

Labour market resilience, bottlenecks and spatial mobility in Croatia

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Abstract

After the Great Recession, unemployment rose quickly. During 2013–2014, Croatia registered unemployment rates above 17%, which were way over the EU 28 average. Today, Croatia experiences bottlenecks on the labour market: job vacancies are increasingly lacking suitably skilled candidates. Thus, the Croatian labour market adapts poorly to both recession and the booming economy; in other words, the Croatian labour market has a low resilience. An economy with a high labour market resilience can benefit from a booming economy, while an economy in the opposite situation faces wage inflation and loss of competitiveness. This article aims to analyse and discuss the role of labour mobility in reducing labour market bottlenecks and thereby increasing labour market resilience in Croatia. The method is tentative and we use secondary, national, and international data as well as previous studies and findings. As we will show, the government has acknowledged skill shortages and there are some (minor) reforms dealing with them. Herein lies the novelty of this article. In this study, we find that Croatia has a very low residential mobility which, we believe, explains Croatia's low labour market resilience. Croatia's low mobility can be explained by tradition as well as by high transaction costs of moving. Our policy recommendations are (1) to lower transaction costs and simplify the moving process and (2) to increase occupational mobility through lifelong education and adult learning.

Keywords: labour market, labour force mismatch, Croatia, bottleneck occupations, spatial mobility, labour market resilience

Introduction

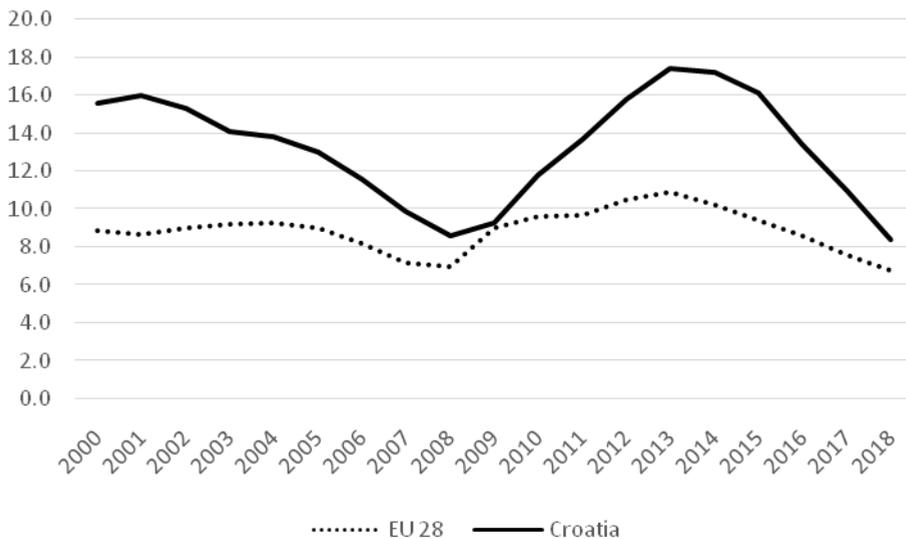
Croatia was hit hard by the Great Recession in 2009 and the following Euro crisis in 2010–2015 (see e.g. Breuss, 2016 on the crisis). Between 2008 and 2013, the unemployment rate in Croatia doubled, from under 9% to above 17%. However,

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from 2015 onwards, unemployment fell sharply, going from 16% to around 8% by 2018 (see Figure 1). This sharp fall in unemployment has coincided with severe skill shortages on the labour market. There is evidence of increasing job vacancies in Croatia that lack suitably skilled candidates. Data from the Croatian Employment Service (2017) indicates that a high amount of vacancies remains over time. These are vacancies for which candidates with appropriate skills are difficult to find. If there are skill shortages in an occupation, this creates *bottlenecks* in the production of the good or the service (i.e. the lack of specific skills becomes a bottleneck in production). There are several problems connected with bottlenecks that derive from the labour market: firstly, following textbook economics, if there are shortages in a specific good, the price of this good will increase. As for the labour market, wages will increase for the occupations where there are skill shortages unrelated to productivity increase. This wage inflation will lead to a loss of competitiveness. Secondly, companies will lose business opportunities, which will lead to a lower GDP and slower economic development.

Figure 1. Average annual unemployment rate, age 15–74, in Croatia and EU 28



Source: authors' representation based on Eurostat Database

Labour market resilience can be determined in different ways, for example, by measuring the vulnerability or sensitivity of the labour market to a recessionary shock. Another way is to measure the speed and extent of recovery from recession (Bell and Eiser, 2015). Fenger *et al.* (2014) define labour market resilience as “the inclusive capacity of the labour market to resist, withstand or quickly recover from

negative exogenous shocks and disturbances and to renew, adjust or re-orientate in order to benefit from positive shocks” (p. 493). Thus, both the downturn (i.e. recession) and the upturn (i.e. boom) are important since problems of capitalizing from the upturn in the business cycle may cause just as many problems as the opposite.

Skill mismatches may be related to (1) mismatches between the skill qualifications required for a certain job and the number of candidates with these qualifications and (2) regional and sectoral mismatches due to geographical and occupational immobility. McGuinness *et al.* (2017) underline that the term “skill mismatch” is very broad and can relate to many forms of labour market friction, including vertical mismatch, skill gaps, skill shortages, field of study (horizontal) mismatch, and skill obsolescence. Skill shortages generally refer to unfilled or hard to fill vacancies that occur due to lack of potential qualified candidates for posts. Skill shortages are measured at the firm level, generally through a series of questions that commence by determining the existence of unfilled or hard-to-fill vacancies, followed by a series of questions related to the employer’s views for the reasons underlying any recruitment difficulties.

Some studies (e.g. McGuinness *et al.*, 2017; Reymen *et al.*, 2015) link skill shortages with various firm characteristics, such as productivity, working conditions, labour costs and average wages, possibilities for professional promotion and so on. However, relatively few studies analyse a *causal connection* between skill shortages and firm characteristics. One of the challenges in assessing skill shortages is that part of the recruitment difficulties that employers attribute to skill shortages, which may, in fact, be due to their inability to offer the necessary attractive wages and favourable working conditions to entice the relevant skills (Cedefop, 2015).

Skill shortages are related to specific bottleneck occupations. According to Attström *et al.* (2014), a bottleneck occupation is an occupation for which there is evidence of recruitment difficulties or an occupation where vacancies are hard to fill. Genuine bottleneck vacancies or skill shortages only relate to situations *where the demand for skills by employers cannot be satisfied by the available labour supply at market clearing wage rates* (McGuinness *et al.*, 2017). Therefore, assessments of the incidence of skill shortages based on employer responses may be overestimated. However, policymaking documents and decisions often neglect such rationalisation of the real magnitude and causes of skill shortages. Policy discussions also often confuse current shortages with anticipated skill shortages or quantitative labour market imbalances (Sattinger, 2012), which may increase due to the ageing population.

This article aims to analyse and discuss the role of labour mobility in reducing labour market bottlenecks and thereby increasing labour market resilience in Croatia. Our method is tentative, and we use secondary national and international data to answer the following research questions:

- 1) What are the bottleneck occupations in Croatia, and how have they evolved?

- 2) How can we explain the existence of bottleneck occupations? What is the role of spatial mobility?
- 3) Which strategies have been used to cope with existing skill shortages? From a resilience perspective, which policies can be recommended to ease skill shortages?

The role of mobility for labour market resilience is far from new knowledge. As early as 1944, William Beveridge emphasised the role of mobility “to avoid misdirection of labour and the accumulation and maintenance of needless reserves of labour” (p. 171). The idea is quite clear: Unemployed workers should not stay in a place or an occupation if they are needed elsewhere.

The focus of this article is spatial mobility and labour market resilience. Arguably, there are other factors that influence labour market bottlenecks and skill shortages, such as international emigration (i.e. “brain drain”), an ageing population, an inadequate education system, or inflexible wage setting. These factors are important and have been analysed in many reports and studies on the Croatian labour market (e.g. Jakšič, 2017; Botrić, 2018). However, they influence the labour market in a long-term, structural way. Labour market resilience is about the labour market’s ability to “bounce back” and adapt in a recession or in a boom, so with this perspective, spatial mobility is of vast interest. For example, Liu *et al.* (2018) claim that China’s high labour market resilience depends on the sensitive rural-urban migration, which serves as a shock absorber in the Chinese labour market. Thus, labour market resilience is about the possibility to adapt to shocks, so structural reforms do not necessarily lead to labour market resilience. Several international studies connect low labour market resilience with low mobility. Nevertheless, the role of internal spatial mobility¹ and the connection between internal spatial mobility and labour market resilience are seldom noticed and analysed in the Croatian economic policy and debate. Herein lies the novelty of this article.

This article is structured as follows: The next section (section 1) discusses some theoretical perspectives on the mobility and labour market mismatch. It shows theoretical as well as empirical evidence that low spatial mobility can explain the mismatch on the labour market. Section 2 investigates the scope and characteristics of bottlenecks in Croatia by using the Croatian Employment Services (CES) survey. In section 3, we look closer at spatial mobility in Croatia and show how, in an international comparison, spatial mobility in Croatia is very low. In section 4, we describe the strategies to cope with existing skill shortages in Croatia. The article ends with a discussion where we sum up the article and discuss policy recommendations and further research.

¹ i.e. mobility within the country. External mobility, i.e. emigration, is widely acknowledged as a problem in Croatia.

1. Theoretical perspectives: mobility and labour market mismatch

Why do we need spatial mobility on the labour market? One explanation is that local labour markets have specialised in work not geared towards the skills of the local labour force. Accordingly, there are differences in industrial and occupational structures between regions; furthermore, the skill mix of the labour force, organisation of work, and the extent to which new technology is already present in the local economy differ between regions (see e.g. Berger and Frey, 2016). Structural change increases these differences between regions. Digitalisation and automatization have resulted in new jobs being created in cities with high concentration of highly skilled workers, while locations with low density of highly skilled workers and high density of automatable jobs experience job losses (Berger and Frey, 2016). Furthermore, the development of the tourism industry increases the demand for specific occupations on specific local labour markets. The tourism industry is bound to specific places – in Croatia, often along the coastline. These tourist attractions seldom have the same history as old industrial or farming regions that have been hit by automatization; therefore, they do not experience a situation of excess labour supply as the old industrial regions do.

Another explanation is that labour markets are local and not national or global. People tend to work close to their home. Consequently, if they become unemployed, they search for jobs which are relatively close to their home. The spatial mismatch hypothesis (SMH) was first presented by Kain (1968). The hypothesis proposes that the closer you live to job locations, the higher the probability to have a job. The hypothesis was originally designed to explain why African-Americans were more unemployed than European-Americans. Kain's hypothesis was that the jobs were located in the richer areas, where the European-Americans lived. However, the spatial mismatch hypothesis is applicable in a wider context to explain the presence of unemployment with the lack of *local* job opportunities and the role of limited mobility of the workforce (Preston and McLafferty, 1999). When unemployed and job vacancies are located in different places and we have low mobility, the result is that, on the national level, both the unemployment rate and the vacancy rate are high.

However, there may also be educational mismatches (explored in e.g. Croce and Ghignoni, 2015; Ghignoni and Verashchagina, 2014). This can either be in the form of under-education (i.e. the employee has lower qualifications than what the position requires) or over-education (i.e. the employee has higher qualifications than what the position requires). Both under-education and over-education lead to inefficiencies. Under-education leads to lower productivity when the tasks are not executed in the most efficient way. Over-education can be considered a waste of human capital, but it is also a labour market inefficiency because the skills may be needed in another workplace.

Croce and Ghignoni (2015) investigated job-education mismatch and spatial mobility in Italy. They find that movers are less mismatched than stayers, and the

longer they moved, the lower the risk of educational mismatch. Croce and Ghignoni's (2015) results indicate that "frictions and barriers increasing the costs of spatial mobility can contribute to worsening the match between required and possessed education in the labour market" (p. 43). Further, Büchel and van Ham (2003) analysed over-education and spatial mobility in West Germany. They find that spatial distribution of job opportunities and individual spatial flexibility play a major role in explaining over-education.

In sum, there is theoretical as well as empirical evidence that low spatial mobility can explain the mismatch on the labour market. Moreover, the existence of bottlenecks on the labour market can be understood as a labour market mismatch – the labour market is unable to provide employers with labour with the demanded qualification. In the following, we will further explore the labour market bottlenecks in Croatia and, later, the mobility situation in Croatia.

2. The scope and characteristics of skill shortages in Croatia

Bottleneck occupations in Croatia have been identified by using an employers' survey conducted in 2016 by the Croatian Employment Services (CES) (Croatian Employment Services, 2017). The employers' survey is an instrument for collecting labour market assessments based on employers' statements. The survey sample was selected from economically active employers – based on the internal employers' database of the Croatian Employment Service and data obtained from the Croatian Pension Insurance Institute (CPII) and the Central Bureau of Statistics (CBS), which comprised 161,421 employers with a total of 1,455,651 employed persons.

The sectors of activity were defined according to the National Classification of Activities. The sample does not include employers in the sectors T (household activities) and U (international organisations) because they account for less than 0.1% of employees. Furthermore, none of the employers who had a single person employed (self-employed) at the time of sampling took part. The final sample in 2017 consisted of 13,475 business entities and crafts, and 65.5% of them responded. They employed 514,192 workers, representing 37.5% of the total employed in Croatia.

In 2014, 29.1% of employers had problems with finding appropriate workers (Croatian Employment Services, 2015), while in 2016 their share increased to 49.0%. Regarding the type of ownership, this problem has been more pronounced in private firms (59.7%), while only 28.2% of public or state-owned business entities face this problem. Regarding the size, large firms with 250 or more employees have such difficulties (68.0%), while the problem is less pronounced in craft and micro firms with up to 9 employees (58.4% and 55.8%, respectively) (Croatian Employment Services, 2017).

According to the Croatian Employment Services' (2017) survey, Croatia had 5,265 bottleneck vacancies in 2016. This is a significant increase in comparison with 1,174 bottleneck vacancies in 2012 during the period of economic crisis (Croatian

Employment Services, 2013). However, almost the same occupations suffered from bottleneck vacancies in 2014 and in 2016, although the total number has increased over the observed period. Table 1 presents the most important occupations mentioned as bottleneck vacancies according to the latest available data for 2016. This data is on the national level, but there are significant differences between regions in Croatia due to the diverse presence of certain activities and the variations in labour supply and demand.

Table 1. Top 10 bottleneck occupations in Croatia in 2016

	The number of employers	Main reason	Other reasons
Waiters	310	Labour demand is often seasonal and strenuous	Wages offered are below the industry standard; almost no possibility for promotion
Chefs (cooks)	210	Labour demand is often seasonal	Wages offered are below the industry standard; limited possibility for promotion
Professional lorry driver	148	Health and safety concerns, unfavourable working conditions	Wages offered are below the industry standard/considered too low
Bricklayers	102	Health and safety concerns, unfavourable working conditions	Wages offered are below the industry standard/considered too low
Nurses	91	Work is strenuous, in shifts, very often during the weekends	Unfavourable conditions due to staff shortages and cuts in the health care sector; wages offered are below the industry standard/considered too low
Cleaners and helpers in offices, hotels, and other establishments	87	Labour demand is often seasonal, the job is relatively strenuous and monotone	Wages offered are below the industry standard
Carpenters	82	Health and safety concerns, unfavourable working conditions	Wages offered are below the industry standard/considered too low
Preschool education teachers	59	Wages offered are below the industry standard/considered too low	There are no career prospects Not very socially respected
Kitchen helpers	48	Labour demand is mostly seasonal	Wages offered are below the industry standard

Hotel receptionist	26	Labour demand is seasonal	Work in shifts and/or during the night and on weekends; wages offered are below the industry standard
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Source: authors' representation based on data from Croatian Employment Services (2017)

Within primary health care, Croatia is experiencing severe skill shortages in terms of specialist medical practitioners as well as medical doctors and general practitioners. Furthermore, specialist nurses are in high demand. The Croatian Trade Union of Nurses and Medical Technicians estimates a lack of 12,000 nurses in Croatia because many of them went to Ireland, the United Kingdom, Austria, Germany, or Italy, where they can obtain much higher salaries (Tportal, 2019a). In Croatia, as a whole, and particularly in remote and isolated areas, pharmacists are needed. Before the economic crisis, there was a significant shortage of construction workers; currently, graduate civil engineers are still in high demand, more specifically in the construction, electrical, and mechanical fields. Moreover, the tourist sector is experiencing growing recruitment problems. Waiters, chefs, cleaners, and helpers in offices, hotels, and other establishments are needed, but due to the work's seasonal nature and limited employment possibilities out of season, young people are not willing to enrol in educational programmes for these occupations. Furthermore, there is a widespread lack of bakers, pastry-cooks, and confectionery makers. A few non-highly skilled jobs are also classified as bottleneck occupations, notably within the metal processing industry (such as blacksmiths, hammersmiths, and metal working machine tool setters and operators).

The questionnaire contained questions about the reasons for bottlenecks in the specific occupation. To summarize, there are many interrelated reasons for bottleneck occupations, but the most frequent are skill mismatches and shortages due to unfavourable working conditions and unsatisfactory wages. The situation also differs according to the level of occupation and type of jobs. For bottlenecks within highly-skilled occupations, the main reason stated is a lack of qualified workforce, in particular, experienced workforce with specific knowledge (specialist doctors, nurses, graduated civil engineers, etc.).

In the health care sector, bottleneck vacancies affect both urban and rural areas, but there are bigger problems with filling vacancies in rural, mountain, and underdeveloped areas (e.g. islands). The bottleneck problems in the healthcare sector are additionally caused by inadequate regional adjustment and planning of health capacities as well as the inefficient resolution of existing problems in service provision. Furthermore, problems in the mentioned sector are also related to the fact that these jobs are characterised by many overtime hours, night shift work, and work during holidays. Therefore, the huge amount of overtime worked by all medical staff, particularly doctors and nurses, largely exceeds the legally permitted limits and Directive 2003/88/EC of the European Parliament. Moreover, there are also the

issues of specific age levels (after studying and specialisation, workers are in their 30s) and permanent studying and knowledge improvement, which are not always encouraged from the side of the health system. Finally, a serious problem in Croatia is the shortage in all types of medical staff, particularly doctors, mostly caused by their leaving for work abroad in recent years.

Within the sector of education, Croatia is experiencing bottleneck problems in the following occupations: primary and secondary education teachers, other language teachers, and music teachers. Due to the lack of staff, the working conditions in primary and secondary education are deteriorating, leading to further staff shortages as employed staff leave or change jobs. These problems are more present in small rural schools, which do not offer high standards and possibilities for professional promotion, as well as in relatively small towns that have institutions in secondary education. Furthermore, the sector generally has a poor image, relatively low salaries and limited possibilities for professional promotion. Furthermore, within occupations in the hospitality industry, the lack of skilled workforce is due to seasonal and intensive work during the tourist season and limited employment possibilities out of the season (HZZ, 2017).

The above presents a summary of the reasons highlighted in the questionnaire for bottlenecks in the different occupations. In the following, we will describe and analyse the connection to spatial mobility, as we have previously outlined.

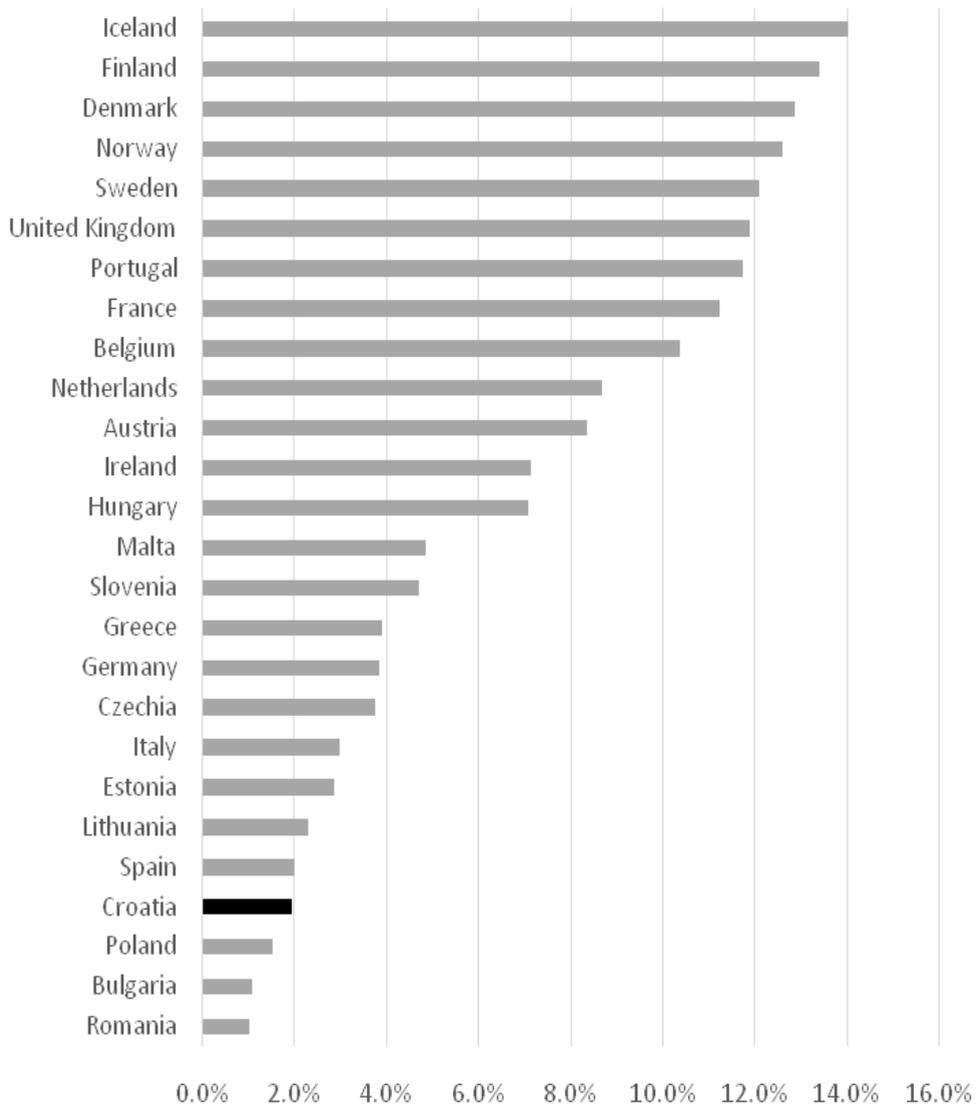
3. Spatial mobility as an explanation to bottleneck vacancies and the Croatian example

Previous studies indicate there is a relationship between spatial mobility and labour market bottlenecks. Although the Croatian economy needs the means to address labour shortages – including mobility and migration – to remain competitive (Janiak and Wasmer, 2008), there is a low geographical mobility of Croatian citizens. Using census data from 2011, Figure 2 shows the share of people who lived in another place the previous year (2010) within the country in question. The data shows that internal migration in Croatia is low.

According to Kaleb (2017), many of the unemployed in Croatia are not willing to accept work in neighbouring counties, despite relatively generous one-off financial assistance and reimbursement for travel and relocation expenses. This is confirmed by the data from the Croatian Employment Service (2018), according to which in 2017 most seasonal workers came from the coastal (63.7%) and Slavonian (22.0%) counties, while the north-western and central regions of Croatia accounted for a relatively small share in seasonal employment (14.3%).²

² Notably, most of the seasonal work in Croatia takes place in the tourist areas on the coast.

Figure 2. Share of internal residential migration 2010–2011 in relation to the total population



Source: authors' representation based on Eurostat data, CensusHub

There are different reasons why mobility is lower in Croatia than in other countries:

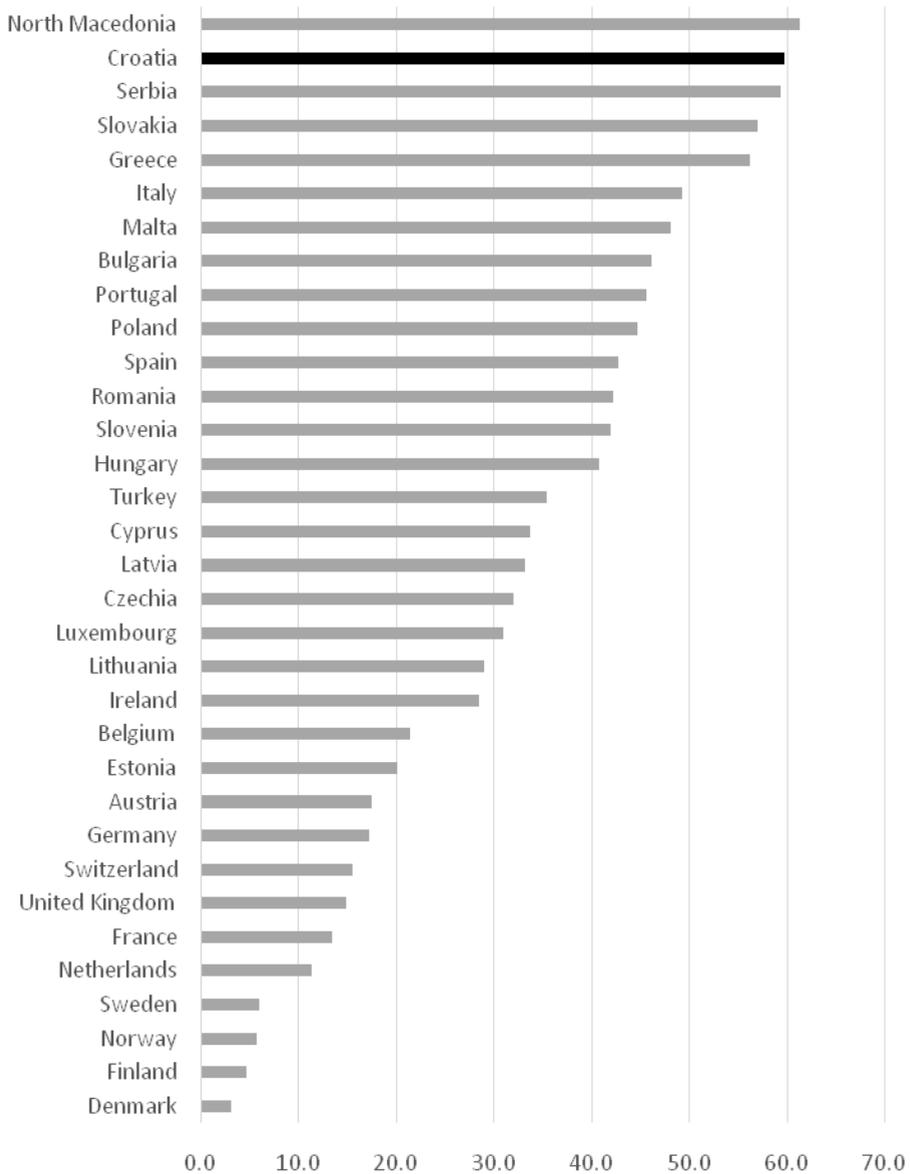
- Transaction costs. In a recently published book chapter, Palm, Jingryd and Kordić (2019) compare transaction costs of moving (residential mobility) in Sweden and Croatia. The authors find large differences in transaction costs between the two countries. It is not only the pecuniary cost that is higher in Croatia; the time it takes to buy a house and to register it is longer in Croatia than in Sweden. According to economic theory, the higher the transaction costs, the fewer transactions. According to Caldera Sanchez and Andrews (2011), in countries with lower transaction costs, residential mobility appears to be higher. In a study on the Netherlands, Van Ommeren and Leuvenstein (2005) find that a one percentage point increase of transaction costs reduces residential mobility by about eight per cent.
- Tradition and the welfare state. Croatian traditions are different from Nordic countries when it comes to, for example, living with parents. Further, in Nordic countries, the welfare state is expected to take care of the elderly, for example, but the situation is different in South East Europe.³ As Figure 3 shows, there are also differences regarding the age when children leave their parents' home. Not surprisingly, the share of 25-to-34-year-olds that still live with their parents is the highest in South East Europe and the lowest in the Nordic countries.

Bohman *et al.* (2019) show that the main in-migration when it comes to internal migration in Croatia the last couple of years has been to Zagreb. This means that many middle-sized towns lack labour – such as Slavonski Brod, Karlovac, Varaždin, Vukovar, Vinkovci, Čakovec, Županja, and Sisak (Akrap, 2014). These towns are simultaneously burdened with the remnants of old big state companies and an obsolete economic structure, and they are having difficulties adjusting to the modern economic structure and demands. Consequently, these towns lag behind in economic development.

While there are almost no consistent systematic activities for resolving the problem with bottleneck occupations and skill shortages on the national level, there are relatively many activities undergone by employers. The following section presents Croatian employer activities, preceded by activities on the EU level.

³ For a description of the development of the Swedish welfare state and its individualistic foundations see, for example, Berggren and Trägårdh (2009). Furthermore, according to the law (Family Act [Obiteljski zakon], OG 103/2015), children in Croatia are obliged to take care of their elderly. Thus, the family connection is not only demonstrated by norms and values but also confirmed by law.

Figure 3. Share of young adults aged 25–34 living with their parents, 2017



Source: authors' representation based on Eurostat Database

4. Strategies and measures to cope with existing bottlenecks

4.1. Measures at the EU level

In Europe, in general, vacancies in particular sectors remain unfilled due to relatively low pay and unfavourable working conditions. For example, employers in the health care sector reported hard-to-fill vacancies for medical doctors of all disciplines. These bottlenecks are mainly due to the high emigration rates of health professionals towards western and northern parts of the EU (e.g. Germany, the United Kingdom, and Scandinavia), where there are better working conditions and higher wages. Therefore, as part of the *Europe 2020 Strategy*, the European Commission (2008) underlined the importance of “the assessment and anticipation of skills and labour market needs ... for a better match between labour supply and demand to reduce bottlenecks”.

As there are structural labour shortages at the EU level, which should be a priority for EU policies, an efficient and holistic approach is needed to mitigate the bottleneck problem. Attström *et al.* (2014) explain that mitigation activities should occur at a national level, with a clear focus on improving lifelong education and adult learning. Such measures should be coordinated with public employment services in order to adjust their activities for the unemployed and for the inactive labour force. Action should focus on improving knowledge about effective policy (best practice, proven effectiveness), enhancing the dissemination of this knowledge, and designing and implementing efficient public campaigns.

Various countries have pro-actively attempted to resolve shortages. Their strategies differ greatly from one occupational group to another. They range from recruitment activities to campaigns and changes in working conditions. For example, to acquire the needed professionals in information and communications technology, employers most often provide additional training to existing staff, followed by additional recruitment activities in other countries. On the other hand, to mitigate the shortage of construction and related trades workers, employers often utilise additional recruitment activities in other EU countries and outside the EU. Furthermore, recruitment from outside of the EU is relatively usual to acquire health professionals, but it is seldom used to employ science and engineering professionals. Among the skilled manual occupations, employers mainly provide training and development to existing staff and only partly rely on labour mobility (Attström *et al.*, 2014).

Although there are huge differences between EU countries, the positive practices of some member states can be useful for mutual learning and possible application in other countries. For example, Germany founded a Central Placement Office (Zentrale Auslands- und Fachvermittlung, ZAV) to obtain the much needed highly skilled workers. The aim is to pool unemployed managers and academics in occupations with bottlenecks, such as engineering (Gerhard Bosch Institute of Work,

Skills and Training, 2011). Employers and the public employment services in France use a specific recruitment method called *Méthode de Recrutement par Simulation* (MRS) in certain sectors such as construction. The MRS does not refer to the usual recruitment criteria such as experience and qualification; rather, it assesses potential candidates by testing and identifying their skills. This recruitment method is based on transferable competences and helps to overcome an insufficient number of candidates. In the Czech Republic, the most frequent mitigation strategy realised by employers, particularly for lower skilled occupations, is to provide additional training to their current employees (European Commission, 2014).

4.2. Mitigation strategies in Croatia

At a national level, the number of places in Vocational Education and Training (VET) schools and universities has increased in the last years. However, assessments indicate this will not solve the labour shortage problem (Poslovni dnevnik, 2018a; Tportal, 2019a, 2019b). Wages are an important factor, but even more important are the quality of life and work and the lack of accessibility to education in isolated areas. Due to high costs and budget deficits, some small regional schools may be closing, which can further endanger the quality of life for people living in these areas. The social and physical infrastructure in the mentioned areas is another crucial factor that must be improved. The Croatian Employment Service (CES) can also reduce existing bottlenecks by providing better information on available jobs. The measures directed towards the problem of bottlenecks lack strategic coordination. One of the rare positive examples is the Croatian Employers Association, which collaborated with social partners in tourism to increase the minimum wage by 5% in the hospitality sector. Such increase has been applied from June 1, 2019, and the minimum gross wage for hotel cleaners, bakers, and pastry-cooks is currently HRK 3,750 (€ 500) (Tportal, 2019b).

The lack of seasonal workers is a serious problem for the Croatian economy. Seasonal employment accounts for a significant share of the total employment in Croatia. In 2017, a total of 36,288 persons found employment as seasonal workers (i.e. 20.4% of the total number of persons from the Unemployment Register). The largest number of seasonal workers was recorded in tourism, particularly in the hospitality sector (58.2% of the total number) (Croatian Employment Service, 2018). As a means to lessen the problem of seasonal work, an institution of permanent seasonal work was introduced in 2001. A fixed-term employment contract for a permanent seasonal job obliges employers to pay contributions for their seasonal workers throughout the year and obliges employers to offer their employees new employment contracts for the following season. If a worker refuses the employment contract without objective grounds, the employer is entitled to demand a refund of the paid contributions (Butković *et al.*, 2016). Moreover, a permanently employed seasonal worker is entitled to financial assistance for the maximum period of six

months of extended insurance, in which case the amount is determined in the same manner as the unemployment benefit amount. In 2017, a total of 3,455 persons were insured under an extended pension insurance scheme on the basis of a fixed-term contract for permanent seasonal jobs (Croatian Employment Service, 2018).

In the health care sector, employers are trying to improve working conditions, while in other sectors, particularly manufacturing, employers are providing scholarships and possibilities for guaranteed employment to cover the labour force shortage. For instance, the Croatian manufacturer Same Deutz-Fahr Žetelice (located in the City of Županja, Slavonia) has managed to successfully maintain and increase its skilled labour force by giving its seasonal workers permanent jobs and increasing their salaries by as much as 20% to make sure they are satisfied with their positions (Poslovni dnevnik, 2018b). The bakery products company Mlinar has announced that it spent HRK 15 million (€ 2.02 million) in remunerations to its employees in 2018. For 2018, bonus payments for Christmas and Easter amounted to HRK 2,800 (€ 377) for 1,900 of its workers. In 2019, additional HRK 400 (€ 84) monthly payments were to be given along with the regular salary, while the remaining non-taxable value of HRK 7,500 (€ 1,010) were to be allocated for Christmas and Easter bonuses (Tportal, 2018). The retailer company Pevec raised the lower wage earned by its employees by HRK 1,000 (€ 135), and for 2019, it intended to invest HRK 20 million (€ 2.69 million) in the average gross salaries of employees – especially the salaries of retailers and warehouse workers, which are constantly lacking (Poslovni dnevnik, 2018a). International companies active in Croatia have been conducting similar activities. For example, the Danish international retail chain JYSK decided to increase the salaries of its 360 employees in Croatia by around 11%. Along with this increased remuneration, JYSK offers its employees regular and different possibilities for professional promotion and personal development. It regularly pays bonuses for Christmas and Easter, while employees making additional efforts can achieve additional bonuses on monthly, quarterly, and yearly basis (Poslovni dnevnik, 2019).

Discussion

In Croatia, there is a pressing shortage of labour in specific occupations. This has often been typologised as bottlenecks. The reasons for the existing bottlenecks are, of course, many. One is to look at the educational system and blame it for educating too few in the bottleneck occupations. If this were the reason, the solution would be for the educational systems to respond in order to meet the demand from employers.

Another one would be to blame wages and working conditions. There is an obvious need to constantly improve working conditions and wages in the bottleneck occupations and, as we have seen previously, in some occupations, wages seem to be too low to attract job seekers. According to neoclassical microeconomic theory,

if a product is scarce, the price of this product should increase, given that it is a competitive market. This would be valid for the labour market – if labour is scarce, wages would increase. However, if these wage increases are not matched by increases in productivity, costs of production increase and competitiveness is harmed. Thus, bottlenecks may lead to wage increases not matched by productivity increases which, in turn, threatens competitiveness. There are several reasons why wages do not increase in bottleneck occupations. For instance, Keynes (1936) identified wages to be “sticky”. Wages are often set in a wage-setting system and negotiated for a defined period, for example, one or two years.

Most bottleneck occupations identified in this analysis are structural, meaning that the shortage in these occupations has existed for several years. Therefore, there is no easy solution to the bottleneck problem. As we have shown in section 4, there have been some initiatives to cope with existing skill shortages, but they have been too small and uncoordinated to have a larger effect. The issue of wages is important, but it is not the only determinant of the attraction of a particular profession. Higher or increased salaries cannot fully compensate for strenuous, severe, and unfavourable working conditions (for example, in the construction or health care sector) or high job insecurity (for example, for professional drivers or forestry employees). Furthermore, some professions do not enjoy enough “social appreciation”, although they are much needed and important. In a way, the situation is similar to that of employees in the education system – teachers and professors: one has to study for a relatively long period, the job is intense, it is rather poorly valued in society, and the opportunities for professional advancement are quite limited. As mentioned, the professions in tourism – chefs, waiters, maids, and the like – involve relatively badly paid intensive work during the tourist season, whereas the prospects for professional promotion are limited. Moreover, competitiveness from younger employees from neighbouring countries ready to work for less in the grey economy is constantly present.

However, the focus of this article is on labour market resilience, even if structural reasons can hardly be neglected. The aim was to analyse and discuss the role of labour mobility in reducing labour market bottlenecks and thereby in increasing labour market resilience. In the introduction, we defined labour market resilience as the labour market’s ability to “bounce back” – how it adapts to recession as well as to a booming economy. Further, we showed that the Croatian labour market resilience is low because unemployment increases more in recession and skill shortages seem worse in a booming economy.

In this article, we have argued that increased spatial mobility would increase labour market resilience. Further, we discussed how the low level of spatial mobility in Croatia can be explained by high transaction costs for moving (residential mobility). It is not only the pecuniary cost that is high in Croatia; the time it takes to buy and register a house is long and complicated. Therefore, to increase spatial mobility, a policy recommendation would be to simplify the transaction process and cut transaction costs for residential mobility.

Mobility may also include occupational mobility, which is the possibility to move from one (outdated) occupation to a new one. As we have mentioned, policy recommendations to increase occupational mobility include lifelong education and adult learning. As a positive example, one could mention The Strategy for Education, Science and Technology (Ministry for Education, Science and Technology, 2017). The Strategy underlines, “Most vocational education and training programmes have not undergone any significant changes during the last two decades. The current programmes do not reflect the development of technologies and trends in professions, nor do they always reflect the needs of the labour market and the economy” (p. 58). Therefore, the Strategy stipulates the following:

[A]n analytical basis for tracking, monitoring, and examining human resources will be developed that will link data from the education system, labour market and social welfare system. This primarily involves developing new databases and linking various registers of different government bodies. Databases will also be used in models for labour market forecasting and for defining future needs for specific occupations and qualifications. Special attention will be paid to the acquisition of knowledge and skills through work (work-based learning), especially at the level of vocational and higher education, as well as in adult education and training (p. 24).

The Strategy plans conducting surveys on labour market needs and ensuring a tripartite social partnership in the procedures for the preparation of occupational standards and qualifications standards (p. 59).

In this article, we have used a tentative and descriptive approach to analyse skill shortages and labour market resilience in Croatia. There are several limitations with such a method. For example, the evidence is more associative and does not give the same kind of “hard evidence” as more quantitative results seem to give. However, the strengths of this kind of “hard evidence” can be illusive because they rest upon model specification and quality of data. Furthermore, another research limitation of the study is that the data collected by the Croatian Employment Services is too aggregated for in depth analysis, for example in relation to regions or firms. Thus, there is a need for further research using quantitative or structured qualitative methods, for example to link skill shortages with various firm characteristics, such as productivity, working conditions, wages, and possibilities for professional promotion. There is also a need to connect skill shortages to regional differences. Other needed studies are cross-country studies on labour market resilience and its relation to spatial and occupational mobility.

Finally, to quote the great Giuseppe Tomasi di Lampedusa (2002), “*Se vogliamo che tutto rimanga com'è bisogna che tutto cambi*” (“For things to remain the same, everything must change”).

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