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PORTRAITS OF LABOR MARKET EXCLUSION 2.0

Country Policy Paper (CPP) for Croatia

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Table of contents

Acknowledgements	3
1. Introduction	6
2. Country Context: Labor markets in Croatia	7
3. Understanding employment barriers – a framework	14
3.1. Population of analysis: Individuals with potential labor market difficulties.....	14
3.2 Employment Barrier Indicators	18
4. Results of the analysis: portraits of labor market exclusion in Croatia	23
5. Analysis of priority groups for the Croatian labor market	29
6. Policies and programs targeting priority groups	34
6.1. Framework and approach.....	34
6.2. Overview of activation and employment support programs and policies	35
6.3. Capacity and adequacy of labor market interventions	42
6.4. Activation and employment support policies vis-à-vis priority groups needs.....	44
7. Conclusions and Policy Directions	47
References	49
Annex 1. Advantages and disadvantages of the EU-SILC Data.....	53
Annex 2 : Definitions of Employment Barrier Framework Indicators	55
Annex 3 Latent Class Analysis Results of EU SILC 2013	58
Annex 4 : Application of Latent Class Analysis-- Model selection.....	61

Tables

Table 1. Characterization of target population according to barrier indicators (percent).....	21
Table 2. A cross-country comparison of barriers faced by the target populations	22
Table 3. Employment barriers faced by Population with Labor Market Difficulties in Croatia 2013	24
Table 4. Employment barriers and socioeconomic characteristics for priority groups	31

Figures

Figure 1: Employment rate in Croatia between 2006 and 2015 (percent of working age population)	8
Figure 2: Unemployment rate in Croatia by gender.....	9
Figure 3: Activity rates by gender and age in Croatia and EU-28	10
Figure 4: Part-time employment as a percentage of total employment by sex, EU Member States, 2015	11

Figure 5: Long-term unemployment rate as a percentage of active population and by gender (percent of active population)	12
Figure 6: Youth (15-24) unemployment rate in Croatia between 2006 and 2015	12
Figure 7: Change in working age population in select European and Central Asian economies, 1970-2010 and 2010-2050.....	13
Figure 8: Unemployment rate by education level (in percent of working age population)	14
Figure 9: The composition of working age population (left) and out-of-work (right).....	16
Figure 10: Labor market attachment status of working-age* population, Croatia and other EU countries under study (percent)	17
Figure 11: Composition of persistently out of-work population by labor market status, Croatia and other EU countries under study (percent of working age population)	18
Figure 12: Employment Barrier Framework.....	19
Figure 13: Latent groups within the Croatian target population.....	23
Figure 14. Distribution of number of barriers faced by individuals in each group	25
Figure 15: Linkages between Employment Barriers and AESPs	34
Figure 16: Labor market spending as percent of GDP (left axis) and share of ALMP spending as share of labor market expenditure (right axis)	39
Figure 17: Number of entrants per active labor market measure for 2007-2016	41
Figure 18: Age, Educational Attainment, and Unemployment Duration of ALMP participants in 2016	41
Figure 19: Group 3 Employment Constraints and Policy/Program response	45
Figure 20: Group 4 Employment Constraints and Policy/Program Response	46

Boxes

Box 1: Definition of target population.....	15
Box 2. Definitions of employment barrier indicators used for Croatia	20
Box 3. Major Active Labor Market Programs (ALMPs) in Croatia.....	40

1. Introduction

Successful labor market inclusion requires a better understanding of who the labor market vulnerable are. People who are out of work are not all the same: they can be middle-aged individuals and early retirees, as well as young adults neither working nor receiving education. At the same time, there may be other types of vulnerability in the labor market: some people take part in temporary or unstable employment, work a reduced number of hours, or earn very low incomes despite being engaged in full time work. Considering the priorities of the inclusive growth pillar of the Europe 2020 Strategy¹, and potential negative impacts of labor market vulnerability on long-term growth, it is worth examining who the labor market vulnerable in Europe are and why they are out of work or are precariously employed. While some statistics on broad groups (youth) exist, deeper analysis, in particular on the diverse barriers faced by the labor market vulnerable in conjunction with other characteristics, is needed and would constitute an important step forward towards better labor market inclusion.

In this context, Portraits of Labor Market Exclusion-2—a joint study between the European Commission (EC), the World Bank, and the Organization for Economic Cooperation and Development (OECD)²—aims to inform employment support, activation, and social inclusion policy making, through an improved understanding of labor-market barriers. Covering 12 countries³, the study builds on the previous joint EC and World Bank study to map the diversity of profiles of individuals who are out of work in six countries (Sundaram et al., 2014) and other analyses that characterize individuals with labor market difficulties (European Commission, 2012; Ferré et al., 2013; Immervoll, 2013). The study expands the previous analysis by looking at a broader group of labor market vulnerable beyond the out of work individuals to include: those in unstable employment, those with restricted hours, and those with near-zero incomes (i.e. individuals who are marginally employed). It also refines the analytical methodology by applying an employment barriers framework to facilitate policy making and country-specific application, and to provide a reference point for future methodological extensions.

Utilizing an advanced statistical method (latent class analysis), the study separates out of work and marginally employed individuals into distinct groups with respect to types of employment barriers faced.⁴ This approach facilitates discussions on the strengths and limitations of existing policy interventions for concrete groups of beneficiaries, and helps inform policy decisions on whether and how to channel additional efforts towards specific groups.

¹ Where all European governments have committed to increasing the employment rate (European Commission, 2010).

² The activities of the “Understanding Employment Barriers” are financed through separate agreements between the EC and the World Bank and the EC and the OECD respectively. The respective agreements with the EC are titled “Portraits of Labor Market Exclusion 2.0” (EC-World Bank) and “Cooperation with the OECD on Assessing Activating and Enabling Benefits and Services in the EU” (EC-OECD).

³ The existing analysis in Bulgaria, Estonia, Greece Hungary, Lithuania, and Romania is updated, broadened, and refined with the new methodology; Croatia, Ireland, Italy, Poland, Portugal, and Spain are analyzed for the first time.

⁴ The latent class analysis uses EU-SILC rather than LFS data due to the opportunity to observe the labor market status of each individual over the course of an entire calendar year as well as the richness of this data on socioeconomic characteristics. The delay in data availability indicates that certain changes in the structure of the labor market may have occurred since then. For a detailed discussion on the advantages and disadvantages of EU-SILC data, see Annex 1. The data used on the policy section is the most recent data available. With regards to data on LM policies and programs, we use the latest available data.

Addressing the same barrier may require a different set of policies according to the characteristics of the identified groups. For example, while not having recent work experience may be an employment barrier faced by many individuals, it may require a different approach for inactive mothers compared to young unemployed men. It is therefore important to relate each barrier to specificities of each group. Thus, the study further delves into the results of the latent class analysis (LCA) for the priority groups that are identified in close collaboration with the corresponding country counterparts. Consequently, the study presents a richer and deeper understanding of the barriers, beyond what could be glimpsed through traditional statistics. It also provides an assessment of the adequacy of the policies and programs that are available to respond to the needs of the priority groups.

The analysis focuses primarily on the supply-side constraints and corresponding policies. While the study recognizes the essential role demand plays in improving labor market outcomes, analysis of these constraints — which requires a comprehensive approach across multiple facets of the economy — is beyond the scope of this study.

The study provides a snapshot of the needs of the labor market vulnerable and relevant policies to inform strategic policy choices and directions. Operationalization of these policy directions (such as improvements in existing programs) requires a sequence of activities including further in-depth analysis using program-level administrative and expenditure data as well as the more commonly used profiling methods. Thus, the conclusions should be interpreted in this light.

This Country Policy Paper is one of twelve that is under study⁵, and analyzes the out of work and marginally employed population in Croatia along with existing activation and employment support policies and programs. The paper comprises consists of seven sections. Section 2 provides background on the Croatian labor market. Section 3 describes the framework and the statistical clustering methodology. Section 4 presents the results, including a description of the identified clusters according to labor market barriers and demographic and socio-economic characteristics. Section 5 expands on this information with a more detailed analysis of the groups that, together with the Government of Croatia, have been selected as priority groups for policy and program interventions. Section 6 analyzes the current policies and programs that address the needs of the prioritized groups. Finally, section 7 presents conclusions.

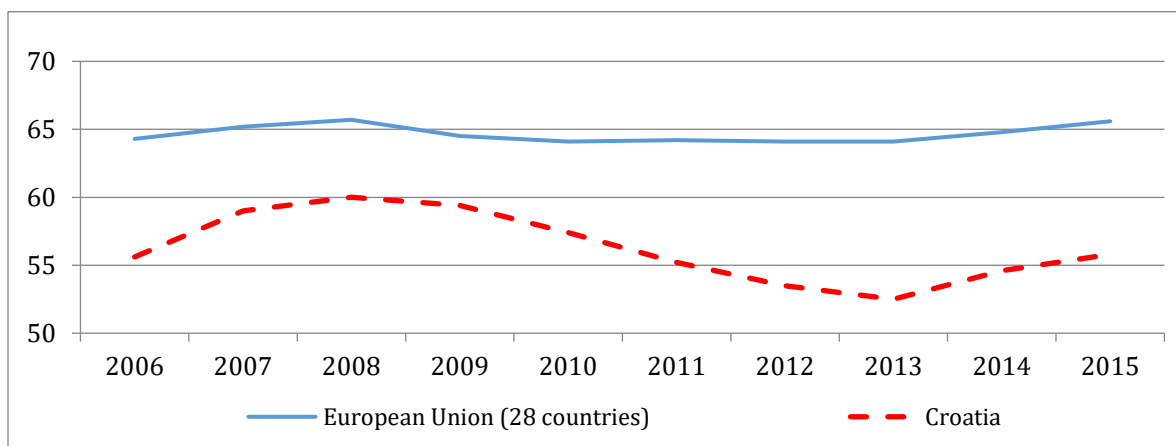
2. Country Context: Labor markets in Croatia

The labor market in Croatia experienced a prolonged downturn starting in 2010-11, but there are signs of recovery. After bottoming out at 52.5 percent in 2013⁶, the employment rate has started recovering and stands at 55.8 percent. Despite partial recovery, employment still remains much lower than the EU average of 65.6 percent for the EU28 (Figure 1). The economic growth is expected to be robust and broad based in the short term with gross domestic product (GDP) growth forecast at 3.1 percent for 2017 and improvements projected in the labor market with stabilizing activity rates and further declines on unemployment rate (European Commission, 2017).

⁵ Six Country Policy Papers are led by the World Bank and include: Bulgaria, Croatia, Greece, Hungary, Poland, and Romania. The Country Policy Papers led by OECD include: Estonia, Ireland, Italy, Lithuania, Portugal, and Spain.

⁶ Croatia has become a full member of the EU in July 2013. The structure of the labor force has likely changed due to the potential labor mobility within the EU.

Figure 1: Employment rate in Croatia between 2006 and 2015 (percent of working age population)⁷

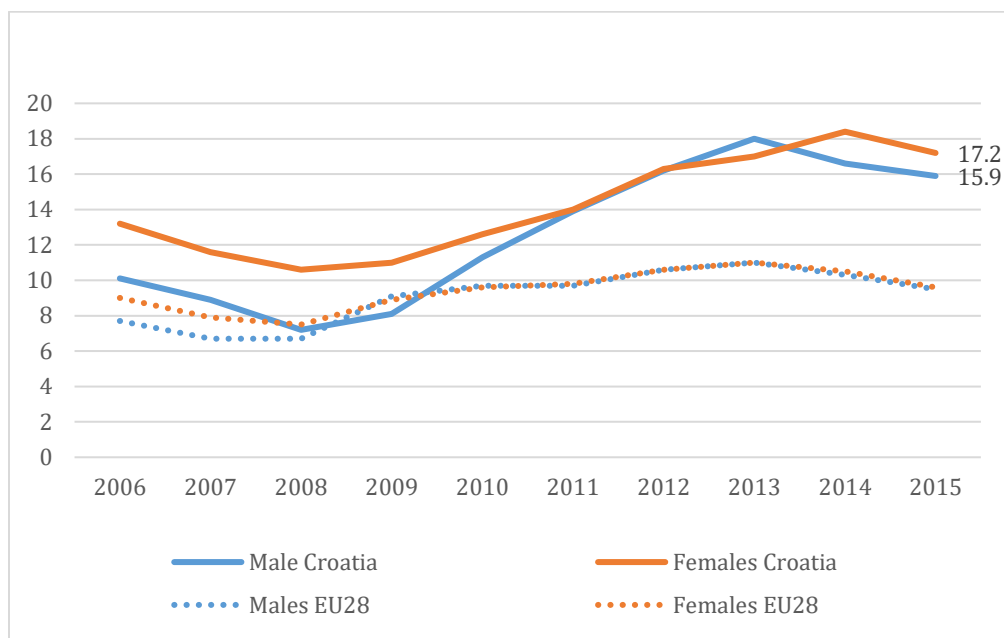


Source: Eurostat, LFS

Beyond high unemployment, several important labor market trends are concerning: long-term unemployment, youth unemployment, and relatively high inactivity, especially among women. The unemployment rate remains at a very high 16.3 percent, well above the EU28 average of 9.4 percent. Unemployment for youth and the low skilled, and the low activity rates weigh on economic potential. The gender gap is also worrying: starting in 2006 the number of unemployed women decreased constantly until reaching similar levels as men in 2012 before beginning to increase again in 2014. Overall 17 percent of active women are unemployed compared to 15.7 percent of men (Figure 2).

⁷ The introduction section presents Eurostat Labor Force Survey (LFS) figures in which the working-age population refers to individuals between 15 and 64 years of age. In the rest of the analysis, working age population is restricted to individuals aged 18 to 64 who are not in full time education or serving in the military.

Figure 2: Unemployment rate in Croatia by gender



Source: Eurostat, LFS

Only 66.8 percent of the working-age population is active, an improvement compared to the pre-crisis 65.6 percent but below the EU28 average of 70 percent. In addition, a relatively high 12 percent of the population aged 18 to 59 lives in households where no one works (Eurostat 2015). The activity rates of women and youth are particularly low (Figure 3). These high rates of inactivity effect youth and women who, even if relatively educated, lose skills while not working. Activity rates for both young men and women (15-24 years) and older men and women (50-64) are significantly lower than the EU average; for women, 10 and 12 percentage points respectively (Figure 3). In addition, a very low share of the employed work in part-time jobs (around 6 percent for both women and men compared to the EU average of 20 percent for men and women) (Figure 4).

Figure 3: Activity rates by gender and age in Croatia and EU-28

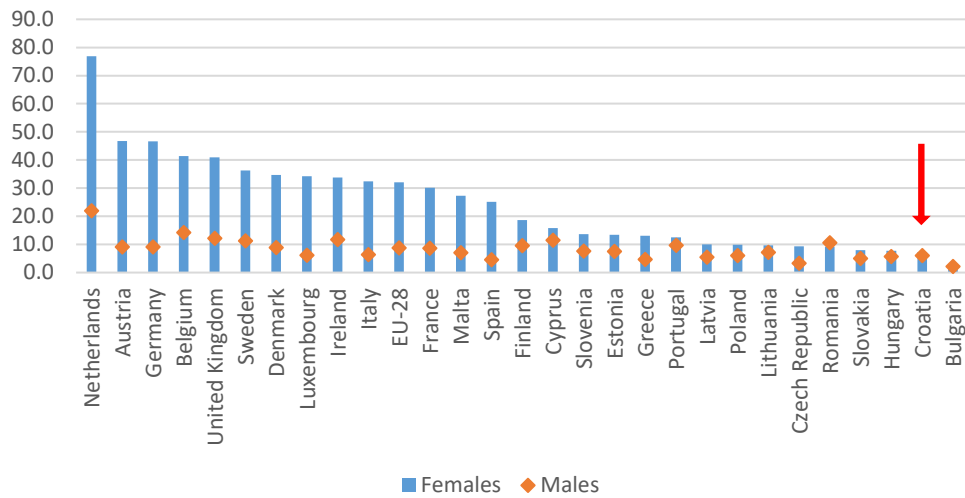


Source: Eurostat

The gender gap with regards to activity is significant, especially for young and older women. The activity rate of young women is 10 percentage points lower than for young men, 28 versus 38 percent; while for older individuals, the difference is about 15 percentage points (Figure 3). Women also tend to retire earlier as the retirement age for women averaged 60.31 years from 2004 until 2015, reaching an all-time high of 61.25 in 2015; whereas retirement age for men averaged 65 years from 2004 until 2015⁸. Retirement age for women is much lower than the EU average of 63.5 years.

⁸ The official retirement age increased to 67 in April 2016 with a possibility to take early retirement at 64 years.

Figure 4: Part-time employment as a percentage of total employment by sex, EU Member States, 2015

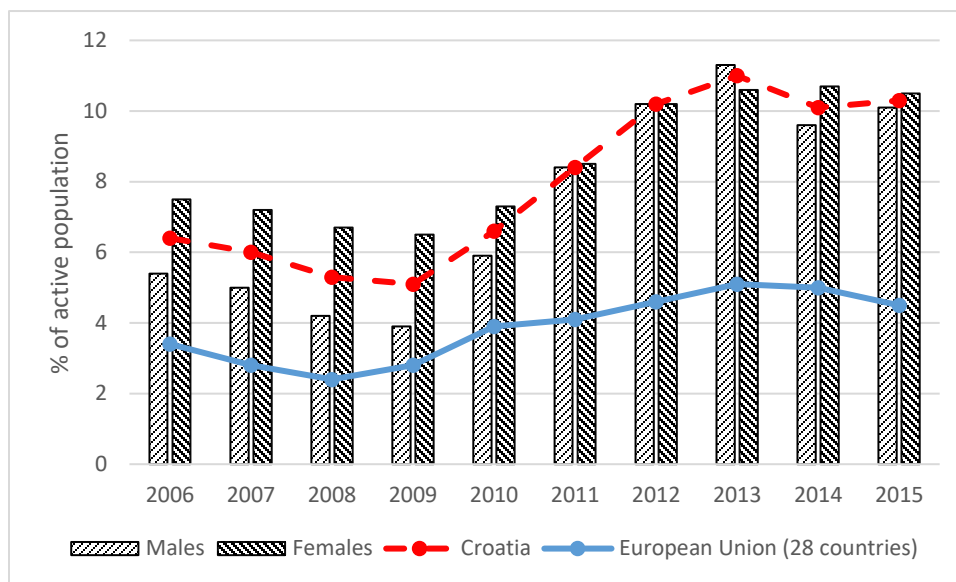


Note: The EU-28 average is weighted.

Source: Eurostat

Long-term unemployment is relatively high, reaching 10.3 percent of the working age population in 2015, over twice as high as the EU28 average of 4.5 percent, and the third highest among EU countries after Greece and Spain. Even though unemployment has fallen in recent years, long-term unemployment—unemployment lasting 12 or more months—has been “sticky”, even increasing between 2014 and 2015. Of the long-term unemployed, 42 percent have been jobless for over 24 months (very long-term unemployed). Long-term unemployment for women is 10.5 percent, slightly higher but similar to that of men at 10.1 percent (Figure 5).

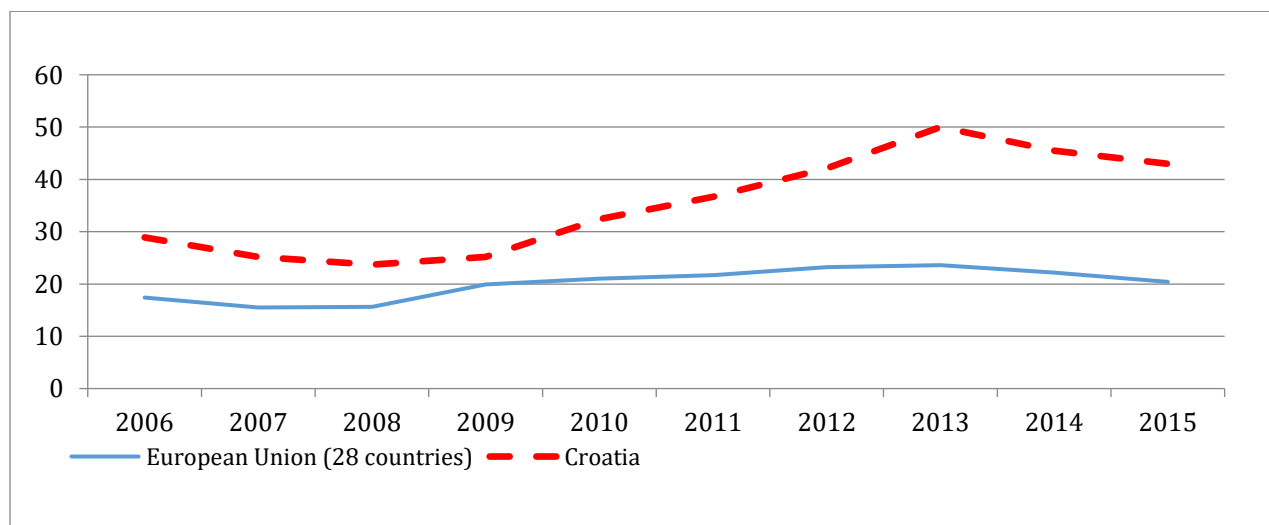
Figure 5: Long-term unemployment rate as a percentage of active population and by gender (percent of active population)



Source: Eurostat, LFS

The unemployment rate for youth (15 – 24) is 43 percent, more than twice the EU average of 20.4 percent in 2015 (Figure 6). Young women are somewhat more affected by unemployment, with a rate of 44.5 percent versus 41.9 percent for young men. Similarly, the rate of young people neither in education nor training (NEET) of 18.5 percent is also well above the EU average of 12.0 percent (Eurostat, 2015). However, the gender divide is different. The NEET rate is particularly worrisome for males: in 2015 the NEET rate for males was 21.0 percent versus 15.8 percent for females. This is unusual for the EU where NEET rates tend to be higher for females, in part due to young child care responsibilities.

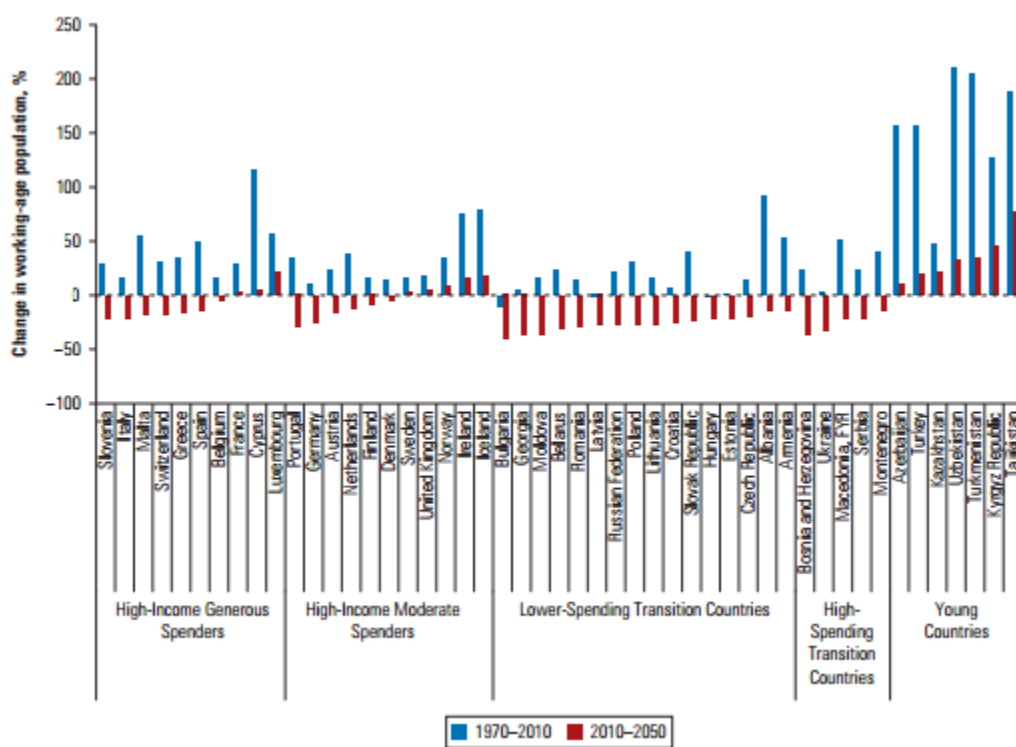
Figure 6: Youth (15-24) unemployment rate in Croatia between 2006 and 2015



Source: Eurostat

Demographic changes, including an aging population, is affecting the Croatian labor market. Low birth rates, longer life spans, emigration, and early retirement are shrinking the working age population. Croatia, similar to many EU countries, will continue to experience a shrinking base of young people entering the labor market; fertility rates decreased⁹ to an estimated 1.4 percent in 2016, below population replacement rates plus emigration¹⁰. Significant demographic shifts are projected to negatively affect the labor force, with the share of population over age 65 expected to almost double by 2050 (Schwarz et al., 2014) (Figure 7).

Figure 7: Change in working age population in select European and Central Asian economies, 1970-2010 and 2010-2050



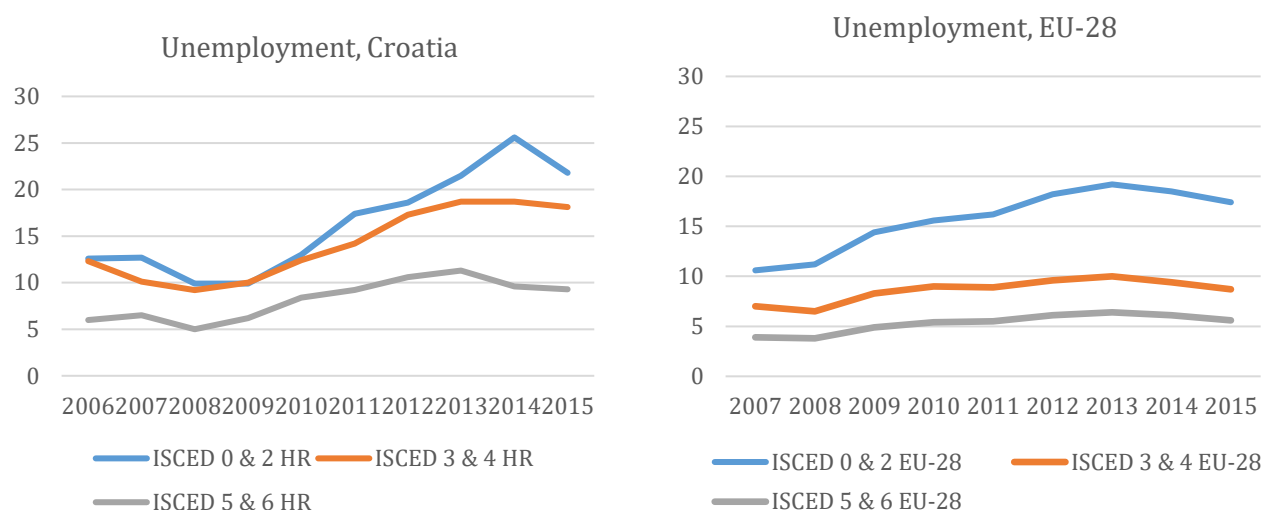
Source: Schwarz et al, 2014

The crisis increased unemployment among those with less than secondary education; while reversing in 2014, unemployment rates are significantly higher for those with low education. The unemployment rate is highest at 22 percent among those with secondary education or lower, although improving since 2014. At 10 percent, unemployment is much lower for Croatians with tertiary education (university degree or equivalent non-degree) compared to lower education categories (Figure 8).

⁹ The average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given fertility rate at each age.

¹⁰ A rate of two children per woman is considered the replacement rate for a population, resulting in relative stability in terms of total numbers.

Figure 8: Unemployment rate by education level (in percent of working age population)



Source: Eurostat, LES.

Despite positive economic signs, Croatia will need to improve employment support policies to address high unemployment and inactivity rates and the needs of its aging population. Overcoming these challenges requires addressing barriers that keep Croatians jobless. It also requires sharpening the focus of employment support and intermediation interventions.

3. Understanding employment barriers – a framework

Many young people are not working, along with old-age dependents and de-skilled inactive individuals, placing improvement of Croatia’s human capital must at the forefront of growth policies. While labor surveys statistics on broad groups such as “youth”, “older workers” and “retirees” exist, these groups are not homogenous and may face a variety of employment barriers. Detailed knowledge on the characteristics of these groups and obstacles they face are hard to find. Identification of groups with similar socioeconomic characteristics and employment constraints is fundamental for well-defined and comprehensive approach to policymaking with respect to the inactive and the unemployed.

This analysis categorizes individuals with no or weak labor market attachment which include the “out of work” and those who are employed sub-optimally. The analysis yields distinct subgroups of people in terms of characteristics and employment barriers they face. Developing narrower, more distinct categories provides a stronger evidence base to help design and prioritize activation and employment support policies. It also encourages critical examination of existing policies to assess their relevance to needs of target populations and their priorities.

This study offers policy makers a powerful statistical tool to help understand characteristics of out of work or marginally employed individuals. This tool also opens a channel to review and design of policies and programs suited to the distinct needs of these vulnerable individuals. Moreover, particularly for ministries and agencies in charge of labor and employment policy, this paper provides a sound framework to prioritize the needs of this population.

3.1. Population of analysis: Individuals with potential labor market difficulties

The “target population”, or focus of our analysis, is 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 period¹¹(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. Therefore, the analysis offers a much broader perspective than common profiling exercises that use administrative data collected only for registered jobseekers. It enlarges the scope of traditional profiling to individuals who have difficulties entering the labor market, 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.

Box 1: Definition of target population

The target population comprises people that are either persistently out of work (either who are actively searching for a job or inactive) or who are marginally employed. Specifically:

The ***persistently out of work*** are individuals reporting being unemployed or inactive—retired, disabled, engaged in domestic tasks, or other—during each of the 12 months of the reference period of the EU-SILC survey (the calendar year prior to the survey year), in addition to at the time of the survey interview.

Individuals who are ***marginally employed*** can be categorized into three non-mutually exclusive groups:¹

- ***Unstable jobs***: individuals reporting work activity for a maximum five months during the reference period. To reconcile information reported for the income reference period and at the moment of the interview, the following individuals are also considered in this group: workers who report no employment or self-employment during the income reference period but who report being employed or self-employed at the moment of the interview, and workers with between 45 percent and 50 percent of work activity during the income reference period who do not report any work activity in either the last month of the income reference period *or* at the moment of the interview.
- ***Restricted working hours***: identified as individuals who spent most or all of the reference period working *20 hours or less* a week for the following reasons: *illness or disability, family or care duties, absence of other job opportunities*.¹ We exclude individuals working 20 or fewer hours due to education or training, or for whom the limited working hours is still considered a full-time job.
- ***Negative, zero, or near-zero labor incomes***: identified as individuals reporting some work activity during the income reference period but negative, zero, or near-zero earnings. Specifically, to allow comparison across countries, we adopt the same low-earnings threshold for all countries at EUR 120/month in purchasing power parities with EU-28 as the reference. This translates to EUR 79 per month for Croatia, well below the statutory minimum wage of EUR 374 in 2012.¹

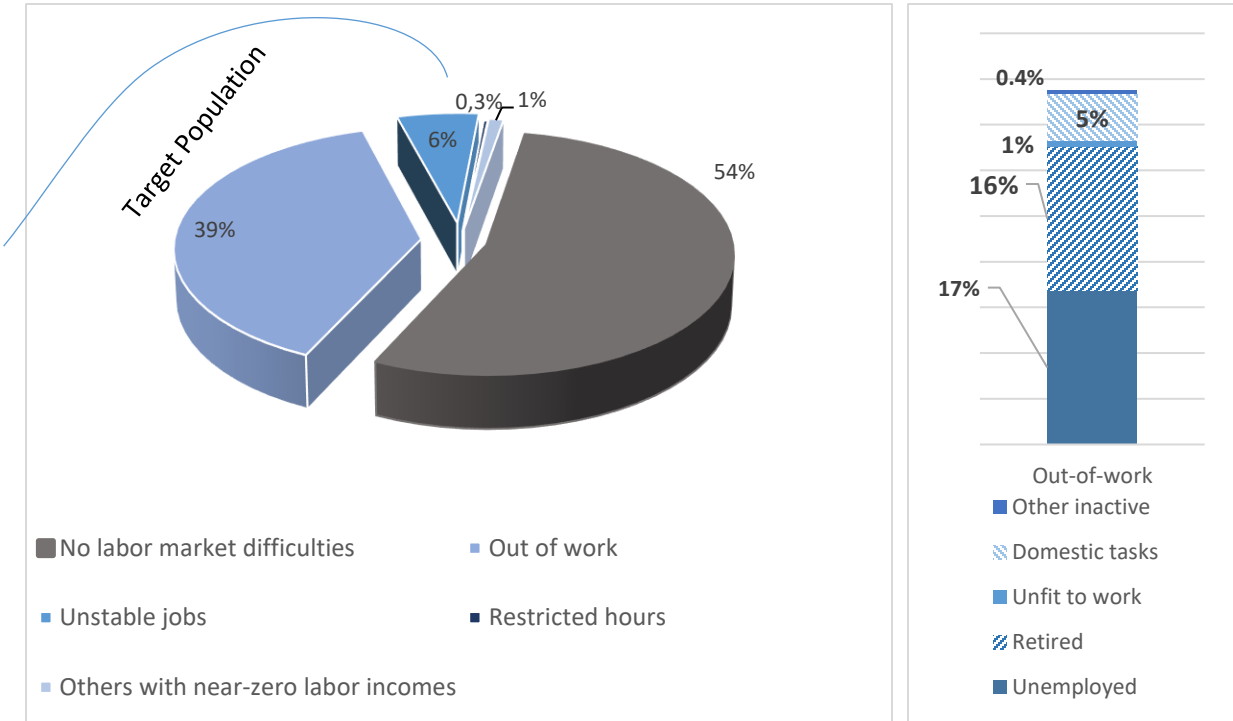
The target population represents 46 percent of the working-age Croatians¹² (Figure 9). This target population can be further disaggregated into: (i) those who are out of work (39 percent) for a variety of reasons including unemployment (17 percent), retirement (16 percent), unfit to work (1 percent), care or domestic duties (5 percent), or other types of inactivity (0.4 percent); (ii) those who have unstable jobs (6 percent); (iii) those with restricted working hours (less than 1 percent); and (iv) those who have near zero

¹¹ The survey data used were EU-SILC 2013 data where the reference period is equal to the previous calendar year, i.e. 2012. For a discussion on the advantages and disadvantages of EU-SILC data, see Annex 1.

¹² Excludes individuals that are studying full time or doing compulsory military service. The working age population also includes individuals with no major labor market difficulties (54 percent in Croatia), who may be thought of as those having relatively good jobs (in full time employment or self-employment with no near-zero income) as well as those with a variety of constraints. This latter category, representing 46 percent of the reference population is the target group. Out of work refers to individuals who report being unemployed or inactive over the entire reference period as well as at the time of the survey interview. Labor market status refers to the main activity reported during the reference period.

earnings (1 percent). The other 54 percent of working age Croatians face no major labor market difficulties; that is, they are employed in relatively “good” jobs.

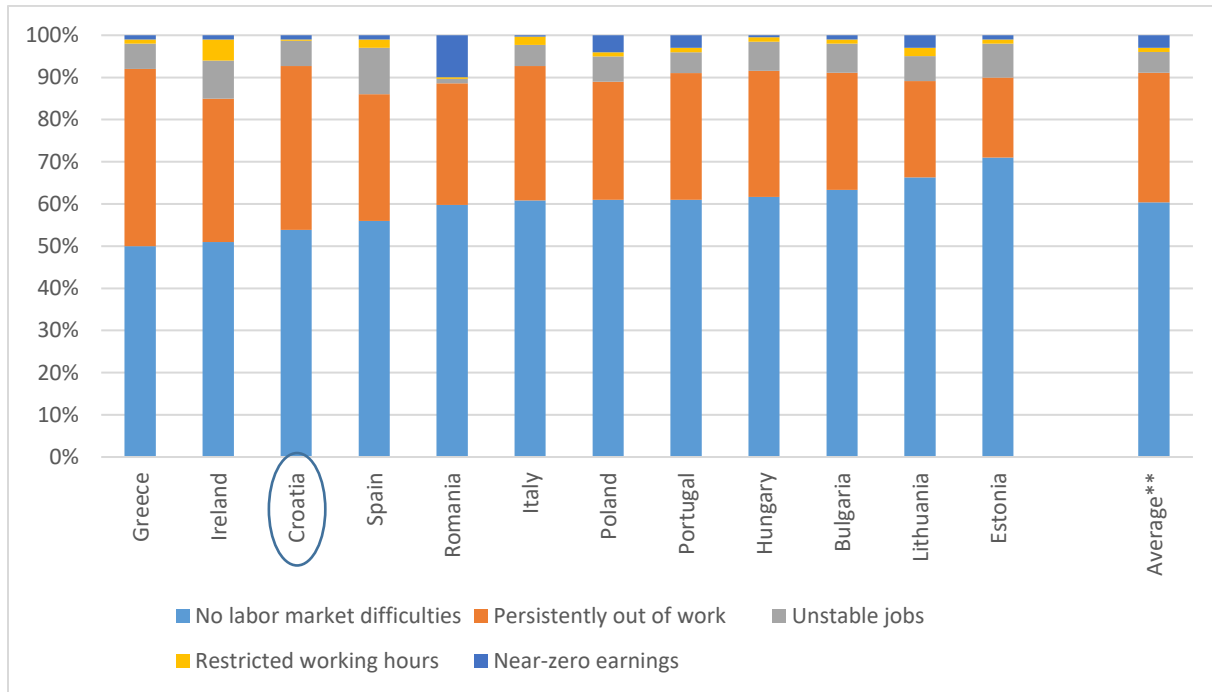
Figure 9: The composition of working age population (left) and out-of-work (right)



Source: World Bank staff calculations based on EU-SILC 2013.

Croatia fares worse compared to the other EU countries in terms of labor market attachment status of its working-age population (Figure 10). On average, the target population makes up 39 percent of the working-age population of the 12 countries in our study: in Croatia, the share of the target population is 46 percent. The out-of-work make up about 39 percent of the population, also well above the cross-country average of 31 percent, only surpassed only by Greece. The share of individuals in unstable jobs, having restricted working hours, or with near-zero earnings is broadly in line with the average among countries.

Figure 10: Labor market attachment status of working-age* population, Croatia and other EU countries under study (percent)



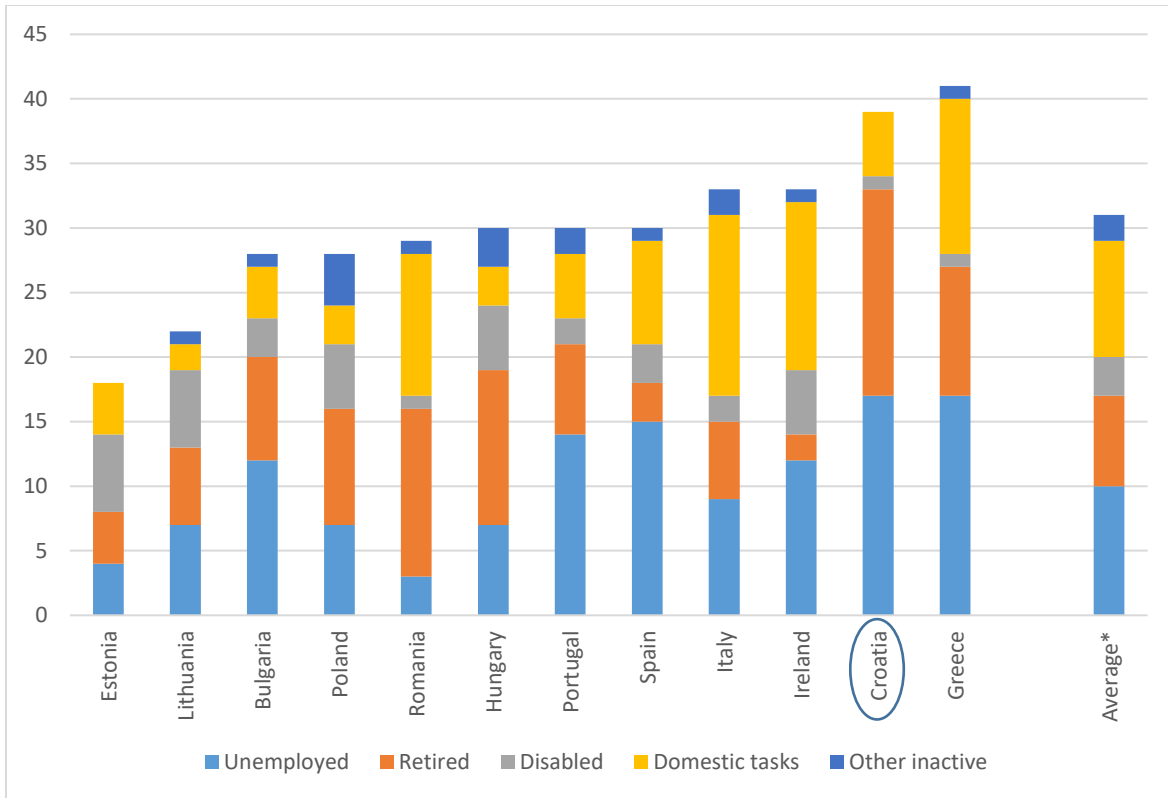
* Aged 18-64 and not studying full time or serving compulsory military service.

**Weighted average

Source: World Bank staff calculations based on EU-SILC 2013; EU-SILC 2014 for Greece; OECD Draft Country Policy Paper (forthcoming) for Portugal

Disaggregating the population persistently out of work by labor market status reveals a high share of retirees and unemployed.¹³ Figure 11 shows that 17 percent of the Croatian population of working age is classified as unemployed, significantly worse than the 12-country average of 10 percent. Sixteen percent of the working-age population was retired, tied for highest with Greece, and closely followed by Spain, in contrast with the seven percent average for the 12 countries. The percentage of working-age individuals reporting to be engaged in domestic tasks, or disabled, in Croatia are average.

Figure 11: Composition of persistently out of-work population by labor market status, Croatia and other EU countries under study (percent of working age population)



*Weighted average.

Source: World Bank staff calculations based on EU-SILC 2013; EU-SILC 2014 for Greece; OECD Draft Country Policy Paper (forthcoming) for Portugal

3.2 Employment Barrier Indicators

To segment the target population into distinct groups according to labor market barriers and socioeconomic characteristics, a set of **indicators** were formulated to capture employment barriers that prevent individuals from partially or fully working. These indicators represent **three types of employment barriers**, as defined below and illustrated in Figure 12.

- **Insufficient work-related capabilities** include factors that may limit an individual's ability to perform certain tasks. These include low education (as a proxy for skills); low work experience; care responsibilities; or limitations in daily activities due to health status.
- **Weak economic incentives to search for, or accept, a "good" job**: an individual may decide not to participate in the labor market if they might lose social benefits when taking up work or a higher-earning job (substitution effect), or if they already have a high standard of living due to other income sources and can therefore consume more leisure (income effect).
- **Scarce employment opportunities**: opportunities for employment may be scarce due to a shortage of vacancies in the relevant labor market segment (geographical area or sector); friction in the labor market due to things like information asymmetries, skills mismatches, discrimination, or lack of social capital.

Figure 12: Employment Barrier Framework



Source: OECD- and World Bank (2016)

The three types of barriers described above cannot be directly observed using survey data. Thus, we constructed eight using EU-SILC 2013 data to proxy for the three types of employment barriers. Together, the eight indicators serve as a starting point to characterize the target population according to the barriers they face. These indicators represent broad aspects of the three main types of employment barriers, but cannot, of course, capture all barriers. The indicators represent only barriers we are able to capture or proxy using EU-SILC data. More importantly, employment barriers are complex and often result from the interaction of different individual and household characteristics, including gender, age, socioeconomic status, ethnicity, social and cultural norms, as well as frictions in the labor market that we are unable to capture with household data.¹⁴ The indicators used for Croatia are outlined in Box 2 below. Additional information on the definitions and construction of each indicator is available in Annex 2 as well as in the joint methodological paper (OECD and World Bank, 2016)).

¹⁴ More detailed information on the definitions and construction of each indicator are available in the background methodological paper (OECD and World Bank, 2016).

Box 2. Definitions of employment barrier indicators used for Croatia

The indicators represent three broad types of employment barriers and are constructed from EU-SILC 2013 data as follows:

Five indicators are used to proxy for capabilities barriers

1. **Low education:** if an individual has an education level equal to or lower than post-secondary non-tertiary education the International Standard Classification of Education (ISCED)-11 classification)
2. **Care responsibilities:** if an individual lives with someone who requires care (i.e., children 12 and under receiving under 30 hours of care a week or elderly with health limitations) and is either the only potential care giver in the household or is reported as inactive or working part time because of care responsibilities;
3. **Health limitations:** if an individual reports some or severe self-perceived limitations in daily activities due to health conditions;
4. **No recent work experience:**
 - o The indicator may represent two situations:
 - i. those who have worked in the past but have no recent work experience (have not worked for at least 1 month in the last semester of the reference year or at the month of the interview);
 - ii. those who have never worked;

Two indicators are used to proxy for incentives barriers:

5. **High non-labor income:** if household income (excluding those from the individual's work-related activities) is more than 1.6 times higher than the median value in the reference population;
6. **High replacement benefits:** if earnings-replacement benefits (excluding categorical social benefits) are more than 60 percent of an individual's estimated potential earnings in work;

One indicator is used to proxy for scarce employment opportunities:

7. **Scarce employment opportunities*:** if an individual is estimated to have a high probability of being unemployed or involuntarily working part time due to their age, gender, education, and region of residence.

**The scarce employment opportunities indicator does not take into account the fact that individuals who are not unemployed but are inactive may nonetheless face scarce opportunities if they were to search for a job.*

Table 1 illustrates that the target population— 46 percent of the working age population—faces much higher employment barriers compared to the rest of the working age population.¹⁵ The most common barrier faced by the target population is lack of work experience, either having no recent work experience (65 percent having worked in the past and 20 percent having never worked) or low relative work experience (59 percent). Scarce job opportunities, or risk of remaining unemployed, due to individuals' gender, age, education, and the region where they reside is also a substantial barrier (35 percent). About one third of the population have low education and another third also report health limitations. About 20 percent have disincentives to work due to high non-labor income, and a small three percent have benefits that may decrease if they switched to full-time work. The share that faces care responsibilities is relatively low (12 percent). In comparison, the proportion of the working-age population facing employment barriers is much lower, especially in terms of capabilities, i.e., education, health limitations, work experience and care responsibilities. The most striking difference is low relative work experience: individuals in the target

¹⁵ The care responsibilities barrier, by definition, does not affect any individuals who are not members of the target population. The same is true of the barriers associated with recent work experience, as the population with stable jobs, by definition, has recent work experience since they have all worked for at least 1 month during the last semester of the reference year or at the month of the interview. All other barriers can equally affect individuals who have stable jobs and are therefore not considered part of the target population.

population are much more likely to have spent more than 60 percent of their potential work lives out of work.

Table 1. Characterization of target population according to barrier indicators (percent)

INDICATOR	Target population	Working-age population
Capabilities barriers		
1 - Low education	30	19
2 - Care responsibilities	12	6
3 - Health limitations	33	21
4- Low relative work experience	59	37
5 - No recent WE - Has worked in the past	65	31
No recent WE - Has never worked	20	9
Incentives barriers		
6 - High non-labor income	20	23
7 - High earnings replacement (benefits)	3	2
Opportunity barrier		
8 - Scarce job opportunities	35	28

Source: World Bank staff calculations based on EU-SILC 2013

The target population in Croatia shows similar characteristics to the average across the six EU countries in the World Bank study. But some barriers stand out for Croatia, such as low relative work experience and high earnings replacement benefits. Table 2 compares employment barrier indicators for the target groups in the six EU countries. In Croatia, a comparatively very low proportion of individuals have “high-earnings replacement benefits” barriers, indicating relatively low benefits in comparison to shadow wages.¹⁶ “Low work experience” is particularly high for Croatia in comparison to Poland and Romania, though similar to Greece.¹⁷ Lastly, it is noteworthy that the target population in Croatia has the second highest share (65 percent) of those who “have past work experience but with no recent work experience” and highest share of those with “low relative work experience”.

¹⁶ Shadow wage rate is defined as opportunity cost of labor, and may differ from the observed wage because of distortions in the labor market and in product markets as well

¹⁷ Due to data limitations, the indicator is not available for Bulgaria or Hungary.

Table 2. A cross-country comparison of barriers faced by the target populations

Country	Bulgaria	Croatia	Greece	Hungary	Poland	Romania	Average
Share of target group facing each barrier by country (percent)							
<i>Capabilities barriers</i>							
1 - Low education	38	30	81***	31	19	45	33***
2 - Care responsibilities	13	12	16	15	15	13	14
3 - Health limitations	19	33	19	37	30	33	29
4- Low relative work experience (WE)	N/A*	59	57	N/A*	43	48	52
5 - No recent WE - Has worked in the past	58**	65	59	73	66	45	62
No recent WE - Has never worked	19**	20	26	9	10	28	19
<i>Incentives barriers</i>							
6 - High non-labor income	18	20	23	19	19	19	20
7 - High earnings-replacement benefits	6	3	12	14	9	10	9
<i>Opportunity barrier</i>							
8 - Scarce employment opportunities	47	35	45	41	32	26	38

Source: World Bank staff calculations based on EU-SILC 2013 for all countries except for Greece, for which 2014 EU-SILC data is used.

* In Bulgaria and Hungary, a significant share of observations on work experience was missing from the EU-SILC 2013 dataset: as a result, the low relative work experience indicator could not be constructed for these countries.

** In Bulgaria, a significant share of observations was missing from the data on activities conducted in the reference year: as a result, the indicator was constructed differently than in the other countries.

*** In the case of Greece, the cut-off for low education has been set at post-secondary rather than lower secondary level. The reason for the change in the cut-off is that a look at unemployment (employment) rates by education level shows that unemployment (employment) only falls (rises) significantly among individuals who have completed tertiary education. Greece is not included in the average.

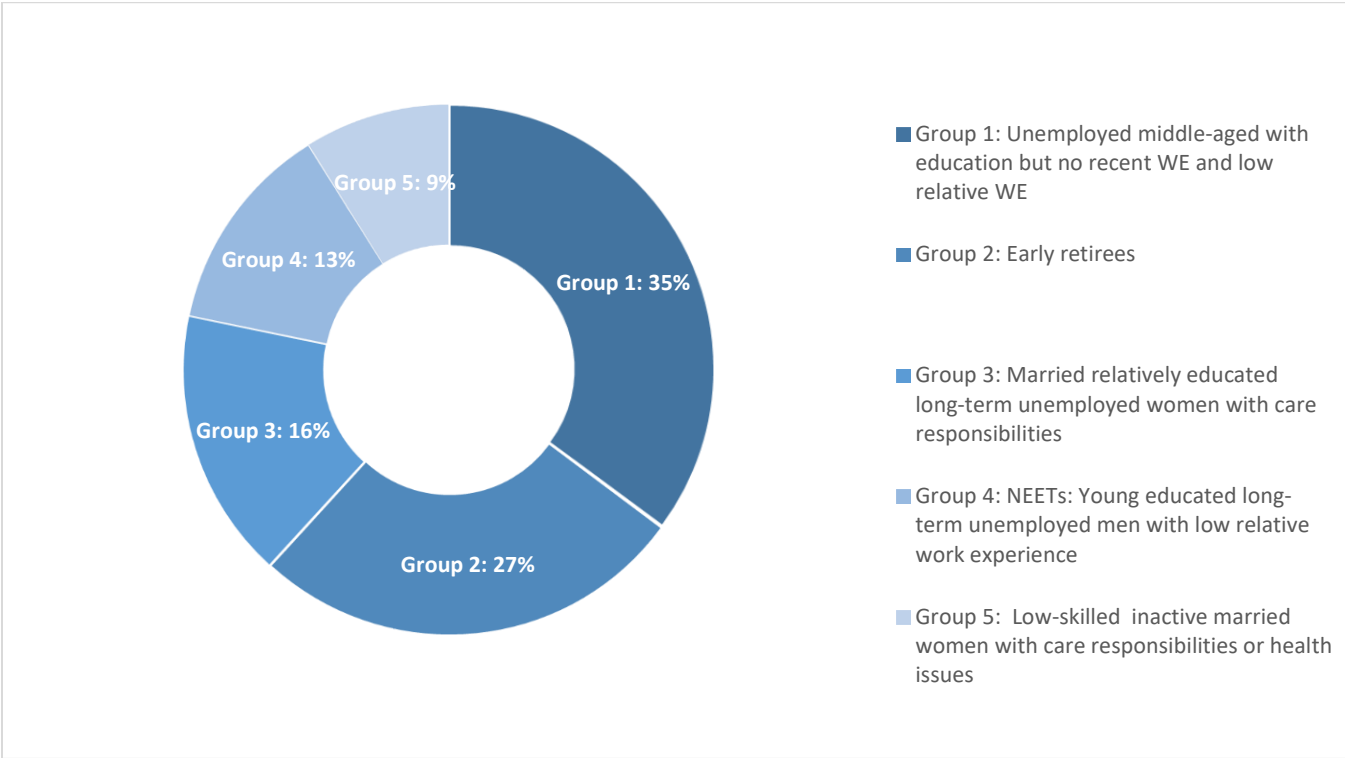
The statistical clustering method utilized in this study to analyze the target population is latent class analysis (LCA). This method is able to create proxies, in this case categories of employment barriers, from specific sets of variables, in this case all related to labor market vulnerability. LCA is a statistical segmentation technique that enables characterization of a categorical unobserved latent variable based on analysis of relationships among several observed variables (“indicators” as defined below). It segments the target population into distinct, homogenous sub-groups; in this case, groups made up of individuals who face similar barriers to employment. In contrast to traditional regression analysis, which identifies the effect of one barrier while assuming all other barriers stay constant, LCA exploits the interrelations of the employment barriers and how they interact to determine outcomes.¹⁸

¹⁸ Further details on LCA and selection of indicators are provided in the OECD-World Bank Joint Methodological Paper, 2016.

4. Results of the analysis: portraits of labor market exclusion in Croatia

Applying the above methodology¹⁹, latent class analysis segments the target population into five distinct groups. Each group varies in size (see Figure 13), characteristics, and the mix and intensity of employment barriers they face.

Figure 13: Latent groups within the Croatian target population



Source: World Bank staff calculations based on EU-SILC 2013.

Below we describe each of the groups emerging from the analysis including employment barriers (Table 3) and the number of barriers for each group (Figure 13). We use characteristics that have a relatively high probability of occurrence for each group as the generic name²⁰ for each group. Annex 3 outlines a detailed list of socioeconomic characteristics by group.

¹⁹ The technical details on the selection of the LCA models were omitted for brevity at this stage and will be included in the Country Policy Paper. The team will be happy to provide these details upon request.

²⁰ The group names are somewhat subjective; nevertheless they mirror most salient the barriers/characteristics common within each groups.

Table 3. Employment barriers faced by Population with Labor Market Difficulties in Croatia 2013

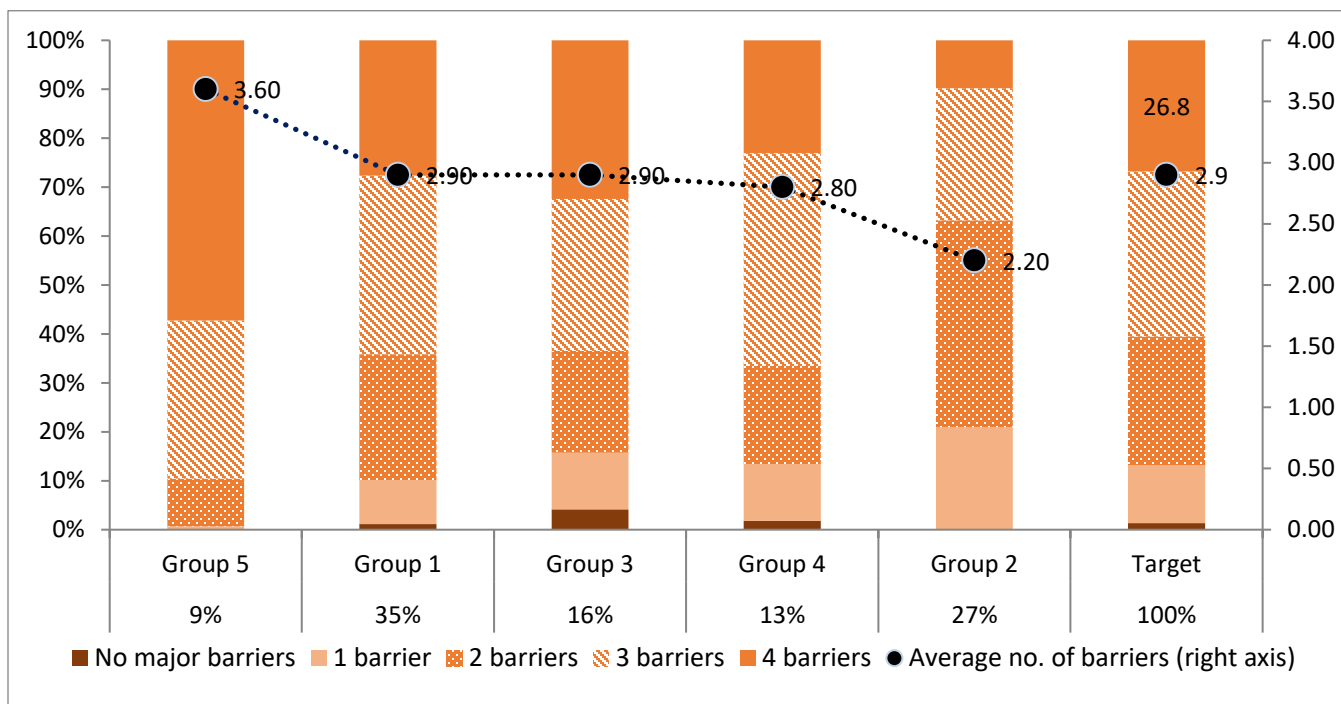
Group size (% of target population)		Group 1	Group 2	Group 3	Group 4	Group 5	Target population
		35	27	16	13	9	100
Share of individuals facing each barrier, by class							
<i>Capabilities barriers</i>							
1 -	Low education	32	28	20	2	82	30
2 -	Care responsibilities	6	3	41	3	26	12
3 -	Health limitations	41	46	8	5	47	33
4 -	Low relative work experience (WE)	61	23	73	87	92	59
5 -	No recent WE - Has worked in the past	80	97	49	19	27	65
	No recent WE - Has never worked	10	3	21	44	72	20
<i>Incentives barriers</i>							
6 -	High non-labor income	14	26	12	36	19	20
7 -	High earnings-replacement benefits	2	6	2	0	6	3
<i>Opportunity barrier</i>							
8 -	Scarce employment opportunities	40	2	60	83	0	35
<i>Average number of barriers per individual</i>		2.9	2.2	2.9	2.8	3.6	2.9

Source: World Bank staff calculations based on EU-SILC 2013.

The groups also vary in terms of the average number of barriers faced as well as the prominence of simultaneous barriers. Figure 13 shows the distribution of the number of barriers faced by individuals in each group (left axis), as well as the average number of barriers faced (right axis). On average, all individuals in the target population face a total of 2.9 barriers²¹; 16.8 percent face four or more barriers (Figure 14). Across groups, group 5 stands out as having a particular high average number of barriers (above three). This also translates into a relatively high proportion of individuals facing four or more barriers in this group (58 percent). Groups 1, 3 and 4 have a relatively high percentage of individuals facing three barriers (between 30 to 43 percent). At the other end of the spectrum, Group 2 faces a relatively low number of barriers on average (around two).

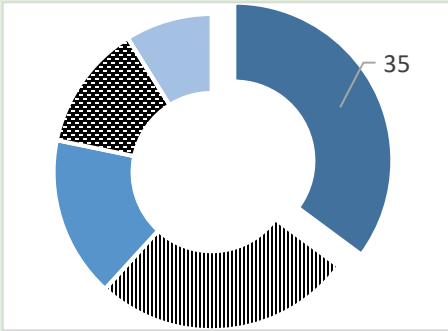
²¹ The highest possible number of barriers that an individual can face is seven.

Figure 14. Distribution of number of barriers faced by individuals in each group



Source: World Bank staff calculations based on EU-SILC 2013. Groups are ordered according to the average number of barriers.

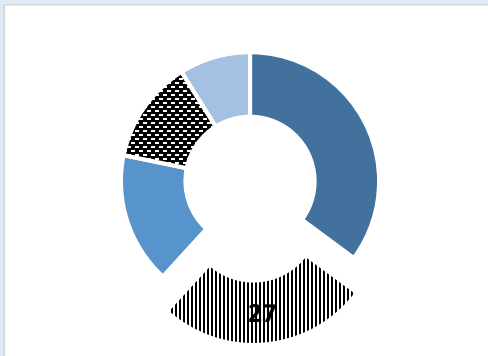
Group 1: Unemployed middle-aged with education but no recent WE and low relative WE (35 percent of the target population).



- 91 percent middle-aged (30-55); average age 47 years
- 58 percent unemployed and 28 percent retired
- 51 percent have been unemployed for 12 months or more
- 58 percent male
- 61 percent have upper secondary education or more
- 80 percent have worked in the past
- Most commonly faced barriers are no recent work experience (90 percent—80 percent worked in the past; 10 percent have never worked—and low relative work experience (61 percent)
- Average number of barriers: 2.9

Group 1, more than one-third of the target population, is made up largely of middle-aged individuals (91 percent) who are mainly unemployed (58 percent). It also includes a significant proportion of individuals who self-report as retirees (28 percent). The predominant barriers faced by this group are no recent work experience (90 percent—80 percent worked in the past—and low relative work experience (61 percent), followed by health limitations (41 percent) and scarce job opportunities (40 percent). The group is mainly men, but women represent a significant proportion (42 percent). Fifty-eight percent reported being unemployed during most of the reference period, and about half have been unemployed for 12 months or more. Forty percent report themselves as actively searching for a job at the time of the interview. Although one-third have low education, the rest are relatively educated having at least completed upper secondary education (68 percent). See Annex 3 for the full list of indicators. Half of these individuals reside in densely populated areas. This group is also relatively poor with 39 percent are at risk of poverty, versus 32 percent for the target population.

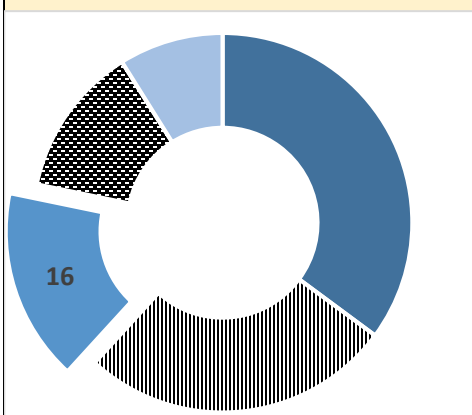
Group 2: Early retirees (27 percent of the target population).



- 94 percent aged 56-64; average age 59 years
- 80 percent retired
- 55 percent female
- 46 percent report health limitations
- 91 percent receives social benefits
- Most commonly faced barriers are no recent work experience (97 percent) and health limitations (46 percent).
- Average number of barriers: 2.2

Group 2 comprises individuals between 56 and 64 years of age (94 percent) who are mostly retirees (80 percent). The majority of them are women (55 percent) and live primarily in urban areas (58 percent). About a fourth of them have high non-labor income, which is explained by the high proportion of them receiving social benefits (50 percent receive old-age benefits; 29 percent receive disability benefits) or living in a household with other income sources (47 percent have another working person in the household). However, few of them face a high “earnings replacement barrier”, which suggests that benefits are low relative to their shadow wage. A substantial portion of this group has health limitations (46 percent). They are relatively well educated with only 29 percent with low education and have few have low relative work experience (23 percent), especially compared to group 1. This group is also relatively better off than any other group, with the at-risk-of-poverty rate at only 21 percent versus 32 percent for the target population. The predominant barriers in this group are no recent work experience (100 percent; 97 percent have worked before) and health limitations (46 percent).

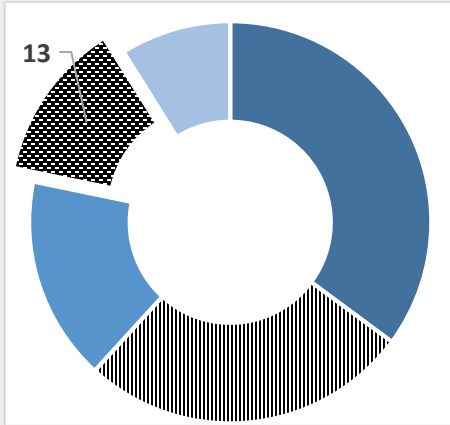
Group 3: Married relatively educated long-term unemployed women with care responsibilities (17 percent of the target population).



- 61 percent middle aged (30-55) and 39 percent young (18-29); average age 34 years
- 70 percent unemployed; 55 percent unemployed for 12 months or more
- 79 percent female
- 89 percent live with children and 75 percent are married
- Most commonly faced barriers are no recent work experience (49 percent have no recent work experience and 21 percent have never worked), low relative work experience (72 percent) and scarce job opportunities (60 percent)
- Average number of barriers: 2.9

Group 3 is younger than the average of the target population (34 vs. 46 years), with 30 percent 18 to 29 years of age and 61 percent between 30-55 years of age. It comprises mostly women (79 percent) who tend to be married (76 percent) and who live in households with children (89 percent), and consequently have care responsibilities (40 percent). Fifty-eight percent of them have children under six and more than half report having limited access to formal childcare. Seventy-one percent live in a household with at least one working person, although a very small percentage face a high non-labor income barrier. Seventy-eight percent also receive social benefits, although few face a high “earnings replacement barrier” indicating that benefits are relatively low. These women are largely unemployed (70 percent), and many are long-term unemployed (55 percent). Forty-four percent reported themselves to be actively looking for a job at the time of the interview. Almost one-fourth are marginally employed in unstable jobs. They have low relative work experience (73 percent) with only half of them with recent work experience, and they are relatively educated with 80 percent having completed upper secondary or tertiary education, versus 53 percent of the target population. The predominant barriers for this group are no recent work experience (70 percent, with 21 percent having never worked), low relative work experience (72 percent) and high risk of remaining unemployed (60 percent). A relatively high portion (39 percent) of this group is at risk of poverty versus 32 percent of the target population.

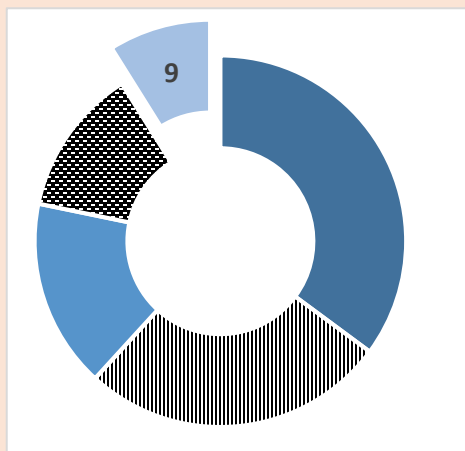
Group 4: NEETs: Young educated long-term unemployed men with low relative work experience (13 percent of the target population)



- 73 percent 18-29 years old; average age 30 years
- 90 percent unemployed, and 61 percent unemployed for 12 months or more
- 66 percent male
- 98 percent with high education level
- 61 percent live with parents and 36 percent have high non-labor income
- Most commonly faced barriers are low relative work experience (87 percent), scarce job opportunities (83 percent) and no recent work experience (63 percent: 19 percent have worked before, 44 percent have never worked).
- Average number of barriers: 2.8

The striking features of this group are the unemployment status (90 percent) and relative youth of its members, with 73 percent being 18 to 29 years of age. The group includes mostly men (68 percent) who are relatively well educated compared to the other groups; 81 percent have completed upper secondary education and 17 percent have completed tertiary education, meaning that only 2 percent face the low education barrier compared to 30 percent for the entire target population. Sixty-two percent report they were actively looking for a job at the time of the interview, and 61 percent of them have been unemployed for 12 months or more. Sixty-three percent have no recent work experience (19 percent have worked before; 44 percent have never worked). They, unsurprisingly, have low relative work experience (87 percent) and face scarce job opportunities (83 percent). About one third (36 percent) have non-labor income that may provide a disincentive to work. The other income sources are likely the result of living with at least one parent (80 percent). More than half (56 percent) live in urban areas. The most significant barriers for group 4 are low relative work experience (87 percent), scarce job opportunities thus high risk of remaining unemployed (83 percent), and no recent work experience (63 percent). Twenty-nine percent are at risk of poverty, versus 32 percent of the target population.

Group 5: Low-skilled inactive married women with care responsibilities or health issues living in rural areas (9 percent of the target population)



- 59 percent older (56-64); 41 percent middle-aged (30-55); average age 54 years
- 57 percent engaged in domestic tasks and 32 percent retired
- 100 percent female
- 82 percent with low education
- 47 percent with health limitations
- 26 percent with care responsibilities
- 72 percent have never worked
- 66 percent live in rural (thinly populated) areas
- Most commonly faced barriers are no recent work experience (99 percent: 27 have worked before and 72 percent have never worked), low relative work experience (92 percent) and low education (82 percent)
- Average number of barriers: 3.6

This group is composed of women only (100 percent) that are between 30 and 55 years of age (41 percent) or 56 to 64 (59 percent). Another specificity of this group is its activity status, as 57 percent reports being engaged in domestic tasks while 31 percent report themselves as retired. They have low education levels with 81 percent having only completed lower education or less. They also have low relative work experience (91 percent) as most of them have never worked (72 percent) and 27 percent also have no recent work experience. They are mostly married (70 percent), but only 20 percent have children under 12 and 28 percent live with an elderly person in the household. About 26 percent have care duties (including child care and elderly care) and 47 percent report health limitations. These women primarily live in rural areas (66 percent). The most significant barriers for this group are no recent work experience (91 percent; 72 percent never worked), low relative work experience (92 percent) and low education (82 percent). Thirty-five percent of this group is at risk of poverty compared to 32 percent of the target population.

5. Analysis of priority groups for the Croatian labor market

A number of active labor market policies and programs target youth and the long-term unemployed. Youth and long-term unemployed beneficiaries constitute 22 and 3.4 percent of the registered unemployed respectively²². Most of the programs, especially those introduced relatively recently, targeted youth with no or little experience to ease their transition from school to work. Programs also target the long-term unemployed. Of particular importance is the Youth Guarantee Program that targets youth with no work experience and tries to intervene early to help them enter the job market (see Section 6 for more details). In addition, women (55 percent of the unemployed) and disabled (3 percent of the unemployed) are priority groups targeted for labor market programs.

²² CES Monthly Statistical Bulletin, June 2016

In light of Croatia’s labor market features and challenges, combined with commitment to EU employment strategies to reduce youth and long-term unemployment for socially excluded groups, the young, women, long-term unemployed, and people with little work experience are high priority groups for Croatia. Among these five groups identified using the LCA model, two groups²³ stand out as top priorities for activation and employment support programs (AESPs): **Group 3, Married relatively educated unemployed women with care responsibilities;** and **Group 4, Young relatively educated unemployed men with low relative work experience.** Groups 1, 2 and 5 are not prioritized because of the demographic profiles of these groups: primarily older, with health barriers, pensions, and at retirement age, with limited ability to enter the labor market or remaining years of work. Table 4 below presents further analysis, with details on demographic and socioeconomic characteristics of both groups.

Groups 3, young NEETs with low relative work experience, and Group 4, long-term unemployed women with care responsibilities, share some challenges. But there are also very specific challenges to each group. For both of these groups, young unemployed and long-term unemployed women, the striking constraints are low relative work experience, including no recent work experience, and high risk of remaining unemployed. They have scarce job opportunities based on their geographic location, age profiles and socioeconomic characteristics. On the other hand, whereas many individuals in group 4 have never worked, half of group 3 has previous work experience. Despite low relative work experience, both groups are relatively educated with 70 and 81 percent of individuals in group 3 and 4 respectively having completed upper secondary education. Another similarity is that individuals in both groups live in households where there is at least one working adult, about 71 and 68 percent for group 3 and 4 respectively, although for group 4 this presents a barrier to work. Within both groups, long-term unemployment is significant, with 55 percent and 61 percent of the individuals respectively having been unemployed 12 months or more. For a significant 41 percent of group 3, care responsibilities represent a barrier; 58 percent live in households with children below 6 years of age and 54 percent live in households where either none or only some of the children under 12 receive formal childcare. Finally, about 30 to 40 percent of individuals in groups 3 and 4 are at risk of poverty. Therefore, even though scarce job opportunities exist for these individuals, this may not be the most important barrier keeping them out of work. Focus should be placed on addressing the other constraints: care responsibilities, lack of work experience, potential skills gaps (given the higher returns to higher education), being out of the labor market for long periods, and sources of household income that create disincentives for work.

Group 3 women are relatively educated with 70 percent having completed upper-secondary education and 10 percent having complete tertiary education. They belong primarily to the poorest two quintiles (69 percent); live with, or are married to, a working person in the household; and receive social benefits (78 percent) suggesting that these are working, but relatively poor households. Most group 3 people live in the Adriatic region, and especially in thinly populated areas. The women in this group average 34 years of age, thus have many years of productive life ahead of them to contribute to the social security system. In addition, a significant portion, 40 percent, of these long-term unemployed women are at risk of poverty compared to 32 percent of the target population; hence, they are likely to need supplementary, temporary social assistance along with employment support.

Eighty-one percent of Group 4 individuals have completed upper secondary school, with the rest having tertiary education. This group’s poverty levels are more equally distributed across income quintiles, although about 30 percent belong to the poorest quintile. The average age is 30 with a large

²³ Priority groups have been selected in close consultation with the Ministry of Labor and Croatian Employment Services.

majority (78 percent) not married, living with their parents (81 percent), and in a household with at least one working person (68 percent). A high share of these individuals never worked (44 percent), and among those who have worked, most of them have only 1-5 years of work experience (66 percent). A significant portion (44 percent) reside in the Adriatic region.

Table 4. Employment barriers and socioeconomic characteristics for priority groups²⁴

Employment barriers

Group name	Group 3 Married relatively educated long term unemployed women with care responsibilities	Group 4 Young unemployed relatively educated men with low relative work experience	Target pop.
Group size (% of target population)	16	13	100
Group size (number of individuals)	200,420	176,105	
<i>Capabilities barriers</i>			
1 - Low education	20	2	30
2 - Care responsibilities	41	3	12
3 - Health limitations	8	5	33
4 - Low relative work experience (WE)	73	87	59
5 - No recent WE - Has worked in the past	49	19	65
5 - No recent WE - Has never worked	21	44	20
<i>Incentives barriers</i>			
6 - High non-labor income	12	36	20
7 - High earnings-replacement benefits	2	0	3
<i>Opportunity barrier</i>			
8 - Scarce employment opportunities	60	83	35
Average number of barriers	2.9	2.8	2.9

Socioeconomic characteristics

	Group 3 Married relatively educated long term unemployed women with care responsibilities:	Group 4 Young long term unemployed relatively educated men with low relative work experience	Target pop.
Percent of target population	18	12	100
Thousands of individuals	200,420	176,105	1,144,364
Women*	79	34	56
Children under 12 in household*	89	7	27
<i>Age group*</i>			
Youth (18-29)	39	73	17
Middle-aged (30-55)	61	25	50
Older (56-64)	0	2	33
<i>Main activity during the reference period</i>			
Employed	9	4	3
Unemployed	70	90	48
Retired	4	1	35

²⁴ Contains the same figures as Table 3 but this table includes detailed socioeconomic characteristics for the priority groups.

Domestic tasks	15	1	12
Other inactive or disabled	3	3	3
<i>Degree of urbanization</i>			
Densely and intermediate populated	45	56	51
Thinly populated	56	44	49
<i>Region</i>			
Sjeverozapadna Hrvatska (Northwestern)	16	22	21
Sredisnja i Istocna (Panonska) Hrvatska(Central and Eastern (Pannonian))	30	34	29
Jadranska Hrvatska (Adriatic)	55	44	49
<i>Target group**</i>			
Out of work	68	63	85
Unstable jobs	23	34	12
Restricted hours	1	1	1
Near-zero income	8	2	2
<i>Main activity at moment of interview</i>			
Employed	20	22	9
Unemployed	61	72	43
Retired	5	2	35
Domestic tasks	13	1	11
Other inactive, disabled or student	2	3	3
<i>Months in unemployment</i>			
Zero months	27	8	51
1 to 11 months	18	31	11
12 or more	55	61	38
<i>Actively searching for a job at time of interview</i>			
	44	62	30
<i>At risk of poverty (60% of median income)</i>			
	39	29	32
<i>At risk of poverty (40% of median income)</i>			
	18	16	16
<i>Equivalent income quintile</i>			
Poorest	40	30	33
2	29	19	23
3	19	19	20
4	8	20	14
Richest	4	12	10
<i>Severe material deprivation</i>			
	22	22	22
<i>Years of work experience***</i>			
1 to 5	45	66	23
6 to 10	25	13	12
11 to 20	21	14	21
21 to 30	7	5	23
More than 30	1	2	22
<i>Average years of work experience***</i>			
	9	7	18
<i>Education level</i>			
Primary or less	4	0	9
Lower secondary	16	2	36
Upper secondary	70	81	47
Post-secondary	0	0	3
Tertiary	10	17	6
<i>Age groups (more disaggregated)</i>			
18-24 years	17	41	9
25-34 years	40	34	15
35-44 years	30	12	17
45-54 years	12	10	22
55-59 years	1	2	17
60-64 years	0	1	19
<i>Average age</i>			
	34	30	46

<i>Severe limitations in daily activities</i>	2	3	8
<i>At least one other household member 25 & older working</i>	71	68	55
<i>Elderly in the household</i>	13	19	19
<i>Children under 6 in household</i>	58	5	17
<i>Children under 3 in household</i>	37	3	10
<i>Children under 13 in formal childcare</i>			
None	33	2	10
Some	21	1	6
All	35	4	12
NA	10	93	73
<i>Household type</i>			
One person	0	3	7
Single parent	1	1	1
2+ adults, 0 children	6	63	51
2+ adults, 1 child	14	4	6
2+ adults, 2+ children	78	30	35
<i>Live with parents</i>	26	81	25
<i>Marital status</i>			
Married	76	20	62
Never married	21	78	26
Divorced/separated/widow/er	3	2	12
<i>Labor market status of spouse/partner</i>			
Working	55	13	29
Unemployed	18	5	12
Retired	3	2	18
Unfit to work	0	0	0
Domestic tasks	2	1	4
Other inactive	1	0	1
No spouse/partner	21	79	36
<i>Receives family benefits</i>	74	13	26
Average annual value (€)	1803	936	1470
<i>Receives social exclusion benefits</i>	10	9	8
Average annual value (€)	1973	1995	1723
<i>Receives unemployment benefits</i>	5	3	5
Average annual value (€)	1,026	968	1,332
<i>Receives old-age benefits</i>	1	0	15
Average annual value (€)	5,514	5,008	3,934
<i>Receives survivor benefits</i>	0	0	4
Average annual value (€)	3680	2859	3349
<i>Receives sickness benefits</i>	1	0	1
Average annual value (€)	3266	2691	3079
<i>Receives disability benefits</i>	4	3	18
Average annual value (€)	4,338	4,911	4,266
<i>Receives education benefits</i>	0	0	0
Average annual value(€)	340	294	228
<i>Receives any social benefits</i>	78	26	66
<i>Total average annual household income (€)</i>	12,041	14,783	12,160
Labor	8,880	11,983	8,046
Other	189	348	234
Benefits	2,972	2,452	3,879
<i>Average household size</i>	4.9	3.8	3.6
<i>Average annual equivalized household income (€)</i>	3,832	4,920	4,597

*Included in the LCA model as active covariates.

** Refers to target groups as defined on page 11

***Refers only to individuals who have worked before.

6. Policies and programs targeting priority groups

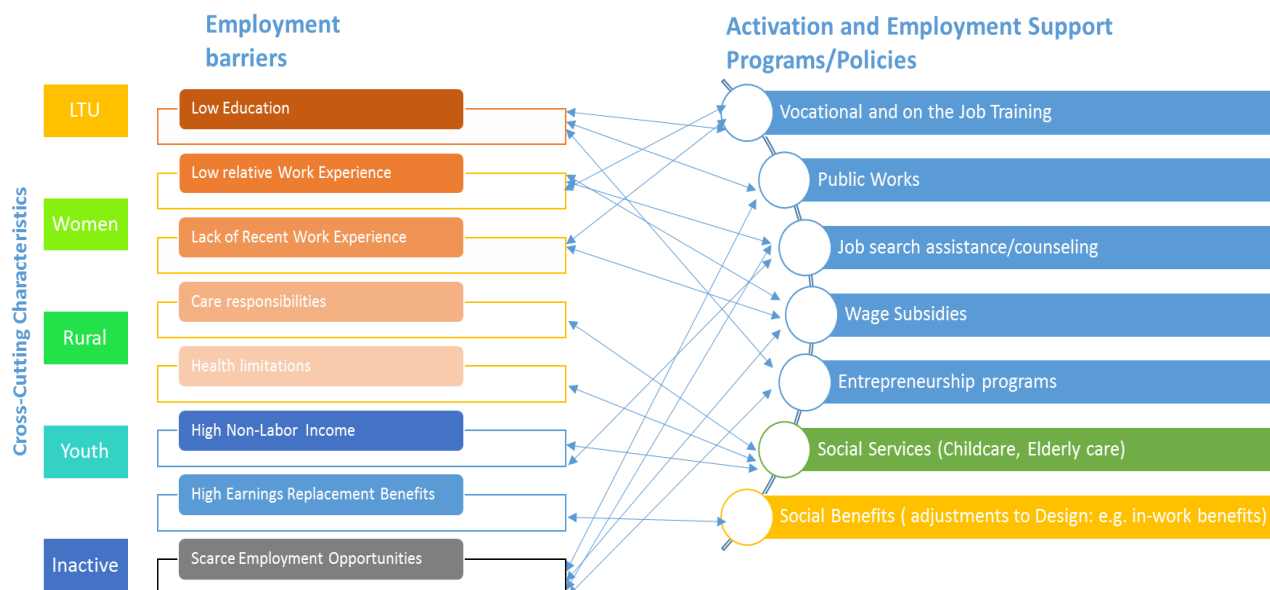
6.1. Framework and approach

In this section, we review activation and employment support programs (AESPs) and policies relevant for the identified priority groups, paying particular attention to programs related to the identified employment barriers. More specifically, based on the organizing framework presented in Figure 154, we review programs that address—either solely or in combination with other programs—the work-related capability barriers of skills and care responsibilities, and attempt to assess whether or not existing programs create adverse incentives to work (incentive barriers). In addition, we consider whether existing programs address the needs of the relevant cross-cutting groups” youth, women, long-term unemployed, and those living in rural areas.

Identified groups face multiple barriers, hence require a tailored mix of services to improve their employability. The menu of programs/services addressing employment barriers fall under three main areas: (i) employment support, (ii) social services, and (iii) social benefits. These tools support and incentivize job search and productive participation in society, and improve self-sufficiency.

Next, we analyze the capacity and adequacy of the existing menu of services/programs. First, we present a broad overview of existing AESPs and the policy environment, followed by further details on Active Labor Market Programs and their broad capacity and adequacy. We then comment on the capacity and adequacy of existing support services to help our priority groups overcome their specific barriers to employment. This method allows for assessment of gaps and points to potential policy directions.

Figure 15: Linkages between Employment Barriers and AESPs



6.2. Overview of activation and employment support programs and policies

Overall, existing activation and employment support policies and programs are inadequate, not well coordinated or linked, and fail to promote labor market integration and activation (Table 5). The three main types of policies and programs we analyzed are: (i) social benefits: cash and “in-kind” benefits; (ii) employment support: passive and active labor market measures; and (iii) social services. In recent years, efforts to activate groups at risk of unemployment and to support school-to-work transitions have intensified, but gaps in the supply, accessibility and delivery of services still exist. While the regulatory framework is amenable, institutional constraints hinder coordination across agencies and programs, limiting the effectiveness of policies and programs. For example, unemployment benefits, in-work benefits, and flexible work arrangements exist as part of the labor code and social welfare act but existing laws/regulations have limited success in promoting labor market participation because of poor coordination between agencies in charge of unemployment and social welfare.

In addition, employment services are not tailored enough to attend to the needs of specific groups of unemployed people. There are no specific counselling or other services targeted to the long-term unemployed, for instance, most of whom are able bodied and could probably work with the right kind of support. Similarly, social services—especially early childhood education and care and long-term care for the elderly—are not well developed and widely accessible; the quality is not uniform, and/or public facilities are not adequate to meet demand (ESPN, 2015). High inactivity and long-term unemployment rates particularly for women in rural or poor areas therefore indicates that access to childcare is a key obstacles to working.

Table 5: Overview of policy measures and programs to promote activation and employment in Croatia

Program/Policy measure	Yes	No	Exists but inadequate
I. Social Services			
Children's services (orphans, street children, etc.)	X		
Family services			
parenting support			X
child-care			X
day care			X
Services for the elderly			X
Services for people with disabilities			X
Services for vulnerable groups (youth at risk, etc.)			X
Health care (universal vs. targeted)			
universal		X	
targeted	X		
II. Cash/in-kind benefits			
Family and child benefits	X		
Parental leave			X

Minimum income guarantee			X
Old age pension	X		
Disability benefits	X		
Survivors benefits	X		
III. Passive and Active Labor Market Programs			
Counselling and job search assistance			X
Unemployment benefits			X
Skills training			X
Wage subsidies			X
Youth programs (apprenticeship/internship)			X
Entrepreneurship programs			X

Source: Authors' compilation from various documents

In line with Europe 2020 and the current debate on European Pillar of Social Rights²⁵, several governments since 2014 have begun emphasizing activation and work integration for groups most likely to be unemployed: young people, long-term unemployed, older workers, and women. Guidelines for the Development and Implementation of the Active Employment Policy in the Republic of Croatia for the Period 2015 – 2017 were adopted in 2014. The Guidelines follow the spirit of “Europe 2020”, which emphasizes inclusive growth by modernizing and strengthening employment, education and training policies and social protection systems. The Croatian guidelines aim to encourage employment for youth, the long-term unemployed, older workers, and women. The policies also seek to promote self-employment and the development of programs to help activate persons threatened by social exclusion. In addition, the government launched the Youth Guarantee program, an early intervention initiative to identify, support, and monitor young people who are neither in employment nor in education and find them work within four-months of their unemployment. Several acts were also adopted to: (i) provide incentives to employers to employ or keep in employment such persons; (ii) increase the responsibilities and sanctions on unemployed persons to look for employment; and (iii) increase frequency and accessibility of counselling services.

Similarly, the recently approved Social Welfare Act (SWA) introduces a number of provisions to encourage work-able beneficiaries to transition from assistance to work. These measures include penalties for refusing job offers, time limits on participation in the minimum income guarantee program, and in-work benefits. ²⁶However, provisions so far apply only to the beneficiaries of the minimum income guarantee program, which has low coverage; only 13 percent of the poorest quintile according to estimates using HBS 2010 data (World Bank 2010). As part of the larger social assistance reforms, it would be desirable that poverty targeting and provisions to promote job search (where applicable) be extended to beneficiaries of other programs, such as the child allowance. At the same time, it

²⁵ European Pillar of Social Rights, currently under the public consultation phase, provides a reference framework and includes three main categories in the field of employment and social policies: (i) Equal opportunities and access to the labor market, (ii) Fair working conditions; and (iii) Adequate and sustainable social protection. The pillar promotes key elements such as skills development, lifelong learning and active support for employment for labor market access, and promotes access to high quality essential services including childcare, healthcare and long-term care to enable individuals to participate in the economy and society fully.

²⁶ In work benefits refer to social assistance benefits that an individual remains eligible to receive based on income/welfare status even after entering employment

is expected that the “punitive” measures of the SWA will be accompanied by policies to support hard-to-employ social assistance beneficiaries.

Since 2014, efforts have increased to widen availability of pre-school education and long-term care to help free people to work, especially women. The Ministry of Social Policy and Youth, together with Ministry of Health, is testing various ways to widen access to public elderly care services through joint programs between health institutions, civil society organizations, and community centers. For childcare, in line with the national strategy for Combatting Poverty and Social Exclusion 2014, efforts are underway to improve availability and accessibility of pre-school education for families of all income levels by establishing pre-K classes in more schools and making pre-K education compulsory. However, we do not know much about policies on affordable or adequate facilities care of 0-3 year’s old children.

While a regulatory framework exists along with efforts to improve collaboration between employment, social welfare and social service agencies, actual collaboration remains limited. There have been substantial efforts to improve collaboration through data exchange between social welfare, health services, educational institutions, and Croatian Employment Services (CES). For instance, the government established a “one-stop shop” to deliver integrated services to unemployed, but trying to activate or integrate through primarily the efforts of the CES and limited active labor market measures and job search assistance, naturally falls short, especially for youth. Collaboration between health authorities and CES is almost non-existent whereas cooperation between CES and Centers for Social Work remain informal (Tomic 2015).

In light of capacity constraints and poor coordination between social welfare and employment offices, most long-term unemployed and other hard-to-employ groups likely do not get adequate individualized attention. Childcare, long-term care, or specific coaching and training needs remain largely unaddressed. In particular, childcare services in Croatia compare poorly to other EU countries with respect to affordability, accessibility and quality (ESPN, 2015).

Active labor market measures (ALMPs) benefit about 1.4 percent of the working-age population²⁷ and about 15 percent of the registered unemployed. If one compares this to the “target population” for this study—those who are out of work and with unstable jobs or minimal labor earnings, which is 46 percent of the working-age population—existing ALMPs will continue to fall short promoting employment for this broader group of potential beneficiaries.

Nevertheless, investment has increased in terms of coverage and total expenditure on active labor market measures for particular target groups. Investments focused on youth, those with no work experience, and the long-term unemployed through training, wage subsidies and also improved profiling and case management (see section 6.3 for further details). This is promising.

Further, recent laws on intermediation and employment promotion ease eligibility for active labor market measures and provide additional incentives to self-employed, social assistance beneficiaries, and low-skilled individuals.²⁸ The few quantitative and qualitative program evaluations indicate that the focus on long-term unemployed, young people without previous work experience, and older and disabled people is sound. In particular, on-the-job training programs providing hiring subsidies to employers and

²⁷ ALMP beneficiaries are about 2.5 percent of the active labor force; active labor force is about 67 percent of the working age population (LFS 2015 and CES 2015)

²⁸ As per Official Gazette, three laws have been adopted on February 22, 2017.

stipends to participants appear to yield good employment outcomes. A recent evaluation indicates that 61 percent of beneficiaries remained employed after 1 year (European Employment Policy Observatory, 2014).

Complementary employment services, such as individualized job search assistance and case management, are emerging. CES has been experimenting with more sophisticated profiling²⁹ and individualized action planning to improve counseling services and support more difficult-to-employ groups. However high caseloads for counselors hinder case management; in this vein, a new regulation reduces caseload per counselor from 500 to 400. Case management is important for the long-term unemployed and other difficult-to-employ groups who face the highest employability and job access constraints.

Efforts are underway to expand the scope of employment services and increase awareness and promotional activities targeting school-age children. CES is collaborating with educational institutions in an outreach program to provide career guidance during the final years of compulsory education and continuing into secondary education. While outreach remains limited, it focuses on the particularly vulnerable, hard-to-employ groups. Long-standing career guidance within schools may partly explain the low school dropout rates in Croatia, but responsibility for career guidance lies with the educational system through non-teaching staff: pedagogues, psychologists, special education teachers, and social workers. Career guidance usually begins with a survey of career intentions of all final year students in both primary and secondary schools. The results are dispatched to partners in the field of education and employment (CES), while students with disabilities are referred to psycho-diagnostic analysis and possibly medical examination. These efforts are complemented by career guidance events, job fairs, and others.

CES programs target all youth, not only the registered as unemployed, in addition to outreach through educational institutions. Youth Centers (Centar za mlade) in the two biggest cities, Zagreb and Split, and 11 Centers for life-long career guidance (LLCG or CISOK - Centar za informiranje i savjetovanje o karijeri) exist around the country with the intention of establishing more. Both kinds of centers offer counselling and workshops to help young people prepare for working. Early favorable evaluations of the CISOK centers note that they have had a positive effect on regional development (Moore et al., 2014).

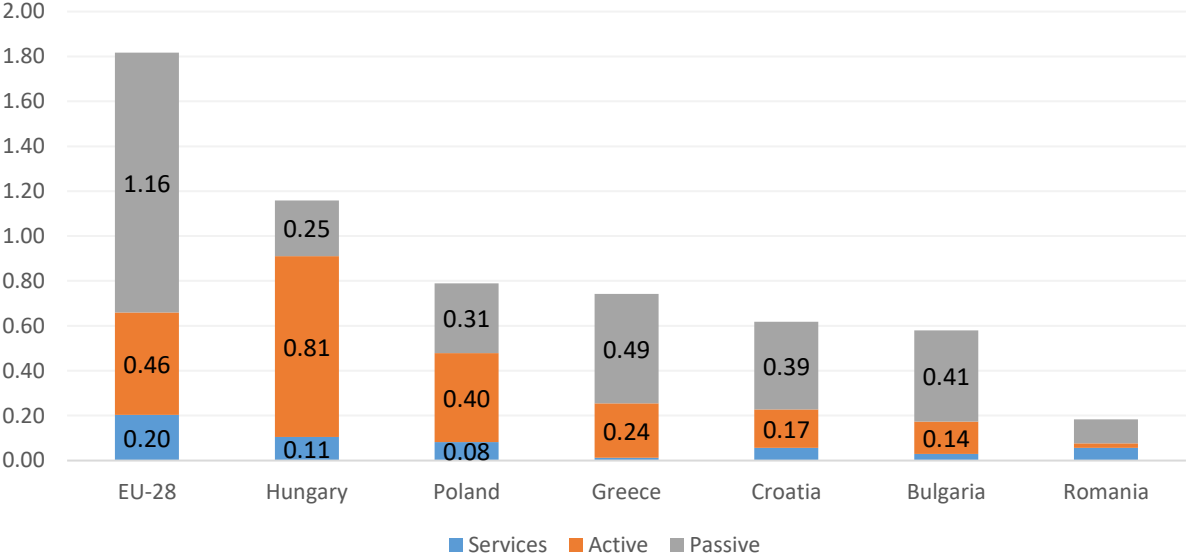
The Government of Croatia is likely to continue to invest in activation and employment support policies and programs, focusing on youth, women, and the long-term unemployed. Given the EU-wide policy focus on these two cohorts, it is likely that additional external funding will become available to expand workplace training, employment subsidies, and public works programs. It is not clear, however, whether the capacity of CES and other essential social services and healthcare agencies can be supplemented with private service providers or additional staff to intensify outreach and counselling for hard-to-employ groups, including those with low skills/education.

Labor market spending in Croatia is low at about one-third of the EU28 average. In 2016, the Croatian government spent only about HRK 1,116,209,160 (USD 160 million) approximately 0.6 percent of GDP, on ALMPs for 2015 to 2017. The share of ALMP spending within total labor market expenditure is also one of the lowest (Figure 16). These ALMPs include employment and start-up incentives for unemployed persons, institutional training for new hires and redundant employees, labor market-oriented training for unemployed persons, workplace training without a work contract, employment in public work programs, and job-retention programs. The programs make up a critical part of the effort to activate more of the inactive and people with weak labor market attachment or at risk of being unemployed. These programs target

²⁹ CES is developing a statistical profiling methodology to improve counseling and placement of registered jobseekers on active labor market programs. The methodology is being pilot tested.

specific groups of unemployed or those who most risk layoff: young people, long-term unemployed over age 50, socially disadvantaged groups, and employees who face difficulties keeping jobs.

Figure 16: Labor market spending as percent of GDP (left axis) and share of ALMP spending as share of labor market expenditure (right axis)



Note: data for 2014, except EU28 for 2011 (latest available data)
Source: Eurostat

In a relatively short period (2007 to 2016), new participants in the ALMP increased about five times, from 7,702 participants in 2007 to more than 35,000 in 2016 (Figure 17) (CES, 2016). Average number of participants the last two years has been around 28,000 per year³⁰. Expansions in program coverage and changes in eligibility criteria—to focus more on long-term unemployed, youth, women and people above 45—especially for public works and workplace training programs increased participation starting from 2011. In this period, the focus of active labor market policies gradually shifted from employment subsidies to workplace training, and to public works to a lesser extent. More favorable employer terms for workplace training compared to employment subsidy programs also contributed to the shift in program uptake. In 2016, over 40 percent of new entrants participated in workplace training, followed by 25 percent in public works, and 16 percent in employment subsidies.

³⁰ The numbers in the figure are for yearly new entrants; the yearly stock of participants is not included in the table. The average number of participants in the last two years refers to the stock.

Box 3. Major Active Labor Market Programs (ALMPs) in Croatia

Workplace training without commencing employment: Seeks to give young people work experience to help enter the labour market and/or fulfil requirements for state and professional exams. Intended for young unemployed people with up to one year of experience working in the occupation for which they were educated. The government provides funding up to 24 months to cover pension, health contributions, and transport and meal allowances.

Public Works Program: Developed in cooperation with local governments, the program seeks to include the long-term unemployed and people with low employability into the community. Community works realized in a limited time period include financing and co-financing employment of persons from the target groups. People who have worked in public works more than 18 months in the last five years cannot participate in public works.

Employment and self-employment incentives: These programs subsidize employment and self-employment for persons disadvantaged in terms of access to the labour market. They focus on young people without work experience, long-term unemployed, people older than 50 years, and persons with disabilities.

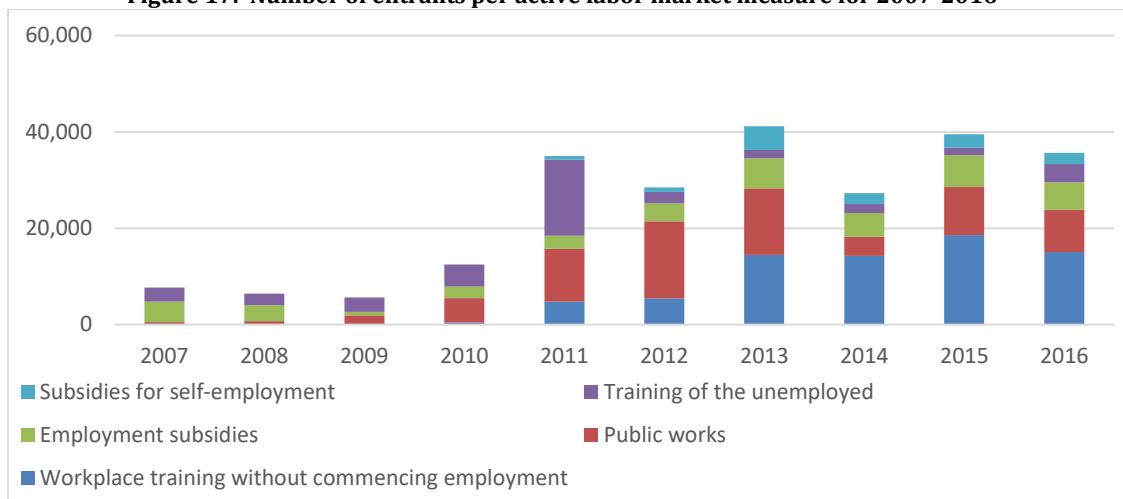
Institutional training for redundant workers and new hires: These measures train new employees, workers at risk of losing their jobs due to lack of professional knowledge and skills, and workers who participate in training programs with the goal to raise competitiveness. This measure includes three folded in one: 1) "Learning on the job" support for the newly employed, 2) "Knowledge worth, also for the employed", co-education of employees in new technologies, higher standards, and changes in the production, and 3) "Young people learn for a job."

Labor market-oriented training for unemployed persons: Subsidies for persons from the CES official record of unemployed to increase their employability and competitiveness in the labour market. A training program must be compatible with the needs of the labour market and participants' psychological and physical capabilities.

Job retention programs: Provide subsidies to preserve existing jobs for employers who are in temporary difficulties, or employers who have periods of reduced workload due to, for instance, seasonal businesses. The measures also encourage flexible work. In 2013, the programs contained several measures: 1) "Permanent seasonal worker", co-financing contributions for extended pension insurance for permanent seasonal workers, 2) "Not working Friday", support for preservation of jobs by topping up wages for employees with reduced working hours, and 3) "Staying in employment", co-financing of employment with another employer, and "Work after the summer."

Source: CES, 2016

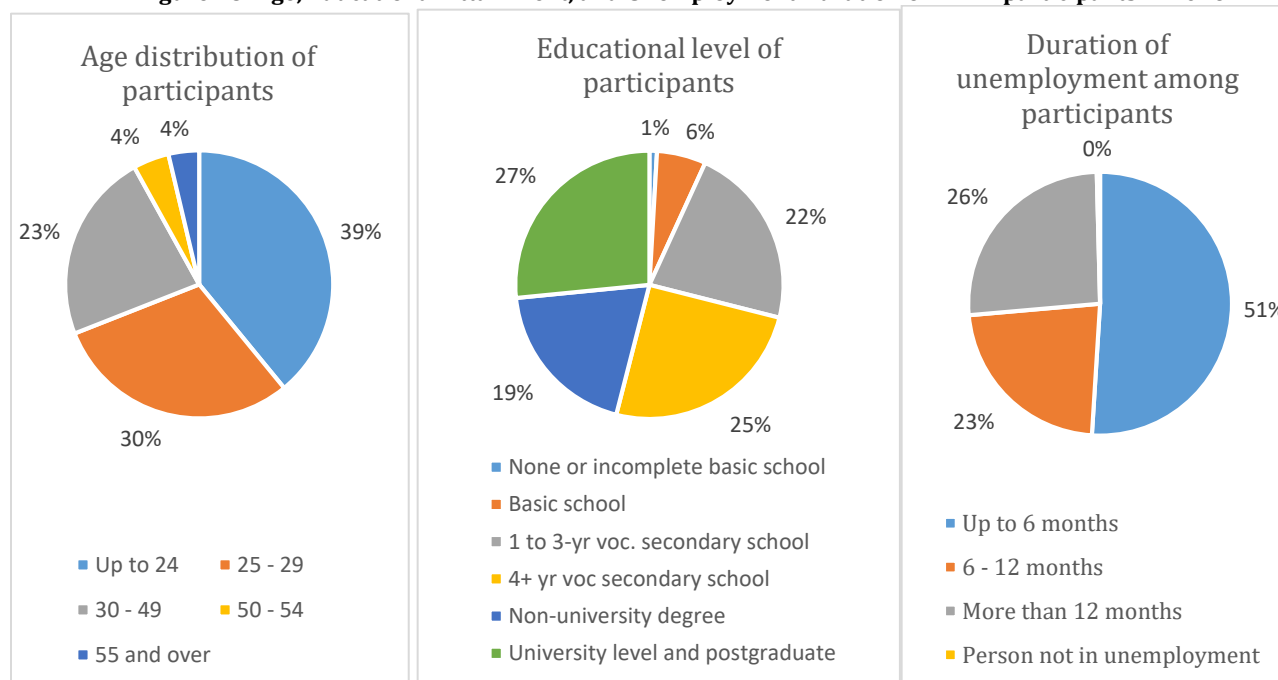
Figure 17: Number of entrants per active labor market measure for 2007-2016³¹



Source: Croatia Employment Services administrative data

The profile of ALMP beneficiaries in 2016 mirrors some, but not all, labor market trends. Beneficiaries³² of ALMPs in 2016 are majority (about 60 percent) women and young, up to 29 (69 percent). Close to half (46 percent) of the participants have post-secondary education, and 26 percent are long-term unemployed (Figure 18). The majority of ALMP beneficiaries are youth and women, which aligns with Croatian labor market trends; however, ALMPs do not appear to benefit enough people with less than tertiary education nor the long-term unemployed, two vulnerable groups with high unemployment rates.

Figure 18: Age, Educational Attainment, and Unemployment Duration of ALMP participants in 2016



³¹ This figure shows number of ALMP beneficiaries in major ALMP programs. Some beneficiaries may have participated in more than one measure.

³² Average number (stock) of beneficiaries for 2016 is used.

Source: CES

6.3. Capacity and adequacy of labor market interventions

Analysis of administrative data and recent ALMP assessments point towards four conclusions: (i) ALMPs in Croatia have evolved a great deal since 2007 with significant expansion in coverage; (ii) during this time, implementation experience has helped modify ALMP design to intensify focus on particularly vulnerable groups, or those with difficulties accessing jobs; (iii) despite these efforts, ALMPs still fall short of providing access to the long-term unemployed with low education in all age categories, individuals 45 years of age and above, and youth with lower education. Therefore, the programs carry significant deadweight loss³³ and require further adjustments; and (iv) the mix of ALMPs need to be revisited to ensure programs are coupled with counseling and other services, such as childcare, health services, and social services.

Despite impressive efforts to expand the capacity and targeting of ALMPs, analysis suggests that programs fall short in targeting those hardest to employ. Unemployment rates are higher among those with primary education or less (about 20 percent) and youth and women, whereas ALMPs cater primarily to those with tertiary education or post-secondary education. Policies and programs are failing to address long-term unemployment for youth, in particular those with less than tertiary education, and those above 40.

Similarly, active labor market and social welfare policies for the long-term unemployed with low skills, little relevant work experience, care responsibilities (in particular child care), and/or health challenges are still weak. The data indicates clearly that existing ALMPs primarily benefit those with higher skills and closer to the labor market; that is, those who have been unemployed for less than six months (Figure 18).

The few evaluations of Croatian ALMPs indicate mixed results. Studies³⁴ evaluating ALMPs in Croatia attempt to assess effectiveness of existing measures using administrative data and interviews with beneficiaries. Assessment of public works and subsidy programs indicate mixed results on effectiveness of Dorenbos, Winden, Walsh, Svaljek and Milas (2002) analyzed the importance and effects of participation in public works. They found that while program participation increased individuals' self-esteem, these programs did not improve participants' employability or future earnings; although the programs did increase current earnings, current employment status, while reducing poverty (CES, 2016; Galasso and Ravallion, 2004). Research on public works programs in various countries reaches similar conclusions; effects on longer-term employment is negligible (Bertrand et al, 2016). While public works programs target long-term unemployed and lower skilled individuals in Croatia, it is clear from in-country and international evidence that public works programs on their own—that is, without access to other ALMPs and/or counselling—do not help the long-term unemployed find stable, long-term jobs and hence are not effective with respect to longer term employment outcomes.

Evaluations suggest that programs also fall short in efficiency. The largest programs, workplace training without an employment contract and public works, carry either considerable deadweight loss or do not target those most difficult to place in long-term, sustainable jobs (CES 2016). The programs do not capture those with lower skills and probably those who live in less densely populated areas.

³³ Deadweight loss is a loss of economic efficiency that can occur when equilibrium for a good or service is not achieved or is not achievable. For instance, in this case ALMPs are allocated away from those who are farther away from the labor market and need them most.

³⁴ The most recent external evaluation published in 2016 by CES is a comprehensive one which uses quasi-experimental techniques

On the other hand, graduates of Croatian workplace training programs, which do not guarantee job-placement, were more than 40 percent more likely to find a job than non-participants. The evaluations also found that the trainees are well appreciated by private sector beneficiaries. Despite design limitations, this measure appears to have improved coverage, targeting, and results after allowing participation by jobseekers in professions beyond those requiring licensing exams. International evidence on job training programs suggests that they can be designed in a variety of ways, most commonly combining incentives for employers, on the job training, and incentives for participants. If targeted well, they can have a positive effect on participant employment outcomes, as occurred with the New Deal program for Young people in the UK and the Swedish program for the long-term unemployed (Blundell et al 2004, Sianesi 2004).

The most successful measures implemented in Croatia appear to be employment incentives, essentially wage subsidies provided to employers to hire youth without work experience, the long-term unemployed, people over 50 years of age, and other groups of hard-to-employ individuals. A recent evaluation indicates that nearly 75 percent of participants have a job even 24 months after completing the incentives; 45 percent of whom still with the same employer they worked for during the measure, while 29 percent work elsewhere. The downside of this measure is the deadweight loss, or the fact that an estimated 18 percent of the participants would have found a job without the subsidy. This makes the program less efficient, although still desirable given the good results, particularly as relates to the long-term unemployed and those above 50 years of age (CES, 2016). However, earlier studies (CES, 2005; 2007; Oracic 1997) indicate that employment subsidies for special groups have not been very effective due to either the size of the subsidy or the need to provide complementary support for the participant to find employment.

International evidence on wage subsidies is mixed, but overall positive with respect to improving probability of participants' maintaining employment over time and during economic downturn (Kluge, 2010; Neumark and Grijalva, 2013). Several studies also show that employment subsidies are more likely to lead to long-term employment compared to training programs (Sianesi, 2008). But research is also clear that success of subsidies depends both on economic context good program design in terms of targeting the right groups and providing the right level of incentives.

Although start-up incentives for entrepreneurs or self-employment seem to be in high demand and have visible short-term positive effects, long-term effects in terms of business survival and employment creation is unclear. Start-up incentives tend to improve the chances that registered jobseekers exit to employment. These incentives also tend to reduce the number of people working informally (CES, 2016). CES administrative data suggests that 75 percent of start-up incentive beneficiaries have been jobseekers who have been unemployed for less than six months, indicating that the incentives may not activate long-term unemployed or other difficult to employ groups. In most countries, it is difficult for public employment services to administer these incentives as they require specialized staff and expertise to counsel beneficiaries and complement the other services offered. The long-term unemployed, or other difficult to employ groups, may require more extensive support to benefit from these interventions.

Evaluations of Croatian labor market-oriented training programs suggest the need for redesign, along with re-examination of goals, and improved implementation methods. Only 40 percent of participants in labor market-oriented training programs found employment, and participant satisfaction with the program is poor. Evaluation suggests that program beneficiary targeting, as well the training offerings, require reexamination (CES, 2016). An in-depth analysis³⁵ of programs across Member States to

³⁵ European Commission, 2015. European Employment Policy Observatory Review. Upskilling Unemployed Adults: The Organization, Profiling and Targeting of Training Provision

improve skills of the adult unemployed between 25 and 64 years of age indicates that training success factors include (i) respond to employers' needs, (ii) effectively target beneficiaries, in particular long-term unemployed and the low-skilled, (iii) combine institutional training with practical training that mirrors a real job and workplace environment, and (iv) provides post-training guidance and follow-up to beneficiaries, especially for those distant from the labor market and facing multiple employment barriers. Training measures with more positive evaluation results also tend to be well tailored to the jobseeker's potential, lead to formal vocational qualifications, are smaller in scale, and target specific disadvantaged groups and particular occupations.

An evaluation of Croatian ALMPs relevance, effectiveness, and effect on women's labor market opportunities pointed to the need for redesign (Hazl, Meštrović, Crnković Pozaić, Taylor, 2011). The study evaluated the efficiency of ALMPs for women, with special emphasis on vulnerable groups: for example, women older than 40 years, inactive women, long-term unemployed women, Roma women, and women from rural areas. After evaluation, and based on best practices in Croatia and the EU, the study proposed a new set of active labor market measures to target disadvantaged groups of women. The proposal highlighted:

- Importance of increasing the number of women in training and retraining,
- Making delivery of training and retraining more flexible to ensure availability to women with less access to transportation,
- Promotion of special programs and/or projects in cooperation with local governments and other stakeholders to increase the participation of women in the labor market.

6.4. Activation and employment support policies vis-à-vis priority groups needs

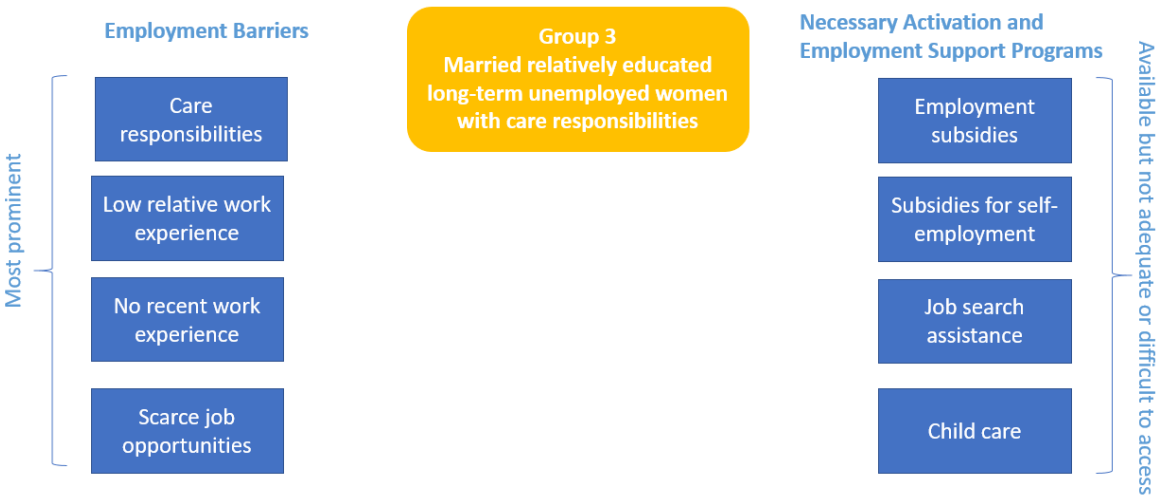
Existing programs do not capture the two priority groups or address their potentially simultaneous constraints (Figure 19). As discussed, activation and employment support policies and programs have coverage gaps and targeting limitations, and therefore do not appear to respond to the needs of the priority groups with multiple, overlapping constraints to enter or re-enter employment. These constraints are related to education and skills, income, care responsibilities, and opportunity to access to active labor market programs, including proximity to their place of residence. In all these domains, problems can arise from a combination of inadequacy of information, service levels, and affordability of services.

Although relatively educated, Group 3 individuals either choose to not, or are not unable to, access employment because of low recent work experience and/or care responsibilities. They have alternative sources of household income, but household's income is relatively low as 70 percent are from the poorest two quintiles. A small percentage are marginally employed in unstable jobs. Subsidies for employment and self-employment targeting long-term unemployed, workplace training, and job search assistance are, in principle, available and appropriate for this group, 44 percent of whom report being "actively looking for a job" at the time of their interview. But this group of women appear to require more explicit outreach and counseling as well as access to affordable childcare to take part in labor market programs or accept a job. International evidence suggests that the decision to enter the labor market is highly influenced by paid child-related leave schemes, the availability of informal childcare, availability and

cost of formal childcare, and workplace support for parents (OECD, 2011). The extent to which public provision of childcare or subsidies for private care increase female labor force participation may depend on context; that is, on factors such as differences in the populations analyzed, the timing of reforms, local labor market conditions, the degree of substitutability between formal and informal care, as well as the presence of a strong welfare system that may discourage work (Vuri, 2016). Regardless, effects has been substantial in the United States, Canada, Spain (as cited in Vuri, 2016) Israel, Romania³⁶, and Russia³⁷ (as cited in Todd, 2013).

The decision to take up employment is also a function of labor market conditions and expected wages. Women, who often have lower education and work experience, can expect to receive lower wages, which may in turn discourage work (Todd, 2013). . This group might also benefit from part time or flexible jobs given their childcare responsibilities. Although flex or part-time work is permitted in Croatia, less than 5 percent of women and less than 10 percent of men work in part-time jobs, much less than the EU average of about 30 percent. Part -time work may not be available in most professions, and/ or part-time wages may not be at market levels, but also part-time work may not commonly be accepted as a “good job”.

Figure 19: Group 3 Employment Constraints and Policy/Program response



In this vein, active labor market programs have a role to play to help, in particular, women who have been out of the labor market for extended periods to gain work experience and upgrade their skills. Despite availability of on the job and skills training programs, it is also recognized that these programs have limited spaces which might not be accessible by those who live in less densely populated areas, and do not

³⁶ In particular, in Romania, Fong and Lockshin (2000, cited in Todd, 2013) found that government subsidies for childcare were an effective means of increasing the number of hours of mothers who work, increasing the incomes of poor households and lifting some families out of poverty (though the effects of such policies are less significant for poorer households).

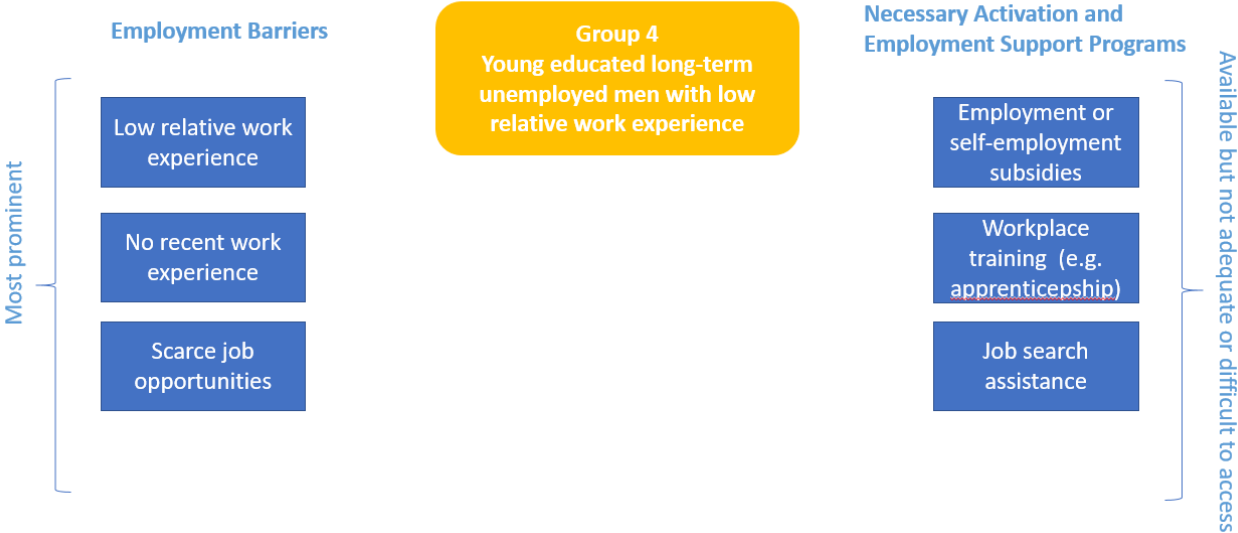
³⁷ Studies in Argentina, Brazil, Guatemala, and Colombia have also shown a significant impact of childcare provision on the labor force participation, working hours and earnings among mothers with young children.

have easy access to employment offices or information outlets. In turn, programming constraints have an impact on the ability of employment offices to provide effective counseling and employment support.

Group 4 individuals (long-term unemployed youth with relatively low work experience), although relatively educated with 98 percent having completed at least upper secondary education, need support to enter the job market; a large percentage (44 percent) have no or very little work experience, with many having been unemployed for 12 months or more (Figure 20). Although 62 percent report “actively looking for a job” at the time of their interview, they face scarce job opportunities, particularly in certain regions of residence; 44 percent live in Jadranska Hrvatska-Adriatic region. Most of these people report being “unemployed” or are in “unstable jobs”, they are not able to take advantage of the existing active labor market programs for which they are eligible, such as workplace training and employment subsidies.

As with group 3, multiple reasons keep these youth from accessing ALMPs. These may include programs’ absorption capacity, crowding out of those who struggle to access programs due to skills profiles or other limitations and/or disincentives, as well as inadequate access to information, job search assistance, and counseling. Job search assistance is relatively more cost effective compared to other ALMPs, and is proven to have help jobseekers find work in the short-term (Card et al, 2015). The few evaluations and assessments of workplace training note that 61 percent of those who complete the program remain in employment one year afterwards (European Employment Policy Observatory, 2014). They also have a 40 percent higher probability of remaining in employment compared to non-participants (CES, 2016). The evaluations do not provide information about program efficiency or the magnitude of the deadweight loss due to the extent of participants who would have successfully found employment without the program.

Figure 20: Group 4 Employment Constraints and Policy/Program Response



International evidence also suggests that a combination of programs targeting the unemployed yield better results than single interventions. For example, the British New Deal program for young people combines job search assistance for four months and a wage subsidy paid to employers, and shows an economically and statistically significant positive effect on improving participant employment. The

combined wage subsidy and job search assistance program appears to increase the probability of young men who had been unemployed for six months of finding a job in the next four months (Blundell et al, 2004).

7. Conclusions and Policy Directions

The objective of this study is to provide a snapshot of what are often multiple and simultaneous constraints faced by the labor market vulnerable in Croatia to inform policy decisions that will address pressing needs of these groups. Policy makers are accountable for ensuring that employment policy takes into account the different needs, challenges, and barriers faced by different at-risk groups on the labor market when they develop policy tools or program-level interventions. To this end, this paper categorized (through the use of an advanced statistical clustering technique) traditionally known vulnerable groups into more distinct homogenous groups and identified their most salient employment barriers and socioeconomic characteristics. Two priority groups were then identified, and their key relevant characteristics for activation and social inclusion policies were examined in depth. An overview assessment of the key features of ongoing (and some upcoming) activation and employment support programs and policies (AESPs) in Croatia were presented, to explore whether and to what extent the needs of selected priority groups were met with existing programs/policies. While recognizing the essential role of labor demand to achieve good employment outcomes, this study primarily focused on supply side constraints and related policies. Further analysis of demand side constraints remains a topic for a different study.

In this section, conclusions and policy directions which relate to both the identified needs of the priority groups and the gaps in activation and employment support programs and policies are presented. These policy directions are intended to be explored further with additional analysis. In this vein, translating these conclusions and suggested policy directions into concrete policy action will require in-depth analysis of program level data, particularly related to beneficiaries of existing active labor market, minimum-income guarantee, and other large social assistance programs.

The analysis indicates various programs supporting the target population and priority groups are falling short in terms of coverage, targeting, and quality. Despite impressive efforts to expand the capacity and targeting of active labor market programs, analysis of administrative data and evaluation findings suggest that programs are not reaching those farthest away from labor market access. The data clearly indicates that existing ALMPs primarily benefit those with higher skills and who are closer to the labor market; that is, those who have been unemployed for less than six months. Evaluation findings suggest that programs are also not efficient.

Despite evaluations to improve design, existing programs suffer from weak coordination with other services, which negatively effects outreach and program outcomes. Despite a strong push to improve targeting and coverage of ALMPs in the past five years, complementary programs including individualized counseling, social services, social assistance, and health services are still not well coordinated with employment services, and they do not adequately reach those that most need them. In this vein, the government will need to upscale up policies and programs. Review of existing services, reveal that key services such as childcare, long-term elderly care, and employment support are limited in scale and most likely are scarce in less densely populated areas where about half of long-term unemployed women and unemployed youth reside. Croatia will need to invest in family services, services for the elderly, strengthening of the linkages of social assistance measures to employment support and activation, including outreach and case management.

Profiling techniques should be used to drill down into the needs of the long-term unemployed and unemployed youth to identify those who require assistance and gauge the type and intensity of assistance needed. Individuals at the fringe of the labor market—less educated youth, women above 30 years of age, or those with skills gaps who have been unemployed for long periods—are left out of ALMPs, although they need more guidance and attention than others. Accurate identification of beneficiaries and their needs is a first step. It will be important to ensure allocation of human resources and investment for public employment offices to achieve this by systematic use of profiling methods to allocate individuals to ALMPs and decide on the appropriate service packages for long term unemployed and more vulnerable jobseekers.

Targeting of active labor market programs, especially workplace training and employment subsidies, requires adjustment. Recognizing recent efforts and reforms to improve ALMP targeting, analysis to date indicates that existing programs primarily cater to the young and high-skilled who have been unemployed for less than six months, whereas the program and policy focus should be on the low-skilled, long-term unemployed above 45 years of age. Hence, existing programs need adjustment and to be complemented by other services to address barriers priority groups face. For long-term, relatively educated unemployed women and youth, access to part-time work, on the job training/apprenticeships, or self-employment would encourage them to seek work and increase their likelihood of long-term employment.

Formalizing coordination among agencies providing services to vulnerable populations is critical. Addressing multiple barriers faced by the most vulnerable out of work and those with weak labor market attachment will require further investments in operationalizing the “one-stop-shop” concept to ensure data exchange, joint outreach, assessment of individual situations, and delivery of a package of services to improve their chances of getting and keeping a job.

Counseling services and outreach need to be intensified to improve access to information and active labor market programs. In light of the multiple barriers faced by long-term unemployed, especially women and some less educated youth, more intensified, individualized and group counseling is needed. This can be provided either through CES offices, other multi-purpose centers, or mobile units in less densely populated areas. Given CES capacity constraints, this will require either contracting out of some services, hiring additional professional staff such as psychologists and career guidance counselors, or providing such services at alternative locations.

The network of social services needs to be expanded to ensure access, in particular by low-income households. Child care and care of disabled or elderly family members represent a strong barrier keeping Croatian women out of the labor market. In low-income households, the share of even young, work-able women out of work is high, most likely due to childcare responsibilities and/or lack of affordability childcare services. Increasing childcare service availability to help long-term unemployed, and relatively educated mothers to find work represents a key policy/program option to consider.

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Annex 1. Advantages and disadvantages of the EU-SILC Data

The data source for the analysis is the harmonized version of the European Union Statistics of Income and Living Conditions (EU-SILC) survey. There are several reasons why the SILC survey was selected instead of the European Union Labor Force Surveys (EU-LFS), which are made available to researchers on a timelier basis. The SILC survey, as its full name implies, is a comprehensive survey of income and living conditions that goes beyond standard labor market surveys. In addition to several socioeconomic characteristics, the survey captures the incomes (from labor, social transfers, and other sources) as well as the (self-reported) labor market status of individuals and households throughout each month of the calendar year (reference period) prior to the interview. This level of comprehensive data is necessary for this analysis. Had we used the LFS survey, we would only be able to identify the target population of this study — those who are out of work and marginally employed — according to their labor market status at the time of the interview. Had we used the LFS survey, we therefore would not have been able to identify the population that, although working at the time of the interview, may have been marginally employed due to working in unstable jobs. Furthermore, because we were able to capture the full income of individuals and their households (the LFS survey would only have allowed us to capture earnings from labor and unemployment benefits), we are able to get a more comprehensive view of the socioeconomic status of the target population of this study, which includes income from social transfers other than unemployment benefits that may be denied or reduced when accepting a job. Moreover, the SILC survey also includes information about access to childcare that is necessary to identify caregiving responsibilities that present a barrier to work.

Although using SILC data provides many clear benefits for the present analysis, a few shortcomings of this data collection method are worth mentioning.

First, the survey relies on self-reported labor market status, rather than a series of questions that lead to standardized classification of employment status. Thus, it is possible that some individuals who work do not self-identify as employed because they work very few hours. Thus, some of the population identified as out of work may have been mischaracterized.

Second, among old-age and family/child social transfers, the survey does not distinguish between those receiving social insurance and social assistance benefits. Being able to yield this type of information would enrich the analysis of how social inclusion policies are targeted to specific groups, as well as how social benefits may affect incentives to participate in the labor market.

Another drawback of the SILC survey vis-à-vis the LFS survey is that it does not yield detailed information pertaining to an individual's educational status. EU-SILC only includes information regarding the highest International Standard Classification of Education (ISCED) level achieved. In contrast, the LFS survey includes information on vocational versus general education, field of study, and additional training or certifications. This information could be used to inform policies aimed at addressing barriers to employment due to skills.

Another important dimension that is not captured by the SILC survey (or by the LFS survey) is ethnicity. Ethnicity can play an important role in the labor market. For example, certain groups, such as Roma, may have more difficulty finding jobs due to discriminatory practices by employers. Information from other surveys shows that Roma are likely to be overrepresented among the population that is out of work or marginally employed, at risk of poverty, and who have low levels of education. As such, it is likely that some of the groups identified in this analysis comprise a large proportion of the Roma. Being able to identify the Roma population would make the labor market barriers they face more visible, allowing for

the design of evidence-based policies, and perhaps breaking down stereotypes of Roma as being out of work or marginally employed by choice. Designing and prioritizing policies aimed at including the Roma population in the labor market — a group that has historically suffered from social exclusion — is also increasingly important in the context of aging and shrinking populations.

Finally, compared to the LFS survey, the SILC survey has a small sample size, totaling 7,949 observations for the reference population of this study for the Croatian 2013 survey. The statistical methodology used in this study benefits significantly when there is a large sample size. Large sample sizes can allow us to identify a greater number of groups of individuals that are more homogenous within themselves and more heterogeneous among each other in terms of labor market barriers and socioeconomic characteristics. In doing so, we could design more specific tailored policies.

Source: Based on Sundaram et al. (2014).

Annex 2 : Definitions of Employment Barrier Framework Indicators

Across the six countries that are analyzed by the World Bank, eight indicators are used in order to proxy for broad measures of each of the three types of employment barriers: insufficient work-related capabilities, weak economic incentives to look for a job, and scarce employment opportunities. The definitions of the indicators are outlined below, with further details available in the joint methodological paper (OECD and World Bank, 2016).

The following five indicators are used to capture different aspects of the *insufficient work-related capabilities* barrier:

- 1. Low education:** In the absence of data on the cognitive, socio-emotional, or technical skills of the population, we use education as a proxy for skills. Even though education may not be a comprehensive measure of the skills that individuals bring into the labor market, a high correlation between education level and skill level is reasonable to assume. Similarly, the labor market itself uses education to screen for skills. We consider an individual to have low education if his or her education level is lower than upper-secondary (based on the International Standard Classification of Education (ISCED)-11 classification). In other words, the population with this barrier has only completed pre-primary, primary, or lower secondary schooling. In Greece, the cut-off for low education has been set at the post-secondary level rather than the lower secondary level. The reason for the change in the cut-off is that a look at unemployment (employment) rates by education level shows that unemployment (employment) only falls (rises) significantly among individuals who have completed tertiary education.
- 2. Care responsibilities:** Caring for children or caring for incapacitated family members are legitimate barriers to employment, because they reduce the time that an individual can spend on paid work. To determine whether an individual faces a care-related employment barrier using EU-SILC data, we rely on information regarding (i) household members who face some unmet care need, such as young children, incapacitated family members, or elderly relatives and (ii) the availability of alternative care arrangements, namely the use of formal childcare services³⁸ and the availability of other potential caregivers in the household. We consider an individual as having care responsibilities if he or she lives with someone who requires care and is either the only potential caregiver in the household or if he or she reports being inactive or working part time because of care responsibilities.

The individuals who require care are children 12 years or younger who receive 30 or fewer hours of non-parental childcare a week. We also considered individuals of working age who (1) reported severe long-lasting limitations in activities due to health problems and (2) reported a permanent disability as the main reason of inactivity. Lastly, elderly household members are classified as requiring care if they have long-lasting limitations in activities due to poor health and if they report being inactive during each month of the SILC reference period. An individual is considered to be a potential caregiver if he or she is an adult 18-75 years of age with no severe health-related limitations and if during the SILC reference period he or she engaged in either part-time work, unemployment, retirement, domestic responsibilities, and other types of inactivity and did not have a permanent disability. Individuals who reported they were full-time workers, full-time

³⁸ EU-SILC data only provides information with regard to access to non-parental formal or informal childcare for children 12 and under. Information on access to formal or informal care services for incapacitated individuals ages 13 and over is unavailable.

students, or participated in compulsory military service could not be considered potential caregivers.

3. **Health limitations:** An individual is considered to have health limitations if they report having moderate or severe self-perceived limitations carrying out daily activities due to health conditions (physical or mental).
4. **Low relative work experience:** An individual is considered to have low relative work experience if they have worked less than 60 percent of their total potential work life, measured by the number of years since they left full-time education. Note that this indicator is not used in the analysis for Hungary or Bulgaria due to missing data on work experience.
5. **No recent work experience:** This indicator may represent two situations: (i) individuals who have worked in the past but have no recent work experience (i.e. have not worked for at least one month in the last semester of the reference year or in the month of the interview); (ii) those who are not working at the time of the interview and report having never worked in the past. Individuals working at the time of the interview do not face this employment barrier.

Two indicators are used to capture the *weak economic incentives to look for a job or accept a job barrier* by identifying individuals who could potentially draw on significant income independently of their own work effort:

6. **High non-labor income.** In this scenario, an individual's total household income (excluding income from the individual's work-related activities) is more than 1.6 times higher than the median value among the population of working age.³⁹
7. **High earnings-replacement benefits:** This indicator captures possible financial disincentives to work that are based on the extent of the benefit reductions that an individual is likely to experience if they were to engage in full-time employment. The indicator is constructed using the ratio between the amount of earnings-replacement benefits received at the individual level and the own shadow income or reservation wage.⁴⁰ The following individual earnings-replacement benefits are considered, as grouped by the EU-SILC survey: unemployment benefits, old-age benefits received before the statutory retirement age, survivor benefits, sickness benefits, disability benefits, and full-time education-related allowances. The adult-per-capita amounts of the following household-level allowances — family/children related allowances, housing, and social exclusion not elsewhere classified — are also added to the individual benefits, assuming that at least part of these benefits would be withdrawn if the individuals increased their own labor supply. Based on this resulting variable, an individual is considered to have high replacement benefits if their earnings-replacement benefits are more than 60 percent of their estimated potential earnings in work or shadow wage.

One indicator is used to capture the scarce employment opportunities barrier:

³⁹ Specifically, we use the EU-SILC variable 'gross household income' (which includes pre-tax income from labor and capital plus government transfers) *minus* the person of interest's own income which is dependent on the person's own work efforts (*i.e.*, employment income and earnings-replacement benefits, such as unemployment benefits) and *minus* a share, proportional to the number of adults in the household, of social transfers awarded at the household level (for instance, social assistance or rent allowances). The final indicator is the difference between the total gross household income and the own labor-market contribution as defined above, divided by the Eurostat equivalence scale and discretized in 2 categories. The individuals with high financial work disincentives are those with a value of the indicator above 1.6 times the median of the resulting variable in the reference population; the remainder in the target population is characterized as having no or low financial work disincentives.

⁴⁰ See OECD and World Bank, 2016 for details on how the reservation wage is calculated.

8. Scarce job opportunities: In general, this barrier relates to demand-related constraints in the respective labor market segment. Although a number of indicators of labor demand exist at the aggregate or semi-aggregate level, capturing the scarcity of job opportunities at the micro-level would require the ability to describe the availability of vacancies in the labor-market segment that are relevant for each individual given their skills set and job market characteristics. This type of information is unavailable in EU-SILC data. In order to proxy individuals facing scarce employment opportunities, we estimate risk of demand-side constraints (specifically the risk of being long-term unemployed or working in a sub-optimal job) in standard labor-market segments in a regression including age, gender, education level, and region (at the NUTS (Nomenclature of Territorial Units for Statistics) 1 level) as independent variables and being long-term unemployed or involuntarily working part-time as the dependent variable. In this way, we are able to calculate different risks depending not only on the geographical location but also on the combination of other observable characteristics within the same geographical area. The estimated parameters are then used to predict at the local level the risk of becoming long-term unemployed or involuntarily working part time conditional on individual circumstances. Importantly, the estimated risk will depend on the empirically observed relation between covariates included in the regression model and the variable describing labor-market tightness. We consider an individual to have scarce employment opportunities if their estimated risk of being long-term unemployed or involuntarily working part time is 1.6 times the median value. It is important to note, however, that the scarce employment opportunities indicator may underestimate the risk of becoming long-term unemployed or involuntarily working part-time among individuals who are inactive if they were to undertake a job search. This is because many inactive individuals may not resemble the long-term unemployed and involuntary part-time workers but they may still have a high probability of unemployment. This does not imply, however, that they would be able to find a job without difficulty if they were to enter the labor market. This is an important weakness of this indicator that should be born in mind.

Annex 3 Latent Class Analysis Results of EU SILC 2013

	Characteristics of latent groups (percent)						
	<i>Group 1: Unemployed middle-aged with education but no recent WE and low relative WE</i>	<i>Group 2: Retired elderly</i>	<i>Group 3: Married relatively educated long-term unemployed women with care responsibilities</i>	<i>Group 4: NEETs Young educated long-term unemployed men with low relative work experience s</i>	<i>Group 5: Low educated housewife with children or health issues, not looking for jobs</i>	<i>Target pop.</i>	<i>Working- age pop.</i>
Percent of target population	36	20	18	12	8	100	NA
Thousands of individuals	344,617	287,610	200,420	176,105	135,612	1,144,364	2,500,317
<i>Women*</i>	42	55	79	34	100	56	50
<i>Children under 12 in household*</i>	15	16	89	7	27	27	25
<i>Age group*</i>							
Youth (18-29)	2	1	39	73	0	17	16
Middle-aged (30-55)	91	5	61	25	41	50	57
Older (56-64)	7	94	0	2	59	33	27
<i>Main activity during the reference period</i>							
Employed	3	0	9	4	0	3	51
Unemployed	58	13	70	90	8	48	22
Retired	28	80	4	1	32	35	19
Domestic tasks	7	5	15	1	57	12	6
Other inactive or disabled	3	2	3	3	3	3	2
<i>Degree of urbanization</i>							
Densely and Intermediate populated	50	58	45	56	34	51	20
Thinly populated	50	42	56	44	66	49	80
<i>Region</i>							
Sjeverozapadna Hrvatska (northwest continental)	21	28	16	22	15	21	20
Sredisnja i Istocna (Panonska) Hrvatska (central and eastern)	29	31	30	34	22	29	29
Jadranska Hrvatska (Adriatic)	50	41	55	44	63	49	50
<i>Target group**</i>							
Out of work	89	98	68	63	98	85	43
Unstable jobs	8	2	23	34	1	12	6
Restricted hours	1	0	1	1	0	1	0
Near-zero income	2	0	8	2	0	2	1
<i>Main activity during reference period (more disaggregated)</i>							
Employed full time	1	0	7	1	0	2	44
Employed part time	1	0	1	2	0	1	1
Self-employed full time	0	0	0	1	0	0	5
Self-employed part time	1	0	1	1	0	0	1
Unemployed	57	13	70	89	9	48	22
Retired	30	81	5	2	36	35	19
Domestic tasks	3	1	1	1	2	1	6
Disabled	6	3	14	1	52	12	1
Other inactive	1	1	2	3	1	2	1

<i>Main activity at moment of interview</i>									
Employed	5	0	20	22	1	9	50		
Unemployed	55	13	61	72	9	43	22		
Retired	30	83	5	2	36	35	20		
Domestic tasks	6	3	13	1	50	11	6		
Other inactive, disabled or student	4	2	2	3	4	3	2		
<i>Months in unemployment</i>									
Zero months	42	86	27	8	89	51	72		
1 to 11 months	7	2	18	31	2	11	10		
12 or more	51	12	55	61	8	38	17		
<i>Actively searching for a job at time of interview</i>									
	40	3	44	62	1	30	36		
<i>At risk of poverty (60% of median income)</i>									
	39	21	39	29	35	32	20		
<i>At risk of poverty (40% of median income)</i>									
	21	9	18	16	16	16	9		
<i>Income quintile</i>									
Poorest	40	21	40	30	34	33	21		
2	23	20	29	19	26	23	19		
3	19	21	19	19	19	20	19		
4	12	20	8	20	10	14	19		
Richest	7	18	4	12	11	10	22		
<i>Severe material deprivation</i>									
	30	15	22	22	21	22	16		
<i>Years of work experience</i>									
1 to 5	19	2	45	66	11	23	18		
6 to 10	14	2	25	13	11	12	12		
11 to 20	33	8	21	14	23	21	22		
21 to 30	26	32	7	5	34	23	26		
More than 30	8	56	1	2	21	22	22		
<i>Average years of work experience***</i>									
	16	30	9	7	21	18	20		
<i>Education level</i>									
Primary or less	4	6	4	0	23	9	4		
Lower secondary	28	22	16	2	59	36	18		
Upper secondary	61	61	70	81	17	47	63		
Post-secondary	0	1	0	0	0	3	0		
Tertiary	7	10	10	17	1	6	15		
<i>Age groups (more disaggregated)</i>									
18-24 years	0	0	17	41	0	9	8		
25-34 years	9	1	40	34	3	15	17		
35-44 years	27	1	30	12	12	17	18		
45-54 years	50	3	12	10	22	22	27		
55-59 years	12	38	1	2	28	17	16		
60-64 years	2	57	0	1	35	19	14		
<i>Average age</i>									
	47	59	34	30	54	46	45		
<i>Severe limitations in daily activities</i>									
	13	10	2	3	9	8	5		
<i>At least one other household member 25 & older working</i>									
	49	47	71	68	49	55	56		
<i>Elderly in the household</i>									
	19	19	13	19	28	19	21		
<i>Children under 6 in household</i>									
	6	10	58	5	13	17	14		
<i>Children under 3 in household</i>									
	3	5	37	3	6	10	8		
<i>Children under 13 in formal childcare</i>									
None	4	5	33	2	9	10	8		
Some	2	3	21	1	5	6	4		
All	7	8	35	4	10	12	12		

NA	87	85	10	93	75	73	75
<i>Household type</i>							
One person	8	12	0	3	8	7	6
Single parent	1	0	1	1	1	1	1
2+ adults, 0 children	54	68	6	63	58	51	50
2+ adults, 1 child	7	2	14	4	5	6	7
2+ adults, 2+ children	30	18	78	30	29	35	37
<i>Live with parents</i>	24	4	26	81	5	25	23
<i>Marital status</i>							
Married	64	73	76	20	69	62	65
Never married	26	6	21	78	5	26	26
Divorced/separated/widower	9	21	3	2	26	12	10
<i>Labor market status of spouse/partner</i>							
Working	32	17	55	13	24	29	34
Unemployed	18	8	18	5	8	12	11
Retired	9	38	3	2	37	18	15
Unfit to work	0	0	0	0	1	0	0
Domestic tasks	5	10	2	1	0	4	5
Other inactive	1	0	1	0	1	1	0
No spouse/partner	34	27	21	79	29	36	34
<i>Receives family benefits</i>							
<i>Average annual value (€)</i>	1093	1238	1803	936	1322	1470	261
<i>Receives social exclusion benefits</i>							
<i>Average annual value (€)</i>	1730	1125	1973	1995	1327	1723	64
<i>Receives unemployment benefits</i>							
<i>Average annual value (€)</i>	1,340	1,683	1,026	968	1,222	1,332	1,254
<i>Receives old-age benefits</i>							
<i>Average annual value (€)</i>	5,372	3,953	5,514	5,008	2,874	3,934	3,815
<i>Receives survivor benefits</i>							
<i>Average annual value (€)</i>	3489	3320	3680	2859	3318	3349	3227
<i>Receives sickness benefits</i>							
<i>Average annual value (€)</i>	3223	1130	3266	2691	2748	3079	2236
<i>Receives disability benefits</i>							
<i>Average annual value (€)</i>	4,890	3,822	4,338	4,911	2,132	4,266	3,891
<i>Receives education benefits</i>							
<i>Average annual value(€)</i>	53	210	340	294	340	228	359
<i>Receives any social benefits</i>	61	91	78	26	60	66	44
<i>Total average annual household income (€)</i>							
	10,527	13,107	12,041	14,783	11,072	12,160	16,200
<i>Average annual household income (€) from:</i>							
Labor	6,550	7,341	8,880	11,983	7,003	8,046	12852
Other	216	247	189	348	170	234	231
Benefits	3,762	5,518	2,972	2,452	3,899	3,879	3,117
<i>Average household size</i>							
	3	3	5	4	3	4	4
<i>Average annual equivalized household income (€)</i>							
	4,117	5,595	3,832	4,920	4,410	4,597	5,889

*Included in the LCA model as active covariates.

** Refers to target groups as defined on page 11

***Refers only to individuals who have worked before.

Source: World Bank staff calculations based on EU-SILC 2013.

Annex 4 : Application of Latent Class Analysis-- Model selection

A latent class model does not automatically estimate the *optimal* number of latent groups of individuals. Instead, models with different numbers of classes must first be estimated sequentially and the optimal model is then chosen based on a series of statistical criteria. In Step 1, model selection starts with *definition of a baseline model*. In this case, we defined the baseline model based on a set of eight indicators representing the three main types of employment barriers representing the main drivers for segmenting individuals into groups. Under Step 2, we select the model with the *optimal* number of classes, primarily based on “goodness-of-fit” statistics and classification-error statistics. Next, Step 3 examines misspecification issues, mostly associated with violation of the Local Independence Assumption (LIA) (see Box 9 of OECD and World Bank, 2016). The final model is then further refined by including so-called *active covariates* under Step 4. The following paragraphs describe the step-by-step process used to select the final model for Croatia starting with Step 2. For a general more detailed explanation of the process, see OECD and World Bank, 2016.

Figure A1 below summarizes graphically Step 2 outlined above for Croatia. The blue bars show the percentage variations of the Bayesian Information (BIC, Schwartz 1978) for increasing numbers of latent groups for the baseline model; the orange bars show the percentage variation of the Akaike Information Criterion (AIC; Akaike, 1987)⁴¹; and the grey line shows the classification error statistics (Vermunt and Magdison, 2016)⁴². In general, smaller values of the BIC and AIC indicate a more optimal balance between model fit and parsimony, whereas a smaller value of the classification error statistics means that individuals are better classified into one (and only one) group. In Figure A1 both AIC and BIC are declining until the model with five classes. The value of AIC keep decreasing for model 6 while the BIC value in increasing. Additionally, classification error increases significantly for model with six classes or more.

Step 3: Misspecification tests

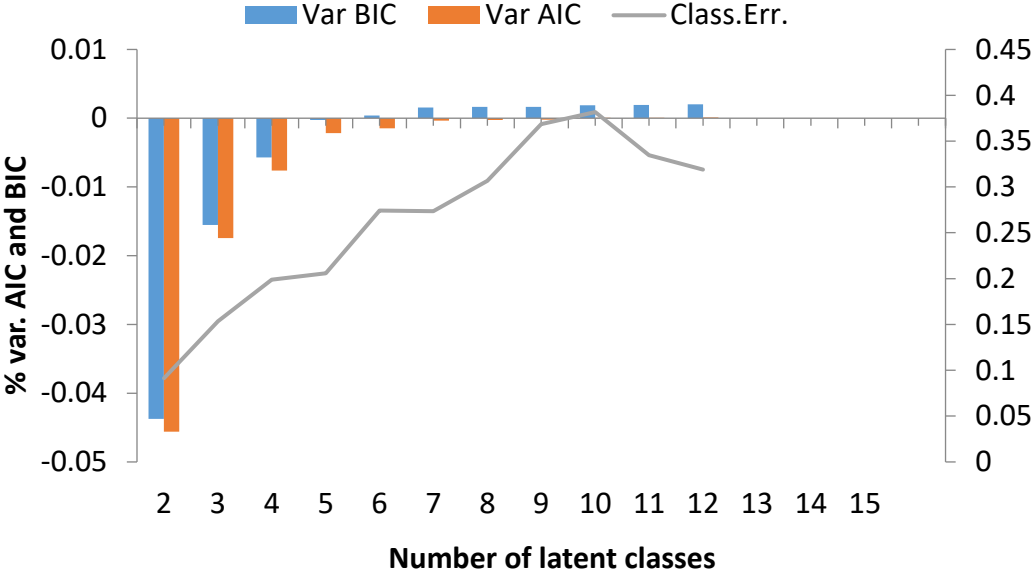
The model selected through goodness-of-fit and classification statistics under Step 2 may not be optimal due to misspecification issues, the most common of which relating to violation of the Local Independence Assumption (LIA). This assumption shapes the mathematical specification of the statistical model and, in practice, requires the indicators to be *pairwise* independent *within* the latent groups. When this requirement is not met, the model is not able to reproduce the *observed* association between the indicators, at least for the indicators showing some residual within-class (*local*) dependency. Such violations of the LIA can be best addressed by modelling explicitly the local dependencies between pairs of indicators via the so-called *direct effects* (Vermunt and Magdison, 2016; OECD and World Bank, 2016). The inclusion of direct effects in the model specification eliminates residual correlation between the indicators (by construction) but it also requires repeating the model selection process from the beginning, as the new baseline model with local dependencies may lead to a different optimal number of classes.

⁴¹ The BIC and the AIC are measures that capture the *trade-off* between the model’s ability to fit the data and the model’s parametrization: a model with a higher number of latent classes always provide a better fitting of the underlying data but at the cost of complicating the model’s structure. The BIC and the AIC summarize this trade-off into a single index, which provides guidelines for choosing between an adequate representation of the population into a finite number of sub-groups and an increasing complexity of the statistical model.

⁴² The classification error shows how-well the model is able to *classify* individuals into specific groups. To understand the meaning of the classification error index it is important to keep in mind that LCA does not assign individuals to specific classes but, instead, estimates probabilities of class membership. One has therefore two options to analyses the results: allocate individuals into a given cluster based on the highest probability of class-membership (*modal* assignment) or *weighting* each person with the related class-membership probability in the analysis of each class (*proportional* assignment). The classification error statistics is based on the share of individuals that are miss-classified according to the modal assignment.

For Croatia, the 5-class model selected showed clear signs of misspecification, with bivariate residuals significantly higher than 1 for several pairs of indicators.⁴³ Eliminating the local dependencies through the use of direct effects once again points to a 5-cluster model when minimizing the BIC criterion and the classification error: hence it remains the preferred model for Croatia.

Figure A1: Selection of the optimal number of latent classes



Step 4: Model refinements – inclusion of active covariates

In most empirical applications, the aim of latent class analysis is not just to build a classification model based on a set of indicators but also to relate the class membership to other individual and household characteristics identifying specific population sub-groups, such as *youth* and *women*.

To further describe identified groups according to specific population sub-groups that are typically considered in the breakdown of common labor market statistics, we run the latent class model again, this time with covariates *actively* contributing to the definition of the group-membership probabilities. The inclusion of active covariates is primarily driven by the interest in specific population sub-groups that are typically considered in the breakdown of common labor market statistics. As such, different specifications of models with active covariates were estimated, including different combinations of **age** (3 categories), **gender**, presence of **young children** and **urbanization degree**. The choice of the active covariates also relies on practical considerations, i.e. the relevance of these categories in the policy debate on AESPs and also on the possibility for the public employment services to actually collect such information. The inclusion of active covariates does produce misspecification once again (i.e. bivariate residuals between combinations of indicators and covariates), which we again address by explicitly modelling the associations between indicators and covariates with *direct effects* (as discussed in Step 3 above).

Culminating Step 4, we find that a 5-cluster model with the combination of active covariates – including age, gender and presence of young children – and direct effects brings the bivariate residuals down and has the lowest classification error than the model without any covariates. The model has a classification error of 12

43 In the case of Croatia, 10 direct effects have been included. Results are available upon request.

percent, lower than the model without active covariates (20 percent), along with considerable improvement in both AIC and BIC. A reduction of the classification-error statistics in models with active covariates implies that for some individuals the employment-barrier indicators alone do not produce a clear-cut latent-class assignment, and therefore that the covariates play an important role not only in improving latent-class membership but also in shaping the main barrier profile characterizing of some of the latent groups. While this does not typically affect the barrier profiles of the biggest groups (i.e. those with the biggest shares in the target population) the barrier profiles of the smallest groups could be partially shaped around the interaction between the information provided with the active covariates and the indicators.⁴⁴

⁴⁴ This should be considered as an improvement with respect to a model *without* covariates whose indicators do not produce a clear-cut latent-class assignment for some individuals. In fact, without additional information, the allocation of these individuals into a specific latent group would be done almost at random, whereas in models with covariates the allocations of these individuals depend on the additional information provided to the latent class model and how this interact with the indicators.