



The World Bank Group
Social Protection and Labor Global Practice
Europe & Central Asia Region

PORTRAITS OF LABOR MARKET EXCLUSION 2.0

Country Policy Paper (CPP) for Bulgaria

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July 2017



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Acknowledgements

This report was produced by a World Bank team co-led by Aylin Isik-Dikmelik (Senior Economist) and Mirey Ovadiya (Senior Social Protection Specialist) including Sandor Karacsony (Social Protection Specialist), Natalia Millan (Economist), and Frieda Vandeninden (Economist). The team wishes to thank Christian Bodewig, and Dorothee Butler for their contributions and advice.

This report is one of the twelve country specific papers produced under a joint European Commission (EC) World Bank and Organisation for Economic Cooperation and Development (OECD) project and applies a joint methodology on country specific cases as developed in OECD-World Bank (2016). This report would not have been possible without the financial and technical support of the EC's Directorate General of Employment, Social Affairs and Inclusion. Katalin Szatmari (Policy Officer, Directorate C1-Social Investment Strategy), led the efforts from the Directorate General of Employment, Social Affairs and Social Inclusion. Herwig Immervoll (Senior Social Policy Economist, ELS/SPD) led the OECD team to undertake the activities under the project in six countries. The European Commission team included Suzanna Conze (Policy Officer, formerly Directorate C1-Social Investment Strategy), Manuela Geleng (Head of Unit, Directorate C1-Social Investment Strategy), Ioana-Maria Gligor (Deputy Head of Unit, B5-Employment), Georgi Karaghiozov (Policy Officer, Directorate C1-Social Investment Strategy), Dora Krumova (Programme Manager, B5-Employment), Katharina Muhr (Policy Officer-Directorate C5-Employment), Raya Raychinova (Program Assistant, B5-Employment), Alexandra Tamasan (Policy Officer, formerly Directorate C1-Social Investment Strategy), Georgios Taskoudis (Policy Officer, C4-Employment), Miriam Toplanska (Policy Analyst, Directorate C1-Social Investment Strategy), and Iva Zelic (Policy Officer, Directorate C5-Employment). The OECD team included James Browne, Nicola Düll, Rodrigo Fernandez, Daniele Pacifico, and Céline Thévenot. The team is grateful to the EC and OECD teams for the close collaboration exhibited under this project.

Andrew D. Mason (Practice Manager, Europe and Central Asia Social Protection and Jobs Practice), Arup Banerji (Regional Director, European Union) and Cem Mete (Practice Manager, Europe and Central Asia Social Protection and Jobs Practice) provided overall guidance to the study. Peer review comments were received at various stages from Christian Bodewig (Program Leader), Aline Couduel (Lead Economist), Victoria Levin (Senior Economist), Matteo Morgandi (Senior Economist), Cristobal Ridao-Cano (Lead Economist), Victoria Strokova (Economist), Ramya Sundaram (Senior Economist); and Trang Van Nguyen (Senior Economist).

The team benefitted from extensive interaction and consultations with representatives of the Ministry of Labor and Social Policy and the National Employment Agency. In particular, the team would like to thank Elka Dimitrova and Tatyana Pashinova, who provided guidance, data and specific inputs towards the finalization of the report.

Finally, the team is grateful to Eurostat for the provision of the EU-SILC micro data used in the analysis in this report.

Contents

| | |
|---|----|
| 1. Introduction | 4 |
| 2. Country Context: the Bulgarian Labor Market | 6 |
| 3. Understanding Employment Barriers—A Framework | 14 |
| 3.1 Target Population: Individuals with Potential Labor Market Difficulties | 14 |
| 3.2 Employment Barrier Indicators | 18 |
| 4. Results: Portraits of Labor Market Exclusion in Bulgaria | 23 |
| 5. Priority Groups in the Bulgarian Labor Market | 28 |
| 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 Activation and employment support policies vis-à-vis priority groups needs | 47 |
| 7. Conclusions and Policy Directions | 53 |
| References | 55 |
| Annex 1. Advantages and disadvantages of the EU-SILC Data | 57 |
| Annex 2. Definitions of Employment Barrier Framework Indicators | 59 |
| Annex 3: Characterization of latent groups in Bulgaria | 62 |
| Annex 4. Latent Class Analysis Model Selection for Bulgaria | 66 |
| | |
| Figure 1. Employment (aged 15-64) in Bulgaria and EU-28 2006 | 7 |
| Figure 2. Unemployment (aged 15-64) in Bulgaria and EU-28 | 8 |
| Figure 3. Long-term unemployment as a percentage of unemployment in Bulgaria and EU-28 (aged 15-64) | 9 |
| Figure 4. Unemployment by education level in Bulgaria and EU-28 (aged 15-64) | 10 |
| Figure 5. Youth unemployment and NEET rates (ages 15-24) in Bulgaria and EU-28 | 11 |
| Figure 6. Activity rates by sex in Bulgaria and EU-28 | 11 |
| Figure 7. Part-time employment as a percentage of total employment by sex in EU Member States (2015)..... | 12 |
| Figure 8. Age distribution in Bulgaria (2010 and 2050) | 14 |
| Figure 9. The composition of the working-age population in Bulgaria (left) and out of work (right) | 16 |
| Figure 10. Labor market attachment status of working-age* population, Bulgaria and other EU countries under study (percent) | 17 |
| Figure 11. Composition of Persistently out of Work Population by Labor Market Status, Bulgaria and other EU Countries under Study (as a percentage of working-age population) | 18 |
| Figure 12: Employment Barrier Framework | 19 |
| Figure 13. Latent groups within the Bulgarian target population | 23 |
| Figure 14: Number of barriers faced by individuals in latent groups | 25 |

| | |
|---|----|
| Figure 15. Organizing framework for policy analysis | 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) | 41 |
| Figure 17. Detailed Composition of Labor Market Programs, in percent of total labor market expenditure 2014 | 42 |
| Figure 18. Number of beneficiaries (entrants) of selected ALMPs | 45 |
| Figure 19. Profile of ALMPs beneficiaries, in percent of ALMPs beneficiaries (2017)..... | 46 |

Tables

| | |
|---|----|
| Table 1. Characterization of Target and Working-Age Population According to Barrier Indicators (percent) | 21 |
| Table 2. Characterization of Target Population According to Barrier Indicators (percent): International Comparison..... | 22 |
| Table 3. Employment barriers faced by excluded groups in the Bulgarian labor market | 23 |
| Table 4. Employment barriers and socioeconomic and demographic characteristics of priority groups. | 31 |
| Table 5. Youth and female ALMPs beneficiaries, as percent of total ALMP beneficiaries (2014)..... | 45 |

Boxes

| | |
|--|----|
| Box 1. Activation and skills in Bulgaria | 13 |
| Box 2: Definition of target population | 15 |
| Box 3. Definitions of employment barrier indicators used for Bulgaria..... | 20 |
| Box 4. Participation in skills trainings in Bulgaria..... | 38 |
| Box 5: The case management approach in Bulgarian employment services..... | 40 |
| Box 6. Active Labor Market Programs in Bulgaria..... | 42 |

1. Introduction

Successful labor market inclusion requires a better understanding of who the vulnerable are in the labor market. People who are out of work are not all the same: they can be middle-aged individuals and early retirees, or 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, the 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 to include: those in unstable employment, those with restricted hours, and those with near-zero incomes (i.e. marginally employed individuals). 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. 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.

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

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 the engagement with the OECD are called “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.

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.

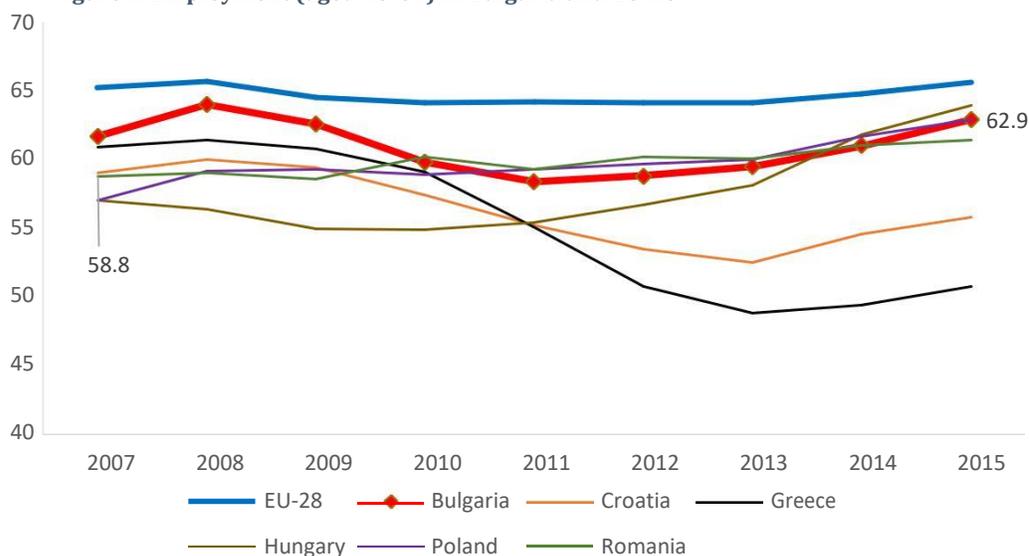
This Country Policy Paper is one of twelve that is under study⁴, and analyzes the out of work and marginally employed population in Bulgaria along with existing activation and employment support policies and programs. The paper comprises of seven sections. Section 2 provides background on the Bulgarian 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 Bulgaria, 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: The Bulgarian Labor Market

The Bulgarian labor market has started to recover gradually after 2011, following the deep impact of the financial crisis. Employment rates have increased over the last 2 years, reaching 62.9 percent in 2015, slowly catching up with the EU28 average of 65.6 percent and pre-crisis level of 64 percent. The activity rate has also increased to 69.3 percent surpassing the pre-crisis level of 67.8 percent. While unemployment almost doubled from 2008 to 2010 and peaked at 13 percent in 2013, it has been decreasing over the last two years. In 2015, the unemployment rate in Bulgaria (9.2 percent) is on par with the EU28 average (9.4 percent) and has continued to decrease, reaching 7.7 percent in 2016 (European Commission, 2017) (Figure 1).

⁴ 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.

Figure 1. Employment (aged 15-64) in Bulgaria and EU-28 ⁵

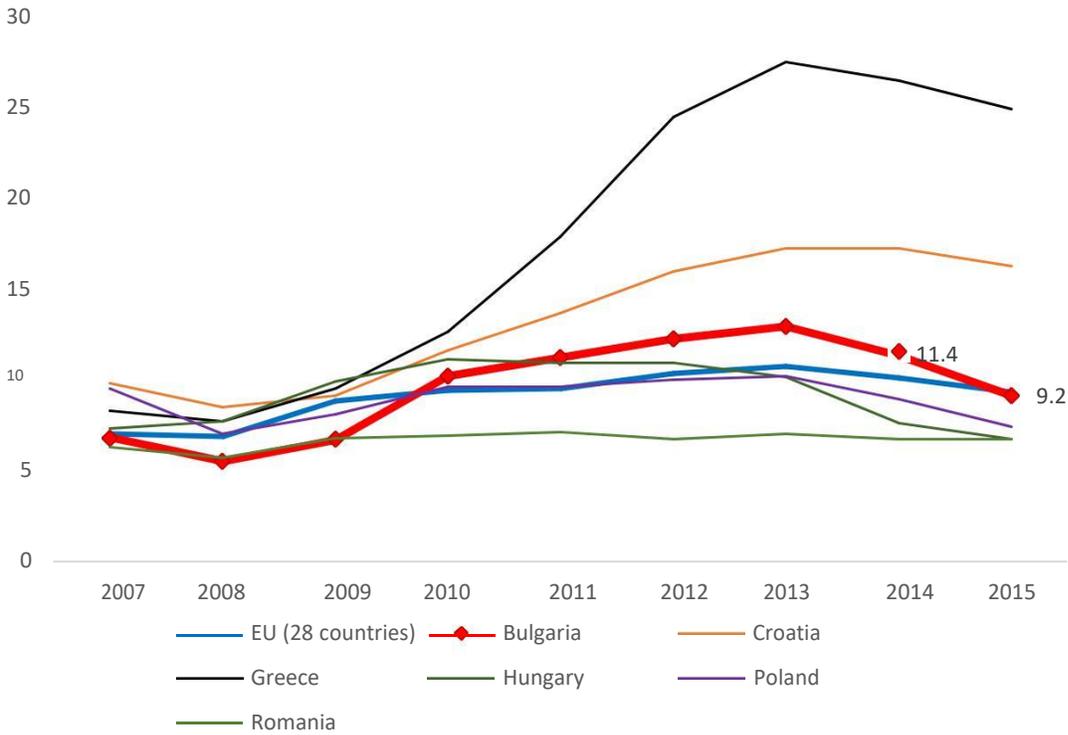


Note: EU-28 average is weighted

Source: Eurostat LFS

⁵ The introduction section presents Eurostat figures in which working-age population refers to individuals between 15 and 64 years old. In the rest of the analysis, the working-age population will be restricted to individuals aged 18 to 64 not in full-time study or serving in the military.

Figure 2. Unemployment (aged 15-64) in Bulgaria and EU-28



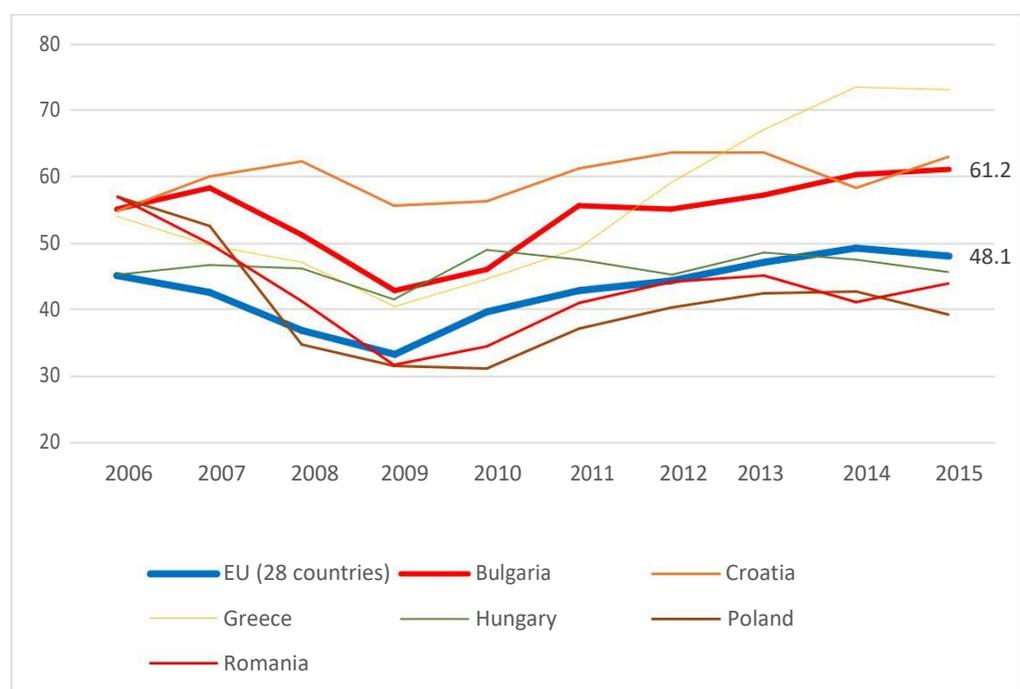
Note: EU-28 average is weighted

Source: Eurostat LFS

Long-term unemployment in Bulgaria has been on the rise since the crisis and has reached particularly high levels. Long-term unemployment⁶ as a percentage of total unemployment has historically been markedly above the EU-28 average. After falling to just over 40 percent in 2009, it has been rising rapidly, widening the gap with the average long-term unemployment rate for EU-28 countries. In 2015, 61.2 percent of the unemployed were long-term unemployed, well above the EU28 average of 48.1 percent (Figure 3). Long-term unemployment is an important cause for concern, as the long-term unemployed are much less likely to eventually find employment.

⁶ Defined as unemployment lasting 12 months or more.

Figure 3. Long-term unemployment as a percentage of unemployment in Bulgaria and EU-28 (aged 15-64)



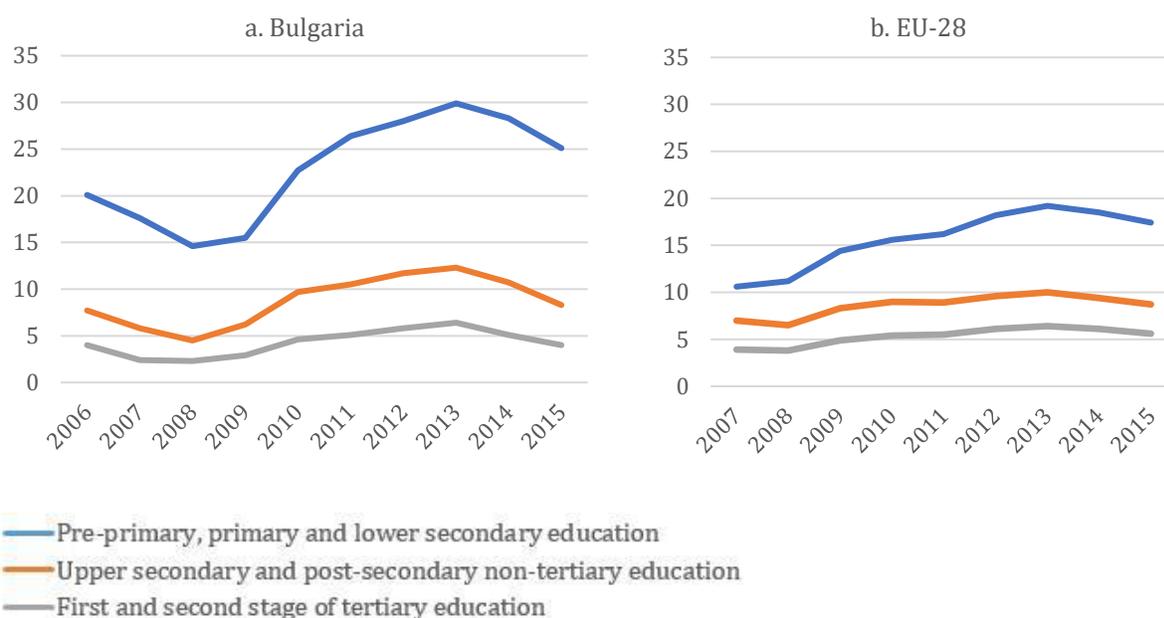
Note: EU-28 average is weighted

Source: Eurostat LFS

Unemployment is lowest among individuals with tertiary education, while those with primary education or less have been affected the most by the crisis and still face high unemployment.

In line with EU28 trends, the surge in unemployment rate among the low skilled (i.e. those with lower secondary education or less) has been much more pronounced in Bulgaria than among those with upper secondary education or more, rising from 14.6 percent in 2008 to 29.9 percent in 2013. Recently, the unemployment rate of individuals with low skills has been declining but still remains relatively high (25.1 percent) compared to EU28 average (17.4 percent). The unemployment rate of the high skilled (i.e. those with tertiary education) has followed a very similar trend to that for the EU28 average and represents 4 percent in 2015. Those with upper secondary education and non-tertiary education have also been affected by the crisis with an increase in unemployment of about 8 percentage points over 2008-2013; however, unemployment among this group has been declining since then, reaching a similar level as that for the EU28 average in 2015 (Figure 4).

Figure 4. Unemployment by education level in Bulgaria and EU-28 (aged 15-64)



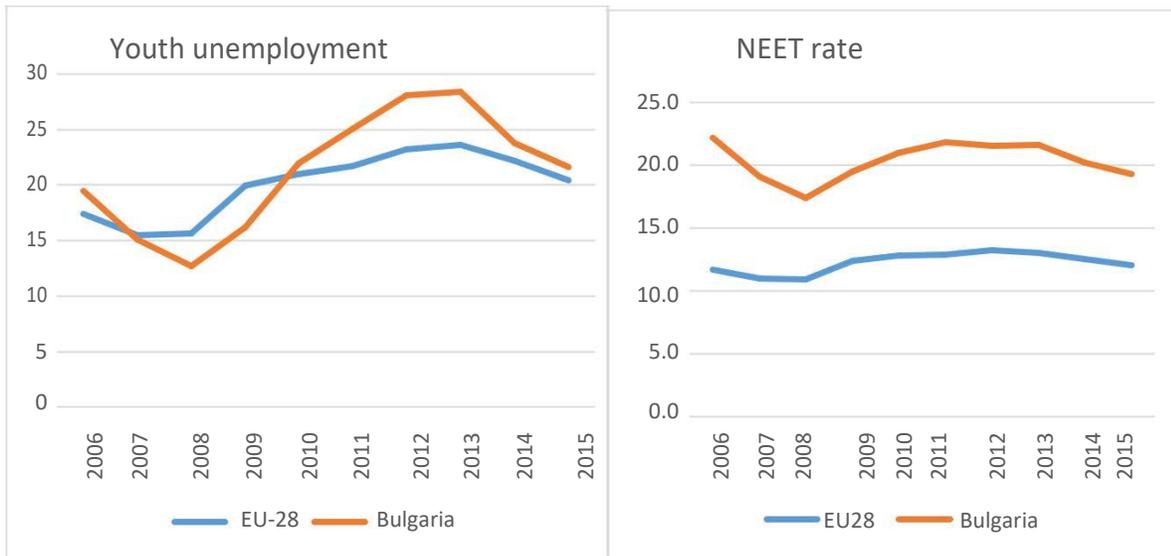
Note: The EU-28 average is weighted.

Source: Eurostat LFS.

Youth unemployment and the high share of NEETs remains an important concern in Bulgaria.

The crisis has particularly affected youth, with an increase of about 14 percentage points in the youth (15 to 24 years old) unemployment rate from 2008, peaking at 28.4 percent in 2013. Since 2013, similarly to the unemployment rate, youth unemployment has decreased significantly to 21.6 percent in 2015, reaching almost the same level as for the EU28 average. However, the percentage of young Bulgarians that are neither in education, employment or training (NEET) is particularly high compared to the EU28 average: in 2015, it reached 19.3 percent versus 12 percent for the EU28 average. The NEET rate is higher among young women, having reached 20 percent in 2015 (versus 18.6 among young men) (Figure 5).

Figure 5. Youth unemployment and NEET rates (ages 15-24) in Bulgaria and EU-28

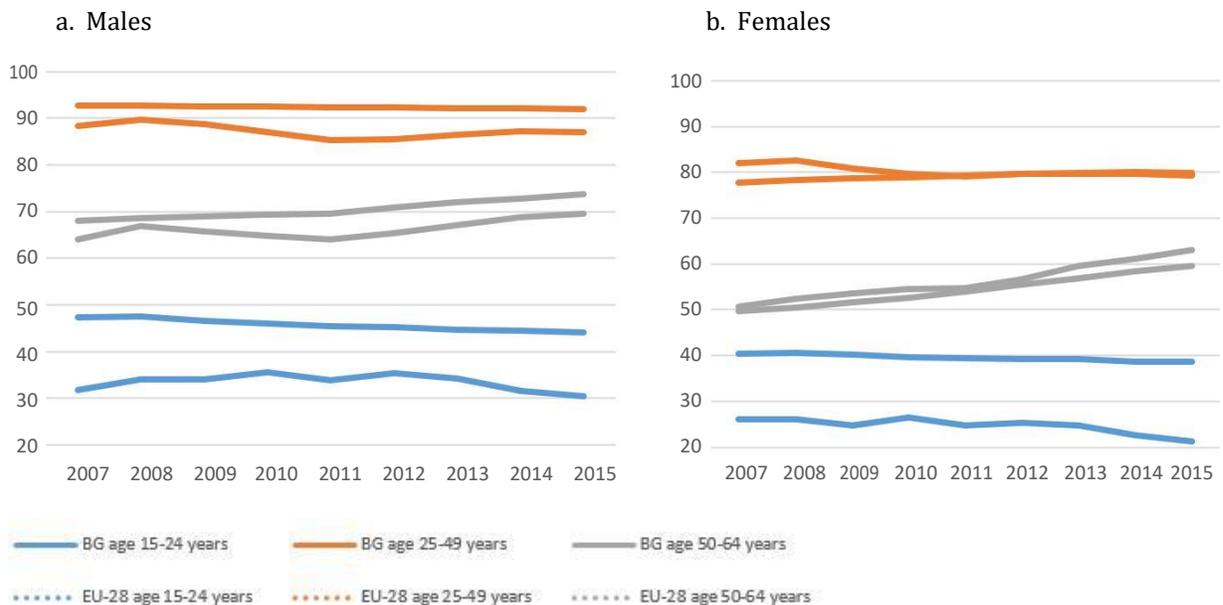


Note: The EU28 average is weighted.

Source: Eurostat LFS.

The activity rate in Bulgaria is marked by a gender gap, especially for the younger age cohort. While the activity rate of older women (aged 50-64) and middle-aged women (aged 25-49) are at similar levels with respect to the EU28 average, they are still below the activity rate among males in each respective age cohort. The difference in labor market participation is even more striking for younger Bulgarians (aged 15-24), with an activity rate of 30.5 percent for young males compared to only 21.2 percent for young women. The activity rate of middle-aged and older males has been low and stays below the EU28 level in 2015 (Figure 6).

Figure 6. Activity rates by sex in Bulgaria and EU-28

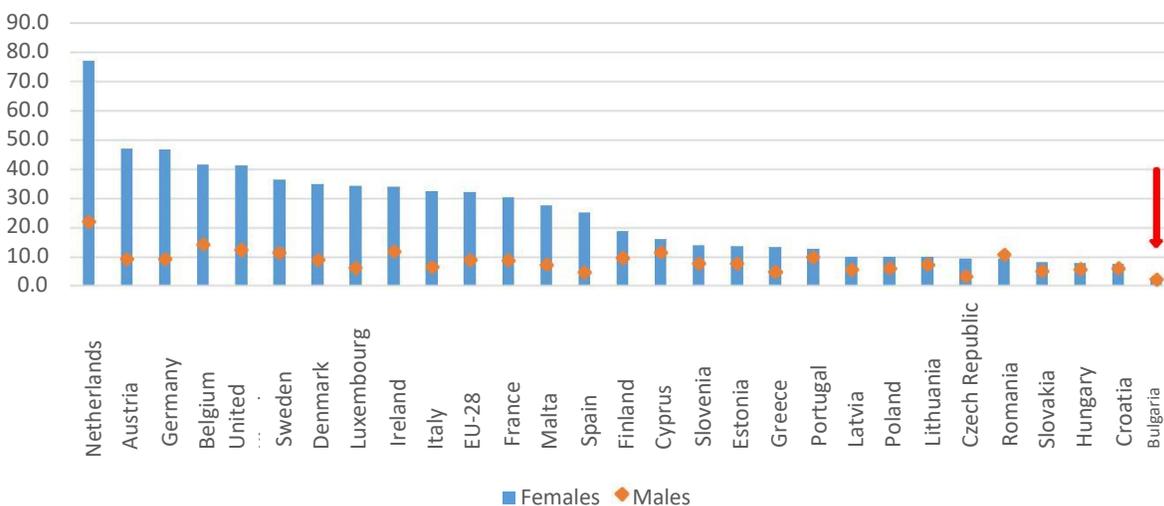


Note: The EU28 average is weighted.

Source: Eurostat LFS.

In part, low activity rates among women and youth may reflect labor market legislation and/or cultural norms that are not conducive to voluntary part-time work – with part time employment being the lowest among EU28 countries. Voluntary part-time work, especially when under equal treatment vis-à-vis full-time work, can be a means for otherwise excluded groups to participate or remain in paid work (ILO, 2016). Part-time work allows older or disabled individuals to accommodate physical limitations, younger retirees to continue to be engaged in work while pursuing more leisure activities, youth to prolong their education while gaining work experience, and women (and sometimes men) to participate in care bearing or other domestic responsibilities. Further, part-time work can also help attract and retain workers for specific schedules in difficult jobs (Kjeldstad and Nymoer, 2012, as cited in ILO, 2016). In Bulgaria, individuals who may be interested in working but cannot take on a full-time job may be excluded from the labor market altogether, as shown by the very low percentage of part-time work activity (the lowest in EU-28) (Figure 7). This is in sharp contrast to other EU Member States, especially those in northern Europe where part-time work is explicitly encouraged by government policies.

Figure 7. Part-time employment as a percentage of total employment by sex in EU Member States (2015)



Note: The EU28 average is weighted.

Source: Eurostat LFS.

The Bulgarian Roma minority is disproportionately affected by unemployment. According to the Fundamental Rights Agency, in 2016 only 26 percent of Roma (aged 20-64) reported to be employed in ‘paid work’, while 55 percent of Roma reported to be unemployed. There is a marked gender gap in employment among the Roma, with 33 percent of Roma men reporting to be at work, in contrast with only 19 percent of Roma women. Qualitative research conducted by the World Bank in 2015 finds that low educational attainment, lack of skills, insufficient experience, and labor market discrimination are reported among the main causes for the high unemployment — and in some cases participation in active labor market programs — of Bulgaria’s working-age Roma. Roma respondents with lower levels of education and skills are often unaware of employers’ expectations and are unable to meet them, and they tend to perceive labor market discrimination as the main cause for their

unemployment. On the other hand, most employers and Labor Office Directorate's officers report structural changes in the economy as major causes for the widespread unemployment among Roma, along with lower levels of education and qualification, lack of experience, and insufficient soft skills.

Box 1. Activation and skills in Bulgaria

In 2015 the World Bank developed a report on activation and skills in Bulgaria. Based on the 2013 Bulgarian Longitudinal Inclusive Society Survey (BLISS), the report titled "[*Skills for Work in Bulgaria: The relationship between cognitive and socioemotional skills and labor market outcomes*](#)" finds that education and skills in Bulgaria are correlated but not perfectly: for example, a university degree only contributes to higher socioemotional but not cognitive skills. The report also finds that the skills mix changes across the lifecycle: as cognitive capacity declines in older age, relational socioemotional skills improve.

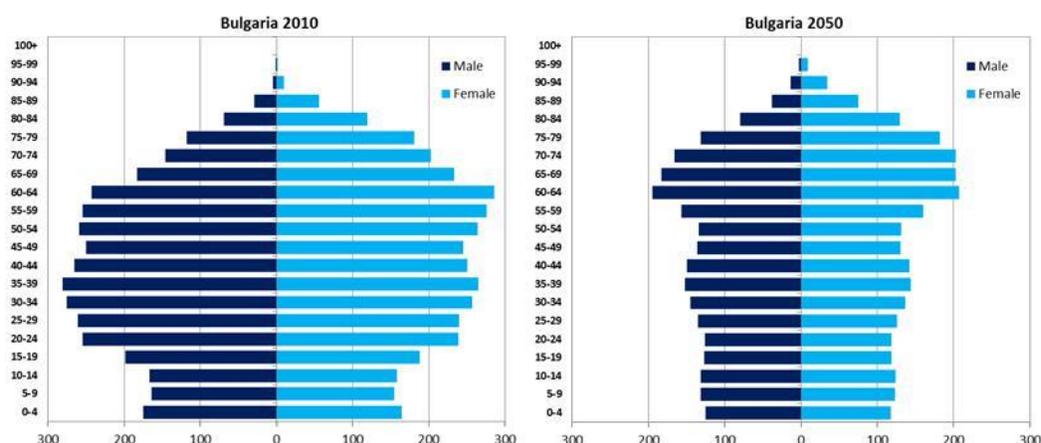
The analysis finds that education differences explain most skills gaps for Roma in Bulgaria: Primary-educated ethnic Bulgarians, Roma, and other ethnic minorities performed similarly on cognitive skills and on most socio-emotional skills, with the exception of the persistent gap in skills related to proficiency in the Bulgarian language. *Gender matters for the relationship between skills/education and employment: skills matter for men, while diplomas matter for women.* The report concludes that *better skills pay off, as employed respondents with better cognitive and socioemotional skills report higher earnings.*

The key policy implications of the report are (i) for the education sector: to ensure greater equality, enhance quality, and improve accountability and responsiveness; and (ii) for workforce development: to improve the assessment of skills demand and supply, to engage more with employers, and to enhance active labor market programs.

Source: World Bank (2015)

Bulgaria needs to implement labor market reforms to achieve faster, more inclusive and sustainable growth. At the same time, Bulgaria's aging and shrinking population dynamics mean fewer workers and a rising dependency ratio. As a combined result of higher mortality, lower birth rates and net emigration, it is expected that by 2050 Bulgaria's working-age population will shrink by as much as 30 percent — the highest forecasted drop in the EU. This tendency will also dramatically change the age distribution of Bulgaria's population (Figure 8).

Figure 8. Age distribution in Bulgaria (2010 and 2050)



Source: The World Bank, 2013

3. Understanding Employment Barriers—A Framework

With fewer workers and more old-age dependents, labor productivity improvements in terms of employability and skills are key for continued economic growth; making better use of Bulgaria’s human capital must be at the forefront of growth policies. Even though statistics based on labor force surveys exist on broad groups such as “youth”, “older workers” and “retirees”, these groups in themselves are not homogenous and might be facing a variety of different barriers. Details on the characteristics of these groups, and the obstacles they face are hard to come by. The identification of groups that share similar employment constraints and socioeconomic characteristics can contribute to the design of tailored policy interventions. Therefore, knowledge as to what the out-of-work population looks like and the barriers faced by individuals is fundamental to a holistic approach to policymaking with respect to the inactive and the unemployed.

The objective of this analysis is to arrive at a categorization of out of work and marginally employed individuals. The analysis yields distinct subgroups in terms of their characteristics as well as the barriers they face to enter the labor market. Developing narrower and more distinct categories of individuals who share similar characteristics and face similar constraints provides a stronger evidence base to guide the design of activation and employment support policies. It also encourages a critical look at existing policies and assessing their relevance and appropriateness in light of the needs of the target population and priorities.

The rationale behind this exercise is to offer governments — in particular, ministries and agencies in charge of labor and employment policy — a powerful statistical tool that will “profile” out of work or marginally employed individuals. This tool can serve as a sound basis to prioritize the needs of those who are out of work or are marginally employed. This tool will support the design of policies and programs that are suited to the distinct needs of vulnerable individuals with low labor market attachment.

3.1 Target Population: Individuals with Potential Labor Market Difficulties

The target population — the focus of the current analysis — is a subset of the Bulgarian working age population; this group is 18 to 64 years old, and it excludes full-time students and

those serving in the military (compulsory service). The population comprises individuals who self-report being out of work during the entire survey reference period in addition to individuals who were marginally employed due to unstable jobs, restricted working hours, or very low earnings (Box 2).⁷ As such, the analysis offers a much broader perspective than common profiling exercises, which use administrative data collected on registered jobseekers.

Box 2: Definition of target population

The target population comprises people that are either persistently out of work or 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.

Marginally employed individuals can be categorized into three non-mutually exclusive groups*:

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.* **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 EU28 as the reference.***

* The three groups are non-mutually exclusive, since, for instance, an individual in an unstable job could be working restricted hours and could also be earning a very low income. However, individuals are assigned to a single category, starting with unstable jobs and ending with negative, zero or near-zero labor incomes as a residual category.

** The threshold is approximately in-line with the 45 percent threshold that identifies the group with unstable jobs, as individuals who work for 20 hours a week have exploited only 50 percent of their full work capacity. EU-SILC collects information on the number of working hours only for the current job at the moment of the interview. The main activity status reported in each month of the income reference period distinguishes between full-time and part-time activities but does not impose a minimum number of working hours in the choice between the two options. We therefore include in the target population only the individuals who are working 20 hours or less a week at the moment of the interview *and* who spent at least 6 months of the income reference period working in part-time activities.

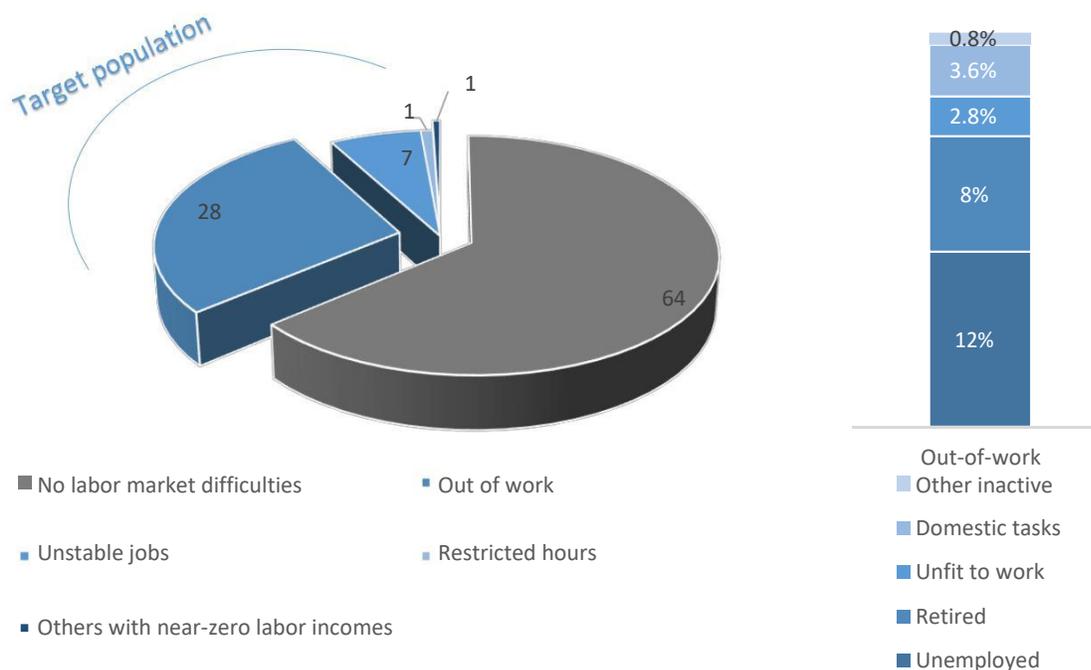
***2012 is the income reference period for the 2013 EU-SILC survey.

This analysis expands upon the scope of traditional profiling exercises. It includes individuals who face difficulties in entering the labor market, those who are not working at an optimal level (in terms of stability, number of hours, or job quality), and those who are not covered by any activation measure or registered as unemployed. below we set out the “labor market status” definitions

⁷ The survey data used were EU-SILC 2013 data, where the reference period is equal to the previous calendar year, i.e., 2012. EU-SILC data is used rather than the LFS 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

of those individuals included in the analysis, also, as mentioned above, referred to as the target or reference population.

Figure 9. The composition of the working-age population⁸ in Bulgaria (left) and out of work (right)



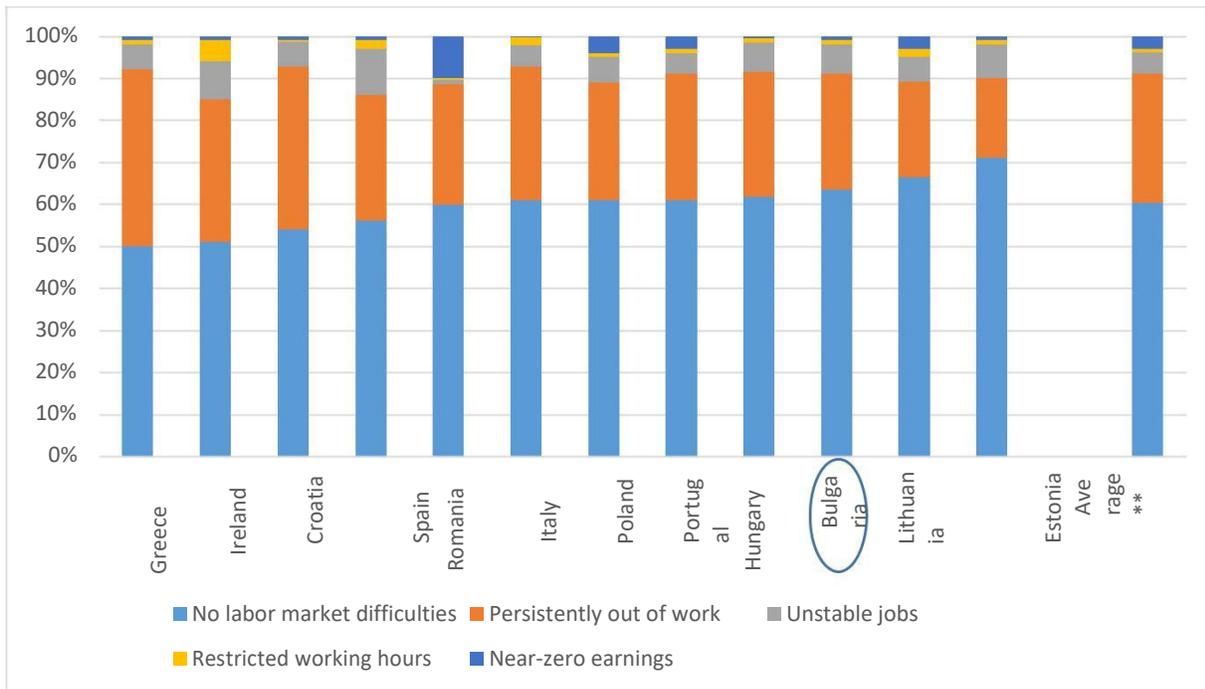
*The reference population (working-age population) refers to population aged 18-64 not studying full time or serving compulsory military service. It represents 4.36 million individuals; of these, 1.57 million, or 36 percent, make up the *target population* of individuals who are out of work or are marginally employed. The remaining 64 percent are considered as not having labor market difficulties.

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

About 36 percent of the working-age population in Bulgaria are either out of work or marginally employed – they represent the target group. This group is very heterogeneous and consists of: (i) those who are out of work (28 percent) for a variety of reasons (*Figure 9*, right panel) including unemployment (12 percent), retirement (8 percent), disability (2.8 percent), care or domestic duties (3.6 percent), or other inactivity (0.8 percent); (ii) those who have unstable jobs (7 percent); (iii) those who have restricted working hours (1 percent); and (iv) those who have near-zero labor income (1 percent).

⁸ 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 (64 percent in Bulgaria), who may be thought of those having relatively good jobs (in full time employment or self-employment with no zero income) as well as those with a variety of constraints. This latter category, representing 36 percent of the reference population, is the *target group*.

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

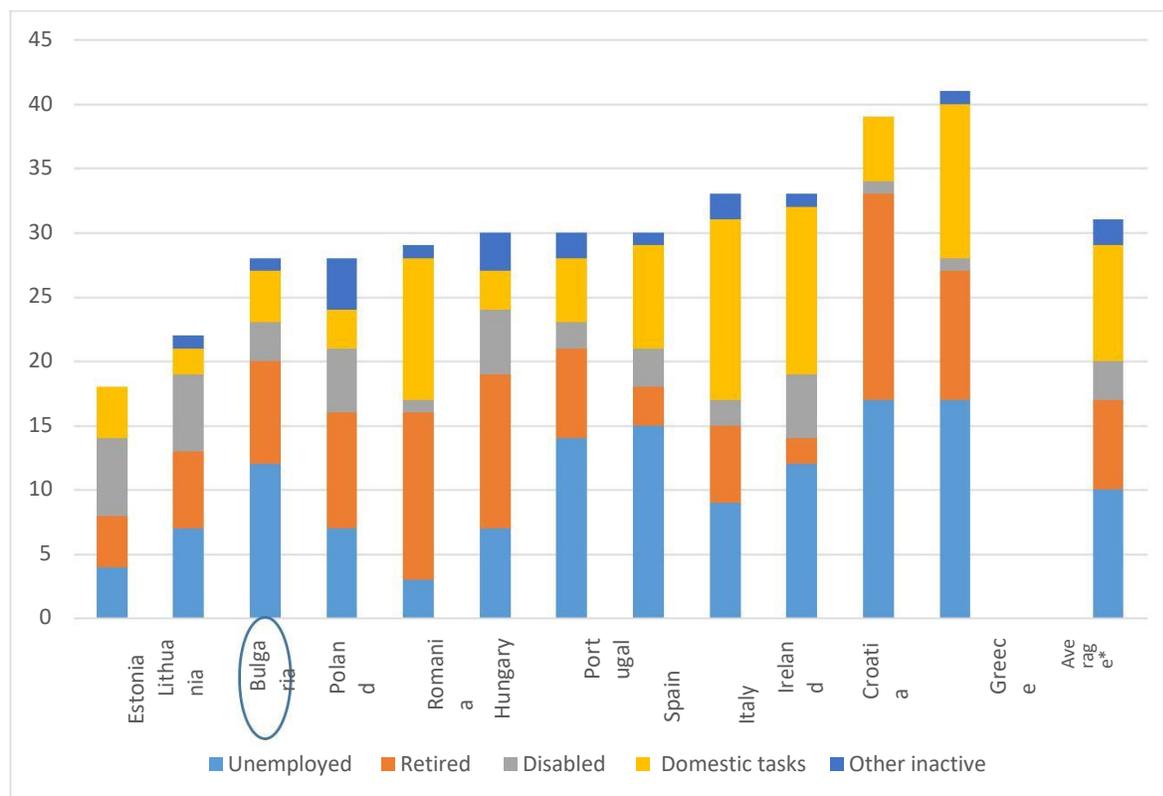


* Aged 18-64 and not studying full time or serving compulsory military service.

**Weighted average.

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

Figure 11. Composition of persistently out of work population by labor market status, Bulgaria and other EU Countries under study (as a percentage of working-age population)



*Weighted average.

Notes: 1. Working-age population refers to population aged 18-64 not studying full time or serving compulsory military service. 2. Out of work individuals report being unemployed or inactive during each of the 12 months of the reference period and at the time of the survey interview. Labor market status refers to the main activity reported during the reference period.

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

3.2 Employment Barrier Indicators

As mentioned above, the purpose of this analysis is to segment the target population into distinct groups according to their labor market barriers and socioeconomic characteristics. In order to achieve this, a set of **indicators** has been formulated to capture the employment barriers that prevent individuals from being partially or fully active in the labor market. 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, for example, 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 look for or accept a "good" job: an individual may decide not to participate in the labor market if they could potentially 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); and

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 information asymmetries, skills mismatches, discrimination, or lack of social capital among other frictions present in labor markets.

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, which is the basis of the analysis. For this reason, a set of eight indicators have been carefully constructed using EU-SILC data in order to proxy for broad measures for each of the three different types of employment barriers. Together, the eight indicators serve as a starting point for identifying and characterizing the target population according to the barriers they face. It is worth noting, however, that while these indicators are able to capture broad aspects of the three main types of employment barriers identified in this framework, they do not offer a comprehensive view of labor market barriers. The indicators represent the barriers that we are able to capture using EU-SILC data. More importantly, employment barriers are complex and are often the result of 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 identify with household survey data. The indicators used for Bulgaria are outlined in Box 3 below (more detailed information on the definitions and construction of each indicator is available in Annex 2, as well as in the background methodological paper (OECD and World Bank, 2016)).

Box 3. Definitions of employment barrier indicators used for Bulgaria

The indicators represent the 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:

Low education: if an individual has an education level lower than upper secondary education (i.e. lower level than International Standard Classification of Education - ISCED --11 classification);

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;

Health limitations: if an individual reports some or severe self-perceived limitations in daily activities due to health conditions;

Low relative work experience: individuals who have worked less than 60 percent of the time since they left full time education*;

No recent work experience:

- 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:

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;

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:

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.

* This indicator could not be constructed for Bulgaria due to the fact that the variable indicating the number of years spent in paid work was missing from Bulgaria's 2013 EU-SILC dataset.

**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.

The target and working-age populations are significantly different in terms of the employment barriers faced (Table 1). The target population is more likely to face each employment barrier.⁹ The difference in the presence of barriers among the target population and the total working-age population as a whole can provide insights into the extent to which the target population faces greater employment barriers. The most common barriers found among the target population are having no recent work experience (although having worked in the past) (59 percent), followed by scarce job opportunities, due to their gender, age, education, and the region where they

⁹ 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.

reside (48 percent). Low skills is also a common barrier faced by the target population (38 percent). Other important barriers are related to health limitations and having never worked before (19 percent for both). Eighteen percent have possible disincentives to work due to high income not coming from their own labor. The share that faces care responsibilities is relatively low (13 percent). Finally, only 6 percent receives a high level of benefits that may be reduced when working full-time in high quality jobs. The comparison with the barriers faced by the working-age population is striking, particularly the absence of recent work experience with a difference of 38 percentage points, the scarce job opportunities (difference of 18 percentage points) and low skills (17 percentage points).

Table 1. Characterization of Target and Working-Age Population According to Barrier Indicators (percent)

| INDICATOR | Working-age population* | Target population | | |
|---|-------------------------|-------------------|--------------------------|---------------------|
| | | All | Persistently out of work | Marginally employed |
| <i>Capabilities barriers</i> | | | | |
| 1 - Low education | 21 | 38 | 40 | 30 |
| 2 - Care responsibilities** | 5 | 13 | 12 | 16 |
| 3 - Health limitations | 11 | 19 | 23 | 8 |
| 4 - No recent WE - Has worked in the past** | 21 | 59 | 76 | 0 |
| 4 - No recent WE - Has never worked** | 7 | 19 | 24 | 0 |
| <i>Incentives barriers</i> | | | | |
| 5 - High non-labor income | 22 | 18 | 19 | 17 |
| 6 - High earnings-replacement benefits | 3 | 6 | 7 | 3 |
| <i>Opportunity barrier</i> | | | | |
| 7 - Scarce job opportunities | 30 | 48 | 48 | 45 |

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

Note: The target population makes up 34 percent of the working-age population.

*Excludes individuals who are studying full time or in compulsory military service.

**By definition, this barrier does not affect individuals who are not members of the target population.

The target population in Bulgaria stands out with regard to the education and health barriers.

Table 2 shows a cross-country comparison of the employment barrier indicators among the target groups in six EU countries in South, Central, and Eastern Europe. Compared to these six countries, the target group in Bulgaria has the highest share of individuals with low education (individuals who have not completed upper secondary education) (38 percent). The target population in Bulgaria includes one of the lowest shares of individuals (together with Greece) who have health limitations (17 percent). Compared to other countries, the target group in Bulgaria also faces one of the highest share of individuals with scarce employment opportunities (30 percent).

Table 2. Characterization of Target Population According to Barrier Indicators (percent): International Comparison

| 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 - | Caregiving responsibilities | 13 | 12 | 16 | 15 | 15 | 13 |
| | | | | | | | 14 |
| 3 - | Health limitations | 19 | 33 | 19 | 37 | 30 | 33 |
| | | | | | | | 29 |
| 4- 5 | Low relative work experience (WE) | N/A* | 59 | 57 | N/A* | 43 | 48 |
| | | | | | | | 52 |
| - | 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 |

* 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.

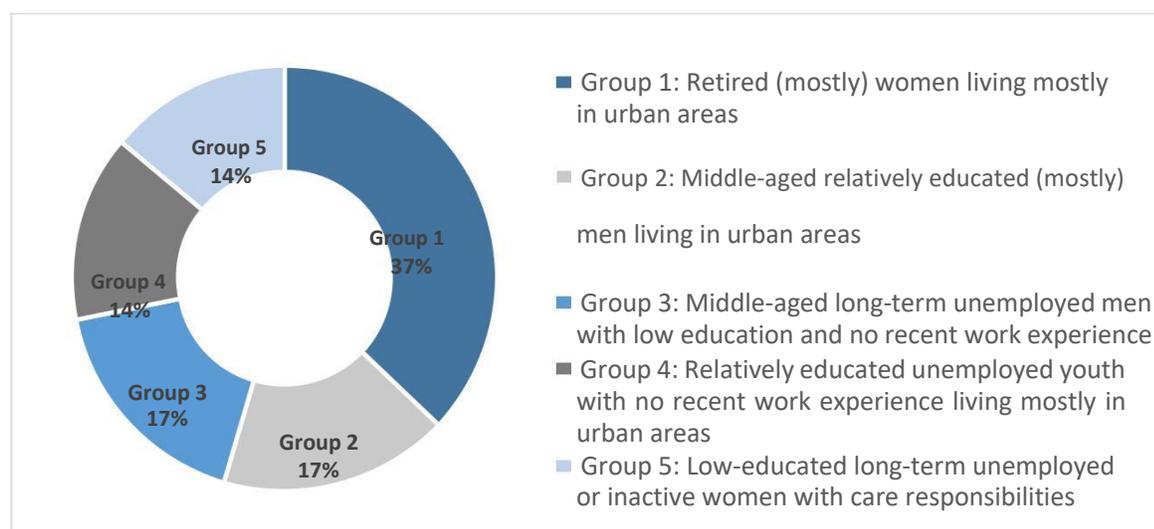
Source: World Bank staff calculations based on EU-SILC 2013 for Bulgaria, Croatia, Hungary, Poland, and Romania, and on EU-SILC 2014 for Greece.

The statistical clustering method utilized in this note to analyze the target population is Latent Class Analysis (LCA). This method exploits the observed proxies of the different categories of employment barriers as captured by the employment barrier framework (Figure 12). LCA is a statistical segmentation technique that enables a characterization of a categorical latent variable (unobserved; in this case labor market vulnerability) starting from an analysis of relationships among several observed variables (“indicators” as defined above). It allows the statistical segmentation of the target population into distinct but homogenous sub-groups with similar barriers to employment in each group, while across groups the profile of employment barriers would differ. In contrast to traditional regression analysis, which identifies the effect of one barrier while assuming all the other barriers stay constant, the LCA exploits the interrelations of the employment barriers, and the joint determination of the observed outcome (Further details on LCA, and selection of indicators is provided at the OECD-World Bank Joint Methodological Paper, 2016).

4. Results: Portraits of Labor Market Exclusion in Bulgaria

Applying the above methodology¹⁰, Latent Class Analysis yields the classification of the target population into five different groups in Bulgaria. Each group varies in terms of size (as shown on Figure 13), characteristics of its population as well as the mix of barriers they face.

Figure 13. Latent groups within the Bulgarian target population



Source: Staff calculations based on EU-SILC 2013

Table 3 shows the incidence of barriers within each of the groups emerging from the analysis. The five groups have been named¹¹ according to their most salient characteristics (i.e. those that have a high probability of occurrence for each group). Annex 3 further offers a detailed list of characteristics by group, which also provides the basis for the group names. The paragraphs below describe in more detail most salient barriers for each group as well as the predominant characteristics of the population (as detailed in Table 3).

Table 3. Employment barriers faced by excluded groups in the Bulgarian labor market

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Target pop. |
|--|---------|---------|---------|---------|---------|-------------|
| Group size | | | | | | |
| Percent of target population | 37% | 17% | 17% | 14% | 14% | 100% |
| Thousands of individuals | 582 | 267 | 267 | 220 | 220 | 1,573 |
| INDICATOR | | | | | | |
| Share of individuals facing each barrier, by class | | | | | | |
| <i>Capabilities barriers</i> | | | | | | |
| 1 - Low education | 38% | 19% | 56% | 14% | 67% | 38% |

¹⁰The 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.

¹¹The titles are somewhat subjective; nevertheless, they mirror the barriers/characteristics which are common to more than 50 percent of the groups.

| | | | | | | | |
|---|---------------------------------------|------------|-----|------------|------------|-------------|------------|
| 2 - | Care responsibilities | 7% | 19% | 15% | 13% | 21% | 13% |
| 3 - | Health limitations | 29% | 27% | 6% | 8% | 13% | 19% |
| 5 - | No recent WE - Has worked in the past | 81% | 43% | 61% | 29% | 47% | 58% |
| | No recent WE - Has never worked | 5% | 17% | 13% | 49% | 37% | 19% |
| <i>Incentives barriers</i> | | | | | | | |
| 6 - | High non-labor income | 21% | 19% | 11% | 25% | 11% | 18% |
| 7 - | High earnings replacement (benefits) | 13% | 8% | 0% | 0% | 1% | 6% |
| <i>Opportunities barrier</i> | | | | | | | |
| 8 - | Scarce job opportunities | 7% | 19% | 88% | 91% | 100% | 47% |
| Average number of barriers per individual | | 2 | 1.7 | 2.5 | 2.3 | 3 | 2.2 |

Notes: Color shadings identify categories with high (darker) frequencies. See Box 3 for a brief explanation of the indicators. Only categories depicting barriers to employment are included; complementary categories are omitted. See Annex 3 for full list of active covariates and descriptive socioeconomic characteristics.

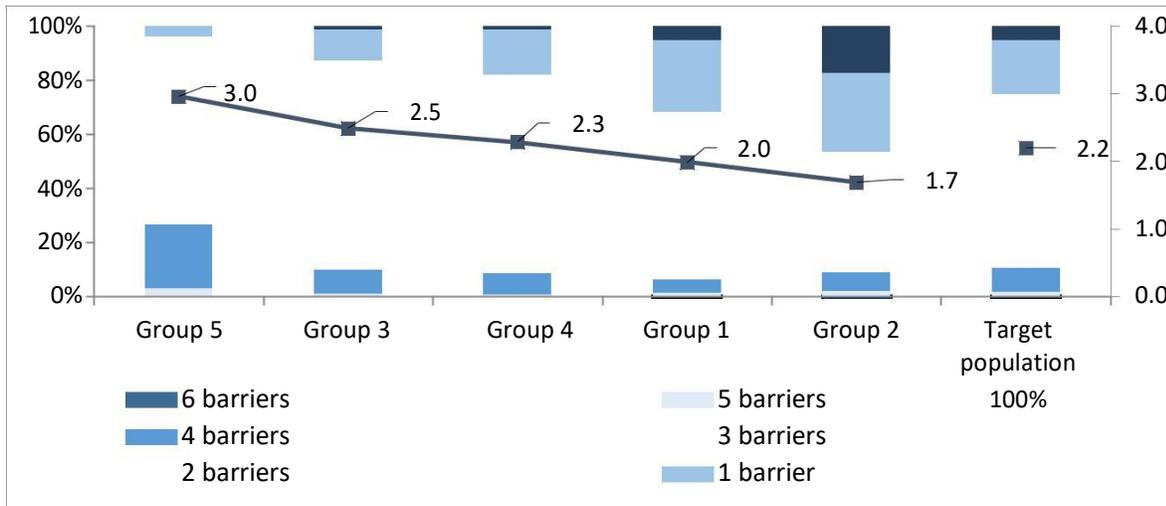
*Selected as priority groups for policy intervention (see section 5).

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

Applying the above clustering methodology results in the classification of the target population into five distinct groups. The five groups vary in terms of size (as shown in), characteristics, and the mix of barriers faced. The groups have been named according to their most salient characteristics (Figure 13). This naming, however, is subjective in nature, necessitating a closer look at the mix of barriers faced by each group in addition to the fuller list of individual and household socioeconomic characteristics that are also pertinent for the design and tailoring of active labor market policies. Table 3 shows the share of individuals facing each barrier, whereas Annex 3 offers a comprehensive list of individual and household characteristics for each group, including age, gender, labor market status, risk of poverty, household composition, among others. In order to put the characteristics of the groups in context, they are also shown for the target population as a whole and for the working-age population. Details on the selection of the model can be found in Annex 4.

Figure 14 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 2.2 barriers; the highest possible number of barriers that an individual can face is 6. Among groups, 5, 3 and 4 stand out as having a higher than average number of barriers compared to the target population (2.2). Group 5 stands out as having a very high proportion of individuals facing 3 or more barriers (70 percent). Group 2 has the higher share of individuals with no barriers reported (17 percent).

Figure 14: Number of barriers faced by individuals in latent groups

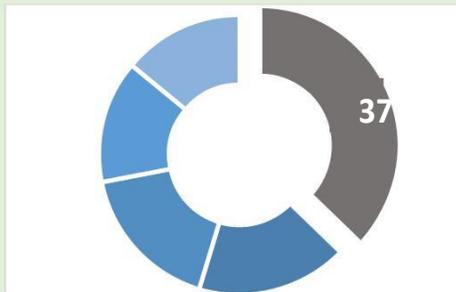


Source: Staff calculations based on EU-SILC 2013

Note: Groups are ordered according to average number of barriers.

In the boxes that follow we provide short descriptions of each of the five groups, focusing on the most salient employment barriers faced, and characteristics such as age, gender, geographical location, at-risk-of-poverty, among others. For each group, we highlight those characteristics that set them apart.

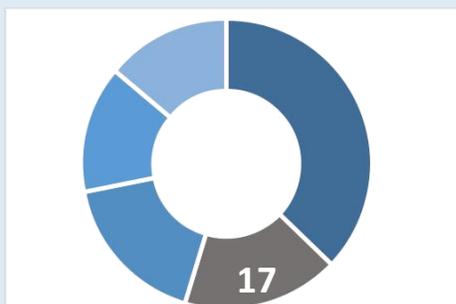
Group 1: Retired (mostly) women living mostly in urban areas (37 percent of the target population)



- 81 percent older (aged 56-64)
- 57 percent retired, 21 percent unemployed with 16 percent being long-term unemployed
- 66 percent female
- 29 percent faces health limitations
- 38 percent faces low skills
- 61 percent live in urban areas
- Average number of barriers: 2

Group 1 is mainly composed of older females, with 81 percent aged between 56 and 64 years old. This is the oldest group of the analysis, with an average age of 58 years old. The main activity status of this group is retirement (57 percent). In addition, 21 percent of them report being unemployed, with 17 percent being in long-term unemployment. A relatively high share, 38 percent of this group has achieved lower secondary education only. Twenty-nine percent reports facing some health limitations. About a fifth of them (21 percent) experience non-labor income disincentives, either from social benefits (48 percent receive old-age benefits and 14 percent receive disability benefits) or other household member's income (66 percent are married). With only 27 percent at risk of poverty and 26 percent in the bottom 20 percent of the income distribution, this group has a lower share of poor relative to the four other groups. Most commonly faced barriers are no recent work experience (81 percent), low skills (38 percent) and health limitations (29 percent).

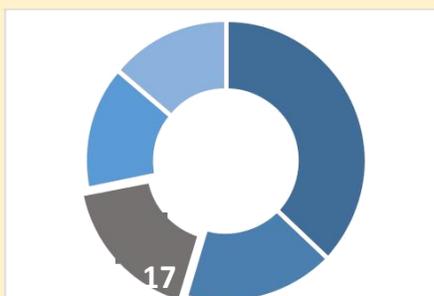
Group 2: Middle-aged relatively educated (mostly) men living in urban areas (17 percent of the target population).



- 95 percent prime-aged (30-55)
 - 48 percent unemployed, 16 percent unfit to work and 14 percent in domestic tasks
 - 66 percent have upper secondary or post-secondary, 16 percent have tertiary
 - 69 percent male
 - 64 percent in urban area
 - 43 percent with no recent work experience
 - 27 percent with health limitation
- Average number of barriers: 1.7

Group 2 is composed primarily of men (69 percent) of middle age (95 percent), with an average age of 43. Most of them are married (58 percent), about half have a working spouse and 40 percent live with children. They are relatively educated with 66 percent having upper or post-secondary education and 16 percent tertiary. They mostly live in urban areas (64 percent). Thirty-two percent of group members are at risk of poverty. This group is quite heterogeneous in terms of activity status. Over the reference period, they have been mainly unemployed (48 percent), with 31 percent being long-term unemployed. Another 16 percent have been unfit to work and 14 percent report to be engaged in domestic tasks. At the time of interview, 21 percent declared being in full-time employment, which represents the highest share among all groups. They also face quite different barriers: the predominant barrier is no recent work experience with 43 percent reporting to have worked before and 17 percent reporting to have never worked. 27 percent have health limitations, 19 percent face care responsibilities, 19 percent low skills, 19 percent high-non labor income and another 19 percent face scarce job opportunities. . The average number of barriers is the lowest among the five groups (1.7); relatively few members of this group face more than 2 barriers at the same time.

Group 3: Middle-aged long-term unemployed men with low education and no recent work experience (17 percent of the target population)

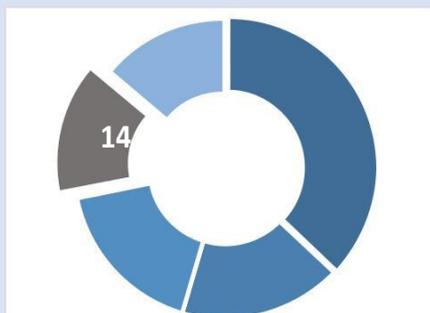


- 59 percent middle-aged, and 41 percent young
 - 80 percent male
 - 74 percent unemployed and 63 percent long-term unemployed
 - 56 percent have low skills
 - 53 percent are at risk of poverty
 - 74 percent have no recent work experience (61 percent have worked before; 13 percent have never worked)
- Average number of barriers: 2.5

Group 3 comprises mainly males (80 percent), mostly between 30 and 55 years old (59 percent) including also a relatively high share of youth (41 percent aged 18-29), with an average age of 34. They have low levels of education mostly, with 56 percent not having completed upper secondary education. They reside both in rural and urban areas (48 and 52 percent, respectively). Forty-five percent of them are married, 47 percent single. Compared with other groups, a large share (59 percent) have children. The group is mainly composed of unemployed (74 percent), in particular long-term unemployed (63 percent) individuals. A large share has no recent work experience: 61

percent has worked before; 13 percent has never worked. Eighty-eight percent face scarce job opportunities. They are one of the poorest groups, with 53 percent at risk of poverty. Most commonly faced barriers are no recent work experience, scarce job opportunities (88 percent) and low skills (56 percent).

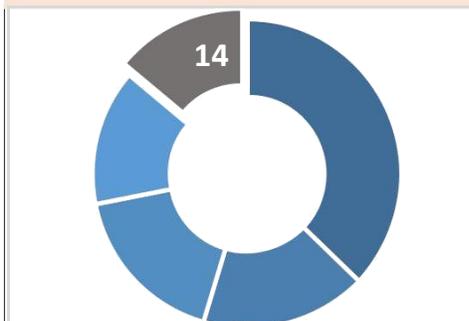
Group 4: Relatively educated unemployed youth with no recent work experience living mostly in urban areas (14 percent)



- 87 percent young (18-29)
- 72 percent unemployed, with 58 in long-term unemployment
- 61 percent male
- 79 percent are single
- 47 percent live with their parents
- 86 percent with upper secondary diploma or more
- 78 percent have no recent work experience (49 percent have never worked, 29 percent have worked before)
- 65 percent in urban areas
- Average number of barriers: 2.3

Group 4 consists mainly of young individuals (87 percent), both male (61 percent) and female (39 percent), with an average age of 27 years. They are mainly unemployed (72 percent), with 58 percent being in long-term unemployment. Most of them are single (79 percent) and a large percentage live with their parents (47 percent). Alongside Group 1 this group has the highest proportion of individuals with high- non labor income (29 percent), mostly due to the high share of those living with parents. Only 29 percent of them are at risk of poverty. They have the highest education levels among the five groups, with 86 percent having at least upper secondary education (15 percent have tertiary). Half of them have never had a job before, while another 29 percent has had a prior job but not within the last year. Ninety-one percent of individuals face scarce job opportunities.

Group 5: Low-educated long-term unemployed or inactive women with care responsibilities (14 percent of the target population)



- 29 percent young (18-29) and 63 percent prime-aged (30 to 55)
- 99 percent are females
- 58 percent unemployed, 26 percent in domestic tasks
- 67 percent has low education
- 58 percent in rural areas
- 54 percent are at risk of poverty
- 84 percent have no recent work experience (47 have worked in the past, and 37 have never worked before)
- Average number of barriers: 3

Group 5 is composed exclusively of women (99 percent) of middle age (63 percent) or young (29 percent), with an average age of 38. Compared to the five other groups, they have the highest share of individuals living in rural areas (58 percent). Fifty-one percent have children and 21 percent face care barriers (highest across all the groups). Most are unemployed (58 percent), many of them long-term unemployed (53 percent). A significant share is engaged in domestic tasks (26 percent). A high proportion has never worked before (37 percent), while some have worked but not in the previous year (47 percent). Individuals in this group face a high education barrier, with 67 percent reporting not having achieved upper secondary education. This is the poorest group, with 54 percent being at risk of poverty and 72 percent being within the first two quintiles of income distribution. Most commonly faced barriers are scarce job opportunities (100 percent), low skills (67 percent), no recent work experience (47 percent having worked before and 37 percent having never worked) and care responsibilities (21 percent).

5. Priority Groups in the Bulgarian Labor Market

Among the five identified groups in the out of work and marginally employed population (target population) in Bulgaria, three groups of out of work individuals — Group 3 (***Middle-aged long-term unemployed men with low education and no recent work experience***), Group 4 (***Relatively educated unemployed youth with no recent work experience living mostly in urban areas—NEETs***) and Group 5 (***Low-educated long-term unemployed or inactive women with care responsibilities***) have been identified as priority groups for activation and employment support policies (AESPs) and social inclusion. The selection of these groups is related to salient features and challenges of the Bulgarian labor market which include: a low labor force participation rate among women, a large percentage of youth who are neither in employment, education or training as well as a high unemployment rate among youth, and high long-term unemployment rates in particular amongst those with low skills and having no recent work experience. Prioritization of these groups also reflect the commitment to the EU strategy and the associated targets to reduce youth and long-term unemployment and improve the labor market participation of socially excluded groups. Together, these three groups represent 45 percent of the target population, or about 708,000 individuals (Table 4).

Group 1 (Retired mostly women living in (mostly) urban areas) and Group 2 (Middle-aged relatively educated (mostly) unemployed men living in urban areas) were not selected as priority groups. Group 1, which is the largest group and comprises 37 percent of the target population, is not considered a priority for activation because its members are predominantly retired. Even if not all have reached the statutory retirement age, their advanced age indicates that they have relatively few working years left and are also not likely to find employment, even if they do have high relative work experience and education. Group 2, representing 17 percent of the target population and comprising relatively educated mostly unemployed individuals was also not selected as a priority group. Although about 30 percent of this group is unemployed, another 28 percent is either retired or unfit for work and 21 percent employed at the time of the interview. The employment status of the group and their relatively low poverty status in relation to the priority groups, and male, urban, relatively educated composition make the other three groups a higher priority for activation and social inclusion. This does not imply, however, that activation and employment support policies should not address unemployment or inactivity among more urban, educated, male individuals.

In what follows, we take a closer look at the employment barriers faced by the prioritized groups, in addition to their socioeconomic characteristics, in order to provide more detailed profiles that can be used to design and prioritize AESPs that address the needs of these particular groups.

Groups 3 (Middle-aged long-term unemployed men with low education and no recent work experience) and 5 (Low-educated long-term unemployed or inactive women with care responsibilities) share challenges in some respects, but given their demographic and socioeconomic profiles, and labor market status, there are also very specific challenges to each group. For both of these groups, middle-aged long-term unemployed men and long-term unemployed or inactive women, the striking constraints are no recent work experience (and having never worked) and high risk of remaining unemployed (scarce job opportunities based on their location and socioeconomic characteristics). On the other hand, whereas a significant share of individuals (close to 40 percent) in group 5 have never worked in the past, only 13 percent of the individuals in group 3 have no previous work experience (61 percent, however, do not have recent work experience). Both groups have relatively low levels of education with 37 and 25 percent of individuals respectively having completed upper secondary education and 7 percent having completed tertiary, respectively. Another similarity is that individuals in both groups live in households where there is at least one working adult (in more than half of both groups). Within both groups, long-term unemployment is significant with 63 percent and 53 percent of the individuals having been unemployed 12 months or more. Significant shares of group 3 (42 percent) and 5 (34 percent) live in households with children below 6 years; care responsibilities are a barrier for some of these individuals. Over 40 percent of both groups live in households with children below 13 years of age where either none or only some of the children receive formal childcare. Both groups have a majority living in rural areas, 48 percent and 58 percent respectively for groups 3 and 5. Group 3 individuals are primarily unemployed (63 percent) with a small share working (23 percent) in possibly unstable or temporary jobs. On the other hand, among Group 5 women, there is a significant share (24 percent) who report not to work due to domestic responsibilities and a smaller share who report to be employed (15 percent), and inactivity is more salient (40 percent). Finally, over 50

percent of individuals in groups 3 and 5 are at risk of poverty. Therefore, even though, scarce job opportunities are a general constraint for these individuals, this should not be taken as the most binding one, and the focus should be on addressing the other constraints such as care responsibilities, lack of recent work experience, potential skills gaps (given the higher returns to higher education), and having been out of the labor market for long periods of time.

Group 4 NEETs (Relatively educated unemployed youth with no recent work experience living mostly in urban areas) are mostly men (61 percent) relatively educated with 86 percent having completed upper-secondary education and 15 percent having complete tertiary education. A majority (55 percent) belongs primarily to the poorest two quintiles and live with parents or have a working person in the household and about half receive social benefits suggesting that they are working, but relatively poor households. Most of the group 4 individuals (65 percent) are concentrated in densely and intermediately populated areas. In particular, these youths are on average 27 years old with many years of their productive life ahead of them whereby they can also contribute to the social security system. 29 percent of these long-term unemployed youth are at risk of poverty compared to 36 percent of the target population. Though this means that poverty is less prevalent in this group, at almost one-third, a significant proportion of this group is likely to be in need of supplementary temporary social assistance along with employment support.

A significant majority (79 percent) of group 4 is not married and is living with their parents (68 percent). Twenty-eight percent were indeed working at the time of the interview, though many are likely working in unstable and part-time jobs. Twenty-two percent of this group fell into either of these categories according to their self-reported activity throughout the reference period. The remaining 72 percent reported being either unemployed or inactive at the time of the interview, and only 44 percent reported to be actively searching for a job, which suggests that a significant share are discouraged or have constraints to access the labor market. Half of these individuals have never worked and another 29 percent has had a prior job, but not at the time of the interview or during the last six months of the reference period. This group has the highest share of individuals (25 percent) amongst all groups facing the high non-labor income barrier which suggests a disincentive for active job search.

Table 4. Employment barriers and socioeconomic and demographic characteristics of priority groups

| | | Group 3. Middle-aged long-term unemployed men with low education and no recent work experience | Group 4. Relatively educated unemployed youth with no recent work experience living mostly in urban areas | Group 5. Low- educated long- term unemployed or inactive women with care responsibilities | Target pop. | |
|--|--|---|--|--|--------------------|-------------------------|
| Group size | | | | | | |
| | Percent of target population | 17% | 14% | 14% | 100% | |
| | Thousands of individuals | 267 | 220 | 220 | 1,573 | |
| Employment barriers | | | | | | |
| <i>Capabilities barriers</i> | | | | | | |
| 1 - | Low education | 56% | 14% | 67% | 38% | |
| 2 - | Care responsibilities | 15% | 13% | 21% | 13% | |
| 3 - | Health limitations | 6% | 8% | 13% | 19% | |
| 5 - | No recent WE - Has worked in the past | 61% | 29% | 47% | 58% | |
| | No recent WE - Has never worked | 13% | 49% | 37% | 19% | |
| <i>Incentives barriers</i> | | | | | | |
| 6 - | High non-labor income | 11% | 25% | 11% | 18% | |
| 7 - | High earnings replacement (benefits) | 0% | 0% | 1% | 6% | |
| <i>Opportunities barrier</i> | | | | | | |
| 8 - | Scarce job opportunities | 88% | 91% | 100% | 47% | |
| Socioeconomic and demographic characteristics | | | | | | |
| | | Group 3. Middle-aged long-term unemployed men with low education and no recent work experience | Group 4. Relatively educated unemployed youth with no recent work experience living mostly in urban areas | Group 5. Low- educated long- term unemployed or inactive women with care responsibilities | Target pop. | Working-age pop. |
| <i>Women*</i> | | | | | | |
| | | 20% | 39% | 100% | 53% | 49% |
| <i>Children under 12 in household*</i> | | | | | | |
| | | 59% | 25% | 51% | 35% | 32% |
| <i>Age group*</i> | | | | | | |
| | Youth (18-29) | 41% | 87% | 29% | 23% | 18% |
| | Middle-aged (30-55) | 59% | 7% | 63% | 43% | 60% |
| | Older (56-64) | 0% | 6% | 8% | 33% | 22% |
| <i>Degree of urbanization</i> | | | | | | |
| | Densely populated | 31% | 39% | 21% | 35% | 45% |
| | Intermediate | 21% | 26% | 21% | 22% | 23% |
| | Thinly populated | 48% | 35% | 58% | 42% | 32% |
| <i>Region</i> | | | | | | |
| | Northern and Eastern Bulgaria | 56% | 53% | 52% | 54% | 50% |
| | South-Western and South-Central Bulgaria | 44% | 47% | 48% | 45% | 50% |
| <i>Out of work</i> | | | | | | |
| | | 73% | 78% | 83% | 77% | 28% |
| <i>Unstable jobs</i> | | | | | | |
| | | 21% | 20% | 12% | 18% | 7% |

| | Group 3. Middle-aged long-term unemployed men with low education and no recent work experience | Group 4. Relatively educated unemployed youth with no work experience living mostly in urban areas | Group 5. Low- educated long- term unemployed or inactive women with care responsibilities | Target pop. | Working- age pop. |
|--|---|---|--|------------------------|------------------------------|
| <i>Restricted hours</i> | 4% | 2% | 5% | 2% | 1% |
| <i>Near-zero income</i> | 1% | 0% | 0% | 1% | 1% |
| <i>Main activity during the reference period</i> | | | | | |
| <i>Employed full time</i> | 0% | 0% | 0% | 0% | 57% |
| <i>Employed part time</i> | 4% | 3% | 6% | 3% | 2% |
| <i>Self-employed full time</i> | 1% | 0% | 0% | 1% | 5% |
| <i>Self-employed part time</i> | 2% | 1% | 1% | 1% | 0% |
| <i>Unemployed</i> | 74% | 73% | 58% | 47% | 18% |
| <i>Retired</i> | 1% | 0% | 1% | 24% | 9% |
| <i>Unfit to work</i> | 4% | 4% | 5% | 8% | 3% |
| <i>Domestic tasks</i> | 10% | 12% | 26% | 12% | 4% |
| <i>Other inactive</i> | 4% | 7% | 2% | 3% | 1% |
| <i>Main activity at moment of interview</i> | | | | | |
| <i>Employed full time</i> | 13% | 13% | 6% | 11% | 59% |
| <i>Employed part time</i> | 4% | 3% | 7% | 4% | 2% |
| <i>Self-employed full time</i> | 3% | 1% | 1% | 2% | 6% |
| <i>Self-employed part time</i> | 2% | 1% | 1% | 1% | 0% |
| <i>Unemployed</i> | 63% | 63% | 52% | 38% | 16% |
| <i>Retired</i> | 1% | 0% | 1% | 23% | 9% |
| <i>Unfit to work</i> | 4% | 4% | 5% | 8% | 3% |
| <i>Domestic tasks</i> | 5% | 8% | 24% | 9% | 3% |
| <i>Other inactive</i> | 5% | 7% | 4% | 4% | 1% |
| <i>Student</i> | 0% | 1% | 0% | 0% | 0% |
| <i>Months in unemployment</i> | | | | | |
| <i>Zero months</i> | 20% | 22% | 39% | 48% | 76% |
| <i>Less than 12</i> | 16% | 20% | 8% | 13% | 11% |
| <i>12 or more</i> | 63% | 58% | 53% | 38% | 14% |
| <i>Actively searching for a job at time of interview</i> | 46% | 44% | 40% | 23% | 10% |
| <i>Live with parents</i> | 42% | 68% | 19% | 26% | 26% |
| <i>At risk of poverty (60% of median income)</i> | 53% | 29% | 54% | 36% | 18% |
| <i>At risk of poverty (40% of median income)</i> | 38% | 16% | 37% | 22% | 9% |
| <i>Severe material deprivation</i> | 72% | 60% | 74% | 60% | 42% |
| <i>Income quintile</i> | | | | | |
| <i>Poorest</i> | 53% | 27% | 53% | 35% | 17% |
| <i>2</i> | 20% | 28% | 19% | 23% | 17% |
| <i>3</i> | 12% | 20% | 14% | 18% | 20% |
| <i>4</i> | 10% | 15% | 10% | 13% | 22% |
| <i>Richest</i> | 5% | 10% | 4% | 11% | 24% |
| <i>Education level</i> | | | | | |
| <i>Primary or less</i> | 21% | 8% | 30% | 13% | 6% |
| <i>Lower secondary</i> | 35% | 7% | 37% | 25% | 15% |
| <i>Upper secondary</i> | 37% | 71% | 25% | 49% | 55% |
| <i>Post-secondary</i> | 0% | 0% | 0% | 0% | 1% |
| <i>Tertiary</i> | 7% | 15% | 7% | 12% | 23% |
| <i>Age groups (more disaggregated)</i> | | | | | |
| <i>18-19 years</i> | 3% | 13% | 3% | 3% | 1% |
| <i>20-24 years</i> | 15% | 37% | 12% | 9% | 7% |
| <i>25-29 years</i> | 24% | 38% | 14% | 11% | 10% |
| <i>30-34 years</i> | 12% | 2% | 12% | 9% | 11% |
| <i>35-44 years</i> | 25% | 2% | 27% | 16% | 24% |
| <i>45-54 years</i> | 19% | 2% | 23% | 16% | 22% |
| <i>55-59 years</i> | 2% | 3% | 5% | 11% | 12% |

| | Group 3. Middle-aged long-term unemployed men with low education and no recent work experience | Group 4. Relatively educated unemployed youth with no recent work experience living mostly in urban areas | Group 5. Low- educated long- term unemployed or inactive women with care responsibilities | Target pop. | Working- age pop. |
|---|---|--|--|------------------------|------------------------------|
| 60-64 years | 0% | 3% | 4% | 23% | 12% |
| Average age | 34 | 27 | 38 | 44 | 43 |
| Severe limitations in daily activities | 2% | 2% | 1% | 5% | 2% |
| At least one working adult in the household | 57% | 31% | 52% | 37% | 65% |
| Elderly in the household | 19% | 17% | 16% | 20% | 19% |
| Children under 6 in household | 42% | 20% | 34% | 22% | 18% |
| Children under 3 in household | 28% | 12% | 22% | 14% | 10% |
| Children under 13 in formal childcare | | | | | |
| None | 15% | 4% | 17% | 9% | 6% |
| Some | 26% | 11% | 24% | 18% | 21% |
| All | 18% | 9% | 10% | 8% | 6% |
| NA | 41% | 75% | 49% | 64% | 68% |
| Marital status | | | | | |
| Married | 45% | 19% | 54% | 52% | 59% |
| Never married | 47% | 79% | 38% | 32% | 29% |
| Divorced/separated/widow/er | 7% | 2% | 8% | 14% | 12% |
| Labor market status of spouse/partner | | | | | |
| Working | 30% | 17% | 40% | 32% | 44% |
| Unemployed | 20% | 8% | 26% | 13% | 10% |
| Retired | 1% | 0% | 4% | 11% | 6% |
| Unfit to work | 1% | 0% | 2% | 2% | 1% |
| Domestic tasks | 12% | 1% | 0% | 3% | 4% |
| Other inactive | 1% | 0% | 1% | 1% | 1% |
| No spouse/partner | 35% | 73% | 27% | 37% | 34% |
| Migrant | 0% | 1% | 3% | 1% | 1% |
| Receives family benefits | 57% | 31% | 52% | 37% | 33% |
| Average annual value** | 448 | 207 | 386 | 257 | 189 |
| Receives social exclusion benefits | 14% | 6% | 16% | 9% | 5% |
| Average annual value** | 53 | 25 | 45 | 29 | 13 |
| Receives unemployment benefits | 11% | 6% | 8% | 9% | 8% |
| Average annual value** | | 131 | 100 | 130 | 120 |
| Receives old-age benefits | 0% | 1% | 1% | 19% | 8% |
| Average annual value** | | 439 | 402 | 826 | 630 |
| Receives survivor benefits | 1% | 1% | 1% | 5% | 3% |
| Average annual value** | 93 | | 136 | 214 | 181 |
| Receives sickness benefits | 6% | 5% | 5% | 6% | 17% |
| Average annual value** | 69 | | 107 | 75 | 107 |
| Receives disability benefits | 6% | 8% | 6% | 12% | 7% |
| Average annual value** | | 171 | 177 | 242 | 186 |
| Receives any social benefits | 67% | 47% | 65% | 71% | 61% |
| Average annual household income from: ** | | | | | |
| Labor | | 3,820 | 5,792 | 4,254 | 7,610 |
| Other | | 367 | 374 | 366 | 313 |
| Benefits | | 1,408 | 1,159 | 1,776 | 1,432 |
| Average annual equivalized household income** | | 2,000 | 2,682 | 2,612 | 3,782 |

Notes: Color shadings identify categories with high (darker) frequencies. See Box 3 for a brief explanation of the indicators. Only categories depicting barriers to employment are included; complementary categories are omitted. Income quintiles are for the entire population. Months in unemployment refers to the reference period.

*Included in the LCA model as active covariates.

** Only includes non-zero observations. Values are in euros.

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

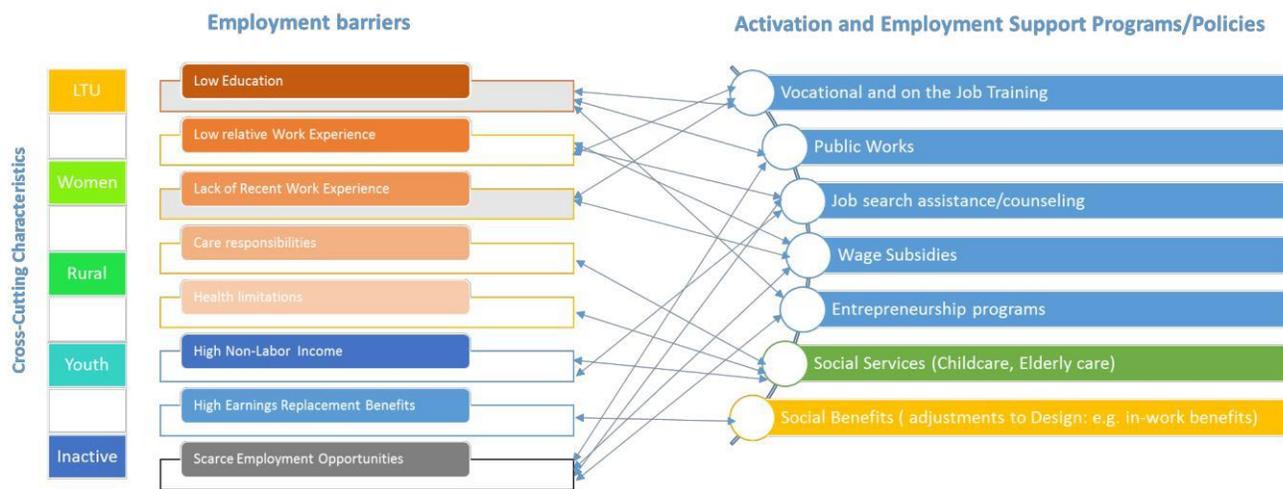
6. Policies and Programs Targeting Priority Groups

6.1 Framework and approach

In this section, we review the activation and employment support programs and policies (AESPs) relevant for the identified priority groups, paying particular attention to programs congruent with the identified employment barriers. More specifically, based on the organizing framework presented in Figure 15, we review programs that address — either solely or in combination with other programs — work-related capability barriers (skills and care responsibilities), and to the extent possible assess whether or not existing programs have adverse incentives on work (incentive barriers). In addition, we consider whether existing programs address the needs of the relevant cross-cutting groups such as youth, women, long-term unemployed, and those living in rural areas.

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

Figure 15. Organizing framework for policy analysis



The capacity and adequacy of existing menu of services/programs are analyzed next. First, a broad overview of existing AESPs and the policy environment is presented, followed by further details on Active Labor Market Programs and their broad capacity and adequacy. Contrasting with the needs of the selected priority groups based on their barriers, the capacity and adequacy of existing services to deliver the right package of support to help them find employment are explored. This allows for assessment of any gaps and indicate potential policy directions.

6.2 Overview of activation and employment support programs and policies

6.2.1 Institutional and policy context

Overall, a range of activation and employment support programs and policies exist in Bulgaria, but suffer from program and institutional fragmentation. The main programs and policies examined include: (i) social benefits (cash and in kind); (ii) social services; and (iii) employment support: passive and active labor market measures, with particular focus on the employment support programs. Bulgaria has policies and programs in place in all three domains: while several reforms have been aiming to support vulnerable groups, fragmentation in all three dimensions persists, with resulting gaps in the coordination of services.

Bulgaria has a mature social assistance system consisting of a variety of different programs. Social assistance and employment services in Bulgaria comprises three broad categories: (i) Categorical and means tested non-contributory social transfers including family allowances (child benefits, maternity leave), heating allowances, social pensions for the elderly, disability benefits, and the last-resort social assistance program, the Guaranteed Minimum Income (GMI)¹; (ii) a wide range of social services mostly at local level under the social services in the community approach¹², child services under the State Agency for Child Protection, and specialized institutions (including homes for disadvantaged children, homes for elderly handicapped persons and homes for old persons); and (iii) employment services to support unemployed and inactive population, through the Public Employment Services (PES). A number of long-term unemployed are social assistance recipients. Usually, beneficiaries move between PES and the Agency for Social Assistance (ASA) safety nets in different periods of their working life. Social services are provided by municipalities (delegated services) and in some cases outsourced to non-governmental organizations contracted by municipalities. In other cases, some services are funded by other sources (e.g. European Union funds) and therefore have a defined timeframe after which the government needs to decide whether those services would be included as part of the delegated services under responsibility of municipalities.

Bulgaria's social safety net system is – itself – quite fragmented and ineffective. Bulgaria provides non-contributory assistance to about 40 percent of its citizens via several programs,

¹² Including, among others, (i) Case management for children and needs assessment; (ii) Community-based social services, such as, care centers (for children, elderly and people with disabilities), centers for social rehabilitation and integration, social and education centers, and so forth, and (iii) community-based social services of residential type, including Family-type accommodation center, temporary accommodation center, crisis center, sheltered homes for people with mental illness, and so forth (Source: Ministry of Labor and Social Policy website).

¹ It is important to note that the GMI has not been updated since 2009; therefore, it provides very limited of support and outreach to the inactive population.

including four major program types: (i) a means- and asset-tested last-resort GMI scheme; (ii) a means-tested heating allowance; (iii) a means-tested monthly child allowance and smaller categorical programs for families; and (iv) social pensions for old age and disability. The analysis of 2013 data (BLISS) reveals that the social safety nets cover around 60 percent of the Bulgarian households in the bottom 20 percent of the income distribution. Moreover, the poverty impact of Bulgaria's social safety net system is fairly limited: in 2013, all social safety net programs combined reduced poverty and income inequality in Bulgaria by only 3 percentage points (The World Bank, 2015). Some recent measures (such as the option to apply for GMI irrespective of residence, a new benefit for children with disabilities, or increased heating benefits) have been aimed at benefit adequacy, but have fallen short of improving safety nets overall. In addition, the 14 day per month unpaid work requirement attached to the GMI program does not provide a pathway to exiting social assistance and sustainable long term employment.¹³

Service delivery is also fragmented. Bulgaria has developed a range of social, health and education services to address the demand of vulnerable groups, but there is still a gap between the emerging needs posed by the demographic transition and the available supply of services. Support for vulnerable groups is mostly provided at the municipal level following an approach based on two levels of services. The first level is founded by social workers focused mostly on needs assessments and case management for children (including referral). The second level is the provision of social and employment services, health and education and other essential services. Despite significant progress in supporting vulnerable groups and individuals – such as the results achieved under the action plan for deinstitutionalization of children – the existing approach of service provision requires flexibility and closely integrated approaches to address the increasingly complex emerging needs of these groups, so as to avoid a growing gap between supply and demand¹⁴.

Regulatory and administrative environment prevents a more flexible and integrated approach of essential services delivery. Contracting out providers of services to non-governmental organizations lacks adequate regulation and application of quality standards. Furthermore, budgetary allocation and financial arrangements to fund essential services create additional barriers preventing integration not only between services under the responsibility of different Ministries (social services, health and education), but also among social and employment services within the realm of the Ministry of Labor and Social Policy.

Bulgaria is pursuing an ambitious agenda of service improvement. According to a recent government report a key element to support vulnerable groups in Bulgaria is ensuring the provision of accessible, quality and effective services, creating the need for applying an integrated approach to pool resources from individual public services providers and coordinate institutions at all levels¹⁵. Bulgaria is in the process of modernizing essential services provision in which enhancing access and providing a more integrated and flexible approach to address emerging complex needs is part of the agenda. Led by the Ministry of Labor and Social Policy, the Government of Bulgaria is preparing a new Social Services Act to modernize social services provision with the objective of clarifying the status and scope of social services as a key instrument for promoting social inclusion. Modernizing the provision of essential services involves enhancing access of vulnerable and targeted groups, improving an integrated approach to offer the necessary combination of services those groups require, defining adequate coordination mechanisms at central and subnational level of government,

¹³ GMI beneficiaries are obliged to participate in a public work program run by municipalities.

¹⁴ Based on ongoing consultations between the World Bank and Government of Bulgaria on improving access to essential services.

¹⁵ Republic of Bulgaria (2014) "National Social Report of the Republic of Bulgaria 2013-14" and "2015 Strategic Social Reporting Questionnaire –Bulgaria"

improving quality and adequacy of services, and introducing sustainable financing options (World Bank, ongoing).

For the time being, fragmentation of agencies remains to be a challenge for the delivery of benefits and labor market services. Cooperation between the labor offices – with the exception of the newly established integrated employment and social assistance offices – the Social Assistance directorates and municipalities remains to be focused mostly on administrative functions rather than labor market inclusion. Beneficiary data is not automatically shared across agencies as data is collected separately at social assistance centers and employment offices, and is made available at the time of referral. While outsourcing and subcontracting of specific services for target groups has so far been underdeveloped in the Bulgarian labor market service space, the presence of non-governmental organizations (NGOs) in the labor market has been gradually strengthening through the use of EU funds.

In 2017, the policy and program landscape in active labor market measures appears to be rich – but also highly fragmented. The National Agency for Employment (NAE) reports to have 46 active measures targeting several groups: unemployed youth (under 29), long-term unemployed individuals over 50, unskilled individuals, individuals with disabilities, the inactive, as well as a variety of other programs implemented by the agency, and delivered through a combination of public and private channels. Many programs appear to have overlapping eligibility criteria (such as overlapping target groups among demand-side measures targeting youth) that likely lead to program inefficiencies. There are some programs targeting “niche” groups such as unemployed individuals with an approved business plan, or unemployed single and / or adoptive parents. Although available, the historically low participation rates of training measures remain a concern (See Box 4. for details).

Employment promotion measures are implemented in a centralized manner. In spite of the availability of tools for regional level planning with the participation of mayors and municipalities, measures are implemented under centralized programs by central government units. There have been recent attempts to ensure a wider coverage of active programs and measures – particularly on job creation, vocational training and qualifications and entrepreneurship – rather than on benefits. The planning of employment promotion programs has been accompanied by a consultation mechanism aimed at identifying regional needs (a mechanism has been set up to ensure communication between the central, regional and local levels), but its effectiveness has not been analyzed.

Promoting job creation has received particular attention across labor market programs. In 2014, approximately 74 percent of ALMP spending was targeting direct job creation measures (European Commission, 2017). In 2017, the bulk of measures managed by the NAE continues to be related to various provisions of the Encouraging Employment Act or programs managed by chambers of commerce, industrial associations and trade unions. There are a variety of regional programs available, although it is currently unclear whether these focus more on jobseekers or employers. While the overall number of programs is high – suggesting good availability of opportunities for unemployed individuals – data about their availability during the year is currently unavailable; therefore, it is unclear how wide the coverage of these programs are and whether they are sufficient to meet the demand.

Despite availability of a variety of ALMPs, the majority of measures do not appear to address complex needs. For instance, the majority of employment promotion measures are limited to targeting the registered unemployed (although recent programs such as the „Activation of Inactive Persons” and „Ready for Work” efforts are geared towards the inactive). Conversely, the number and availability of programs targeting complex needs appears to be limited. Moreover, measures targeting the inactive appear to insufficiently tackle underlying causes of inactivity (such as health or family circumstances) as well as structural issues in the labor market (such as low wages, skills mismatches

or the need for mobility²). The lack of institutional coordination further hampers the effectiveness of measures: for example, subsidized employment measures targeting the disabled or vocational rehabilitation programs are being developed without coordination or alignment with other social services for the disabled.

Box 4. Participation in skills trainings in Bulgaria

As of 2013, the participation in skills trainings was very low in Bulgaria, with only 7 percent of Bulgarians aged 18-65 reported participating in any skills trainings to improve their skills in the previous 12 months (The World Bank, 2015). At 8.5 percent, participation was slightly higher than the average for those employed, while only 6.5 percent of unemployed reported to have utilized any training to improve their skills. The inactive population of Bulgaria is significantly less likely to participate in a training program: only 1.6 percent reported having done so in 2013. Bulgarian Roma have also reported a very low participation rate, with 5 percent of those employed and 0.6 percent of the unemployed answering that they had taken training to improve their skills in the last 12 months.

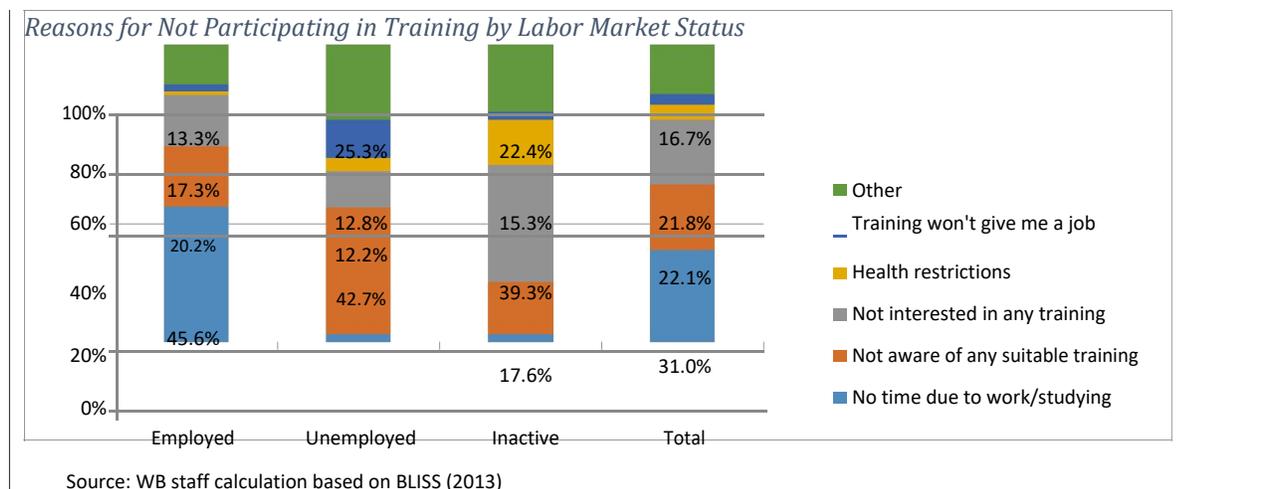
Women and younger adults were more likely to have participated in training. In 2013, 7.2 percent of women answered that they had participated in any training in the past 12 months while only 4.4 percent of men did so. With respect to the utilization of training across age groups, the younger cohorts are more likely to have participated — 8.3 percent of those aged 15-29 and 7.8 percent of those 30-49 years old declared to have been involved in training—, whereas only 4 percent of those aged 50 or older attended skills training in 2013. Furthermore, of those that participated in training, 23 percent were youth (aged 15-29), almost 50 percent were between 30 and 49 years old, while 28 percent were older than 50.

The Public Employment Service is most cited by the out of work population as the provider of training; the employed are most likely to receive training through their employer. Over 70 percent of the unemployed and inactive answered that the PES provided the training course they participated in, while only a quarter of those employed reported that the PES was the provider. On the other hand, 46 percent of those that participated in a training and were employed obtained it from their employer, whereas 18 percent took a training course offered by a private firm. Lastly, 7 percent of the employed and 10 percent of the inactive mentioned university and vocational schools as the provider of the training course in which they participated.

Most of the training participants wanted to increase skills in their current specialization, either to advance in their current job or to get a new job. Two thirds of the employed and nearly a quarter of the unemployed answered that they participated to increase skills in their current specialization to advance in their current job. Around half of the unemployed and inactive participants, and only 10 percent of the employed, stated that it was to get a new job. Interestingly, around a quarter of the unemployed and a third of the inactive did so to get skills in a new specialization.

The reasons for not participating in training vary with labor market status. While for the employed the most cited reason is time constraints (46 percent), the unemployed mostly answered that they were not aware of suitable training options (43 percent) or that training would not give them a job (13 percent). On the other hand, the most cited reason for the inactive population was not being interested in any training, although health restrictions appear also as a salient reason not to participate in training.

² To promote the mobility of jobseekers, a new mobility measure has been launched in the form of a small grant to cover expenses for accommodation, kindergarten fees and Internet. This program has been implemented since 2016.



Source: The World Bank (2015)

The lack of program-level data makes it difficult to assess the effectiveness of programs in 2017. Several programs report having repeat participants, providing employment to a relatively small number of registered jobseekers with low activation potential. The effect of subsidized employment measures seems to be limited to the duration of subsidized employment: at the end of the subsidized employment, beneficiaries often rejoin the ranks of the registered unemployed. Often, the measures and actions implemented by the labor offices have limited impact due to the lack of genuine employment opportunities in some of the regions, which turns employment programs into the exclusive source of job opportunities.

A major effort towards addressing system fragmentation issues is the recent introduction of a case management approach in employment service delivery. Case management is provided by territorial units of the Employment Agency – the Employment Office Directorates (EOD) as part of their activities as employment intermediaries¹⁶ and in implementing national programs for employment support for various disadvantaged groups on the labor market, to further the objectives of the European Employment Strategy and the EU Youth Guarantee. Case management in the employment system is designed for a wide range of persons seeking employment and inactive persons: young people below 29, not studying or working; long-term unemployed; people above 50; people with disabilities; not economically active persons and discouraged workers (who are not employed and have not registered with an EOD); and members of the Bulgarian Roma community. Case management was introduced as a support method in the *Activating the Inactive Persons* program¹⁷ and is part of the activities of employment intermediaries working in the field – youth mediators, Roma mediators and case managers (see Box 5).

¹⁶ Rules of Procedure of the Employment Agency, art.25, p.29-30, <https://www.az.government.bg/pages/direkcii-biura-po-truda>

¹⁷ National Program “Activating the inactive persons”, adopted with an Ordinance of the Minister of Labor and Social Policy no. PД01/396 of 25.04.2008, amended by ordinances of the Minister of Labor and Social Policy no. PД01-13 of 12.01.2010, no. PД01-26 of 19.01.2011, and no. PД01-38 of 18.10.2012, no. PД01-4 of 03.01.2014 and no. PД01-948 of 30.12.2014.

Box 5: The case management approach in Bulgarian employment services

A *youth mediator* works actively among young people – in community centers and libraries, (internet) clubs, coffee shops, shopping malls, cinemas, etc.. The mediator works on his own or jointly with EOD staff, NGOs, youth volunteer organizations, local authorities, schools and employers in order to identify individuals under 29 who do not work or study and are not registered with an EOD, or are inactive. They work directly with young people to seek and find jobs, assist in employment inclusion and training (providing help with the writing and editing of resumes, various job-hunting techniques, appropriate choice of training, etc.).

The objective of a *Roma mediator's* work is to shorten the period of inactivity of unemployed Roma and through providing motivation to seek employment and work, study, improve skills and to register with an EOD. A Roma mediator operates in Roma communities by organizing formal and informal meetings with the target group. They organize awareness-raising campaigns, hold informal workshops on job-seeking, application preparation and interviews with employers; identify inactive or discouraged persons through informal meetings; provide individual support as well as practical guidance for job search.

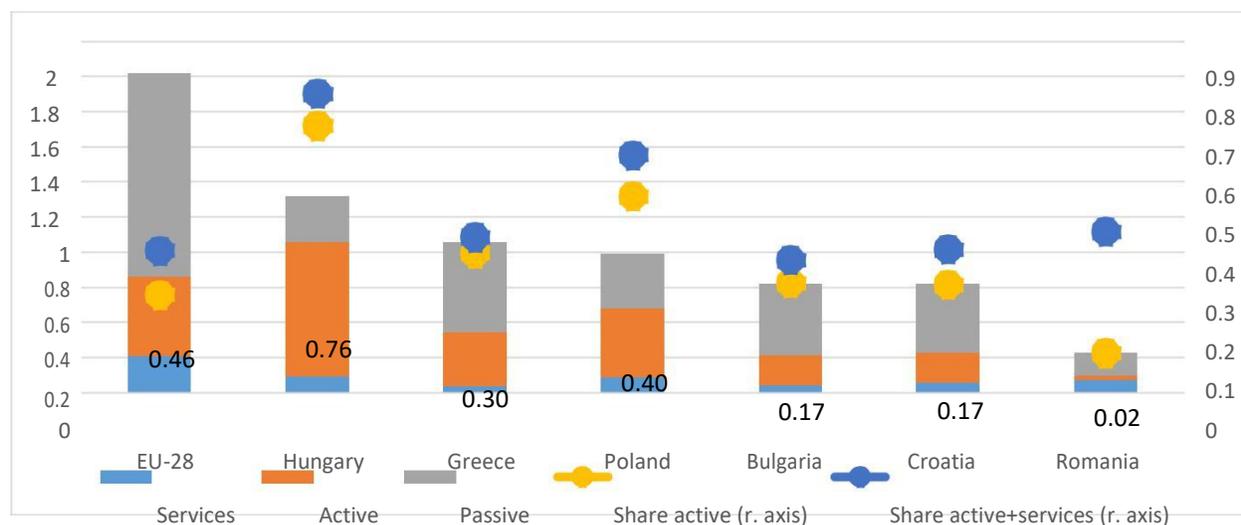
A *case manager* delivers a package of information, diagnostic, consulting and intermediation activities through exploring the needs and potential of the unemployed persons, identifying the challenges related to their employment and social integration, and referring them to social, health, education and training services. The case manager provides information about available jobs and/or employment and training programs and measures; mediating between unemployed and service providers, and between unemployed and prospective employers, and consulting through individual action plans, portraits, profiles, diagnostic and performance analysis for the unemployed to enable them to apply for job vacancies, enroll in group counselling, employment agencies and job-hunting workshops.

Another important measure towards addressing system fragmentation issues is the recent introduction of integrated centers for employment and social assistance. As of early 2017, co-located services were introduced in 65 integrated employment and social assistance centers, with the objective to move towards work process integration and joint case management. While the introduction of some aspects of integrated case management are already underway in these centers (for example, services offered to address family related constraints for vulnerable jobseekers), key aspects of service integration (such as the integration or harmonization of data systems) remains unresolved.

6.2.2 Overview of ALMP programs

Spending on labor market policies is relatively low and highly skewed toward passive measures. In 2014, only 0.62 percent of GDP was dedicated to LMPs, representing one-third of the average EU28 spending of 1.8 percent. Most of LMP spending is directed towards passive measures, i.e. the provision of unemployment benefits, amounting to 0.41 percent of GDP. Spending on services is also very low (0.04 percent of GDP), compared with EU28 average (0.2 percent). The expenditure dedicated to active labor market policies is one of the lowest of the countries under study (equal to that in Croatia) and much lower than the EU28 average (0.17 percent versus 0.46 percent) (**Figure 16**).

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

Labor market services represent 5.6 percent of total labor market policies spending in Bulgaria (Figure 17). These spending covers the administrative cost of public employment services, for providing information on vacancies and available measures and programs, delivering information on prequalification, commuting, working abroad, psychological support, professional orientation, as well as placement in programs and measures. The share of spending on services within total labor market spending can serve as a proxy for the resources available to PES for intermediation and to place jobseekers to programs. In Bulgaria, spending on services is equivalent to only one sixth of total ALMP spending. Countries with well-functioning PES delivery system (such as Denmark and the Netherlands), dedicate a much larger proportion of spending toward the PES (above 50 percent), while the average spending on services is 45 percent of the average ALMP spending in EU28.

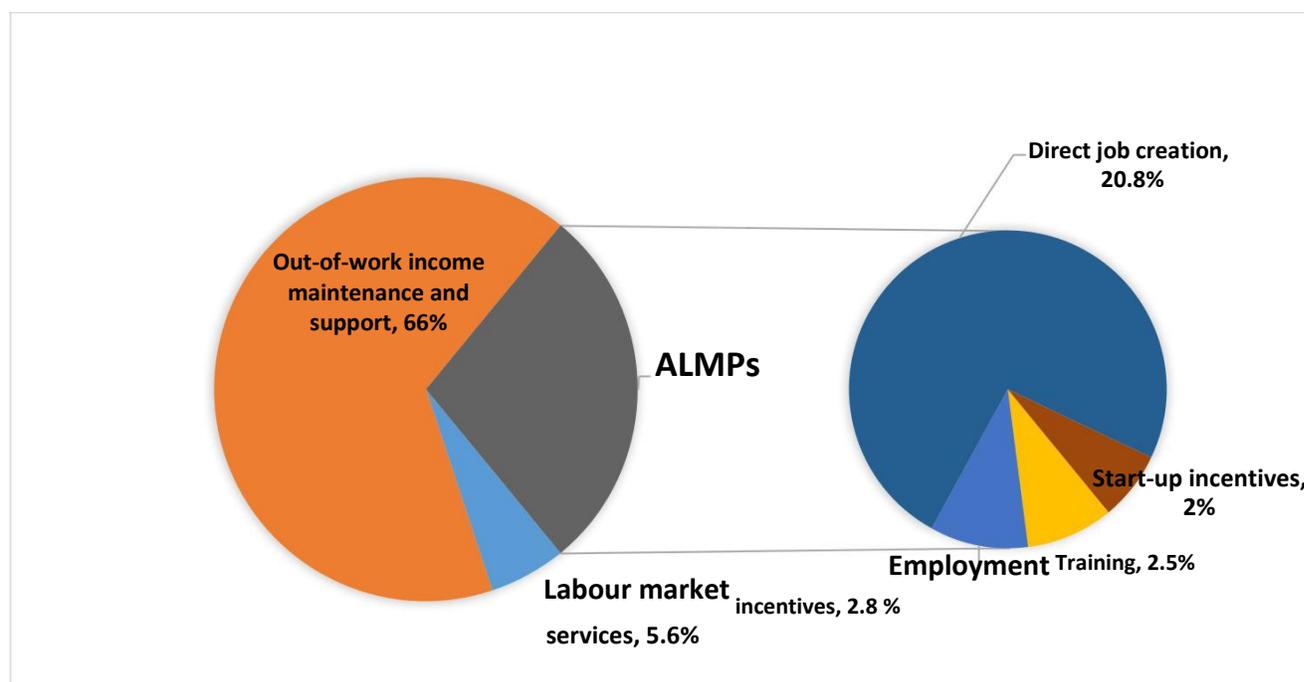
Bulgaria is among the EU countries that spent the least on the provision of activation measures, with ALMP spending representing 0.17 percent of GDP and 28 percent of total labor market expenditure. Some countries with lower unemployment dedicate a larger share of their total labor market expenditure than the 28 percent in Bulgaria (e.g. the share of ALMPs in total labor market spending amounts for 50 percent in Poland and 68 percent in Hungary while unemployment rates are about 2 percentage points lower than the 9 percent in Bulgaria). The level of spending dedicated to ALMPs seems inadequate to properly activate the priority groups.

Most labor market policy spending goes to passive measures (66 percent). These expenses consist mainly of unemployment benefits, which represent 0.41 percent of GDP. Compared with other EU countries, unemployment benefits are not overly generous and are offered for a limited duration. Interestingly, unemployment benefits are available to those who are part time workers as

2014 for about 1 million of LCU (representing about 0.001 percent of GDP) and covered only 1,191 beneficiaries.

Spending on active labor market policies is mostly dedicated to direct job creation measures. From the 28 percent of total labor market policies dedicated to activation, 20.8 percent goes to direct job creation, mainly public works. The rest of ALMPs spending is spread across employment incentives (2.8 percent of total LMP), training programs (2.5 percent) and start-up incentives (2 percent) (**Figure 17**). There is currently no active labor market program in the Eurostat ‘Supported employment and rehabilitation’ category, which usually focuses on employment support for disabled.

Figure 17. Detailed Composition of Labor Market Programs, in percent of total labor market expenditure 2014



Source: Eurostat.

Note: Categories used are based on Eurostat definitions

Box 6. Active Labor Market Programs in Bulgaria

ALMPs aim to build capacity, provide work experience, and incentivize or create employment.

ALMPs can be further classified into five categories: *employment incentives, supported employment and rehabilitation, direct job creation, start-up incentives, and training.*

The main ALMP programs according to each ALMP category in Bulgaria are the following:

1. **Direct job creation:** This is the largest category of ALMP, representing 74 percent of all ALMP spending. There are 24 job creation programs/components of mixed ALMPs. Out of the 24 job creation programs, 13 programs also entail other activation component, mainly training programs.

The five major job creation programs are: 1. Employment support (35 percent of ALMP spending), 2. Welfare to work (14 percent), 3. Assistance for people with disabilities (6 percent) and the first job program (4 percent) and 5. Employment in public administration for young people with university degrees (3.4 percent).

Employment support program is a new (from 2012) subsidized employment program focusing on job creation for registered long-term unemployed and those with low skills, for a period of 6 to 12 months. It is supported by the European Social Fund.

Welfare to work has the objective to activate beneficiaries of the Guaranteed Minimum Income (GMI) scheme (last resort program). Labor offices cover the full-time cost of the job for a maximum of 3 years, and financing come from the state budget. A training component is associated to the program, but information on training beneficiaries is not available.

Assistance to people with disabilities is a state financed program focusing on long-term unemployed who have permanent disabilities or illness. All cost related to their employment are covered for a period of maximum 3 years. A training component is also available.

First job program provide incentive to employers to hire young unemployed (below 29 years old). It also provides grants to youth and encompass a training component. It is funded by the Structural Funds and the Cohesion Fund of the European Union.

Employment in public administration for young people with university degrees is a state financed public work program that aims to hire, in public administration, young unemployed (up to 29) with university degree. The program covers to cost related to the employment of the young unemployed for a period of 9 months.

There is another program that focuses on youth (Creation of youth employment through their lasting inclusion), but it has experienced an important drop in spending from 2013 to 2014 (from 26 million to 0.5 million in 2014) and has therefore been marginal in recent years.

2. **Employment incentives:** There are about 17 employment incentives programs, representing 10 percent of total ALMP spending. The main programs are the Program for training and employment of disabled persons (5.3 percent) and Incentives for employers to hire unemployed people aged under 29 (1.9 percent).

Program for training and employment of disabled persons is a mixed program that entails a training component. The employment part provides employers with an annual grant that cover the cost of hiring an unemployed disabled. This is a state financed program.

Incentives for employers to hire unemployed people aged under 29 covers: (i) social security contributions for the hire of someone under 29 (ii) the cost of remuneration for the hire of a young unemployed with deteriorated work-ability or young from a social care facility. The subsidy is for maximum 12 months and employers must maintain the opened jobs for period equal to the period of subsidized employment.

3. **Start-up incentives:** in 2015, there are three actives start-up incentives programs, representing 6.9 percent of ALMP spending and 0.012 percent of GDP. The main program is the 'Encouragement for developing own business activities projects' (6.9 percent of ALMP spending), while two other small program account for less than 1 percent of total ALMP spending ('Entrepreneurship promotion for people with reduced capacity' and 'Entrepreneurship promotion').

Encouragement for developing own business activities projects aim to provide incentives to unemployed to start self-dependent economic activities. It entails three components, i.e. voucher for training on entrepreneurship, grant to start the project and

provide advisory business services. The program is co-financed by the Structural Funds and the Cohesion Fund of the European Union.

4. **Training:** there exists a wide range of training programs (more than 30), who are mainly sub-component of other ALMPs. In 2014, data was available for 12 programs, which represent 8 percent of ALMP spending and 0.016 percent of GDP. The two largest programs are Qualification and motivation for the inclusion of a competitive labor market (2.7 percent of ALMP spending) and Enhancing employment opportunities for unemployed through quality professional training (1.9 percent)

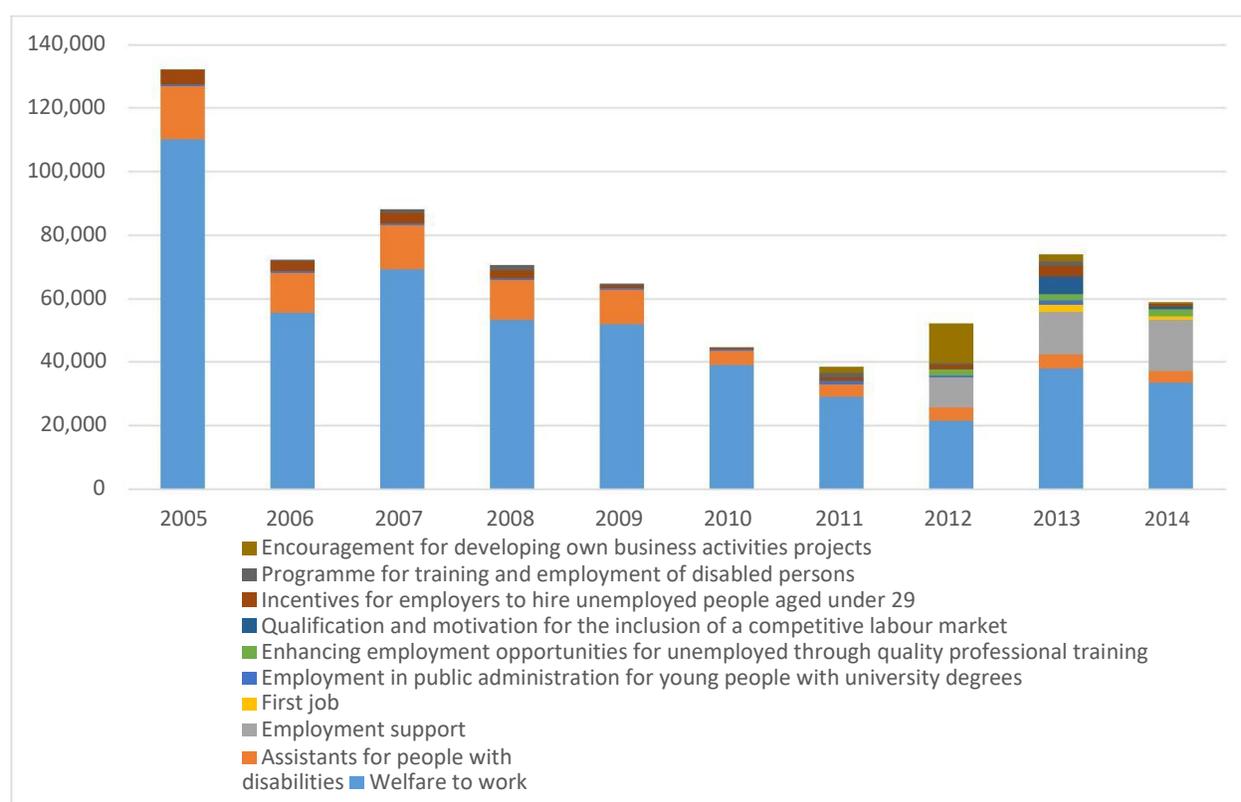
Qualification and motivation for the inclusion of a competitive labor market provide training to registered unemployed i.e. to acquire skills in key competencies (according to the European Reference Framework) and to provide motivational training to help develop professional development. The program started in 2013 and is co-financed by the Structural Funds and the Cohesion Fund of the European Union.

Enhancing employment opportunities for unemployed through quality professional training is a vocational training program, focusing on unemployed with the following characteristics: younger than 29 years old, those over 50, inactive people who want to work, unemployed with low education and no qualification, including Roma. The program started in 2012 and is State financed.

Source: Based on Eurostat LMP database

The number of ALMP beneficiaries has largely decreased since the crisis. The decrease in ALMP beneficiaries is mainly due to the drop in the job creation program 'Welfare to work'. The other important job creation program 'assistance for people with disabilities' also shows a decrease in beneficiaries over time. In 2013, the number of beneficiaries peaked with the newly introduced job creation program 'employment support', but decreased again in 2014 (Figure 18).

Figure 18. Number of beneficiaries (entrants) of selected ALMPs



Source: Eurostat.

Active labor market policies do not appropriately cover youth, while female participation is on par with male participation. Even if recent programs have a special focus on youth (e.g. Employment in public administration for young people with university degrees and first job programs, as defined in Box 2), coverage of youth under 25 years of age remains inadequate. While most of ALMP spending is allocated to direct job creation programs, only 10.7 percent of beneficiaries are under 25. Youth coverage is larger for training and employment incentives programs (20.7 and 10.7 percent respectively), but still remains low in view of the high unemployment rate among this age cohort. Female participation in ALMPs slightly varies with program type, but is broadly in line with male participation.

Table 5. Youth and female ALMPs beneficiaries, as percent of total ALMP beneficiaries (2014)

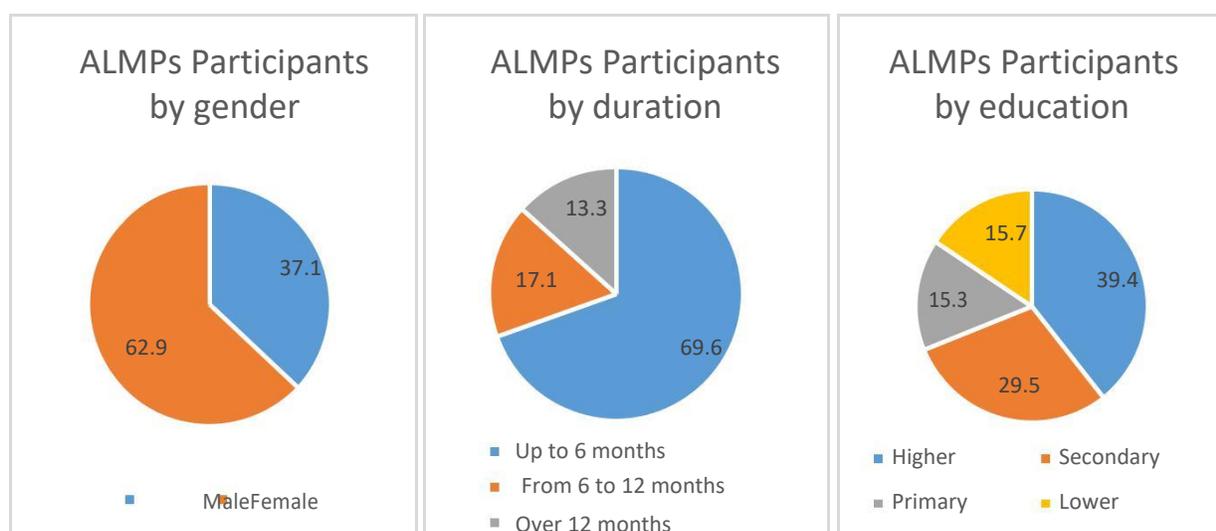
| | % youth (under 25) | % women |
|------------------------------|--------------------|---------|
| Training | 20.7 | 62.9 |
| Employment incentives | 29.3 | 57.2 |
| Direct job creation | 10.7 | 52.0 |
| Start-up incentives | 3.3 | 49.0 |

Source: Eurostat.

Note: Categories used are based on Eurostat definitions

Administrative data (2017) on beneficiaries of the six main ALMPs reveals some shifts in ALMP programming with a stronger focus on women, the unemployed, youth and relatively well educated.¹⁸ Most ALMP beneficiaries were women (62.9 percent) and those who have been unemployed for less than 6 months (69.6 percent). Only 13.3 percent of ALMP beneficiaries are long-term unemployed. In addition, the current mix of ALMPs poorly targets those with low education (primary and less, with 15.3 and 15.7 percent respectively) and slightly better those with secondary education (29.5 percent with secondary education) (Figure 19).

Figure 19. Profile of ALMPs beneficiaries, in percent of ALMPs beneficiaries (2017)



Source: National Agency for Employment

Note: Data is available for the largest subsidized employment programs in 2017

Recent evaluations suggest that existing programs are not very effective in terms of employment outcomes. A recently completed evaluation (December 2016) on five of the largest active labor market programs revealed that between 13 to 45 percent of the beneficiaries of the programs kept their jobs after the interventions with the same employer.¹⁹ This rate of employment retention indicates that there is ample room to adjust the design of the ALMPs to target them better and improve other design parameters including combining several incentives for employers and jobseekers with effective job search assistance and counseling.

¹⁸ These include: Assistance for People with Disabilities, Career Start, National Program “Melpomena”, Training and Employment of Young People, Training and Employment, and Youth Employment

¹⁹ The evaluation was commissioned by the Ministry of Labor and Social Protection and is not publicly available. Some of the findings were shared with the team during in-country consultations in April 2017. The evaluated programs include youth internship program, first job program, support for employment of vulnerable groups, vocational training program for vulnerable groups and mediation services for youth. These programs do not fully correspond to Eurostat categories.

6.3 Activation and employment support policies vis-à-vis priority groups needs

This section reviews the main barriers by group and their consequent needs and links the latter with available policies in order to evaluate potential gaps. The previous section illustrated how the barriers are interconnected with the groups' characteristics. In other words, addressing the same barrier may require a different set of activation policies according to the characteristics of the identified priority group. For example, while low relative work experience may be an employment barrier faced by two different groups, it would 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. This section focuses on identifying the needs²⁰ and corresponding policies for the three priority groups selected.

The existing programs/policies do not appear to be adequately capturing the three priority groups or addressing their potentially simultaneous constraints. While a range of activation and employment support policies and programs are available, they are fragmented with limited coverage and coordination, and do not appear to have adequate capacity to address the needs of the selected priority groups in (re)integration to labor market. These constraints relate to their work experience (in particular lack of recent work experience), education levels, opportunity to access jobs (closely linked to where they reside) and in some cases care responsibilities. The institutional capacity constraints limit adequate coverage even if it is assumed that appropriate programs/services exist, with adequate information, service levels, and affordability. This assumption is probably not in line with the reality on the ground.

Group 3 is made up of middle-aged long-term unemployed men with low education and low relative work experience. The most significant barrier among this group is scarce job opportunities, given their socioeconomic characteristics and geographical distribution. Second, 74 percent have no recent work experience, though it must be noted that only 13 percent have no previous work experience; perhaps placing them at a relative advantage vis-à-vis those who have never worked before.

²⁰ The main barriers are those (i) with a probability of occurrence higher than 50 in each group, (ii) with a probability of occurrence of 10 percentage point higher than for the target population.

**Group 3: Middle-aged Long-term Unemployed Men with Low Education and low relative work experience—
Employment Barriers and Necessary Activation and Employment Support Programs**



The low education status of this group, together with long-term unemployment or lack of recent work experience, implies a need for *acquiring relevant skills and gaining work experience*. Skills training, combined with wage subsidies, would prove useful for this group.

Participation in skills training (representing less than 8 percent of total ALMPs spending) is low in Bulgaria, especially among older individuals, men, and those who are long-term unemployed. Training programs, especially those that respond to the needs of employers can be effective if targeted to those lacking skills and if combined with practical training, mirroring a real job and workplace environment (European Commission, 2015). Similarly, recent evidence from the United States indicates that sectoral training (i.e. focusing on training workers for jobs in particular industries in partnership with employers) may have positive impacts for disadvantaged groups (Hendra et al., 2016) (though it must be noted that these programs could be more complex to implement and the degree of diligence in analyzing demand is crucial to identify the relevant industries).

In Bulgaria, direct job creation (welfare to work) and employment subsidies have the largest coverage, on the other hand, international evidence shows that many beneficiaries of such programs return to unemployment once the subsidized period ends. International evidence shows, that if combined with training, however, such subsidies could be particularly successful—either as part of the employment subsidies or prior to recruitment (European Commission, 2014). Likewise, evidence from other countries also indicates that employment subsidies could be effective if targeted to those who are far away from the labor market (e.g., in this case, the low skilled), leading

to a positive impact on post-intervention employment (Almeida et al., 2014, and European Commission, 2014). While there are different design elements that can determine the success of employment subsidies (e.g. targeting, level duration, etc.) they broadly have the potential to improve the employability of the disadvantaged workers and build human capital (by providing work experience and/or specific training) and therefore mitigate the risk of returning to inactivity (or unemployment) after the subsidized job (Almeida et al., 2014; World Bank, 2013).

Because this group faces scarce job opportunities (and only half of this group lives in urban areas), measures encouraging mobility may provide additional needed support. Mobility measures, including financial incentives to cover transportation or relocation costs, would aid this group to find jobs where they are most likely to be concentrated, i.e., in urban areas. A large percentage of this group has children (59 percent) and 45 percent are married, meaning that relocation because of work may prove to be more of an obstacle if not accompanied with a financial incentive.

Group 5: Low-educated Long-term Unemployed or Inactive Women with Care Responsibilities—Employment Barriers and Necessary Activation and Employment Support Programs



Group 5 is made up of low-educated long-term unemployed or inactive women with care responsibilities. Half of the group is long-term unemployed and 34 percent reported being inactive at the time of the interview (the remaining 15 percent were working, albeit most likely in unstable jobs or working restricted hours), in part requiring a differentiated approach to activation. Like group 3, the most significant barrier faced is scarce job opportunities, followed by no recent work experience (84 percent did not have a job at the time of the interview or anytime during the last six months of the reference period). However, in contrast to group 3, a significant proportion (37 percent) has never held a job (almost one-half has worked before). This group also has very low

education: 67 percent have not completed upper secondary schooling, versus 38 percent of the target population (and 56 percent of group 3). One half of these women have children under 13 years of age, and just over one-fifth faces the care responsibilities barrier, which could explain the fact that 26 percent reported their main activity status during the reference period as domestic tasks. Also in contrast to group 3, a majority (58 percent) live in rural areas.

Like group 3, low education and lack of recent work experience (in this case, also lack of experience altogether), imply that skills training, combined with wage subsidies, would also prove useful for this group. Studies indicate that subsidies, that compensate part of the salary costs, could be effective with positive impact on employment if targeted to those who are disadvantaged in the labor market (e.g. low skilled, inactive) (Almeida et al., 2014, and European Commission, 2014). As mentioned previously, there are different design elements that can determine the success of employment subsidies (e.g. targeting, level duration, etc.) that broadly have the potential to improve the employability of the disadvantaged workers and build human capital (by providing work experience and/or specific training). They are particularly successful if combined with training – either as part of the employment subsidies or prior to recruitment (European Commission, 2014).

Access to childcare facilities, along with supportive work environments, may provide additional support for the one-fourth of this group that is engaged in domestic activities (one-fifth also faces care responsibilities due to lack of formal care). Evidence from other countries indicates that increased access to childcare services—through subsidized care, tax allowance or voucher for care, for instance—contributes to women’s labor market participation (OECD, 2011 and Vuri, 2016). Evidence from countries such as Romania (Lockshin and Fong, 2000), the United States, Canada, Spain (as cited in Vuri, 2016), Israel, and Russia²¹ (as cited in Todd, 2013) also indicates that the provision of subsidized childcare can lead to large impacts on mothers’ working hours, and lifting poor families out of poverty, though context is also an important factor. The policies to enable access to affordable childcare in turn should be supplemented by a potential increase in supply of care institutions to avoid capacity constraints. Very few Bulgarian women (about 6 percent of employed women) work in part-time jobs compared to other EU Member States (on average about 32 percent); measures that encourage supportive work environments that can accommodate family life, such as telework and part-time work, may further aid in connecting these women to employment. Such work arrangements can aid both women who are currently active and those who are long-term unemployed, as it is possible that some may turn down certain jobs due to the incompatibility of working hours with their domestic responsibilities.

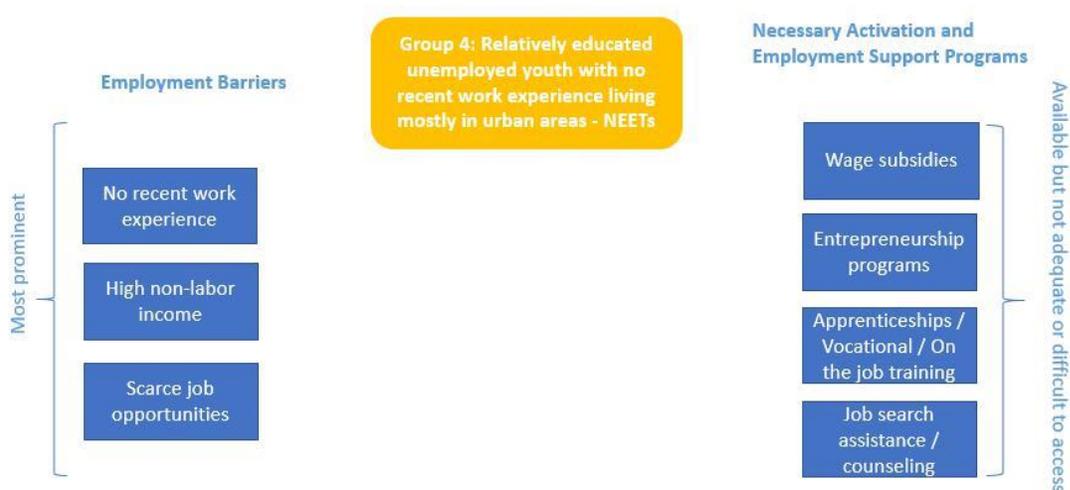
The inactive women in group 5 are not likely have access to existing ALMPs. About one-third of the women in this group were inactive at the time of the interview, and only 40 percent were actively searching for a job (though 52 percent reported being unemployed). Likewise, it is important to note that a majority live in rural areas. As such, a large percentage are not likely to be registered with NAE. Though there are efforts to link ALMPs to social services, for the most part, current employment promotion measures are largely focused on registered unemployed and thus the set of training and subsidy programs are out of reach for a significant proportion of this group. More explicit outreach

²¹ 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.

and information dissemination may be required link these women with at least the basic services such as group counseling, etc.

The concentration of this group in rural areas indicates measures encouraging mobility may provide additional support. Most jobs are likely to be in densely populated areas, hence some members of this group, particularly those who are not married and could relocate, may benefit from mobility measures, including financial incentives to cover transportation or even relocation costs.

Group 4: Relatively Educated Unemployed Youth with no recent work experience in Mostly Urban Areas- NEETs— Employment Barriers and Necessary Activation and Employment Support Programs



Group 4 is made up of mostly male NEETs most of who (58 percent) are long-term unemployed and have no recent work experience. With an average age of 27, this group lives mostly in urban areas and is relatively educated (only 14 percent face the low education barrier). The most significant barrier faced by this group is scarce job opportunities (largely resembling the long-term unemployed and involuntarily working part-time due to their socioeconomic characteristics and the areas in which they live), followed by no recent work experience: half of these individuals have never worked and another 29 percent has had a prior job, but not within the last year. Twenty-five percent have high non-labor income, meaning that they could face a disincentive to finding a job (only 44 percent were actively searching for a job at the time of the interview, and 20 percent even declared themselves inactive). It is worth noting that another 28 percent was indeed working at the time of the interview, though likely in unstable or part-time jobs. Twenty-nine percent are at risk of poverty and hence likely to be in need of supplementary temporary social assistance along with employment support.

Job search assistance/counselling, combined with intermediation and employment subsidies, would provide the needed support to the relatively educated youth in this group. This group, being young, lacking work experience and facing scarce job opportunities, may benefit from employment subsidies but these would be more effective when combined with PES support. The case management introduced as a support method in the *Activating the Inactive Persons* program, may help ensure such combination of services. International evidence suggests that a combination of programs yields better results than single interventions. For instance, the British New Deal program for young people, a program which offers a combination of job search assistance (for four months) followed by a wage subsidy to employers, shows an economically and statistically significant effect of the program on outflows to employment among men. The program appears to have increased the probability of young men (who had been unemployed for six months) finding a job in the next four months; and it is estimated that part of this overall effect is the job subsidy element and part is the enhanced job search assistance (Blundell et al, 2013). Overall, job search assistance is relatively more cost effective (compared to other ALMPs) and is proven to have large positive short term impacts on employment of jobseekers (Card et al, 2015). In addition, hiring subsidies targeting *low-skilled workers* or *youth* (as e.g. in Colombia, South Africa and Turkey) may improve their employability and build human capital, by providing work experience and/or specific training, and likely mitigate the risk of retuning to unemployment after the intervention (Betcherman et al., 2010 and Levinsohn et al., 2014). Thus, programs that provide incentives to employers and jobseekers to combine training with practical experience may help address lack of recent work experience (as well as not having worked in the past) and scarce job opportunities faced by the young and the unemployed in this group. Lastly, job search assistance can also prove to be more effective when combined with intermediation services that facilitate matches between employers and jobseekers.

Although this group may be relatively educated, skill-building activities, particularly training activities closely linked with employers, such as apprenticeships/on-the-job training, and preferably integrated with job search assistance or intermediation, would aid in obtaining the much needed work experience. Although a large percentage of this group has upper secondary education, their low work experience implies that many may lack vocational skills that are necessary for many jobs (only 7 percent of this group has tertiary education). International evidence suggests that training and internship programs that are appropriately targeted to the groups lacking skills and that adequately respond to the need of employers, may have a strong impact on employment (European Commission, 2015). One key lesson coming out of the literature is that training programs have higher impact when combined with effective intermediation. Indeed, the meta-analysis study on youth employment programs (Kluve et al., 2016) finds that when employment programs are comprehensive — integrating multiple interventions (i.e., intermediation with other forms of support such as skills training, wage subsidy, or self-employment support)—they are more likely to succeed. This is a very important message, as improving the effectiveness of intermediation services not only helps save government resources in the administration of public services but more importantly contributes to increasing the success of ALMPs as well.

7. Conclusions and Policy Directions

The objective of this paper has been to provide a snapshot of, what is often multiple and simultaneous, constraints faced by the out of work and marginally employed in Bulgaria with a view to inform policy decisions to identify and address pressing needs. Employment policy has a responsibility to take into account the different needs, challenges and barriers faced by different at-risk groups on the labor market when developing 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 in to more distinct homogenous groups and identified their most salient employment barriers and socioeconomic characteristics. Few 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) AESPs in Bulgaria were then presented, to further explore whether and to what extent the needs of selected priority groups were met with existing programs/policies.

Government's service integration agenda is key to address the identified multiple needs; hence, progress on this agenda needs to continue. The out of work and marginally unemployed in Bulgaria face multiple overlapping barriers and helping them access jobs will require offering a mix of social services, social assistance, job search assistance and employment support programs. Aligning the regulatory and budgetary framework will allow flexibility to integrate and offer a combination of services in response to emerging needs. In particular, for a significant share of the women and men in the priority groups, care responsibilities are a barrier to look for a job or switch to a better job. Expanding access to affordable child and elderly care will be an important element of an integrated service package to incentivize many women to consider entering the labor market.

In particular, integration and expansion of social assistance and employment service centers needs to continue to improve coordination and service delivery. The government has made considerable effort to integrate social assistance and employment services through joint service centers. The legislative framework is in place, however, considerable investment is required to expand the network of integrated service centers, harmonize administrative processes including data collection and sharing across, and move towards a one-stop-shop approach. In parallel, use of private service providers to offer specialized services can also be considered as part of the agenda.

Our assessment²² indicates that the existing range of active labor market measures although large in number, are limited in scope, spending and coverage vis-a-vis the complex needs of the priority groups. Given their limited scope and coverage, the existing range of interventions do not target, attend to the needs or benefit those who are in most need of employment support. There is excessive reliance and investment on "direct job creation", in particular the welfare to work program whose effectiveness as a pathway mechanism to sustainable jobs is currently unclear. Therefore, there is scope to rationalize and recalibrate the spending on different measures in line with priority groups' needs. On the job training and employer driven vocational training programs targeting youth and long term unemployed can be expanded in light of the relatively low levels of education amongst the identified

²² Based on available information from Eurostat and limited administrative data on the demographic profile and employment status of ALMP beneficiaries for selected programs.

priority groups. In particular, more attention needs to be put into aligning training with regional economic opportunities in partnership with employers. In addition, the existing employment subsidy programs can also be modified to include part time jobs to encourage more women to join the labor force and/or to be able to switch from unstable often informal jobs to secure, longer term jobs. There is also scope to expand the start-up incentives/self-employment programs which might, in particular, be attractive to women who have care responsibilities and live in remote areas. Once a menu of more responsive ALMPs is established, flexible funding can be provided to local employment offices to choose a mix of interventions suitable to the needs of the inactive, unemployed and marginally employed.

The GMI program can be improved to promote work. To facilitate entry or re-entry of social assistance beneficiaries into the labor market, the GMI design needs to be adjusted to incentivize work. This can be done through introduction of in-work benefits such as earnings disregards built into the benefit formula (e.g. as in Romania) and gradual phasing out of social assistance or transitional in-work benefits (e.g. as in Slovakia).

Outreach activities and employment promotion targeting priority groups living in rural or remote areas need to be expanded and re-shaped. In order to activate and help those who are farther away from the labor market, and, in particular social assistance beneficiaries, dissemination of information on available social and employment services will need to be strengthened. Continued investments in the case management approach via youth and Roma mediators in addition to employment centers will help better understand overlapping constraints and offer more individualized services. Bulgaria may also benefit from outsourcing of specialized job search assistance and counseling services to private providers in light of the limited capacity of the public employment and social services. Private provision may also allow for innovation in active labor market program design to target the hard to reach groups such as inactive women or discouraged youth for instance to combine counseling, mobility incentives and opportunities to upgrade skills and gain work experience.

Investments in monitoring and rigorous evaluations are needed to improve design of active labor market programs. Currently there is no systematic impact evaluation process within the National Employment Agency or under the Ministry of Labor. This does not allow distinguishing the measures that are effective from those that are not and prevents efficient use of scarce resources. Administrative data (from different sources) can be better utilized to undertake preliminary cost benefit and impact analysis. For this, it would be advisable to introduce a country level results framework for employment policies to generate corresponding program level data. Designing interventions with a rigorous results evaluation framework will allow to identify design and implementation features that work for particular target groups and adjust existing programs accordingly. Furthermore, sharing and discussing the results of evaluations with other agencies within and outside of Europe will have cross-country benefits.

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

The data source for the analysis is the 2013 Harmonized version of the European Union Statistics of Income and Living Conditions (EU-SILC) survey. There are several reasons why the SILC survey was chosen, as opposed to the European Union Labor Force Surveys (EU-LFS), which is 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 socio-economic 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. Such comprehensive data is necessary for this analysis. The LFS survey only would only allow us to identify the target population of this study—out of work or marginally employed—according to their labor market status at the time of the interview. As such, we would not be 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 or restricted working hours. Further, by capturing the full income of individuals and their households (as opposed to only earnings from labor and unemployment benefits, as is the case of the LFS survey), we are able to get a more comprehensive view of the socioeconomic status of the target population of this study, including 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 care responsibilities as a barrier to work.

Although there are many clear benefits to using SILC data for the present analysis, there are a few shortcomings that 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. As such, it is possible that individuals who work but do not self-identify as employed because they work very few hours may report being inactive. In this sense, 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 social insurance and social assistance benefits. Such information would further enrich the analysis pertaining to how social inclusion policies are targeted to specific groups, as well as how social benefits may affect incentives to participate in the labor market.

A drawback of the SILC survey vis-à-vis the LFS survey is the lack of detailed information pertaining to 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. Such information could be used to further 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, as 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 with low education. As such, it is likely that some of the groups identified in this analysis comprise a large proportion of 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 the labor market inclusion of the Roma population—a group that has historically suffered from social exclusion—is also increasingly important in the context of aging and shrinking populations.

Lastly, in comparison to the LFS survey, the SILC survey has a small sample size when the target population of this study is taken into account. The statistical methodology used in this study benefits significantly when there is a large sample size. Large sample sizes can allow for the identification of 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, allowing for the design of more specific tailored policies.

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 services²⁴ 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

²⁴ 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.

responsibilities, and other types of inactivity and did not have a permanent disability. Individuals who reported they were full-time workers, full-time 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.²⁵
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.²⁶ 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

²⁵Specifically, 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.

²⁶See OECD and World Bank, 2016 for details on how the reservation wage is calculated.

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:

- 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 borne in mind.

Annex 3: Characterization of latent groups in Bulgaria

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Target pop. | Working-age pop. |
|--|---------|---------|---------|---------|---------|-------------|------------------|
| Women* | 66% | 31% | 20% | 39% | 100% | 53% | 49% |
| Children under 12 in household* | 20% | 40% | 59% | 25% | 51% | 35% | 32% |
| Age group* | | | | | | | |
| Youth (18-29) | 0% | 0% | 41% | 87% | 29% | 23% | 18% |
| Middle-aged (30-55) | 19% | 95% | 59% | 7% | 63% | 43% | 60% |
| Older (56-64) | 81% | 5% | 0% | 6% | 8% | 33% | 22% |
| Degree of urbanization | | | | | | | |
| Densely populated | 39% | 41% | 31% | 39% | 21% | 35% | 45% |
| Intermediate | 22% | 23% | 21% | 26% | 21% | 22% | 23% |
| Thinly populated | 39% | 36% | 48% | 35% | 58% | 42% | 32% |
| Region | | | | | | | |
| Northern and Eastern Bulgaria | 56% | 56% | 56% | 53% | 52% | 54% | 50% |
| South-Western and South-Central Bulgaria | 44% | 44% | 44% | 47% | 48% | 45% | 50% |
| Out of work** | 86% | 59% | 73% | 78% | 83% | 77% | 28% |
| Unstable jobs** | 11% | 35% | 21% | 20% | 12% | 18% | 7% |
| Restricted hours** | 1% | 2% | 4% | 2% | 5% | 2% | 1% |
| Near-zero income** | 2% | 3% | 1% | 0% | 0% | 1% | 1% |
| Main activity during reference period (more disaggregated) | | | | | | | |
| Employed full time | 1% | 1% | 0% | 0% | 0% | 0% | 57% |
| Employed part time | 2% | 3% | 4% | 3% | 6% | 3% | 2% |
| Self-employed full time | 1% | 2% | 1% | 0% | 0% | 1% | 5% |
| Self-employed part time | 0% | 1% | 2% | 1% | 1% | 1% | 0% |
| Unemployed | 21% | 48% | 74% | 73% | 58% | 47% | 18% |
| Retired | 57% | 12% | 1% | 0% | 1% | 24% | 9% |
| Unfit to work | 9% | 16% | 4% | 4% | 5% | 8% | 3% |
| Domestic tasks | 7% | 14% | 10% | 12% | 26% | 12% | 4% |
| Other inactive | 2% | 3% | 4% | 7% | 2% | 3% | 1% |
| Main activity at moment of interview | | | | | | | |
| Employed full time | 6% | 21% | 13% | 13% | 6% | 11% | 59% |
| Employed part time | 2% | 4% | 4% | 3% | 7% | 4% | 2% |
| Self-employed full time | 1% | 4% | 3% | 1% | 1% | 2% | 6% |
| Self-employed part time | 0% | 1% | 2% | 1% | 1% | 1% | 0% |
| Unemployed | 16% | 31% | 63% | 63% | 52% | 38% | 16% |
| Retired | 57% | 13% | 1% | 0% | 1% | 23% | 9% |
| Unfit to work | 10% | 15% | 4% | 4% | 5% | 8% | 3% |
| Domestic tasks | 6% | 9% | 5% | 8% | 24% | 9% | 3% |
| Other inactive | 2% | 3% | 5% | 7% | 4% | 4% | 1% |

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Target pop. | Working-age pop. |
|---|---------|---------|---------|---------|---------|-------------|------------------|
| Student | 0% | 0% | 0% | 1% | 0% | 0% | 0% |
| Months in unemployment | | | | | | | |
| Zero months | 77% | 48% | 20% | 22% | 39% | 48% | 76% |
| Less than 12 | 7% | 21% | 16% | 20% | 8% | 13% | 11% |
| 12 or more | 16% | 32% | 63% | 58% | 53% | 38% | 14% |
| Actively searching for a job at time of interview | 5% | 13% | 46% | 44% | 40% | 23% | 10% |
| Live with parents | 6% | 29% | 42% | 68% | 19% | 26% | 26% |
| At risk of poverty (60% of median income) | 28% | 32% | 53% | 29% | 54% | 36% | 18% |
| At risk of poverty (40% of median income) | 14% | 17% | 38% | 16% | 37% | 22% | 9% |
| Severe material deprivation | 53% | 58% | 72% | 60% | 74% | 60% | 42% |
| Income quintile | | | | | | | |
| Poorest | 26% | 32% | 53% | 27% | 53% | 35% | 17% |
| 2 | 23% | 23% | 20% | 28% | 19% | 23% | 17% |
| 3 | 21% | 17% | 12% | 20% | 14% | 18% | 20% |
| 4 | 14% | 15% | 10% | 15% | 10% | 13% | 22% |
| Richest | 15% | 13% | 5% | 10% | 4% | 11% | 24% |
| Education level | | | | | | | |
| Primary or less | 8% | 7% | 21% | 8% | 30% | 13% | 6% |
| Lower secondary | 30% | 12% | 35% | 7% | 37% | 25% | 15% |
| Upper secondary | 49% | 65% | 37% | 71% | 25% | 49% | 55% |
| Post-secondary | 0% | 1% | 0% | 0% | 0% | 0% | 1% |
| Tertiary | 13% | 16% | 7% | 15% | 7% | 12% | 23% |
| Age groups (more disaggregated) | | | | | | | |
| 18-19 years | 0% | 0% | 3% | 13% | 3% | 3% | 1% |
| 20-24 years | 0% | 0% | 15% | 37% | 12% | 9% | 7% |
| 25-29 years | 0% | 0% | 24% | 38% | 14% | 11% | 10% |
| 30-34 years | 4% | 22% | 12% | 2% | 12% | 9% | 11% |
| 35-44 years | 6% | 35% | 25% | 2% | 27% | 16% | 24% |
| 45-54 years | 8% | 34% | 19% | 2% | 23% | 16% | 22% |
| 55-59 years | 24% | 6% | 2% | 3% | 5% | 11% | 12% |
| 60-64 years | 58% | 3% | 0% | 3% | 4% | 23% | 12% |
| Average age | 58 | 43 | 34 | 27 | 38 | 44 | 43 |
| Severe limitations in daily activities | 6% | 9% | 2% | 2% | 1% | 5% | 2% |
| At least one working adult in the household | 23% | 42% | 57% | 31% | 52% | 37% | 65% |
| Elderly in the household | 23% | 22% | 19% | 17% | 16% | 20% | 19% |
| Children under 6 in household | 11% | 22% | 42% | 20% | 34% | 22% | 18% |
| Children under 3 in household | 6% | 14% | 28% | 12% | 22% | 14% | 10% |
| Children under 13 in formal childcare | | | | | | | |

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Target pop. | Working-age pop. |
|--|---------|---------|---------|---------|---------|-------------|------------------|
| None | 4% | 9% | 15% | 4% | 17% | 9% | 6% |
| Some | 13% | 24% | 26% | 11% | 24% | 18% | 21% |
| All | 3% | 7% | 18% | 9% | 10% | 8% | 6% |
| NA | 80% | 60% | 41% | 75% | 49% | 64% | 68% |
| Marital status | | | | | | | |
| Married | 66% | 58% | 45% | 19% | 54% | 52% | 59% |
| Never married | 7% | 31% | 47% | 79% | 38% | 32% | 29% |
| Divorced/separated/widow/er | 26% | 11% | 7% | 2% | 8% | 14% | 12% |
| Labor market status of spouse/partner | | | | | | | |
| Working | 27% | 49% | 30% | 17% | 40% | 32% | 44% |
| Unemployed | 9% | 9% | 20% | 8% | 26% | 13% | 10% |
| Retired | 27% | 2% | 1% | 0% | 4% | 11% | 6% |
| Unfit to work | 3% | 2% | 1% | 0% | 2% | 2% | 1% |
| Domestic tasks | 1% | 4% | 12% | 1% | 0% | 3% | 4% |
| Other inactive | 1% | 1% | 1% | 0% | 1% | 1% | 1% |
| No spouse/partner | 32% | 33% | 35% | 73% | 27% | 37% | 34% |
| Migrant | 0% | 1% | 0% | 1% | 3% | 1% | 1% |
| Receives family benefits | 23% | 42% | 57% | 31% | 52% | 37% | 33% |
| Average annual value (€) | 137 | 275 | 448 | 207 | 386 | 257 | 189 |
| Receives social exclusion benefits | 6% | 9% | 14% | 6% | 16% | 9% | 5% |
| Average annual value (€) | 15 | 25 | 53 | 25 | 45 | 29 | 13 |
| Receives unemployment benefits | 6% | 15% | 11% | 6% | 8% | 9% | 8% |
| Average annual value (€) | 119 | 193 | 131 | 100 | 120 | 130 | 120 |
| Receives old-age benefits | 48% | 3% | 0% | 1% | 1% | 19% | 8% |
| Average annual value (€) | 1,465 | 607 | 439 | 402 | 359 | 826 | 630 |
| Receives survivor benefits | 10% | 6% | 1% | 1% | 1% | 5% | 3% |
| Average annual value (€) | 356 | 192 | 93 | 136 | 109 | 214 | 181 |
| Receives sickness benefits | 5% | 11% | 6% | 5% | 5% | 6% | 17% |
| Average annual value (€) | 66 | 96 | 69 | 107 | 51 | 75 | 107 |
| Receives disability benefits | 14% | 21% | 6% | 8% | 6% | 12% | 7% |
| Average annual value (€) | 266 | 375 | 171 | 177 | 186 | 242 | 186 |
| Receives any social benefits | 86% | 74% | 67% | 47% | 65% | 71% | 61% |
| Average annual household income from: (€) | | | | | | | |
| Labor | 3,855 | 4,887 | 3,820 | 5,792 | 3,831 | 4,254 | 7,610 |

| | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Target pop. | Working-age pop. |
|--|----------------|----------------|----------------|----------------|----------------|--------------------|-------------------------|
| <i>Other</i> | 330 | 453 | 367 | 374 | 371 | 366 | 313 |
| <i>Benefits</i> | 2,425 | 1,768 | 1,408 | 1,159 | 1,264 | 1,776 | 1,432 |
| <i>Average annual equivalized household income (€)</i> | 3,065 | 2,879 | 2,000 | 2,682 | 1,947 | 2,612 | 3,782 |

**Included in the LCA model as active covariates.*

*** Refers to target groups as defined in section 3.*

Annex 4. Latent Class Analysis Model Selection for Bulgaria

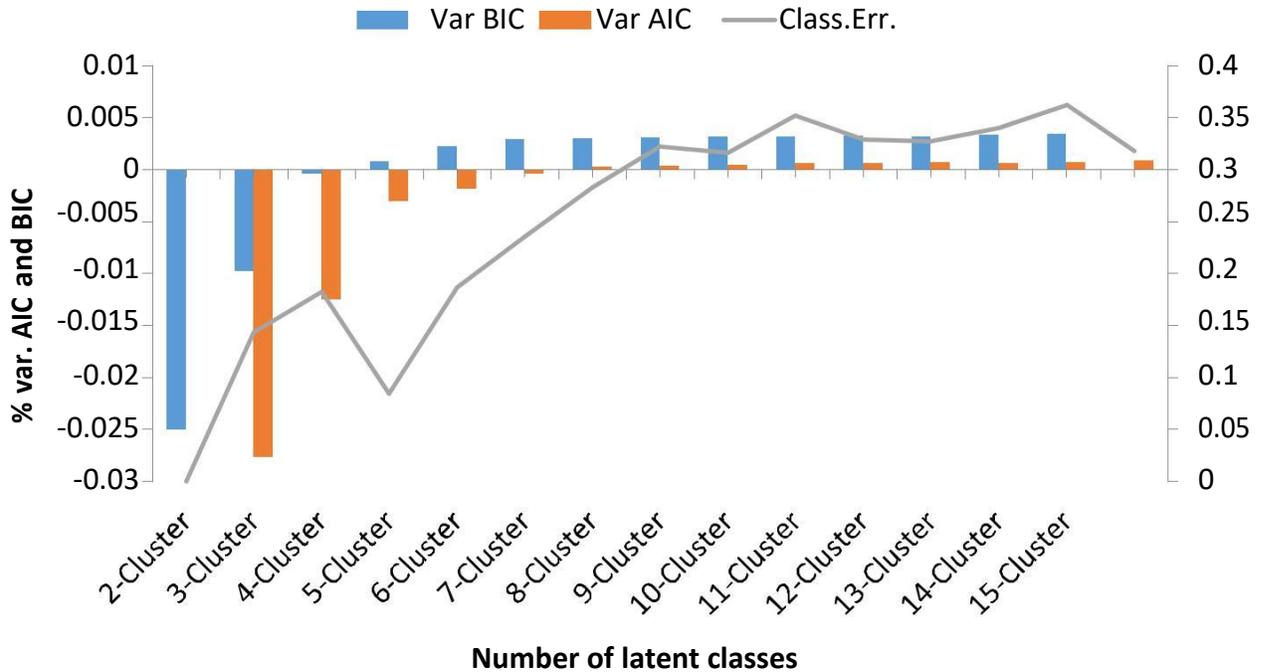
A latent class model does not automatically provide an estimate of the *optimal* number of latent groups of individuals. Instead, models with different numbers of classes must first be estimated sequentially and the optimal model is then chosen based on a series of statistical criteria. The model selection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

Figure A1.1 below summarizes graphically Step 2 outlined above for Bulgaria. 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)²⁷; and the grey line shows the *classification error statistics*

(Vermunt and Magdison, 2016).²⁸ 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 A1.1 AIC declining when increasing the number of class (until class 8), and BIC is declining after 5 clusters. Model 4 shows a much larger AIC as well as classification errors. The model with 5 clusters is optimal given that combination of low classification errors, decreasing AIC and small BIC.

²⁷The 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.

²⁸The 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.



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 being related to the 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 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 any 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.

For Bulgaria, the 5-class model selected clear signs of misspecification, with bivariate residuals significantly higher than 1 for several pairs of indicators.²⁹ 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 Bulgaria.

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

²⁹ In the case of Bulgaria, one direct effect has been included. Results are available upon request.

household characteristics identifying specific population sub-groups of interest, such as *youth* and *women*.

In order to further describe the 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, presence of young children and urbanization level – 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 11 percent, lower than the model without active covariates (19 percent), along with considerable improvement in both AIC and BIC. A reduction of the classification-error statistics in models with active covariates is the sign that, for some individuals, the employment-barrier indicators alone do not produce a clear-cut latent-class assignment and that, therefore, the covariates are playing an important role not only in improving the latent-class membership but also in shaping the main barrier profile characterizing 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.³⁰

³⁰ 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.