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# Jobs Challenges in Slavonia, Croatia – A Subnational Labor Market Assessment

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Teo Matkovic, and Tara Sharafudheen

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July 2019

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# List of Abbreviations

<b>CBS</b>	Croatian Bureau of Statistics
<b>CES</b>	Croatian Employment Service
<b>CSW</b>	Centers for Social Welfare
<b>EBRD</b>	European Bank for Reconstruction and Development
<b>ECEC</b>	Early Childhood Education and Care
<b>EC</b>	European Commission
<b>EU</b>	European Union
<b>FINA</b>	Financial Agency
<b>GMB</b>	Guaranteed Minimum Benefit
<b>HBS</b>	Household Budget Survey
<b>HEI</b>	Higher Education Institutions
<b>ICT</b>	Information and Communications Technology
<b>ILO</b>	International Labor Organization
<b>IMD</b>	Index of Multiple Deprivation
<b>LiTS</b>	Life in Transition Survey
<b>LFS</b>	Labor Force Survey
<b>LTU</b>	Long-Term Unemployed
<b>NDS</b>	National Development Strategy
<b>NEET</b>	Not in Employment, Education or Training
<b>NGO</b>	Non-Governmental Organization
<b>PES</b>	Public Employment Service
<b>PISA</b>	Program for International Student Assessment
<b>SILC</b>	Statistics of Income and Living Conditions
<b>SME</b>	Small and Medium Enterprise
<b>TVET</b>	Technical and Vocational Education and Training

## Abstract

A thriving region until the early 1990s, Slavonia, the eastern region of Croatia, has been confronted with stagnation and decline, ageing and outmigration as well as impoverishment ever since. This followed Croatia's homeland war of 1991-1995, with Slavonia one of the frontlines, economic restructuring of its state-led economy during the 1990s and 2000s and the global economic crisis of the late 2000s. More recently, after Croatia's EU accession in 2013 and coinciding with the economic upswing since 2014 in Croatia and the EU, Slavonia's labor market has started to tighten, with registered vacancies now exceeding the number of job seekers for highly educated as well as some unskilled and semi-skilled occupations.

However, inactivity and unemployment remain high. In 2017, the share of the working-age population in work was only 51 percent, 10 percentage points below the rest of Croatia (61 percent) and 17 percentage points below the 2017 EU28 average. A legacy of war, limited availability of care services, and especially lower education levels explain an important part of Slavonia's much higher inactivity and unemployment. On the demand side, labor productivity in Slavonia's firms is systematically lower than in the rest of the country (except in agriculture and forestry), also consistent with Slavonia's sizeable wage gap. This, together with general disenchantment of the Slavonian population with the economic and business environment, has prompted outmigration. At the same time, a small number of firms also outperform their sectoral competitors elsewhere in Croatia, signaling Slavonia's potential.

Looking ahead, private sector job creation remains a top priority, especially focusing on Slavonia's lower educated, who make up the bulk of the unemployed and inactive. This especially requires a reduction in the regulatory burden and an increase in Slavonian firms' competitiveness, which will also help to close the substantial wage gap with the rest of Croatia. Given the large share of its population in agriculture and forestry-related activities (close to 30 percent), Program Slavonia's current focus on agriculture and forestry is clearly warranted. With Slavonia's longstanding history and labor force experience in manufacturing and the rising number of vacancies in this sector, so is attention to manufacturing.

To address the emerging skills mismatch in the short run, emphasis in active labor market programs should shift from employment provision through public work programs to training, including on-the-job training, which will among others, require adequate public funding at the local level. Access to affordable, quality care services (for children and elderly alike) must be developed. Lack thereof emerges as a key impediment to female labor market participation, especially for lesser educated rural women, a core group among those currently excluded from the labor market. And the work permit quota system could be better aligned with labor market needs.

For the medium to long run, the current education system ill-prepares Slavonia's workforce for the future. This starts with delay in skills acquisition through lack of early childhood education and care, which continues into secondary school, as evidenced by poor PISA scores, and culminates in lower participation and higher failure rates in the Matura exam and lower participation in higher education. There are also important opportunities to increase the relevance and attractiveness of the current TVET system, to help resolve the skills mismatch in the more immediate future.

Finally, more concerted efforts and tailored approaches will be needed to include the most vulnerable (women, youth and older workers, low-skilled individuals and those living in rural areas), through special employment training and skill development programs, especially in potential growth sectors (such as community-based tourism) and to meet service gaps (in child and elder care). Local governments both at the country and municipal level can also play a greater role in fostering inclusive entrepreneurship programs for vulnerable people, broadening the current efforts to include women, retirees and youth.

# 1. Introduction

**Setting.** Slavonia, the eastern region of Croatia,<sup>2</sup> was an agricultural and industrial heartland in former Yugoslavia up until the early 1990s. Since then, it has struggled with economic stagnation and decline, aging, outmigration, and impoverishment. This followed Croatia's war of independence from 1991 to 1995, in which Slavonia was one of the front lines, economic restructuring of its state-led economy, and the global economic crisis of the late 2000s. The remnants of this legacy have still not been overcome and Slavonia is now one of Europe's most lagging regions. However, following the recent recovery of the Croatian and EU-28 economies, green shoots are also emerging in Slavonia. Its labor market has started to tighten for the highly-educated and certain occupations carried out by un- and semi-skilled workers, and unemployment is declining.

**Scope and purpose.** Against this background, the Government of Croatia launched Program Slavonia and requested the World Bank Group for technical assistance in the programming of its European Structural and Investment funds that are dedicated to foster growth, employment and inclusion in Slavonia, starting with a series of diagnostics. This report focuses on the functioning of Slavonia's labor market and its labor force, i.e. the supply side of the labor market. Special attention is paid to the human capital stock and skills set of its labor force as well as the extent of inclusion. Other reports elaborate on the demand side of Slavonia's labor market, in particular, the constraints on increasing exports, foreign direct investment and domestic firm productivity, including through innovation and better access to finance. Together these reports provide an in-depth analysis of the constraints to more inclusive growth and job creation for Slavonia. The focus each time is on identifying Slavonia specific constraints, that can be addressed at the local level. Nationally determined investments and policies are considered to the extent that they influence the performance of Slavonia's firms and labor force disproportionately.

**Study approach.** A heavily data-driven approach is pursued to provide a sound empirical baseline of Slavonia's labor market. More particularly, the chapter draws on Croatia's national labor force (LFS), employer, and household budget surveys (HBS), as well as information on the population's perceptions from the European Bank for Reconstruction and Development (EBRD) Life in Transition surveys (LITS), and also administrative data on firms (FINA) and craft companies (Croatia, Chamber of Trade and Crafts). Several key informant interviews and focus group discussions help contextualize the insights from these data. The sectoral background papers prepared by the World Bank Group for Croatia's National Development Strategy (NDS) were further consulted for the broader policy and institutional context. The Annex provides a short description of the data sources.

**Paper structure.** The paper starts off by reviewing the characteristics of Slavonia's labor market and identifying the underlying forces and policies shaping its performance in more detail.

- Section 2 describes the defining features of its labor force, the jobs they occupy and the proximate reasons for their employment status;
- Section 3 presents an analysis of Slavonia's current labor market dynamics, which continues to display high unemployment and inactivity in the face of rising vacancies and emerging labor market shortages in certain segments;

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<sup>2</sup> Throughout the report, Slavonia is used to mean Slavonia, Baranja and Srijem. The following 5 counties are included: Brodsko-Posavska, Osječko-Baranjska, Požeško-Slavonska, Virovitičko-Podravska, and Vukovarsko-Srijemska.

- Section 4 proposes policy entry points to resolve this conundrum, including assessments of the effectiveness of current measures;
- Section 5 concludes with recommendations on the way forward.

## 2. Basic facts about the labor force and jobs in Slavonia

### Key insights

- Even more so than in the rest of Croatia, the labor market in Slavonia remains characterized by very high levels of inactivity and unemployment. This still holds today, despite the economic upswing of the past couple of years and significant labor market improvements in Croatia and the rest of the European Union (EU) (section 2.1).
- A number of socio-economic features set Slavonia's labor force and its economic environment apart. Educational achievement is lower, family care systems are less developed, and its population was more affected by the war. Opportunities for self-advancement through people's own efforts or skills (as opposed to political connections) are also perceived to be less present (section 2.2).
- On the demand side, jobs are more concentrated in primary and secondary sectors (agriculture and forestry related sectors and in manufacturing) and in medium and larger sized structures. Self-entrepreneurs are few and far between (section 2.3).
- A lack of jobs and disenchantment with the political and economic environment have led to rapid outmigration, especially of the prime-aged population and in more recent years, as well as impoverishment, often spatially concentrated in more remote, rural areas (section 2.4).
- Yet, following accession to the European Union (EU) in 2013 and the gradual economic recovery in the EU-28 and Croatia since 2014, Slavonia is now also facing a rapid increase in unfilled vacancies. This is happening, despite continuing high unemployment and inactivity rates and poverty, posing one of the conundrums of Slavonia's labor market (section 2.5).

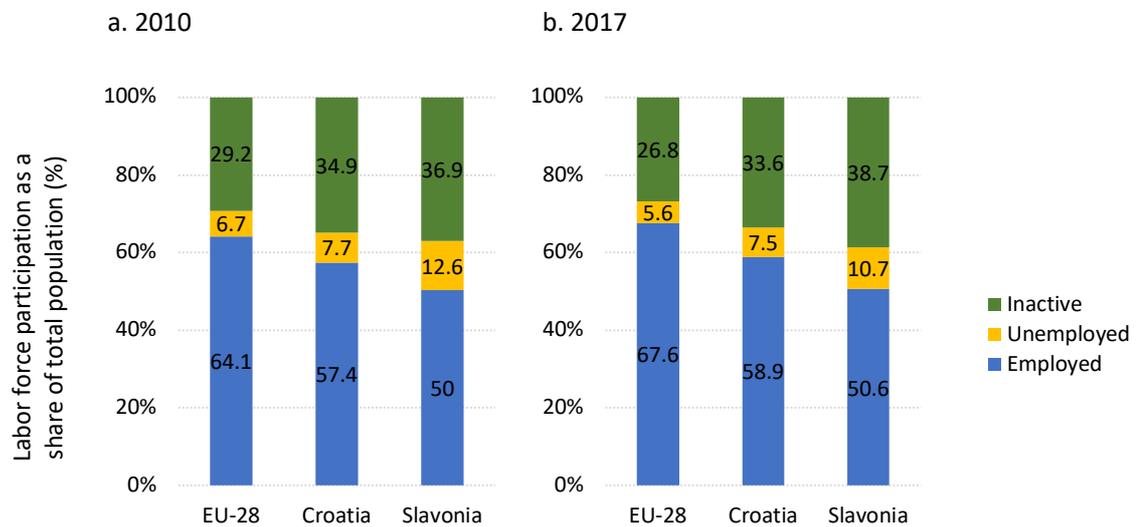
### 2.1. Significantly lower labor force participation than in the rest of Croatia

**In Croatia, employment rates remain 9 percentage points below the EU-28 average.** In 2010, two years into the global financial crisis, less than three out of five working-age adults were employed in Croatia (57.4 percent), or 6.6 percentage points below the EU-28 average (Figure 1.a). This was mostly on account of the high share of inactive working-age adults (34.9 percent, or more than one in three working-age adults were not employed or looking for work). In 2017, Croatia had somewhat recovered, with employment rates 1.5 percent higher and unemployment rates slightly lower (11.2 percent compared to 11.7 percent in 2010). Yet, much of this improvement was due to a decline in the number of working age individuals (following outmigration and ageing rather than job creation).

**In Slavonia, employment rates are even lower (8.3 percentage points below those in the rest of Croatia), mainly due to even lower labor market participation.** One Slavonian in two is not working, as compared to two in five in the rest of Croatia. This is mostly due to higher inactivity rates (38.7 versus 33.6 percent respectively), but also to higher unemployment rates (10.7 versus 7.5 percent). Long-term

unemployment (LTU) in particular remains an important concern, both in Slavonia and in the rest of Croatia. Roughly one in two unemployed individuals has been without a job for over 12 months (see also Figure 3 below).

**Figure 1: Labor force participation in Slavonia is particularly low**



*Note: Population aged 15-64 years old. Unemployment rates are typically calculated as the share of the active working age population that is unemployed, i.e. unemployed/(employed+unemployed). The unemployment rate reported here refers to the share of the unemployed population to the total working-age population (active and inactive).*

*SOURCE: Croatian Bureau of Statistics (CBS), Labor Force Survey (LFS), 2010 and 2017; Eurostat.*

**In Slavonia, labor force participation is much lower among women, younger and older age groups, and the less educated.<sup>3</sup>** The employment rate in 2017 for the 15-64 age group was 50.6 percent, and it was considerably higher among men (59 percent) than women (42.1 percent), mainly because of much lower female labor market participation rather than higher unemployment (Figure 2). Strikingly, female labor market participation in Slavonia is also much lower than in the rest of Croatia, where 56.7 percent of women are working (compared to 42.1 percent in Slavonia). Employment is also quite limited among young people and the elderly. In 2017, only 26.7 percent of the 15-24 age group and 32.8 percent of 55-64-year-olds were employed.<sup>4</sup> Finally, those with lower education levels are also much less employed: the employment rate among the working-age population who did not complete upper secondary education was only 21.4 percent, while among those who completed upper secondary education or more, it was 61.5 percent. The important role of age (young and old), gender and education as important correlates of employment are confirmed in a multivariate analysis which simultaneously controls for these (and other) factors (see Probit regression results presented in the Annex, Table 6).

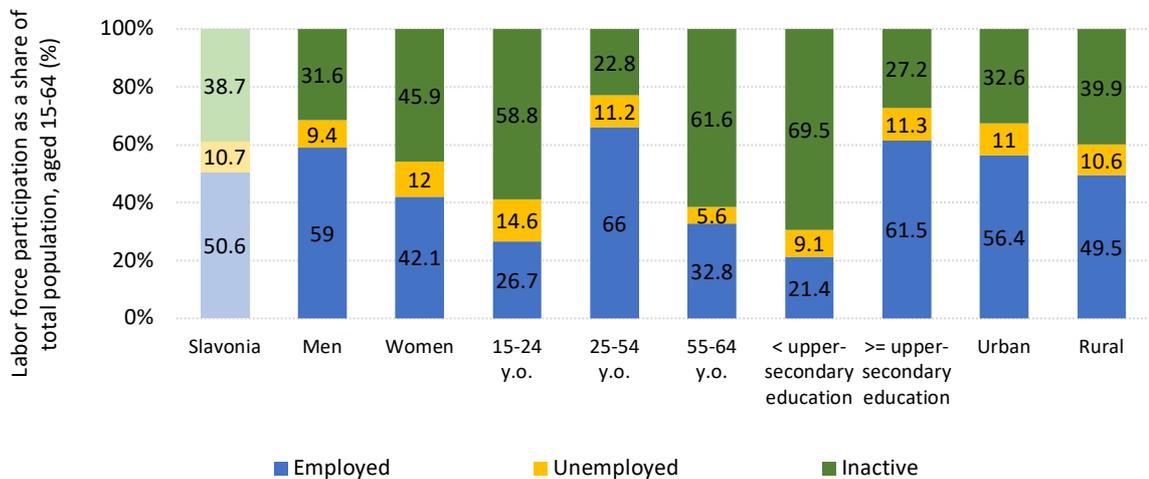
**Geographically, employment rates are also lower in rural areas and certain counties.** The employment rate among rural dwellers is 49.5 percent, compared to 56.4 percent among those living in urban settlements (Figure 2). Among the five Slavonian counties considered in this study, the administrative unemployment rate in 2017 was highest in Virovitica (29 percent), followed by Vukovar and Osječko-

<sup>3</sup> Additional vulnerable groups, such as ethnic minorities, migrants, people with disabilities, etc. are not part of this report, due to limited data availability on such groups.

<sup>4</sup> In the rest of Croatia, 25.7 percent of youth and 42 percent of the elderly were employed in 2017 (LFS). Yet, the unemployment rate for youth (15-24) is 10 percentage points higher in Slavonia than in the rest of Croatia (35 vs. 25 percent), as much higher rates of youth are inactive (not in employment, education or training).

Baranjska County (each 25 percent), and was lowest in Požega (19 percent). However, in all cases it was well above the Croatian average of 13.9 percent, as it has been for the past two to three decades,<sup>5</sup> and much higher than in Zagreb and Istria, where the unemployment rate in 2017 was only 6 percent. The difference in labor market performance across these different geographic areas follows partly from their different demographic composition and income, and not just from the geographic characteristics themselves. For instance, controlling for a person's income, their demographic characteristics (age, gender, marital status, education and household composition), and the county they live in, the likelihood of being employed is the same in rural and urban areas. Similarly, compared to Osijek, rural (and urban) citizens with the same income and demographic characteristics are only more likely to be employed when living in Požega (by 13.5 percentage points) and less likely to be employed when living in Vukovar (by 11.5 percentage points), but equally likely to be employed when living in the other two counties (see Probit regression results presented in the Annex, Table 6).

**Figure 2: Labor force participation is lower among women, the youngest and oldest age-groups, the less educated, and in rural areas**



SOURCE: Croatian Bureau of Statistics (CBS), Labor Force Surveys (LFS), 2017.

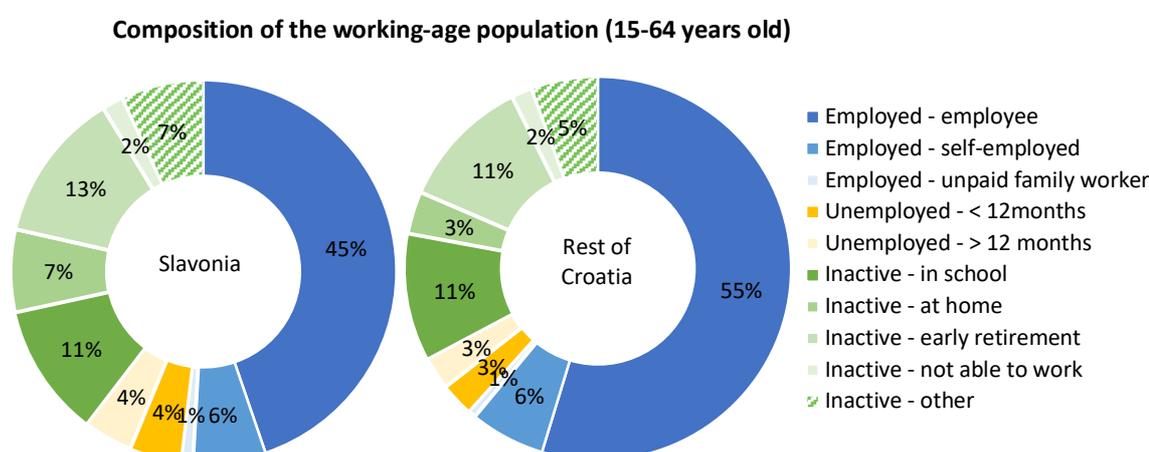
## 2.2. Shaped by a legacy of war, lower education and limited availability of care

Slavonia's much higher inactivity and unemployment rates than in the rest of Croatia (by 10 percentage points in total) beg the question as to what is so different about its labor force and economy. It is especially puzzling given that Slavonia was a thriving region up until the early 1990s, with Osijek, the largest city in the region, the second largest industrial center in former Yugoslavia. At the same time, being on the front line, Slavonia was particularly affected by the 1991-95 Homeland War. However, there are other factors at play as well. Comparison of the shares of the different socio-economic groups among the inactive and unemployed populations with those in the rest of Croatia provide a first entry point in addressing this question (Figure 3).

<sup>5</sup> At the onset of the crisis, the counties in the region recorded as much as 20 to 30 percent of their active population as registered unemployed (compared to a country average of 15 percent). Registered unemployment rates peaked at 30 to 40 percent of the active population in 2014, but the labor market situation, like in the rest of the country, improved substantially thereafter, bringing unemployment rates back to pre-crisis levels.

**First, the labor force in Slavonia is characterized by low levels of education and skills, which is often a powerful predictor of unemployment and inactivity.** The share of the Slavonian working-age population that is short and long-term unemployed is one percentage point higher than in the rest of Croatia (each time 4 instead of 3 percent), thereby accounting for a fifth of the 10-percentage point employment gap between Slavonia and the rest of Croatia. Many labor supply and demand factors affect unemployment, but it typically declines with education. In 2017, 55 percent of the working-age population in Slavonia had at most completed 3 years of vocational school (half of whom had not completed upper-secondary school) (Figure 4). This picture is quite different from the rest of Croatia, where the majority of the working-age population has completed at least 4 years of vocational school (higher-vocational), and more than 20 percent has completed tertiary education (professional or university studies). The poorer educational attainment of Slavonia’s labor force is cause for concern, both from an absolute and comparative perspective. The challenge is deep rooted. It goes well beyond the interruption of Slavonians’ education careers during the war<sup>6</sup> and possible selective outmigration of the more educated and younger populations. The factors behind Slavonia’s cumulative educational lag are discussed in more detail in section 4.

**Figure 3: More of Slavonia’s labor force is inactive at home and in early retirement**



SOURCE: Croatian Bureau of Statistics (CBS), Labor Force Survey (LFS), 2017.

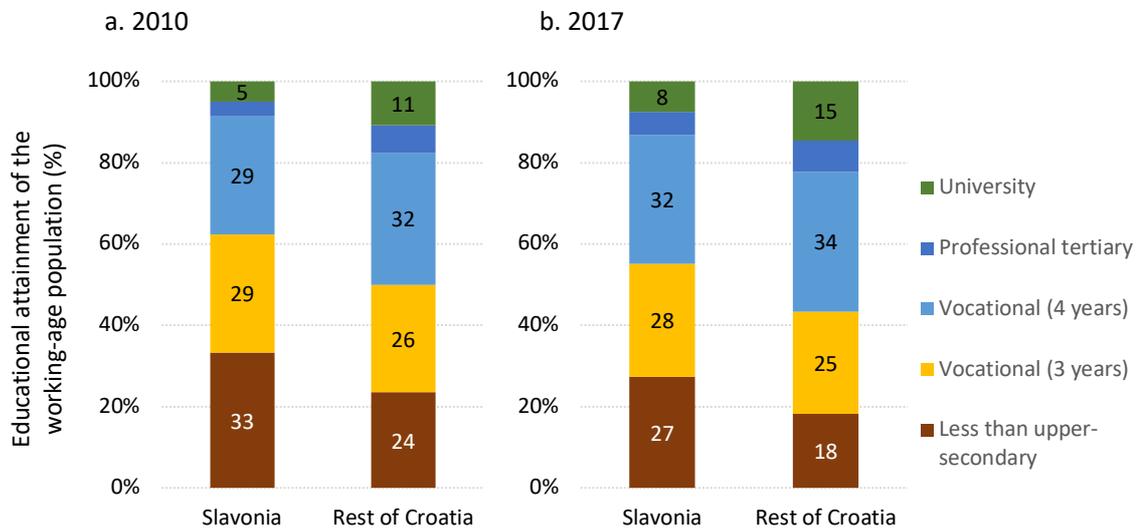
**Second, a much larger share of Slavonia’s working age population is inactive at home, largely due to a lower share of female labor participation and a much less developed system of childcare provision.** At 7 percent, the share of inactive people at home is 4 percentage points higher than in the rest of Croatia (accounting for two fifths of the employment gap—i.e. four out of 10 percentage points) (Figure 3). This is consistent with the lower female labor market participation and much less developed system of family care than in the rest of Croatia. While other factors than access to childcare are obviously at work in explaining the female employment gap, comparison of the female employment rate gap for the 25-39 age group in Slavonia (18.2 percentage points) with the rest of Croatia (6.7 percent), suggests that up to 11.5 percentage points may be due to lower access to care (LFS, 2017).

Coincidentally, enrollment in early childhood education and care (ECEC) is also much less prevalent in Slavonia than in the rest of Croatia. In 2016-2017, only 8 percent of Slavonian children below three years old were enrolled in nurseries, and about a third of the 3-to-6-year-olds were enrolled in regular

<sup>6</sup> This lower educational attainment cuts across age groups, while war effects would mainly manifest themselves among the 30-45-year-olds, i.e. the cohort of school-age children (set at 6-21 years old) during the 1991-1995 war.

kindergarten programs. At the national level, nursery and kindergarten enrollment rates were 21 and 58 percent respectively (Dobrotić et al, 2018; see also Figure 22 in section 4).

**Figure 4: Slavonia’s labor force has relatively low educational attainments**



SOURCE: Croatian Bureau of Statistics (CBS), Labor Force Survey (LFS), 2017.

There is empirical evidence of a strong association of childcare coverage and the female employment rate: countries with better developed child care systems and pre-school and kindergarten coverage have the highest rates of female employment (Bertek and Dobrotić, 2016), and an increase in coverage is associated with a growth in women’s employment (Dobrotić et al, 2010). However, affordable child care options are particularly low in Slavonia, with rural areas even less well provided for (Box 1).

### Box 1: Participating in the labor market in the absence of affordable child or afterschool care is challenging, especially for women

Social norms assign responsibility for care for children and the elderly primarily to women, and much of these care activities remain informal and family-based. The few public childcare centers are oversubscribed, and legal provisions mandate priority admission for children whose parents are both already in employment. It is difficult or unattractive to combine care with full-time employment. Flexible work arrangements are generally not available (90 percent of working women are engaged full-time in Slavonia), and paid parental leave lasts up to one year. This may encourage women with nursery-age children to drop out of the labor market altogether when child or parental care needs present themselves, this being a pattern of barriers identified in profiles of labor market exclusion (Ovadiya et al., 2017). Half-day school programs and limited formal afterschool care possibilities for those in primary school<sup>7</sup> further exacerbate the challenge for women to participate in the labor

<sup>7</sup> With after-school care (noon to five) in schools being funded by local government and parents, only 4.4 percent of children in grades 1-2 attended after-school in Slavonia in 2017/18. This compares with 6.2 percent in the Center and Northwest, 13.1 percent on the coast or 38.9 percent in Zagreb and its surroundings (e-matica, via školski e-rudnik).

market. This is particularly true for young women with less education and those in rural areas, where childcare services and early childhood education are even harder to find.<sup>8</sup>

Low affordability further limits access to childcare. While hourly rates of private informal childcare start at HRK 40, making them prohibitive for all but high-wage professionals, even parental fees for kindergartens in public care facilities are usually about HRK 500 to 700 per month for the first child (Dobrotić et al., 2018). This remains a substantial sum, especially for poorer households. Local governments may subsidize the cost of childcare, but resources in less developed towns and municipalities are too limited to extend coverage and subsidies beyond a small subset of the population.

**Finally, Slavonia displays higher shares of early retirement, consistent with its large number of 45-64-year-olds with war related disabilities.** At 13 percent, the share of people in early retirement in Slavonia is 2 percentage points higher among the working age population than in the rest of Croatia (11 percent) (Figure 3). It accounts for about one fifth of the employment rate gap between Slavonia and the rest of Croatia (2 out of 10 percentage points). This lower level of labor participation in the older age groups<sup>9</sup> is mainly due to the larger number of people with war-related disabilities. In Croatia as a whole, 8.1 percent of the cohort of men aged 45-64 are beneficiaries of war-related disability pensions; in Slavonia, the share reaches 13.2 percent. That is twice as high as in Zagreb or Central and Northwest Croatia (Table 1).

**Table 1: Twice as many men aged 45-64 receive war-related disability pensions in Slavonia compared to Zagreb**

	Total number of recipients	Estimated share of male 45-64 cohort	Estimated share of female 45-64 cohort
Slavonia	21,341	13.2%	2.1%
Central and NW Croatia	11,860	5.9%	0.9%
Coastal counties	22,984	7.7%	1.2%
Zagreb city and county	15,119	6.9%	1.0%
<b>Croatia</b>	<b>71,304</b>	<b>8.1%</b>	<b>1.2%</b>

*NOTE: Estimates based on age structure of beneficiaries (2.6 percent below age 45, 64.5 percent males aged 45-64, 10.3 percent female aged 45-64, 21.8 percent over 65. The validity of the regional estimates relies on the assumption that the age and gender structure of beneficiaries do not vary much across regions.*

*SOURCE: Statističke Informacije Hrvatskog Zavoda za Mirovinsko Osiguranje 3/2018, tables 14d and 22b; CBS population estimates.*

### 2.3. Mostly private-sector wage jobs concentrated in traditional sectors and larger-sized firms

**As in the rest of Croatia, the private sector in Slavonia provides the bulk of employment, yet the share of the public sector is larger than the OECD average.** The private sector accounts for 70 percent of jobs,

<sup>8</sup> Women also face barriers to re-entering the labor market. Focus group discussions revealed that women face barriers during interviews if they have or have had children.

<sup>9</sup> Put differently, in 2017, 61.2 percent of the population aged 55 to 64 was inactive, as compared to 55.2 percent in the rest of the country (LFS).

while the public sector<sup>10</sup> accounts for 30 percent (LFS, 2010 and 2017). The latter is much higher than the OECD average of 22 percent: only Denmark and Norway display shares above 30 percent (ILOSTAT database). In the first instance, these numbers underscore the importance of a favorable business climate and firm competitiveness for job creation. Yet, with almost a third of the population employed in the public sector, national public sector employment policies also remain influential for local labor market performance. This can for example happen through pan-territorial wage setting, which affects the wages the local private sector needs to offer to remain competitive in attracting workers (irrespective of its own productivity).<sup>11</sup>

**The vast majority of working individuals are wage employees, and self-employment remains limited.**

About 11.7 percent of workers in Slavonia declare themselves to be self-employed (LFS, 2017; Figure 3). This is slightly more than 9.8 percent in the rest of Croatia, but less than in many countries in the EU28, which averages 13.7 percent (Eurostat). Low entrepreneurial activity is also highlighted by the low rate of individuals who start a new business: Total early-stage entrepreneurial activity (TEA) is lower in Slavonia than in the rest of the country, and even lower for women (OECD / European Union, 2017). To the extent that this is symptomatic of the challenge of setting up one's own business, this is problematic, especially for more vulnerable groups, such as those who are less mobile or less skilled, often rural women.<sup>12</sup> They often resort to self-employment as a viable alternative to formal wage employment (OECD/European Union, 2017).

**A large share of Slavonia's registered wage employment is in manufacturing (35 percent), but also construction (11.4 percent) and agriculture / forestry / fishing (8.2 percent) (Figure 5).** Together, they account for more than a half of registered firms' wage jobs in Slavonia, compared to about a third in the rest of Croatia. Among the remaining activities, a significant share is in the wholesale and retail trade. Accommodation and food service activities, and information and communications technology (ICT), two of the four sectors selected for support under Program Slavonia13, employ 3.8 and less than 2.5 percent of registered firm workers, respectively.<sup>14</sup> Put differently, substantial attention in Program Slavonia goes to boosting employment in smaller sectors.

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<sup>10</sup> This includes employment in state owned enterprises. In Slavonia, the share of employment in state owned enterprises among registered firms is limited and smaller than in the rest of Croatia (7.6 vs 11.1 percent respectively). It suggests that the bulk of public employment in Slavonia is in providing standard government services (such as administration, education, health) and that this type of public employment makes up a larger share of overall public employment than in the rest of Croatia, where employment in state owned enterprises is still more prevalent.

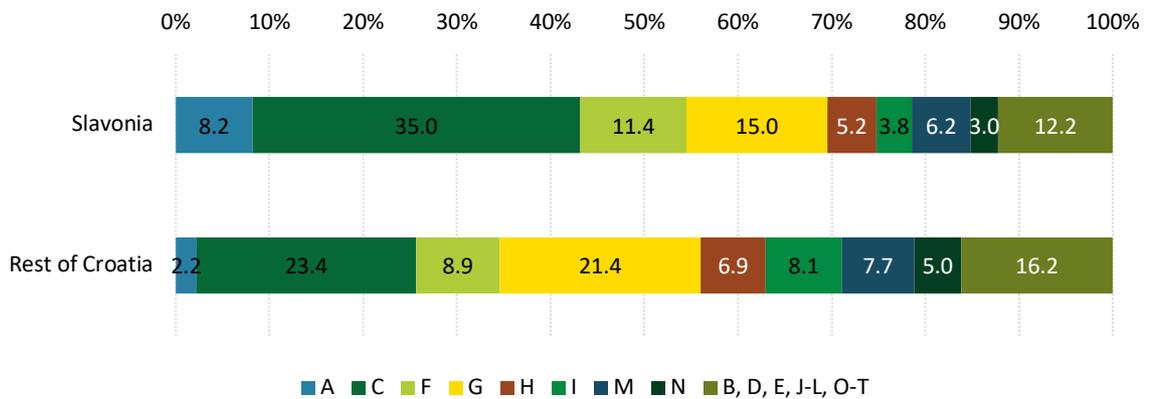
<sup>11</sup> While there are for example substantial wage gaps between Slavonia and the rest of Croatia (between 10 and 40 percent depending on the sector and skill level), these were only 5 to 7 percent in the public sector and for state-owned enterprises in 2012 (Rubil and Tomić, 2015). Until recently, there was also a premium to public sector employment. The Croatian wage setting system includes a Government-mandated statutory minimum wage, relatively uncoordinated collective bargaining processes which are very prevalent in the public sector, and, until recently a significant premium in terms wages and benefits for workers in the public sector. This wage and benefit premium for public sector employees, whilst likely on the decline since the pay freeze for civil servants, put pressure on the wage rate in the private sector. This affected the country's overall competitiveness, lead to market segmentation and an inefficient allocation of resources (World Bank, 2018b).

<sup>12</sup> A large share of early-stage entrepreneurship activities in Croatia is likely driven by people without other employment opportunities. During 2013-17, more than one-third of new entrepreneurs (37.2 percent) reported that they started their business because they could not find a job. This was even more for senior and female entrepreneurs. More than half of seniors (51.3 percent) reported that they did not have other opportunities to work and the female/male ratio for the opportunity (as opposed to necessity)-driven TEA averaged 83 percent (OECD/European Union, 2017).

<sup>13</sup> The two other sectors include agriculture and wood, with metal processing added most recently as a fifth sector to support.

<sup>14</sup> The numbers for ICT are not reported in Figure 5.

**Figure 5: Most jobs in Slavonia are in manufacturing, construction, and agriculture, forestry and fishing**



NOTES: Activities are classified according to the NACE Rev. 2 classification: A – Agriculture, forestry and fishing; C – Manufacturing; F – Construction; G – Wholesale and retail trade, repair of motor vehicles and motorcycles; H – Transportation and storage; I – Accommodation and food service activities; M – Professional, scientific and technical activities; N – Administrative and support service activities. Sectors shown without grouping with other sectors are those that contribute to the total employment in Slavonia or in the rest of Croatia by five percent or more.

SOURCE: Financial Agency (FINA).

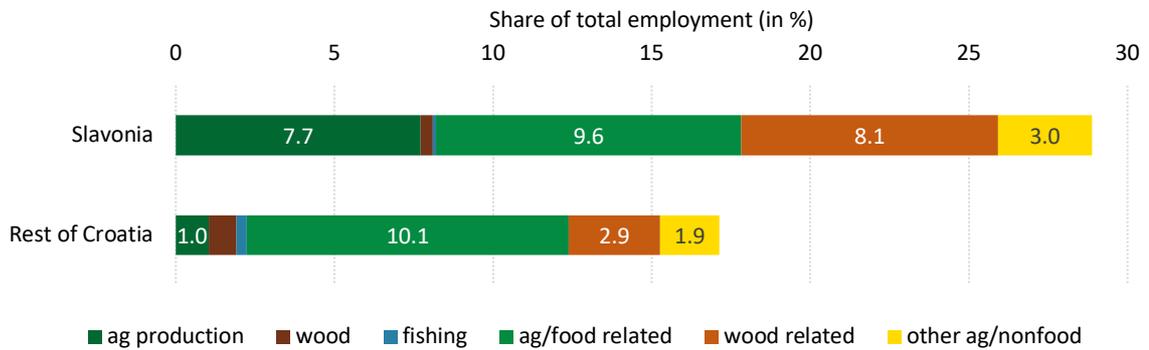
**The share of employment in agriculture largely underestimates the reach of agriculture and forestry in the Slavonian economy.** While employment in the agriculture, forestry and fishing sector accounts for just about 8 percent of total registered firm employment in Slavonia, this discounts employment in related activities, i.e. agricultural input provision, transport, storage, processing, retail and wholesale, as well as food services. When these are included, the total employment share amounts to 29 percent (compared to 17 percent in the rest of Croatia) (Figure 6.a),<sup>15</sup> of which 8.1 percentage points in the wood related sectors. The figures, based on data on firms (FINA), are basically confirmed by household survey data (LFS), although the structure of employment in agriculture / forestry / fishing and related activities is somewhat different in these data (Figure 6.b).

**This underscores the continuing importance of the agro-food system for the Slavonian economy, which is consistent with the focus of Program Slavonia on boosting agriculture and the wood sector.** Nonetheless, over the past decade there has been a significant decrease in the employment share of the agro-food system. In Slavonia, the share fell from a little short of 40 percent in 2010 to about 29 percent in 2017; in the rest of Croatia it fell from about 22 to about 17 percent. While this may partly reflect the natural process of structural transformation as countries progress, in an open economy, it may also be indicative of a drop in competitiveness, including following EU-accession. It highlights the need for an integrated value chain approach, which simultaneously considers the constraints on further expansion and deepening along the different stages of the chain (production, processing, transport and storage as well as marketing).

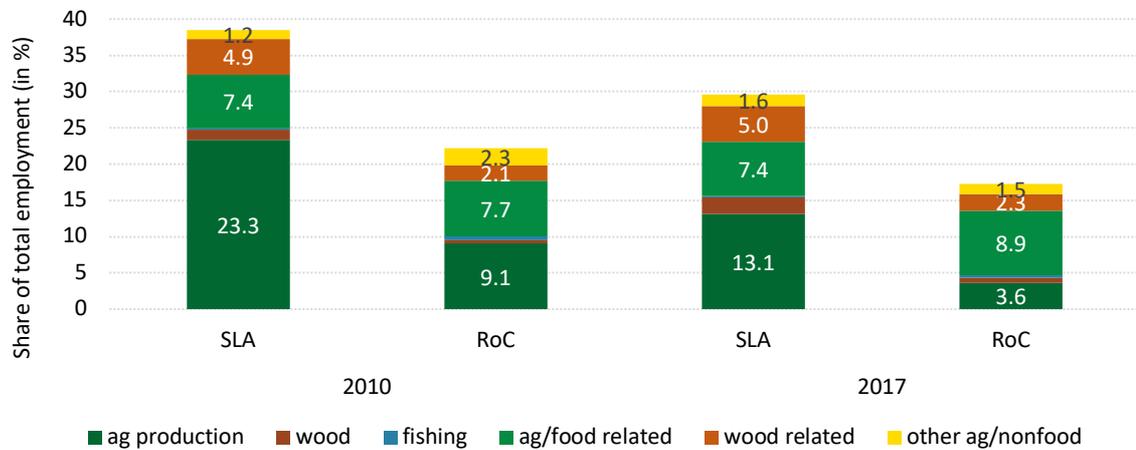
<sup>15</sup> This still excludes unregistered self-employed farmers.

**Figure 6: About one in three jobs in Croatia is related to agriculture**

a. 2017, based on firm data



b. 2010 and 2017, based on household data



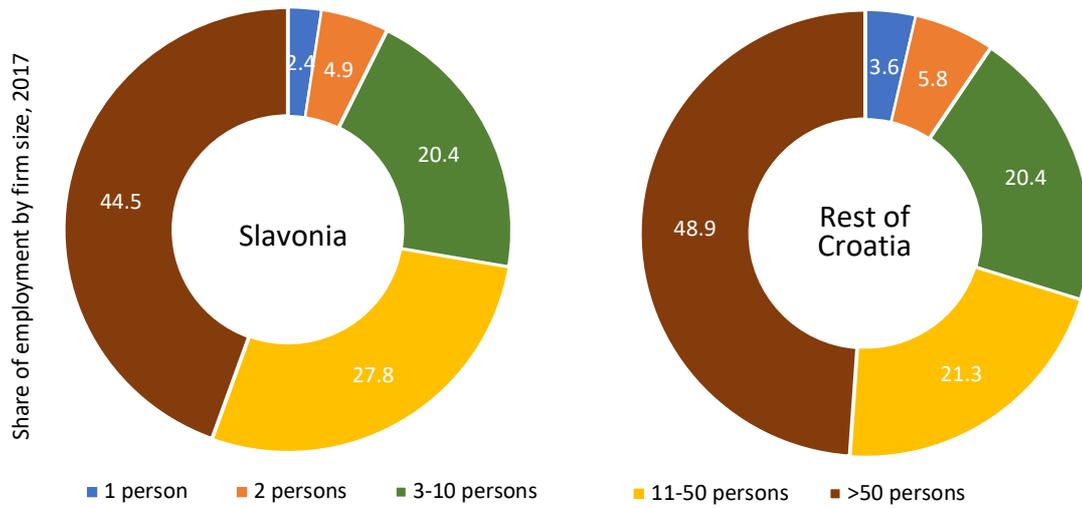
NOTES: ag production – NACE Rev. 2 activities A1; wood – NACE Rev. 2 activities A2; fishing – NACE Rev. 2 activities A3.; ag/food related – NACE Rev. 2 activities C10-C12, G46.17, G46.3, G47.11, G47.2, G47.81 and I56; wood related – NACE Rev. 2 activities C16-C17, C31, G46.13, G46.15, G46.47, G47.59 and G47.82; other ag / nonfood – NACE Rev. 2 activities C13-C14, G36.11, G46.16, G46.2, G47.51 and G47.82. Total employment refers to total employment in Slavonia or in the rest of Croatia, and not in Croatia as a whole.

SOURCE: Financial Agency (FINA) in panel (a); Labor Force Surveys (LFS) 2010 and 2017 in panel (b).

**Wage employment in registered legal entities is concentrated in large and medium-sized firms.** The structure of employment by firm size in Slavonia differs only a little from that in the rest of Croatia. In both cases somewhat less than half of all registered wage employment is in relatively large firms, i.e. those with more than 50 employees (Figure 7). When firms with 11 to 50 employees are added, about 70 percent of employment is accounted for. Neither in Slavonia nor in the rest of Croatia does the share of employment in the smallest firms, those with one or two employees, exceed 10 percent. However, while most people are employed in medium and large firms, more than half of the firms in Slavonia are in fact unincorporated, such as freelancers and craft companies, as compared to less than 40 percent in the rest of the country (Croatian Chamber of Trades and Crafts and CBS).<sup>16</sup>

<sup>16</sup> In Slavonia, half of the crafts companies are in services and hospitality/tourism (40.5 and 11.1 percent of all firms respectively), as compared to 41.6 and 16.3 percent in the rest of Croatia), with most of the rest roughly equally distributed across four other activities (trade (12.3 percent), manufacturing (11.7 percent), agriculture (9.3 percent), body care (8 percent) (Croatian Chamber of Trades and Crafts). These entities employ on average 2.8 people (compared to 2.4 in the rest of Croatia).

**Figure 7: About one Slavonian in two works in a firm of more than 50 employees**

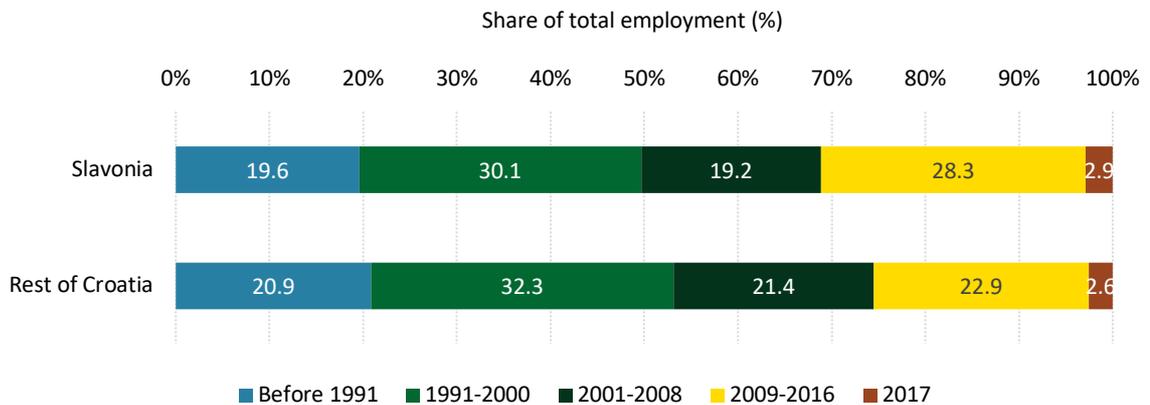


NOTES: Size equal to 1 refers to firms with no employees, that is, those where the only person working is the owner. Similarly, size equal to 2 refers to firms with only one employee, that is, there are 2 people in the firm: the employee and the owner.

SOURCE: Croatian Bureau of Statistics (CBS), Labor Force Survey (LFS), 2017.

**Almost a third of wage workers in Slavonia work in firms established over the past 8 years, possibly a sign of renewed dynamism (Figure 8).** This compares with a quarter of all private sector wage workers in the rest of Croatia. At the same time, more than half of Slavonia’s formal wage employment is in firms that have been around for more than 20 years, about 20 percent in firms established in socialist times, before 1991 and an additional 30 percent in firms established in the first decade of transition (1991-2000).

**Figure 8: One-third of jobs in Slavonia are provided by young firms**



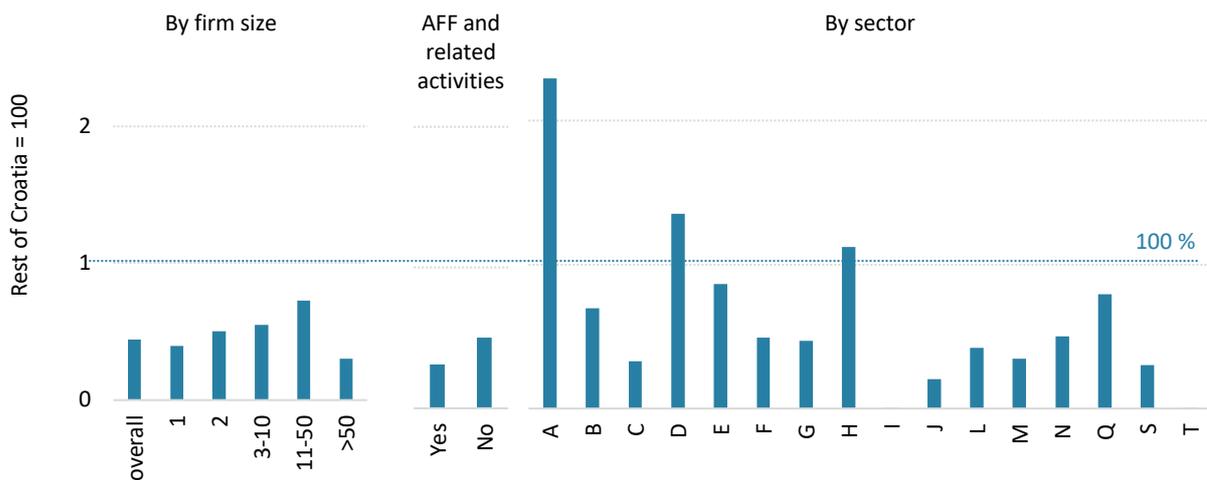
SOURCE: Financial Agency (FINA).

NOTE: 1991 is the year of Croatian independence. The war period is 1991-1995. Parts of Slavonia, specifically parts of Osječko-Baranjska County and Vukovarsko-Srijemska County, had been peacefully reintegrated into Croatian territory by 1998.

**Labor productivity in Slavonian firms is systematically lower than in the rest of Croatia (see Figure 9).** Profit or value added per employee<sup>17</sup> among registered firms in Slavonia is on average less than half that in the rest of Croatia. This holds across firm size but it is most pronounced among larger firms (those with more than 50 employees). Their labor productivity is only 30 percent of the labor productivity in large firms elsewhere in Croatia, compared with 72 percent among medium-sized firms (11-50 employees). The large gap in labor productivity also holds across sectors, with agricultural production forestry and fishery a notable exception (NACE Rev 2 activity A). This proves more than twice as productive. Yet, when the whole food system is considered, the advantage no longer holds. These figures suggest the much lower competitiveness of Slavonian firms. This bears on Slavonia's labor market performance, both in terms of the demand for labor, and thus job creation, and also the wages offered. This will be discussed further in section 3.

**However, while a large number of firms in Slavonia display low labor productivity, labor productivity is very high in some others.** Although average labor productivity in Slavonian firms is much lower, there is also great heterogeneity among firms within sectors, with some even outperforming many of those elsewhere in Croatia (see Annex, Figure 30). The presence of such highly competitive firms holds hope. It indicates that high performance is also possible in Slavonia. Understanding the reasons behind their performance deserves further attention.

**Figure 9: Firm labor productivity is systematically lower in Slavonia labor**



NOTES: Based on the average profit per employee ((sales - material costs - staff costs - other operating costs) / number of employees) per firm, weighted by firm size (number of employees per firm). 'AFF' refers to 'agriculture, forestry and fishing', i.e. NACE Rev. 2 activities A. 'Related' activities are NACE Rev. 2 activities C10-C12, G46.17, G46.3, G47.11, G47.2, G47.81, I56, C16-C17, C31, G46.13, G46.15, G46.47, G47.59, G47.82, C13-C14, G36.11, G46.16, G46.2, G47.51 and G47.82. Size equal to 1 refers to firms with no employees, that is, those where the only person working is the owner. Similarly, size equal to 2 refers to firms with only one employee, that is, there are 2 people in the firm: the employee and the owner.

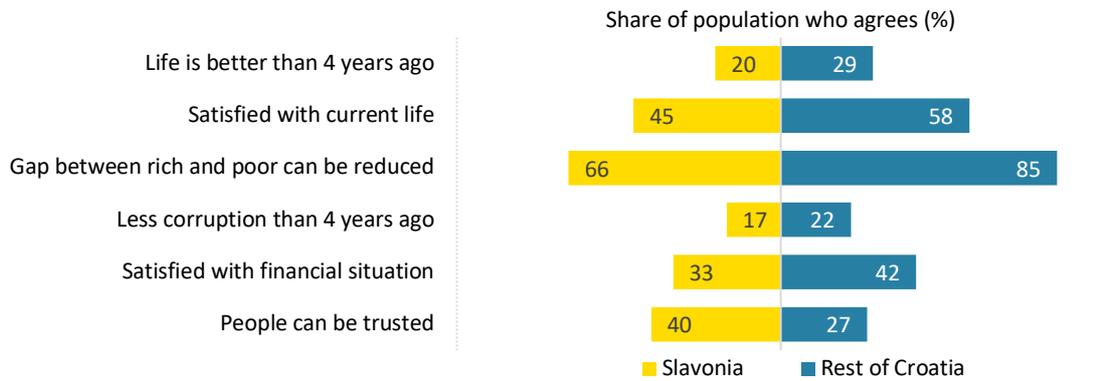
SOURCE: Financial Agency (FINA).

<sup>17</sup> FINA, 2017. Value added or profit per employee is used as a proxy for labor productivity. It is calculated as (gross sales - material costs - staff costs - other operating costs) / number of employees. This corresponds to the EBITDA approach of measuring profit, i.e. earnings before interest, taxes, depreciation and amortization.

## 2.4. Lack of jobs and disenchantment lead to outmigration and impoverishment

Less than half of the Slavonian population is satisfied with their current life and only two out of five Slavonians believe that one can succeed in life through one’s own effort and skills. These figures are much more pessimistic than in the rest of Croatia (LiTS-III, 2016, Figure 10 and Figure 11), and point to particularly poor governance within Slavonia. In fact, three out of five Slavonians believe that to succeed in life one needs political connections or even illegal means. Corruption, financial status, and inequality remain major issues Slavonians are unhappy about. Discouragement is also evident from the high share of Slavonians who believe employment and corruption are the most important issues the government should tackle (41 and 18 percent, respectively) (LiTS-III, 2016).

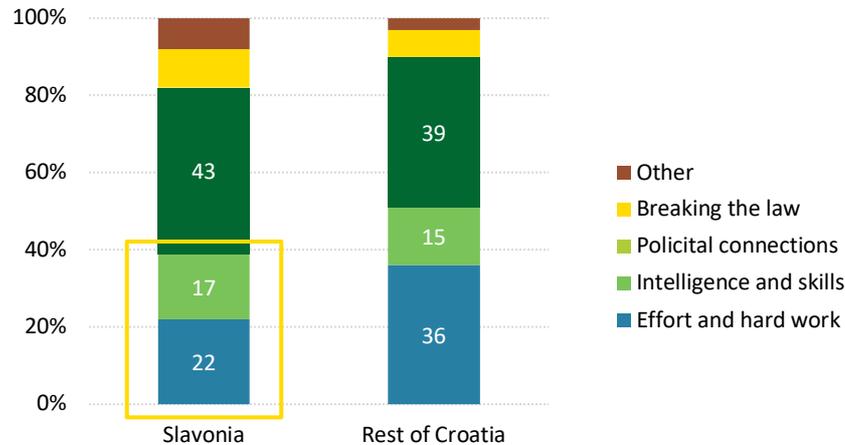
**Figure 10: Slavonians are much less satisfied with life than the rest of Croatia**



SOURCE: Life in Transition Survey (LiTS-III), 2016.

Poor governance bears on the business environment and thus private sector job generation. The bureaucratic burden is the most cited impediment for Croatia in its 2017 Global Competitiveness Score. Firms face costly regulatory burdens, including in the form of the inefficient and extensive inspection system.

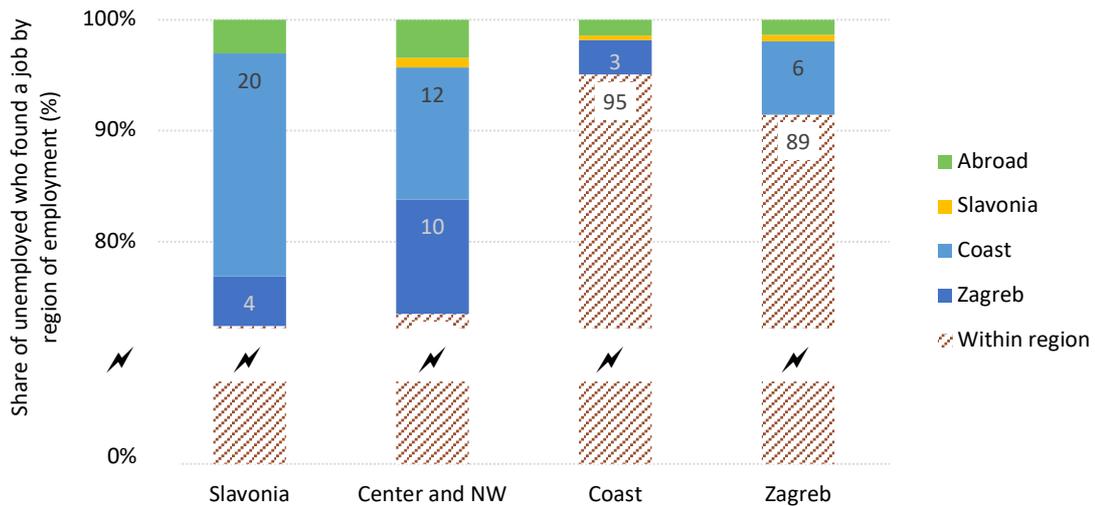
**Figure 11: Only four in ten Slavonians believe that one can succeed in life through one’s own effort and skills**



SOURCE: Life in Transition Survey (LiTS-III), 2016.

**Limited opportunities and disenchantment lead to outmigration.** Slavonians are more likely to accept jobs outside of their region than jobseekers from other parts of the country: almost one in three jobseekers in Slavonia finds a job outside of Slavonia, most likely on the coast (Figure 12). On the coast, or in Zagreb, less than 10 percent of jobseekers move out of their region of residence. Interviews with migrants leaving Slavonia for other European countries point to lack of employment and low salaries as well as general dissatisfaction with the work ethic due to nepotism and corruption, as their main motivation (Rajković Iveta and Horvatin, 2017; Jurić, 2017).

**Figure 12: One in three jobseekers in Slavonia finds a job outside of the region**



NOTES: Working-age population (15-64 years old).

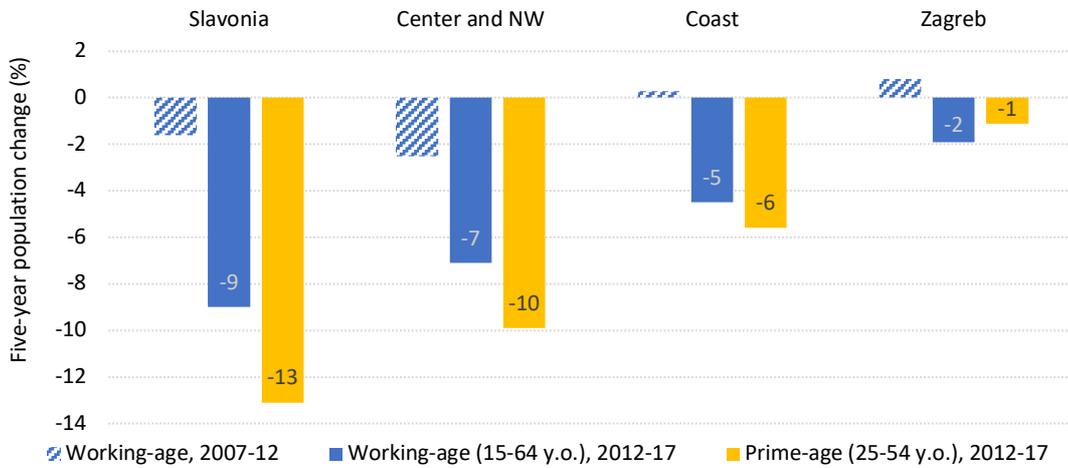
SOURCE: Croatian Employment Service (CES), 2017.

**In particular, prime-age adults are leaving.** Between 2012 and 2017, Slavonia experienced the strongest decline in its working-age population. This is a relatively new phenomenon, which coincides with EU accession in 2014. The decline is especially marked in prime-age workers (aged 25-54). Their share dropped by 13 percent in Slavonia, compared to 1 percent in the county of Zagreb (Figure 13). Such a drop cannot simply be ascribed to ageing. In fact, the recent decline in unemployment rates observed after the 2014 peak (section 3) are unfortunately mostly due to a fall in the number of active individuals following outmigration. Slavonia had 300,000 active individuals in 2008 but only 250,000 in 2017. A convenience sample of 1,200 adult Croats who emigrated to Germany between 2013 and 2017 further suggests that it is especially the highly-educated who emigrated,<sup>18</sup> and increasingly also employed people and whole families (Jurić, 2017).<sup>19</sup> This would also find support in the larger wage gaps for the more educated. Nonetheless, while consistent with popular perception, systematic direct information on skill bias in migration remains hard to come by. The skill composition of Slavonia's migrants remains an area for further investigation.

<sup>18</sup> The share of the highly-educated made up 37.8% of the sample, which was 12 percent higher than in Croatia among the same age group.

<sup>19</sup> Migrants in this sample came overwhelmingly from Zagreb and the surrounding area, as well as Slavonia and Baranja.

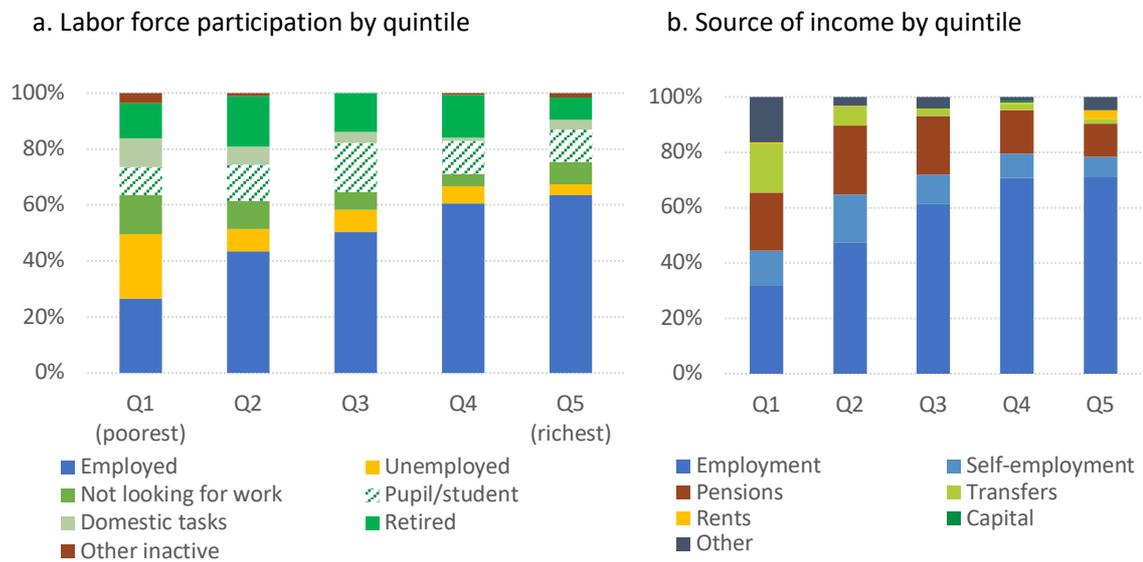
**Figure 13: Outmigration and population decline in Slavonia has intensified since 2012**



SOURCE: Croatian Bureau of Statistics (CBS), mid-year population estimates.

**Those remaining behind are at risk of unemployment and poverty** Employment is the principal channel to avoid and escape poverty. In the poorest quintile (Q1), only one in four working-age individuals is employed, in the richest quintile, 6 out of 10 (Figure 14). Unemployment rates are much higher too, with one in two active individuals from the bottom quintile in Slavonia unemployed. Households in the poorest quintile derive only about 40 percent of their income from employment, relying on pensions and social transfers for another 40 percent. This suggests an important overlap among the profiles of the poor and those excluded from the labor market.

**Figure 14: Employment is the main channel out of poverty**



SOURCE: Croatian Bureau of Statistics (CBS), Household Budget Survey (HBS), 2014.

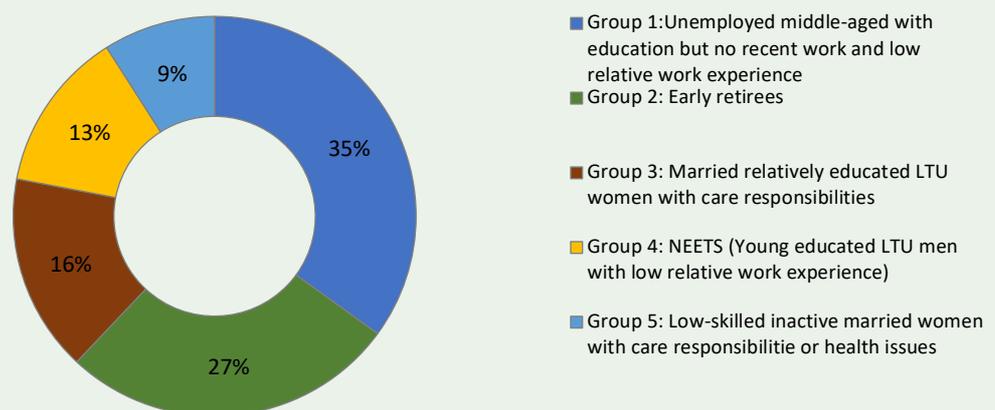
**In particular, the young and elderly, those with lower educational attainment, those with young children to take care of, and those living in rural areas are excluded and poor.** The importance of employment in fighting poverty and the overlap between poverty and labor market exclusion is further confirmed in a multivariate analysis (the Probit regression results of the correlates of being poor are

presented in the Annex, Table 7). The most important predictors of being in the poorest two income quintiles<sup>20</sup> are education (the likelihood of being poor is reduced by 11 percent if upper secondary education is completed, and by 38 percent if tertiary education is completed), being employed (reducing the likelihood of being poor 40 by 19 percent), having care responsibilities (increasing the likelihood of being poor by 19 and 20 percent when having a child between 0 and 5 years old or between 6 and 15 years old respectively), and living in rural areas (increasing the likelihood of being poor by 15 percent). This resonates with the findings of the correlates of unemployment (see Annex, Table 6). A more detailed portrait of those excluded from the labor market in Croatia is presented in Box 2. It is expected to apply in similar measure to Slavonia.

### Box 2: Portraits of labor market exclusion in Croatia

The *Portraits of Labor Market Exclusion* (Ovadiya et al., 2017) aims to identify the different groups of individuals who have difficulties entering the labor market, i.e. those who are not working at an optimal level (in terms of stability, hours or job quality), and those not covered by any activation measures or registered as unemployed. They look at a subset of the Croatian working-age population: those aged 18-64, excluding full-time students and those serving compulsory military service. The population comprises individuals who self-reported being out of work during the entire survey reference period (i.e. individuals with no employment attachment), as well as those who are marginally employed due to unstable jobs, restricted working hours, or very low earnings. These individuals account for 46 percent of all working-age Croatians.

Applying Latent Class Analysis to SILC 2013 data to segment this population of individuals having difficulties entering the labor market creates five different groups of individuals. The largest group is made up of unemployed, middle-aged individuals with some education, but no recent work experience and low relative work experience (35 percent). The second largest group is made up of early retirees (27 percent). The third group comprises married women, relatively educated but in long-term unemployment (LTU), and with care responsibilities (16 percent). The fourth group consists of individuals who are not in employment, education or training (NEETs): young educated men with low relative work experience and affected by long-term unemployment (LTU) (13 percent). Finally, the last group is made up of low-skilled inactive married women with care responsibilities or health issues (9 percent). Despite being the smallest, the last group experiences the highest number of barriers to the labor market.

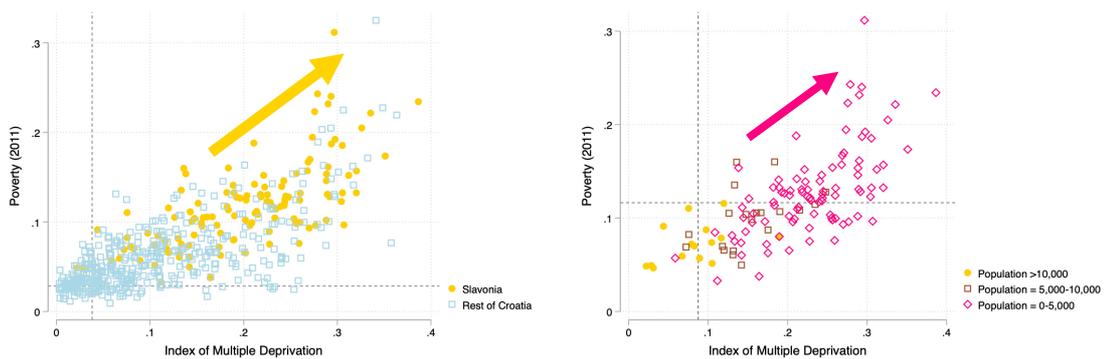


SOURCE: Ovadiya et al., 2017.

<sup>20</sup> Here, as with all household budget surveys, household income is proxied by household expenses.

In addition to affecting different socio-economic groups, unemployment and poverty are also deeply spatial, concentrated in smaller and more remote municipalities. Slavonian municipalities, where unemployment rates are highest, are also among the poorest in Croatia, especially the smallest and most remote municipalities. Municipalities in Slavonia display higher-than-median poverty rates, as well as higher-than-median Index of Multiple Deprivation (IMD) scores – see left panel of Figure 15. Within Slavonia, this is particularly true for smaller and more remote municipalities. The ten biggest municipalities display poverty rates below the regional median of 12 percent, and IMD scores roughly below the regional median, while municipalities with less than 5,000 inhabitants are both, poorer and more deprived – see right panel of Figure 15.

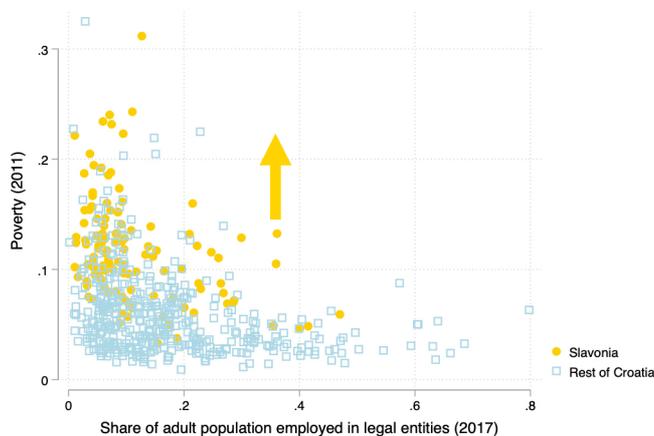
**Figure 15: Poverty and social exclusion are highest in Slavonian municipalities, especially smaller ones**



SOURCE: Croatian Bureau of Statistics (CBS), Index of Multiple Deprivation (IMD) database.

Finally, not only is the population in Slavonia poorer and more deprived than in the rest of Croatia, it is also poorer at similar activity levels. As displayed in Figure 16, low levels of activity in Slavonia are correlated with higher levels of poverty than in municipalities outside of Slavonia with similar activity rates. This suggests that sources of income other than wages (unemployment benefits, social transfers, income from rent, etc.) are much lower than elsewhere. Slavonians are poorer, more deprived, and less likely to be able to draw on additional sources of income to make ends meet.

**Figure 16: At similar levels of employment, Slavonian municipalities are among the poorest**

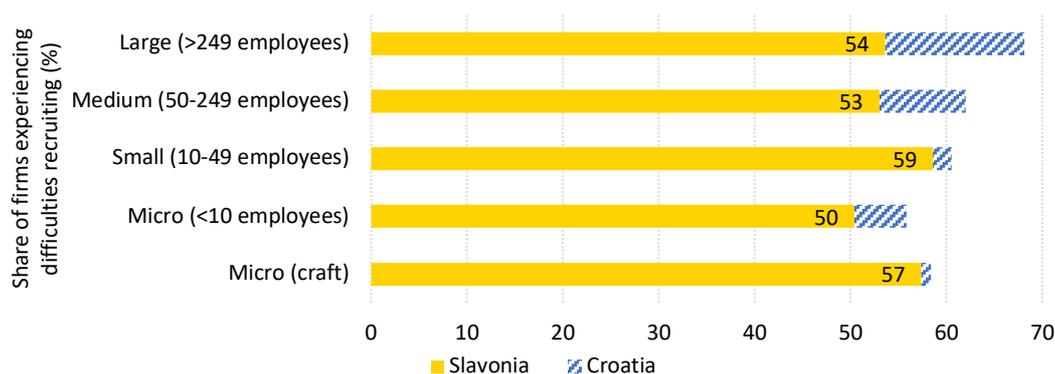


SOURCE: Croatian Bureau of Statistics (CBS), Index of Multiple Deprivation (IMD) database.

## 2.5. Increasingly unfilled vacancies

Despite high inactivity and unemployment rates, Slavonian employers are increasingly also concerned by skill deficits. Many firms report problems hiring new employees, largely because of insufficient experience or skills. Regardless of firm size, over 50 percent of employers in Slavonia report not being able to find successful applicants in 2017 (Figure 17). While the situation in Slavonia is marginally better than in the country as a whole, difficulties with recruiting provide cause for concern, especially given the fact that most employers do not deem training necessary (Employers' Survey, 2017).

**Figure 17: More than half of firms are concerned by skills deficits**



SOURCE: Employers' Survey (2017), Croatian Employment Service (CES). Data for deficits faced in 2016.

# 3. Labor market dynamics

## Key insights

- Job creation remains the top priority. In the aggregate there are still many more jobseekers and inactive people than available jobs. (Section 3.1).
- At the same time, there are also rising labor shortages for high-skilled professionals and some semi-skilled occupations (Sections 3.2 and 3.3).
- Slavonia's phenomenon of unfilled vacancies is partly explained by substantial wage gaps with more competitive firms elsewhere in Croatia (as well as the EU). However, Slavonia's lack of family care services, which reduce female labor participation, and its lower human capital stock likely play a part as well.
- Current social security provisions, however, do not pose major disincentives for the inactive and unemployed to take up work (Section 3.4).

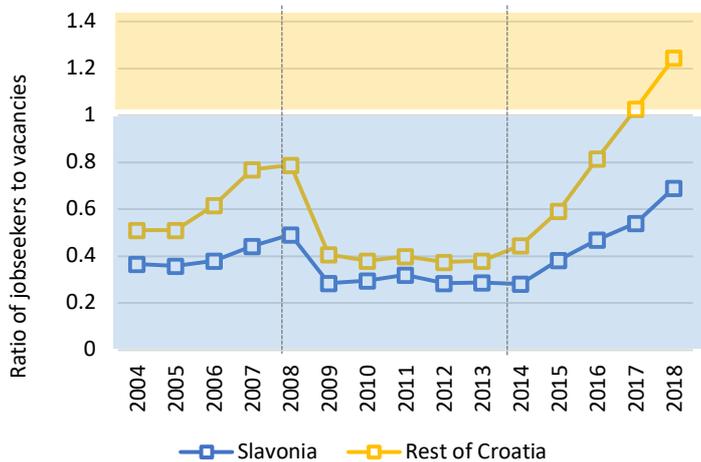
## 3.1. Job creation remains the top priority

Despite substantial progress, labor supply still largely exceeds demand in Slavonia, and since 2014 the divergence with the rest of Croatia has widened substantially. Between 2004 and 2014, there were about 4 vacancies for about every 10 jobseekers registered with the Croatian Employment Services (CES), and 3 vacancies for about 10 jobseekers in Slavonia (Figure 18.a). Coinciding with the economic recovery in the EU since 2014, as well as Croatia's accession to the EU in July 2013, the ratio of vacancies

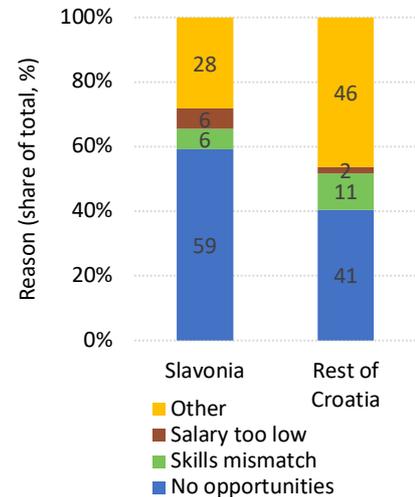
to jobseekers in Croatia as a whole has increased, with the number of registered vacancies now even exceeding the number of registered jobseekers.<sup>21</sup>

**Figure 18: Labor supply exceeds demand in Slavonia**

a. Ratio of vacancies to jobseekers, 2004-2018



b. Most important reason jobseekers didn't find a job, 2016



NOTE: Jan-Nov 2018 only. Vacancies for occupational training ALMP (SOR) not included  
SOURCE: Croatian Employment Service (CES); Life in Transition Survey (LiTS-III, 2016).

**Slavonia did not benefit to the same extent from the broader economic recovery in Croatia and the EU, at least not in terms of job creation.** In Slavonia, in 2016 three in five jobseekers believed they had not found jobs because of scarce opportunities, as compared to 40 percent in the rest of Croatia (LiTS 2016; Figure 18.b). Add to this the high and rising share of working-age Slavonians that are inactive (36.9 percent in 2010, increasing to 38.7 percent in 2017; Figure 1), many of whom have probably simply dropped out of the labor market due to lack of opportunities, and it becomes clear that the labor supply in Slavonia still exceeds demand. There are now about 7 vacancies for every 10 registered jobseekers.

### 3.2. There are few high-skill jobs, but they still go unfilled

**Slavonia experiences an excess demand for higher educated individuals.** While there is an excess supply of labor in the aggregate, the prospects of finding a job are not the same for everyone. In particular, as shown in Figure 19.a, which displays the number of vacancies (dashed lines) and jobseekers (solid lines) by education level,<sup>22</sup> there are more vacancies for higher educated individuals

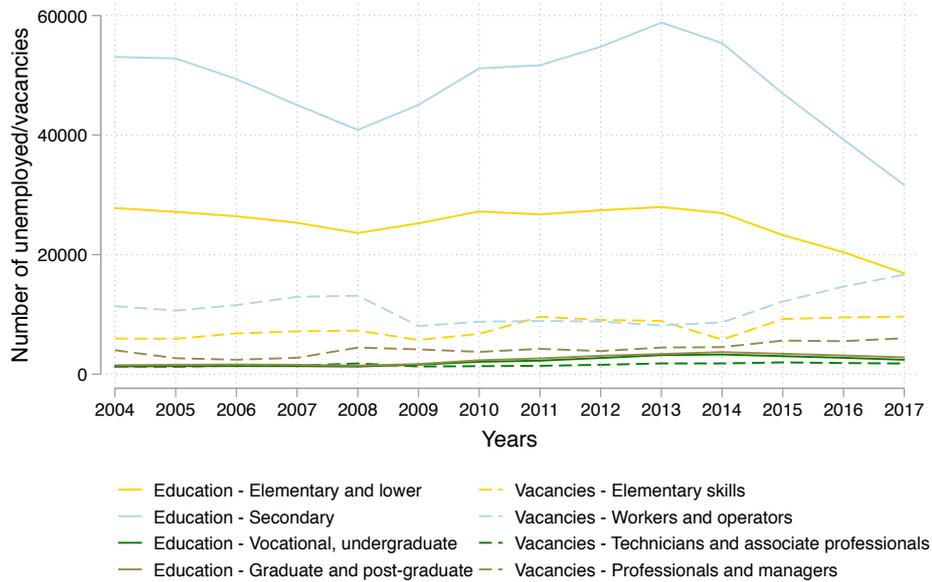
<sup>21</sup>There are reasons to believe that the CES register data may slightly underestimate unemployment. LFS based unemployment rates are slightly higher. In 2017 about 27% of persons meeting the ILO criteria of unemployment were not registered with CES, while at the same time, about 22% of persons reporting to be registered by CES did not meet all three ILO unemployment criteria (LFS, 2017). Similarly, using the Public employment service vacancy data might underestimate labor demand, as some employers advertise their vacancies via private agencies or informally, but the vacancy numbers from private providers are consistent with those shown here (OVI – online vacancy index, compiled by Economic institute Zagreb with MojPosao portal data).

<sup>22</sup> Education levels of jobseekers were matched with the skill levels associated with the vacancies posted by CES.

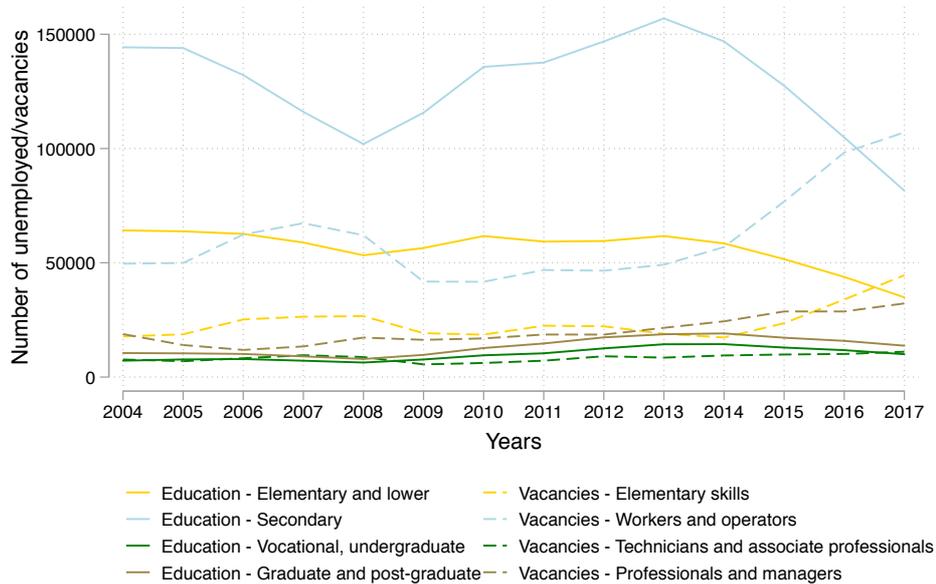
than there are registered jobseekers with higher-level education. Put simply, Slavonia experiences an excess demand for higher educated individuals.<sup>23</sup>

**Figure 19: Slavonia experiences an excess supply of lower skilled jobseekers**

a. Slavonia



b. Rest of Croatia



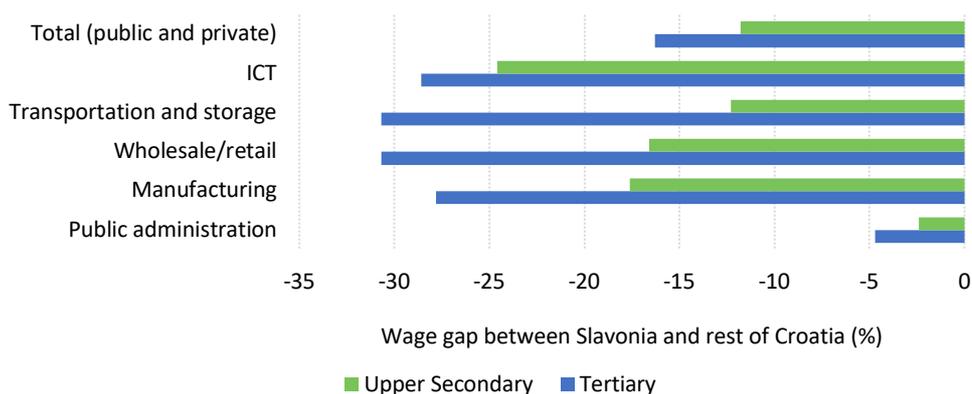
SOURCE: Croatian Employment Service (CES).

<sup>23</sup> Increasing demand for skilled individuals is a phenomenon observed across the world as economies digitize and skill premiums rise (Ridao-Cano and Bodewig, 2018; Hoftijzer and Gortazar, 2018).

**The picture is quite different, however, when looking at jobseekers with at most an upper-secondary education or less.** In Slavonia, jobseekers who have only completed secondary education still far exceed the number of corresponding vacancies. In 2017, there are two times, or 15,000, more jobseekers than positions available requiring some secondary education (the solid blue line compared with the dashed blue line). Similarly, the number of registered jobseekers who have not completed secondary education is larger than the number of vacancies requiring elementary skills, albeit to a lesser extent (the solid yellow line compared with the dashed yellow line). This diagnostic is substantially different from that for the rest of Croatia, where vacancies started catching up with jobseekers in 2014, and has systematically exceeded jobseekers since 2017 across all education categories (see Figure 19.b).

**High wage gaps with the rest of Croatia (and the EU) can explain much of the excess demand for the highly educated.** Individuals with tertiary education face (nominal) wage gaps with the rest of Croatia as high as 25 to 30 percent of their gross salary, in ICT, transportation and storage, wholesale and retail and manufacturing (Figure 20). This wage gap can be twice as large as it is for upper-secondary educated workers, highlighting a bigger wage premium for highly skilled individuals, and thus great incentives to leave the region.<sup>24</sup> Indeed, if you live in Slavonia, the return on having a higher education is lower than in the rest of Croatia, prompting highly educated workers to move out of the region.<sup>25</sup> This comes in addition to the more general disenchantment with the economic environment and the perceived inability to achieve self-realization without political connections (LiTS, 2016).

**Figure 20: The large wage gap between Slavonia and the rest of Croatia**



SOURCE: Calculated from CBS statistical report "Employment and Wages"; tables 2.5 and 3.4, 2016.

**Increasing Slavonian firms' competitiveness and reforming the education system to increase the number of higher education graduates will be important.** Wage gaps between Slavonia and the rest of Croatia have been substantial and persistent over the last decade (fig. 23, CBS statistical reports 'Employment and Wages'). However, only more recently have they also resulted in a shortage of higher educated individuals in Slavonia, as the economy and the demand for higher skilled workers picked up faster in the rest of Croatia (as well as the EU). This has increased the competitive pressures on Slavonian firms, including to increase their wages and attract/ retain their workers, especially the higher educated.

<sup>24</sup> Wages gaps are nominal and do not account for regional differences in cost of living. Indications are however that the gaps remain significant even after correcting for these differences.

<sup>25</sup> Men with lower educational attainment are also more likely to move out of Slavonia: their returns to education are much lower than in the rest of Croatia, while women are more likely to stay, as the differential in returns to education is lower than in the rest of the country. These results were obtained using Mincer equations separately for Slavonia and the rest of Croatia (LFS, 2017).

These pressures find themselves for example reflected in the increasing wage gap for workers with tertiary education (by 2.3 percentage points on average between 2013 and 2016). In the long run, Slavonia will also need to reform its education system and increase its number of higher education graduates, as part of a broader need to increase its human capital stock. This is an important long-term policy agenda, to which we return in Section 4.

**However, addressing the excess demand for higher-educated individuals still leaves many of Slavonia's labor market challenges unresolved.** The excess demand only concerns a small part of the Slavonian labor force. In 2017, there were only 5,243 registered highly educated jobseekers (vocational undergraduates and higher education) and 2,564 excess vacancies for high-skilled jobseekers (CES, 2017). These numbers are small compared to the total number of registered unemployed (53,872) and inactive, most of whom have only some secondary or even only elementary education. Given the high educational levels required, they cannot be retrained to take up these positions. They would only benefit from the positions for the highly educated to the extent that this generates new jobs for the un/semi-skilled, i.e. to the extent that un/semi-skilled and skilled jobs are complementary or to the extent that there are positive spillovers onto the local economy through greater demand for locally produced goods and services that can be produced by the local un- / semi-skilled labor force. Clearly, other measures, that more directly improve the employment status of the lesser educated, will also be needed.

### 3.3. Many lower-skilled vacancies, but even more low-skilled workers with the wrong qualifications

**Importantly, Slavonian firms also report important labor shortages in a number of occupations at lower-education levels.** Findings from an employers' survey and CES data reveal that employers have a hard time finding applicants with the right type of specialization, especially among low- and middle-skilled workers: welders (517 unfilled positions in 2017), locksmiths (357), waiters (933), chefs and cooks (230), agricultural workers and pickers (790), carpenters (237), freight drivers (232). For most positions, employers mention two reasons for being unsuccessful: applicants lack the adequate specialization and / or the adequate experience. Only in the case of agricultural workers is the main reason for skills mismatch different (low wages).<sup>26</sup>

**The main reason for skills mismatch seems again to be the availability of better opportunities elsewhere.** In the case of manufacturing, accommodation and food, and wholesale and retail, three sectors where the labor supply is three times larger than demand, many similar vacancies are available in the rest of the country (or abroad). The wage gaps between Slavonia and the rest of the country in these occupations are also substantial (even though less than for the highly educated) (15 to 25 percent for low and middle skills, but sometimes as high as 40 percent) (Figure 21). Slavonians with these demanded backgrounds are better off accepting positions outside of Slavonia, which is evident from the large employment outmigration from Slavonia to other regions of Croatia (Figure 13). In the case of agriculture, forestry and fishing, this concerns seasonal wage work, and wages offered by employers are very low (on average less than a third of the average wage for low-educated workers (LFS, 2017)), which deters Slavonians from working in these fields.<sup>27</sup> Finally, in the construction sector, the number of jobs offered is on a par with the number of jobseekers, and the wage gap between Slavonia and the rest of

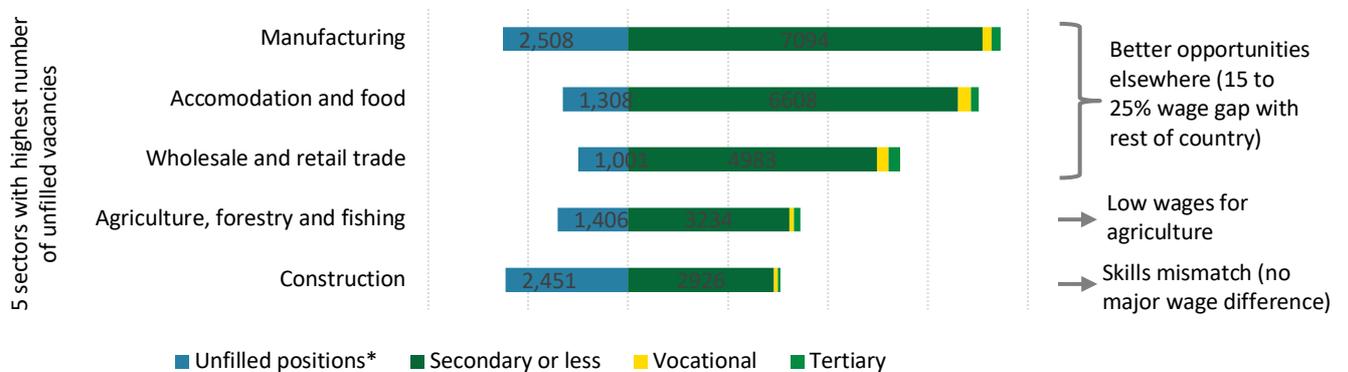
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<sup>26</sup> Two sources of information are used to look at excess vacancies. First, the database of registered vacancies and registered jobseekers (previous paragraph): the net difference between the two registries gives an estimate of the number of unfilled vacancies. Second, the employers' survey asks sampled firms to list all the positions for which they had problems hiring workers. These two statistics will not match.

<sup>27</sup> Wages for full-time agricultural employees are not lower than those in other professions in Slavonia.

Croatia is relatively small (only about 8 percent). However, labor markets for construction workers have cleared and the workforce lacks the skills needed by employers.

**Figure 21: The labor shortage is mostly due to better-paid opportunities elsewhere**



SOURCE: Croatian Employment Services (CES). \* comes from Employers' Survey (2017).

The large number of vacancies in lower skilled occupations suggest important opportunities for employment expansion in the short run through reskilling, but will also need greater firm competitiveness and accompanying measures. Contrary to the longer-term educational investment needed to bring people up to the undergraduate or graduate level, many of the skills in demand can be obtained through retraining of the current workforce. Given Slavonia's longstanding experience in manufacturing, it also has a workforce experienced in the manufacturing sector (as illustrated by the large number of jobseekers in that sector). The large number of vacancies in the manufacturing sector thus requires special attention. Greater firm competitiveness is further needed to enable the necessary wage increase to attract and retain workers of certain qualifications, especially in certain sectors. Finally, accompanying measures, in particular better access to family care provision, can further help increase female labor participation, especially in terms of lesser-educated rural women.

### 3.4. There are no major work disincentives from social security except for war-related disability pensions

Individuals may also face work disincentives when the income they receive from other sources than their own work is high. Married individuals may be disincentivized from working if their partner earns enough money. Women may be disincentivized from working if daycare or kindergarten costs are close to the wage they would earn while working. Poor households may be disincentivized from working if their expected wage is close to what they would otherwise receive from social protection transfers.

Disincentives for highly educated workers are low, as in the rest of Croatia. Only 25 percent of working men and 29 percent of working women who have completed higher education have disincentives to work due to high non-labor income,<sup>28</sup> as compared to 23 and 17 percent for men and women in the rest of Croatia, respectively.

It is likely that poorer households' labor force participation rates are not much affected by the level of the guaranteed minimum benefit (GMB) either. While the marginal effective tax rate for some family

<sup>28</sup> If household income (excluding that from the individual's work-related activities) is more than 1.6 times higher than the median value in the reference population.

configurations is high, it does not seem to factor much in transitions to employment in Slavonia (Matković and Caha, 2017). Repeated increases in minimum wages since 2016 have reduced this inactivity trap, as benefits have not been indexed (Matković 2018b). However, despite low benefit levels, lower wages in Slavonia might make paid employment less attractive to beneficiaries, particularly when a possibility exists to grow food, work in the informal sector, or participate in paid-for public works without losing the right to guaranteed minimum benefits (GMB).

**On the other hand, recipients of war-related disability pensions may face disincentives to work.** The veteran pension is on average HRK 5,753 per month, which is above the average regional wage. In addition, among cohorts aged 45-64, 13.2 percent of men are already receiving war-related disability pensions in Slavonia, as compared to 8.1 percent in the rest of the country, suggesting that disincentives to work because of war-related disability benefits might be quantitatively more important for Slavonia's labor market than in the rest of Croatia.

## 4. Policy entry points for an inclusive labor market

### Key insights

Based on the defining features of Slavonia's labor market identified in the two previous sections, a number of key challenges emerge:

- First, skills mismatches are substantial. Is the education system providing the right skills?
- Second, unemployment rates remain high despite the availability of jobs. Is the Croatian Employment Service (CES) equipped to identify employers' needs, and address supply and demand mismatches through active labor market programs (ALMPs)?
- Third, certain working-age groups are further away from the labor market, and need additional support in finding and securing a job: youth and the elderly, women with care responsibilities, low-skilled individuals (low level of education and limited work experience), and those living in remote areas. Are labor and social protection measures providing opportunities to include the most vulnerable?

This section takes up these three policy questions in turn. The policy challenge of job creation, especially for the unskilled and semi-skilled, is addressed in other chapters of this report. They address issues related to Slavonia's foreign direct investment and the business environment, and its productivity, innovation and financial sector, respectively.

### 4.1. The education system in Slavonia: worse outcomes at all stages

**One major challenge facing Croatia is providing its workers with stronger foundation and technical skills.** In 2016, less than 30 percent of Croatians aged between 30 and 34 had completed tertiary education, which is below the EU average of 39 percent. Furthermore, almost one-third of the country's 15-year-olds fail to demonstrate basic-level<sup>29</sup> mathematics skills in the Program for International Student Assessment (PISA), which is above the EU average. Weak skills foundations among young

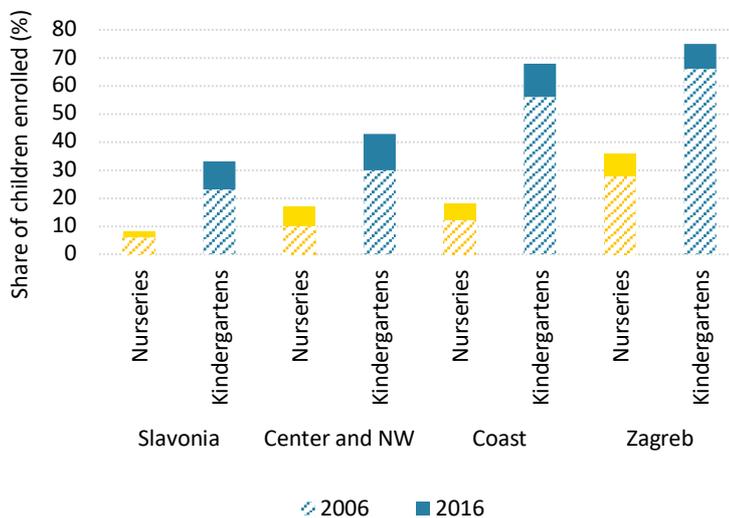
<sup>29</sup> Pisa 'grade band' (2 – basic skill level) is considered 'basic' and set as an EU education and training 2020 indicator.

Croatians have negative long-term consequences for both individuals and for the economy overall. They limit the ability to learn throughout the education system, and later to find and retain a productive job.

#### 4.1.1. Delays in skills acquisition start early

**Slavonia records the lowest participation rates in early childhood education and care (ECEC), and the early years of primary education do not offer equal learning opportunities.** In 2016, only 33 percent of children aged 3 to 6 were enrolled in a regular kindergarten program. These enrollment rates are not only very low, they are also well below the rest of the country. 75 percent of children aged 3 to 6 attend kindergarten in the Zagreb region, 68 percent on the coast, and 43 percent in the center and northwest (Figure 22). In addition, there has been little improvement, as there has only been a 10 percent increase since 2006. This has dire consequences for children's school readiness (Heckman, 2008). Croatia furthermore continues to display very low compulsory instruction time in grades 1 to 4 (473 hours per year), and even single-shift local schools end early around noon, further delaying skills acquisition.

**Figure 22: Slavonia displays the lowest participation rates in ECEC**



Note: Nurseries = 0-2 y.o.; kindergartens = 3-6 y.o.; regular programs.  
SOURCE: Croatian Bureau of Statistics.

#### 4.1.2. Continuing into secondary education

**Resources available for primary and secondary education do not compensate for the challenges raised by the limited availability of ECEC and low compulsory instruction time in primary schools.** The local government (counties and large cities) budget is responsible for investments in equipment and the maintenance of primary and secondary education. While there exist budgetary transfer mechanisms to achieve basic standards, more affluent regions can and do provide more. However, class size and teacher-to-pupil ratios are on a par, or slightly better, than in the rest of Croatia. As a consequence, Slavonia and Central Croatia have lower total spending per pupil, despite spending a higher share of local budgets on primary and secondary education. This is particularly problematic for TVET education, which requires more investments and is over-represented in Slavonia, as compared to the other regions.

**In addition, Slavonia also spends less on education expenses that local governments are not bound to provide** (e.g. ECEC, scholarships, transportation, books, meals, etc.), which can be seen in the last column of Table 2. The overall lack of resources leaves poorer counties, towns and municipalities with lower levels of investment for education funding, therefore reinforcing regional disparities, and probably contributing to putting students at an even greater disadvantage. In 2015, Slavonia spent an

average of HRK 913 per youth (0-24 y.o.), which is half of the national average, and five times less than expenditure per capita in Zagreb (Table 2). The overall lack of resources for education funding leaves poorer counties with lower levels of investment, therefore reinforcing regional disparities, and probably contributes to putting students at an even greater disadvantage.

**Table 2: Local expenditure in education is low**

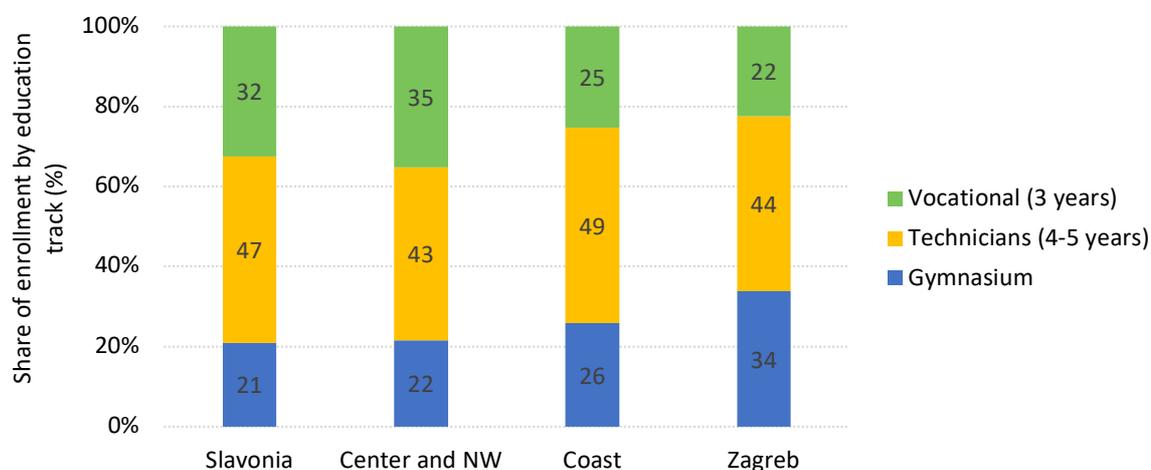
	Education expenditure as a share of the local budget (%)			Local education expenditure per capita (HRK)		
	Total	Primary and secondary	Other education	Expenditure per young person (0-24)	Primary and secondary (per pupil)	Other education expenditure (per young person 0-24)
Slavonia	17.7	10.8	6.9	2,344	3,257	913
Central and NW Croatia	23.5	12.1	11.4	3,536	4,039	1,719
Coastal counties	16	7.4	8.6	3,807	3,916	2,051
Zagreb city and county	23.4	6.8	16.6	6,356	4,150	4,509
<b>Croatia</b>	<b>19.9</b>	<b>8.4</b>	<b>11.6</b>	<b>4,126</b>	<b>3,876</b>	<b>2,397</b>

NOTE: 2015 data used, as local budget reports do not include functional breakdowns of direct transfers to publicly-owned institutions, thus underestimating levels of investment.

SOURCE: Ministry of Finance: Local government budgets, population estimates and CBS education statistics

**Poorly prepared students underperform, especially those from poorer households.** In the 2015 PISA assessment, 32 percent of 15 year- old children in Croatia failed to demonstrate a basic proficiency (level 2) in math, and 25 percent in science. Among the lowest income quartile, as many as 45 percent of students were lacking basic proficiency in math, as compared to 15 percent in the top quartile. Given Slavonia's higher share of poorer households, Slavonia's students are bound to have been among the poorer performers in this range. Children with lower socio-economic status are also over-represented in technical and vocational education and training (TVET), and such programs in turn are over-represented in Slavonia. Slavonia has much higher shares of enrollment places in 3-year vocational school (32 percent) compared to Zagreb (22 percent), and lower shares of students attending gymnasium (21 percent) than the rest of the country (27 percent) and Zagreb (34 percent) (Figure 23).

**Figure 23: Most places in public upper-secondary schools are for TVET vocational programs**



SOURCE: Odluka o upisu učenika u I. razred srednje škole 2018/19.

**Moreover, there is a mismatch between the VET places on offer, enrollments and employers' needs.**

While the number of VET places is rather large and appropriate to the industrial structure (see Annex, Figure 31), actual enrollment is particularly low in the 3-year VET track (Table 3) and in the construction, agriculture, food, forestry, business/trade and personal service TVET sectors. This is especially surprising in light of the number of unfilled vacancies in these sectors (section 3.3). On the other hand, places in health, tourism, IT, electrical and (to some extent) mechanical engineering do fill up well, and more pupils could attend if additional places were available. However, the number of places in these specializations seems to have remained rather stagnant and not very responsive to CES annual recommendations (for change in places, recommendations and actual enrollment in TVET in Slavonia in the last two years, see Table 9 in the Annex).

**TVET curriculum reform may need to further involve employers in order to increase employability and reduce mismatches.**

Despite high participation in TVET, and some revised programs leaving their experimental phase (NCVVO, 2018), almost half of TVET graduates in Croatia end up working in a field outside their specialization (World Bank Group, 2018b); ASOO, 2011; Matković, 2012). This divergence between the skills needed by employers and those supplied by the workforce is worsened by the limited role that employers play in the planning and funding of the TVET sector or the provision of work-based learning (Buković, 2018). At the national level, just 14 percent of all employers and 34 percent of large employers are involved in the provision of apprenticeships (CVTS, 2015).

**Table 3: Slavonia has the highest share of unfilled places in upper-secondary education (state schools)**

	Gymnasiums	4-5 yr technical	3-yr vocational	Unfilled places
Slavonia	12%	22%	36%	24%
Central and NW Croatia	10%	13%	29%	18%
Coastal Counties	9%	11%	33%	16%
Zagreb City and County	3%	8%	24%	10%
<b>Total</b>	<b>8%</b>	<b>13%</b>	<b>31%</b>	<b>17%</b>

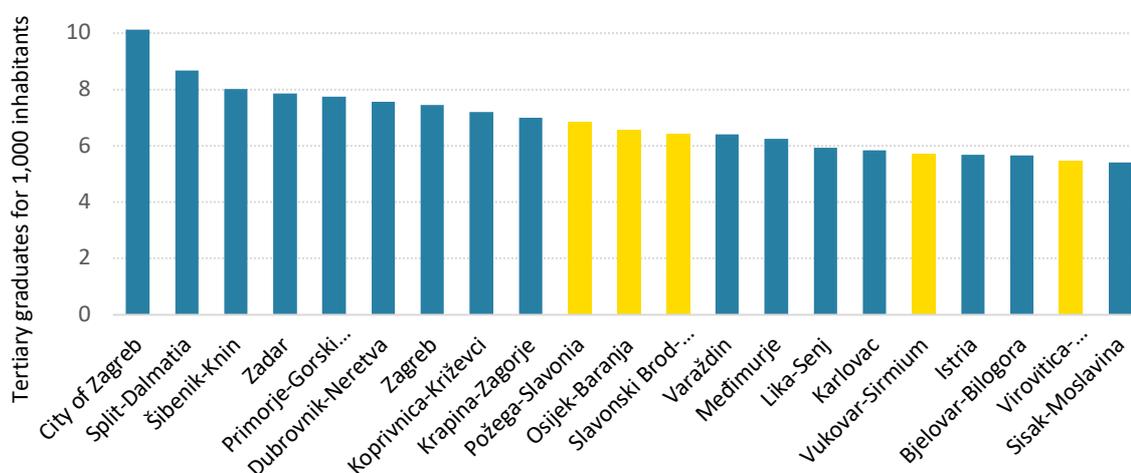
NOTE: Current number of students compared to places announced. Regular programs only, no repeaters, school year 2018/19.

SOURCE: Odluka o upisu učenika u I. razred srednje škole 2018/19. and E-matica extract from 12.12.2018.

#### 4.1.3. Leading to few graduates from tertiary education

**Slavonia displays some of the lowest shares of graduates from tertiary education.** With larger shares of students attending vocational and professional education, lower shares of students taking the Matura exam, and higher rates of failure in the exam, smaller shares of students are ready to attend tertiary education in Slavonia. As a result, graduation rates per 1,000 inhabitants are much lower in the five Slavonian counties (Figure 24). This bodes ill for Slavonia's future. There is already an excess demand for highly educated and skilled workers, especially those with STEM profiles, and the future will only become more skill dependent. As for compulsory education, limited state funding, and limited availability of part-time education excludes the most vulnerable, who make up a higher share in Slavonia.

**Figure 24: Slavonian counties display some of the lowest shares of tertiary graduates**



SOURCE: Index of Multiple Deprivation (IMD) database, 2015.

#### 4.1.4. Sporadic participation in lifelong learning

Throughout Croatia there exists a developed infrastructure for the provision of adult pre-tertiary learning. Indeed, Slavonia has more courses registered per capita (5.7) than other regions (4.2) but provided by fewer education institutions in fewer places (Table 4). Short training courses are most common (about half of the courses on offer). Re-qualification courses are also common in Slavonia (about a quarter of the courses offered), while post-secondary specialization courses are less common. In sectoral terms, the AZUP database indicates that while about a quarter of courses are related to construction, the courses related to the agriculture, food, wood and forestry fields seem to be somewhat more numerous in Slavonia than in other regions, which is consistent with the greater importance of the sector.

**Table 4: Slavonia has more adult education courses registered per capita**

	Institutions with courses in region	Courses registered	Institutions per 1,000 working-age	Courses per 1,000 working-age pop	Short training course (osposobljavanje)	Re-qualification (prekvalifikacija)	Full qualification courses (3-4 yr VET)	Post-secondary specialization (usavršavanje)	other
Slavonia	103	2,786	0.21	5.7	53%	22%	12%	5%	8%
Central and NW Croatia	114	2,477	0.19	4.2	55%	9%	13%	8%	16%
Coastal counties	193	3,530	0.22	3.9	47%	10%	18%	7%	18%
Zagreb city and county	202	2,516	0.27	3.4	56%	4%	10%	14%	16%
<b>Croatia</b>	<b>612</b>	<b>11,309</b>	<b>0.23</b>	<b>4.2</b>	<b>52%</b>	<b>12%</b>	<b>14%</b>	<b>8%</b>	<b>15%</b>

SOURCE: ASOO, AZUP database; December 2018.

However, funding sources and quality assurance provisions are not adequate yet. Training is provided very sporadically via active labor market policies (see Section 4.2.2), while the 2015 Continuing

Vocational Training Survey (CVTS) and 2015 Adult Education Surveys (AES) indicate that employers (in particular small employers) or trade unions are not very involved in training their workforce compared to the EU average (World Bank Group, 2018c). According to the 2015 CES employer survey (HZZ, 2015, p.67), employers in Slavonian counties have reported training a smaller share of their employees during the previous year (14.0 to 16.7 percent) than the national average (20.5 percent). Among the overall population, there seems to be no notable difference between Slavonia and the rest of Croatia, with only about 3 percent of those aged 25–64 participating in some form of workforce education or training course in any given month (LFS, 2017).

## 4.2. Croatian employment services (CES / HZZ): correcting supply and demand mismatches

**If working-age individuals do not present the right set of skills after they have gone through the education system, then correcting remaining mismatches on the labor market is the role of CES.** The institution, much as in other countries, carries out three main responsibilities: (i) forecasting and advising on the skills that are needed on the labor market through its yearly employers' survey; (ii) matching registered jobseekers and available vacancies; and (iii) correcting skills mismatches via active labor market programs (ALMPs).

### 4.2.1. Addressing skills mismatches through better forecasting

**The Croatian Employment Services (CES) has recently put a lot of effort into addressing the mismatch between employers' needs and jobseekers' skills and expectations.** First, to identify the needs of the demand-side, CES collects information on labor demand, shortages and oversupply from the employers' survey, and has published its results at the national level yearly since 2008. Second, to guide students' education choices, CES publishes regional brochures on secondary education options,<sup>30</sup> strengthening collaboration between CES and the education system. In addition, the 'From Measures to a Career' publication attempts to bring labor market integration measures closer to their intended beneficiaries by advertising success stories among the public, while the 'Get Employed in Croatia' campaign aims to inform the unemployed, employers and other interested parties on currently available ALMPs co-financed by the European Social Fund.

**Despite such positive practices, collaboration between CES, the education system, and the private sector remains limited.** Employers continue to complain about the lack of a workforce with adequate training and experience. Recent school-leavers still experience above-average unemployment rates, and some sectors offer more vacancies than there are jobseekers in Slavonia, as evidenced above (see Figure 19).

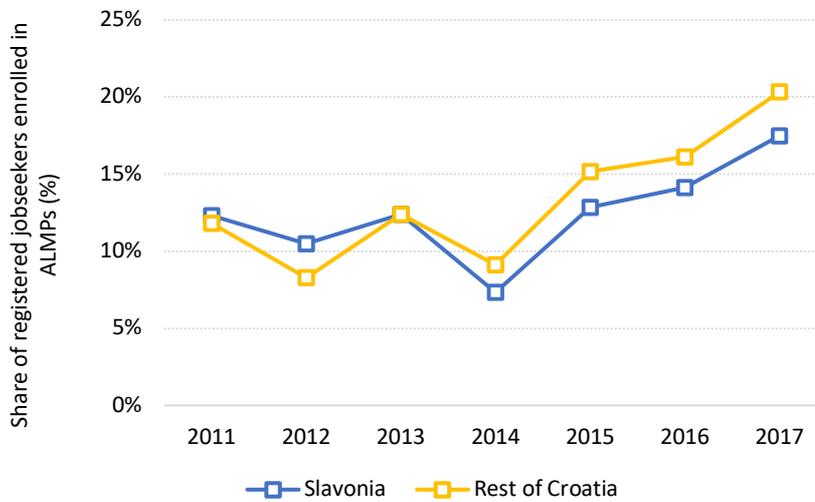
### 4.2.2. Correcting current skills mismatches through ALMPs

**The number and variety of ALMPs implemented by CES has increased substantially since 2010,** and has not declined much since the unemployment peak of 2013. Over the past eight years, 23 to 32 percent of ALMP allocations have been directed to Slavonia. However, due to the large number of unemployed people, this has translated into below-average ALMP participation rates in Slavonia since 2014 (Figure 25).

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<sup>30</sup> Brošure za upis učenika u srednju školu, 2018/19

**Figure 25: The ALMP participation rate in Slavonia is lagging behind the national average**



SOURCE: Croatian Employment Service (CES).

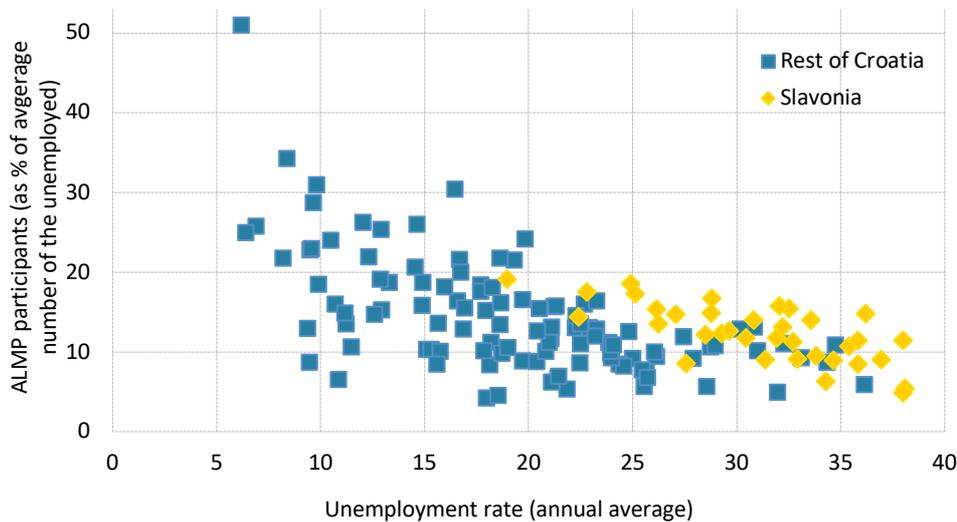
**ALMPs in Slavonia are as effective as in other regions of Croatia** according to the comprehensive 2015 ALMP evaluation (Bejaković et al., 2016). In Slavonia, PWP participants were more likely to demonstrate initiative to enter a program and were more satisfied with the compensation compared to participants from other regions, which is consistent with the findings on employment and wage levels presented in this chapter. As for education programs, participants in Slavonia were less satisfied with available courses than participants in other regions but more satisfied with the process of counselling for training (Bagić, Burić, & Bejaković, 2016). As for ALMP effectiveness, a 2015 impact evaluation identified a positive effect on continued labor market participation (not becoming inactive) a year after graduating from PWPs (8 and 9 percent for Slavonia and the rest of Croatia, respectively), as well as some effect of training on subsequent employment (5 and 7 percent for Slavonia and the rest of Croatia, respectively) (Kotnarowski, Bagić, & Burić, 2016).<sup>31</sup>

**ALMP participation rates are higher in regions where unemployment rates are lower, suggesting poor targeting of Croatia's ALMPs.** Counties with lower unemployment rates, and hence low shares of the active population needing support to find a job, are likely to display higher participation in ALMPs (Figure 26). This may be due to both supply and demand-side factors. On the supply side, the capacity of local public employment services (PES), employers, training providers and local government shapes the delivery and uptake of labor market interventions. Understaffed PES (with higher-than-average loads per caseworker), local government with few resources, struggling employers and a lack of training providers to partner with mean that large numbers of the unemployed are less likely to be enrolled in ALMPs. On the demand side, high unemployment rates are correlated with lower-than-average skills levels, and jobseekers with lower skills sets may not be enrolled in ALMPs, as they are more likely to face barriers to participating (poor learning skills, lack of available transportation, care responsibilities,

<sup>31</sup> International evidence gathered mostly on Europe and the US by Card et al. (2015) shows negative returns in the short-run for training programs and positive returns in the longer-run (at most 10 percent). Public works programs are shown to have very limited impact in the short-run, a negative impact in the longer-run, and large displacement effects during programs.

chronic illnesses, etc.), and / or be considered as potentially less successful candidates by employers or PES caseworkers making the selection.

**Figure 26: Counties with higher unemployment rates display lower participation rates in ALMPs**



SOURCE: County level, Croatian Employment Service (CES), 2011-2017.

**As a consequence, Slavonia suffers from underinvestment in ALMPs**, especially since ALMP budget allocation or placement targets are not planned at the regional or county level, and available resources for participation are usually allocated on a ‘first come, first served’ basis.

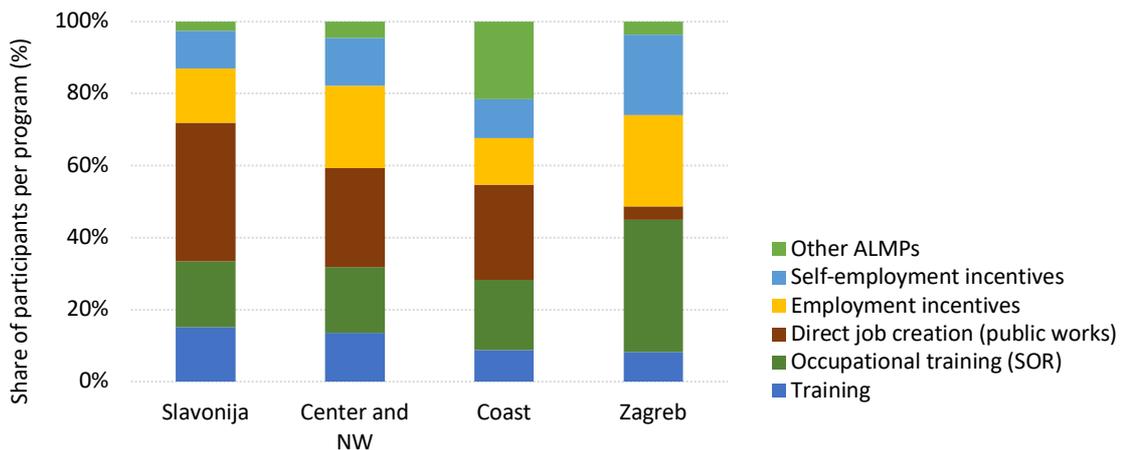
**In addition, ALMPs are mainly delivered through public works programs (PWPs), especially for the lower-skilled.** While registered unemployment has reached record lows since 2016, PWPs are still numerous, in particular in Slavonia, where they still account for close to 40 percent of all ALMP beneficiaries (Figure 27). PWPs are instrumental to the delivery of menial, social and communal services to local communities with limited fiscal capabilities (Bejaković, Kotnarowski, Bagić, & Burić, 2016) and often the last resort option when no jobs are available on the labor market (as in the aftermath of a crisis). However, international evidence tends to show that PWPs are more expensive than other ALMPs (PWP participants are paid close to the minimum wage) and have limited, if any, impact on building skills (Card et al., 2015).<sup>32</sup>

**The take-up of training programs, which are the most appropriate interventions for addressing skills mismatches, is limited.** Since 2015, the annual target for ALMP training programs has been about 10,000 unemployed persons a year, and has now been increased to about 11,000 for the 2018-2020 period. Yet, this modest target is repeatedly missed. In 2017, only 4,400 jobseekers enrolled in training programs, which is less than 50 percent of the allocated seats. Take-up in 2018 looks worse, with only 2,684 jobseekers enrolled on training programs between January and October (out of 11,000 seats). In regional terms, training for the unemployed accounts for 15 percent of ALMPs delivered in Slavonia over the past two years, which, despite being above the national average, translates into only a 2.4 percent

<sup>32</sup> In Croatia, while the evaluation by Kotnarowski, Bagić, & Burić, 2016, shows a slightly higher labor market re-integration rate per participant of PWPs than for training, the cost per participant of providing PWPs is greater than the cost per participant of providing training.

chance that an unemployed person attends a training course over the period of a year. A previous ALMP evaluation has identified several problems with the process, selection and delivery of training programs (Bejaković et al., 2016), which have not been effectively addressed so far, judging by the subsequent low take-up (CES reported problems in recruiting participants for available training courses, despite all unemployed people being eligible for such programs).

### Figure 27: In Slavonia, there are more ALMP beneficiaries enrolled in public works programs



SOURCE: Croatian Employment Service (CES), 2017/18.

In addition, the take-up of employment and start-up subsidies is limited in Slavonia, but accounts for about a quarter of all ALMP placements. As these interventions are driven by market demand, and conditional on the sound health of businesses (in compliance with EU state aid regulations), there might be a limit to regional absorption capacity. Furthermore, while the share of beneficiaries that continue working after the intervention is very high, these measures might have a considerable deadweight effect (Bejaković et al., 2016) as employers use subsidies for people they would hire anyway (or businesses they were about to start up without subsidies).

#### 4.2.3. Activating Guaranteed Minimum Benefit (GMB) beneficiaries

As the labor market recovers, recipients of the guaranteed minimum benefit (GMB)<sup>33</sup> are becoming a major part of the unemployed workforce, particularly in less affluent Slavonia and Central Croatia (Table 5). Beneficiaries able to work are legally required to register with CES, except those less than five years from retirement or those with care responsibilities. In Slavonia, among GMB recipients, there is a slightly higher share of people able to work than in other regions (most other beneficiaries being children or people with disabilities, often from the same household).

<sup>33</sup> Zajamčena Minimalna Naknada (ZMN).

**Table 5: About one in four registered unemployed people in Slavonia receives the guaranteed minimum benefit (GMB)**

	Total available for work GMB recipients	As a share of the total registered unemployed (%)
Slavonia	12,785	25.5
Central and NW Croatia	11,222	31.1
Coast	8,704	13.8
Zagreb city and county	7,138	25.0
<b>Croatia</b>	<b>39,849</b>	<b>22.4</b>

Note: shares may vary throughout the year due to seasonal oscillation of the number of unemployed.

SOURCES: Ministry of Demography, Family, Youth and Social Policy (unemployed recipients) and CES data on unemployment, as of March 2018.

**Recipients of the GMB who are unemployed, face several barriers that hinder transition towards the labor market**, including low education, care responsibility (towards children, spouses and the elderly) and low mobility (car ownership disqualifies someone from the GMB program if there is any public transport), resulting in annual transitions to employment of only about 20 percent (Matković and Caha, 2017). However, beneficiaries are seldom exclusively targeted by ALMPs, training or social services, and no such record is kept. Since 2014, there has been a push to activate able GMB recipients by forcing them to perform non-compensated part-time community services. They were further encouraged to take up work by facilitating the transition in the labor market through a 3-month gradual withdrawal of benefits for long-term beneficiaries when taking up work - as opposed to the loss of GMB upon acceptance of a job. Yet, so far, this doesn't seem to have had much effect on employment patterns among GMB beneficiaries (Matković, 2018b).

**Coordination between social welfare centers, employment services and local government to activate GMB beneficiaries is still lacking.** Each stakeholder is responsible for a different part of activation, there are no integrated information systems, coordination between counselors and institutions is largely absent, and integrated employment / activation plans do not exist (Matković, 2018a). A more coordinated approach among the different institutions to enable the joint removal of the different barriers to labor market integration that each beneficiary faces is needed.

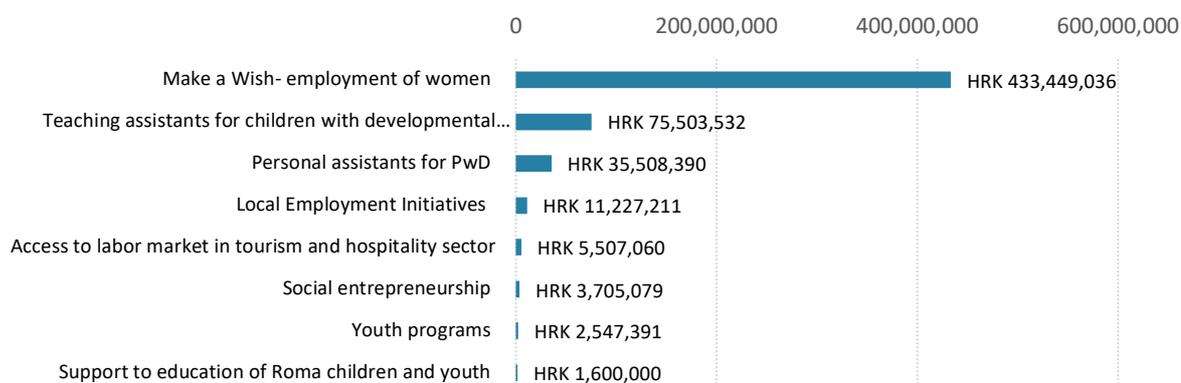
### 4.3. Towards better labor market inclusion of the most vulnerable

**Due to the limited impact of ALMPs on the most vulnerable, additional measures are needed to ensure their inclusion in the labor market.** Section 4.2 shows that current labor market interventions have a limited impact on the most vulnerable population, besides acting as an employer of last resort through PWP. This section focuses on the economic inclusion of low-income and less educated rural women in Slavonia<sup>34</sup> (an important subgroup of Slavonia's vulnerable population) through two lenses: programs that increase labor force participation of older rural women, and entrepreneurship initiatives.

**The European Social Fund (ESF) is the main source of funding for social inclusion programs in Slavonia (Figure 28).** ESF covers education, social entrepreneurship and various types of labor market inclusion initiatives in the current programming period (30 June, 2017 to 31 December, 2018), as part of the operational program "Efficient Human Resources" 2014-2020, Priority Axis 2 – Social Inclusion. *Zaželi (make a wish)* is the main program funded by ESF (taking up about three quarters of ESF's total allocation). It offers women of 55 years or older jobs in the provision of homecare for the elderly and infirm in local communities (Box 3).

<sup>34</sup> More than two thirds of women with less than secondary education in Slavonia are in the bottom 40 percent of the income distribution (HBS, 2014).

**Figure 28: Allocations for Slavonia of select ESF-funded projects with a focus on vulnerable groups**



NOTE: as of 30 November, 2018.

SOURCE: <https://strukturnifondovi.hr/projekt-slavonija-baranja-srijem/>

**Less well-off counties in Croatia have secured a disproportionately higher number of projects.** Only one program has been implemented in the City of Zagreb and none in Istria. While project proposals from underdeveloped areas with high unemployment are given preference, it is evident that the applications have been lower in more developed areas. A temporary employment scheme at the minimum wage may not be as attractive in better off regions.

### Box 3: Employing older women to take care of the elderly: the *Zaželi (make a wish)* program

**The main program aiming to include vulnerable populations in the labor market is the *Zaželi (make a wish)* program.** The program is managed by the Ministry of Labor and Pensions and aims to enable vulnerable women<sup>35</sup> to access the labor market, with a special focus on remote areas, rural locations and islands. The program has a financial envelope of HRK 1 billion of which 85 percent is from ESF and 15 percent from the national budget. A total amount of HRK 433 million has been allocated so far to 116 projects in the five Slavonian counties, accounting for about 50 percent of all allocations in Croatia.

**The goal of *Zaželi* is to offer women aged 50 years old and over jobs in the provision of homecare for the elderly and infirm in local communities.** Participating women receive a full-time contract of 8 hours per day for a maximum duration of 24 months at the national minimum wage.<sup>36</sup> The program is expected to mitigate the negative consequences of their unemployment and poverty status. It is also thought to fill a gap in the market for care services thereby improving the quality of life of the end users of these services. It is expected to reduce the need for institutional care for the elderly, by enabling them to age at home.

<sup>35</sup> Eligible are unemployed women registered with CES (regardless of duration of unemployment) whose highest completed education level is high school. Special focus is placed on groups considered to be vulnerable, including: women of age 55+; women with disabilities; victims of domestic violence; victims of human trafficking; asylum seekers; women who were raised in the welfare residential institutions or in foster family care; ex-prisoners released from prison in last 6 months; former addicts; Roma national minority; homeless; single mothers.

<sup>36</sup> The monthly minimum wage was HRK3,276 in 2017, and HRK3,440 in 2018; in addition, transportation expenses are reimbursed.

**Unlike most PWPs, Zaželi includes a mandatory training component with the aim of increasing the future employability of participating women.** It is covered up to a cost of HRK 7,000 per women. However, the nature and quality of the training component may vary greatly. The choice of the type and area of the training is at the discretion of the employed women. It varies in duration with a minimum duration of 2 months up to a maximum of 6 months. It can be taken up during or after the employment period. Some of the implementing partners provide training in communication and psycho-social counseling, but this is not a requirement.

**Collaboration between different institutions, CES, Centers of Social Welfare (CSWs), local government, and non-governmental organizations (NGOs), is central to Zaželi.** Eligible applicants are local and regional self-governments, NGOs and institutions certified to provide social services to the elderly and infirm. They are required to work in partnership with CSWs and CES offices to identify beneficiaries and select the care provider. In Slavonia, the majority of contracts were given to local government (municipalities in rural areas (67) and towns (16)). It was found during field visits that in many cases they in turn partner with local NGOs to implement the program, as they lack the implementation capacity. Funding is provided on a full cost-recovery basis with a minimum of HRK 900,000 and a maximum of HRK 10 million for individual projects for a duration of 30 months (24 months' employment and 6 months of training).

**Zaželi faces many implementation challenges, however, which are symptomatic of social inclusion employment programs more generally.** First, the sustainability of the program once ESF funding is over is not ensured. Zaželi, like the majority of inclusion initiatives financed through ESF, is a self-standing program, and highlights the general lack of long-term policies addressing vulnerable groups. Second, Zaželi remains a fragmented program, due to the large number of implementing agencies. As of December 2018, 131 agencies were implementing Zaželi at the national level, which poses problems of standardization, as well as economies of scale.<sup>37</sup> Indeed, in Slavonia cost-efficiency ratios vary widely, with costs per caregiver ranging from HRK 121 to HRK 298 thousand, and costs per end user varying from HRK 23 to HRK 60 thousand.<sup>38</sup> Third, Zaželi lacks systematic program-level monitoring and quality control of service delivery. Fourth, Zaželi lacks relevant labor-market oriented skills development, certification, and support services, which may confine the program to being a social welfare initiative rather than an activation measure. At the same time, training opportunities provided by CES through ALMPs and Zaželi may overlap, questioning the added value of the Zaželi training component.

**Entrepreneurship support programs for vulnerable groups offer a second route.** This is especially important for hard-to-reach population groups, who often resort to self-employment due to a lack of formal employment opportunities. However, self-employment has remained somewhat underdeveloped in Croatia. The Strategy for the Development of Women Entrepreneurship in the Republic of Croatia 2014-2020 identified three priority areas: long-term activities to address prevailing stereotypes (e.g. regarding education choices and gender roles), improvements for institutional and regulatory environments (e.g. availability of child and elderly care), and increased access to finance, as well as access to training and business development services and programs. The survey on the Status of Rural Women in Croatia (Ministry of Agriculture, 2011) recommended that rural women be provided with life-long learning, financial and digital literacy, training and certification through customized bottom-up approaches that lead to self-employment from home.

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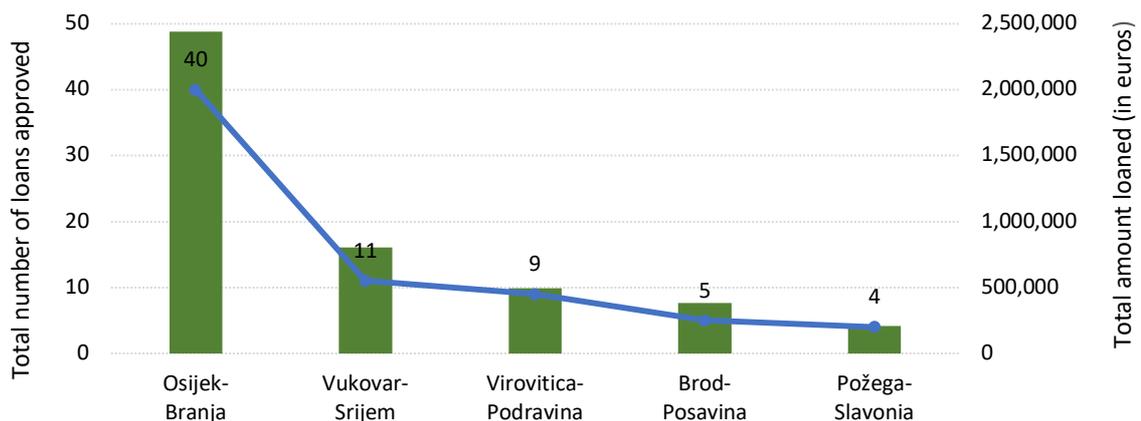
<sup>37</sup> Training can vary in quality and nature, as it is not necessarily certified, and does not rely on a baseline assessment of what is needed by the women who participate in the program or what is needed by the elderly who benefit from the program.

<sup>38</sup> These are estimates from project proposals and not actual figures.

**In Slavonia, there are no comprehensive entrepreneurship programs at county or municipal level that specifically target women.** The same support program is available to both men and women. Moreover, the programs require upfront expenses to be paid by the entrepreneur, who can then ask for reimbursement of a portion of their costs. As identified in focus group discussions, this is often an important constraint on low income women who lack the means to fund their own enterprise.

**Current support programs for female entrepreneurs, such as those provided by the Croatian Bank for Reconstruction and Development (HBOR) are national and focused on loan provision only. However, uptake in Slavonia has been low,** according to HBOR staff. Loans under the program generally finance up to 100 percent of the estimated investment value, with a minimum loan amount of HRK 80,000 and a maximum amount of HRK 700,000. According to the information provided, the uptake of the program is low in the five Slavonian counties (Figure 29). A total of 69 loans for 4.32 million euros has been approved as of August 31, 2018 with Osijek-Baranja getting the major share. This is against 460 applications for the rest of Croatia totaling 28.56 million euros. The city of Zagreb had the most applications approved 158 for 10.45 million euros. The reasons for low uptake in Slavonia are likely manifold. Many potential entrepreneurs, particularly rural and vulnerable women, need smaller loans. Capacity barriers, (perceived) complicated procedures, and the lack of targeted business development services further impede them to apply.<sup>39</sup> Given positive social externalities, providing such support, which raises the cost, is well justifiable.

**Figure 29: Loans in Slavonia under the female entrepreneurship program, 2018**



NOTE: Data as of 08-31-2018.

SOURCE: Croatian Bank for Reconstruction and Development (HBOR).

**Organizational support for business collectives often provides a viable organizational solution to overcome the many barriers poorer rural women face in setting up a business.** Such solutions as self-help groups based on the principle of mutual support and solidarity can address the economic and social constraints, and lack of voice and agency that hold rural women back. They provide agency through providing women with institutions and a support network of their own. For women without collateral and credit history, they enable access to finance through group savings, which are then used to access loans and credit on more favorable terms. They facilitate the setting up of group enterprises. They also provide ongoing capacity building, including financial literacy, business and life skills, as well as the technical skills needed to succeed. They lower the risk of entering the market by spreading it across the

<sup>39</sup> For instance, to obtain a loan for the development of products or services, the borrower is required to submit a detailed business plan with costing and price and revenue forecasts. Without adequate support this first barrier may be insurmountable for many unemployed less educated low-income women especially in rural areas.

group, and allow rural women to have a collective voice in the marketplace and the ability to link to value chains in a more competitive manner. They allow for the development of financial products that are customized for vulnerable women and also the adoption of technology both for financial and market access. They are particularly relevant to Slavonia, as pointed out by a key country official during discussions highlighting the importance of the trust deficit as a legacy of the war.<sup>40</sup>

#### Box 4. From Voices to Choices: Empowering Rural Women through Business Collectives

**Through a bottom up approach where women in a neighborhood come together in groups of 15 to 20 every week to save and to discuss and address issues in the community, trust is carefully built over time.** Women take on an active role to identify gaps in service provision and develop action plans to address these gaps. Groups have thus provided care services, trash collection services, etc. The challenge of access to finance for women with no collateral and credit history is met through group savings that are used to leverage credit from banks. This also enables financial discipline and prudence. These funds are used to start businesses and to access markets through collective enterprises. Groups are networked at the county level, which enables larger collectives for scale and scope. Ongoing capacity building for leadership, financial literacy, and business and life skills is key, as is linking to both the public and private sectors to access markets and services. Systematic reviews of both quantitative and qualitative evidence have shown that these groups have a positive effect on the social, economic and political empowerment of women. These include greater financial independence and prudence, improved solidarity and social networks, and respect and improved incomes (Brody and de Hopp, 2015). Networking mature groups and providing access to credit were found to have significant economic benefits over the long-term (Deininger and Liu, 2013).

**Proven models that address the multiple challenges faced by vulnerable women while empowering them are few.** One such model is of business collectives that operate on the basis of mutual trust and solidarity or self-help groups. In South Asia, for over three decades, they have brought together vulnerable women in groups of 15-20 for group savings that are then leveraged to access credit and to start women-led and owned enterprises. In India, where the model is supported by government, 55 million low-skilled and low-income women, including 3.5 million farmers, are members of 4.83 million business collectives. Together they have saved USD 789 million and raised USD 23.6 billion in bank loans in the last five years. They have started over 26,000 micro and small enterprises in the non-farm sector alone.<sup>41</sup>

**The World Bank Group has funded projects in South Asia and Africa based on this model for over 20 years.** The model is currently being piloted successfully in the Europe and Central Asia region. In rural areas of Azerbaijan, 800 women in 10 districts have been organized into 40 business collectives in just one year. These collectives have invested in a portfolio of businesses that cover farm, off-farm and non-farm enterprises. Local youth have been trained as community business promoters and business incubators have been set up to deliver on-site business incubation and development support to enterprises through this cadre of business-savvy youth. Partnerships have also been forged with the private sector for skills development, mentoring and for access to value chains.

**A key lesson learnt is that a model which addresses issues faced by rural women in low-income countries is equally relevant for both middle- and high-income countries where rural areas lag behind.** The second lesson learnt is that women in more developed countries can leapfrog the stages of the model rapidly due to better education, services and support systems. The women in Azerbaijan

<sup>40</sup> Discussions with Regional Development Agency, Brodsko-Posavska County, Slavonia, December 2018.

<sup>41</sup> Data from The National Rural Livelihood Mission, Government of India, 2018.

started their businesses in as little as two months, whereas in lower-income countries it takes much longer. Another point is the shorter learning curve when it comes to financial literacy and business skills training, and the ease with which women are using technology including social media to access markets. These lessons could be relevant for Slavonia, where a substantial portion of less skilled rural women are inactive and need to be brought into the labor market.

## 5. Recommendations and policy options

### 5.1. Job creation remains the top priority

- **Strengthening the business environment and firm competitiveness is key.** Given the very low employment rate of Slavonia's working-age population (10 percentage points below the Croatian rate and 17 percentage points below the EU-28 average), creating jobs remains the top priority in resolving Slavonia's labor market performance. The share of employment in Slavonia's public sector (in government and publicly-owned enterprises combined) is on a par with the rest of Croatia (even though a smaller share of Slavonian firms are publicly owned, i.e. 7.6 percent versus 11.1 percent in the rest of Croatia). However, at 30 percent, employment in the public sector is nonetheless already sizeable. Job generation efforts should therefore be focused on private-sector expansion.
- **In particular, this requires a reduction in the regulatory burden and an increase in Slavonian firms' competitiveness.** Inefficient government bureaucracy is by far the most important impediment to doing business in Croatia, identified by 21 percent of the respondents to the surveys underpinning the 2017-2018 Global Competitiveness Index. Policy instability, tax regulations, corruption and tax rates are mentioned by 10-13 percent of respondents. The importance of better governance also resonates with people's perceptions, and the challenge is even more pronounced in Slavonia. An overwhelming majority of surveyed individuals (three in five) report that political connections (or even illegal means) are necessary to get ahead in life rather than one's own efforts or intelligence, compared with 40 percent in the rest of Croatia.
- **Labor productivity in Slavonian firms is also lower than in the rest of Croatia across most sectors and firm sizes, underscoring the need to innovate and increase their competitiveness to generate better-paying jobs.** This is also needed to stem the current labor outflow, which has accelerated since the economy in Croatia and the EU started its recovery in 2014. For a number of concrete measures to reduce the regulatory burden, foster innovation and attract foreign direct investment, which is virtually absent in Slavonia, the reader is referred to the relevant chapters in this report.
- **Sectors and activities that in particular generate jobs for unskilled and semi-skilled workers should be focused on.** Inactivity and unemployment rates are especially high among those with some secondary education or less. Agriculture and forestry are key sectors of employment for the lower-skilled, both directly and in their related activities upstream (input supply, machinery services) and downstream (transport, processing, storage, wholesale and retail). This supports the current focus of Program Slavonia on making the agriculture and wood sectors more competitive through FDI attraction, innovation and regulatory and policy reforms. Slavonia also

has a history of employment and a workforce experienced in manufacturing, a sector in which there are many unfilled vacancies.

- **This would also support the recent addition of metal processing as another sector of focus in Program Slavonia.** Given their size, the scope for significant job generation in the ICT and tourism sectors, two other focus sectors, may be more limited, though if focused on home tourism, the latter could well be effective in reaching the lower-educated and excluded. Overall, in choosing the sectors and subsectors to support, as well as the mode of operational support, the direct and indirect or multiplier effects on the labor market, especially on unskilled and semi-skilled workers, will need to be an important consideration. While no exact metrics to quantify these effects exist as yet, careful reflection drawing on insights from the literature and international experience should be applied.

## 5.2. Correcting supply and demand mismatches in the short run

- **Adjust the ALMP portfolio towards the delivery of training programs** for a more sustainable exit from unemployment. The provider infrastructure is largely in place in the Slavonia region but cannot deliver in full without adequate public funding, quality assurance provisions, multi-year arrangements with training providers for a flexible set of programs, the active involvement of beneficiaries in the choice of programs, and broad multipartite ownership of the scope of the training supplied (such as by county, economic and social councils (*gospodarsko-socijalno vijeće*), or local employment partnerships). Utilization of Croatian qualification framework grants might contribute to bringing qualification standards up to date.
- **More effective ALMP planning and delivery mechanisms are needed**, as current practices lead to underinvestment in ALMPs in the Slavonia region and a suboptimal mix of instruments. Participation targets by intervention type should be set up at the regional level, and CES delivery capacity at the regional level should be strengthened to implement the program and reach the targets. This requires, among other things, earmarked / reserved funding for training programs at the county level, set per number of unemployed persons.
- **In employment provision, emphasis should shift from public works programs (PWPs) to more on-the-job training.** PWPs are shown to be a less cost-effective measure to reintegrate low-skilled workers back into the labor market; they are appropriate in times of economic recession when jobs are not being created.
- **Specific intensive interventions should be designed to cope with the increasing share of unemployed people that are guaranteed minimum benefit (GMB) recipients.** They face several barriers to labor market entry, and addressing these requires intense cooperation between social welfare centers, CES branches and local government, with intensive individual and household-level casework, provision of care and support services (in particular for dependents), and a combination of ALMPs aimed at social integration via public works, capacity building through training, and job insertion via employment incentives. In order to ensure targeting, these resources should be reserved only for GMB recipients (who currently make up more than a quarter of all unemployed people). In the growing labor market, public works should only be directed towards the most vulnerable, and tied to relevant labor market training interventions.

## 5.3. Investing in human capital formation at all levels for the future

Weaknesses in the education system, as evidenced by weak PISA scores and high levels of failure in the Matura exam, may constrain the ability of formal education institutions to impart the skills necessary in

the job market in Slavonia or elsewhere. Improving this is imperative to preparing Slavonia's youth for the future, which will only become more skill-dependent as the global economy digitizes. However, even when education is available, with so few new jobs, it is still not sufficient for low-income households to improve their labor market outcomes. In addition, collaboration between CES, employers, and the education system remains limited. In light of these findings, the following options can be recommended:

- **Boost or supplement funding sources for local government to ensure adequate support for all levels of education.** Currently, there are countrywide transfers only towards the decentralized functions of primary and upper-secondary education (school funding only), while all other levels are left to the good will and fiscal capacity of county, town and municipal governments, leading to large variations in education expenditure per young person. One approach would be to increase minimum funding standards for primary and secondary education to ensure less variation in investment (and provide more for VET schools, as they require more investment). Another would be to extend the decentralized function transfer model to ECEC and other education expenditure (e.g. scholarships, extracurricular activities). A third approach could supplement local efforts with national programs / grants being targeted / limited to regions with low investment or the most disadvantaged children.
- **Increase the relevance and attractiveness of technical and vocational education and training (TVET),** in particular, for vocations that are currently provided for via dead-end 3-year VET courses. The number of places in most priority sectors seems adequate, but interest is waning and there is negative selection. The intervention should not only include financial incentives for students but also provide students with key competences for lifelong learning to facilitate vertical mobility (and passing the state Matura exam), specialization later on, and also future career changes. As the student population size at the county level is too small to allow for opportunities for training in every specialization in every school or county (which is evident from the large number of unfilled places), economies of scale should be pursued, as they are emerging from the five regional competence centers recently established in Slavonia. They could serve as a vehicle to invest in high-quality specialized TVET training (including student accommodation). Cooperation with employers in TVET provision and work-based learning should also be strengthened, which will require more state support towards developing functional relationships. Curriculum reforms should be accelerated, moving away from a content-based approach to one that focuses more on competencies and that is more responsive to private sector needs.
- **Provide opportunities for local youth to train in higher education programs.** This includes providing more places in gymnasium programs (which currently considerably lag behind developed regions of Croatia) and financial instruments (funded either via local or national sources) for students to enroll in tertiary education. There are already sufficient places available (both full and part-time) in higher education institutions, in local polytechnics, local universities (Osijek, Slavonski Brod), or other Croatian higher education institutions (HEIs). Local HEIs should use existing instruments that support the development of qualification standards and work-based learning, and concentrate the provision of high-quality training in the fields they already excel in and for the industries that are relevant to the regional labor market.

#### 5.4. Expand access to affordable care services

The analysis of care in Slavonia concludes that expanding formal family care services (for children and the elderly) would improve labor market opportunities for women. Evaluations of childcare interventions in Latin America and the Caribbean confirm the consistently positive effect of access to affordable childcare on female labor force participation. Even if different policies are needed to overcome the constraints women face with regard to accessing jobs, childcare emerges as the policy that has the most consistently

positive effect on women's engagement in the labor force (Mateo Díaz and Rodriguez-Chamussy, 2016). In light of these findings, the following options can be recommended:

- **Develop quality affordable early child education and care (ECEC) services.** As evidenced internationally, access to childcare should have a positive effect on female labor force participation. Better ECEC access would also enhance the school readiness of children through better early childhood education. Given Slavonia's poor performance in the Matura exam, and the wide recognition of early childhood education for longer-term human capital development, this is an important additional advantage. Improvements in eldercare at home can further improve the health of the elderly, and thus enable savings in the healthcare sector (World Bank Group, 2015). To improve the availability and use of childcare services, particularly in rural areas, priorities should include the expansion, improvement or repurposing of infrastructure to expand access to childcare (either in publicly owned institutions or via subsidies to private providers), and investments in the quality of childcare through intensifying education and certification programs for ECEC professionals.
- **Prioritize the most vulnerable (remote areas and poorer households).** While there are several ongoing efforts to improve ECEC infrastructure using budgetary and EU funding, a solution ought to be found to enable local governments to cover operational costs once capacity is upgraded, with the support provided prioritizing access to the most remote areas (where care provision is most costly) and the most disadvantaged children (whose parents might find fees prohibitive).
- **Develop quality affordable at-home care for the elderly.** As evidenced by the Zaželi program, vulnerable women, who usually have limited employment opportunities (older, less educated, rural women), can contribute to Slavonia's labor market. Initiatives to link low female labor force participation and an aging population needing homecare should be pursued further and, if successful, funding for such programs should be earmarked in a sustainable way.

## 5.5. Towards including the most vulnerable in the labor market

Section 4.1 showed that the most vulnerable populations in Slavonia are women, youth, the elderly, low-skilled individuals, and people living in remote rural areas, while Section 4.3 highlighted Slavonia's lower human capital attainment, which is particularly true for the most vulnerable. In light of these findings, the following options can be recommended:

- **Target and concentrate efforts on the most vulnerable.** Concerted efforts should be undertaken to include the most vulnerable and inactive populations, including youth, women and early retirees in the labor market, and thus promote inclusive growth in Slavonia. This would require a deeper understanding of the different categories of the inactive, the barriers they face, and the opportunities available, in particular through self-employment and entrepreneurship. A Slavonia-specific latent classification analysis of labor market exclusion, similar to the analysis undertaken for the 'Portrait of Labor Market Exclusion in Croatia' would provide a good entry point for doing so.
- **Focus on skilling-up the most vulnerable and offer training and skill-development programs in potential growth sectors.** Tailored approaches that consider the skill levels and needs of youth, women and retirees are needed so that they are not left behind. For sustainable employment, training and skill development programs should be offered in potential growth sectors and to meet service gaps in Slavonia. This would include improving productivity and

markets for family farms and non-farm sources of income, including through community-based tourism.

- **Ensure high-quality labor inclusion programs.** The targeting and impact of social inclusion programs including Zaželi should be improved by assessing needs both on the demand and supply side and also potential barriers for target groups. Current programs like Zaželi require standardization and quality control and monitoring and evaluation (M&E) to ensure smooth implementation and quality across the board, and to ensure that lessons learnt improve impact.
- **Promote self-employment.** In the short to medium-term, efforts should be made to support self-employment through entrepreneurship programs along with improvements in the enabling environment in the medium to long-term. A social inclusion policy needs to be developed which includes inclusive entrepreneurship strategies, and regional and local level action plans that are customized to specific vulnerable groups. These programs need to be adequately funded and implemented by staff with the right skills and experience. Self-entrepreneurs should be supported through access to finance and business support services to organize business collectives that focus on care services based on successful international experiences, in particular the three decades of efforts by women's self-help groups. This would create an institutional model that can be scaled up across Slavonia and also that can cover multiple sectors within its scope.

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# Annexes

## Data sources

**European Union Labor Force Surveys (EU-LFS).** The EU-LFS is a large household sample survey providing quarterly results on labor participation of people aged 15 and over as well as on persons outside the labor force. The purpose of this survey is to observe both structural and economic situation of people in the labor market and provide a measurement for the concepts of activity, unemployment, employment and inactivity in the sense of the International Labor Organization (ILO). The survey was meant to be representative only at the national level, and in 2016, 2,581 observations out of 32,537 came from Slavonia.

**Household Budget Survey (HBS).** The HBS is focuses mainly on consumption and expenditures. The primary aim of HBS is to calculate weights for the Consumer Price Index (CPI), but it is also widely used to calculate poverty rates. In 2014, 4,140 dwellings were selected in the final sample, but only 2,029 households were successfully interviewed, bringing the number of households in Slavonia to 437.

**Employers' Survey (*Anketa Poslodavaca*).** The employers' survey is a labor market survey carried out by the Croatian Employment Service (CES) in cooperation with the Croatian Chamber of Economy, the Croatian Chamber of Commerce and the Croatian Employers' Association. The main goal of the survey is to understand the difficulties faced by employers when recruiting, and identify labor supply and demand mismatches. The questionnaire consisted of a set of approximately 15 questions split between general information on current employees, difficulties encountered to find adequate candidates, future labor force needs, and future demand for services offered by CES. In 2017, 8,826 randomly selected firms participated in the survey, out of which 1,575 came from Slavonia.

**Life in Transition Survey (LiTS).** LiTS is a household survey carried out by the European Bank for Reconstruction and Development (EBRD) to help understand how transition is affecting the daily lives of people across the former communist bloc and how it shapes their views on issues such as democracy and the market economy, as well as their satisfaction with life and their hopes for the future. The Croatian sample for LiTS-III (2016) is quite small, and counts 280 observations in Slavonia, out of 1,503.

**Index of Multiple Deprivation (IMD) database.** The IMD database is collaborative effort between the World Bank and various Croatian government bodies. It is a detailed geo-referenced database, constructed at the municipality level, that provides information regarding the geographic distribution of social exclusion using a range of actionable indicators of well-being, deprivation and the distribution of social services and infrastructure. Data is available yearly for 2009 through 2015. 127 municipalities out of 529 are located in Slavonia.

**FINA data.** 120,286 business entities (2017) data. It does not include a large number of crafts in Croatia. According to the Croatian Chamber of Trades and Crafts (HOK) data, at the end of 2016 there were 75,861 active crafts, with their share between counties differing significantly. On average, the share of crafts on national level was 40 percent, and five Slavonian counties recorded shares above 50 percent.

## Additional tables and graphs

**Table 6: Probit regression - Employment, working-age population (15-64 y.o.), 2014**

	Marginal Effect	Standard Error	p-value
<i>2nd quintile</i>	<b>0.125</b>	<b>0.043</b>	<b>0.004</b>
<i>3rd quintile</i>	<b>0.237</b>	<b>0.045</b>	<b>0.000</b>
<i>4th quintile</i>	<b>0.297</b>	<b>0.048</b>	<b>0.000</b>
<i>5th quintile</i>	<b>0.327</b>	<b>0.056</b>	<b>0.000</b>
<i>Female</i>	<b>-0.146</b>	<b>0.028</b>	<b>0.000</b>
Married	0.074	0.042	0.078
<i>Age 25-34</i>	<b>0.261</b>	<b>0.056</b>	<b>0.000</b>
<i>Age 35-44</i>	<b>0.429</b>	<b>0.060</b>	<b>0.000</b>
<i>Age 45-54</i>	<b>0.317</b>	<b>0.061</b>	<b>0.000</b>
Age 55-64	0.076	0.063	0.228
Urban	-0.026	0.042	0.536
<i>Upper-secondary education</i>	<b>0.169</b>	<b>0.035</b>	<b>0.000</b>
<i>Tertiary education</i>	<b>0.203</b>	<b>0.062</b>	<b>0.001</b>
Child aged 0-5 in household	0.045	0.043	0.296
<i>Child aged 6-15 in household</i>	<b>0.098</b>	<b>0.033</b>	<b>0.003</b>
Person aged 65+ in household	0.023	0.038	0.545
Other employed in household	-0.042	0.035	0.230
Brodsko-posavska	-0.041	0.036	0.255
<i>Požeško-slavonska</i>	<b>0.135</b>	<b>0.056</b>	<b>0.016</b>
Virovitičko-podravska	0.006	0.053	0.910
<i>Vukovarsko-srijemska</i>	<b>-0.115</b>	<b>0.039</b>	<b>0.003</b>
log pseudo-likelihood			-279455.19
Wald chi2 (d.f.=19)			258
p-value for Wald test			0.000
Pseudo R2			0.263
Observations			882

NOTE: omitted county: Osječko-baranjska, omitted age category: 15-24 year old; omitted education category: <upper secondary; marginal effects are bolded and italicized if statistically significant at the 5 percent level or lower

SOURCE: Croatian Bureau of Statistics (CBS), Household Budget Survey (HBS) 2014.

**Table 7: Probit regression - Bottom 40 percent, 2014**

	Marginal Effect	Standard Error	p-value
<i>employed</i>	<b>-0.192</b>	<b>0.038</b>	<b>0.000</b>
<i>unemployed</i>	<b>0.159</b>	<b>0.054</b>	<b>0.003</b>
Female	-0.012	0.031	0.693
Married	-0.059	0.044	0.185
Age 25-34	0.096	0.057	0.093
<b>Age 35-44</b>	<b>0.142</b>	<b>0.062</b>	<b>0.021</b>
Age 45-54	0.061	0.060	0.310
Age 55-64	0.011	0.063	0.861
<b>Urban</b>	<b>-0.147</b>	<b>0.045</b>	<b>0.001</b>
<b>Upper-secondary education</b>	<b>-0.109</b>	<b>0.039</b>	<b>0.005</b>
<b>Tertiary education</b>	<b>-0.379</b>	<b>0.057</b>	<b>0.000</b>
<b>Child aged 0-5 in household</b>	<b>0.186</b>	<b>0.045</b>	<b>0.000</b>
<b>Child aged 6-15 in household</b>	<b>0.199</b>	<b>0.034</b>	<b>0.000</b>
Person aged 65+ in household	0.061	0.039	0.125
<b>Other employed in household</b>	<b>-0.247</b>	<b>0.032</b>	<b>0.000</b>
Brodsko-posavska	0.004	0.039	0.914
<b>Požeško-slavonska</b>	<b>0.143</b>	<b>0.059</b>	<b>0.015</b>
Virovitičko-podravaska	0.051	0.055	0.359
Vukovarsko-srijemska	-0.033	0.042	0.431
<i>log pseudo-likelihood</i>			-301228
<i>Wald chi2 (d.f.=19)</i>			195
<i>p-value for Wald test</i>			0.000
<i>Pseudo R2</i>			0.209
<i>Observations</i>			882

NOTE: omitted county: Osječko-baranjska, omitted age category: 15-24 year old; omitted education category (<upper secondary); marginal effects are bolded and italicized if statistically significant at the 5 percent level or lower

SOURCE: Croatian Bureau of Statistics (CBS), Household Budget Survey (HBS) 2014.

**Table 8: Registered jobseekers, 2017**

	15-24 y.o.	25-34 y.o.	35-54 y.o.	55+ y.o.
<b>1</b>				
<b>Total</b>	9,972	10,701	21,779	10,260
Gender				
Women	55%	63%	66%	47%
Education level				
No or primary education	11%	14%	41%	48%
Secondary education	82%	62%	54%	47%
Tertiary education	8%	24%	6%	5%
Duration of unemployment				
< 6 months	74%	57%	37%	24%
6 months - 2 years	20%	26%	23%	18%
> 2 years	7%	18%	40%	58%
Experience				
None	44%	15%	9%	6%
< 1 year	35%	20%	12%	5%
1-5 years	21%	49%	28%	9%
> 5 years	0%	16%	52%	80%
Skills level (last occupation)				
Elementary skills	11%	16%	45%	54%
Workers and operators	58%	47%	44%	38%

SOURCE: Croatian Employment Services (CES).

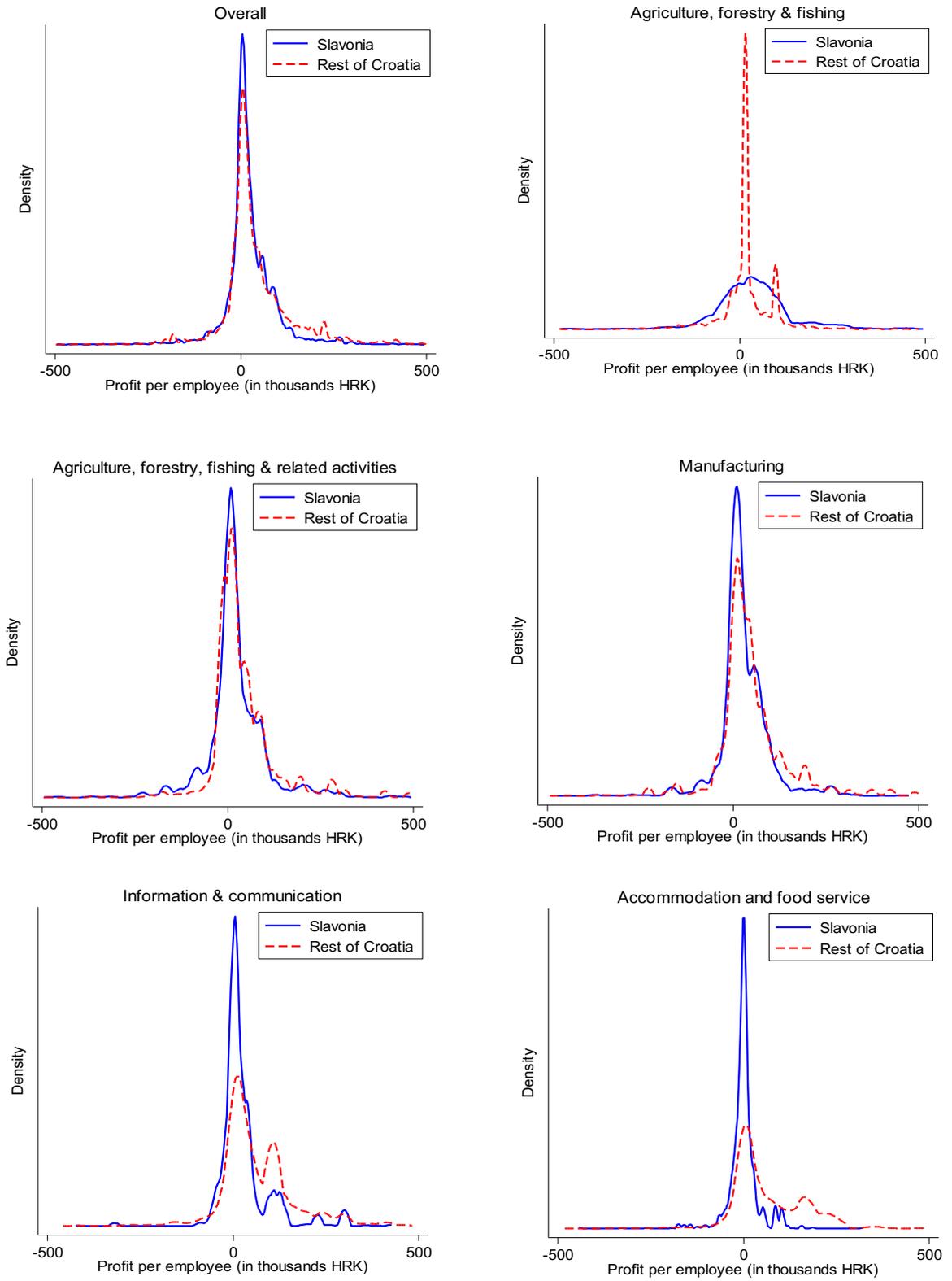
**Table 9: CES recommendations (+ -), places on disposal and actual enrolment in TVET programs in Slavonia, 2017 and 2018.**

VET sector	Duration (type)	Program	Places in public VET schools			Actually enrolled 2018	Places filled 2018
			2017	2018	Change		
Agriculture, food and veterinary	3 yr VET	Butcher	58	60	2	23	38%
		Baker	80	54	-26	32	59%
		Florist	55	53	-2	12	23%
		Fruit and wine-grower, winemaker	44	36	-8	7	19%
		Agricultural smallholding	38	19	-19	7	37%
	4 yr VET	Gardener	11	17	6		0%
		Miller		7	7		0%
		Agro-technician	166	192	26	111	58%
		Agrotouristic technician	116	140	24	116	83%
		Agricultural technician-fitopharmaceut	178	116	-62	70	60%
Forestry and wood processing	3 yr VET	Veterinary technician	70	68	-2	63	93%
		Food technician	46	46	0	13	28%
		Joiner	90	95	5	66	69%
	4 yr VET	Cooper	8	8	0		0%
		Forestry technician	66	84	18	69	82%
Textile and leather	3 yr VET	Carpentry technician	31	20	-11		0%
	4 yr VET	Carpentry technician - designer	25	20	-5	20	100%
Graphics and audiovisual design	3 yr VET	Carpentry technician – restorer	8	20	12	13	65%
	4 yr VET	Tailor	50	57	7	23	40%
Mechanical engineering	4 yr VET	Fashion technician	44	68	24	23	34%
	3 yr VET	Graphics technician – preparation		26	26	10	38%
		CNC operator	148	166	18	154	93%
		Automechanic	146	140	-6	113	81%
		Locksmith	58	67	9	48	72%
		Machinist	38	50	12	32	64%
		Automechatronic	38	46	8	47	102%
		Mechanic for agricultural machinery	56	44	-12	18	41%
		Plumber	45	44	-1	24	55%
		Air conditioning and heating mechanic	39	40	1	37	93%
		Car bodyworker	49	34	-15	23	68%
		Home instalation mechanic	18	17	-1	17	100%
		Turner	34	16	-18	11	69%
		Gas mechanic	28	12	-16	10	83%
		Tin processing		10	10	3	30%
		Instalation and processing by cutting and bending	40	8	-32	8	100%
		Tinsmith	6	6	0		0%
Electrical engineering and computing	3 yr VET	Computing tehcnician in mechanical engineering	190	186	-4	153	82%
		Terchician for energetics	24	24	0	24	100%
		Vehicle techician	72	24	-48	20	83%
Electrical engineering and computing	3 yr VET	Electrician	63	55	-8	41	75%
		Car electrician	43	46	3	27	59%
		Electro-mechanic	33	31	-2	22	71%
		Electronics mechanic	14	20	6	16	80%
		Electrofitter	7	8	1	4	50%

Construction	4 yr VET	Telecommunication fitter	12	6	-6	4	67%
		Electrotechnician	248	244	-4	192	79%
		Computing technician	196	216	20	189	88%
		Mechatronics technician	112	152	40	147	97%
		Electronics technician	68	48	-20	47	98%
		Electroenergetics technician	20	20	0	18	90%
	3 yr VET	Mason	19	35	16	6	17%
		Dry construction assembler	36	26	-10	12	46%
		Tiler	38	24	-14	20	83%
		Carpenter	19	14	-5		0%
	4 yr VET	Plasterer		7	7	4	57%
		Architectural technician	112	112	0	110	98%
		Ecological technician	74	94	20	41	44%
		Construction technician	92	68	-24	40	59%
		Geodesy and geoinformatics technician	44	44	0	39	89%
Economics, trade and business administration	3 yr VET	Salesperson	309	373	64	124	33%
		Economist	637	577	-60	452	78%
	4 yr VET	Commercialist	292	274	-18	161	59%
		Administrative officer	230	204	-26	156	76%
		Administrative secretary	95	90	-5	57	63%
Tourism and catering	3 yr VET	Cook	371	367	-4	310	84%
		Waiter	219	222	3	138	62%
	4 yr VET	Confectioner	53	70	17	48	69%
		Hotel tourist technician	115	153	38	136	89%
Transport and logistics	3 yr VET	Tourist hotel commercialist	118	140	22	127	91%
		Motor vehicle driver	64	64	0	60	94%
	4 yr VET	Road traffic technician	64	64	0	39	61%
Technician for logistics and freightage		20	20	0	20	100%	
Health	5 yr VET	Medical nurse/technician	184	210	26	209	100%
		Physiotherapy technician	90	64	-26	63	98%
	4 yr VET	Pharmaceutical technician		26	26	26	100%
		Dental assistant	26	20	-6	19	95%
		Health-lab technician	20	20	0	20	100%
Personal and other services	3 yr VET	Hairdresser	190	176	-14	154	88%
		Painter-decorator	41	47	6	25	53%
		Pedicurist	12	34	22	21	62%
		Beautician	22	26	4	20	77%
		Car painter	26	25	-1	16	64%
	4 yr VET	Photographer	25	18	-7	13	72%
		Upholsterer	10	10	0		0%
		Beautician (4yr)	48	46	-2	44	96%

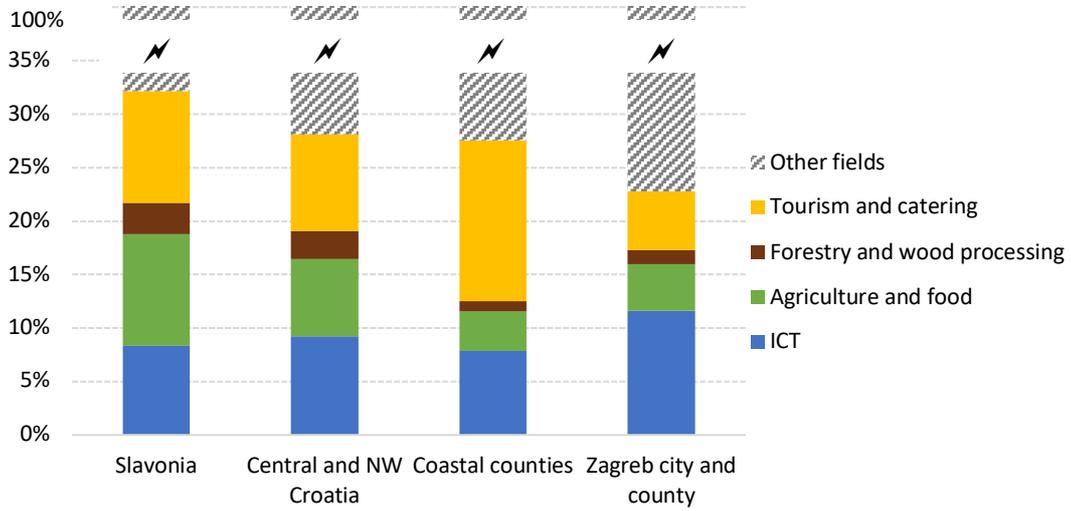
SOURCES: Places: Odluka o upisu učenika u I. razred srednje škole 2018/19. and 2017/18. Enrolled pupils (on 12.12.2018): MZO E-matica (via Školski e-rudnik). CES Recommendations for education enrolment and scholarship policy 2018 (high demand, to be expanded; surplus supply, to be restricted) – if course is assessed to be in demand/surplus in localities covering at least 20% of Slavonia region

Figure 30: Profit per employee, select sectors, 2017

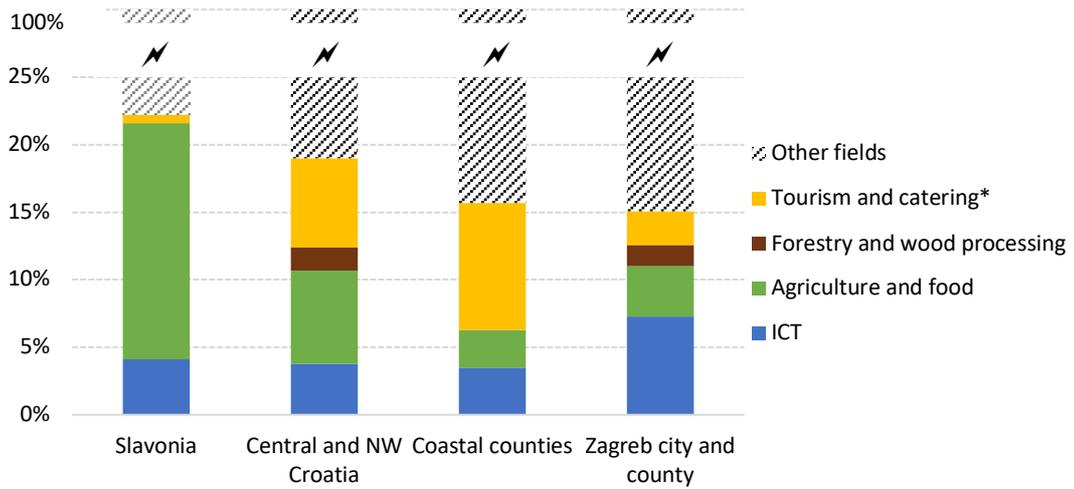


**Figure 31: Places available by field of education, priority sectors (agriculture, wood, tourism, ICT) only, 2018**

**a. Upper-secondary education**



**b. Tertiary education**



SOURCES: Upper secondary education: Odluka o upisu učenika u I. razred srednje škole 2018/19., tertiary education: AZVO data on seats and enrolments in tertiary education courses.

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