a and 2b for outcomes 12 months after registration with the employment service). The difference between the top performing and the worst performing

educational sectors are very modest, both in three-year vocational courses (56% against 49%) and four-year school-based technical vocational education courses (50% against 44%, with health sector being an outlier with 39%). The variation is broadly consistent at 6 and 36-month time points, and individual courses do not deviate substantially from the general sectoral patterns<sup>9</sup>.

**Table 2a: Average probability of finding a job within 12 months and entering a matching occupation for 3-year vocational education graduates.**

	Number of registrants (2006-2010)	Found a job within 12 months	Occupation not matching sectoral profile
Tourism and hospitality	6,466	56%	27%
Construction and geodesy	1,446	55%	53%
Forestry and wood processing	1,109	54%	43%
Engineering, shipbuilding, metallurgy	8,912	52%	57%
Electrotechnics and IT	3,934	51%	68%
Economics, trade and business administration	5,479	51%	41%
Transport and logistics	1,453	50%	56%
Agriculture and food processing	1,941	49%	63%
Personal and other services	4,906	49%	63%
Textile and leather	1,246	49%	65%
Total – short vocational programmes (3 yr, mostly apprenticeship-based)	37,345	52%	51%

Source: Unemployment register data. Note: two sectors comprising less than 2% of graduates not shown

<sup>9</sup> As reported in 13 sectoral profiles that were produced in 2011, available at <http://www.asoo.hr/euprojekti/kvalifikacije/default.aspx?id=521>

**Table 2b: Average probability of finding a job within 12 months and entering a matching occupation for 3-yr technical vocational education graduates**

	Number of registrants (2006-2010)	Found a job within 12 months	Occupation not matching sectoral profile
Tourism and hospitality	2,431	50%	47%
Agriculture and food processing	2,657	50%	83%
Electrotechnics and IT	4,791	48%	74%
Construction and geodesy	1,277	47%	53%
Engineering, shipbuilding, metallurgy	1,717	44%	75%
Economics, trade and business administration	8,588	44%	46%
Transport and logistics	2,572	44%	82%
Health	4,373	39%	25%
Total – technical vocational programmes (4 yr, school based)	32,599	45%	57%

Source: Unemployment register data. Note: sectors comprising less than 2% of graduates not shown

Among three-year vocational courses (mostly based on a workplace apprenticeship regime) the chance of getting a job is somewhat higher in those educational sectors in which the outflow to sectoral occupations exceeds the inflow from sectoral education: tourism, construction, forestry and wood processing (see Table 1), and moderate in education sectors where occupational demand is weak, but mostly selects graduates from appropriate sectors (engineering, electrotechnics). The chance of getting a job is weaker among graduates from fields where sectoral occupations are seldom filled by youth trained in the

given field, regardless of the balance in numerical inflow and outflow. Differences between fields for four-year technical education graduates are not so clear-cut, but are similarly modest in scope. Youth who have completed medical training find themselves in a peculiar situation: despite having exclusive access to a "closed" occupational field, they are seemingly mostly dependent on public sector employment and with little transferable competences for employment in other sectors, thus resulting not only in low horizontal mismatch but in low employment dynamics as well.

Moving on from descriptive analysis, Table 3 fits a piecewise exponential event history model to data from the Croatian Youth Survey in order to account for differences between fields of education with respect to the dynamics of finding a first job.

The analysis shows that the only fields of education at the upper secondary level with a statistically significant contribution to improvement in the probability of finding a job in relation to the reference category of business administration were engineering trades and construction, with personal services (including tourism) close to significance threshold. At the tertiary level, law graduates had a slightly less favourable entry probability than those from health, education or engineering. The findings remained robust when controlling for other educational and socio-demographic characteristics (not shown).

**Table 3: Piecewise exponential event history model: effect of field and level of education on finding a first significant job**

	Coefficient	Z-score
<b>Field of education (secondary)</b>		
Business and administration (reference category)		
Computing	-0.05	(-0.25)
Engineering and engineering trades	0.43 <sup>***</sup>	(3.26)
Manufacturing and processing	-0.09	(-0.56)
Building and architecture	0.48 <sup>**</sup>	(2.28)
Agriculture and veterinary	0.02	(0.10)
Health	0.15	(0.85)
Personal services	0.21	(1.62)
Transport services	0.31	(1.47)
<b>Field of education (tertiary)</b>		
Health and education (reference category)		
Business and administration	-0.13	(-0.80)
Law	-0.35 <sup>*</sup>	(-1.67)
Other social sciences and humanities	-0.16	(-0.84)
Science and engineering	0.08	(0.45)
<b>Level of education</b>		
3 yr Vocational (reference category)		
4 yr Technical vocational	-0.13	(-1.36)
Professional tertiary	0.71 <sup>***</sup>	(3.86)
Academic tertiary	0.85 <sup>***</sup>	(5.04)

Source: Survey on educational and employment careers of the Croatian youth. Vocational and tertiary education graduates only. Notes: N=4123 episodes, model Log Likelihood = -1971.88. Piecewise exponential model split at six month intervals (coefficients not shown). First significant job stands for a full-time job lasting more than six months \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Unlike incidence of horizontal mismatch, the differences between fields of education with respect to job acquisition dynamics are remarkably small, contrary to expectations put forth by the mechanistic mismatch hypothesis. In particular, high youth unemployment cannot be mainly attributed to the sectoral composition of education, as in most cases the differences between education fields are unremarkable.

Looking up: level of education, horizontal mismatch and job search dynamics

It is evident from the tables and figures presented above that there are substantial differences in respect to the achieved level of education, both in terms of horizontal mismatch (Figure 1) and job search dynamics (Table 3). Table 4 focuses on this issue.

**Table 4: Horizontal mismatch and job search dynamics, by level of achieved education**

	Horizontal mismatch in first job (survey data)	Horizontal mismatch in first job (register data)	Found first job within a year (register data)
3 yr Vocational	40%	51%	52%
4 yr Technical vocational	54%	57%	45%
Professional tertiary	38%	n/a	58%
Academic tertiary	29%	n/a	66%

Four-year school-based technical vocational programmes in general provide the weakest opportunities for quick and appropriate employment, making otherwise shorter and less demanding vocational courses a kind of "safety net" (Shavit and Müller, 2000). Yet, outcomes for tertiary education graduates are substantially more favourable with respect to job acquisition dynamics (see the third column in Table 4) and in the case of academic tertiary education with respect to horizontal mismatch as well (see the first column). Therefore, it is the level and not the field of education that has the greatest implications for early career chances in Croatia, decreasing the importance of the mechanical explanation of education-job mismatch.

### **Times are changing: sectoral education-job matches and job search dynamics**

The discussion above ignored the dynamic component of change in patterns of mismatch over time, an omission rectified in this section. Knowing whether the boom and recession had different effects on graduates from different fields of education would be important in distinguishing the structural from the cyclical component of youth (un)employment. Such knowledge would also assist in adjusting employment and education policies in response to observed trends.

With respect to the probability to find a job within a year, among upper secondary education graduates there is a steady deterioration among cohorts entering the labour market during the first two years of crisis, reverting the trend of improvement observed throughout the mid-2000s.

**Figure 4: Change in probability of finding a job within 12 months for vocational education graduates entering the labour market in 2006-2010.**

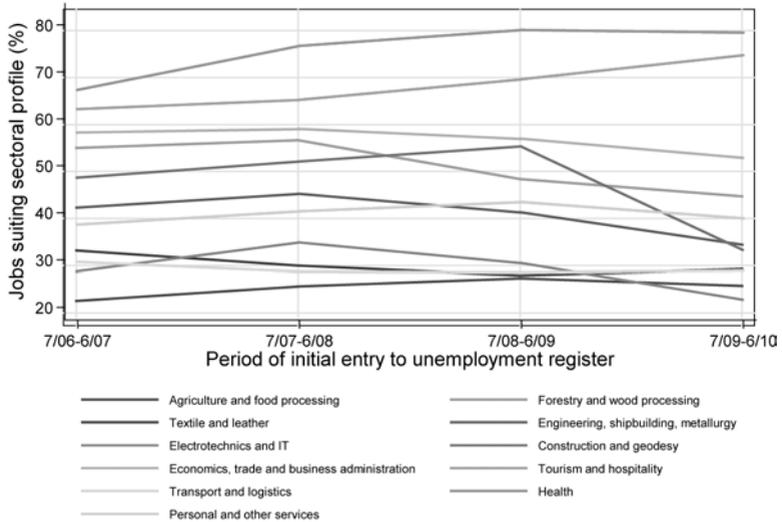


Source: Unemployment register data.

The observed pattern is very similar for most sectors, with few outliers. First, the relative employability advantage of youth trained in tourism and hospitality and forestry and wood processing sectors increased slightly. Second, the construction slump reduced the employment chances of youth in the construction sector. Third, the health sector exhibits a peculiar pattern, with new placements increasing the chances of employment for 2007-2009 cohorts, but dropping again severely in the most recently observed cohort. However, all the differences observed are minor in comparison to the common over-the-board

crisis-related deterioration in the chances of job acquisition for labour market entrants.

**Figure 6: Share of jobs found in occupations fitting the sectoral profile for cohorts entering the labour market in the 2006-2010 period**



Source: Unemployment register data

No great changes can be observed in the four observed cohorts of vocational education graduates with respect to finding a matched job. The share of graduates from the tourism, hospitality and health sectors that found their first job in a matched occupation increased, while in the construction sector it plummeted as of 2009. In most other educational sectors the share of horizontally matched occupational destinations declined

by 5-10% over the observed period. This might indicate a decreasingly occupational nature of the Croatian labour market and a shift in the skill production regime.

## **Conclusion**

While horizontal education-job mismatch among young people entering the Croatian labour market is rather widespread and persistent (especially in some fields of upper secondary education), the evidence provided in this chapter does not provide much support to the mechanistic mismatch hypothesis which explains such outcomes by the quantitative mismatch of courses being provided by education system and occupations in demand.

True to the mechanistic assumptions, in the public employment register data, the inflow of graduates from some vocational sectors is less than recruitment into occupations associated with those sectors (forestry and wood processing, tourism and hospitality, construction); while in others, supply exceeds demand (in particular, electrotechnics and engineering). Yet, even in fields where occupational demand is similar to, or greater than, the educational supply, much recruitment comes from graduates from mismatched fields of education; only in engineering, electrotechnics and the regulated health sector do three quarters or more vacancies get filled by vocationally matched candidates. Moreover, horizontal mismatch does not translate well with respect to the variation in youth unemployment and job search dynamics; in general, youth educated for sectors that are in

demand obtain their job slightly faster, but the advantage is far from overwhelming, and is very modest compared to the differences between levels of education and is way short of explaining the long-standing difficulties of labour market integration among Croatian youth. Also, the recent economic slump did not bring much change; while the construction sector deteriorated, tourism recovered quickly, and patterns in health sector were not related to economic factors but to state recruitment policies. The crisis affected job acquisition chances for youth from all walks of vocational education to a similar extent, while the incidence of horizontal mismatch even increased slightly.

The evidence laid out here indicates that the composition of vocational education is not as large an issue in understanding youth labour market integration as is commonly assumed, since in practice most of the Croatian labour market (especially for secondary education graduates) is not an occupational labour market and many young people (especially from the agriculture, textile, transport and personal service fields) end up in a job completely unrelated to the one they trained for, with only a slight penalty in terms of job search duration. There is some evidence of a further slide in this direction during the crisis.

On the other hand, the credibility of vocational education might be at stake, in particular where few jobs in sectoral occupations are filled by young people with an appropriate sectoral education indicating the existence of external or internal labour markets or the failure of the educational system to select appropriate pupils, train them in appropriate sectoral skills being used in the

workplace, or package a reliable signal to employers. The picture becomes even more complicated when the ever-expanding tertiary education is brought into the picture, "bumping down" the secondary education graduates and making the positional good, credentialist or general human capital framework a more fruitful approach for understanding the structuring of outcomes for young people on the Croatian labour market (Matković, 2011) .

At the policy level, based on the evidence laid out here, not many of the observed outcomes could be affected by mechanical quota adjustments based on the hypothesis of horizontal mismatch, and some might even lead to a further deterioration in valuable skill capacity within the country (especially in engineering). A more fruitful approach seems to be one of increased coordination between the education system and employers both with respect to curriculum content and to the organization of the training, thus moving skill formation, workplace socialization (and to some extent recruitment) "back to school", overcoming informational uncertainty and providing valuable productivity assets to employers (relieving the need of in-house training). Unfortunately, so far there is not much evidence that reform in the organization of craft vocational education from mid-2000 (including the introduction of the apprenticeship system) has led to any improvement of their integration in the labour market. Development of evidence-based sectoral standards, occupational profiles and qualification frameworks which are currently underway in Croatia might have a substantive positive impact – but only if such efforts are not a normative "education matter" but are inclusive of all the stakeholders in the labour market and the education system.

**Part III:  
The Educational System  
and Skills Mismatch**



## CHAPTER 6.

---

### **Lifelong Learning Policies in Southeastern Europe: From Emulation of Life-Long Policies to Tailor-Made Reforms?**

Alexander Kleibrink

---

*Qualifications frameworks seem to capture  
and represent many hopes and dreams.*  
Allais, 2010: 2

#### **Introduction**

The European Union (EU) has become one of the most prominent promoters of lifelong learning (LLL) policies worldwide. Inside the European single market, EU member states have strong incentives to adopt similar approaches to lifelong learning and recognition of educational attainments in order to foster labour mobility and improve the matching of skills and employment. The same holds true for EU accession countries in Southeastern Europe that can expect to join the EU until 2020. In addition, Balkan states have to reintegrate back into the labour market those people who lost their jobs through deindustrialisation and privatisation. At the same time, they must create new employment opportunities for the youth. Despite the high costs and uncertain outcomes of these policies on their labour markets, accession countries have been commencing radical reforms modelled after EU lifelong learning policies in order to ease the transition from training to the labour market. Governments in Southeastern Europe engage in such comprehensive reforms although they are not likely to benefit

from the potential gains of labour mobility in the next decade. For understanding these wide-ranging reforms, this chapter examines the underpinning mechanisms that have led to them. According to diffusion studies, policy reforms may be driven by competitive pressure, coercion, and the pursuit of legitimacy or learning. Based on the findings from document analysis, data analysis and expert interviews, this chapter finds that most governments in Southeastern Europe rather unreflectively emulated EU lifelong learning policies because they strove for more legitimacy on their way to EU membership. Instead of adopting the specific aspects of EU lifelong learning policies that might fit their context and capacities, they initiated comprehensive reforms geared towards an EU-style lifelong learning policy without having the necessary capacities to implement them or anticipate their implications. Given these capacity constraints and the additional scarcity of resources for funding such reforms, it will be very difficult to effectively reduce skill gaps and skill mismatches in Southeastern Europe. Instead, this chapter recommends that policy-makers should adopt more tailored and sector-specific approaches that pay attention to the particular contexts of their educational systems and labour markets. Furthermore, more commitment from the private sector will be needed in order to compensate for the governments' funding and capacity limitations.

### **Lifelong learning in the European Union and beyond**

Lifelong learning is on the agenda of many different international organisations (World Bank, 2003, OECD, 2007, ILO, 2002, UNESCO, 2002, European Parliament, 2007), and has dominated the discourse on education policy in the past decade in Europe and

beyond. LLL is part of a political agenda that confers a high priority to the development of a knowledge-intensive society. Despite the policy consensus on the significance of lifelong learning among policy-makers worldwide, the meanings that different international bureaucracies and national governments attach to the norm are different (Field, 2003, Allais, 2010).

Inside the EU, the debate can be traced back to the Commission's White Paper on Competitiveness and Employment from 1993, culminating in the 'European Year of Lifelong Learning' in 1996. The wave of policy documents that followed (European Commission, 1999, European Commission, 2000, European Commission, 2001) shared two radical elements: an emphasis on training and not merely 'education', and a shift from the supply side and teaching input to the demand side and learning outcomes (Wurzberg and Wagner, 2004: 12-13). All these shifts came about as an attempt to reconcile economic and societal demands.

In order to narrow down my analysis, I focus on National Qualifications Frameworks (NQFs) as key embodiments of the EU's overall LLL policies. LLL as it is conceived of by the EU entails the prioritisation of learning outcomes, their systematic comparison and categorisation as embodied in NQFs, and state institutions steering and managing these reforms. Originally NQFs were developed in Anglophone countries in the early 1990s and later on adopted by the European Commission as the main tool of its lifelong learning agenda (McBride and Keevy, 2010). A full-fledged NQF classifies all qualifications that can be acquired in a country's educational system and reveals their interrelations according to skills, competences and knowledge. What is new

about these NQFs is their cross-sectoral nature: they cover general education, vocational education and training (VET), and higher education. While they are not meant to be hierarchical classifications, this does play a role when social partners and stakeholders negotiate which qualification is set at which level of the scale.<sup>10</sup>

In their final stage, NQFs should be linked to the eight qualification levels of the European Qualification Framework (EQF) that is meant to translate qualifications in terms of learning outcomes and make them comparable across EU member states, thus bringing about significant change to the understanding of education in Europe (Jakobi and Rusconi, 2009). The agreement to adopt the EQF in 2004 was the tipping point after which EU member states and neighbouring countries accepted the policy set as a desirable policy option and began initiating NQFs (Kleibrink, 2011). In 2008, the European Parliament and the Council formally passed a recommendation that calls upon of member states to relate their national qualification systems to the EQF by 2010 and to provide all new qualification certificates with

---

<sup>10</sup> For instance, drafting and negotiating the German NQF lasted approximately seven years. Despite this long time period, the federal and state governments and the social partners could only agree on a partial NQF in January 2012. No agreement was possible on the classification of the German A-levels (*Abitur*) because the assembly of state-level ministers for education insisted to put it on EQF-level 5, which would have been one level higher than for a three-year VET qualification, and also higher than in all other EU countries. A related point of contention was to what extent NQF classifications have repercussions on wage bargaining and the remuneration based on qualification level in different sectors. The German debate highlights the highly complex nature of NQFs and the various implications they carry with them.

an explicit reference to the EQF by 2012. The rationale has been to establish a meta-framework that connects national education systems by providing higher transparency of qualifications in order to enable more mobility and easier recognition of formal and informal learning. This is has mostly been achieved by designing NQFs in line with the provisions of the European framework. From 2004 onwards, the diffusion of EU-modelled LLL policies took off. Yet, as many critics point out, it is still unclear how effective NQFs will be in achieving these goals. Little time has passed since they have been adopted in EU member states, making it hard to conduct a sound empirical assessment of their benefits at this point. Analysts highlight the difficulties to link very different kinds of learning in one scheme (McBride and Kevy, 2010, Allais, 2010, Young, 2007, Grootings, 2007). In countries with highly coordinated labour markets like Germany, for instance, the structural pre-conditions vary significantly compared to more liberal labour markets in Anglophone countries. Hence there is no consensus among practitioners and academics whether NQFs actually satisfy “the policy aspirations for which they were adopted in the first place” (Chakroun, 2010: 199).

All twenty-seven EU member states are developing or have adopted some kind of NQFs (Cedefop, 2010). NQFs contribute to the creation of a European-wide area for higher education and vocational education and training (Ertl, 2006). They are now considered to be essential parts of a modernising and globalising society (Young, 2007: 446) and as such, the inherent sensitivity of education reforms has been addressed by adopting a predominantly economic rationale emphasising human capital and the achievement of overall higher educational attainments.

In terms of content, the EU's LLL script contains three key messages (European Commission, 2000):

- it assigns the state a central role as strategic planner of education, a process that is generally managed by expert bureaucracies to ensure the sustainability of reforms (Werquin, 2007); this constitutes a significant shift of responsibility notably in adult education that historically has been financed by the learning individual or the employer;
- the reforms should strengthen the demand side of the labour market by improving the involvement of employers and matching their skills needs with adequately trained employees;
- NQFs are suggested to be an appropriate tool for comprehensive reforms that necessitate the inclusion of all relevant stakeholders and social partners who ought to be committed to implement these reforms.<sup>11</sup>

By now all governments in Southeastern Europe have initiated NQFs. What has contributed to the policy changes in these countries? Between 2005 and 2008, the European Training Foundation (ETF) alone organised more than sixty policy-learning events concerned with lifelong learning. These took the form of workshops on the inclusion of social partners in VET reforms, peer learning and study visits with the participation of EU accession and neighbouring countries. ETF expertise partly provided

---

<sup>11</sup> While the EU emphasises the role of social partners for lifelong learning in general (from pre-school to university), they are arguably most relevant for VET qualifications.

resources that most of the countries in Southeastern Europe do not have. Policy learning is a topic that has been moving up the ETF's agenda in recent years and that is seen as a useful way of promoting policy change and effectiveness. The basic idea behind the concept is an emphasis on considering local particularities when learning from other countries' experiences. Yet, as the next sections of this chapter will highlight, instead of profound learning governments in Southeastern Europe mostly emulated the comprehensive EU policy package on LLL. But most of them do not have the necessary structural prerequisites and capacities to effectively implement it, and underestimated the highly complex nature of NQFs that need long-term commitment and consensus from all social partners and stakeholders, as well as continuous and good working relations between the relevant ministries for education, labour and economy (ETF, 2008). More importantly, it is still too early to assess whether NQFs are really the best tool for reforms in transition countries. As I argued earlier, serious doubts and uncertainties persist as to the effects of NQFs on the very different socio-economic contexts and labour markets in EU member states and in Southeastern Europe. Similar to EU member states, governments in Southeastern Europe voluntarily embraced NQFs without convincing and empirical evidence of their likely impact or potential for success (Sondergaard and Murthi, 2012: 173, Chakroun, 2010). Eventually detrimental effects of NQFs would incur, however, more severe damages in the fragile labour markets in Balkan transition societies compared to the economically more advanced EU member states.

Why have Southeast European governments initiated NQFs despite the limited empirical evidence that they are appropriate means to improve LLL systems and to facilitate the transition from

training to the job market also in transition societies? In the next section, I will discuss how diffusion mechanisms explain this spread of NQFs.

## **Implications of policy diffusion and its mechanisms**

We have witnessed an explosion of policy diffusion studies in the past decade. In the literature, scholars originally identified four main mechanisms that explain the conditions under which policies spread or diffuse across countries: competition, coercion, (bounded) learning and emulation (Simmons and Elkins, 2004, Simmons et al., 2008, Gilardi, forthcoming, Dolowitz and Marsh, 2000). These studies emphasise how the recipients of such policy diffusion make choices on policy reform. The main reason why we should care about the mechanisms of such policy diffusion is that they have an impact on the effectiveness and efficiency of new institutions and policies (Elkins and Simmons, 2005).

*Competition* refers to governments' preferences concerning the attraction or preservation of economic resources (Gilardi, forthcoming). It describes how and why governments choose policies to address economic questions and be competitive. In cases where economic power asymmetries are high, this competition can even become similar to coercion because the scope for autonomous policies is very limited. Such asymmetries allow one country or organisation to influence policy change in a weaker country because the latter depends on them. Competition does not only apply to regulatory policies but can be also a key driver of educational reforms in order to meet the new demands raised by globalised and regional interdependence. In that sense,

the much more competitive EU Single Market can be a factor that pushes governments in Southeastern Europe to adopt more efficient and transparent LLL policies in order to increase their competitiveness and attract foreign direct investment from EU-based companies. In addition, the EU is a central economic partner for all accession countries creating a commercial network that should make competitive pressures more likely (Simmons et al., 2006: 794). Nonetheless, the mechanism of competition tells us little about how governments adopt LLL policies and what the consequences are.

*Coercion* is possible in a situation in which power asymmetries allow one country or organisation to influence policy change in a weaker country. While this can entail physical force and information monopolies, I will focus here on the third element, namely the manipulation of utility calculations (Simmons et al., 2006: 790). The often-cited conditionality policy of the EU is a prime example of the latter. It is based on a rationalist understanding of state behaviour which assumes that if incentives are strong enough, states will comply or adapt their behaviour according to the more powerful actor. Conditionality is prominent in the scholarly discussion on the EU's Eastern enlargement. The limits of this approach of the EU's conditionality policy have already become apparent. The general assumption has been that candidate countries would accept the costs that political, economic and legal reforms imply in exchange for the benefit of a credible EU membership prospect (Schimmelfennig and Sedelmeier, 2005). However, in the field of education policy this approach has failed to explain the lack of sustainable policy change in acceding countries (Krizsán and Zentai, 2005). EU accession conditionality appears to be relatively effective only

when the EU defines clear conditions that have to be met. As this is not the case with education policy this approach to studying policy change is not very useful when analysing educational reforms in Southeastern Europe, particular not when reforms such as the NQF are undertaken on a voluntary basis without being an explicit accession criterion.

*Bounded learning* departs from the assumption that policy-makers in governments cannot possibly possess and process all the necessary information to make a perfectly informed decision (Weyland, 2007, see also March and Simon, 1993). This approach borrows from psychology and cognitive sciences (Gilovich et al., 2002) and posits that governments tend to look at other examples of new policies that were seemingly initially successful and geographically close. Given their bounded rationality, they might in the end choose to initiate or adopt a policy that does not fully fit the specific functional needs of their country. Unlike some studies suggest, evidence of durable success of a policy is not necessarily needed (Volden, 2006). It is more about the availability of an apparently promising policy principle offered by a geographically proximate organisation or state. In this respect, bounded learning is well suited for analysing the spread of NQFs because we still lack substantive empirical evidence on the effects of such frameworks on very distinct labour markets. Despite the bounded nature of this learning process, governments can change their behaviour when new information is available. But they do so in a non-optimal way using “cognitive shortcuts” (Simmons et al., 2006: 797). Thus, governments do not inevitably adopt all features of a comprehensive policy set but they can limit policy modifications depending on their resources or capacities (Weyland, 2007: 8). But bounded learning cannot explain why

most countries in Southeastern Europe aim at introducing comprehensive reforms without major modifications.

*Emulation* refers to a process in which governments mimic policies from abroad and change their policies accordingly because they perceive them as the socially most appropriate policy, and not necessarily because these policies are functionally superior and the more effective solution. Some scholars call this process mimetic because states or organisations that face uncertainty “may model themselves on other organizations” that are perceived as legitimate in order to gain legitimacy (DiMaggio and Powell, 1983: 151). Paradoxically, often “countries embrace new norms for symbolic reasons, even when they cannot begin to put them into practice” and they thus lack effective functionality (Simmons et al., 2006: 800). Put differently, policy-makers respond to international pressures by adopting symbolic systemic changes that are de-coupled from the reality on the ground, thus creating “institutionalized myths” (Meyer and Rowan, 1977). Important drivers of such emulation processes can be epistemic communities of experts and analysts who advocate for specific solutions to existing policy problems like the European Training Foundation (Haas, 1992). But still, this does not mean that the final decision of a government is functionally driven. It is much more a question of which choice can increase a state’s legitimacy vis-à-vis others. Inside the EU this kind of mimetic policy adoption is very common given that the EU has few strong executive and punitive powers that are confined to a small set of public policies (Radaelli, 2000).

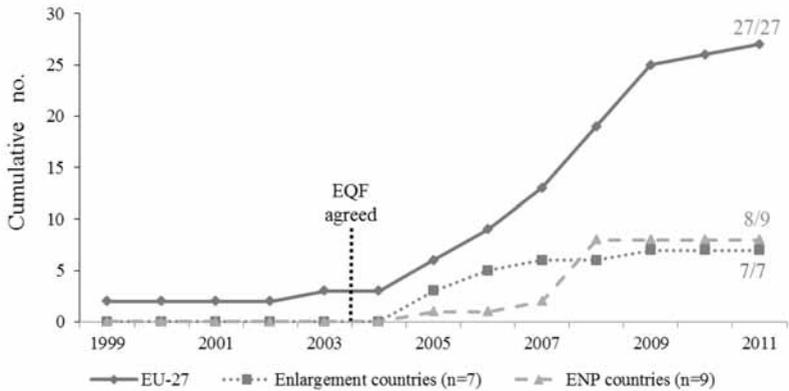
In practice we are very likely to encounter partial overlaps of the outlined mechanisms that constitute ideal types rather than

accurate descriptions of contingent cases. But we can establish the most dominant mechanism concerning NQFs by looking at the speed at which states initiated the policy reforms. Rapid diffusion generally is a feature of emulation because governments obviously do not have the necessary time to conduct long cost benefit calculations about the implications of reforms (Weyland, 2005: 275). A simple look at Figure 1 below illustrates the rapid diffusion of NQFs in all EU member states and virtually all neighbouring countries. The data on the cumulative number of countries that are developing and formulating NQFs suggests that the year 2004 was the tipping point. In that year, EU institutions and member states reached a political agreement on developing a European Qualifications Framework that will serve as the reference for all NQFs. As we can see, Southeast European accession countries (red dotted line) were very quick to initial NQFs: within 3 years after the adoption of the EQF, 5 out of 7 EU accession countries have initiated NQFs. In EU member states this patterns is even more pronounced.

It is beyond the scope of this chapter to identify the mechanism that has driven NQF diffusion in EU member states. For Southeastern Europe, we can at this point plausibly assume that emulation has most likely played a major role because these countries have a keen interest to adopt any reform that will enhance their relations with the EU and their prospects of EU membership. NQFs are not formally part of EU conditionality and the Copenhagen criteria, their effect on economic competitiveness is uncertain and the hurried adoption of NQFs has most likely not been the result veritable policy learning that would need more time. In the next section, I will use empirical data to substantiate my claim that most governments in

Southeastern Europe have not based their decision to adopt NQFs based on reflective policy learning. Rather, my findings point to an unreflective emulation of NQFs which results in several problems for the introduction and implementation of NQFs.

**Figure 1: Number of countries that have initiated or adopted NQFs**



Source: Data from the European Training Foundation and the European Centre for the Development of Vocational Training. ENP here only covers the biggest partner countries EGY, JOR, MOR, TUN, ARM, AZE, MDA, GEO and UKR.

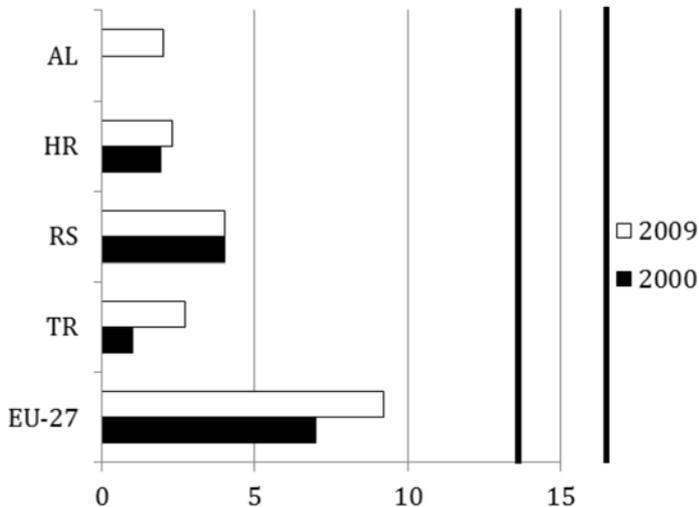
### **NQFs in Southeastern Europe**

At first sight, the quick progress towards NQFs seems to be a strong indicator that states in Southeastern Europe have embraced necessary LLL reforms in accordance with EU standards (Cedefop, 2010). Indeed, we see formal commitment from all governments in Southeastern Europe to comprehensive LLL reforms that are guided by NQFs. After having focused most

attention and resources on secondary schooling for the past decade (Bartlett, 2008: 162), LLL reforms have gained momentum in the entire region. In a statement of the Regional Cooperation Council's Task Force for Fostering and Building Human Capital, governments agreed to make lifelong learning one of three core priorities (RCC, 2009):

*Comprehensive LLL strategies and their implementation have been identified as a priority for the development of knowledge societies. Especially in a time of quickly changing qualification requirements and increasing unemployment, it is necessary to put lifelong learning strategies into practice.*

**Figure 2: Proportion of persons aged 25-64 having participated in education and training**



Source: Eurostat. Unfortunately, no data is available for the other Southeast European states.

When looking at the data of LLL participation rates of adults in Albania, Croatia, Serbia and Turkey (Figure 2 above), we clearly see the strong need to increase the participation in education and training for the adult population. The entire region is lagging significantly behind the EU-27 in terms of the participation rates of adults in training and educational programmes. Concerning this aspect, the whole Southeast European region is very far away from reaching the targets spelled out by the Lisbon Strategy and the new EU 2020 growth strategy.

But how well prepared are governments in the region to design and implement comprehensive NQFs that serve as a meta-framework for major reforms of education policy? Chakroun (2010) lists four pertinent and partially interconnected problems for the introduction and implementation of NQFs in Southeastern Europe with a view to VET that the ETF has already identified:

- (1) Weak policy analysis capacities to identify needs and to monitor and evaluate implementation
- (2) Linkages between stakeholders and social partners not institutionalised
- (3) Insufficient public investment in the education sector
- (4) Large informal labour market with workers who mostly lack formal qualifications which in turn undermines formal VET schemes

For each of these points, we have data and indicators supporting the view that most countries in Southeastern Europe are not yet prepared for comprehensive NQFs which also explains why most

countries face a plethora of problems with their implementation (Bartlett, 2008: 162).

**(1)** A recent study by the Education Reform Initiative of South Eastern Europe (ERI SEE) highlighted the deficiencies concerning capacities to perform policy analysis and engage in policy learning. While the ETF and the EU more broadly emphasise the need to undertake peer-review exercises and conduct regular analyses, most governments simply lack the means to do so. There is little institutionalised coordination both within governments and across states. While mutual policy learning concerning VET reforms in Southeastern Europe is on a good path (ERI SEE, 2011), policy learning in the region is hampered by weak institutional linkages, low research capacities for measuring benchmark attainment and limited information exchange both between and within governments (Branković and Bogunović, 2012).<sup>12</sup> Another factor that aggravates the establishment of strong institutionalised policy capacities is the high turnover in the public administration.<sup>13</sup> Because a large number of well-qualified public employees leave the administration after a few years, the advancement of institutional memory that is necessary for durable, efficient and effective policy analysis is hampered.

---

<sup>12</sup> In this context, Croatia is an exception as it is much further advanced than other Western Balkan states and thus serves as the coordinator of the ERI knowledge cluster dealing with NQFs.

<sup>13</sup> In a recent expert survey on public administrations in Croatia and Serbia that I conducted, most experts identified high staff turnover and limited training opportunities as the main obstacles to an effective public sector in these countries. This appears to be a broader problem for capacity building in the public administration.

**(2)** The role of social partners is recognised as being central for the development of LLL policies and for agreeing on NQFs. This is particularly valid for VET. In this context, the Copenhagen Process has proven its “usefulness for building a consensus between the different actors“ in the cases of Turkey and Bosnia-Herzegovina (ETF, 2007a:30).<sup>14</sup> But more generally, the extent to which social partners are effectively involved in the design and implementation of NQFs remains very limited. The legal framework is still not sufficient and social partners lack the necessary resources to effectively engage and participate in the social dialogue (Mihes, 2011). Furthermore, governments seem rather reluctant to fully promote social dialogue and involve all stakeholders and partners.

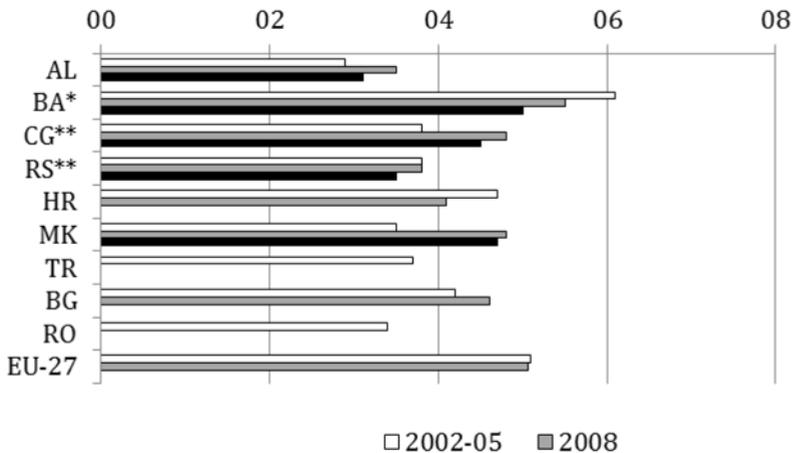
**(3)** Following the financial and economic crisis of 2008, public funding for education infrastructure and policy has been reduced to even lower levels compared to before. As we can see in Figure 3, government expenditure on education in most Southeast European countries has decreased since 2005. Budgetary constraints are likely to persist as an obstacle to finance LLL reforms also because the responsible ministries are often not central actors in the cabinets and thus the most likely targets for budgetary cuts under the current austerity measures. In addition, even in high spending countries the expenditure is not necessarily linked to efficient and outcome-oriented public spending: Whilst on paper Bosnia-Herzegovina spends almost as much as Finland on education, duplications and vast inefficiencies make this spending very ineffective in terms of output and outcomes (World Bank, 2006: 73ff.). For the other Southeast European countries

---

<sup>14</sup> The Copenhagen Process involves 33 European countries and aims at advancing and improving VET systems. It began in 2002.

the main problem with the limited public funding is that is not “much compensated for by increases in funding from enterprises given a background of weak social dialogue and poor labour market information“(ETF, 2007b: 18). Yet major private sector involvement especially in initial and continuing VET is critical (Sondergaard and Murthi, 2012: 175). Only in Croatia a dual system for initial VET is in place in which firms and training institutions cooperate in the training of apprentices and hence bear some of the financial burden. But financing such large-scale reforms is very difficult, particularly because it entails paying for stronger institutions and allowing for equitable access for all citizens to VET opportunities (Allais, 2010: 116).

**Figure 3: Public expenditure on education (% of GDP)**



Source: Eurostat & IMF Government Finance Statistics. \*: Data for Bosnia-Herzegovina instead of average 2002-05 only for 2004; \*\*: Data 2002-2005 only for state union Serbia-Montenegro.

**(4)** Finally, the shadow economy is significantly larger in Southeastern Europe compared to EU or OECD averages. As a consequence, informal employment amounts to an estimated average of one third of the GDP (see Figure 4 below). While such estimates should be cautiously read because of their inherent methodological problems, the figures do reveal a pattern that is also backed up by other qualitative studies. On average, the informal economy is significantly larger in Southeastern Europe than in the old EU member states. A large shadow economy is associated with high informal employment that is widespread in the region (World Bank, 2007). Admittedly NQFs are also meant as an instrument to formalise informally acquired qualifications and to align them with formal qualifications, i.e. to tackle the challenge of recognising the skills people acquire outside the formal education system and labour market. Yet in the absence of strong capacities for quality assurance it is difficult to recognise skills through formalised tests and other means. And even in the presence of a functioning quality assurance tensions might arise with institutions providing formal education because their dominant role in certifying educational outcomes would be questioned.

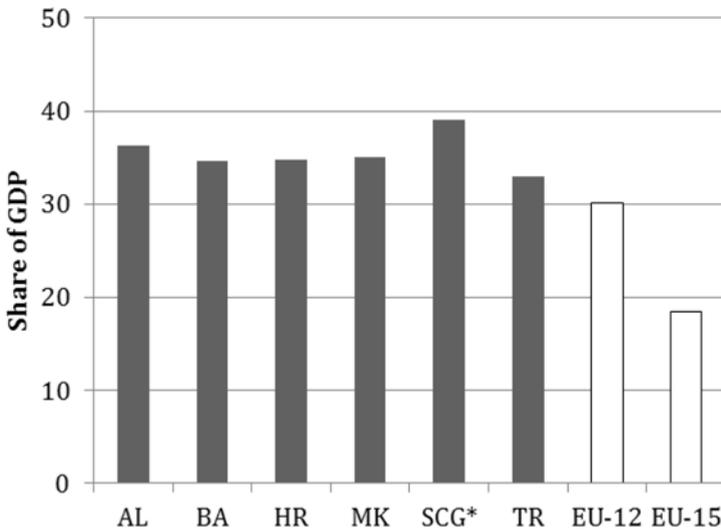
Despite the bleak picture the presented data paints, we can also observe positive developments. In particular, the candidate countries Turkey<sup>15</sup> and Croatia are forerunners of LLL policies.

---

<sup>15</sup> Turkey is somewhat an exception as it already began preparatory work for a very limited NQF in the 1990s under the guidance of the World Bank (Allais, 2010: 41). The government decided to confine the NQF at this stage to VET occupations and to make it completely voluntary which leaves it to the training institutions to apply for the recognition of their qualification programmes.

They have already established specialised agencies and bodies inside their administrations in order to oversee the development of NQFs<sup>16</sup>. Croatia has strong incentives to adopt EU education policies because it will enter the EU in the summer of 2013. Another example of a forerunner is Bosnia-Herzegovina that intends to establish a national centre to ensure the NQF is linked to the EQF.

**Figure 4: Estimate of the shadow economy in Europe  
(average 1999-2007)**



Source: Data from Schneider et al. (2010) & Schneider (2012); \*: Figures for Serbia and Montenegro (SCG) are only available for 2002/2003.

---

<sup>16</sup> Both Turkey and Croatia already participate in the benchmarking exercise with EU member states, i.e. educational attainments are compared to EU averages and EU benchmarks.

But these few positive examples cannot conceal the fundamental problems Southeast European states still face. For instance, the Croatian government was for a long time unable to implement LLL reforms despite the assistance of the EU due to a policy vacuum in the respective state agencies. Similar problems of weak state capacity also persisted until 2008 in Albania.<sup>17</sup> Yet, the commitment to EU-style lifelong learning was made in all (potential) candidate countries. While NQFs are accepted as the right tool to guide reforms, we observe a persistent lack of consensus on the substantial content of the future educational systems (ETF, 2008). That might explain why most of these countries unreflectively modelled their NQFs in one-to-one fashion after the much broader European Qualifications Framework. But experts stress that NQFs need much more detailed content and descriptors of qualification levels than those determined by the EQF meta-framework (Chakroun, 2010).

While reform willingness is very strong in terms of initiating a comprehensive framework for the entire educational and vocational training systems, severe capacity problems persist to truly implement these reforms. The developments of EU-style lifelong learning policies in enlargement countries “demonstrate the risks of borrowing and introducing normative models of NQF” (Chakroun, 2010: 209). Instead of carefully studying the available options for reforming educational and VET systems and discussing them with all stakeholders, governments in Southeastern Europe initiated NQFs very quickly with little attention to the particularities of their economies and based on an overstatement

---

<sup>17</sup> Interview with an official from the Qualifications and Curriculum Development Agency, London, UK, 21 April 2008.

of their capacities. As the example of Greece shows, pre-existing structural factors may impede the adoption and effective implementation of such far-reaching reforms (Featherstone, 2008).

In sum, the rationale for embracing the EU's LLL policies has more to do with gaining more legitimacy on the way to EU membership than with rationally and intentionally learning something about new policy developments (see also Meyer and Rowan, 1977). Emulation explains to a large extent why governments in these countries burden themselves with overly ambitious comprehensive reforms that overstrain their low-capacity administrations and budget constraints. Weak capacities are not only a characteristic of social partners, but rather reflect the broader problem of weak civil society structures (Gligorov et al., 1999). Coupled with this, government capacities for implementing reforms are not sufficient and aggravate the necessary coordination and steering of NQFs. Already in Central and Eastern Europe countries exhibited similar problem patterns (Börzel and Buzogány, 2010). It is difficult to establish functioning governance arrangements for NQFs under such conditions. Nevertheless, governments chose to symbolically emulate NQFs in a hasty way in order to prove their willingness to adopt EU norms and to underline their legitimate desire to become EU member states.

## **Conclusion**

The use of National Qualification Frameworks (NQFs) is not only a European approach to the standardisation of the measurement of education outcomes but has spread to over sixty countries

worldwide. This chapter has focused on the European dimension of this global development. How policies related to this approach diffuse has severe implications for their impact on actual policy change and its repercussions in Southeastern Europe.

Pre-accession countries in Southeastern Europe have desperately sought to initiate comprehensive NQFs in order to show their political commitment to European integration. Yet, most of them did not pay due attention to the significant costs of such reforms that have overwhelmed both their administrative and fiscal capacities. Emulation has been the predominant mechanism driving policy change. Indeed, as in other parts of the world, Southeast European countries' "desire to appear modern and comply with new norms induce[d] governments to emulate innovations even in the absence of a sufficient track record for assessing their advantages and problems" (Weyland, 2005: 275). In that sense, NQFs fit into the widespread Balkan pattern of fake or Potemkin institutions that are meant to signal commitment to the international community but remain empty shells (Bliesemann de Guevara, 2009, Noutcheva, 2009).

But such copying of LLL policies for legitimacy gains has had severe policy implications and has diverted a disproportionately large degree of political and financial attention to highly complex reforms with uncertain outcomes. Instead, due to their limited resources and capacities governments should limit policy modifications to very specific industries or educational/training sectors and scale-up such schemes only where it is reasonable and feasible. Under conditions in which even basic educational infrastructures and financing are still facing structural problems (school facilities, teacher salaries, teacher education, VET quality,

corruption etc.), an overloading of the policy agenda with the adoption and implementation of time-intensive and costly NQFs may divert attention and funding from more fundamental issues. While “intentions are good and VET is awarded priority ... this is not reflected either in implementation or in revised financing mechanisms” (ETF, 2007b: 20). That is why a more modest and sector-specific approach may have more potential for better matching individuals’ skills with the requirements of the labour market (Allais, 2010: 115).

One policy option would be to focus more on VET to cope with the massive problem of youth unemployment and to engage the private sector much more in the provision of training. But given the large share of employment in the informal sector and in struggling private enterprises, this can only be achieved through targeted financial aid from donors and especially the EU, coupled with more VET schemes that systematically include the private sector.<sup>18</sup> More has to be done in order to substantially include the private sector through a kind of dual system in which firms and schools provide certified training for young employees and in which continuing training for adults is promoted.<sup>19</sup> Moreover, this

---

<sup>18</sup> There is no empirical evidence that NQFs by themselves will attract more private sector funds because they provide firms with a formal meta-framework under which they could offer training (Allais, 2010). Rather, governments have to actively incentivise firms in order to foster private sector involvement.

<sup>19</sup> There are good examples where a school-based initial VET system is financed mainly by the government with little private sector participation. The Netherlands is a case in point where such a subsystem co-exists with more traditional dual system. But this necessitates strong government involvement and public funding that is much more limited in Southeast European countries.

should extend beyond the small islands of excellence that have been created with the help of donor funds and have had little outreach to the broader society and VET systems (ETF, 2008: 93). Governments could, for instance, provide incentives to multinational companies that invest in Southeastern Europe so that they establish VET schemes for apprenticeships in cooperation with local training institutions in order to lay the groundwork for something similar to a dual system. I acknowledge that is very difficult to create a dual system from scratch. Large parts of the varieties of capitalism literature concur with such a view that points to the difficulties of adopting dual systems in countries that lack the necessary pre-existing firm-society structures in which such systems are embedded. But despite this important critique, at regional and local levels it may be possible to create small innovation and production systems that are conducive to the establishment of functioning VET schemes both for youth and adults (Crouch et al., 2009). So there is scope for active government action. If governments do not adequately deal with these pressing issues, NQFs are likely to remain dreams and hopes rather than effective policy frameworks.

An interesting avenue for future research will certainly be the implementation and the results of lifelong learning reforms in Southeastern Europe. There is a general need to evaluate the impact of NQFs on labour markets in very different socio-economic settings compared to the Anglo-Saxon world and the Commonwealth where they were originally developed. Marginal returns to fundamental reforms that foster adult education, for instance, are much higher in countries at a higher stage of socio-economic development (Sondergaard and Murthi, 2012: 166). It will be very interesting to see how governments in Southeastern

Europe react when NQFs turn out to be an inadequate response to domestic needs. Will they rationally learn from new insights, and to what extent will this learning process be bounded? When does emulation prevail over learning or vice-versa (Gilardi et al., 2009)? Tackling these questions will break new and fruitful ground for interdisciplinary research and a more empirical approach to policy change in Southeastern Europe.

## CHAPTER 7.

---

### **Is Government Effective in Promoting Human Capital? The Case of Macedonia**

Nikica Mojsoska-Blazevski and Maja Ristovska

---

*Investment in human capital is the key to economic growth  
Burdia and Moro-Egido, 2009: 330*

#### **Introduction**

It is a common understanding that human capital is the key to higher productivity and growth (Mendolicchio, 2005; Burdia and Moro-Egido, 2009; Sondergaard et al., 2012). Hence, increasing the human capital stock of a population might bring about faster growth and economic development. Higher human capital may also bring benefits to individuals, organizations and society. Individuals may gain in terms of improved employment prospects and wage premiums (Mendolicchio, 2005; Henderson et al., 2011; Luongo et al., 2011); organizations may gain through improved collective competencies, organizational routines and organizational culture (Dae-Bong, 2009); and society may gain through a more consolidated democracy, lower crime, improved human rights, political stability and innovation (McMahon, 2006; Kara, 2009; Mojsoska-Blazevski, 2011).

Given these established arguments, the aim of this paper is to assess the effectiveness of government policy in Macedonia in increasing human capital and to set out recommendations for improving educational policy. Recent educational reforms in

Macedonia were mainly based on the premise that the country has a comparatively low level of human capital, and that improving the educational attainment of the population would bring greater productivity and growth. Whereas undoubtedly Macedonia cannot become a modern, innovation-driven, export-oriented economy without a well-educated workforce, we argue that a link between education and human capital can be maintained only in the case of provision of high quality education. Moreover, the current policy of expansion and increased subsidies to post-compulsory education in Macedonia might not be effective in bringing higher human capital in an environment in which pupils in primary education fail to achieve minimum standards of literacy and numeracy.

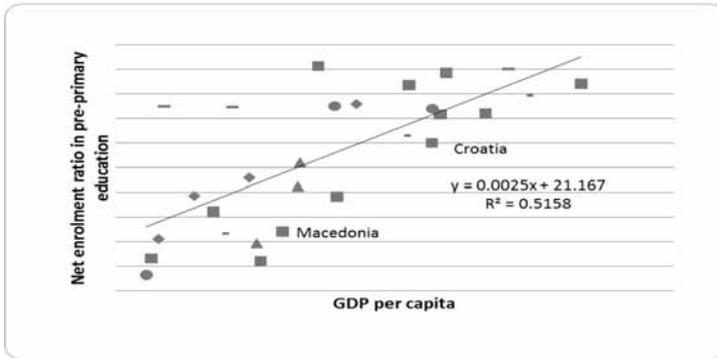
The paper is organised as follows. Section 2 provides an analysis of the educational outputs in Macedonia, developments over time, as well as comparisons to the EU countries. The following section investigates the link between the labour market and human capital in Macedonia. Section 4 in turn assesses labour demand and the over-education phenomenon. The last section puts together the findings and draws some policy recommendations.

## **Comparative analysis of the educational outputs in Macedonia**

The level of human capital in Macedonia is rather low (European Commission, 2011) leading to low productivity, which is detrimental to economic growth and for catching-up with EU living standards. The data show relatively poor educational outputs in Macedonia at all levels of education. Figure 1 shows

that Macedonia is below the predicted net enrolments in pre-primary education relative to its economic development.

**Figure 1: Net enrolment in pre-primary education vs. GDP per capita 2010/2011**



Source: TransMonEE data, from <http://www.transmonee.org>.

Moreover, among the EU and Western Balkan countries, Macedonia has the second lowest enrolment rates into pre-primary education of children aged 3-6 years and into primary education (see

The share of population aged 18-24 with at most lower secondary education (and not in further education and training) in Macedonia in 2011 was at the same level as in the EU-27 (see

Figure 3). The country has managed to reduce the share of early school-leavers by 41% in only five years. However, females in Macedonia have a higher probability of leaving school with at most lower secondary education. Compared to females in the EU-27 countries the share of female early school-leavers in

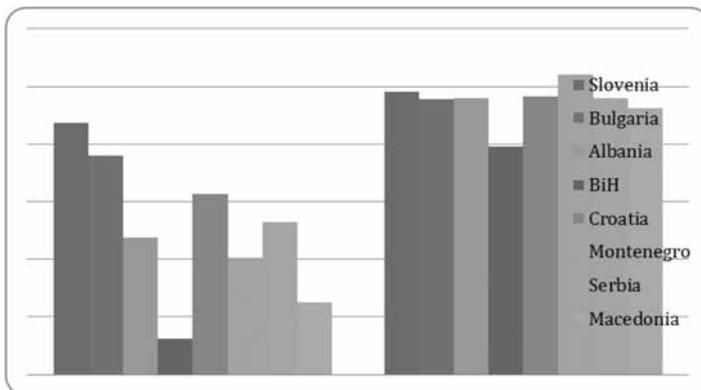
Macedonia was 15.2% in 2011, whereas it was at 11.6% in the EU-27.

**Figure 2).**

The share of population aged 18-24 with at most lower secondary education (and not in further education and training) in Macedonia in 2011 was at the same level as in the EU-27 (see

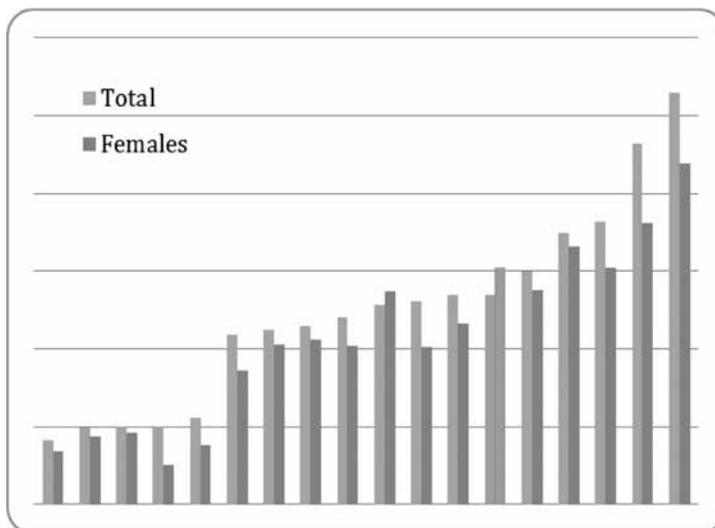
Figure 3). The country has managed to reduce the share of early school-leavers by 41% in only five years. However, females in Macedonia have a higher probability of leaving school with at most lower secondary education. Compared to females in the EU-27 countries the share of female early school-leavers in Macedonia was 15.2% in 2011, whereas it was at 11.6% in the EU-27.

**Figure 2: Enrolment rates in pre-primary and primary education, 2010/2011**



Source: TransMonEE data, from <http://www.transmonee.org>.

**Figure 3: The share of early school-leavers, Macedonia and the EU countries, 2011**



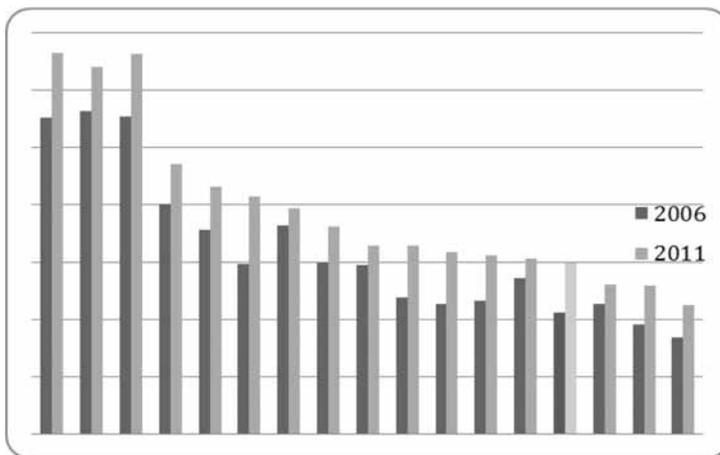
Source: Eurostat statistical database, extracted on 5 June, 2012.

The share of adults (aged 15-64) with completed tertiary education in Macedonia is much lower than in the EU-27 countries, at 15% in 2011 compared to 23.6%, respectively (see The poor educational achievements of the Macedonian population can mainly be attributed to a long period of input-based educational policy and past under-investments in education. In particular, education policy in Macedonia (as in all the ex-communist countries) was mainly focused on input-based measurement of the effectiveness of educational policy (for instance, through the number of schools and teachers) rather than on outputs, or student achievements. Such a system neglected the key competences and functional literacy that determine the ability to perform effectively in modern society (Schnepf, 2004).

Figure 4 Despite the comparatively low educational attainment of the Macedonian population, an improvement in this indicator was achieved between 2006 and 2011, when the share of adults with completed tertiary education increased by 41.5%.

The poor educational achievements of the Macedonian population can mainly be attributed to a long period of input-based educational policy and past under-investments in education. In particular, education policy in Macedonia (as in all the ex-communist countries) was mainly focused on input-based measurement of the effectiveness of educational policy (for instance, through the number of schools and teachers) rather than on outputs, or student achievements. Such a system neglected the key competences and functional literacy that determine the ability to perform effectively in modern society (Schnepf, 2004).

**Figure 4: The share of adult population with completed tertiary education, 2011**



Source: Eurostat statistical database, extracted on 5 June, 2012.

In recent years educational policy has focused on improving the educational (physical) infrastructure through the renovation of school buildings and the purchase of IT equipment, as well as on increasing the quantity and quality of education. The efforts to increase the quantity of education have included the introduction of nine-year primary education, compulsory secondary education and an extension of the provision and increase in subsidies to public higher education. Quality improvements were achieved through revisions to the curricula, which promoted outcome-oriented and interactive teaching and learning, early learning of English language and information technology skills, training for teachers and the implementation of the Bologna declaration. The implementation of these reforms required increasing expenditures for education from about 3% of GDP to 4.6% of GDP

in 2010.<sup>20</sup> However, the main focus of the educational policy (and expenditures) has been on tertiary education. While across the OECD countries, on average, expenditures on tertiary education are about half those on primary education (Alakeson, 2005), in Macedonia tertiary education in 2010 absorbed four times more expenditures than primary education.

The improved educational attainment of the population in recent years can at least partly be attributed to the educational reforms that were carried out. It might also reflect increased private returns to education and hence a greater incentive to acquire post-compulsory education. However, the above indicators of educational outputs might fail to measure the improvement of the human capital as they mainly present the quantity of education and can give little valuable information about the quality of education. The OECD uses additional indicators to measure human capital associated with schooling outputs, such as the international assessments of students' achievements. On those assessments, Macedonian pupils show worse results compared to the EU and the Western Balkan region (with the exception of Albania).<sup>21</sup> For instance, in the Programme for International Student Assessment (PISA) only 0.1% of students from Macedonia reached the highest Level 5 in 2000, whereas more than half of the students (63%) failed to reach even Level 2. Similarly, in the TIMSS (Trends in International Mathematics and Science Study) in

---

<sup>20</sup> According to the functional classification of expenditures of the Ministry of Finance.

<sup>21</sup> Macedonia has not participated in any international assessment from 2006 onwards. In 2011, it participated again in the TIMSS. Sondergaard and Murthi (2012) show data from the international assessments for all Western Balkan countries, see Table 2A.2, p. 85.

which Macedonia participated in 1999 and 2003, and the Progress in International Reading Literacy Study (PIRLS) in which Macedonia participated in 2001 and 2006, Macedonian pupils at grade 4 and 8 had worse results compared to the other Western Balkan countries except Albania. School-leavers in Macedonia with very weak literacy, reading skills and problem-solving skills are likely to find it difficult to succeed in the modern globalized workplace.

The international comparative assessment of achievements of pupils suggests that the education system in Macedonia is not effective in providing individuals with high levels of human capital, with high failure rates at pre-primary, primary and secondary educational levels (there are no international comparisons of students' achievements at tertiary level). Heckman (2000) argues that the early, pre-school years of child's development affect the success or failure both at school and later in the labour market, since basic abilities of children can be altered in the early years. Raised ability creates additional demand for schooling. Therefore, policies that improve family and children' environment may be more effective in increasing enrolments in post-compulsory education than policies aimed at lifting short-term borrowing constraints (Chevalier, 2004).

In addition, for education to contribute to economic growth and development it ought to be of high quality and ought to match the skills demanded in the economy (Olaniyan and Okamakinde, 2008). Hence, Macedonia (and other Western Balkan countries) needs to develop an approach which does not simply focus on educational inputs, which is based on an "... implicit assumption that learning follows." (Sondergaard and Murthi, 2012: xvi).

## **From education (and human capital) to the labour market**

The labour market is a venue in which human capital is rewarded and which provides the incentives for individuals to acquire an education. Given that employers typically lack good information about the human capital or skills possessed by an individual, they often use educational attainment as a proxy. According to human capital theory (Becker, 1964) a higher level of human capital is related to higher productivity, and the additional productivity is rewarded in the labour market by higher employment prospects and higher lifetime earnings. In contrast, signalling theory introduced by Spence (1973) argues that by acquiring higher education or credentials, high-ability students signal or differentiate themselves in the labour market (Bedard, 2001; Habermalz, 2011; Zaharie et al., 2010;). Hence workers with a certificate of education have a greater chance of finding a job and of having higher earnings. Though the implications of the two approaches are different, both argue that labour market rewards higher educated individuals.

Despite the poor overall performance of the Macedonian labour market, it seems to give an appropriate price to education and skills. Individuals with high educational attainment are rewarded with a higher probability of employment, and a wage premium. As Table 1 shows, the labour market participation rate of workers with completed tertiary education in 2011 was 2.2 times the participation rate of those with completed primary education. Moreover, their employment rate is 2.7 times the employment rate of workers with completed primary education. Similarly, tertiary educated workers face an unemployment rate of 23.1%,

whereas every third individual with primary education who is active on the labour market is unemployed. However, the increasing overall supply of workers with tertiary education brought about a deterioration of the relative position of those workers, with increasing unemployment and declining participation and employment rates. This suggests that the economy has been unable to create sufficient jobs that require these upper-level skills.<sup>22</sup>

**Table 1: Labour market outcomes by education, 2007-2011**

	2007	2008	2009	2010	2011
Participation rate (age group 15-74)					
primary	38.0	39.2	38.7	38.5	38.3
secondary	70.1	71.3	70.7	70.4	69.1
tertiary	81.6	82.1	82.7	83.1	82.5
Employment rate					
primary	21.8	23.0	23.8	23.5	23.9
secondary	45.5	47.7	47.9	47.8	47.3
tertiary	64.9	64.6	65.1	65.0	63.6
Unemployment rate					
primary	42.7	41.2	38.6	38.8	37.6
secondary	35.1	33.1	32.3	32.1	31.6
tertiary	20.5	21.4	21.3	21.8	23.1

Source: Author's calculations, data from Eurostat database, accessed 20 April, 2012.

---

<sup>22</sup> While in 2011, about 7,400 jobs were created on net basis (both formal and informal) slightly less than 10,000 individuals graduated from tertiary education and entered the labour market. In total, the number of tertiary educated active population increased by about 20,000 individuals.

Nevertheless, being a graduate of tertiary education generally confers some advantages in the labour market. For instance, while the employment rate of tertiary educated workers in 2010 was 86% of the EU-27 average, for those with primary education it was only 59%.

As elsewhere, acquiring university education is an effective private investment strategy that yields relatively high earnings of individuals with tertiary education. Using the Mincer earnings function approach, Mojsoska (2006) found that individuals with tertiary education have twice the wage of workers with primary education or less in 2002. Within the same framework, the World Bank estimated that in 2006 tertiary educated workers earned 90% higher wages than workers with no education.<sup>23</sup> The returns to higher education in Macedonia are comparable to those of the other countries from Central and Eastern Europe (Mojsoska, 2006; Lehmann, 2010).

Angel-Urdinola and Macias (2008) find that education is an important determinant of the duration of unemployment: individuals with tertiary education are 20% less likely to be unemployed for a period longer than four years, as compared to individuals who have attained at most primary education. These authors also find a link between education of a worker and his or her probability to change labour market status; unemployed

---

<sup>23</sup> The two estimates are not directly comparable since the model details might be slightly different, though both models are based on the Mincer earnings function. The data are in both cases obtained from the Labour Force Survey. For this, we cannot make an inference of declining returns to education between 2002 and 2006.

individuals with university education are 18% more likely to find a job in comparison to individuals with primary education or below.

In summary, although the labour market in Macedonia functions poorly in many respects, this section has shown that it rewards individuals with higher educational attainment in terms of a higher employment probability, a greater chance of labour market participation and higher lifetime earnings. However, the recent expansion of higher education has led to increasing relative supply of workers with tertiary education and declining returns to education to that category of workers. This suggests that despite the large private returns to post-compulsory education, large scale governmental funding might not be justified because there are already strong individual incentives for investment in tertiary education without the intervention of government (De la Fuente and Jimeno, 2005).

### **What types of workers and skills are in demand by employers?**

An increased quantity or quality of human capital would only marginally contribute to reducing unemployment and to increasing productive capacity of the country if the skills and knowledge gained do not match those that are relevant and demanded in the economy. Sondergaard et al. (2012) argue that the educational systems of the transition countries lack internal incentives for improvements, which leads to skills mismatch and shortages. In Macedonia there is no systematic monitoring or assessment of the demand for labour nor any forecasting of the future skills needs of employers. Hence, educational policy is made in the dark.

In this section we build on the scarce available information on labour demand to learn more about what types of workers and skills are needed in the Macedonian labour market. For that, we use three sources of information: the Skill Needs Analysis of the Employment Service Agency, the labour demand survey implemented in 2009 by the World Bank, as well as data on the structure of employment by education and occupation, using employment and its trends as a proxy for labour demand.

### **The survey by the Employment Service**

The Employment Service Agency (ESA – the public employment service) has carried out an annual employers' survey called Skill Needs Analysis (SNA) from 2007 onwards with the primary goal to acquire information from the employers about short-term recruitments in the following 6-12 months, the need for skills and occupational shortages. The purpose of this survey is to detect short-term occupational shortages leading to an increase in the training of unemployed workers in those specific occupations. Data from the SNA conducted in 2011 show that in the following 6-12 months firms planned to open 11,438 work positions, which is 1.8% of current employment.<sup>24</sup> Most of the newly opened jobs would be in manufacturing industry (45%) and trade (22%). Around 67% of the demand would be for workers with completed secondary education, 16% for workers with primary education and 9.9% (or in total 1,135 jobs) would require tertiary education.

---

<sup>24</sup> In 2011, the survey was implemented in 2,903 companies (small, medium and large), which were employing 116,621 employees (about 1/5 of total employment, formal and informal) at the time of the survey.

Employers report that they place a high value on work experience and additional qualifications and skills, including IT skills and foreign languages. One-fifth of the companies surveyed in 2011 reported that they had experienced difficulty in finding an appropriate worker, compared to just one-tenth of the companies that were surveyed in the previous year. The available workers (i.e. unemployed) in their opinion lack working experience, as well as soft skills, such as communication skills, ambition, responsibility, reliability, precision, team work, flexibility, sales and management skills.

### **Findings from the World Bank labour demand survey**

In 2009, the World Bank conducted research on the labour and skills demand in Macedonia. The main findings of the survey are the following (Rutkowski, 2010):

- About 30 per cent of employers claim that hiring a worker with the required skills is difficult
- Modern and dynamic firms are suffer more from skill shortages, which presents a potential constraint to growth
- Newly created jobs differ in their skill content from old jobs; new jobs require high professional skills, or medium-level non-manual skills
- Difficulties in finding a worker are mainly related to the lack of soft skills among job applicants.

The survey revealed that skills mismatch in Macedonia is more related to a lack of key competences in both basic skills and higher-order skills rather than to a lack of technical, vocational or

job specific-skills.<sup>25</sup> The study concluded that the education system and curricula should be more responsive to labour market needs and that more attention should be paid to soft skills.<sup>26</sup> It argued that the development of such skills might be beyond the traditional role of the educational system. Given that soft skills are usually acquired within families in the early years of life, the focus of the policy should be on early childhood learning, especially targeting children from disadvantaged social backgrounds and rural areas.

## **Educational and occupation structure of employment and recent trends**

This section assesses the demand for workers using the structure and trends of employment by occupation and education as a proxy for the demand for workers and skills. A comparative analysis of the structure of employment by occupation between Macedonia and EU (see **Figure 5**) shows that Macedonia has very large share of employment in elementary occupations (ISCO9) and very low share of skilled agricultural, forestry and fishery workers (ISCO6).<sup>27</sup>

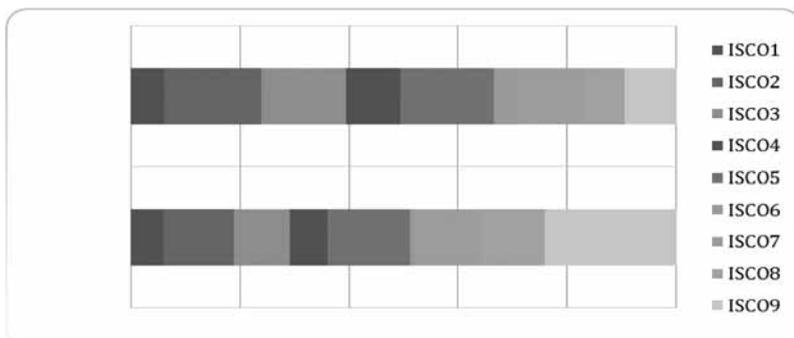
---

<sup>25</sup> Basic skills include reading, writing, computation, use of technology. Higher-order skills can be divided into cognitive (learning to learn, problem solving and creative thinking) and behavioral (communication, negotiation and teamwork).

<sup>26</sup> One has to be careful in making strong conclusions about the lack of soft skills as it seems that employers find it more convenient to refer to soft skills, especially when they cannot plan in advance the need for technical or other hard skills.

<sup>27</sup> The classification is based on the International Standard Classification of Occupations (ISCO), with occupational level ISCO9 being the lowest

**Figure 5: The occupational structure of employment in EU and Macedonia (ISCO classification), 2011**



Source: Author's calculations, data from Eurostat database, accessed 25 April, 2012. Note: We exclude the occupation Armed forces.

As Table 2 shows, elementary occupations dominate in the labour market in Macedonia with a share of employees of almost one quarter (24%), followed by service and sales workers (15%) and professionals (13%). Between 2008 and 2011, most jobs were created for professionals (about 28,700)<sup>28</sup>, service and sales workers (10,800) and technicians and associate professionals (4,800). The largest job destruction took place in the category of plant and machine operators and assemblers.

---

(elementary occupations) and ISCO1 the highest occupation (managers). See Table 2 on the occupations.

<sup>28</sup> However, about half of these jobs were created only in the last year, from 2010 to 2011.

**Table 2: Structure and trend of employment by occupation  
(in 000's)**

	2008	2009	2010	2011	Structure in 2011	In-creased demand
Legislators, senior officials and managers (OC1)	39.8	44.3	42.1	37.6	5.9	-2.2
Professionals (OC2)	54.5	63.3	68.3	83.2	13.0	28.7
Technicians and associate professionals (OC3)	61.2	62.0	60.0	66	10.3	4.8
Clerks (OC4)	41.5	43.9	47.8	43.2	6.7	1.7
Service workers and shop and market sales workers (OC5)	85.6	94.6	91.3	96.4	15.0	10.8
Skilled agricultural, forestry and fishery workers (OC6)	7.3	3.1	2.8	5.2	0.8	-2.1
Crafts and related trades workers (OC7)	73.6	75.0	80.1	75	11.7	1.4
Plant and machine operators and assemblers (OC8)	84.6	81.1	75.7	78.3	12.2	-6.3
Elementary occupations (OC9)	153.4	157.1	164	153.6	23.9	0.2
<b>Armed forces (OC0)</b>	7.6	5.5	5.8	2.9	0.5	-4.7
<b>Total</b>	609.0	629.9	637.9	641.4	100.0	32.4

Source: Author's calculations, data from Eurostat database, accessed 25 April, 2012.

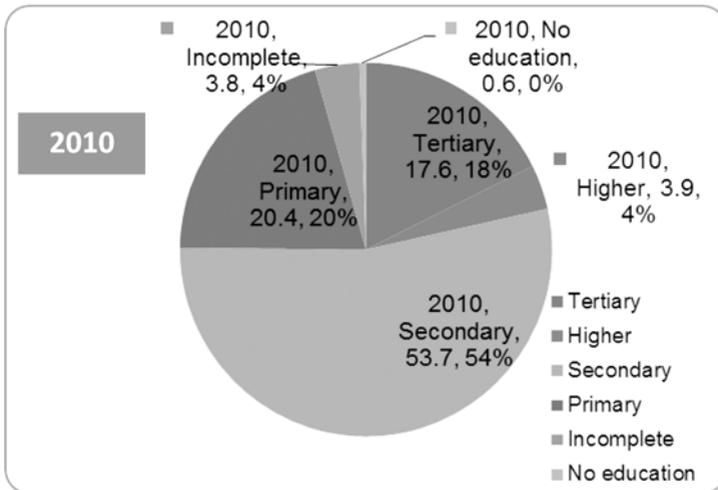
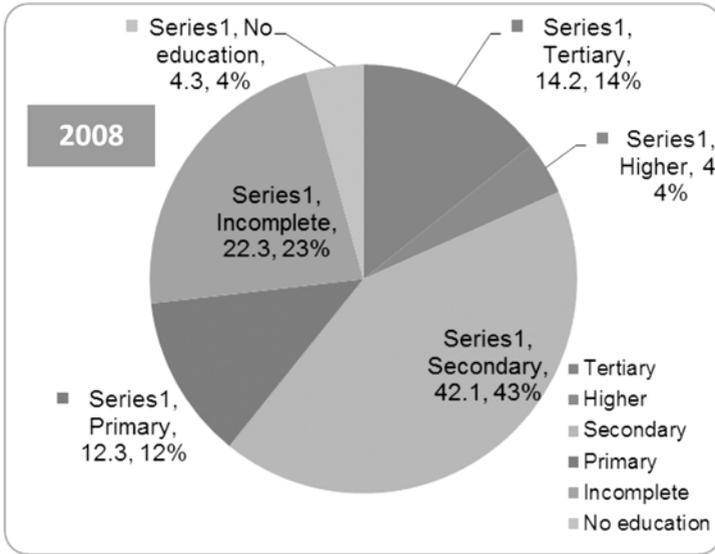
Regarding the educational structure of employment, workers with secondary education are most represented among employed workers (54% in 2010). However, the structure of employment by education level is changing fast (Figure 6). For instance, whereas

22% of employees had incomplete primary education in 2008, by 2010 this had declined to 4%. At the same time, the share of employed workers with primary education increased from 12% to 20%. The share of tertiary educated workers among employed increased by about one quarter from 14% to almost 18%.

The data presented in Figure 6 show large changes in the educational structure of employment have taken place in a short period of time. This might be considered to be a positive trend if the number of jobs with high skill requirements were increasing, and hence required more highly skilled and educated workers. Otherwise, increasing the educational attainment of the labour force might make little contribution to overall productivity growth.

The improvement of the educational attainment of employed workers, coupled with lower pace of change in the occupational structure, suggests a potential increase of the phenomenon of 'over-education'. This is defined as a situation in which workers' education exceeds the job requirements of their present job and hence their skills are not fully used. To the extent that the society subsidises the education of those individuals, over-education imposes a cost on the economy and individuals (McGuinness, 2006; Burdia and Moro-Egido, 2009).

**Figure 6: The structure of employment by education, 2008 & 2010\***



In the case of over-education, the economic and social benefits of expanding the higher education system are less than expected. Moreover, public expenditure may be wasted on investments in education that do not increase productivity. From the standpoint of the individual, overeducated workers are likely to earn less compared to their peers with same educational level since their productivity is lower.

**Table 3: Measuring the size and trend of the over-education phenomenon**

2006			
Occupation / Education	Primary or less (ISCED, 0 to 2)	Secondary (ISCED, 3 and 4)	Tertiary (ISCED, 5 and 6)
High (ISCO, 1 to 3)	0.4	11.2	15.5
Medium (ISCO, 4 to 8)	12.3	32.5	2.9
Low (ISCO 9)	16.5	7.9	0.4
2011			
Occupation / Education	Primary or less (ISCED, levels 0 to 2)	Secondary (ISCED, 3 and 4)	Tertiary (ISCED, 5 and 6)
High (ISCO, 1 to 3)	0.5	9.7	16.7
Medium (ISCO, 4 to 8)	8.6	34.0	4.2
Low (ISCO 9)	15.7	9.7	0.6

Source: Author's calculations based on data from Labour Force Survey, Eurostat.

Table 3 shows the size of the over-education phenomenon in Macedonia as the share of employed workers with completed tertiary education (ISCED levels 5 and 6)<sup>29</sup>, who work on lower occupational categories 4 to 9 of the ISCO classification (grey

<sup>29</sup> ISCED is the International standard classification of education.

cells). For instance, in 2006, 2.9% of employed workers with tertiary education had jobs with a skill requirement below their education level. A few (0.4%) were working at the lowest occupational category, in elementary or manual jobs. Combining the two, the extent of overeducation can be estimated at 3.3% in 2006. The data for 2011 show that the extent of overeducation had risen to 4.8%, an increase of 45%. Moreover, an increasing share of workers with secondary education is employed in low skill occupations, which require primary education or less. The Table also shows the extent of the 'undereducation' phenomenon, which is decreasing over time. This analysis suggests that there is an increasing problem of overeducation, implying that the increased educational attainment of the workforce does not bring about all the expected economic and social benefits, as some tertiary educated graduates work in lower-skill jobs in which their productivity is lower than their potential, reducing the real effective return to tertiary education.

## **What lessons can be learned?**

In this chapter we have presented a comparative analysis of the economic outputs of the education system in Macedonia. We find that despite some recent improvements in the educational attainment of the population there is a significant and serious educational gap. The international assessments of pupils' achievements show that Macedonian pupils have poor basic skills of literacy, reading, math and science. As in most transition countries, a relatively high proportion of pupils completes primary education without achieving the minimum standards in literacy and numeracy. The analysis has shown that firms demand mainly

workers with completed secondary education and lower occupational levels, with a recent trend towards a greater demand for professionals. The increased educational attainment of the population has led to an increasing problem of over-education. This results in lower than expected economic and social benefits for the more educated population. Putting together our findings, we challenge the effectiveness of the educational policy in Macedonia in promoting the human capital, on several grounds.

First, in section 2 we argued that increasing the quantity of education (i.e. the educational attainment of population) would bring about increased human capital only if it is of high quality and matches the skill demands of the economy. However, we have shown that hand in hand with the increasing education in Macedonia there is still a considerable share of underperformers and early school-leavers with low human capital. Hence, more attention has to be paid to the quality of the education, as well as to understanding better and measuring the learning process and educational outputs.

Second, while the “production” of tertiary educated individuals is increasing (the number of graduates tripled between 2000 and 2011), about 90% of labour demand is for workers with secondary and primary education. The rising relative supply of tertiary educated workers has already been shown to lead to declining returns to higher education in terms of employment probability (section 3), as well as to the phenomenon of rising over-education (section 5). The latter entails that the increased educational attainment of workers (and the overall population) does not bring the expected economic and social benefits, as some educated

workers perform low-skill jobs in which their productivity is lower than their potential. The cost of such over-education is borne both by the society (in terms of high costs and low productivity and growth returns) and the individuals (lower wages compared to peers with same educational level).

Related to this, our third finding is that the efficiency of the educational policy might be improved by re-directing educational expenditures from tertiary to pre-primary and primary education. In section 3, we showed that the labour market in Macedonia provides sufficient incentives for private investment in post-compulsory education. These private incentives, coupled with the large expenditures and subsidies to tertiary education have contributed to the phenomenon of increasing over-education. On the other hand, the country faces a relatively large share of early school-leavers who do not succeed to post-compulsory education (13.5% in 2011), as well as a large share of pupils who leave primary education with low literacy and numeracy skills. Hence, we argue that there is a case for rebalancing spending towards the early years of education so as to improve the access and quality of childcare facilities and primary education. Moreover, such a policy might be more effective in improving access to post-compulsory education rather than high subsidies and expenditures. Fourth, education would lift economic growth only if the supplied skills in the labour market provide a good match to those that are demanded. In Macedonia there is no systematic monitoring or assessment of labour demand and forecasting of future skills needs of employers, so that the educational policy “operates in the dark”. One way to improve the link between education and labour market is to engage employers more in the design of curricula. This could be achieved through focus group

discussions or surveys with the trend-setting employers in different sectors of the economy, organized, for instance, by the Ministry of Economy, or “sector skill committees” that might be established. The findings might be used for the design of improved curricula and subject matter, both in formal education and in non-formal education and life-long learning programmes.



## CHAPTER 8.

---

### **Skills Matching in the Croatian SME Sector and Competence Based Education and Training: Progress and Prospects**

Nevenka Čučković and Will Bartlett

---

#### **Introduction**

Over the last twenty years, the SME sector has played an increasingly important role in industrial restructuring and generating new employment in Croatia. It has had capacity to absorb and offer new employment opportunities not only to the newcomers to the labour market but also to many laid off workers by the large enterprises which have gone through continuous downsizing of employment levels in this period (Čučković and Bartlett, 2007; Šošić, 2008)). Consequently, the relevance of the SME sector for the economic growth and job generation in Croatia has continuously increased. Even in the peak of recession in 2010 when its performance eroded, the sector represented over 99% of the total number of active enterprises, it employs around 67% of totally employed; accounts to over 51% of gross income; 45% of total exports and generates around 52% of total net profits (FINA, 2011).

However, the competitive performance and job generation potential of the sector would be very much at test when Croatia becomes a full EU member in July 2013. In this context the SME sector faces dynamic changes in demand for highly skilled labour in order to better cope with competition coming from the EU. In

the last three to four years there have been several policy attempts to better identify the needed skills for the future jobs in SME sector and corresponding training and education needs in Croatia. This seems of utmost importance given the fact that SME sector employs around two third of total number of employed in Croatia and future competitiveness of Croatian economy in the EU will very much depend upon whether education and training systems efficiently equip the new labour with right skills. According to the recent Chamber of Economy surveys of training needs assessment (TNA) of SME sector, at present quite considerable misalignment exists between the profile of skills accumulated through the education system and the employers needs in Croatia (CCE, 2011).

This chapter brings the analysis of the current progress towards anticipation and better matching of the education and training systems to future job skills in SME sector in Croatia and identifies policy-oriented solutions to the remaining problems. The analysis starts with selected indicators of the education, training and lifelong learning with focus on SME sector and follows by the emerging needs of the SMEs in order to portray the gap between the needs of the sector and available skills. The following chapter analyses the policy responses to identified problems and already adopted strategic and implementing measures. The concluding chapter identifies additional policy solutions that would enhance alignment of skills needs with the learning outcomes and competences attained through formal and informal learning and training programs in Croatia.

## **Selected indicators on education, training and lifelong learning outcomes and participation in Croatia**

Several studies<sup>30</sup> that focus on potentials for further growth and competitiveness of SME sector in Croatia as well as on its institutional alignments with best practice in the EU have documented that the present education system inadequately supports faster development of entrepreneurial culture in Croatia. To generate new jobs, the policy recommendations of these studies repeatedly underlined the need to better embed the entrepreneurial competences and behaviour throughout the education system in order to bridge the gap between skills and jobs at the labour market (Bartlett, 2007).

It took quite a while until the government has raised awareness on these issues and made adequate changes that would better answer entrepreneurial needs. One of the important motivating drives for policy changes was without doubt the negotiation process for the accession with the EU and the subsequent policy alignment with the soft *acquis* and best European practices in this area (OECD, 2010). The governmental efforts especially intensified in the last couple of years and there have been some important progress in terms of adopting policy solutions that would improve the anticipation of the future labour skills and responsiveness of education system to the entrepreneurial needs.

---

<sup>30</sup> See for instance: ETF: Labour Market in Western Balkans Challenges for the Future (2007); OECD: SME Policy Index (2009); OECD Investment reform Index (2010); World Bank: Croatia's EU Convergence Report,(2009); NCC: Croatia Annual Competitiveness Report (2010).

The Croatian policy makers have been increasingly aware that the problem of the competitiveness of the enterprise sector could not be solely solved by increasing the number of registered entrepreneurs and through lowering business entry barriers however important that is (Čučković and Bartlett, 2007). They have therefore attempted to ensure improved institutional support for education, lifelong learning and training; and for continuous invigoration of entrepreneurship culture through improvement of general business environment conducive to the vibrant growth of productive and competitive SME sector able to generate new jobs. Inspired by some key EU strategic documents, competence based education has been recognized as important factor for bridging the gap between demand created by jobs and skills attained through the education system (EC, 2008, ETF, 2007, EC, 2010). Several right policy steps into that direction have been made so far, and the paper will discuss it in more detail later on.

Before that, in order to get a general picture of the situation, some comparative and country-specific indicators on education structure of employees and participation rates in the activities of lifelong learning are provided as a selected evidence that could illustrate level and quality of learning outcomes, skills and competences in Croatia.

By international comparative benchmarks, Croatia does not score significantly lower when it comes to student's knowledge assessments. However, the last available report of the OECD Programme for International Student Assessment (PISA), with data for 2009 has indicated some worsening of the scores especially when it comes to knowledge in science or mathematics, while the access and retrieve of knowledge has remained on the

level of statistical OECD average. For comparison, the scores for 2006 have showed that Croatia singles out in science, close to OECD average, and has highest scores of all SEE countries (including the new EU member states Bulgaria and Romania), that were included in the survey for that year. However, when one compares the score to EU member states, it is evident that student knowledge and competences in Croatia need to further advance and improve in order to have a competent human capital able to cope with competition and change challenges at the single European market.

**Table 1: PISA mean scores 2006 and 2009**

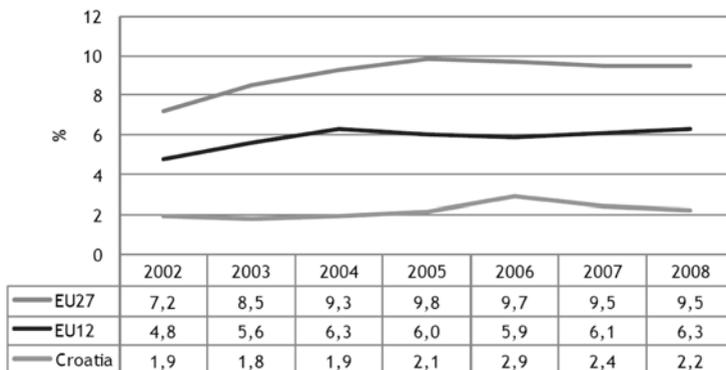
	Science		Maths		Reading	
	2006	2009	2006	2009	2006	2009
OECD average	500	501	498	496	492	493
Croatia	493	486	467	460	477	476
Serbia	436	443	435	442	401	442
Montenegro	412	401	399	403	392	408
Bulgaria	434	439	413	428	402	429
Romania	418	428	415	427	396	424

Source: OECD PISA Reports 2006 and 2009.

However, when it comes to participation of population in the working age (between 24-65 years old) in any kind of the lifelong learning, training and other educational activities and programmes, Croatia does not score very well (see Figure 1). Only 2.2% of adults in the working age participate in such programmes in Croatia as compared to 9.5% on average in the EU-27. For comparison, in Finland one third of population in this age group

upgrade its skills and competences in some sort of lifelong learning programmes. It documents that there is an enormous scope for improvement in this area, especially when it comes to entrepreneurship learning and plans to absorb some future EU financing from structural funds might help advancement in this area (GRC, 2011). According to Strategic Framework for European Cooperation in Education and Training (ET 2020), the participation of adults in the lifelong learning should increase to 15% by 2020 and for Croatia it is a really long way to go.

**Figure 1: Lifelong learning (percentage of population that participates in any form of life-long learning activities, in the age of 24-65)**

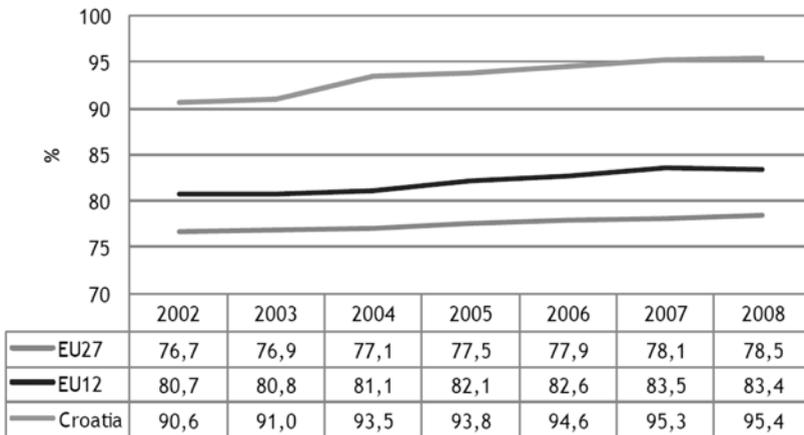


Source: EUROSTAT

Another area of concern is the education structure of young people that are about to or have already entered the labour market in the age group of 20-24 years old, which predominantly have only secondary level education in Croatia (Figure 2). Comparative figures for EU-27 and especially for EU-12 show

much lower representation of secondary school education and substantially higher representation of university education in this age group. Croatia will have to invest significantly into extending the portion of labour with tertiary education in the next years.

**Figure 2: Level of education in the age of 20-24 years old  
(% of people with secondary level of education)**



Source: EUROSTAT

Alignment with ET 2020 goals will require also for Croatia to reach the goal when it comes to the inclusion of adults between 30-34 years old to have any sort of tertiary education attainment, which should increase to 40% in total qualifications structure (ET 2020, p.7). This would be especially hard, if not impossible in the period of only 8 years, although there have been some progress due to implementation of the Bologna reform in Croatia (Babić et al, 2007; Matković, 2010). Nevertheless, in 2010 only 24.3 % of people in the age of 30-34 have university education in Croatia. Further alignment with ET 2020 requires also promotion of the acquisition of transversal competences by all citizens and ensuring

better functioning of the knowledge triangle (education-research-innovation). This would require stronger and compulsory partnerships between enterprises and educational institutions as well as broader learning communities with civil society and other stakeholders.

### **Entrepreneurial skills matching and emerging educational and training needs of SMEs**

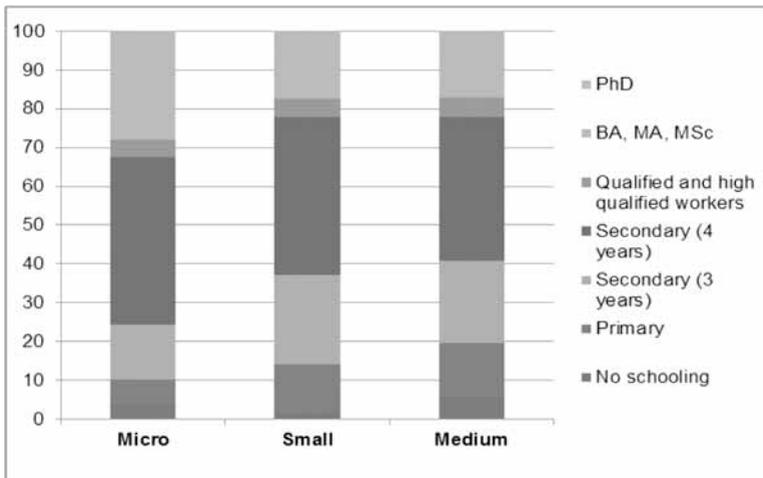
The data on the structure of education of the labour in SME sector in Croatia (Figure3) indicates a strong need for substantial skills upgrading which is critical to both short term recovery of the performance of the sector which significantly eroded due to effects of the economic recession in Croatia (FINA, 2011) as well as for the long-term competitiveness of the sector at the single EU market and especially for future jobs generation. Furthermore, employability of labour and its capacity to adapt to constant changes, as well as ability to translate knowledge into productive business operations, would substantially increase with better skilled labour (OECD, 2010). Another fact that is extensively documented also deserves mentioning: better educated entrepreneurs have higher survival probabilities; grow faster, have higher productivity and are more likely to innovate to upgrade their general position at the market (Koellinger, 2008; GEM 2011).

The recent, third TNA survey done by the researchers of the Institute of Public Finance, Zagreb for the Croatian Chamber of Economy (2011) identifies that that Croatian SMEs have been relying predominantly on a low and medium-skilled labour. Namely, about 60% of the employees in the surveyed SMEs have

only secondary school level of education. However, when compared to the survey data for 2010, there are some encouraging signs that this is beginning to change towards employment of more high-skilled graduates especially in service industries. Namely, the share of the employees with tertiary education (non-university degree, university degree and postgraduate degree) increased to 18% which is about 4 percentage points more than in the sample of surveyed SMEs in 2010 (CCE, 2011, p.17).

The situation in the crafts with regard education structure of the employed is even worse, where 77% have only secondary school, while only 7% have university education (CCE, 2011, p. 40).

**Figure 3: Educational structure of employees according to the size of SME (in %)**



Source: Croatian Chamber of Economy, 2011, p. 17.

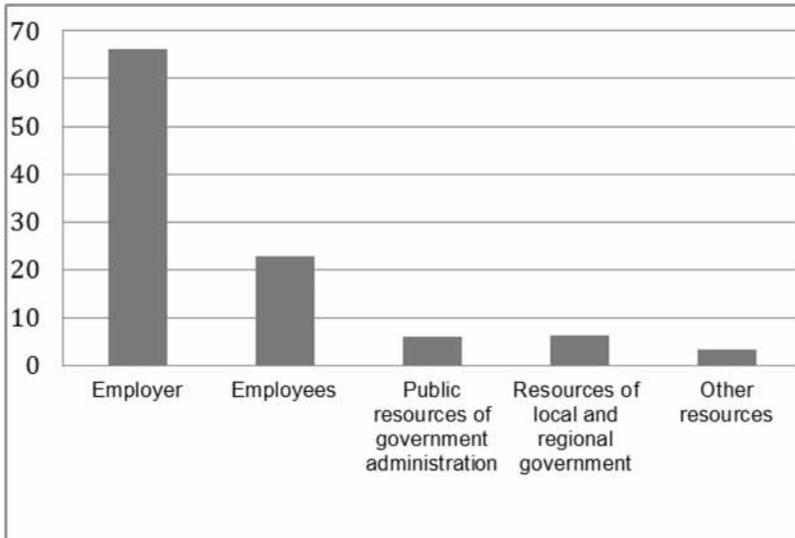
According to TNA survey 2011, the micro enterprises account for the largest share of the highly educated employees (28%), and most of them are working in the service sector (public and private) i.e. information and communication sector (58%), as well as in the education sector (47%), while very few work in industry. However, the source of concern should be that micro-enterprises in general have rather weak competitive potential when it comes to international markets as well as a weak potential for generating new jobs, as they tend to stay micro for quite some time in Croatia (apart from few “gazellas”). According to TEA (total entrepreneurial activity) rates, their expectations for growth and employment of additional workers in the next five year is rather low – in Croatia it is only around 6% of total entrepreneurs that expect creation of new jobs, as compared for instance to China or Peru where around 20% of entrepreneurs predict opening of new jobs (GEM, 2011, p. 19). The reason for that might be, that according to TEA rates, the most of active entrepreneurs in Croatia are more “necessity” driven (35.3 % of TEA) rather than “opportunity” driven or motivated (30.7 % of TEA) (GEM, 2011). Also only about 18% of them have an ability to recognize and perceive entrepreneurial opportunity, which is comparatively quite low and points towards a much more complex problem of “entrepreneurial deficit” that jeopardizes Croatia’s economic growth prospects (Bićanić et al, 2009; Šošić, 2012). In Croatia, there is a prevalence of micro and small enterprises, which account for 98.2% of total enterprise sector (FINA. 2011), employ around half of workers in SME sector and on average have around six employees per enterprise. Their capacity for employee training is rather weak (TNA, 2011), and retention of workers in recession limited (Matković, 2010).

Evidently, the large scope for improvement exists especially in the medium-sized enterprises, which have larger potentials for generating new employment of the higher educated labour. The TNA survey for 2011 has indicated that among all enterprises they employ the largest share of non-qualified workers (19%).

The TNA analysis (CCE, 2011) has accented some of the common problems in the attempt to change and upgrade the skills of presently employed. Namely, the most of the SMEs fail to use the existing state subsidies, incentives and tax reliefs for further skilling and training its labour. Only about 12% of SMEs and 9% of craftsmen use the state support in the form of tax reliefs mainly for the purchase of professional literature as well as fees for training, congresses, improvement and specialization, while only 18% of SMEs and 8% of crafts participate in co-financed educational programs, lower than in 2009. The struggle for survival in economic recession might be one of the explanations. The other is that SMEs which rely on lower-skilled labour can be expected to have little interest in taking up the opportunities for further training and education of their labour. According to survey, organization and management are most lacking skills by the owners and managers, while employees lack informatics literacy, foreign language skills and service skills oriented to customers. Therefore, the explanation for the low take-up and low effectiveness of training, education and knowledge-transfer policies lies just as much on the imbalances between the present “demand side” as it does on the “supply side”, or in the effective design of the policies and programmes. The feedback received from the SMEs suggests that there is a scope for improvement of the quality of training which should be better targeted to their specialised needs (CCE, 2011; OECD, 2010). Also they suggest that

quality of trainers significantly varies and some sort of quality assurance mechanisms for training should also be developed just like in formal education system.

**Figure 4: The participation in financing of the educational and training needs of employed in the SME sector (in %)**



Source: CCE, 2011, p. 22.

Evidently, most of the educational costs bare the SMEs as employers (67%), while employees also pay one fifth of these costs by themselves. SMEs in general use very little of available public resources for the further education of their employees, what is a waste of opportunities.

For the promotion of education of the SMEs in the period 2008-10, the Ministry for Economy Labour and Entrepreneurship (MELE) allocated in total 4,341 subsidies worth 42.7 million HRK.

Also, a growing trend of the number of assigned subsidies and the total amount of subsidies allocated to the education of entrepreneurs could be observed in 2007-2010, however most of surveyed SMEs are unaware of them pointing towards the need for better communication campaign. They also complain at complex grant application procedure.

The continuous research of small and medium-size enterprises skills and training assessment needs will be crucial to the education system for the adjustment and better responsiveness of educational programmes on all levels to the needs of the labour market. Also, such analyses are intended for comparative regional assessments and peer learning, especially for the needs of the Zagreb based South East European Centre for Entrepreneurial Learning (SEECEL) which was established in 2009 with a help of CCE, MELE and the SEE member states. Among main tasks of SEECEL is further development of the entrepreneurship key competences in the secondary and tertiary education levels; enterprise-driven training needs analysis and dissemination and promotion of good policy and good practice in the SEE region.<sup>31</sup>

## **What was accomplished so far to align demand and supply of entrepreneurial skills in Croatia?**

In the last couple of years the government has made some important policy steps towards creation of institutional platform

---

<sup>31</sup> European Commission supported SEECEL 2009-2011 Work Programme with €1.7 million within the framework of the Multi-beneficiary envelope of the IPA Programme that envisaged the strategic cooperation with other SEE pre-accession countries.

for screening, identification and better alignment of demand and supply side of skills matching for SMEs in the future. One of the important milestones was reached in June 2010 by adopting the long awaited *Strategy for entrepreneurial learning 2010. – 2014*. This document specifies measures and motivations for entrepreneurial learning; sets out the plan for implementation of the EL program in Croatian education system as well as defines expected results of entrepreneurship learning development in Croatia (GRC, 2010). The strategy aims at introducing entrepreneurship competences and way of entrepreneurial thinking in all forms, types and levels of formal and informal education and training. There has been some progress on that front so far which are useful for national but also the SEE learning frameworks. To name just few examples, for instance the SEECEL, with the help of the MELE, MSES, CCE and other stakeholders has developed two piloting module instruments (ISCEAD 2 and ISCEAD 5/6) for inclusion of entrepreneurial literacy as a key competence at lower secondary and non-business university levels in eight SEE states; developed a strategic piloting of regional TNA with focus on demand approach and formed Development and Advisory Network for Entrepreneurial Training (DANET) with representative business organisations of eight countries on board. In order to disseminate good examples in the region SEECEL developed also own knowledge sharing network for peer learning named Community of Practice (CoP). This helped to enhance national partnerships for entrepreneurial learning across the SEE. SEECEL also started several activities of entrepreneurship lifelong learning and cross regional cooperation outside SEE such as Danube Region and Eastern partnership countries.<sup>32</sup>

---

<sup>32</sup> IPA Interim Evaluation of SEECEL (mimeo).

As for the formal education, in 2010 the government also adopted *National Framework Curriculum for Preschool Education, General Compulsory and Secondary Education* (MSES, 2011). The main idea behind it is to finally integrate entrepreneurship competences among eight basic competences and skills to acquire in the education system throughout official education curriculum- from preschool to graduate education, what was a request from private sector for many years. Furthermore, it allocated funds for systemic and integrated entrepreneurship learning developments that are detailed in annual education budgetary commitments.

The other important policy framework has been created with regard the quality assurance assessment of educational system and work towards adoption of *National Qualification Framework*. The main aim of NQF is to link the learning outcomes of the education and lifelong learning systems, with international recognition and mobility of acquired competences with the needs of jobs, both domestically and internationally to improve the employability of workers. For that purpose the alignment and referencing to European Qualifications Framework has been crucial in order to correspond and ensure comparability, transferability and recognition of the qualifications in the EU.

Further on, the new *Vocational Education and Training Act* was adopted in February 2009 as well as the long term *Strategy for Development of the VET system in Croatia, 2008-2013*. The strategy was followed by the adoption of similar regional VET strategies at the level of counties. Their aim is to further build the qualifications based on competences acquired through education system that would better mirror labour market needs (OECD, 2010). With the assistance of ETF the Agency for VET and Adult

Education has developed relevant methodology based on the deployment of a strategic tool for “Sector Profiles”, which is intended to be an analytical basis for harmonization of labour market needs and VET provision. This would allow for better-informed and more relevant planning of the VET system provision by the key stakeholders.

Another important step in assurance of the standards of quality in education system is the establishment of the *National Agency for External Evaluation of Education* which certifies and monitors the quality of qualification processes and activities from pre-school to secondary school. For higher education and science there is also an independent agency, *Agency for science and higher education* which assesses the quality and provides licensing to the organizations in this sector<sup>33</sup>. *The Programme for Teachers Development and Training* is also further developed to upgrade their skills in order to increase pedagogical standards compatible to the EU (with the assistance of European Training Foundation). The ETF also assists the Ministry of Science and Higher Education to evaluate the last “Education Sector Development Plan 2005-2010” and draft the new one.

Matching skills to the needs of the SME sector nevertheless remains an important problem in Croatia and it has had an impact on eroding competitiveness and delayed post-recession recovery of the sector. The new SDP- led coalition government has in 2012 started several programs to boost the new investment cycle in the SME sector what would make the skill matching issue even more

---

<sup>33</sup> In accordance to the Act on the quality assurance in the science and higher education (Official Gazette, 45/09).

profound. Apart from that, as the youth unemployment is on the rise (also as a result of the widening gap of skills supplied by the formal education process), the government also announced introduction of one year volunteering work (internships) to increase the employability of higher educated labour, a measure targeted to reduce high level of youth unemployment in Croatia and ease their school-to-work transitions.<sup>34</sup> The main idea behind strengthening internships is to provide avenue to gain working experience, develop skills and social capital crucial when seeking employment<sup>35</sup>. The rise of unemployment of highly educated youth in Croatia (even with the PhD) points not only to skill deficits but also towards the problem of over-education in some areas<sup>36</sup> which could trigger migration and potential waste of human capital on the long run (Bejaković, 2011). On the other hand, in SME sector there is a constant quest for some professions that are lacking (mostly technical VET) and for that reason the Croatian Employment Bureau regularly produces recommendations for education enrolment policy and scholarship policy for municipalities and counties (CEB, 2010).

---

<sup>34</sup> According to EEO 2010 Report, Croatia has the highest rate of youth unemployment in Europe, together with Bulgaria, Slovenia and Poland. On youth unemployment and the issues of the first entry to labour market and school-to-work transitions in Croatia see Crnković-Pozaić (2009) . Matković (2010) and Bejaković (2011).

<sup>35</sup> As highlighted by Croatian Minister of Labour, Mirando Mrsić, when announcing such a measure in March 2012. The main advantage is that such an active labour market policy measure could be introduced at little costs, while considerably increasing employability of those who first time enter the labour market. Since announcement more than 1200 employers expressed their interest in accepting interns.

<sup>36</sup> Graduates especially in social sciences and humanities have problems in finding jobs, while science and mathematics graduates are still lacking and in high demand (CEB, 2010).

## **Concluding thoughts and policy implications: what remains to be done?**

The monitoring system for skills matching and training needs assessment for SMEs should be further developed and more finely tuned. One of the most pressing areas is creation of more systematic and reliable statistical data and indicators on the basis of which the analyses and assessments of education and training systems and skills needs would be made. Improved forecasts of the demand side for skills should be designed and in this respect stronger employer-education linkages and an active dialogue with stakeholders should be strengthened in order to ensure an adequate supply of skills (ETF, 2011, Matković, 2010). So far, this has been based mostly on occasional surveys with feedback from SMEs such as the training needs assessment carried out by the Chamber of Economy as well as regular reports by the CBE. However, more systematic data and more representative statistics should be developed, possibly within the Croatian Bureau for Employment<sup>37</sup> to include both demand and supply matching forecasts.

Although broader anticipation and forecasts that rely on present trends might be subject to error, it would at least provide an orientation if not a roadmap of the trajectories of the SME labour market, and therefore it is worth the effort. In this respect three types of specific drivers of skills change for Croatian SMEs should be taken into consideration: accelerated market and technological change; shortage of qualified labour and change of education

---

<sup>37</sup> With close cooperation of the Agencies for VET and adult education, Agencies for science and higher education, Ministry of Labour and Ministry of Entrepreneurship and Crafts.

standards due to regulation. Without such tools, the mismatch between the needs and skills attained through education might further deepen. While educational reform will bring fruits in the longer run, life-long learning and training programmes might fill the gap for the most immediate entrepreneurial needs.

Furthermore, the existing qualification assessment frameworks should be further enhanced, with greater participation from the enterprise sector especially SMEs as well as business associations, trade unions, teachers, the academic community and other stakeholders. Additionally, quality assurance of training and lifelong learning should also be strengthened (tailor-made for SMEs) as well as on-the job training and internships.

The future policy measures to reduce the mismatch of skills and the gap between the demand and supply of skills would include addressing the need for a further increase in the flexibility of SMEs to respond to labour market changes on one hand and also on the other hand, increased adaptability of job-seekers to upgrade their skills to meet the changing demand for labour. Furthermore, it would require increasing the level and structure of investment in R&D, with stronger participation of the private sector than presently<sup>38</sup>, enhancing “knowledge clusters” through improved linking of the academic community with the enterprise sector and

---

<sup>38</sup> In 2010, the private sector in Croatia invested only 0.3% of the GDP in R&D, while the state is also decreasing its share to only 0.4% (total investment in R&D decreased to 0.7% of GDP in 2010). The bulk of these investments are happening in the large enterprises rather than in the SMEs who have weak capacities to do so. For that reason, the SMEs should intensify links with academic research organisations and universities.

decreasing the obstacles in the regulatory framework thus making the adjustments in labour market more feasible. This might also encourage the process of knowledge and technology transfer and increase the capacity for technology absorption and innovation, which is another important avenue for upgrading labour skills and fostering competitiveness in the SME sector (Bartlett and Čučković, 2007).

In the long term, improved methods of labour market forecasting and skills anticipation can be a useful guide to policy makers making investments in building the capacity of public education systems. The quality of education provided at both secondary and university level needs to be improved as can be seen from the surveys among stakeholders, which demonstrate dissatisfaction with the public education system. This is not a just a question of money but of fundamental reform of the education system to remove outdated practices and to bring the education systems more in line with the labour market needs and best EU practice. Although there is much discussion of the Bologna reforms in the higher education systems, the system is not adopted to producing competitive and highly skilled labour that could integrate quickly into the work environment. Systems of rote learning should also be phased out and replaced by teaching methods that encourage independent thought and creativity. These are long-term issues. To address short term needs, policies to address skill gaps and skill mismatches should be based on a bottom-up approach that would stimulate the entry of new training providers. This should be done by providing employers and employees with training subsidies in the form of cash or vouchers that could be used to purchase appropriate training from private sector suppliers. The role of the state should be primarily in regulation and quality assurance.

Croatia has made some progress in that direction, however it would take time until the implementation of policy begins to bear fruit for the enterprise sector, especially SMEs. All education reforms take time to deliver. Continuous monitoring, identification, forecasting and quality assurance of competences and skills would enable faster adjustment to the emerging needs of the Croatian enterprise sector which face much stronger competition after accession to the EU than before. Furthermore, improving the methodology for gathering statistical and qualitative data, as well as constructing composite indicators would facilitate an improved policy debate and policy learning that would decrease the risk of mismatch of skills and qualifications in the Croatian SME sector.



## CHAPTER 9.

---

### **Reversing the Bosnian “Brain Drain”: Opportunities and Challenges**

Sasha Barnes and Nermin Oruc

---

#### **Introduction**

One of the characteristics of the transition period in Bosnia and Herzegovina (BiH) was the destructive three-year war, which caused the displacement of around one half of the pre-war population. More than 25% of the population emigrated abroad, while the rest was internally displaced. Division of the country along ethnic lines and a slow process of reconciliation have subsequently caused very low labour mobility within the country. Although completely reliable data are lacking, it may be supposed that these events contributed to making the skills gaps and mismatches more pronounced than in other countries in transition. This chapter explores the possibility of using the new skills existing within the diaspora community in the BiH labour market by attracting the return of highly skilled individuals.

The importance of highly skilled individuals for the economic growth of developing countries and the detrimental impact that emigration of the highly skilled and educated may have on a country's potential have become very topical after the introduction of endogenous growth theories, which emphasize the impact of human capital on the economic growth of a country. Indeed, it has been suggested that Bosnia and Herzegovina's

economic growth is seriously constrained due to the shortage of particular skills in the labour market (World Bank, 2009).<sup>39</sup>

Brain drain thus represents not only an overall decrease in the stock of human capital, but also a deficit in specific sectors vital to economic development. However, and perhaps perversely, emigration may also have positive effects on the country of origin. First, migrants send remittances back home<sup>40</sup>, which contribute to human capital formation through their positive impact on household income and potentially on household investment in education. Diaspora also produces a range of other positive effects on a country's economic development through facilitation of trade, foreign direct investment, tourism and other networks between their home and host countries. Also, return migration represents an important channel of transfer of financial and human capital and cultural and other assets from host to home country. The migration literature usually approaches the issue by analyzing the three channels which directly affect human capital formation in a home country, namely, (1) the impact of remittances on educational attainment in a home country; (2) the impact of migration prospects on investments in education; (3) the impact of the return of highly skilled individuals ("brain circulation") on the stock of human capital. These positive effects

---

<sup>39</sup> The study finds that skills are lacking in specific technical areas and professions but also in terms of soft skills including communication and leadership skills and knowledge of foreign languages and information technology.

<sup>40</sup> Inward remittances to Bosnia and Herzegovina in 2010 were more than 2.2 billion or double net FDI for the same period (World Bank, 2011).

on the stock of human capital in a home country are known collectively as “brain gain”.

Once departed, highly skilled emigrants may decide to return (brain circulation) and emigrants who have less formal education may also acquire useful skills while abroad and bring them back to the home country. Also, all migrants may bring back both financial and non-financial<sup>41</sup> instruments that can positively affect the educational attainment of their children. For the return of the highly skilled - brain circulation - it is important to understand not only the magnitude and sectors of brain drain but also the skills acquired during the period of stay in the host country. Moreover, the self-selection mechanism of return migration needs to be developed and understood.

Dustmann and Weiss (2007: 250) argue that return migration, which occurs despite persistent wage differences between host and home country, may be explained by three motives that induce migrants to return. First is the returnees’ preference for consumption in the home country. Second is higher purchasing power in the home country. Third, which is of particular interest for us in the context of this study, is the human capital accumulated in the host country through learning by doing, which should have a positive impact on the wages of returnees at home. Thus, return migration is not necessarily the end of the migration process, but part of a process of maximization of benefits of acquired human capital. In that sense, such an explanation of return migration predicts a positive impact of return migration on

---

<sup>41</sup> It is expected that returnees bring back “social remittances”, or increased awareness of the importance of education, which should result in increased educational investments.

human capital formation in the home country. Migrants are expected to acquire more human capital than others and, what is even more important, to acquire skills that match local needs more than others would do.

Given the current situation in Bosnia and Herzegovina, characterized by significant skills mismatches in the labour market and slow reform of the educational system, attracting skilled migrants to return should be considered as one possible solution. Depending on the particular labour market gaps, migrant interest, and other feasibility issues, return can be permanent, temporary or even virtual. Indeed, given the relative maturity of the Bosnian migration cycle, short-term return may in fact be a more realistic and effective tool for skills transfer (IASCI, 2009). This paper explores possible solutions, drawing on analysis of the results of a diaspora survey completed by IOM in 2011<sup>42</sup>. Following a background section describing migration trends in BiH, the main findings of the survey related to demographic characteristics of the respondents, their connection with the country of origin and their expressed intentions to return, are presented. These findings are expected to reveal the degree to which diaspora can be attracted to return to BiH. The analysis of the skills and education of individuals who have expressed an intention to return is then presented in order to reveal the potential of the diaspora for reducing skills mismatches in the BiH labour market. Finally, obstacles to return, both those actually experienced by migrants who have already returned as well as obstacles perceived by migrants interested in return, are analysed as an input to the final

---

<sup>42</sup> Results of detailed analysis of data collected through this survey are presented in Oruc et al. (2012)

section of this chapter, which provides policy recommendations for using the potential of migrants in solving skills mismatches in BiH by providing incentives for and removing obstacles to return.

## **Migration from Bosnia and Herzegovina**

Bosnia and Herzegovina has traditionally been prone to migration; however the most significant migration flows occurred in the last two decades. Migration in Bosnia and Herzegovina over this period can be divided into three periods with quite distinct migration trends. The first period, which coincides with the 1992-1995 war, was marked by mass population displacement of approximately half the population (some two million people). Of this number, 714,000 were displaced to Croatia, 495,000 to Serbia and Montenegro (the Federal Republic of Yugoslavia at that time), while 537,000 of refugees were outside of ex-Yugoslavia (Tabeau and Bijak, 2005). Internal migration in BiH in this period was characterized by “ethnic cleansing”, or forced resettlement of people of other ethnic groups in order to create ethnically homogeneous territories within BiH. The number of internally displaced is estimated to have been 810,000.

The second, post-war, period from 1996-2000, was characterized by mass return (repatriation) of refugees from abroad and significant return of internally displaced people (IDPs) to their homes. Around 40% of Bosnian refugees were repatriated (MHRR, 2006: 47). In total, it is estimated that by 2010 almost half a million people had returned from abroad and that altogether, including IDPs, more than one million people had returned to their pre-war homes (UNHCR, 2010). Besides return, almost one-fifth of

Bosnian refugees migrated from Western European countries to the United States, Canada and Australia (Koning, 2008).

The third period saw a process of voluntary emigration from Bosnia and Herzegovina. According to Kupiszewski et al. (2009), 15,000 to 20,000 Bosnians have emigrated to the EU every year since 2000, on average. Today, the largest number of emigrants from Bosnia lives in the United States, Germany, Croatia, Serbia, Austria and Slovenia. Internal migration, though limited, is characterized by rural-urban migration driven by economic motives. In 2010 almost 36,000 people were involved in inward or outward migration (BHAS, 2011).

Migrants from Bosnia predominantly belong to the most economically active part of the Bosnian population. The average age of migrants to EU member states is 41, while the average age of migrants to countries in the region is 37. About half of migrants are women while a little over one-tenth are young people between the ages 15-24. In general, emigration predominantly involves entire families. Concerning immigrants, just over one-tenth of have tertiary education.

There is a dearth of data regarding the skill composition of migrants from Bosnia and Herzegovina. Some evidence suggests that the emigration rate of tertiary educated individuals from Bosnia and Herzegovina to OECD countries is 28.6% and the emigration rate of physicians is 12.7% (IOM, 2007, p.15), which may be significant to Bosnia and its economic growth. A study by Uvalić (2005) even states that more than 80% of PhD graduates emigrated from BiH.

Two trends characterize Bosnian migration, both having a negative impact on labour market development. First, as we have seen, is the significant emigration of the workforce with high rates of brain drain. Second, is the low mobility of the workforce within the country, which hampers faster labour market adjustments, particularly in the situation of significant mismatch between skills produced by the education system in the country and labour market needs. Thus, additional skills shortages are created as a consequence of the post-war ethnic and administrative division of the country that leads to increased insecurity, ethnic discrimination of workers and difficulties in transferring social benefits between administrative territories.

## **Survey of the BiH diaspora**

As part of the Youth Employability and Retention Programme (YERP) the International Organisation for Migration (supported by the Kingdom of Spain) surveyed the opinions of young people in the diaspora about the possibility of return and integration into the BiH labour market. All people of BiH origin in the diaspora as well as returnees from the diaspora that are in BiH were invited to answer the survey. The survey was available online, in two versions – local language and English - for six weeks during December 2010 and January 2011. The target populations were Bosnians in the diaspora and returnees to BiH up to the age of 45. Snowball sampling was used to reach potential interviewees. The survey was composed of a series of multiple-choice questions and also provided space for interviewees to write in comments and opinions on some of the issues. The list of questions includes questions about individuals' demographic characteristics, their

educational and professional status and experience, as well as their return experiences and intentions. While more than one and a half thousand people answered the first question about their return intentions only 874 completed the full survey.

The data collected was used to analyse respondent characteristics, their return intentions, migration behaviour and experiences, as well as their potential for contribution to the country's development. The table below presents the answers to the first question in the survey about return intentions.

**Table 1: Percentage distribution of responses to the question about return migration intentions**

Interest in return	Number	Percentage
Returnees	113	12.9
Migrants interested to return temporarily	161	18.4
Migrants interested to return permanently	288	33.0
Migrants who once returned, but emigrated again	41	4.7
Migrants not interested to return at the moment	229	26.2
Migrants not interested to return ever	42	4.8
Total	874	100

Source: own calculation based on the IOM survey data

Fewer than 5% of interviewees stated they would never return to BiH, while one-third considered returning (33%) and one-quarter may decide to return in the future (26%). This suggests that appropriate incentives might attract a significant number of young people currently residing abroad to return to Bosnia and Herzegovina. However, owing to selection bias (those with an intention to return may have been more likely to complete the

survey) the actual number of those who will never return may be higher than estimated here. Additionally, analysis of responses to the question about the current place of residence, which is important from the point of view of the sample representativeness, shows that the largest number of interviewees come from the main destination countries of BiH emigrants, with the exception of countries in the region, which are underrepresented in the sample. This should also be taken into consideration in interpretation of results about return intentions.

The average age of respondents was 32 years, the time since they emigrated was 15 years (thus on average they emigrated in 1996), and their average age at the time of migration was 18. The sample was made up of 42% women and 58% men, and 36% of all respondents were married. The average household size was 2.86 members. The average net monthly income of the interviewees was EUR 782, while the average net monthly household income was EUR 2,556. Out of 387 individuals who answered the relevant questions, 58.4% replied that they had children.

Almost half (48%) the respondents had BiH citizenship only, while a significant proportion (43%) had both BiH and citizenship of the destination country. Moreover, 82% of individuals had a BiH identity card. The average number of visits in the last 5 years was 2.45 indicating that diaspora visit BiH once every two years on average. Even these limited data can serve as an indicator that BiH diaspora has and intends to maintain strong links with their home country.

The majority of interviewees had post-secondary education; only 1% had primary education, while 19% had secondary education. Thirty-seven percent of interviewees reported having a post-graduate degree (masters, doctoral, or post-doctoral studies). This is a much larger share of the highly educated as compared to the population of emigrants overall, which suggests an upward bias of the sample. This is an expected bias of Internet-based surveys, as only those who use the Internet will be included in the sample, making it biased towards more skilled and younger respondents.

Answers to the labour market related questions show that three-quarters of interviewees had some work experience. Many had between 1 and 5 years of work experience (43%), while almost three-quarters (72%) of those with work experience gained it outside of BiH. Out of all interviewees who had returned to BiH, 34.5% replied that they found a job upon return. Also, 81% of those that had returned said that they had at least some of the necessary information about the labour market available to them before returning, indicating the importance of labour market information for returnees to find a job. In addition, the percentage of returnees who had access to labour market information is higher than expressed for all types of migrants (61%), which suggests that there is a positive correlation between return and availability of labour market information.

## **The potential of the BiH diaspora**

This section presents the results of the analysis of responses to the survey by those migrants who intend to return, whether temporarily or permanently. These were chosen from the sample because they were considered to be potentially employable in BiH

as opposed to those with no intention to return. The section is divided into three parts. In the first part, basic demographic characteristics and migrant connections with the home country are presented. The second section describes migrant characteristics in terms of education and skills. The final section presents the labour market characteristics of this group of migrants.

### Demographic characteristics of migrants interested in return

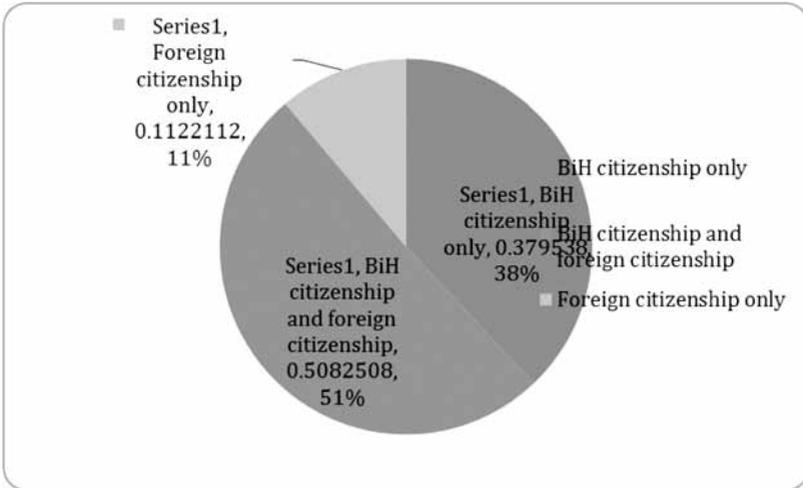
The average age of this type of migrant was 32 years; 35% were women, 37% were married, and 57.9% of them had children. Their average net monthly income was EUR 798, and their average net monthly household income was EUR 2,869. Regarding their intention to return, 36% stated that they would return temporarily, while 64% answered that they would return permanently. On average, they intended to return in 2.3 years.

Around 18% of these migrants would return to rural areas, while 77% of them would return to the Federation BiH (FBiH). The number of people who would return to rural areas and to Republika Srpska (RS) was smaller, which suggests that the survey sample was biased towards those who wish to live in FBiH and in urban areas. Two thirds of migrants would return with their families, while one third would return alone. A small number (7%) were born abroad.

Figure 1 shows the distribution of respondents by their citizenship. As we can see, 38% had BiH citizenship only, while 51% also had citizenship of the host country. About one tenth (11%) had foreign citizenship only. This is a higher proportion than

among actual returnees (1%), which suggests that taking citizenship of another country may reduce an individual's probability of return to BiH.

**Figure 1: Citizenship(s) of migrants**



Source: own calculation based on the IOM survey data.

Besides this, other links between the diaspora and BiH are relevant to the intention to return. Among potential returnees, 81% of individuals had a BiH identity card and visited BiH between two and three times in the last 5 years suggesting their intentions to return were real.

### Education and skills of migrants with intention to return

Most of those with the intention to return had post-secondary education, while only 1.5% had primary education, and 20.5% had just secondary education. Fewer of these individuals had a postgraduate degree (32.8%) than the average of all interviewees (37%). In order to collect more information about return potential of the Bosnian diaspora, individuals were asked about their field of study and field of work experience. The answers to these two questions are presented in Tables 2 and 3<sup>43</sup>.

Among both returnees and those with the intention to return, there were a significant number of people educated in management, IT, research, accounting, banking, financial services, and insurance and science and pharmaceuticals. People with these education and skills were most likely to return or to consider returning. Also, many people with education in social work had returned, while there was a large potential to return among those with education in marketing.

Regarding the work experience of people who returned or intended to return, the situation was very similar. The only difference was a larger number of respondents with experience in sales, administration and social work. Moreover, a significant number of potential returnees had work experience in construction.

---

<sup>43</sup> The answers are presented in percentage share of total number of respondents. These percentages do not necessarily sum up to 100, since some people have acquired their education and/or work experience in more than one field.

**Table 2: Answers to the question about field of study and work experience**

Field/sector	Returnees		Interested in return	
	Field of study	Work experience	Field of study	Work experience
Accounting & Finance	9.7	15.0	7.3	5.8
Advertising & Marketing	6.2	10.6	7.6	10.2
Agriculture, Fisheries, Forestry	1.8	3.5	1.3	0.9
Art and Design	4.4	6.2	5.1	5.6
Sales	0.9	15.9	3.1	9.8
Research	10.6	15.9	9.6	11.8
Banking, Financial Services, Insurance	11.5	15.9	8.0	7.3
Construction	3.5	0.9	4.9	8.7
Education & Childcare	6.2	2.7	5.3	5.8
Engineering	4.4	13.3	5.1	5.1
General Management	20.4	2.7	14.9	17.4
Healthcare	5.3	30.1	5.3	4.9
HR/Recruitment	6.2	3.5	6.0	7.1
IT	14.2	13.3	12.5	13.6
Legal	7.1	19.5	3.3	2.9
Manufacturing & Production	0.9	5.3	2.9	5.1
Armed Forces and Emergency Services	2.7	6.2	1.1	1.3
Property & Real Estate	0.9	0.0	1.1	2.7
Public Sector & Government	5.3	8.8	5.3	6.2
Publishing & Media	6.2	8.8	3.1	5.8
Retail	2.7	6.2	2.0	4.0
<b>Science &amp; Pharmaceutical</b>	<b>12.4</b>	<b>8.8</b>	<b>7.3</b>	<b>7.1</b>
<b>Secretarial &amp; Administrative</b>	<b>5.3</b>	<b>11.5</b>	<b>6.7</b>	<b>11.4</b>
<b>Security</b>	<b>2.7</b>	<b>23.9</b>	<b>2.4</b>	<b>3.6</b>
<b>Social work/Non-profit</b>	<b>9.7</b>	<b>2.7</b>	<b>4.9</b>	<b>8.7</b>
<b>Sports &amp; Leisure</b>	<b>1.8</b>	<b>15.9</b>	<b>1.1</b>	<b>2.0</b>
<b>Telecommunications</b>	<b>2.7</b>	<b>4.4</b>	<b>5.1</b>	<b>6.7</b>
<b>Tourism &amp; Hospitality</b>	<b>7.1</b>	<b>3.5</b>	<b>3.6</b>	<b>6.0</b>
<b>Transport and Logistics</b>	<b>1.8</b>	<b>9.7</b>	<b>3.1</b>	<b>3.3</b>
<b>Utilities &amp; Services</b>	<b>0.9</b>	<b>7.1</b>	<b>1.6</b>	<b>2.7</b>

Source: own calculation based on the IOM survey data

**Table 3: Experience with new business start-up and possibility for starting new businesses upon return, by type of migrants**

Response	Returnees	Interested in return
Yes - In BiH (prior to migration)	6.2	3.6
Yes - Outside BiH	8.8	11.8
Yes - In BiH (upon your return)	8.8	41.6
No - In BiH (prior to migration)	65.5	42.1
No - Outside BiH	62.8	13.4
No - In BiH (upon your return)	57.5	10.0
No, but I intend to set up a business - In BiH (prior to migration)	2.7	3.1
No, but I intend to set up a business - Outside BiH	1.8	2.9
No, but I intend to set up a business - In BiH (upon your return)	14.2	
I intended to set up a business, but I decided against it - In BiH (prior to migration)	4.4	
I intended to set up a business, but I decided against it - Outside BiH	1.8	
I intended to set up a business, but I decided against it - In BiH (upon your return)	14.2	

Table 3<sup>44</sup> presents data on start-up businesses by returnees and potential returnees. It shows that while the number who had actually started a business among returnees is rather low, a large number of potential returnees were interested in starting up a business on their return to BiH. This provides a valuable pointer to policy makers in designing policies to attract return migrants to BiH. In order to encourage such returns and investment, policies

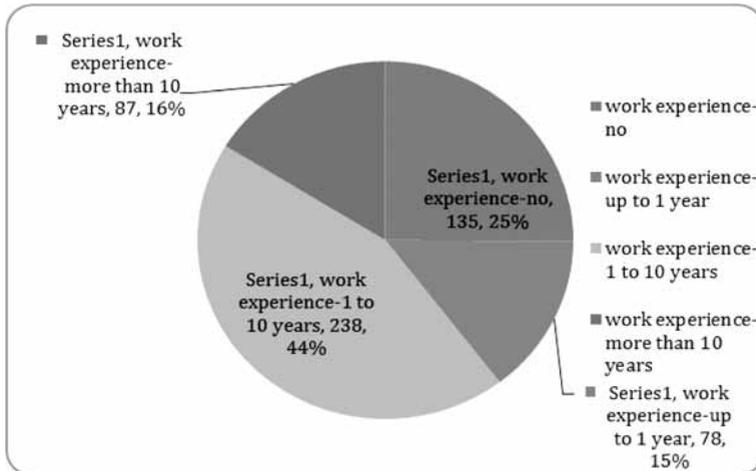
<sup>44</sup> The answers are presented in percentage share of total number of respondents. These percentages do not necessarily sum up to 100, since multiple responses were allowed, because it is possible that migrants choose to set up a business at different location and different periods in their migration process. Also, some of the options were not available in the questionnaire for migrants, therefore missing data in lower part of the column for migrants interested in return.

should be designed to create favourable conditions in which return migrants can establish a productive new enterprise, while removing the barriers to such business start-up.

### Labour market characteristics of migrants with intention to return

Three quarters of potential returnees had some work experience. Among them, many (44%) had between 1 and 10 years of work experience. Almost three-quarters of those with work experience gained it outside BiH. It is likely that many of those without work experience were students. Nevertheless they are interested in returning to BiH. Although they do not have any work experience yet, they would bring new knowledge and skills they acquired abroad, which would be beneficial for the labour market in BiH.

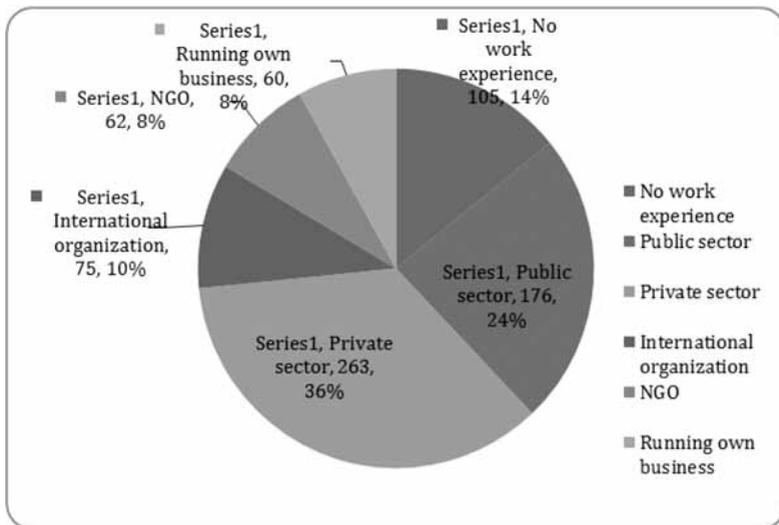
**Figure 2: Work experience of migrants**



Source: own calculation based on the IOM survey data

The work experience of migrants with return intentions by sector of experience is presented in Figure 3. It shows that almost one quarter gained work experience in the private sector while one third worked in the public sector. Fewer but significant numbers had worked in international organisations, in non-government organisations (charities and associations) and several, as shown below, had experience in running their own businesses. Thus potential returnees have a wide variety of work experience, all of which could be of potential value if transferred to BiH private business and public institutions should these migrants decide eventually to return.

**Figure 3: Sectors of work experience of migrants**



Source: own calculation based on the IOM survey data

## Obstacles to return

Besides the questions about potential of diaspora, the IOM survey also contains a series of questions about obstacles faced by returnees and the ones perceived by migrants interested in return. The answers to these questions are important to policy makers interested in designing policies of attracting return of skilled and educated Bosnians from abroad. The answers to the question about the main obstacles to return to BiH are presented in Table 4.

**Table 4: Main obstacles for return**

Response	Distribution (%)
Finding employment in my profession	13.6
Finding employment	9.6
Level of salary	16.6
My friends and family live outside BiH	2.5
Difference in the living standard between my current country of residence and BiH	15.9
Been outside BiH for too long	7.1
A lack of knowledge of the local languages (both written and spoken)	0.0
Unsatisfactory economic and business environment in the country	18.1
Lack of housing	1.8
Unsatisfactory political situation in the country	21.4
Other (please specify)	3.0

Source: own calculation based on the IOM survey data

The data show that the largest number to responses is related to the difficulty in finding jobs, particularly in the profession in which a person was educated, and the unsatisfactory economic and business environment in the country. This raises the importance of providing support to returnees by designing tailored active labour market programmes. Moreover, this suggests that there is a considerable potential for business start-ups by returnees, who are interested in investing their repatriated savings upon return. This is very important potential of returnees that could have great positive impact on the economic development of the country, particularly of less developed regions from which these people emigrated and are interested to return to. Decision makers should realize the importance of this potential and design policies to improve business environment for these investments.

Additional important information about obstacles to return of highly skilled is presented in Table 5. It shows that the proportion of returnees who successfully validated their diplomas gained abroad is rather low, while most returnees did not even try to validate their diplomas. Responses to the qualitative questions, which were also included in the survey, on the topic of diploma validation support these results and point to a process that is relatively slow, expensive and lacking in transparency.

**Table 5: Results in validation of diplomas from abroad**

Type of diploma	Succeeded	Failed	Did not try	Total
High school diploma	34.5	9.1	56.4	100.0
University diploma	38.4	13.7	47.9	100.0
Other diplomas	19.7	16.4	63.9	100.0
All	31.2	13.2	55.6	100.0

Source: own calculation based on the IOM survey data

Although the success rate is well above the failure rate, still too high rate of the ones who did not even try to validate their diploma from abroad is worrying, as it may suggest that individuals from abroad do not trust the system regarding the process of diploma validation and do not perceive this process as something they need.

## **Conclusions and policy recommendations**

The analysis of the quantitative data collected through the survey presented above reveals a number of interesting findings. While acknowledging the limitations of the survey, we can still draw several conclusions and recommendations that can serve as a starting point for further analysis, discussion and design of diaspora related policies in BiH.

Most of the Bosnian diaspora retain strong ties with the home country, either by retaining citizenship of BiH, by having its identity card, or by regularly visiting the country. Further, only a small percentage of interviewees decided that they would never return to BiH. Consequently, since more than half are considering return or might consider it, suggests that appropriate policies could encourage considerable scale of return of educated young people who are currently residing abroad.

It is important to note that most of the interviewees have a university level degree. This, combined with the professional experience and skills they could offer in the BiH labour market, shows the great potential of the diaspora to contribute to Bosnia's economic development. Moreover, the data also identifies the

sectors in which jobs could be offered to these individuals in order to encourage their return.

Most migrants have some work experience, mainly between 1 and 5 years. However, one fifth of them have no work experience at all. These are mainly young people who are still studying or who have only recently entered the labour market. Their lack of work experience is positively correlated with their intention to return since many emigrated to obtain an education and intend to return once they complete their studies. Some of those without work experience have difficulty in finding their first jobs in the host country. Both circumstances suggest that the provision of internship opportunities in BiH companies for young diaspora could be very beneficial in attracting educated youth from to return, integrating them into the labour market and employing the skills they acquired abroad. Of those who returned, only a third found a job upon their return. In addition, for those that re-emigrated the main reason was the lack of employment opportunities in BiH. This suggests that provision of job search, counselling and career advice services by employment agencies<sup>45</sup> with a particular focus on returnees could have a very positive impact on their decision to stay and would reduce the number of those who decide to emigrate again. Also, it should be stressed that provision of labour market information is important for returnees to find a job.

---

<sup>45</sup> The CISOs (Centres for Information, Counselling, and Training) established within the employment services in 16 municipalities throughout BiH as part of the Youth Employability and Retention Programme, have shown remarkable success in providing young people support in their career development efforts.

As mentioned in the introduction, some limited research has been done by different agencies with regard to skills shortages, however data is not collected by the public employment institutes nor through other established instruments such as the labour force survey that track skills gaps, more precisely on the basis of data on employees and job vacancies by occupation and activities. The Employment Institutes in both Entities are endeavouring to improve labour market information to more accurately reflect labour market demand, supply and gaps. This process could prove additionally useful if outreach to the diaspora were included and if labour market gaps were identified. Effective outreach to, and networking with, young members of the diaspora would provide a basis upon which skills gaps could potentially be filled with young talent returning from abroad. Furthermore, in view of the strong interest among the diaspora to establish their own business upon return to Bosnia and Herzegovina, it is critical that obstacles to business start-up in general be removed and positive incentives and support for such activities designed and implemented.

There are numerous examples from Bosnia and Herzegovina and from other countries around the world of successful return programmes for qualified nationals that focus on brain circulation and the return of human and social capital. Depending on capacity, priorities, and diaspora interest programmes could focus on temporary return (including circular models) or other forms of knowledge exchange (such as virtual return). However, in order for such efforts to bear fruit, incentives and support must be in place to take full advantage of the great potential in terms of human capital that the Bosnian and Herzegovinian diaspora offers.

# **Part IV: Conclusion**



## CHAPTER 10.

---

### **Conclusions: Improving Skill Policies in the Western Balkans**

Mihail Arandarenko and Will Bartlett

---

As the chapters in this book have shown, the countries of the Western Balkans face significant problems in devising policies for improved matching between the skills of the labour force and the needs of employers. Policy makers should be concerned to reduce the extent of skill mismatch on the labour market in order to reduce structural and frictional unemployment. In doing so, they may also improve the efficiency of the economic system, spend less on unemployment benefits and social assistance, increase the tax revenues available for improved public services, increase the job satisfaction of employees thus reducing absenteeism and labour turnover costs and generally increase the productivity of the labour force thus boosting competitiveness and economic growth.

While these are desirable objectives, how can they be achieved? It should be emphasised that much of the dynamics of mismatch is due to the autonomous functioning of labour markets and that policy can only have a limited impact. Nevertheless, some specific policy measures could help to lessen some forms of skill mismatch. The first step is surely to develop a greater understanding of the causes of the problem, a task to which this book hopes to make a contribution. The next step is to design

appropriate policies based on the best evidence that is available. The evidence set forth in this book suggests that appropriate policies to lessen skill mismatch and improve the performance of labour markets and education systems will need to be tailored carefully to the situation in each country. However some broad guidelines can be set out.

Firstly, improved policies are needed to address the mismatch in the middle level of education achievement by reforming high school and vocational schools and replacing outdated curricula. Reform of the secondary and vocational education systems is needed. In the Western Balkans, policies need to address the high level of mismatch in the middle level of education achievement. This means reforming high school and vocational schools so as to revamp outdated curricula and improve the efficiency of the school systems. Employers should also be encouraged to contribute to the retraining process by greater investment for in-house training programmes. Policy makers need to devise ways to provide employers with incentives for such investment.

Secondly, policies are needed to reduce skill gaps at the higher level of education. A growing demand for higher-level skills seems to be a universal consequence of skill-biased technological progress. Despite the difficulties facing the economies of the Western Balkans, technological progress is creating demand for higher-level skills in both manufacturing and service sectors, and skill gaps are emerging as a consequence. However, there is also evidence in some countries (Montenegro being perhaps a case in point – see chapter 2; and Macedonia as well – see chapter 6) of an over-emphasis on the expansion of higher education to the detriment of primary education and pre-school provision. This

leads to the socially inefficient phenomenon of ‘bumping down’ through which highly educated graduates fail to get jobs matched to their skills and instead languish in low productivity, low skill employment. Despite that risk, there is a continuing demand by young people for a university education given the limited capacity and effectiveness of public tertiary education. Even though enrolment in universities has increased, there appears to be scope for further growth at the tertiary level. Much of the increase in this sector is provided by a growing private sector that is unregulated and provides education of variable quality; expansion of tertiary education also needs to be better regulated to ensure that the quality of the education does not decline. In addition, public higher education systems should be reformed to deliver improved performance.

Specific groups in the labour market also need tailored solutions. In ageing societies it is essential to raise the employment levels of older workers. The obsolescence of skills among older workers who have been laid off from declining industrial sectors needs a more adequate policy response in the form of substantial public investment in retraining, lifelong learning and adult education. Improved incentives are needed for older less skilled workers to retrain and for firms to carry out more and better in-house training for workers of all skill levels. Incentives should be provided to employers to hire older unemployed workers using job subsidies. Substantial public investment retraining, lifelong learning and adult education are needed. These functions cannot be planned for above but should be encouraged through vouchers or training subsidies placed in the hands of users. Employers also need to play their part in the retraining the workforce through greater investment in work-based training programmes. Specific

measures are also needed to improve the labour market matching for women workers such as provision of publicly provided nursery and kindergarten education for young children. In addition, the migration of skilled labour is a significant issue in most countries of the region that should be tackled by adopting policies to provide more attractive skilled jobs in the domestic economy, and by encouraging employers to provide improved working conditions for skilled workers.

Finally, improved skill forecasts and anticipation systems are needed to better inform professionals in career and education guidance services as well as school leavers and university graduates about job opportunities on the labour markets. A combination of methods seems to be most appropriate here. Employer surveys to measure the demand for skills have been carried out in some countries of the region, but rarely on a regular basis with exception of the regular surveys conducted by the public employment services in Croatia and Macedonia. Elsewhere, international donors have funded *ad hoc* skill needs surveys. These surveys seem to have several defects. Firstly, they fail to cover large sections of the economy including small and medium sized firms and businesses operating in the informal sector. Secondly, the replies given by employers are often over-optimistic or exaggerated, so that findings relating to skills gaps ought to be treated with caution. Thirdly the current efforts at skills surveys are not terribly useful for international comparisons, and as yet no systematic studies in all or several countries of the region have been carried out which would enable such a comparison. This could be useful for generating new knowledge about skills mismatches and imbalances on a regional level to support a more effective regional labour market with skills gaps in one country

being filled by surplus workers with requisite skills from another. There is a clear need for greater regional cooperation in such an endeavour which would be likely to offer tangible advantages in terms of improved allocation of labour across the region, raising overall productivity and stimulating economic growth.



# References



Alakeson, V. (2005) *Too Much, Too Late: Life Chances and Spending on Education and Training*, London: The Social Market Foundation.

Allais, S. (2010) *The Implementation and Impact of National Qualifications Frameworks: Report of a Study in 16 Countries*, Geneva, International Labour Organization

Allen, J., and de Weert, E. (2007) "What do educational mismatches tell us about skill mismatches? A cross-country analysis", *European Journal of Education*, 42(1): 59–73

Angel-Urdinola, D.F. and Macias, V. (2008) "FYR Macedonia labour market profile 2004–2007", *World Bank Policy Note*, World Bank Washington D.C: The World Bank

ASOO (2011) Planiranje kvalifikacija: Priručnik za korištenje profila sektora verzije 3.1 u svrhu planiranja kvalifikacija u srednjem strukovnom obrazovanju, Zagreb: Agencija za strukovno obrazovanje i obrazovanje odraslih

Babić, Z., Matković, T. and Šošić, V. (2007) "Structural changes in tertiary education and impacts on the labour market", *Croatian Economic Survey*, 9(9): 125-65

Bartlett, W. and Čučković, N. (2007) "SME policy and emerging knowledge economy in Croatia: competitive pressures and employee skills", *Proceedings of the Seventh International Conference "Enterprise in Transition"*, Split-Bol, May 24-26, 2007

Bartlett, W. (2007) "Economic restructuring, job creation and the changing demand for skills in the Western Balkans", in Fetsi, A. (ed.), *Labour Markets in Western Balkans: Challenges for the Future*, Turin: European Training Foundation

Bartlett, W. (2008) *Europe's Troubled Region. Economic Development, Institutional Reform and Social Welfare in the Western Balkans*, London: Routledge

Bartlett, W. (2012) "Structural unemployment in the Western Balkans: challenges for skills anticipation and matching policies" *European Planning Studies*, DOI:10.1080/09654313.2012.722933

Bartlett, W. and Prica, I. (2011) "The variable impact of the global economic crisis in South East Europe", *Economics Annals*, LVI (191): 7-34

Bartlett, W. and Uvalić, M. (2009) "Innovation and skills in the Western Balkans: A comparative analysis of Croatian and Serbian policies", paper presented at the 10<sup>th</sup> EACES Conference "Patterns of Transition and New Approaches to Comparative Economics, Moscow, 28-30 August 2008

Becker, G. S. (1962) "Investment in human capital: A theoretical analysis", *Journal of Political Economy*, 70(5, Part 2): 9-49

Bedard (2001) "Human capital versus signalling models: university access and high school dropouts", *Journal of Political Economy*, 109(4): 749-75

Bejaković, P. (2011) "Skills mismatches and anticipation of the future labour market needs: Case of Croatia", paper presented at the conference "New Skills for New Jobs", 27-28 October, 2011, Regional Cooperation Council, Sarajevo

Bejaković, P. (2011) "Youth Employment Measures, 2010", *EEO Review*, Brussels: European Employment Observatory

BHAS (2011) "Internal Migration in Bosnia and Herzegovina for 2010", *First Release Report 3(1)*, February Sarajevo: BiH Agency of Statistics

Bićanić, I., Franičević, V. and Šošić, V. (2009) *Transformation Generated Entrepreneurship in Croatia: Is there a Deficit?*, Prague: CERGE

Bliesemann de Guevara, B. (2009) *Staatlichkeit in Zeiten des State-Building. Intervention und Herrschaft in Bosnien und Herzegowina*, Frankfurt a.M.: Peter Lang

Börzel, T. A. and Buzogány, A. (2010) "Governing EU Accession in Transition Countries: The Role of Non-State Actors" *Acta Politica*, 45: 158-82

Božanić, V. (2009) *Occupations and Skills Needs Survey: Key Findings*, Belgrade: MDG Fund and Government of Serbia

Branković, J. and Bogunović, Ž. (2012) *Mapping Regional Capacities for Evidence-Based Policy Making in Education in South Eastern Europe*, Belgrade: Centre for Education Policy

Burdia, S. and Moro-Egido, A. I. (2009) "The over-education phenomenon in Europe", *Revista Internacional de Sociologia*, 67(2): 329-45

CEDEFOP (2010) *Skills Supply and Demand in Europe: Medium-Term Forecast up to 2020*, Thessaloniki: European Centre for the Development of Vocational Training

Cedefop (2010) *The Development of National Qualifications Frameworks in Europe*, Thessaloniki: European Centre for the Development of Vocational Training

Chakroun, B. (2010) "National Qualification Frameworks: From Policy Borrowing to Policy Learning", *European Journal of Education*, 45: 199-216

Chevalier, A. (2004) "Parental education and child's education: a natural experiment", *IZA Discussion Paper*, No. 1153

Crnković-Pozaić, S. (2009) "Transitions from School to Work: Internships and First Entry to the Labour Market in Croatia", *mimeo*, Torino: European Training Foundation

Croatian Chamber of Economy (2011) *Analysis of the Educational Needs in Small and Medium Enterprises and Crafts with Particular Emphasis on Entrepreneurial Skills*, Zagreb

Croatian Employment Bureau (2010) *Recommendations for education enrolment policy and scholarship policy for municipalities and counties*, Zagreb

Cromer D. (2008) *HR Management in Serbia*, Liverpool: University of Liverpool

Crouch, C., Schröder, M. and Voelzkow, H. (2009) "Regional and Sectoral Varieties of Capitalism", *Economy and Society*, 38: 654-678

Čučković, N. and Bartlett, W. (2007) "Entrepreneurship and competitiveness: The Europeanisation of small and medium-sized enterprise policy in Croatia", *Journal for Southeast European and Black Sea Studies*, 7 (2): 37-56

Dae-Bong (2009) "Charting progress, building visions, improving life", *Presentation at the 3rd OECD World Forum on "Statistics, Knowledge and Policy"*, held on 27-30 October, Busan, South Korea

De la Fuente, A. and Jimeno, J. F. (2005) "The private and fiscal returns to schooling and the effect of public policies on private incentives to invest in education: a general framework and some results", *CESifo Working Paper, No. 1392*

DiMaggio, P. J. and Powell, W. W. (1983) "The Iron cage revisited: institutional isomorphism and collective rationality in organizational fields", *American Sociological Review*, 48: 147-60

Dolowitz, D. P. and Marsh, D. (2000) "Learning from abroad: the role of policy transfer in contemporary policy-making. *Governance*", 13: 5-23.

Dustmann, C. and Weiss, Y. (2007) "Return Migration: Theory and Empirical Evidence from the UK", *British Journal of Industrial Relations*, 45 (2): 236-56

EC (2002) "European Competitiveness Report 2002", *Commission Staff Working Paper*, Brussels: Commission of The European Communities

Ehrke, M. (ed.) (2011) *Export-led Growth: Magic Formula for th Western Balkans?*, Belgrade: Friedrich Ebert Stiftung

Elkins, Z. and Simmons, B. (2005) "On waves, clusters, and diffusion: a conceptual framework" *Annals of the American Academy of Political and Social Science*, 598: 33-51

ERI SEE (2011) *Activity Report on the Implementation of the ERI SEE Work Programme 2011*, Education Reform Initiative of South Eastern Europe

Ertl, H. (2006) "European Union Policies in Education and Training: The Lisbon Agenda as a Turning Point?", *Comparative Education*, 42: 5-27

ESA (2012) *Analysis of the needs of the skills 2010/2011*, Skopje: Employment Services Agency of the Republic of Macedonia

ESA (2012) *News Release*, Skopje: Employment Services Agency of the Republic of Macedonia, March

ESPI Institute (2009) "Forecast of Labour Market Trends: Pilot Study", *mimeo*, Belgrade, November

Estevez-abe, M., Iversen, T., and Soskice, D. (2001) "Social protection and the formation of skills: A reinterpretation of the welfare state" in: P. A. Hall and D. Soskice (eds.), *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*, Oxford: Oxford University Press, pp. 145–83

ETF (2007a) *Career Guidance in the Mediterranean Region. Comparative Analyses*. Luxembourg, Turin: European Training Foundation

ETF (2007b) *Financing Vocational Education and Training: Priorities and Mechanisms in South Eastern Europe: Peer Learning 2006*. Turin: European Training Foundation

ETF (2008) *Labour Markets in the Western Balkans: Challenges for the Future*, Turin: European Training Foundation.

ETF (2008) *Transition from Education to Work in EU Neighbouring Countries: Results of an ETF Innovation and Learning Project*, Turin: European Training Foundation

ETF (2010) *Education and Business Study: Croatia*, Torino: European Training Foundation

ETF (2011) “Sustainable Development and Education and Training”, *Position paper*, Torino: European Training Foundation

EUNES Project (2011) *Labour market analysis and forecasting labour market needs in the Republic of Serbia*, Belgrade: EUNES

European Commission (1999) *Report on the Implementation, Results and Overall Assessment of the European Year of Lifelong Learning*, Brussels: European Commission

European Commission (2000) *A Memorandum on Lifelong Learning*, Brussels: European Commission

European Commission (2001) *Communication on Making a European Area of Lifelong Learning a Reality*, Brussels: European Commission

European Commission (2008), *New Skills for New Jobs: Anticipating and matching labour market and skills needs*, COM(2008) 868 final, Brussels: European Commission

European Commission (2010) *Europe 2020: A European strategy for smart, sustainable and inclusive growth*, COM (2010) 2020, Brussels: European Commission

European Commission (2011) *The Former Yugoslav Republic of Macedonia 2010, Progress Report*, Brussels: European Commission

European Commission (2011), *Croatia 2011 Progress Report*, SEC(2011) 1200, Brussels: European Commission

European Council (2009), *Strategic framework for European Cooperation in Education and Training (ET 2020)*, Council Conclusions of 12 May 2009, Official Journal C 119 of 28.5.2009

European Parliament (2007) *Qualifications Framework for Lifelong Learning*, Strasbourg: European Parliament

Featherstone, K. (2008) “‘Varieties of capitalism’ and the Greek Case: Explaining the constraints on domestic reform?”, *Hellenic Observatory Papers on Greece and Southeast Europe*, London School of Economics and Political Science

Field, J. (2003) “Researching Lifelong Learning: Trends and Prospects in the English-Speaking World”, *Stirling Institute of Education Working Paper*

FINA (2011) *Financijski rezultati poduzetnika Republike Hrvatske [Financial results of entrepreneurs in the Republic of Croatia]*(in Croatian), Zagreb: FINA

FREN (2010) *The Serbian Post-crisis Economic Growth and Development Model 2011-2020*, Belgrade: Foundation for the Advancement of Economics

Garcia-Espejo, I., and Ibanez, M. (2006) “Educational-skill matches and labour achievements among graduates in Spain”, *European Sociological Review*, 22(2): 141–56

Gatelli, D. and Johansen, J. (2012) “Measuring mismatch in ETF partner countries”, *mimeo*, Turin: European Training Foundation

Gilardi, F. (2010) “Transnational diffusion: norms, ideas, and policies”, in: Carlsnaes, W., Risse, T. and Simmons, B. A. (eds.) *Handbook of International Relations.*, London: Sage, pp. 453-477

Gilardi, F., Füglistner, K. and Luyet, S. (2009) “Learning from others: the diffusion of hospital financing reforms in OECD countries”, *Comparative Political Studies*, 42: 549-73

Gilovich, T., Griffin, D. W. and Kahneman, D. (eds.) (2002) *Heuristics and Biases. The Psychology of Intuitive Judgment*, Cambridge: Cambridge University Press

Gligorov, V., Kaldor, M. and Tsoukalis, L. (1999) *Balkan Reconstruction and European Integration*

Global Entrepreneurship Monitor (2011) *GEM 2011 Global Report*, Boston: Babson College

GOC (2010) *Strategy for Entrepreneurial Learning 2010–2014*, Zagreb: Government of the Republic of Croatia

GOC (2011) *Nacionalni strateški referentni okvir 2012-2013*, Zagreb: Government of the Republic of Croatia

Grootings, P. (2007) “National Qualification Frameworks: A Strategic Approach for Developing Comprehensive VET Reform Policies”, *ETF Working Paper*, Turin: European Training Foundation

Haas, P. M. (1992) “Introduction: Epistemic Communities and International Policy Coordination”, *International Organization*, 46: 1-35

Habermalz, S. (2012) “The Speed of Employer Learning and Job Market Signalling Revisited”, *Applied Economics Letters*, 18(7): 607-10

Halaby, C. N. (1994) “Overeducation and skill mismatch”, *Sociology of Education*, 67(1): 47–59.

Hartog, J. (2000) “Over-education and earnings: where are we, where should we go?”, *Economics of Education Review*, 19(2): 131–47.

Heckman, J. (2000) “Policies to foster human capital”, *Research in Economics*, 54: 3-56

Henderson, D. J., Polachek, S. and Wang, L. (2011) “Heterogeneity in schooling rates of return”, *Economics of Education Review*, 30(6): 1202-14

ILO (2002) *Learning and Training for Work in the Knowledge Society*, Geneva: International Labour Organization.

IOM (2007) *BiH Migration Profile*, Geneva: International Organization for Migration

IOM (2009) *Maximising the Development Impact of Migration-related Financial Flows*, Geneva: International Organization for Migration

Jakobi, A. P. and Rusconi, A. (2009) "lifelong learning in the Bologna process: european developments in higher education", *Compare*, 39: 51-65

Kara, O. (2009) "The economic return to investment in human capital and economic development", *International Journal of Business and Economics*, 9(1): 27-38

Kleibrink, A. (2011) "The EU as a norm entrepreneur: the case of lifelong learning", *European Journal of Education*, 46: 70-84

Koellinger, P (2008), "Why are some entrepreneurs more innovative than others?", *Small Business Economics*, 31(1): 21-37

Kogan, I. (2011) "Delayed transition: education and labour market entry in Serbia", in: I. Kogan, C. Noelke and M. Gebel (eds.), *Making the Transition: Education and Labour Market Entry in Central and Eastern Europe*, Palo Alto, CA: Stanford University Press

Koning, M. (2008) *Return Migration to Bosnia and Herzegovina: Monitoring the Embeddedness of Returnees*, The Netherlands: AMIDst University of Amsterdam

Krizsán, A. and Zentai, V. (2005) "From civil society development to policy research", in: S. Maxwell, and D. Stone (eds.) *Global Knowledge Networks and International Development*, London: Routledge

Krstić, G. and Corbanese V. (2009) *In Search of More and Better Jobs for Young People in Serbia*, Budapest: International labour Organisation

Kupiszewski, M., (ed.) (2009) *Labour Migration Patterns, Policies and Migration Propensity in the Western Balkans*, Budapest: The Central European Forum for Migration and Population Research, IOM

Luongo, P., Peragine, V. and Serlenga, L. (2010) "The private returns to tertiary education in Italy and in Europe", *Giornale degli Economisti*, 69(3): 7-28

Machin, S. and Vignoles, A. (2005) *What's the Good of Education?*, Princeton: Princeton University Press

March, J. and Simon, H. A. (1993) *Organizations*, Cambridge, MA: Blackwell

Marsden, D. (1999) *A Theory of Employment Systems: Micro-foundations of Societal Diversity*, New York: Oxford University Press

Matković, T. (2009) "Diversion or insertion: horizontal occupational mismatches and early career outcomes in Croatia", paper presented at the *European Research Network on Transition in Youth – 2009 workshop*, Dijon.

Matković, T. (2010) "Recent developments in the education system and school-to-work transitions in Croatia", *MZES Working Paper No. 138*, Mannheim: University of Mannheim

Matković, T. (2011) "Screens and credentials: education and labor market entry in Croatia in the early 2000s, in; I. Kogan, C. Noelke, and M. Gebel (Eds.), *Making the Transition: Education and Labor Market Entry in Central and Eastern Europe* Stanford: Stanford University Press, pp. 110-40.

McBride, V. and Keevy, J. (2010) "Is the National Qualifications Framework a broken promise? A Dialogue", *Journal of Educational Change*, 11: 193-203.

McGuinness, S. (2006) "Overeducation in the labour market", *Journal of Economic Surveys*, 20(3): 387-418.

McMahon, W. W. (2006) "Education finance policy: financing the nonmarket and social benefits", *Journal of Educational Finance*, 32(2): 264-84.

Mendolicchio, C. (2005) "Gender and private returns to education: a cross-European analysis", *Département des Sciences Économiques de l'Université Catholique de Louvain Discussion Paper*, 2005-56.

Meyer, J. W. and Rowan, B. (1977) "Institutionalized organizations: formal structure as myth and ceremony", *American Journal of Sociology*, 83: 340-63.

MHRR (2006) *Comparative Analysis on Access to Rights of Refugees and Displaced Persons*, Sarajevo: BiH Ministry of Human Rights and Refugees

Mihes, C. (2011) *Challenges and Solutions for Economic and Social Councils in the Western Balkans and Moldova at a Time of Crisis*, Budapest: International Labour Organization.

Ministry of Science, Education and Sports (2011) *National Framework Curriculum for Preschool Education, General Compulsory and Secondary Education*, Zagreb: MSES.

Mojsoska-Blazevski N. (2009) *Labour market in the FYR Macedonia*, Brussels: European Commission

Mojsoska-Blazevski, N. (2011) "Investigating private and social returns to education in Macedonia with reference to policy implications", *Journal of Political Thought*, No. 33

Mojsoska, N. (2006) *The Public Employment, Education and Labour Markets in Macedonia*, Skopje: Nam Press.

Müller, W. (2005) "Education and youth integration into European labour markets", *International Journal of Comparative Sociology*, 46(5-6): 461-85

Nordin, M., Persson, I., and Rooth, D. (2009) "Education-occupation mismatch: Is there an income penalty?" *IZA Discussion paper No. 3806*, Bonn: Institute for the Study of Labor

Noutcheva, G. (2009) : "Fake, partial and imposed compliance: the limits of the eu's normative power in the Western Balkans", *Journal of European Public Policy*, 16: 1065-84.

OECD (2007) *Qualifications Systems: Bridges to Lifelong Learning*, Paris: Organisation for Economic Co-operation and Development.

OECD (2009a) *SME Policy Index 2009: Progress in the Implementation of the European Charter for Small Enterprises in the Western Balkans*, Paris: OECD.

OECD (2009b) *Programme for International Student Assessment (PISA) Report 2009*, Paris: OECD.

OECD (2010) *Investment Reform Index 2009: Monitoring Policies and Institutions for Direct Investments in South-East Europe*, Paris: OECD.

Official Gazette of the Republic of Serbia no. 51/2010, "Uredba o utvrđivanju jedinstvene liste razvijenosti regiona i jedinica lokalne samouprave za 2010. godinu", Belgrade

Ognjanov, G. and Corbanese V. (2011) *Occupational Skills Survey 2011: Key Findings from South Serbia*, Belgrade

Olaniyan, D. A. and Okamakinde, T. (2008) "Human capital theory: implications for educational development", *European Journal of Scientific Research*, 24(2): 157-62.

Oruc, N., Alic, A. and Barnes S. (2012) *To BiH or not to BiH: A Report on the Return of Young Diaspora to the BiH Labour Market*, MDG Achievement Fund, Youth Employability and Retention Programme

Petrolongo, B. and C. Pissarides (2001), "Looking into the black box: a survey of the matching function", *Journal of Economic Literature*, 39: 390-431

Radaelli, C. M. (2000) "Policy transfer in the European Union: institutional isomorphism as a source of legitimacy", *Governance*, 13: 25-43.

RCC (2009) *Towards SEE Innovative Knowledge Societies for the 21st Century Regional Cooperation Council*, Task Force for Fostering and Building Human Capital.

Rutkowski, J. (2010) *Demand for skills in FYR Macedonia*, Washington D.C: World Bank.

Schimmelfennig, F. and Sedelmeier, U. (2005) *The Europeanization of Central and Eastern Europe*, Ithaca: Cornell University Press.

Schneider, F. (2012) *Size and Development of the Shadow Economy of 31 European and 5 other OECD Countries from 2003 to 2012: Some New Facts*, mimeo

Schneider, F., Buehn, A. and Montenegro, C. E. (2010) *Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007*, Washington: The World Bank

Schnepf, S. (2004) "Gender equality in educational achievement: an East-West comparison", *IZA Discussion Paper, No. 1317*, Bonn: Institute for the Study of Labour

Shavit, Y., and Müller, W. (2000) "Vocational secondary education: where diversion and where safety net?", *European Societies*, 2(1): 29–50.

Simmons, B. A. and Elkins, Z. (2004) "The globalization of liberalization: policy diffusion in the international political economy", *American Political Science Review*, 98: 171-89.

Simmons, B. A., Dobbin, F. and Garrett, G. (2006) "Introduction: the international diffusion of liberalism", *International Organization*, 60, 781-810.

Simmons, B. A., Dobbin, F. and Garrett, G. (Eds.) (2008) *The Global Diffusion of Markets and Democracy*, Cambridge: Cambridge University Press.

Snoy, B. (2011) *Synopsis of Findings on the Need for New Growth Initiatives in the Western Balkans*, Brussels: IFI Coordination Office

Solga, H., and Konietzka, D. (1999) "Occupational matching and social stratification: Theoretical insights and empirical observations taken from a German-German comparison", *European Sociological Review*, 15(1): 25-47.

Sondergaard, L. and Murthi, M. (2012) *Skills, Not Just Diplomas. Managing Education for Results in Eastern Europe and Central Asia*, Washington D.C.: World Bank.

Šošić, V. (2008) "Contribution of gross jobs flows to the dynamics of corporate restructuring in Croatia", *Financial Theory and Practice*, 32(4): 503-22

Šošić, V. (2012), "Poduzetništvo u Hrvatskoj: Gdje su najslabije karike?" [Entrepreneurship in Croatia: where are the weakest links?] (in Croatian), paper presented at the *3rd Zagreb Economic Forum*, organized by the Friedrich Ebert Stiftung, Zagreb, 27 April

Spence, M. (1973) "Job market signalling", *Quarterly Journal of Economics*, 87(3): 355-74

State Statistical Office (2011) *Labour Force Survey 2010*, Skopje, November

State Statistical Office (2012) *Active Population in the Republic of Macedonia in IV q. 2011*, Skopje, March

Stiglitz, J. E. (1975) "The theory of 'screening', education, and the distribution of income", *American Economic Review*, 65(3), 283–300

Tabeau, E. and Bijak, J. (2005) "War-related deaths in the 1992–1995 armed conflicts in Bosnia and Herzegovina: a critique of previous estimates and recent results", *European Journal of Population*, 21(2-3): 187-215

UNESCO (2002) *Integrating Lifelong Learning Perspectives*, Hamburg: UNESCO Institute for Education.

USAID (2009) *Workforce Development Regional Overview: Republic of Macedonia*, Skopje, April

Uvalić, M. (2005) "Science, Technology and Economic Development in South Eastern Europe", *UNESCO Science Policy Series No. 1*

Van de Werfhorst, H. G. (2002) "Fields of study, acquired skills and the wage benefit from a matching job", *Acta Sociologica*, 45(4): 287–303.

Volden, C. (2006) "States as policy laboratories: emulating success in the children's health insurance program", *American Journal of Political Science*, 50, 294-312.

Werquin, P. (2007) "Moving mountains: will qualifications systems promote lifelong learning?", *European Journal of Education*, 42: 459-84.

Weyland, K. (2005) "Theories of policy diffusion: Lessons from Latin American pension reform", *World Politics*, 57: 262-95

Weyland, K. (2007) *Bounded Rationality and Policy Diffusion: Social Sector Reform in Latin America*, Princeton: Princeton University Press

Witte, J. C., and Kalleberg, A. L. (1995) "Matching training and jobs: The fit between vocational education and employment in the German labour market", *European Sociological Review*, 11(3): 293–317

Wolbers, M. H. J. (2003) "Job mismatches and their labour-market effects among school leavers in Europe", *European Sociological Review*, 19(3): 249-66

World Bank (2003) *Lifelong Learning in the Global Knowledge Economy. Challenges for Developing Countries*, Washington, D.C.: World Bank

World Bank (2006) *Bosnia and Herzegovina: Addressing Fiscal Challenges and Enhancing Growth Prospects. A Public Expenditure and Institutional Review*, Washington, D.C.: World Bank

World Bank (2007) *The Labor Market and Education and Training in the Western Balkans: A Policy Note*, Washington D.C., World Bank

World Bank (2009) "Are skills constraining growth in Bosnia and Herzegovina?", *WB Report No. 54901-BA*, Washington D.C., World Bank

World Bank (2009) *Croatia's EU Convergence Report: Reaching and Sustaining Higher Rates of Economic Growth, Volume II*; Washington D.C: World Bank

World Bank (2011) *Migration and Remittances Factbook 2011, 2<sup>nd</sup> Edition*, Washington D.C: World Bank

Wurzburg, G. and Wagner, A. (2004) "Redefining education quality: lessons from an international perspective", in: D. Checci and C. Lucifora (eds.) *Education, Training and Labour Market Outcomes in Europe*, Basingstoke: Palgrave Macmillan

Young, M. (2007) "Qualification frameworks: some conceptual issues", *European Journal of Education*, 42: 445-57

Zaharie, M., Osoian, C. and Opre, A. (2011) "Developing, screening or signalling human capital?", *Proceedings of the European Conference on Management, Leadership and Governance*, pp. 458-64



