EXCEPT

Composition and cumulative disadvantage of youth across Europe

EXCEPT Working Paper No. 1

November 2015

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 649496

EXCEPT Working Papers are peer-reviewed outputs from the http://www.except-project.eu/ project. The series is edited by the project coordinator Dr. Marge Unt and by the project co-coordinator Prof. Michael Gebel. These working papers are intended to meet the European Commission's expected impact from the project:

i. to advance the knowledge base that underpins the formulation and implementation of relevant policies in Europe with the aim of enhancing the employment of young people and improving the social situation of young people who face labour market insecurities, and

ii. to engage with relevant communities, stakeholders and practitioners in the research with a view to supporting relevant policies in Europe. Contributions to a dialogue about these results can be made through the project website http://www.except-project.eu/, or by following us on twitter @except_eu.

To cite this report:

Rokicka, M. (Ed.), Kłobuszewska, M., Palczyńska, M., Shapoval, N., Stasiowski, J. (2015). *Composition and cumulative disadvantage of youth across Europe,* EXCEPT Working Papers, WP No 1. Tallinn University, Tallinn. http://www.except-project.eu/working-papers/

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Acknowledgements

Authors acknowledge the contributions made by reviewers, language editors, and country experts in the preparation of this report. Special thanks to: Kadri Täht, Marge Unt, and Michael Gebel who helped shaping the structure of this report. Authors are grateful for the contributions made by Olga Kupets and Nataliia Shapoval who prepared the Ukrainian datasets and for constructive comments and suggestions from Olena Nizalova.

This study is based on data from Eurostat: EU Labour Force Survey (2007-2013, released 2014); EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015; Cross-sectional UDB 2013- version 1 of August 2015; and Ukraine-Labour Force Survey (2007-2013).

Responsibility for all conclusions drawn from the data lies entirely with the authors.

Executive summary

This introductory working paper provides the background information necessary to permit analysis for the project, “Social Exclusion of Youth in Europe: Cumulative Disadvantage, Coping Strategies, Effective Policies and Transfer, EXCEPT”. Focusing on recent school leavers in European countries, it compares various indicators for youth labour market exclusion and insecurity which are based on several micro-data sources. The report interprets the situation on the labour market during three periods and it is built around three main research topics: labour market exclusion, insecure employment and the labour market transitions affecting recent school leavers. The main results of this report in summary are:

- recent school leavers experience more disadvantage on the labour market than prime age workers: they are more likely to be unemployed or NEET (neither in education, employment nor training),
- the labour market situation of recent school leavers was damaged by the current economic crisis in the majority of European countries (except Germany),
- unemployment of recent school leavers varies considerably between the European countries; Greece, Spain, Italy and Croatia provide the worst employment prospects for graduates,
- educational attainment is the most important factor that improves the chance of recent school leavers to enter the labour market,
- labour market insecurity for recent school leavers is closely related to labour market policy and country specific employment regulations,
- in Southern Europe recent school leavers are overrepresented as temporary and part-time workers and are forced into these types of employment owing to the lack of available permanent job contracts,
- in post-socialist countries, atypical, insecure forms of employment are a rare phenomenon for both recent school leavers and prime age workers,
- in Spain, Greece and Italy, the labour market exclusion of recent school leavers, as depicted by high unemployment rates, overlaps high employment insecurity,
- labour market entry trajectories differ between EU countries for recent school leavers. In Southern Europe and some post-socialist countries there is low labour market mobility, while in Austria and The Netherlands, and the UK, the transition of recent graduates into employment is much faster.

Key findings

Labour market exclusion of recent school leavers

Unemployment rates are higher among recent school leavers than among the prime age workers in all EU-countries. However the size of this gap varies across countries, as does the level of unemployment among recent school leavers. Whereas in Germany, less than 10% of recent graduates do not have, or are looking for a job, in Greece this proportion exceeds 50%. This difference cannot be entirely explained by the young people's characteristics such as gender, education, or immigration status, as it is also driven by the macroeconomic situation and labour market conditions of a particular country.

This disparity was also further reinforced by the recent economic downturn. The impact of the crisis on the labour market position of young people was not uniform. In some countries the unemployment rate of recent school leavers increased considerably in 2010 and then started to decline, while in others unemployment rates accelerated after 2010. Germany, however, was the only EU member state where the unemployment rate for recent school leavers declined, reflecting the overall labour market trends in Germany.

Following 2007, the gap has widened in most of the European countries between unemployment rates of recent school leavers at different educational levels, with the exception of Germany, the Slovak Republic and Romania. This is alarming, since it reflects growing inequality between young people; those with low levels of educational attainment being the most affected by recent economic changes. Gender differences are less apparent with regard to labour market exclusion. In most countries men constitute a slightly larger proportion of the unemployed than women, but the difference is relatively small. In the Ukraine, however, the gender gap in youth unemployment is more evident, with substantially higher rates amongst males (38% as opposed to 62% for young women). The gender profile for unemployment has changed during the crisis and can be explained by the gender-specific industries affected most by the slowdown, such as the male dominated construction, manufacture and finance sectors.

In addition to the growing number of unemployed, recent graduates not in education, employment or training (NEET) have increased and the profile of the NEET population has also changed. In 2007, in most EU countries, inactive youth constituted the largest NEET sub-group, while by 2013, unemployment prevailed. The NEET indicator is closely associated with educational attainment: the lowest level of education predicting the lowest chances of being in education, employment or training. However, country differences in this respect are worthy of note. Immediately after lower secondary education, the lowest rate of NEET for recent school leavers can be observed in Denmark (32%) and the highest, in Bulgaria and Croatia (over 90%). For university

graduates, the differences between countries are much smaller. Overall, a slightly greater proportion of women are NEET than the employed, however, the difference is small, whilst profiles also differ by gender. Women are more often inactive and men more likely to be classified as NEET by unemployment.

Labour market insecurity for recent school leavers

In the EU, temporary contracts are more widespread among recent school leavers than for workers aged 30-59 years. The largest gap is in Italy, where only 10% of prime age workers have short-term contracts, while for recent school leavers the figure is five times higher. This clearly highlights the disadvantages faced by young workers and their significantly greater exposure to labour market insecurity. Country differences should, however, also be mentioned, as the possibility for this type of contract relates closely to specific labour market legislation, so in some post-socialist countries such contracts are rare, both for young and middle age workers.

Since 2007, the proportion of fixed-term contractsamong recent school leavers slightly increased, but to a much smaller extent than indicators of labour market exclusion. The strongest growth was observed in countries with a high share of temporary contracts (The Netherlands, Croatia, Italy). The correlation between educational attainment and temporary job contracts is not conclusive. As in most of the EU, there is a disproportionate share of workers with lower secondary education with fixed term contracts, while there is overrepresentation of recent, university graduates among temporary workers in some countries. Moreover this type of job contract is not related to gender. In most countries there is no relationship between gender and the incidence of temporary work contracts.

Temporary employment as shown in our report is predominantly involuntary. On average across the European countries, in 2013, 61% of those who have temporary work cannot find a permanent job. Furthermore, the proportion of people with involuntary temporary contracts has increased in by 15% between 2007 and 2013.

Unlike temporary employment, part-time work is evenly distributed between age groups. In most European countries, prime age workers with such contracts proportionately outnumber recent school leavers. However, here again, the differences between countries are greater than differences within countries, although, since 2007 the proportion of recent school leavers working part-time in European countries has increased by roughly 50% (from 9%). Part-time employment more than doubled, proportionately, between 2007 and 2013 in Spain, Ireland, Portugal, Cyprus and Italy. While analyzing motivation of recent school leavers to take part-time work, there is no uniform picture. In Southern European countries, more than 80% of respondents claimed to be forced into this kind of job owing to their failure to find full-time positions, whereas in Benelux and Germany only 30% considered their part-time status

involuntary. In post-socialist countries, temporary contracts and part-time employment are rare.

Despite the disproportion of part-time workers with lower secondary and upper secondary education in some of the EU countries, in a number of countries there is no association between level of education and part-time employment. According to the figure, part-time employment is dominated by women, although the relationship is not significant in countries where part-time work is, in general, a marginal phenomenon.

Subjective insecurity of recent school leavers in the labour market is similar to that of the overall working age population. Even though we know, from the literature, that workers with the shortest tenure are more likely to lose their jobs following the "first in first out" policy, this is not reflected in young people's subjective views and opinions recorded in the EQLS dataset. Gender differences among recent school leavers are also in line with the main working age group: both younger and prime age women are slightly more worried about losing their jobs than are men.

The proportions of informal workers do not differ much between the general and recent school leaver populations. However, there are some exceptions: percentages of recent school leavers working without contracts in Bulgaria, Denmark, Italy and Slovenia are clearly higher than for the general population. Moreover, lesser educated groups are clearly overrepresented among those working without contracts.

Labour market transitions of recent school leavers

Large disparities were observed between labour market transitions of recent school leavers depending on country. While in Finland, The Netherlands and the UK, young school leavers often change their labour market status – on average three times during the three years after finishing school, in the Czech Republic and Bulgaria, movement between jobs is less frequent. While negative, *per se*, low labour market mobility is especially worrisome in countries with high unemployment and inactivity rates. As previously mentioned, the labour market situation for recent school leavers is closely related to their educational attainment. In general those with lower upper secondary education spend on average one year in inactivity, 11 months in unemployment and 13 months in employment, over three years. By comparison, graduates with post-secondary education, work for 30 months on average, spending only six months either in inactivity or unemployment.

It is hard, to accurately define the relationship between recent school leavers' labour market mobility and employment policy characteristics. However, in countries which invested relatively little on active or passive, labour policy measures, lower episodic employment of young school leavers was observed, while for those with the highest rates, the converse was salient.

Introduction

This working paper provides a quantitative background for the analytical work conducted in the project "Social Exclusion of Youth in Europe: Cumulative Disadvantage, Coping Strategies, Effective Policies and Transfer, EXCEPT". The main objective of the EXCEPT project is to provide a comprehensive understanding of the consequences of youth labour market vulnerability to the risks of social exclusion in Europe. Specifically, implications of labour market exclusion and insecurities on youth's risks of poverty and material deprivation, their subjective well-being and health, as well as their ability to reach independence from the parental home are investigated in a mixed-methods approach. While succeeding papers will examine the consequences of the labour market exclusion and insecurity, the aim of the present paper is to depict the situation of youth at the European labour market in a form of quantitative, comparative analysis based on the European Labour Force Surveys (EU-LFS), the EU statistics on income and living conditions (EU-SILC), and the European Social Survey (ESS). In addition we use the Ukrainian Labour Force Survey (ULF) and Ukrainian data received from the State Statistics Committee of Ukraine to depict the situation in Ukraine.

Ukraine is not a part of the European Union, but the EU and Ukraine signed the Deep and Comprehensive Free Trade Area on 27 June 2014 as part of their broader Association Agreement. The reflection of the Soviet past of the country is still visible in the structure of the economy, higher share of rural population– the heritage of agrarian specialization in USSR, and supply driven education creating mismatch on the labour market. There is also a substantive brain drain to the European countries as Ukrainian higher education fails in competition to European neighbours. At the same time, Ukraine` labour market is yet to face the difficulties encountered by new EU members. For example, Ukraine is the lowest wage country in Europe. The minimum wage in Ukraine is set at a low level of 35% of the average wage compared to the EU where the minimum wage ranges from 33 to over 50% of the average wage, therefore it may not be so detrimental to youth employment as in the EU countries. The mentioned features of the Ukrainian labour market allow for tracking which features of the youth employment conditions can be rather explained by the EU-specific institutions, and which are driven by other forces. At the same time, different economic and regulatory settings enrich the analysis and benefit policy recommendations. It makes this study unique in terms of set of countries under consideration and allows for putting Ukraine on the map of European studies.

The notion of social exclusion relies heavily on the concept of solidarity. It's basic meaning is closely related to income inequality and to the existence of disadvantaged groups in the society, while its broader definition goes beyond that and also includes the social and cultural aspects of disadvantage (Atkinson and Da Voudi 2000). It should be also mentioned that the EU Youth Strategy 2010–2018 adopted a more holistic approach to the social inclusion of young people. It focuses not only on equal

opportunity for young people in education and the labour market but also addresses their active participation in the society. Yet, in the practical dimension the policies combating social exclusion focus predominantly on reintegrating unemployed or inactive into the labour market. Therefore, the main objective of this paper is to analyse the situation of young persons on the labour market, and to reveal the characteristics and scope of existing disadvantages.

There is a vast literature on the situation of young people in the labour market. The majority of studies indicate that unfavourable experiences in the labour market early in the career could lead to negative long term consequences in economic, financial, psychological, and social aspects of life. Especially not being in employment, education or training (NEET) may results in insecure and poor prospects of future employment and lower earnings (Gregg and Tominey 2005b). Unemployment incidence have impact on mental (Strandh et al. 2013; Reneflot and Evensen 2014) and physical health issues (Bartley 1994;). Yet, as showed by (Nordenmark et al. 2015) disengaged NEETs are the most affected, as they have poorer health than young unemployed and those in employment. There are also huge societal and economic costs associated with the detachment of young people from the labour market. As claimed by Godfrey, Bradshaw, and Hutton (2002), economical loss from non-participation of young people in the labour market can be evaluated at up to 1.2% of GDP (EU-26, 2011), with difficult to assess, but also high additional societal costs. It is argued that the group which needs the most support are young unemployed or inactive people not in education or training. Therefore, to illustrate the labour market exclusion, we will focus on two major sides of youth labour market insecurity: unemployment and inactivity.

Another important aspect of participation of young people in the labour market is employment insecurity. To ease youth integration into the labour market, a deregulation of employment protection legislation (EPL) along with special policy measures have been advocated and adopted in some countries. However evidences of the effects of the deregulation of EPL on youth unemployment are inconclusive, and does not provide simple policy recommendation (Noelke 2015) in some countries with greater flexibility of work arrangements young cohorts or school leavers experience higher employment insecurity (Sverke, Hellgren, and Näswall 2006; Kalleberg 2000).

The most common manifestation of objective job insecurity are temporary contracts, informal employment, and, to a certain extent, involuntary part-time work arrangements. In Britain those in temporary jobs have lower job satisfaction, receive less training and are paid less (Booth, Francesconi, and Frank 2002). De Cuyper et al. (2008) also claim that those in temporary employment have poor well-being, experience more work stress, less autonomy, and are often employed in mundane, monotonous tasks. Experience of a temporary job could lead to different outcomes depending on the specific labour market structure (Gebel 2010). While in Great Britain this could be a stepping stone for future careers (Booth, Francesconi, and Frank 2002), in more segmented labour markets, for example in Italy, this experience can translate into an

entrapment in an unfavourable labour market position (Scherer 2009). Empirical results indicate that temporary jobs concentrated in low-skilled occupations are more likely to have a negative effect on future career, while such contracts in more skilled jobs could be an essential element of career development. Yet, empirical studies indicate that the majority of temporary workers are forced into this type of employment (Amuedo-Dorantes 2000).

Young informal employees seem to constitute the most disadvantaged group of workers experiencing insecurity in the labour market. Having no legal protection or social security, and limited access to the public healthcare system, they could be easy laid off without further consequences, or advanced notification. Comparative research in the European context indicate that informal employment is prevalent in Central-Eastern and South Europe (Hazans 2011). Individuals working informally are predominantly low educated and low-skilled, often of migrant background and with a long-term experience of unemployment or inactivity.

We have also decided to acknowledge part-time employment of young people as another aspect of their labour market insecurity. Although certain individuals might have preference towards a part-time work arrangement, which suits better their personal or family obligations, those young people who work short hours involuntary are in an unfavourable situation. This is an important distinction, as involuntary part-time workers are more likely to have lower job satisfaction (Thorsteinson 2003), to work in low quality jobs (secondary labour market) and be in search for an additional source of income in a form of a second job (Veliziotis et al. 2015). Empirical studies also confirm the pay penalty associated with part-time employment (Fernández-Kranz and Rodríguez-Planas 2011) and the lower promotions prospects. We have therefore decided to focus on these three dimensions of labour market insecurity: temporary contract arrangements, informal employment and part-time work, and illustrate the most recent trends in these dimensions among youth from the European countries.

Whilst concentrating on the labour market exclusion and insecurity among youth we have decided to focus on the most vulnerable group. Unlike the majority of previous studies, we have decided to analyse the situation of those who left education in the previous 5 years and are 15-29 years old. This is a very important difference in comparison to most existing studies, as it allows us to compare young people from different European countries in the same starting position. If we decided to focus only on the cohort aged 15-29, we would ignore existing differences of education systems and education attainment among the European countries, which could lead to a misinterpretation of youth labour market participation. Additional motivation to focus on this particular group comes from empirical studies, which show that recent school leavers are among the most vulnerable groups to affected by the unfavourable labour market conditions (Brzinsky-Fay 2007; Kelly and McGuinness 2015). Moreover, empirical studies confirm that young people most at risk should be provided assistance early in life (Heckman 2000) as persistence of their unfavourable conditions increases

their detachment from the labour market and reduces their chances for successful transition to adulthood.

The paper is split into parts, which address three research questions:

- How the European countries differ in regards to the labour market exclusion of youth and how the situation evolved during the recent crisis?
- To what extent young workers in the European countries experience insecure employment and how their position changed during the recent crisis?
- How labour market mobility of recent school leavers differs across the European countries?

To approach the first research question, apart from the country comparisons of the most recent labour market indicators, we will also examine the variation among groups with different socio-demographic characteristics such as age, sex, education level, immigration background to identify those who are most at risk of exclusion.

As previous empirical findings demonstrate that youth is more exposed to economical downturns in labour market than other age groups (O'Higgins 2012), and given that scope of the recent an economic downturn is not homogenous in all EU-countries (Bruno, Marelli, and Signorelli 2014) we have also decided to compare the situation of young people before crisis (2007), during the crisis (2010) and in the most recent period, for which micro-data are available (2013). Of course, we should keep in mind that each of the European countries has been affected by the crisis in a different manner, and at a different moment in time. Some countries experienced an economic shock and their economic situation had deteriorated quickly, but then they applied measures, which resulted in a very fast economic recovery. In some other European countries the financial crisis had overlapped with poor policy measures and the recovery is still an ongoing process. At the same time some countries underwent through only a mild stagnation, so their economic statistics for 2007, 2010 and 2013 remained almost unchanged. Therefore, one has to be cautious with the interpretation of findings as those three points in time assigned for our analysis could reflect different moments of crisis depending on the country under consideration.

Our last research question is motivated by the hypothesis of the difference in persistence of labour market situation of young people across different European countries. Based on the cross-sectional survey data we can only seize the most recent labour market situation of respondents, something that ignores the dynamics of labour market transitions of recent school leavers. As a result, we decided to analyse patterns in labour market transitions in recent school leavers across European countries in the medium term perspective, similar to that applied by Brzinsky-Fay (2007). To fulfil this task, the longitudinal data design of the EU-SILC will be utilized.

As the youth labour market situation is a very broad research topic, in the first chapter we define our main points of interest and the indicators used to illustrate them. Then

we briefly describe the background: demographic and recent economic situation across the European countries which shapes in an important way the entry of young cohorts into the labour market. Chapter 3 provides a closer look at the labour market exclusion of youth in the EU-28 and Ukraine, going into more detailed analysis of the differences between the labour market situation of youth with different socio-economic characteristics. Subsequent part of the paper focuses on the labour market insecurity of youth, and describes recent developments and perspectives in the light of most recent crisis (chapter 4). The labour market mobility of young persons will then be explored in the chapter 5.

Chapter 1: Data and definitions

EU-Labour Force Survey dataset

Our main source of data for this report is the EU-Labour Force Survey. It is a survey conducted in a representative number of private households by each EU member state. The survey collects information on main characteristics of labour market participation from persons aged 15 and over. It also provides information about personal characteristics, education, and training of all interviewed persons, regardless of their situation in the labour market. While national statistical offices are responsible for the sampling, designing the questionnaires and conducting the surveys, the Eurostat processes results according to a common coding scheme following international guidelines and common classifications.

This dataset has certain advantages over the alternative data sources such as EU-SILC, or ESS. First of all, EU-LFS being specifically designed for labour market studies is the most extensive and most complete source of data related to this topic. Moreover, it is a survey which is harmonised across the EU-28 which enable meaningful cross country comparisons. What also distinguishes this dataset from others is a relatively large sample size, which allows for conducting analysis on specific subsamples. However, there are some limitations to the EU-LFS datasets. Anonymised microdata provides information only on 5 age bands, which restricts some of the analysis. Furthermore, only the cross-sectional data are available, so there is no possibility to follow individual labour market transitions over time longer than one year. The survey also lacks information of certain aspects of labour market participation, such as informal work and underreported wages, which in some countries constitute important features of the labour market participation.

The decision to use the EU- LFS as our main source of data resulted in the adoption of a particular definition of labour market exclusion and insecurity indicators, which differs from those applied to other data sources (for a more detailed comparison see Appendix A). Below we present the definition of indicators used in this study.

Sample characteristics

Since we are interested in the labour market situation of young people with limited experience in the labour market, our sample is limited to recent school leavers, aged 15-29, who are not in any form of education and who obtained their highest level of education no more than 5 years before the interview. Additionally, we have excluded those who are in obligatory military or social work service. Roughly half of the population aged 15-29 are still in education, so they have been excluded from our sample. From the remaining group around 50% have finished education earlier than 5

years ago, so they cannot be considered as recent school leavers. As a result, our final sample of recent school leavers corresponds to around 25% of the population aged 15-29 (more information about our sample could be found in the Appendix).

Current educational status is derived from the variable *EDUCSTAT*: education and training participation, and we limit our sample to those who answered that they have not been students or apprentices. Additionally, we use a variable which identifies the year when their highest level of education was successfully completed: *HATYEAR*. As a result, we may also have in our sample young people who in the last five years have participated in some educational activities, but they will not have obtained any higher level of qualifications. While constructing our sample we encountered several problems. One of them is lack of information on highest levels of education and the year of completion. We decided to include the youngest age group, those aged 15-19 with missing information about the year of school completion in our sample, as there is a high probability they completed their education up to five years before the interview. In the case of older respondents, for whom the year of completion of their highest level of education is missing, but who provide information about their highest level of education, – we use an imputation based on the institutional age for completing education at a given level. Those in older cohorts for whom we have missing information for both year of completion and the level of education will be dropped from the sample.

Indicators

The unemployment indicator will be constructed based on the ILO definition adopted by the Eurostat. An unemployed person is someone who has not been working in the reference week, but he or she has been looking for a job in the last four weeks and is available to start working within two weeks (derived variable *ILOSTAT*[1]). Because of the specific definition of our sample, we do not face the problem of huge disparity between unemployment rate and unemployment ratio, as we do not have those in training or education. Whenever we use unemployment rates we refer to the following definition: unemployment rate is a number of unemployed to total number of youth in the labour force.

The long-termunemployed status will be assigned to a person if they first fulfil the conditions to be regarded as unemployed, and she or he has been looking for a job for at least 12 months.

The NEET (Not in Education, Employment, or Training) indicator is constructed according to the definition applied in most of the European countries (Mascherini et al.

[1] See: *EU Labour Force Survey database user guide* http://ec.europa.eu/eurostat/documents/1978984/6037342/EULFS-Database-UserGuide.pdf

2012) and implemented by the Eurostat[2], yet we are also going to apply it to those/cohorts older than 24 years old. The NEET definition used in our paper is the percentage of the population of a given group that is not in employment and not involved in further education or training. Our calculation, due to the definition of the sample, differs from the indicators presented by the Eurostat, as our targeted group consists only of those who have already left education, so they are not counted as a part of the denominator – as is the case with the Eurostat definition.

Temporary employment is identified on the basis of the variable TEMP: for those who declare that they have a job contract of limited duration. The indicator used for temporary work, is a percentage of employees who declare that they have a job contract of limited duration among all employees.

Part-time employment is also defined on the basis of the respondents' self-defined status (variable FTPT). Sometimes those working less than 30 hours per week are considered as part-time employees. However this depends on the hours' threshold which varies from country to country, therefore we decided to use a self-defined status. Involuntary part-time employment is assigned based on the respondent's reasons for being in part-time work rather than a full-time job.

Ukraine-Labour Force Survey

Ukraine-Labour Force Survey (ULFS) is the major source of data delineating the situation on the labour market in Ukraine. It is conducted on the monthly basis by the State Statistic Committee of Ukraine. The ULFS uses the definition of the employed and unemployed people recommended by the ILO and used in the EU, and covers population from 15 to 70 years of age. In 2013 the overall number of people who participated in the survey was 118.2 thousand or 0.35% of the constant population of Ukraine. Monthly sample constitutes 16.6 thousand.

Unlike EU-LFS, ULFS doesn`t contain data on immigration status, subjective employment insecurity, and requires different approach to creating the sample of recent school leavers. In particular, Ukrainian survey does not contain the question on the time of graduation/completion of education. Therefore, the cohort of the recent school leavers is defined based on the estimated year of finishing education. A potential drawback of this approach may be that the real number of school leavers can be underestimated.

[2] More at European Commission, 2011: *Youth neither in employment nor education and training (NEET) Presentation of data for the 27 Member States, EMCO Contribution* http://ec.europa.eu/social/BlobServlet?docId=6602&langId=en

Other assumptions made to construct the sample:

- Individuals with Candidate or Doctor of Sciences degrees are not distinguished in the ULFS data, so we can take into account recent school leavers after obtaining a Specialist/Master degree only.
- It is assumed that incomplete higher education (I-II level of accreditation - ISCED levels 5-6) is on the basis of the complete secondary education (ISCED levels 3-4) plus 3 years.
- It is assumed that complete higher education (III-IV level of accreditation- ISCED levels 5-6) is on the basis of the basic higher education plus 1 year (even though Master and PhD programs can take much more than 1 year).
- We do not know whether a person is in obligatory military or social work service
- The definition of part-time employment is based on usual hours of work with the OECD threshold of 30 hours because there is no direct question in the ULFS.
- The data on temporary job includes respondents with a fixed-term (temporary or seasonal) and casual employment.

European Social Survey

Unfortunately the EU-LFS dataset does not allow for identification of informal employment. This indicator is created on the basis of the European Social Survey (ESS). The European Social Survey provides information on the type of work contract at respondent's job: Do you have a work contract of unlimited duration (1) or, limited duration (2) or, do you have no contract (3)? The third option allows to identify people with informal jobs. However, this question identifies only a part of members of the informal sector. The European Social Survey is designed for analysis of attitudes, beliefs and behaviours of citizens of European countries, but it also cover topics related to our report such as: education and occupation. The survey has been conducted every two years since 2001.[3] As the ESS is used as an additional source of information, it should be added that the EU-LFS and the ESS are not equivalent and are not interchangeable data sources due to differences in data collections, sample design, and definition of the labour market variables of interest. For a clarity and consistency of our empirical results we attached to this paper the detailed comparison of the EU-LFS with the other datasets and their discrepancy in regards to the main labour market indicators (Appendix A).

[3] More at: http://www.europeansocialsurvey.org/about/

European Quality of Life Surveys (EQLS)

The EU-LFS also does not include information which characterise subjective employment insecurity. Due to this limitation we use additional data set: EQLS. The EQLS is a survey conducted every four years under the coordination of The European Foundation for the Improvement of Living and Working Conditions. The survey covers topics such as: employment, income, education, housing, family, health and work-life balance. It also has a very large range of questions which depicts opinions, beliefs, attitudes and ideas, and allows us to find out about subjective happiness, work and life satisfaction, and life balance. The concept of subjective insecurity is defined on the basis of the following two questions: *How likely or unlikely do you think it is that you might lose your job in the next 6 month?* (very likely, quite likely, neither likely nor unlikely, quite unlikely, very unlikely), and: *If you were to lose or had to quit your job, how likely or unlikely it is that you will find a job of similar salary*? Unfortunately the sample size in the EQLS is relatively small, especially if our approach to focus on recent school leavers is applied, so the dataset is not well suited for analysis of overall labour market situations of recent school leavers.

EU-Statistics on Income and Living Conditions

To assess the short term changes of labour market status, we also used the longitudinal component of the EU-Statistics on Income and Living Conditions (EU-SILC data)[4]. The main aim of the EU-SILC is to compile statistics on subjective and objective aspects of income and living conditions for households and individuals across the EU countries. Although the EU-SILC is not specifically designed for labour market analysis, the survey contains questions both about labour market status and current educational activities of individuals, which are crucial for our analysis. Unfortunately the definition of our main variables of interest used by the EU-SILC differ from those in the EU-LFS and from the ILO definitions (more information and comparison of statistics can be found in Appendix A). Moreover, the EU-SILC is not based on a common questionnaire, but on the common guidelines and procedures which can influence the cross-country comparisons.

[4] See more at: http://ec.europa.eu/eurostat/web/income-and-living-conditions/overview

Chapter 2: Demography and policy context

Demographic and economic context is crucial for proper understanding of the labour market situation of young people, especially in light of recent dynamic changes. Although population ageing is a long-term trend in the majority of the European countries, there is also a visible variation across countries in the size of youth cohorts, which is a result of different fertility and migration trends. In most European countries the working age share of the population is decreasing. This is driven mainly by retirement of a large cohort of older people and low number of new entrants. Older studies (Gangl 2002) shows, that cohort size does not matter for labour market outcomes, but in recent literature there is evidence, that cohort size could matter. Cahuc et al. (2013) suggest that low fertility rate and a shrinking youth cohort should improve the situation of youth in the labour market and diminish their unemployment. Similar conclusion could be drawn from Dhanjal and Schirle (2014) who show that a growing share of older workers in Canada may have positive effects on the youth labour market prospects. Garloff, Pohl, and Schanne (2013) findings show that lower numbers of young school leavers entering the labour market leads to a decrease of an overall unemployment rate and improvement of opportunities for job seekers. Thus, most of the previous literature suggests that a decreasing number of youth should improve their prospects in the labour market, but this may not happen automatically. Young people need to have qualifications, and skills required by the employers, and they have to compete with more experienced older workers. However, recent literature provides the argument, that young and prime age workers are rather complements than substitutes and are hired in different kind of industries (Gruber and Wise 2010; Munnell and Wu 2012). Moreover, there is no evidence, that the recent financial crisis has changed this relationship (OECD 2013).

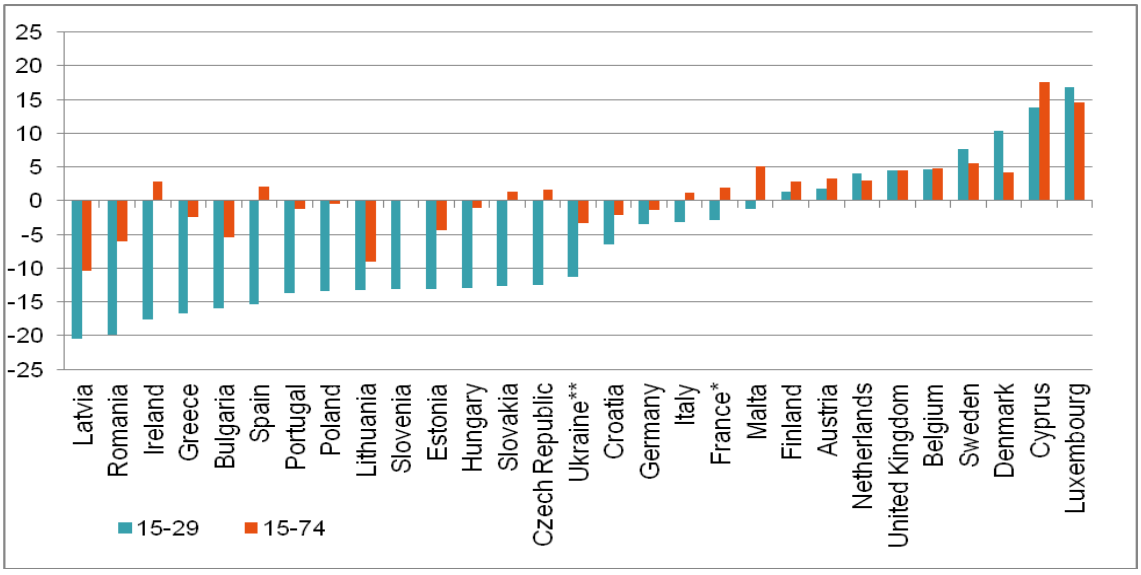
Despite these demographic changes, which act in favour of young job seekers, we still observe quite high unemployment rate among youth in many European countries. To a certain extent this may be driven by the most recent economic downturn. Empirical literature shows that financial crises influence the unemployment rate among youth with greater power (Verick 2009; Choudhry, Marelli, and Signorelli 2012) than that among prime age workers. It has been also shown that macroeconomic fluctuations at the time of entry into the labour market lead to detrimental effects later in life. Kawaguchi and Murao (2014) using panel data for the OECD argue that cohorts which encounter high unemployment rate in their youth also have a higher unemployment rate later in life. This is the result of financial capital deprivation and lower human capital accumulation during the unemployment periods. Thus, this is a very important challenge for policy makers, to help those youth affected by the economic crisis in view of their future labour market situation, which is so important for economy in times of aging society.

2.1. Demography

The share of young people aged 15-29 in the population is unevenly distributed across the European countries. In 2013 the lowest proportion of youth is observed in Italy (15,4%), and the highest in Cyprus (23,6%) while the mean for the EU-28 countries is about 17,9%.

The size of the population aged 15-29 in the European countries has changed considerably since 2007. This results from changes in the fertility rate in recent decades and changes in migration trends in recent years. In most countries the youth population has declined (Figure 1). On average, for the European countries, the number of young people has decreased by 6% between 2007 and 2013. The most dramatic decline has occurred in Latvia –20.4%. Slightly smaller decline is recorded in Romania and Ireland. Those decreasing trends influence not only educational systems in these countries but also chances of youth in the labour market. However, some European countries (e.g. Denmark, Cyprus and Luxembourg) have experienced growth of young population.

Figure 1: Change of population aged 15-29 and 15-74 (%) between 2007 and 2013



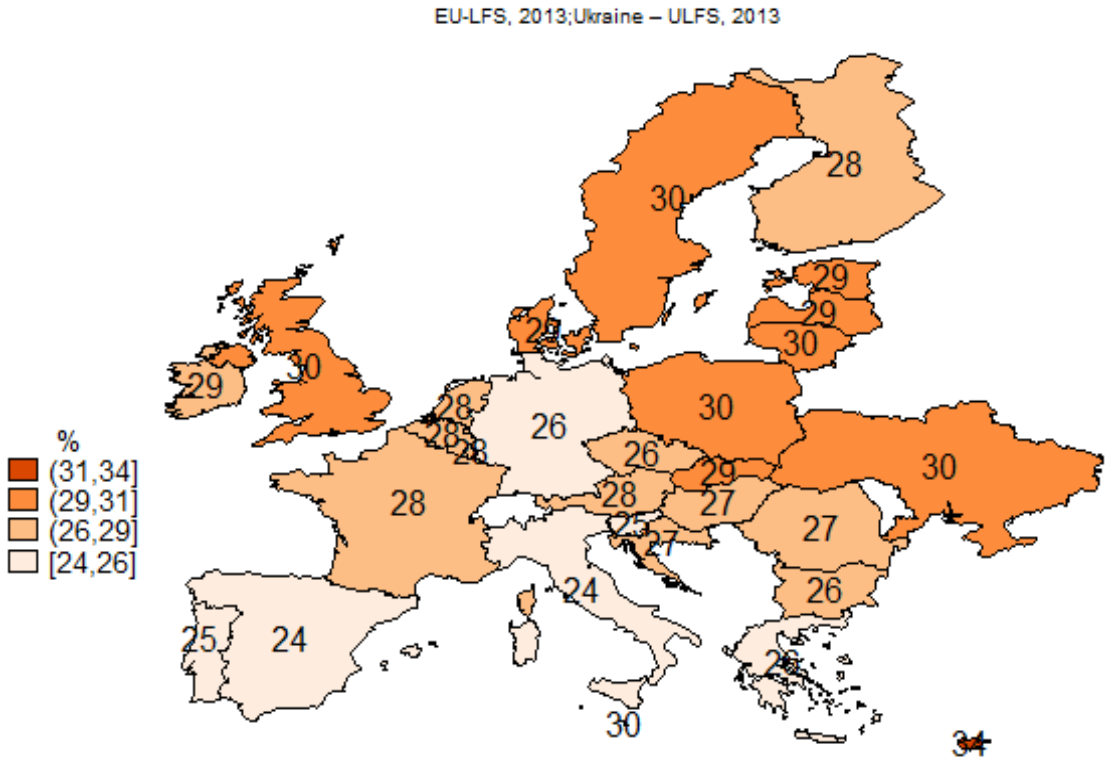
*Source: Eurostat; *France, including Corsica, excluding the overseas departments; **Source of data for Ukraine - State Statistics Committee of Ukraine*

Changes in youth population result in changes in the proportion of young cohort among working age population. In 2013, Italy and Spain has the lowest share of young people in the working age population, while Cyprus has the highest (Figure 2).

Since 2007, in the majority of the European countries the ratio of young people in total working age population has shrunk. Ireland, Spain and Romania have experienced the most significant decline (6.5 p.p., 4.8 p.p., and 4.8 p.p respectively). At the same time, other countries (Belgium, Finland, Austria, Cyprus, Luxembourg, Netherlands, United Kingdom, Sweden and Denmark) have a small, but visible growth in the proportion of youth among working age population (up to 2.5 p.p. in Denmark).

In Ukraine, the share of people aged 15-29 among working age population in 2013 was around 30%. This share has been decreasing since 2007 when it was 34%. Unemployment rate among recent school leavers was 15% in 2013 - more than 2 times higher than the unemployment rate among people 30-59, which was 6% the same year. Both indicators are only slightly lower than the EU average.

Figure 2: Share of the people aged 15-29 in working age population in 2013 (%)



Source: Eurostat, and Ukraine –ULFS.

2.2 Education

A growing share of people with higher education among the youngest cohort is a general trend in the European countries, however there are substantial differences

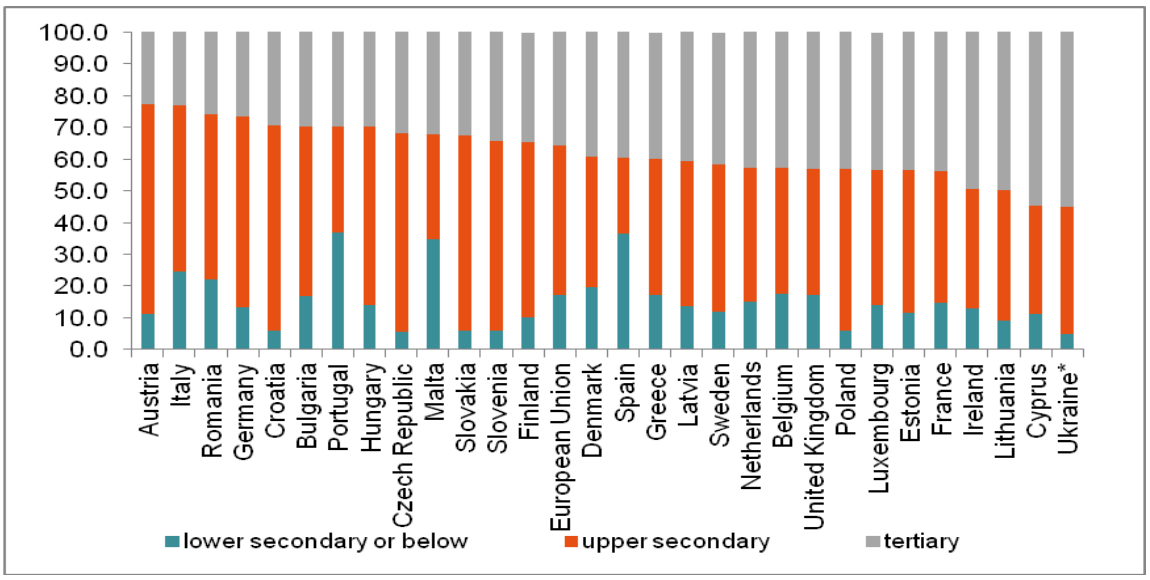
across the countries. In Austria and Italy only 10% of people aged 15-29 have completed tertiary education, while in Cyprus and Ukraine the proportion exceeds 30%. This arises from variations in education participation and differences in educational systems among the European countries. When we consider only people aged 25-29, the pattern is the same and the differences are even larger (Figure 3). The share of youth aged 25-29 with tertiary education ranges from 22,8% to 54,7%, with the lowest share in Austria and Italy. However, in Austria attainment of upper secondary education is common, so quite a small share of youth aged 25-29 has lower secondary education or below. Whilst in Italy for more than 20% of young adults this is the highest level of education. High numbers of youth aged 25-29 with upper secondary education is observed in Austria, Croatia, Czech Republic, Slovakia and Germany. These are countries with strong vocational education, which is often considered as an important factor of labour market transition. In 2013 according to the EUROSTAT data, in Czech Republic as many as 74% students enrolled in upper-secondary education follow vocational programmes. Other countries where this share exceeds 60% are (in ascending order) Romania, Belgium, Slovenia, Netherlands, Slovak Republic, Finland, Austria and Croatia.

Spain and Portugal stand out from the other European countries in regards to having a large share of those with tertiary education *and* a high proportion of those with low levels of education.

An important aspect of educational system that can affect the outcomes of young people in the labour market is the compulsory school attendence age limit, which varies across the European countries. According to Eurydice (2014) in most of the EU member states compulsory schooling age is 16, while in few others it is 18 (Poland, Netherlands and Hungary).

Based on the World Bank data, Ukraine has lower youth unemployment rate – 18% as compared to 26% EU average. In addition to that, Ukraine has higher tertiary enrolment rates, which naturally affects the structure of youth employment. According to the recent Global Competitiveness Index, Ukraine occupies 13th place out of 144 countries in terms of tertiary education enrolment rate – only Greece, Finland and Spain perform better.

Figure 3: People aged 25-29 with a given education attainment (2013)



*Source: Eurostat; *Source of data for Ukraine: Ukraine-Labour Force Survey*

2.3. Economic crisis

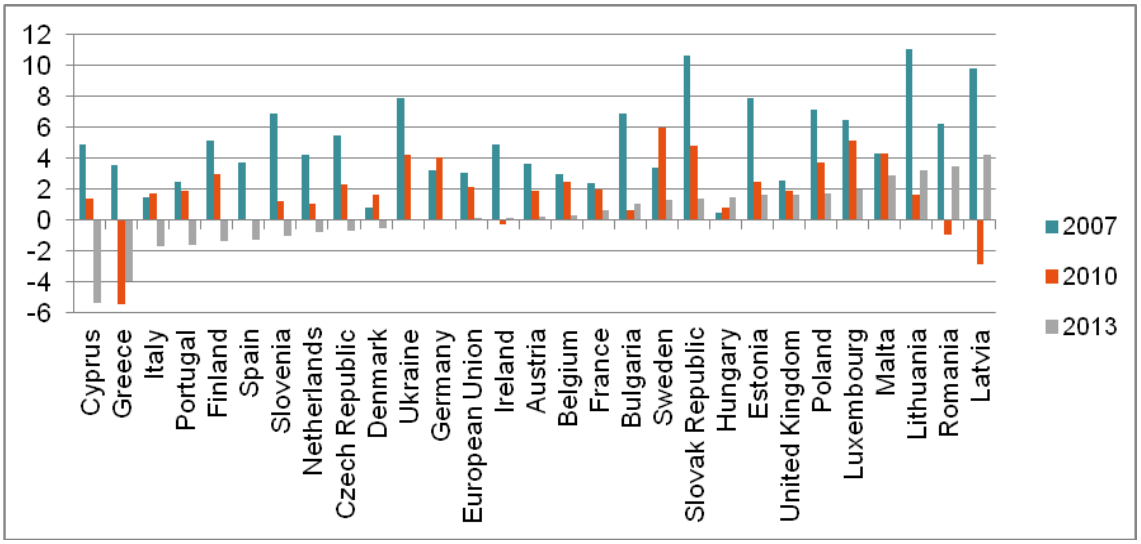
Recent economic crisis, the most severe recession after the Great Depression, has had a detrimental impact on European economies. All the European countries experienced an economic slowdown to a certain extent, whereas some of them plunged into a prolonged, severe and massive recession (Figure 4). In 2009, according to the World Bank data, the GDP decline in Lithuania, Latvia and Estonia was about -14%, however these small economies adjusted fast and after the shock resumed on the growth path again. While not depicted on the graph, economic downturn in Ukraine in 2009 was one of the most egregious in the region with a 15% real GDP decrease. The growth rates were 4-5% in 2010 and 2011, but close to zero in 2012 and 2013. After the Revolution of Dignity, the economy entered a recession. In contrary, since 2007 the real GDP of Greece and Croatia was decreasing for the entire period, while Spain and Portugal experienced an economic decline for most of the time.

According to economic theory (both neo-classical and neo-Keynesian, see Romer 1996), lack of economic growth can cause a decline in employment. Simply speaking, the drop in demand entails a reduction in production. Firms looking for savings decide to reduce employment. Many firms also go out of business, which result in large scale redundancies.

Although the recent crisis was of global nature, the reactions of the European economies varied considerably. Eichhorst et al. (2010a) claim that there are many factors which influence the impact of the crisis on the labour market, among which the

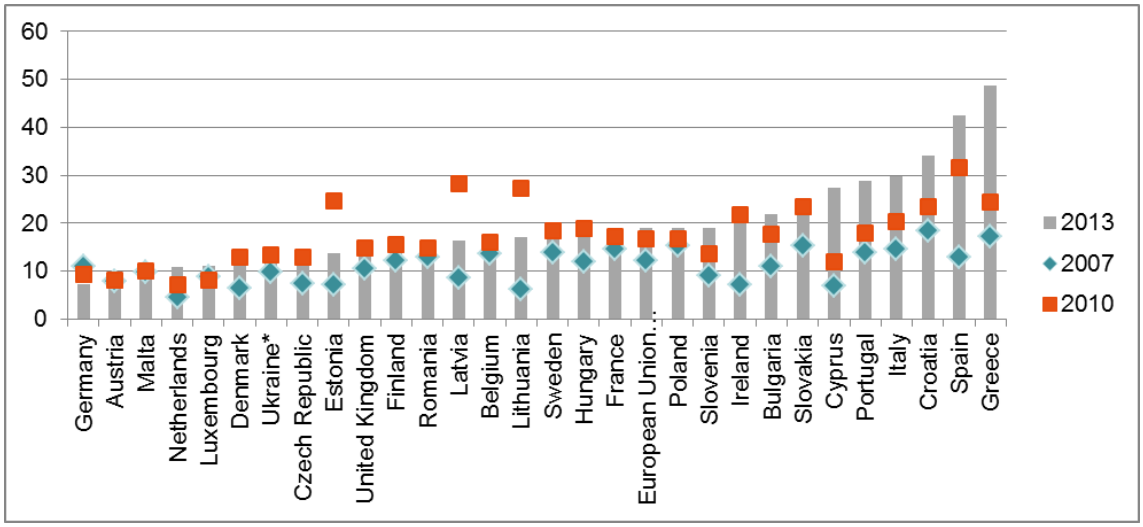
structure of the economy (share of vulnerable sectors), monetary and fiscal policy, and labour market institutions.

Figure 4: GDP growth (% annualy)



Source: World Development Indicators, World Bank

Figure 5: Youth unemployment rate (% labour force aged 15-29)

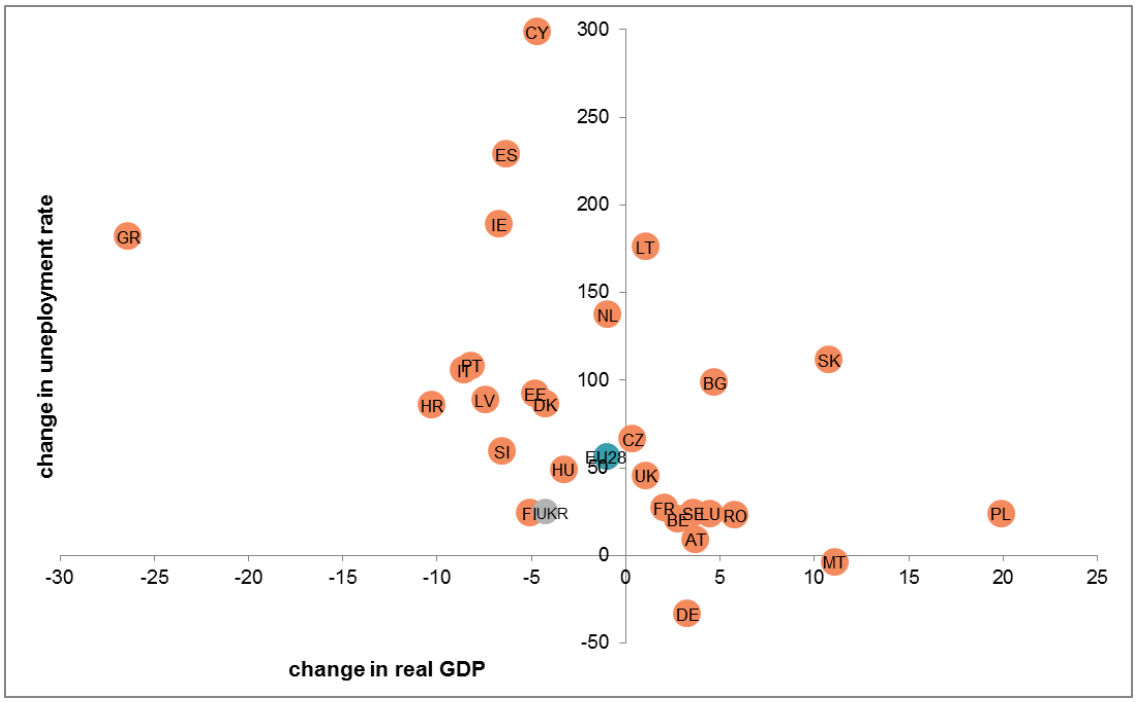


*Source: Eurostat; *Source of data for Ukraine - State Statistics Committee of Ukraine*

As a result of the crisis, there was a significant increase of total unemployment rate in most of the European countries; the highest was observed in Greece and Spain. Many previous studies show that youth's unemployment rate is more sensitive to

macroeconomic changes (Bertola, Blau, and Kahn 2007; Kahn 2010; Jaimovich and Siu 2009; Scarpetta, Sonnet, and Manfredi 2010; Choudhry, Marelli, and Signorelli 2012). Indeed, youth outcomes in the labour market were worse than those for overall population. The most serious increase in youth unemployment rate occurred in Greece and Spain (Figure 5). In Croatia, Italy, Portugal, Bulgaria, Slovenia and Cyprus it was also increasing after 2010, but it did not take so high values. In Latvia, Lithuania and Estonia the youth unemployment rate increased sharply in 2010, but now the rate is below the average for the European countries, yet still much higher than that in 2007. Austria, Malta and Germany experienced a much better situation in the period 2007-2013: the youth unemployment rate in Austria increased only by 0.7 p.p., while Malta and Germany had a decrease in the youth unemployment rate, starting from already low rate in 2007.

Figure 6: Changes in the real GDP (%) and in youth unemployment rate 15-29 (%) between 2007 and 2013



Source: computations of GDP change based on World Development Indicators, World Bank; computations of change in unemployment rate based on Eurostat and State Statistics Committee of Ukraine

In many countries the youth unemployment rate increased significantly during the recent period, but there are substantial cross-country differences in youth unemployment rate in response to real GDP changes (Figure 6). Malta emerged from the crisis unscathed with positive growth rates and small decline in youth unemployment. There are also countries for which the crisis has been quite mild, such as Poland, Slovak Republic or Bulgaria. However in all of them unemployment rate

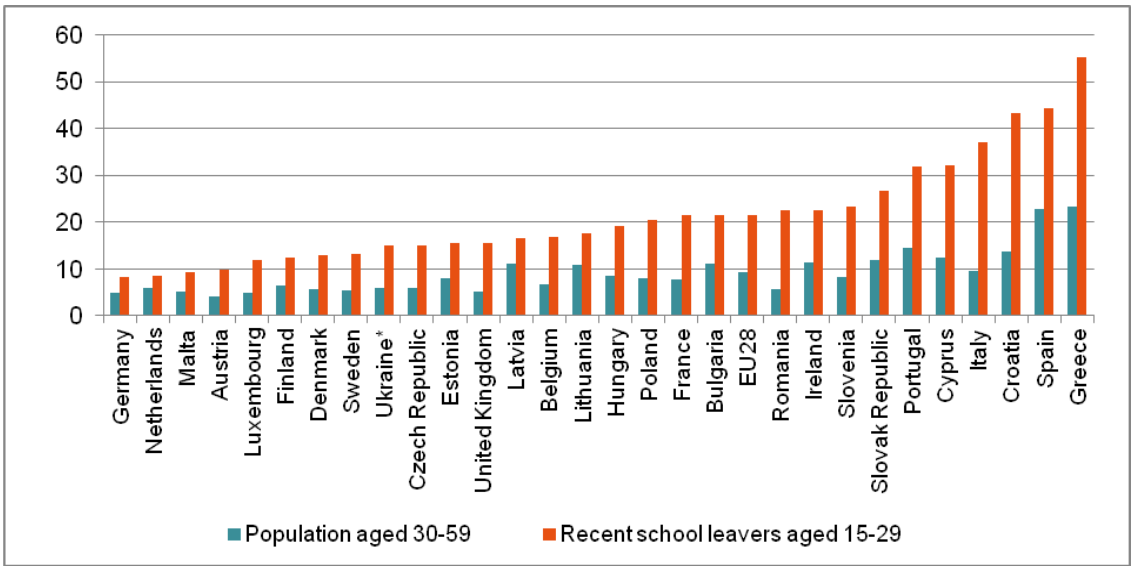
increased. In Poland there has been positive economic growth since 2007, but in Slovak Republic and Bulgaria a GDP decline occurred in 2009. In those three countries we observe the rise of unemployment rate over the entire period. Unlike in Germany, where despite the periods of negative economic growth, the youth unemployment rate had in fact decreased. The most severe GDP decline with sharp growth in the youth unemployment rate occurred in Greece. Yet, in Ireland, Spain and Cyprus the youth unemployment rate increased more, even though the decline in GDP was not as significant as in Greece. Lithuania and Netherlands had close to the average change in the real GDP combined with quite a considerable increases in the youth unemployment rate.

Chapter 3: Labour market exclusion

The previous chapter has described the overall situation with young people in the European countries , before and after the financial crisis. This chapter applies to our specific population, the recent school leavers, and their labour market outcomes. On the one hand, we expect that general indicators of labour market exclusion for these two groups to be similar. On the other hand, youth, who completed education no later than 5 years ago, could be a more vulnerable group than their more experienced counterparts as they have less employment specific experience and must compete with more experienced job-seekers. Vast literature shows that the incidence of labour market exclusion at a young age may have many later life consequences. Among them higher risk of future unemployment (Gregg 2001; Kawaguchi and Murao 2014), wage penalty (Freeman and Wise 1982; Gregg and Tominey 2005a), and other social consequences discussed in the literature. Recent financial crisis may exacerbate these adverse effects, as, for example, graduating in a poor economy has long-term effects like underemployment, job mismatching or persistent earnings gap (Oreopoulos, von Wachter, and Heisz 2012; Kahn 2010).

Here we will provide descriptive illustration of cross-country differences and changes over time in the incidence of labour market exclusion of recent school leavers, with the social consequences mentioned above being analysed in subsequent work packages. To address this issue we use data for 2007, 2010 and 2013, which helps us to get some preliminary evidence on the impact of the crisis.

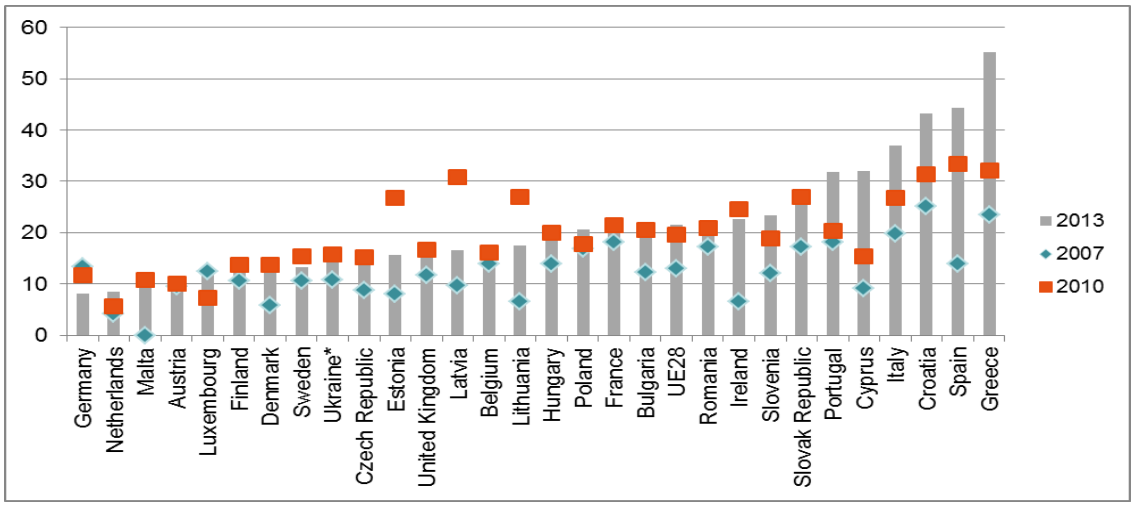
Figure 7: Unemployment rate for recent school leavers and population aged 30-59 in 2013



*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

Labour market exclusion of young people is a substantial problem for European countries. According to the EUROSTAT statistics presented in the previous chapter, it is clear, that after the financial crisis the youth unemployment rate has increased significantly. In fact, the rise in the unemployment among those in our specific youth population, who left school up to 5 years before the survey, has been the most dramatic. In 2013 the highest level of unemployment among recent school leavers was observed in Greece (55%), Spain (44%), Croatia (43%), Italy (37%), Cyprus (32%) and Portugal (32%) (Figure 7). The lowest unemployment rate occurred in Germany, Netherlands, Malta and Austria and does not exceed 10%. In all the European countries the unemployment rate among recent school leavers was higher than unemployment rate among prime age population. The highest rate of unemployment among population aged 30-59 occurred in Spain and Greece, and exceeded 20%. But the difference between youth and older population was not as large as it was in the United Kingdom and Romania. In these countries the unemployment rate among recent school leavers was four times higher than among prime age population. The smallest difference was observed in Netherlands, Latvia and Lithuania (about 1.5 times).

Figure 8: Unemployment rate for recent school leavers in 2007, 2010 and 2013



*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

There are clear differences across countries in unemployment rate dynamics among recent school leavers (Figure 8). A few trends can be identified :

- Germany is the only country, where the unemployment rate among recent school leavers has been declining throughout the entire six year period. In that time unemployment rate decreased for all age groups, so this reflected the

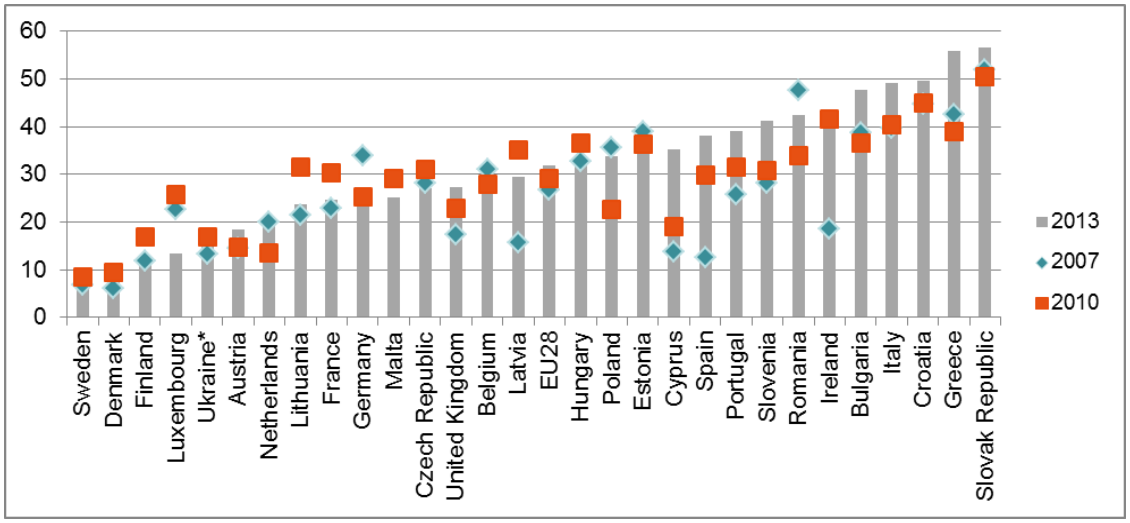
general good performance of German labour market. The adult-unemployment rate dropped as well (in the age group 25-74 years from 10,6% in 2005 down to 4,7% in 2014 (source: Eurostat). This might be connected to the fact that German economy was hardly affected by the crisis in comparison to other European countries. Due to the demographic change, the economic growth, educational expansion less young people are on the job market and an equal number or even more jobs are available. Besides it is plausible that the school leaver-unemployment rate can be lead back to factors such as transitional programs for graduates (internships, vocational preparation programs, qualifications programs, etc.) which means that people without a paid job do not count automatically as unemployed and don´t appear in the statistics.

- Denmark, Czech Republic, Ukraine and France are countries, where the unemployment rate has increased from 2007 to 2010, and remained at this higher level afterwards.
- Austria, Finland, Hungary, Ireland, Luxembourg, United Kingdom, Sweden and Slovak Republic are t countries where the unemployment rate of recent school leavers has initially increased, but since 2010 it has started to decline.
- Latvia, Lithuania and Estonia, have been heavily hit by the economic crisis and they have recorded sharp growth in the unemployment rate, but after 2010 it has decreased substantially.
- There are also countries, where the unemployment rate has been increasing during the entire period, but this increase has been rather modest: Belgium, Bulgaria, Netherlands, Poland, Romania and Slovenia.
- The most severe situation has been observed in Spain with the highest increase in the unemployment rate of recent school leavers between 2007 and 2010 and in Greece, Croatia, Italy, Portugal and Cyprus where after 2010 growth of unemployment rate has accelerated.

Although a lot of young people experience temporary unemployment spells after leaving school, what really matters is the duration of unemployment. Lengthy unemployment spells can evoke negative psychological consequences such as, low self-esteem, depressive symptoms and anxiety (Kokko, Pulkkinen, and Puustinen 2000) and influence the probability of finding a job in the future. The longer time out of work, the greater the obstacles in acquiring a job position. Therefore, we decided to describe also the scope of the long-term unemployment among recent school leavers (Figure 9). Although the highest unemployment rate is documented in Greece and Spain, the most serious situation with respect to long-term unemployment is in Slovak Republic, where it has been similar even before the crisis. Up to 56% of the unemployed young school leavers are out of work for more than one year. This is a persistent problem

irrespective of the business cycle, which stems from low turnover, weak vacancy creation and exclusion of the Roma-speaking population - the most disadvantaged group in the Slovakian labour market (Machlica, Žúdel, and Hidas 2014).

Figure 9:Long-term unemployment as % of total unemployment of recent school leavers in 2007, 2010 and 2013

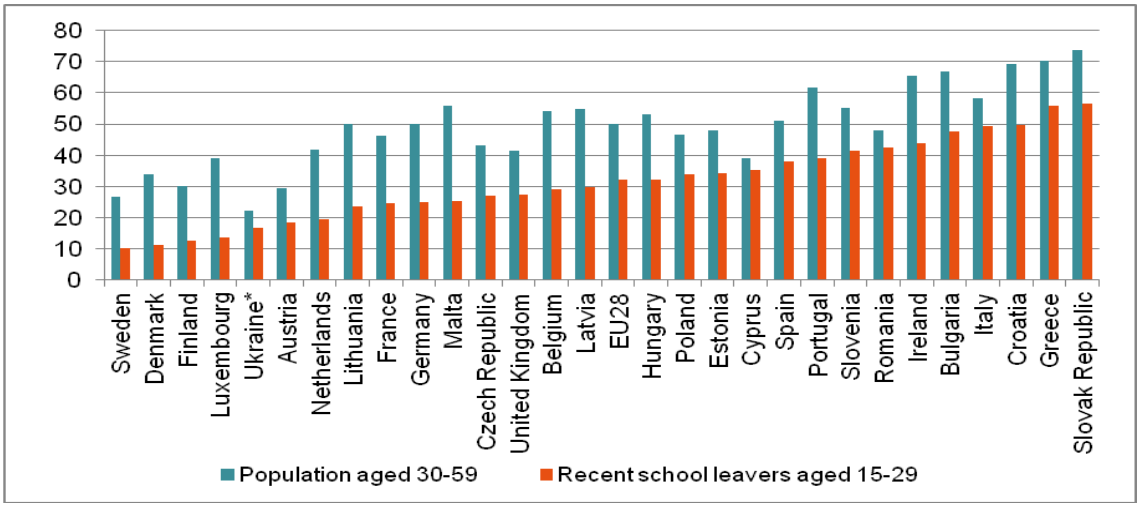


*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

The rate of long-term unemployment among recent school leavers is also very high in Greece, Croatia, Italy and Bulgaria and it fluctuates around 50%. This is a serious issue as these countries also face a high rate of unemployment among recent school leavers. Furthermore, it seems to be persistent, since the long-term unemployment rate was high even before the financial crisis. In Spain, Cyprus, Latvia and Ireland this problem was moderate in 2007, but after the financial crisis a major increase in the long-term unemployment indicator was observed. High long-term unemployment rate in 2007 Poland and Romania was followed by a slight decline, but in 2013 the rate increased again. These are probably delayed effects of the economic slowdown. The lowest proportion of the long-term unemployed among young unemployed was observed in 2013 in Sweden, Denmark and Finland (Figure 9).

People aged 30-59 are more likely to be long-term unemployed than recent school leavers, as their presence in the labour market is simply longer (Figure 10). Therefore, the likelihood of being out of work for more than one year is less for recent school leavers than for people with longer experience. However, in some countries the difference between these two groups is not significant, like in Cyprus or Romania.

Figure 10: Long-term unemployment as % of total unemployment of recent school leavers and population aged 30-59 in 2013

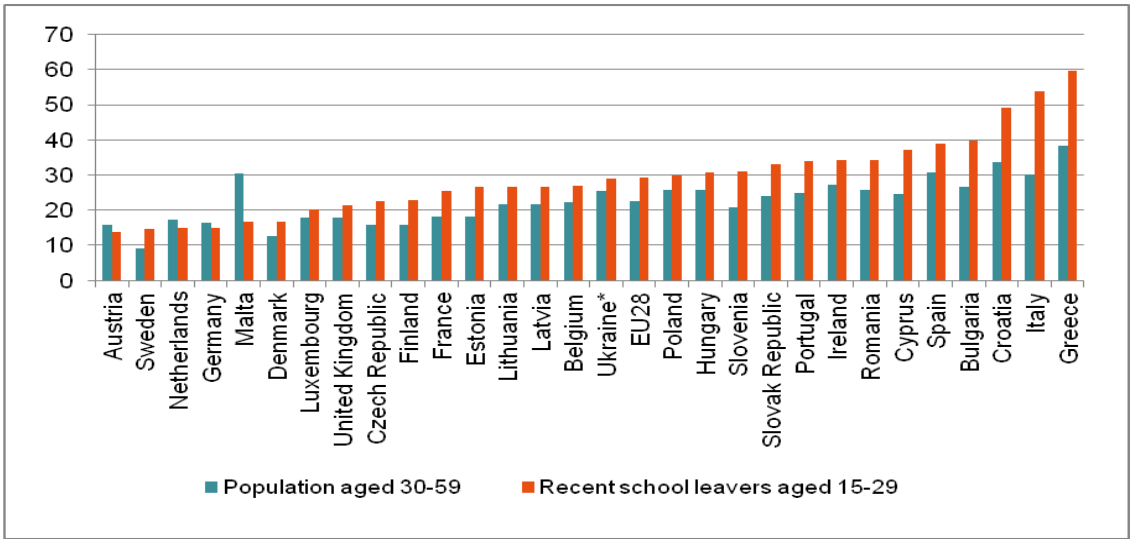


*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

Another important indicator of labour market exclusion, widely used in descriptions of young people situation, is the NEET rate. High value of the NEET indicator results from our sample design – youth who are in education are excluded from this sample, so they do not enter into the denominator of our indicator. In that case the NEET rate shows the proportion of unemployed and inactive in recent school leavers' population, who do not participate in any kind of training. Therefore, the highest NEET rate should be observed in countries with high level of youth unemployment. However, the share of inactive among NEET is also an important indicator. It shows, how many people gave up job searching and improving their qualifications and became "discouraged workers".

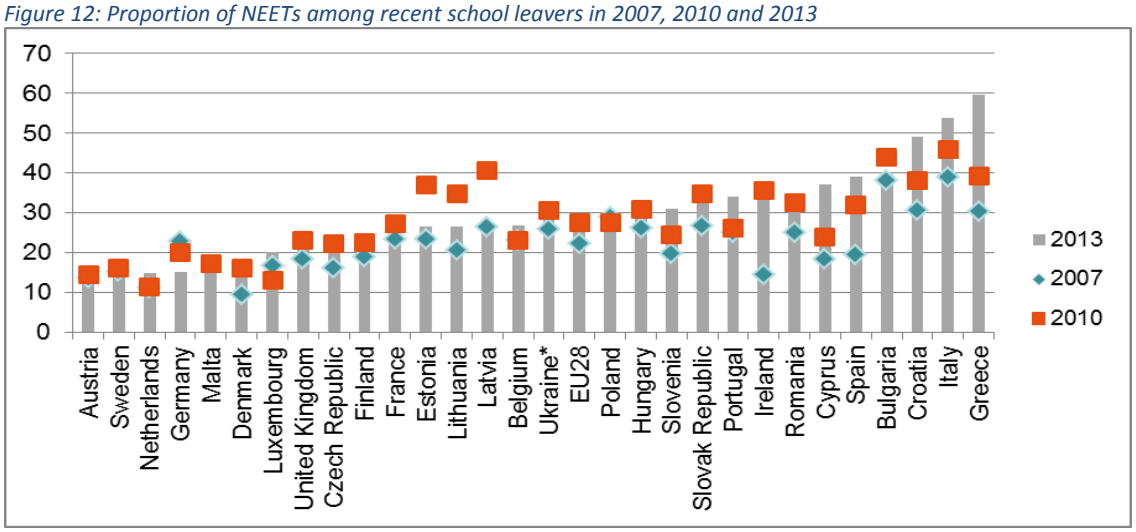
Proportion of NEETs in our population is the largest in Greece, Italy, Croatia, Bulgaria and Spain (Figure 11). The NEET rate for prime age population is a bit lower than for youth, with the exception of Malta. The differences between these two groups of people in each country in NEET rates are not as dramatic as in the unemployment rates. There are many economically inactive people among prime age population, which increases the magnitude of this indicator.

Figure 11: Proportion of NEETs among recent school leavers and population aged 30-59 in 2013



*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

Figure 12: Proportion of NEETs among recent school leavers in 2007, 2010 and 2013



*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

An increase in the unemployment rate has changed the NEET structure in many countries. As depicted on Figure 12 in 2007 in the majority of countries the largest share of NEET rates consisted of inactive youth. In Latvia, Estonia, Lithuania and Bulgaria over 70% of NEETs were inactive. At the same time in Portugal, Greece, France, Luxembourg and Croatia this share was lower than 40% (so, in these countries the NEET group was dominated by unemployed young people). In 2013 the share of inactive NEETs decreased, in some countries like Lithuania and Cyprus even substantially (at about 30 p.p.), but still remained the highest in Bulgaria (59%). The lowest ratio of inactive NEETs occurred in Greece, Croatia and Slovak Republic (below

30%). It does not mean that the problem of inactivity among recent school leavers has decreased. The increasing unemployment rate changed the structure of the NEET population, and the value of this indicator (which has increased since 2007). An opposite trend was observed in other countries, where the proportion of inactive in group of recent school leavers increased (Luxembourg (about 18 p.p.), France (5 p.p.), Romania, Belgium, Germany, Finland, Sweden and Denmark). In Germany it was caused by rising employment (decreasing unemployment), while in other countries it is likely, that unemployed recent school leavers become inactive. However, the differences in structure between 2007 and 2013 are not substantial for most of these countries.

3.1 Education and labour market exclusion

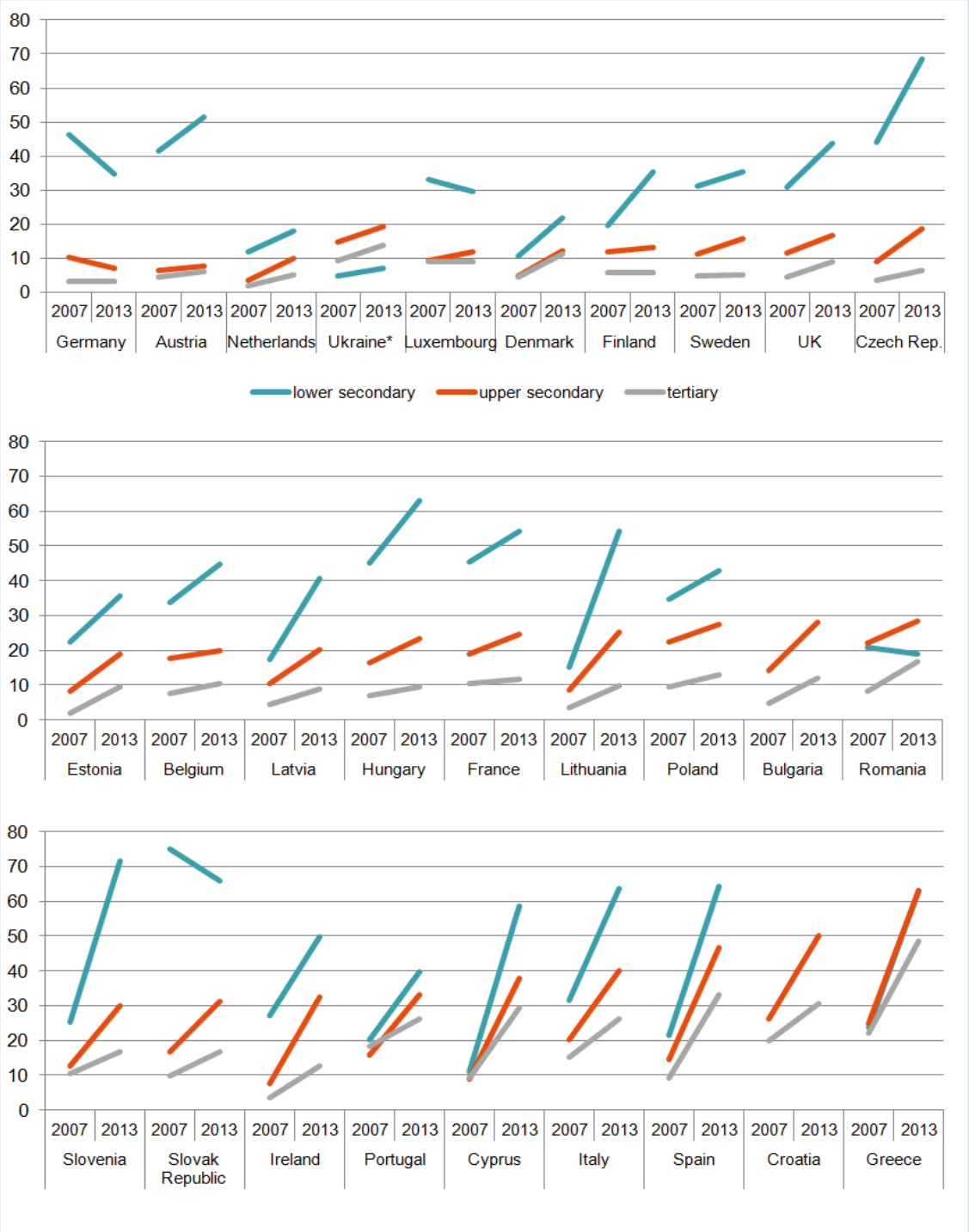
Recent economic crisis is not the only factor that influences the youth labour market situation: labour market characteristics, national economic policies, and education also matter. There is a wide array of literature which confirms that the level of education affects labour market outcomes, including the risk of unemployment (Ashenfelter and Ham 1979; Mincer 1974; Mincer 1991; Riddell and Song 2011). It is not surprising then that the group of youth with lower secondary educational attainment has the highest unemployment rate in all the European countries (except for Romania) (

Figure 13). The most dramatic increase in the unemployment rate among recent school leavers with lower secondary education occurred in Spain, Lithuania and Cyprus. A less significant increase was also observed in Slovenia, Greece, Finland and Latvia. In other countries the rate of unemployment for youth with lower education was higher than for other groups, but more significant rises of unemployment occurred among upper secondary and tertiary education graduates. In Germany the youth unemployment rate decreased across all educational groups.

The growing gap in the unemployment rate between groups of recent school leavers with different levels of education is concerning. It means that the risk of unemployment is becoming more dependent on their level of education. And those with lower levels of education were much more affected by economic changes, than other groups of recent school leavers. In 2013 the highest share of unemployed among young people with lower secondary education was observed in Slovenia (71%). The rate of unemployment exceeding 60% was also documented in Czech Republic, Slovakia, Spain, Italy, Greece and Hungary. Youth who have completed upper secondary level of education are much less affected by unemployment. For example, in Czech Republic the difference between the rates for lower secondary and upper secondary graduates is as large as 49 p.p.. However, in Greece youth who attained upper secondary

education experience an equally high risk of unemployment as youth with lower levels of education: above 60% for both groups.

Figure 13: Unemployment rate (%) among recent school leavers by educational levels in 2007 and 2013



*Source: Own calculations based on EU-LFS.*There were not enough number of observations for Bulgaria, Slovenia and Croatia for youth with lower secondary education level. For Malta there are no data for 2007; *Source of data for Ukraine - Ukraine Labour Force Survey*

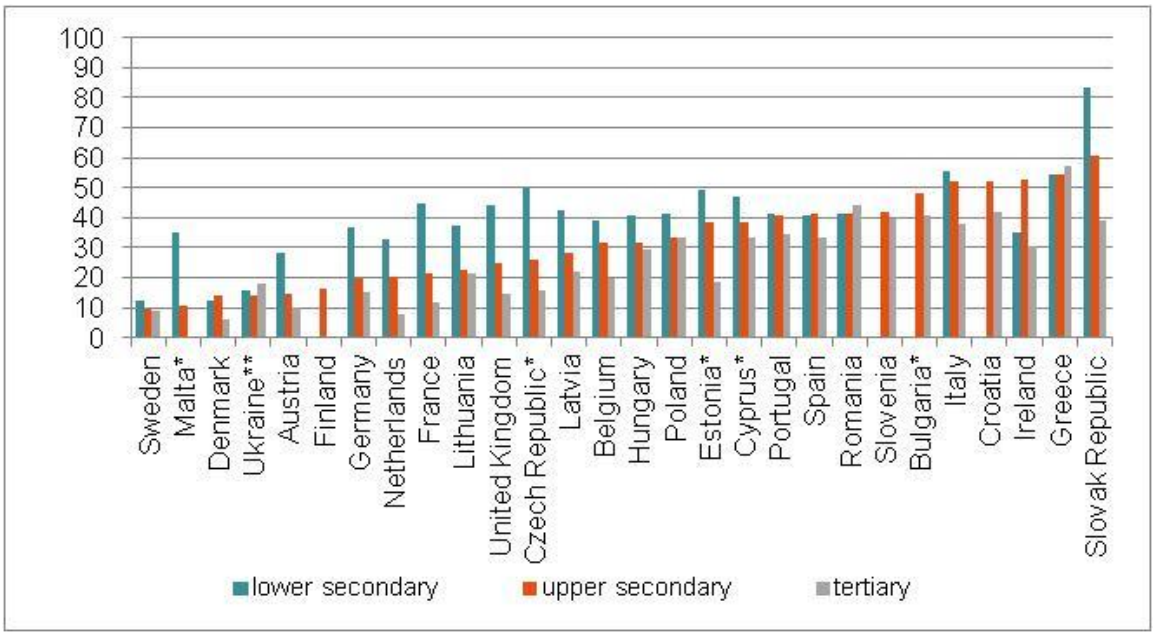
On the contrary to other countries, in Ukraine and Romania those with upper secondary education are more likely to be unemployed compared to the lower secondary and tertiary education groups, and this rate has increased from 2007 to 2013. To compare, in Germany and Austria the unemployment rate among upper secondary graduates is really small (about 7%). In these countries, as well as in Denmark, the vocational education in a form of dual system is seen as the main reason for the low rate of unemployment among youth (Eurofound 2014).

High levels of unemployment rates among tertiary education graduates is observed in Portugal, Italy, Cyprus, Croatia, Spain and Greece and ranges from 26% to 48%. The weakness of the educational system in Spain - high share of early school leavers combined with an oversupply of the university graduates - is one of the main explanations for the deteriorating situation in the labour market (García López 2011). In this country both groups have difficulties with integrating into employment. The unemployment rate among tertiary education graduates in Greece is also a point of concern. This is mostly the problem of transition from education to work, pertinent to all groups of graduates. A period between leaving school and finding a job is quite long and was long also before the crisis (Mitrakos, Tsakloglou, and Cholezas 2010). Tubadji (2012) highlights the inadequacy of the Greek educational system to meet business needs and suggests that the high unemployment rate among youth with tertiary education arises from too high expectations and reservation wage. In contrast, Liagouras, Protogerou, and Caloghirou (2003) in an attempt to explain the mismatch between the higher education system and labour market in Greece suggest that the missing link is not the supply of high-quality researchers but the incapacity of the domestic economy to absorb them. Besides, the oversupply of highly qualified young graduates encourages employers to be extremely demanding during personnel selection processes and to look for highly educated graduates with work experience. This creates a vicious circle of precarity because young graduates usually lack work experience. Finally, it is noteworthy that traditionally the main employer of higher education graduates has been the broader public sector. However, as a result of the cost-reduction policies that were implemented during the Greek financial depression in the 80's and 90's and again in 2008 till today, employment opportunities for young graduates in the public sector have been reduced gradually (see also, Livanos (2010)).

In Slovak Republic, where the unemployment rate among lower secondary education graduates is really high, the share of long-term unemployed is also large (83%) (Figure 14). Surprisingly Greece and Romania have higher long-term unemployment rate among graduates of higher education than among youth with lower levels of education.

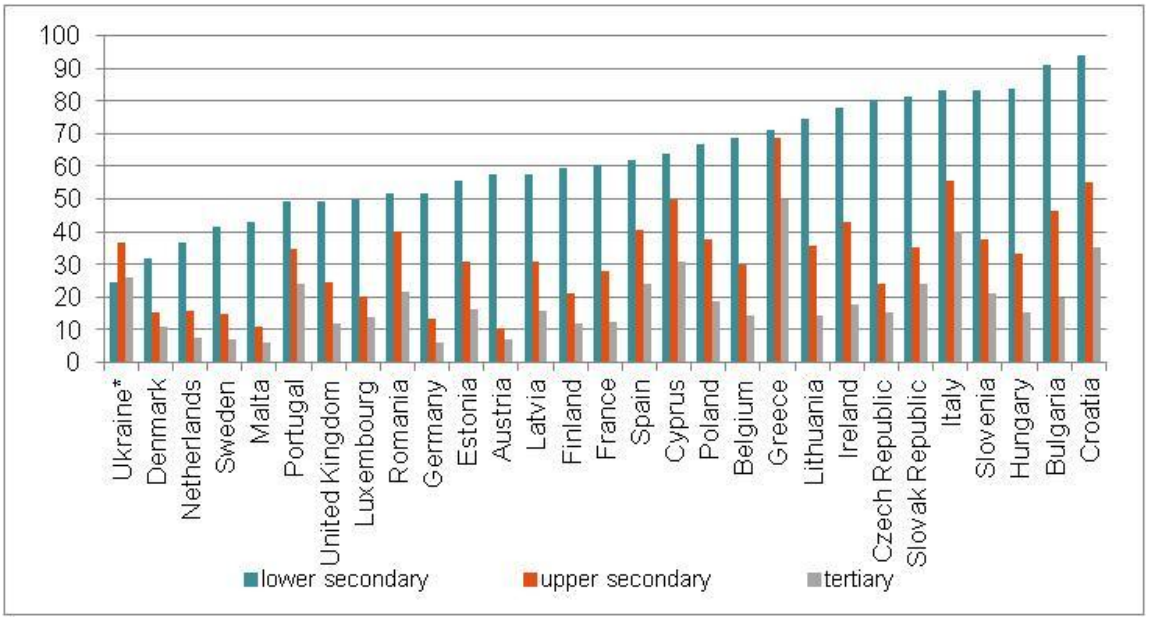
In Sweden and Denmark long-term unemployment incidence among young people is quite small regardless of their educational attainment.

Figure 14: Long-term unemployed as % of unemployed among recent school leavers by education level (2013)



*Source: Own calculations based on EU-LFS ; **Source of data for Ukraine - Ukraine Labour Force Survey*

Figure 15: NEET rate among recent school leavers by education level (2013)



*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

The NEET rate is closely related to the educational attainment: the lower the level of education the greater the likelihood to be classified as NEET (Flisi et al. 2015). With one exception of Ukraine, where the likelihood of being classified as NEET is almost the same for both lower secondary and tertiary education groups, and it is the highest among recent school leavers with upper secondary level of education (

Figure 15).

The lowest NEET rate among recent school leavers with just lower secondary education is observed in Denmark (32%) and the highest in Bulgaria and Croatia (above 90%). Among tertiary education graduates the differences between countries are much smaller, the highest NEET rate is in Greece, and the lowest in Malta.

There are also visible differences in the structure of the NEET among analysed educational groups. For youth with the lower secondary education in general the proportion of inactive NEETs is higher than in the group with higher levels of education (EU-28 average: 59% inactive among lower secondary graduates, 42% inactive among upper secondary graduates and 37% inactive among youth with higher education). Therefore, lower secondary education graduates are more likely to be NEETs, and at the same time inactive, but there are also some exceptions like Czech Republic, where there are more inactive among youth with tertiary education and Germany, where the distribution of inactivity is almost the same across all educational levels.

3.2 Summary

In this section we focused on the labour market exclusion of recent school leavers before and after the financial crisis. Recent graduates seem to be more vulnerable than the rest of the youth population. This analysis shows that labour market prospects of young people differ across European countries. Recent school leavers from Greece, Spain, Italy and Croatia find themselves in the most difficult situation. However, the problem of the long-term unemployment is most acute in Slovak Republic and seems to be persistent.

Recent graduates from Austria, Denmark, Finland, Germany, Luxembourg, Netherlands and Sweden have relatively better labour market situation than their counterparts from the other European countries: both indicators of labour market exclusion are at low or moderate levels.

Our analysis also indicates that recent graduates with lower secondary education are the most vulnerable group. They have the highest NEET rate, the highest unemployment rate and are also the most affected by long-term unemployment in majority of countries. Yet, higher levels of education do not seem to mitigate the risk of unemployment, as the unemployment rate has increased for each educational group after 2007.

3.3. Composition of the labour market exclusion

In this section we present the education, gender and immigration trends/characteristics of the excluded recent school leavers. Our approach differs from that used in the previous section, where the proportion of excluded youth was presented independently for each group, for example across different education levels. From the figures presented above we could draw conclusions that for example, youth with lower educational levels are more likely to be unemployed or inactive than their counterparts with higher levels of education. However, for appropriate policy measures it is also important to know the composition of those who are excluded from the labour market. If there is small number of recent school leavers with just lower secondary education in the country, the fact that the unemployment rate for this group is high is less informative from perspective of policy makers than in a country with high proportion of low educated graduates. Therefore, in this section we compare the educational/ gender and immigration structure of excluded recent school leavers with those who participate in labour market. This adds additional dimension for our country comparisons, as it allows identifying the most vulnerable groups of recent school leavers in the labour market and also reflects the scale of this phenomenon in each country. It also allows identification of which group of young people is overrepresented among the excluded and whether it is a serious problem for the country.

In this section we present the education, gender and immigration background structure of the excluded recent school leavers. Our approach differs from that used in the previous section, where the proportion of excluded youth was presented independently for each group, for example with across different education levels. From above presented figures we could draw a conclusion that for example youth with lower educational level is more likely to be unemployed or inactive than their counterparts with higher levels of education. However, for appropriate policy measures it is also important to know the composition of those who are excluded from the labour market. If there are almost no graduates with lower secondary education in the country, the fact that the unemployment rate for this group is high is less informative than in a country with high proportion of low educated graduates. Therefore, in this section we compare the educational/ gender and immigration structure of excluded recent school leavers with those who participate in labour market. This adds additional dimension for our country comparisons, as it allows identifying the most vulnerable groups of recent school leavers in the labour market and also reflects the scale of this phenomenon in each country. It also allows identifying which group of young people is overrepresented among the excluded and whether it is a serious problem for the country.

3.3.1. Education

We have shown in the previous section how the risk of labour market exclusion differs among youth with different levels of education. As indicated in the previous chapter, recent school leavers with just lower secondary education are the most vulnerable group. However, if we take the overall country perspective, these graduates constitute a relatively small proportion of all recent graduates, and young job seekers. To account for this fact, in this chapter we analyse the structure of the youth population excluded from the labour market in comparison to the structure of the overall recent school leavers population.

Less educated individuals in Croatia, Cyprus, Poland and Slovenia are the minority among the population of young adults, so their share among labour force is quite insignificant. The share of lower secondary graduates does not exceed 10% in the group of unemployed recent school leavers also in Slovak Republic, Greece, Bulgaria and Romania (Figure 16). Although in Czech Republic lower secondary graduates constitute about 3% of the population of recent school leavers, they are overrepresented among the unemployed. In Austria and Germany there are not many graduates of lower secondary education among young adults. However their share among the unemployed youth is quite visible (it exceeds 30%). In Spain and Malta the share of less educated youth in the population is greater, and also very high among the unemployed. The share of the lower secondary graduates among the employed is lower than among the unemployed in each country and it ranges within 0-18%.

The structure of the group of upper secondary graduates is more diverse. In Malta, Spain and Portugal the overall youth population is polarized in terms of education. There is quite a big share of less educated and oversupply of youth with higher education, so there are not many youth with upper secondary education. In Austria on the other hand, this group is dominating, which is also visible in the labour force: the share of the upper secondary graduates among the employed youth is much higher than among the unemployed youth. A similar pattern exists in Malta, Germany and Denmark. At the same time, in other countries youth with upper secondary education are overrepresented among the unemployed.

The share of youth with tertiary education among the employed recent school leavers is greater than among the unemployed young people in all European countries. However, in Cyprus the share of them among the unemployed is larger, which is the result of the educational structure of our sample (70% of recent school leavers in Cyprus have higher education). They also constitute a large part of the unemployed recent school leavers in Slovenia, Luxembourg and Greece. Ukraine has the highest employment rate within the people with tertiary education – 72%. According to the recent Global Competitiveness Index (Schwab and others 2015) , Ukraine occupies 13th place out of 144 countries in terms of tertiary education enrolment rate – only

Greece, Finland and Spain have higher in the EU. It basically increases the proportion of this group in the labour force and drives employment rate upward.

Figure 16: Educational composition of unemployed and employed recent school leavers (2013)

*Source: Own calculations based on EU-LFS; *Source of data for Ukraine - Ukraine Labour Force Survey*

Youth with lower secondary education is represented the most among the long-term unemployed than among the short-term unemployed. In Germany, Austria and France those youth constitute half of the long-term unemployed young people. In these three countries, and also in the United Kingdom and Czech Republic, upper secondary graduates are overrepresented in the group of short-term unemployed youth. It seems that upper secondary education in these countries gives better opportunities in the labour market, than in others. The share of the upper secondary graduates is somewhat larger among the long-term unemployed than the short-term unemployed in

most of the countries. Thus, youth with higher education seem to be in a better situation than their less educated peers. But in Greece and Romania youth with tertiary

Table 1: Labour market indicators for European countries by level of education (2013)

	unemployed			employed			long-term unemployed			short-term unemployed			NEET		
	LS	US	T	LS	US	T	LS	US	T	LS	US	T	LS	US	T
Austria	32	55	13	3	74	22	50	43	7	28	57	14	35	55	11
Belgium	19	49	33	5	39	56	26	52	22	16	47	37	29	45	26
Bulgaria	8	66	26	1	46	53	11	66	23	5	65	30	20	61	20
Croatia	3	69	27	0	53	47	4	73	23	2	66	32	6	68	26
Cyprus	6	25	69	2	20	79	7	27	65	5	24	72	6	35	59
Czech Republic	12	71	17	1	56	44	22	68	10	8	73	19	14	59	27
Denmark	19	53	28	10	56	34	20	65	15	19	51	30	32	48	20
Estonia	16	56	29	5	44	51	23	62	16	12	52	36	19	53	28
Finland	21	64	14	6	61	33	:	:	:	23	61	15	30	55	15
France	26	46	28	6	38	56	47	40	13	19	48	32	33	44	23
Germany	35	54	11	6	63	32	51	42	7	29	58	13	35	53	12
Greece	8	45	48	6	32	62	7	44	49	8	46	46	9	50	41
Hungary	12	68	20	2	53	46	15	66	19	11	69	21	22	60	18
Ireland	12	57	31	3	35	62	9	69	22	13	48	39	24	50	26
Italy	10	67	23	3	59	38	11	71	18	9	63	28	16	63	21
Latvia	20	55	25	6	44	51	28	53	19	16	56	28	21	53	26
Lithuania	11	57	32	2	36	63	17	54	29	9	58	33	17	54	29
Luxembourg	21	36	42	7	36	57	:	:	:	18	38	44	28	37	36
Malta	57	26	17	16	43	41	:	:	:	50	31	19	61	26	13
Netherlands	21	52	27	9	44	47	35	54	11	17	51	31	32	47	21
Poland	5	63	32	2	43	55	6	63	31	5	64	32	9	61	30
Portugal	25	44	31	18	42	41	26	46	28	24	43	33	32	43	25
Romania	8	59	33	10	43	47	8	58	34	8	60	32	20	56	24
Slovak Republic	7	67	26	1	53	46	11	72	18	3	61	36	12	59	30
Slovenia	5	55	40	1	39	60	7	56	38	5	54	41	12	53	35
Spain	37	25	38	16	23	61	39	27	33	35	24	41	46	26	29
Sweden	18	69	14	5	57	38	22	66	12	18	69	14	26	59	15
United Kingdom	27	47	26	6	43	50	43	43	14	20	49	31	25	51	24
EU28	**18**	**54**	**29**	**6**	**45**	**49**	**22**	**55**	**23**	**16**	**53**	**31**	**24**	**51**	**25**
Ukraine*	3	45	52	5	43	52	3	48	49	2	44	54	9	48	44

*Source: Own calculations based on EU-LFS. LS – lower secondary, US – upper secondary, T – tertiary education. In Finland, Malta and Luxembourg there were too little observations to compute shares; *Source of data for Ukraine - ULF; For Ukraine the figures for the short-term unemployment do not include unemployed with missing info about duration of job search.*

education constitutes a larger share in the group of long-term unemployed, than that of short-term unemployed. In Poland, Slovenia, Hungary and Sweden these differences are not significant. Tertiary graduates are equally represented in both groups of the unemployed in these countries.

Although lower secondary graduates are the minority in the sample of the recent school leavers in most of the countries, they are highly overrepresented among the NEET population, and the proportion of them in many countries is substantial. The lower the share of the secondary graduates in the population, the larger their share among the NEETs. However, there is some variation in this trend across countries. They constitute the majority of the NEETs in Malta and Spain, but their share in the youth population is also significant there. In Germany, Finland and Austria they represent one third of this group, while their share in the youth population is about 10%, which is highly disproportional.

3.3.2. Gender

Men constitute slightly larger share among unemployed than women, with the exception of Cyprus, Portugal, Slovenia and Greece. According to data provided by ELSTAT, the participation rate of women in the job market in Greece increased significantly during the crisis. Specifically, in the period between the first quarter of 2008 and the first quarter of 2013 the increase amounts to 3.5 %. The fact that women's unemployment appears still higher in comparison with the unemployment of men can be accounted for recourse to the large gender difference in unemployment rates before the crisis (almost 9% in 2007) (Papapetrou & Bakas, 2013).

The gender composition of unemployment changed during the crisis. In 2007 there were more unemployed women than men. This differential impact of the crisis on the employment of men compared to women may be related to the structure of the economy – gender specialisation of the affected sectors (Seguino 2009). Verick (2009) shows that young men were mostly affected by the economic downturn due to the fact, that they were heavily represented in the construction, manufacture and financial sectors, which strongly reacted to the slowdown of the economy.

Although the gender structure of the labour market is quite equal in the European countries. Yet, the participation of women in the labour force is a bit lower than that of men. In the Slovak Republic, Estonia and Czech Republic there are fewer women among economically active youth (below 45%). In Greece, Netherlands, Portugal and Cyprus the share of women is greater than 50%. In these countries, and also in

Slovenia, there are more women among the unemployed youth. The share of men in the group of unemployed youth exceeds 57% in Ireland, Germany, Slovak Republic, Sweden, United Kingdom, Finland, Lithuania, Luxembourg, and Ukraine (Table 2).

Table 2: Labour market indicators for the European countries by gender (2013)

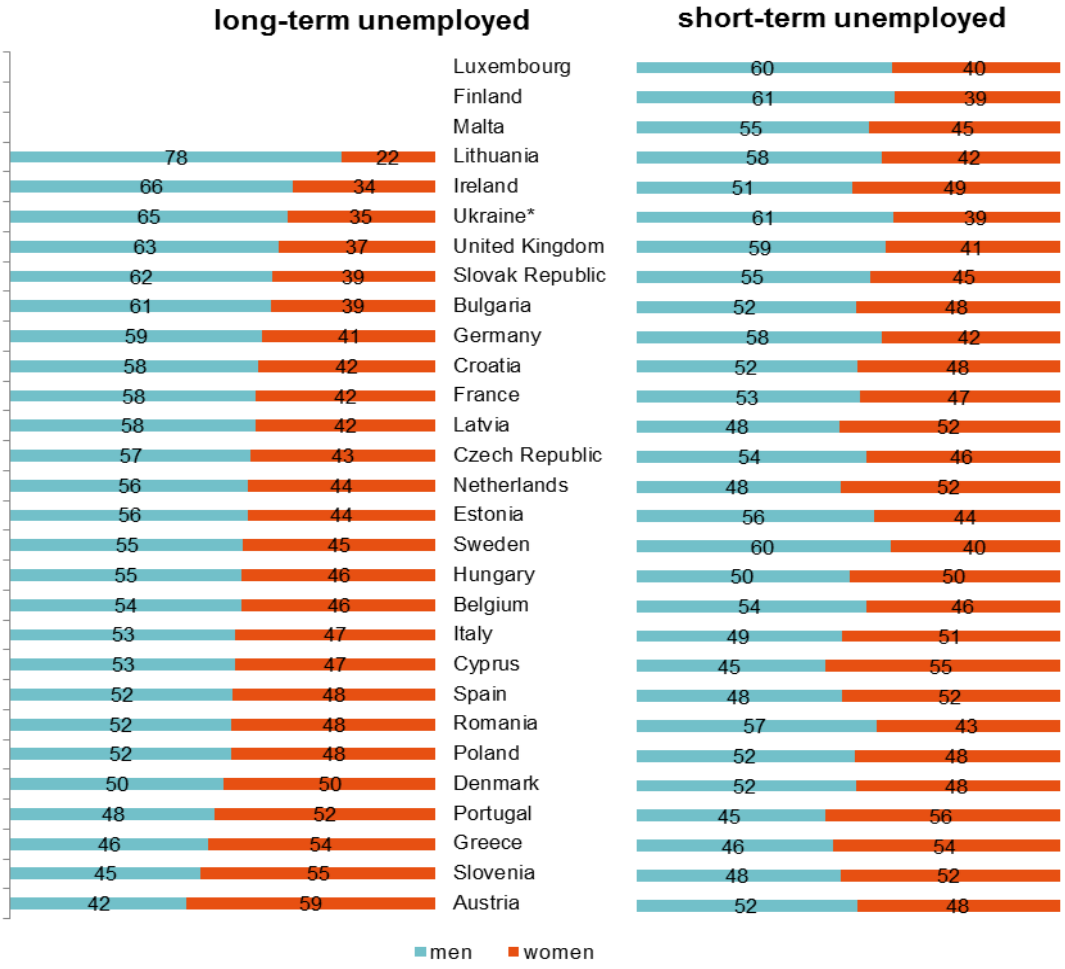
	unemployed		Employed		long-term unemployed		short-term unemployed		NEET	
	M	W	M	W	M	W	M	W	M	W
Austria	50	50	51	49	42	59	52	48	48	52
Belgium	54	46	50	50	54	46	54	46	50	50
Bulgaria	56	44	53	47	61	39	52	48	50	51
Croatia	55	45	48	52	58	42	52	48	50	50
Cyprus	48	53	46	54	53	47	45	55	45	55
Czech Republic	55	45	56	44	57	43	54	46	35	65
Denmark	52	48	51	49	50	50	52	48	49	51
Estonia	56	44	55	45	56	44	56	44	45	55
Finland	62	38	50	50	:	:	61	39	49	51
France	54	46	50	50	58	42	53	47	49	51
Germany	58	42	52	48	59	41	58	42	45	55
Greece	46	54	52	48	46	54	46	54	47	53
Hungary	52	48	50	50	55	46	50	50	43	57
Ireland	58	42	48	52	66	34	51	49	50	50
Italy	51	49	51	49	53	47	49	51	50	51
Latvia	51	49	51	49	58	42	48	52	43	57
Lithuania	63	37	52	48	78	22	58	42	53	47
Luxembourg	64	36	51	49	:	:	60	40	52	48
Malta	57	43	52	48	:	:	55	45	51	49
Netherlands	50	50	48	52	56	44	48	52	48	52
Poland	52	48	53	47	52	48	52	48	43	57
Portugal	46	54	48	52	48	52	45	56	47	53
Romania	55	45	52	48	52	48	57	43	46	54
Slovak Republic	59	41	54	46	62	39	55	45	46	54
Slovenia	47	53	53	47	45	55	48	52	44	56
Spain	50	50	49	51	52	48	48	52	51	49
Sweden	60	41	50	50	55	45	60	40	52	48
United Kingdom	60	40	51	50	63	37	59	41	47	53
EU28	**54**	**46**	**51**	**49**	**56**	**44**	**53**	**47**	**47**	**53**
Ukraine*	62	38	57	43	65	35	61	39	37	63

Source: Own calculations based on EU-LFS. In Finland, Malta and Luxembourg there were too little observations to compute shares. Source of data for Ukraine - ULF; For Ukraine the figures for the short-term unemployment do not include unemployed with missing info about duration of job search.*

Ukraine is marked by the widest gender difference in youth unemployment with substantively higher rates among males.

When we look at the gender composition of the long-term unemployed we see that in most of the countries there are more men than women among the long-term unemployed (Figure 17). In most of the countries men are also overrepresented among the long-term unemployed comparing to the short-term unemployed. It may be related to the differences in the educational attainment, as women are more educated than men in the population of recent school leavers. For each country there is a high prevalence of women among youth with tertiary education, and high prevalence of men among youth with lower secondary education.

Figure 17: Gender composition of long-term and short-term unemployment (2013)



Source: Own calculations based on EU-LFS. In Finland, Malta and Luxembourg there were too little observations to compute shares; *Source of data for Ukraine - ULFS; For Ukraine the figures for the short-term unemployment do not include unemployed with missing info about duration of job search*

On average women constitute slightly larger share among the NEET than among the employed, however the differences is small. Also the structure of the NEET differs by gender. Women are more often inactive, and men are more likely to be unemployed in this group. The exceptions are Greece, Portugal and Spain, where the shares of the unemployed among NEET group for men and women are high (above 70%) and almost equal. Czech Republic, Slovak Republic and UK have more inactive women than men among the NEETs. A similar relation was observed also before the crisis in 2007, but in that time the proportion of the unemployed in the NEET group was smaller for both sexes.

3.3.3. Migration status

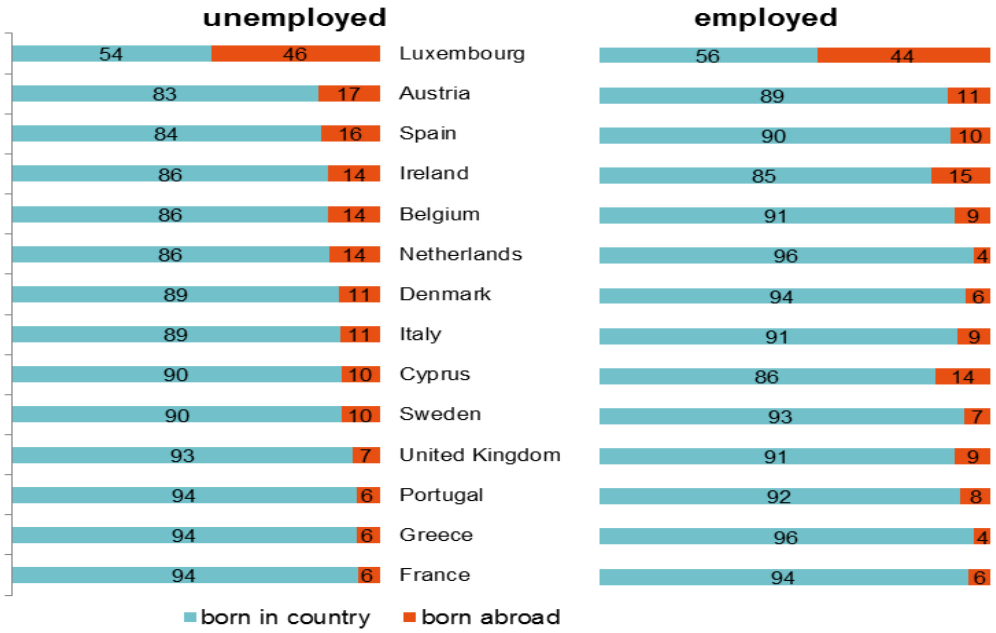
Immigrants are a vulnerable group and their position in the labour market in comparison with natives is usually weaker. Empirical literature shows that the unemployment rate among immigrants is often higher than that among natives (Helgesson et al. 2012; Reyneri and Fullin 2011), youth immigrants are also more likely to become NEET (Eurofound 2014). They are also more likely to be discriminated against in the labour market. For example in Ireland immigrants with similar characteristics as nationals earn less and are less likely to be in more prestigious occupations (Barrett and McCarthy 2007; Barrett and Duffy 2008). One possible explanation for this is employers' uncertainty about the duration of the immigrants' work in the host country, and about his/her skills and labour related experiences. In addition, the immigrants are also more affected by the economic crisis with respect to the likelihood of being employed compared to nationals (Barrett and Kelly 2011).

In the past immigrants were perceived as having lower levels of education than natives, but this trend has changed. In the EU15 countries there has been a strong inflow of immigrants from the Central and Eastern Europe in recent years, who have higher level of human capital than the previous waves of migration (mostly refugees and seasonal workers) and are looking for highly qualified jobs (Kogan 2011). However, they also have difficulties to integrate into the labour market as their language skills are lower and there are some obstacles in recognition of foreign degrees, which give access to some occupations. There is also an inflow of illegal immigrants, especially to Spain, Italy and Greece, who are highly disadvantaged compared to natives.

It seems, that the population of immigrants may be underestimated in the EU-LFS, especially those who live in the host country for a short period of time or have just arrived. There are also difficulties to include in the survey individuals living in communal establishments or with irregular housing arrangements (Gilpin et al. 2006), which is quite common among new immigrants. So there is a need to be careful in drawing conclusions from the data. We have decided to show statistics only for those countries, where immigrants constitute at least 5% of the recent school leavers.

Moreover, due to the data limitations in our analysis we only consider the first generation of immigrants, those who were born abroad.

Figure 18: Share of immigrants among unemployed and employed recent school leavers (2013)

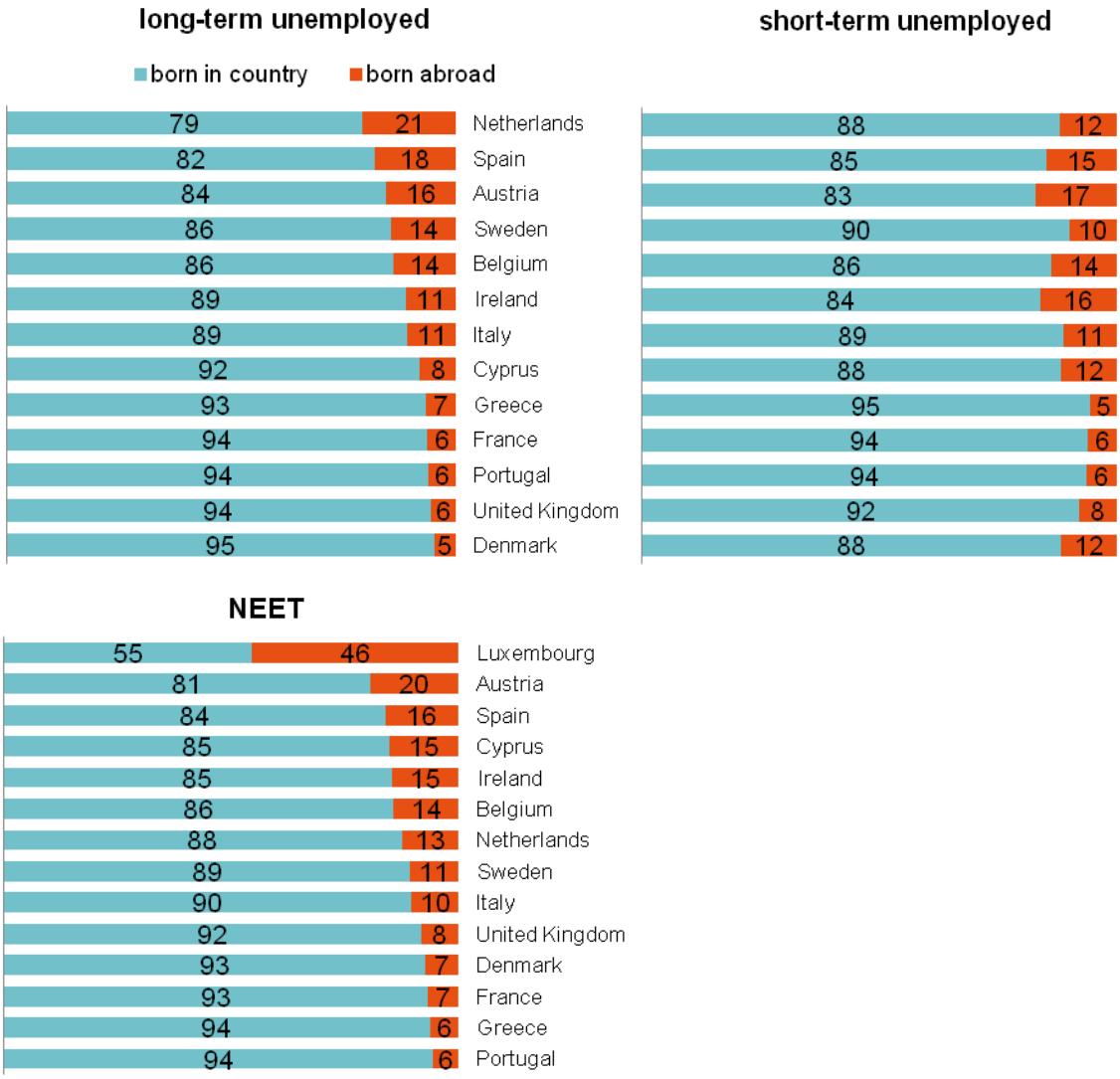


Source: Own calculations based on EU-LFS.

Immigrants constitute slightly larger share among the unemployed than among the employed in majority of countries with exception to Ireland, Cyprus, the UK and Portugal, however these differences are not substantial (Figure 18).

The position of immigrants in the labour market reflects their educational attainment. According to our data, in Belgium, Cyprus, Denmark, France, Ireland, Luxembourg and UK there are more youth with higher education among immigrants than in general population of recent school leavers. In Sweden the proportions of upper secondary and tertiary graduates are almost equal, while in Austria, Greece, Italy, Portugal and Netherlands there are more immigrants with upper secondary education. In Spain, however, quite big share (46%) of immigrants among recent school leavers has only lower secondary education. In Greece and Portugal this share is also substantial (above 20%). There is also a variation among the European countries with regards to the immigrants' origins, which stem from different colonial past. In Spain 70% of the immigrants in our sample come from the outside the European countries (48% from South America), similar in France (about 60% from Africa) and Portugal (about 25% respectively from South America and Africa). On the other hand, immigrants in Austria are mostly from Europe (95%), similar in Cyprus (92%).

Figure 19: Labour market exclusion indicators among immigrants and natives (2013)



Source: Own calculations based on EU-LFS.

There are higher shares of immigrants among the long-term unemployed and the NEETs population, however differences are not statistically significant (Figure 19) . The long-term unemployment rate is statistically and significantly higher for the immigrants only in Ireland. In the group of recent school leavers according to the EU-LFS data immigrants are not the most disadvantaged group in the labour market with regards to long-term unemployment.

3.3.4 Differences in labour market exclusion indicators between groups of youth

Analysis based on the composition of labour market exclusion shows, that young people with lower levels of education are overrepresented among the unemployed, the long-term unemployed and the NEETs while youth with higher education are overrepresented among the employees. The analysis of the composition of excluded youth also reveals that the differences between men and women in labour market participation are not as visible. In this section we show labour market indicators for groups with different characteristics using the same three categories: education, gender and immigration status. When the differences in analysed indicators are not statistically significant we present only the value for one analysed characteristic, in the case of the statistically significant differences the size and direction of the difference is also provided.

The unemployment rate among men and women, who recently left school is similar in the majority of the European countries (Table 3). Only in Croatia, Ireland, Lithuania and Sweden the unemployment rate is higher among men than women, while in Greece it is higher among women than men. In Belgium, Spain, Greece, Italy, Netherlands, Sweden and Slovenia the unemployment rate among immigrants is higher than that among natives and the difference is statistically significant. Ukraine stands out with abnormally low unemployment rate among the young people with lower secondary education and below. This might be explained by the data limitations, and by comparatively larger share of the inactive youth in Ukraine rather than in other countries. In Ukraine only a small portion of youth combine study and work, and those who decide to continue their studies postpone their entry into the labour market.

The level of education is the feature that most strongly differentiates the situation of young people in the labour market. In most of the countries the unemployment rate among recent school leavers with upper secondary education is significantly higher than that among youth with tertiary education. In Austria and Denmark the position of youth with upper secondary education is quite strong, so there is no statistically significant difference between them and the tertiary education graduates in terms of unemployment. Estonia, Finland, Malta and Netherlands have a similar situation. In all but two countries lower secondary graduates have higher unemployment rates than youth with upper secondary education. In Greece the position of graduates of each level of education is poor, so there are not visible differences between lower and upper secondary graduates in the rate of unemployment. Also in Luxembourg that difference does not occur.

Table 3: Mean differences in the unemployment rate among recent school leavers by groups and country (2013)

	GENDER		EDUCATION				MIGRANTS	
COUNTRY	Female (F)	%M - %F	High (H)	%MD - %H	Low (L)	%MD - % L	Born abroad (BA)	%N - %BA
Austria	10%	.	6%	.	51%	-44pp.	14%	.
Belgium	16%	.	10%	9pp.	45%	-25pp.	23%	-7pp.
Bulgaria	20%	.	12%	16pp.	62%	-34pp.	0%	
Cyprus	31%	.	29%	9pp.	59%	-21pp.	26%	.
Czech Rep.	15%	.	6%	12pp.	68%	-50pp.	18%*	.
Germany	7%	.	3%	4pp.	35%	-28pp.	0%	
Denmark	13%	.	11%	.	22%	-10pp.	20%	.
Estonia	15%	.	9%	.	36%	-17pp.	9%*	.
Spain	44%	.	33%	13pp.	64%	-18pp.	55%	-13pp.
Finland	10%	.	6%	.	35%	-22pp.	11%*	.
France	20%	.	12%	13pp.	54%	-30pp.	23%	.
Greece	58%	-5pp.	48%	15pp.	63%	.	63%	-9pp.
Croatia	40%	7pp.	31%	19pp.	86%	-36pp.	44%*	.
Hungary	19%	.	9%	14pp.	63%	-40pp.	22%	.
Ireland	19%	7pp.	13%	20pp.	50%	-17pp.	22%	.
Italy	37%	.	26%	14pp.	64%	-24pp.	43%	-6pp.
Lithuania	14%	6pp.	10%	15pp.	54%	-29pp.	22%*	.
Luxembourg	9%	.	9%	.	30%	.	12%	.
Latvia	17%	.	9%	11pp.	41%	-21pp.	0%*	
Malta	8%	.	4%	.	27%	-21pp.	31%*	.
Netherlands	8%	.	5%	.	18%	-8pp.	22%	-15pp.
Poland	21%	.	13%	15pp.	43%	-15pp.	5%*	.
Portugal	33%	.	26%	7pp.	40%	-7pp.	27%	.
Romania	21%	.	17%	12pp.	19%	10pp.	0%*	
Sweden	11%	4pp.	5%	10pp.	35%	-20pp.	18%	-6pp.
Slovenia	26%	.	17%	13pp.	71%	-42pp.	62%*	-40pp.
Slovak Rep.	24%	.	17%	15pp.	66%	-35pp.	11%*	.
UK	13%	.	9%	8pp.	44%	-27pp.	12%	.
Ukraine**	13%	3pp	14%	5pp	7%	11pp.	-	-

*Source: Own calculations based on EU-LFS. **Source of data for Ukraine – ULFS. Notes : Only differences significant at 0.05 level are included. %M - %F means difference between Male and Females; %MD - % H: differences between people with medium level of education (upper secondary) and Higher level of education (post secondary education), %MD - % L: differences between people with medium level of education (upper secondary) and Low level of education (lower secondary and below);* %N - %BA differences between natives and born abroad.

In many European countries long-term unemployment is not a marginal problem and in half of them the long-term unemployment rate exceeds 30%. The data presented in Table 4 indicates that the risk of being long-term unemployed varies across all groups of youth in majority of the countries. In Ireland, Italy, Lithuania and Slovak Republic the long-term unemployment rate is significantly higher among women than among men. In terms of education the statistically significant difference between levels of education is observed only in few countries. In Ireland, Italy and Slovak Republic the long-term unemployment rate is higher among recent school leavers with upper secondary

Table 4: Mean differences in long-term unemployment rate among recent school leavers by groups and country (2013)

	GENDER		EDUCATION				MIGRANTS	
COUNTRY	Female (F)	%M - %F	High (H)	%MD - %H	Low (L)	%MD - % L	Born abroad (BA)	%N - %BA
Austria	22%	.	10%	.	28%	-14pp.	17%	.
Belgium	29%	.	20%	.	39%	.	29%	.
Bulgaria	42%	.	41%	.	67%	.	0%*	
Cyprus	32%	.	33%	.	47%	.	28%	.
Czech Rep.	26%	.	16%	.	50%	-24pp.	89%*	-63pp.
Germany	24%	.	15%	.	37%	-17pp.	0%*	
Denmark	12%	.	6%	.	12%	.	5%	.
Estonia	34%	.	18%	.	49%	.	0%*	
Spain	36%	.	33%	.	41%	.	43%	.
Finland	10%	.	6%	.	5%	.	0%*	0pp.
France	23%	.	12%	.	44%	-23pp.	26%	.
Greece	56%	.	57%	.	55%	.	62%	.
Croatia	46%	.	42%	.	63%	.	59%*	.
Hungary	30%	.	30%	.	41%	.	48%	.
Ireland	35%	16pp.	30%	22pp.	35%	17pp.	36%	10pp.
Italy	47%	4pp.	38%	14pp.	55%	.	49%	.
Lithuania	14%	15pp.	21%	.	37%	.	0%*	
Luxembourg	5%	.	9%	.	29%	.	0%	
Latvia	25%	.	22%	.	43%	.	0%*	
Malta	22%	.	15%	.	35%	.	0%*	
Netherlands	17%	.	8%	.	33%	.	30%	.
Poland	34%	.	33%	.	41%	.	0%*	0pp.
Portugal	38%	.	35%	.	42%	.	39%	.
Romania	45%	.	44%	.	41%	.	0%*	
Sweden	11%	.	9%	.	12%	.	14%	.
Slovenia	43%	.	39%	.	50%	.	45%*	.
Slovak Rep.	53%	7pp.	39%	22pp.	83%	-23pp.	51%*	.
UK	25%	.	15%	.	44%	-20pp.	22%	.
Ukraine**	18%		18%	-4pp.	16%	-2pp.		

*Source: Own calculations based on EU-LFS. **Source of data for Ukraine – ULFS.*

Notes : Notes : Only differences significant at 0.05 level are included. %M - %F means difference between Male and Females; %MD - % H: differences between people with medium level of education (upper secondary) and Higher level of education (post secondary education), %MD - % L: differences between people with medium level of education (upper secondary) and Low level of education (lower secondary and below); %N - %BA differences between natives and born abroad.

education than among those with tertiary education. The lower secondary graduates are at a higher risk of long-term unemployment than the upper secondary graduates in Austria, Czech Republic, Germany, France, Slovak Republic and United Kingdom. In Ireland the situation is the opposite and youth with the upper secondary education have higher long-term unemployment rate than young people with the lower levels of education. In Ukraine youth with upper secondary education is less likely to be long-term unemployed compared to both those with tertiary education and those with lower

secondary education. In countries where the proportion of immigrants in youth population is visible there is no statistically significant difference between the immigrants and the natives in terms of long-term unemployment. The only exception is Ireland, where youth born abroad are at a higher risk of long-term unemployment than the natives.

Table 5: Mean differences in NEET rate among recent school leavers by groups and country (2013)

	GENDER		EDUCATION				MIGRANTS	
COUNTRY	Female (F)	%M - %F	High (H)	%MD - %H	Low (L)	%MD - % L	Born abroad (BA)	%N - %BA
Austria	15%	.	7%	.	57%	-47pp.	21%	-9pp.
Belgium	27%	.	14%	15pp.	69%	-39pp.	36%	-10pp.
Bulgaria	42%	.	20%	27pp.	91%	-45pp.	0%*	
Cyprus	37%	.	31%	19pp.	64%	-14pp.	39%	.
Czech Rep.	30%	-	15%	8pp.	80%	-57pp.	24%*	.
Germany	17%	-3pp.	6%	7pp.	52%	-39pp.	0%*	
Denmark	17%	.	11%	.	32%	-17pp.	18%	.
Estonia	30%	.	16%	14pp.	55%	-25pp.	27%*	.
Spain	38%	.	24%	16pp.	62%	-21pp.	48%	-11pp.
Finland	23%	.	12%	.	60%	-38pp.	21%*	.
France	26%	.	12%	16pp.	60%	-32pp.	28%	.
Greece	61%	-4pp.	50%	18pp.	71%	.	68%	-9pp.
Croatia	48%	.	35%	20pp.	94%	-39pp.	60%*	.
Hungary	33%	-6pp.	15%	18pp.	84%	-50pp.	30%	.
Ireland	33%	.	18%	25pp.	78%	-35pp.	34%	.
Italy	54%	.	40%	16pp.	83%	-28pp.	58%	-5pp.
Lithuania	26%	.	14%	21pp.	75%	-39pp.	22%*	.
Luxembourg	20%	.	14%	.	50%	-30pp.	21%	.
Latvia	30%	-6pp.	16%	15pp.	58%	-27pp.	0%*	
Malta	17%	.	6%	.	43%	-32pp.	34%*	.
Netherlands	15%	.	7%	8pp.	37%	-21pp.	32%	-19pp.
Poland	34%	-9pp.	19%	19pp.	67%	-29pp.	18%*	.
Portugal	34%	.	24%	11pp.	49%	-15pp.	28%	7pp.
Romania	37%	-5pp.	21%	18pp.	52%	-12pp.	0%*	
Sweden	14%	.	7%	8pp.	42%	-27pp.	20%	-6pp.
Slovenia	35%	-8pp.	21%	17pp.	83%	-46pp.	76%*	-46pp.
Slovak Rep.	36%	-7pp.	24%	11pp.	81%	-46pp.	25%*	.
UK	23%	.	12%	13pp.	49%	-25pp.	19%	.
Ukraine**	35%	-	26%	11pp.	25%	12pp.		

*Source: Own calculations based on EU-LFS. ** Source of data for Ukraine - ULFS*

Notes : Only differences significant at 0.05 level are included. %M - %F means difference between Male and Females; %MD - % H: differences between people with medium level of education (upper secondary) and Higher level of education (post secondary education), %MD - % L: differences between people with medium level of education (upper secondary) and Low level of education (lower secondary and below); %N - %BA differences between natives and born abroad.

Across the European countries the NEET rate among men is similar to this rate among women. However in Czech Republic and also Germany, Greece, Hungary, Latvia, Poland, Romania, Slovenia and Slovak Republic the NEET rate among women is statistically higher than among men. At the same time in Czech Republic the share of men among the NEETs is the lowest (not more than 36%). Before the crisis the differences between genders were larger – there were much higher NEET rates for women, but now they line up due to the fact, that more men became NEET since 2007.

However the difference between sexes is not as serious as the difference among youth with different educational attainments (Table 5). In most of the countries significantly lower NEET rate occurs among youth with the tertiary education than among the upper secondary graduates. Most notable exception is Ukraine, where the highest level of NEETs is observed among those with the upper secondary education. Upper secondary education in Ukraine includes professional and technical education which has been deteriorating since the collapse of the Soviet Union. A mismatch between the skills demanded by the businesses and those that can be obtained by young people in vocational schools results in high unemployment rates and high NEET rates in this particular group. Ukraine demonstrates the lowest NEET rates in the region overall, which can be explained by the universal literacy and high general school enrolment: the combined gross enrolment ratio in education of both sexes was 90% in 2009, higher than in some OECD countries (OECD, 2008).On the other hand, Ukraine is known for the widespread shadow economy, which might have resulted in the downward bias in the data. Youth born abroad are NEETs more often than the natives in Austria, Belgium, Spain, Greece, Italy, Netherlands and Sweden. In Portugal the situation is the opposite and the NEET rate among natives is higher than that among youth born abroad.

3.3.5 Summary

Although youth with lower secondary education constitutes the minority of the population of recent school leavers, they are a group at high risk of exclusion. They are overrepresented among the unemployed and the NEETs, and in most of the countries overrepresented also among the long-term unemployed. Youth with tertiary education are in a better situation, while a situation of the upper secondary graduates differs depending on their country of. In most of the countries this group represents a higher share among the unemployed than the employed. Yet in Austria and Germany, where the upper secondary education and vocational programmes are more common and help in transition from school to work, youth manage quite well in the labour market. The level of education is also the feature, which strongly differentiates the labour market situation of recent school leavers. The lower secondary graduates have significantly higher unemployment, long-term unemployment and NEET rates than

youth with upper secondary education. These rates in young people with tertiary education are significantly lower than the upper secondary graduates.

The rates of unemployment among men and women are similar across the European countries, but since the economic crisis, they have increased disproportionately for men. In most of the countries men are overrepresented among the long-term unemployed. However their position in terms of unemployment is only a bit worse than that of women. In the NEET population the proportions of sexes are quite equal, but in some countries women prevail among the NEET. Women are also more often inactive, while the NEET men are more likely to be unemployed.

In our specific sample of the recent school leavers immigrants do not seem to be more disadvantaged in the labour market than natives. However, the unemployment rate and the NEET rate among them is higher than those among native recent school leavers. Yet, we should take into account the limitations of the data, which probably lead to an underestimates of the labour market exclusion in the immigrant population. This dataset also does not allow for the analysis of the labour market situation of national minorities and the second generation of immigrants, which are probably also vulnerable groups.

Chapter 4: Labour market insecurity

Previous section showed that for many European countries the labour market exclusion of youth who has recently entered the world of work is a serious problem which has gained importance in recent years. Another aspect of young people's position in the labour market is the job security of those employed.

According to Blossfeld et al. (2005) globalization process is associated with higher uncertainty for firms. They need to be able react quickly to changing environment. Therefore, they partially shift the risk to their employees and the expansion of flexible work arrangements is one of the manifestations of this shift. Dual labour market theory assumes that the labour market consists of two segments. The primary sector is characterized by high wages, stable employment and appropriate returns to education, while the secondary sector lacks all of these qualities (Dickens and Lang 1988). Therefore, workers in the secondary sector are more exposed to the workforce adjustments in case of an economic downturn. Following the classification of Eichhorst et al. (2010b), these adjustments may take the form of either the external numerical flexibility, when the firm amends the number of its workers to the economic situation, or the internal numerical flexibility, when the working time is modified without changes in the number of workers, or adjustments of wages. These risks are not equally distributed between the employees in the two sectors.

Youth is more vulnerable to the process of the employment flexibilization. Blossfeld (2008) names two main reasons for that: (i) new entrants have not had a chance to gain work experience yet, so they lack seniority and professional networks; (ii) temporary contracts are used as a screening device, when dismissal of permanent workers is costly. Youth is over-represented in the temporary jobs in the majority of the European countries (OECD 2014).

Nonstandard employment arrangements might be beneficial for young employees, if such a position increases employability and leads to an integration into the labour market in the future. In the literature, there are two opposing views on the long-term consequences of a temporary job on the labour market entry. The stepping-stone hypothesis assumes that an initial temporary contract allows workers to gain work experience and signals their motivation; therefore, it leads to a permanent employment in later career. In contrast, the "entrapment" perspective claims that once an employee accepts a temporary job, he/she has reduced chances for a transition into a permanent employment (Scherer 2004). The empirical findings in this literature are mixed.

Unlike previous studies which deal mostly with one country or a small group of countries, this paper investigates the insecure market positions of recent school leavers in all countries of the European Union. While it uses the common Eurostat definitions of the indicators (see Chapter 1) it is worth mentioning countries' institutional heterogeneity behind the common terms. The main differences concern the

employment protection legislation regarding both permanent and temporary contracts and the restrictions on the usage of different types of temporary contracts (OECD 2014). Part-time work regulations also differ among the countries. Some of them impose equal treatment regulations which aim at preventing part-time employees from being treated as cheap flexible labour force (Kalleberg 2000).

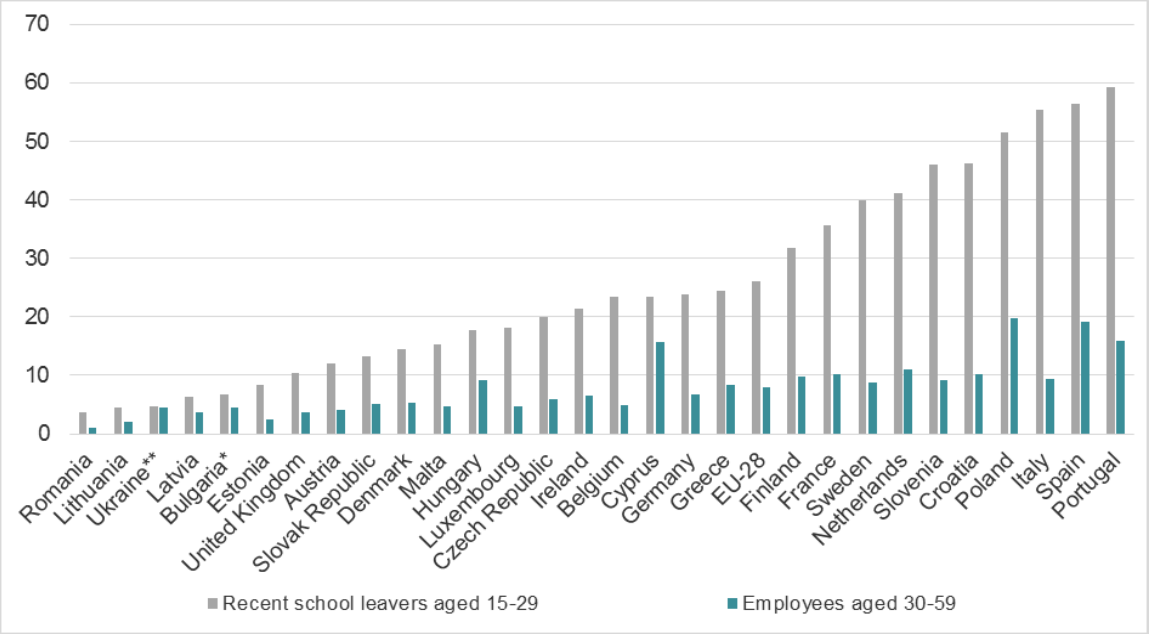
4.1 Prevalence of insecure jobs

One of the aims of this paper is to show how the European countries differ with respect to the prevalence of unstable jobs and how the situation has changed during the recent economic crisis. In order to serve this purpose we use the data for 2007, 2010 and 2013. As described in Chapter 1, a job can be classified as unstable or 'atypical' based on either objective criteria (such as temporary contract or part-time work) or based on the subjective feeling of an employee.

There is a wide variation among the European countries in the prevalence of temporary contracts among recent school leavers (Figure 20). More than half of young workers in Poland, Italy, Spain and Portugal have a fixed-term contract in 2013. These are countries with also the highest unemployment rates among the group of interest (see Figure 8). By contrast, temporary employment constitutes relatively small proportions of young labour force in most of the post-socialist countries (under 10% in Romania, Lithuania, Bulgaria, Ukraine, Latvia, Estonia and under 20% in Slovak Republic, Hungary and Czech Republic in 2013). Temporary employment is also relatively common in Slovenia, Croatia, the Netherlands and Sweden with over 40% of the recent school leavers having a temporary job in 2013. On average across countries, 26% of young European employees hold a fixed-term position in 2013.

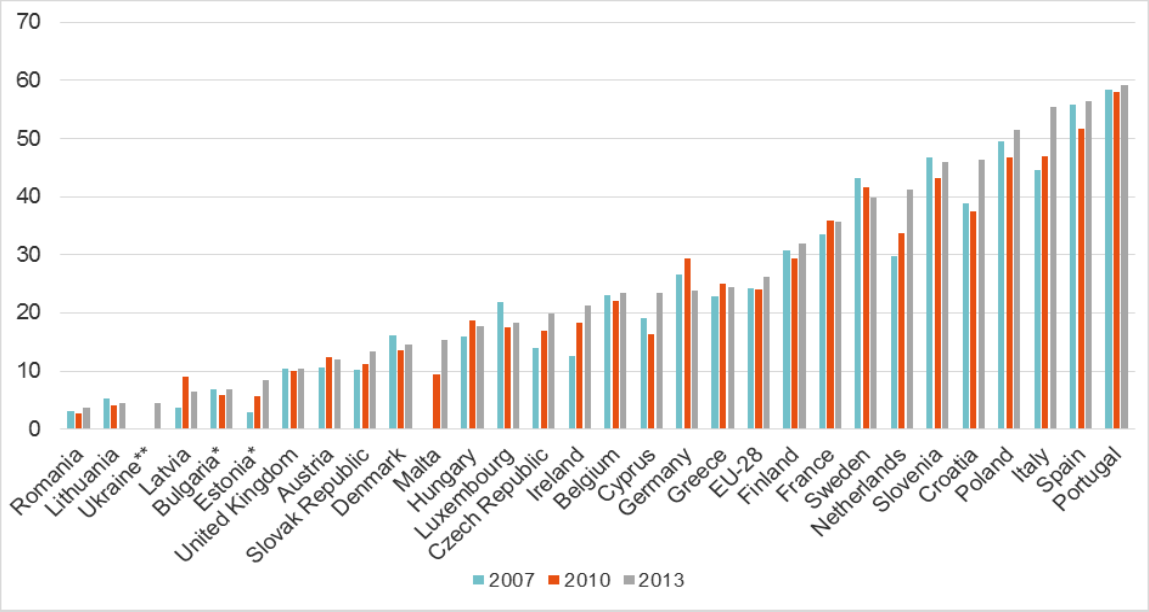
In contrast, the level and the variation in the use of temporary contracts among employees aged 30-59 are relatively small. In most of the countries the temporary workers constitute no more than 10% of the prime age population (with the exception of Cyprus, Spain, Poland and Portugal where it ranges between 15-20%). The recent school leavers are much more exposed to insecure temporary jobs. The majority of the European countries have at least 3 times higher the rate of temporary contracts among young entrants comparing to the employees aged 30-59.

Figure 20: Temporary contracts among recent school leavers aged 15-29 and employees aged 30-59 in European countries in 2013 (%)



*Source: Own calculations based on EU-LFS. Note: * less than 50 observations in recent school leavers group; **Source of data for Ukraine - ULFS; For Ukraine temporary contracts include temporary, seasonal contracts and casual work*

Figure 21: Temporary contracts among recent school leavers in European countries in 2007, 2010 and 2013 (%)



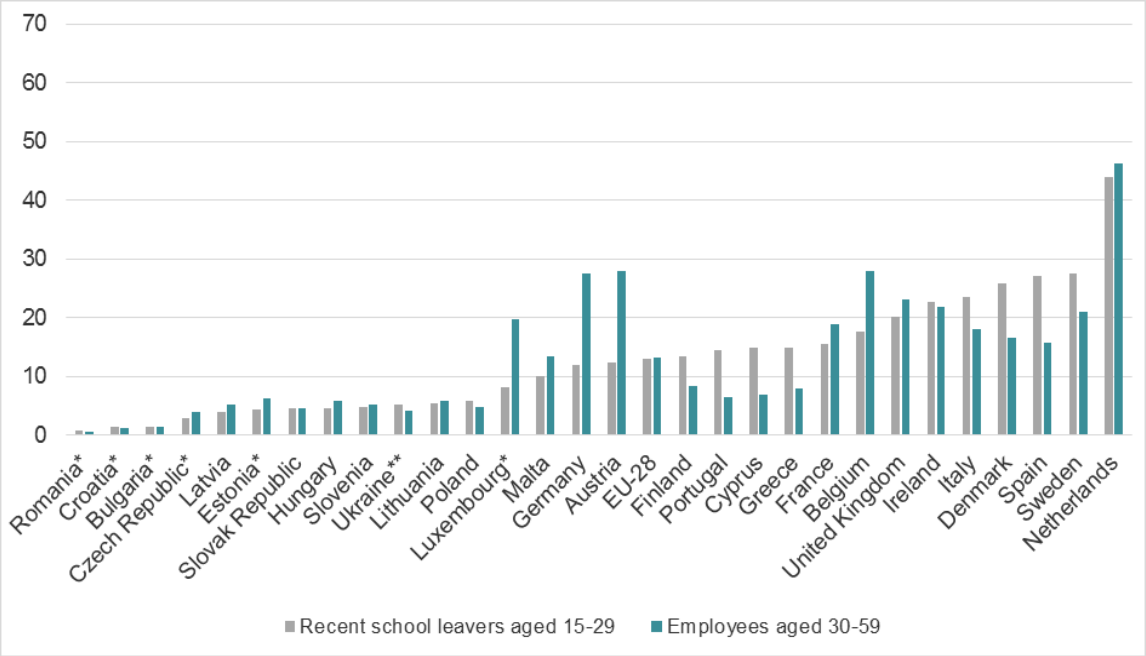
*Source: Own calculations based on EU-LFS. Note: * less than 50 observations in one or more year; **Source of data for Ukraine - ULFS; For Ukraine temporary contracts include temporary, seasonal contracts and casual work (available for year 2013 only)*

During the economic crisis temporary employment was affected in a more dramatic way than the permanent employment in most of the European countries (Eichhorst et al. 2010a). Therefore, we observe a slight decline in the proportion of those temporarily employed in many European countries between 2007 and 2010. However, with a economic recovery firms started to hire, preferring more flexible temporary than unfixed duration contracts. OECD (2014) shows that the use of temporary contracts for new hires increased in most of the European countries between 2006/2007 and 2011/2012. Overall, as depicted on Figure 21 the proportion of fixed-term contracts slightly increased between 2007 and 2013 (by 2% points). The strongest growth was observed in the countries with already high share of temporary contracts (the Netherlands, Croatia, Italy). Also Czech Republic and Ireland experienced significant growth in temporary contracts, though this still represents only 20% of the employees in these countries. On the contrary, recent school leavers in some countries (e.g., Luxembourg, Germany and Sweden) experienced a decrease in the share of fixed-term employment during this period.

Another aspect of the nonstandard employment relations is part-time work. Like temporary work, the prevalence of part-time work among recent school leavers varies significantly across countries (Figure 22). Part-time employment constitutes very small proportion of the young labour force in all the post-socialist countries (with a maximum of 6% in Poland in 2013). By contrast, part-time work is common in the Netherlands, Sweden, Spain and Denmark (44%, 28%, 27% and 26% of the recent school leavers in 2013, respectively). Across countries, 13% of recent school leavers have a part-time job in 2013.

Unlike temporary employment, part-time work is not the main feature of labour market participation of recent school leavers. In post-socialist countries the proportion of part-time workers is low both among the recent school leavers and the employees aged 30-59 (Figure 22). Potential reasons for this can be lower wages but also lower female participation comparing to that of men (in Poland, Romania, Slovakia, Czech Republic) and minimal social insurance contributions set for full-time minimum wage (Estonia). Part-time work constitutes a larger proportion of the labor force aged 30-59 compared to recent school leavers in Luxembourg, Germany, Austria and Belgium. In these countries financial incentives to increase working hours are weak. The majority of the increase in gross earnings is taken away through income tax, social security payments and benefit withdrawal (OECD 2010).

Figure 22: Part-time jobs among recent school leavers aged 15-29 and employees aged 30-59 in European countries in 2013 (%)



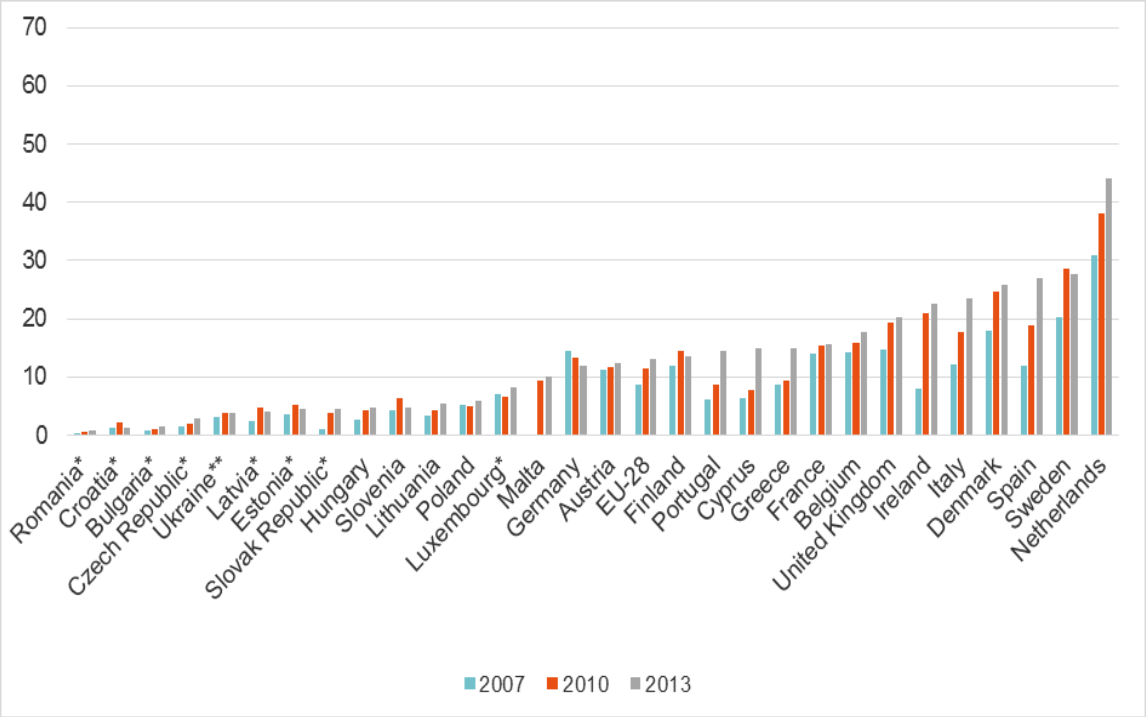
*Source: Own calculations based on EU-LFS. Note: * less than 50 observations in recent school leavers group; **Source of data for Ukraine - ULFS*

Since 2007 the proportion of part-time workers among recent school leavers increased by 50% in the European countries (from 9%) (Figure 23). The proportion of part-time employment more than doubled between 2007 and 2013 in Spain, Ireland, Portugal and Cyprus. Italy has also experienced a substantial increase of 90% in the share of part-time work over the same period. In these countries the share of part-time employment is higher among recent school leavers than among employees aged 30-59 (Figure 22). This is in-line with Buddelmeyer at al. (2008) results showing that employers hire new employees in part-time jobs during economic downturns and these countries were hit the most by the recent recession. In countries with the highest share of part-timers in 2007 (that is Sweden, Denmark and the Netherlands) there was further growth in their share between 2007 and 2013 and these countries retain their positions from 2007.

Both for the present well-being and for the future consequences of insecure jobs subjective insecurity is also very important (see Chapter 1). The LFS dataset allows us to distinguish only employees who are looking for a new position and whether the reason for that is the fear of losing their job. We have no information, though, about people who actually fear that they can be made redundant but are not searching for a new post. In 2013 a very limited number of recent school leavers was looking for a new job, because they anticipated that they may lose their current one. Only in Croatia and

Finland it exceeded 5% (8% and 6%, respectively) while in most European countries the share was less than 2%. Additional statistics on subjective insecurity are presented below, however they are drawn from a different dataset, with a much limited sample size.

Figure 23: Part-time jobs among employees in European countries in 2007, 2010 and 2013 (%)



*Source: Own calculations based on EU-LFS. Note: * less than 50 observations in one or more year; **Source of data for Ukraine - ULFS*

In post-socialist countries temporary contracts and part-time employment are rather unusual (See Fig. 21-22). To compare, while in Romania, Lithuania and Ukraine around 4-4.5% of employees had temporary contracts - in Italy, Spain and Portugal the share was around 55-60% in 2013. Part-time employment in Romania, Lithuania and Ukraine ranged from 1 to 5.5%, while, say, in Netherlands 44% of employees had part-time jobs. The nature of this phenomenon should be studied further, but presumably, post-socialist countries have preserved the culture of full-time contracts and certain labour market regulations from the planned economy where unemployment and deviation from the regular contract was stigmatised and penalized.

Subjective job insecurity

There is a vast amount of literature on labour market subjective insecurity (Ashford, Lee, and Bobko 1989; Anderson and Pontusson 2007; Sverke, Hellgren, and Näswall 2002). It is both the domain of interest among psychologists, sociologists, but also a concern for economists. Job insecurity has many consequences, mainly for the well-being and mental health of workers. It is therefore important to know how the young employees perceive their employment security, and how different they are in this respect from the prime age workers.

The most recent European Quality of Life Survey (EQLS, 2012) provides information about the subjective insecurity: How likely or unlikely do you think it is that you might lose your job in the next 6 month? The respondent can choose one of the following answers: very likely, quite likely, neither likely nor unlikely, quite unlikely, very unlikely. Additionally there is another question which is related to the subjective job insecurity: If you were to lose or had to quit your job , how likely or unlikely it is that you will find a job of similar salary?

Unfortunately the EQLS uses slightly different definition of the labour market indicators and is based on a different age sample (>18 years old) than the EU-LFS. So the data cannot be compared directly. However neither EU-LFS, EU-SILC, nor ESS have information about subjective job insecurity, so we decided to present additional information based on EQLS.

Statistics for the EXCEPT population should be interpreted with caution due to a very small subsample. The EXCEPT subsample size differs from 18 cases in Denmark to 170 individuals in Poland. Thus, we present below the country statistics for workers aged 18-59 to illustrate the overall country differences together with the statistics for EXCEPT population. The figure below illustrates the answers to the question: *How likely or unlikely do you think it is that you might lose your job in the next 6 month?* We have combined together positive, negative and neutral answers, so only three categories are presented. Moreover countries are sorted according to the subjective insecurity of overall working population. Country in which more respondent are convinced that it is likely that they will lose job in the coming 6 months are presented first, and those in which such believes are less common are at the end of the graph. We omitted countries for which the number of observations among recent school leavers for this question is smaller than 30.

In Cyprus, Greece, Croatia, and Latvia more than 25% of respondents find it likely that they will lose a job in the coming 6 months. On the other end of the scale are respondents from Austria, Netherlands, Germany, Sweden and Luxembourg, as only 5% of them have such concerns.

General differences in the subjective insecurity among countries are greater than the differences between age groups within the countries. Labour market subjective insecurity of recent school leavers is similar to that of the overall working age population. Although from the literature we know that workers with lowest tenure are more likely to lose their job, according to the "first in first out" policy it is not reflected in subjective views and opinions of youth recorded in the EQLS dataset. Also gender differences among recent school leavers are in line with the overall working age group: women both younger and of prime age are slightly more worried of losing their current job than men.

Figure 24:Subjective job insecurity

How likely or unlikely do you think it is that you might lose your job in the next 6 month?

Sources: Own calculations based on EQLS 2012. Countries with less than 30 observations have been removed. Cells with less than 30 observations have been removed.

Yet when we compare the opinion of young and prime age workers about the possibility of finding a new job if the current one terminates, there is a visible difference. Recent school leavers are much more optimistic about their future job prospects. While in other working age population 33% respondents feel likely to find a new job of a similar salary, among recent school leavers this number is 49%. This may partially be explained by the relatively lower remuneration of younger cohort, and, thus, lower financial expectations.

The topic of the labour market subjective insecurity requires more in depth analysis. Unfortunately this is limited by the availability of the datasets, which allow identifying the respondents' opinions and views about the prospect of their employment, and future of their working places.

Similar limitations of the EU-LFS dataset can be found in relation to informal employment. There is no information available in the EU-LFS which could be used to identify the informal workers, therefore we present below the information coming from an additional data source.

Informal work

Due to its nature, informal employment is difficult to track in national statistics. The research attempts made to estimate the scale of informal employment produce mixed results, depending on the methodological approach and questions used for measurement (Hazans 2011; Williams, Horodnic, and Windebank 2015).

The European Social Survey provides information about the type of work contract at respondent's job: *Do you have a work contract of unlimited duration (1) or, limited duration (2) or, do you have no contract (3)?* The third option allows to identify people with informal jobs. However, this question identifies only a part of members of the informal sector.

The ILO defines informal employment by two dimensions: the *type of production unit (formal sector enterprises, informal sector enterprises and households) and* by the *type of job (formal vs informal).* Informal sector enterprises include small economical units which produce something for sale/barter and are not registered under the national law. Informal jobs might be defined as those which do not fit into the national legal framework. In other words: they are not protected by the labor legislation (Hussmanns 2004). According to this definition, when analyzing informal employment we should distinguish between, for example, informally self-employed or family workers. While working on the ESS data we have to remember, that people hired without a contract represent only one of several types of informal jobs - they represent informal dependent employment (Hazans 2011).

Mihails Hazans used the ESS data (2004-2009) to show main characteristics of informal employment across Europe. His analysis indicates that higher informality rates go together with higher unemployment rates. Basically any factor which lowers potential employers' negotiating position increases the risk for an informal employment: "*The dependent informality rate is inversely related to skills (measured by either schooling or occupation).*" (Hazans 2011).

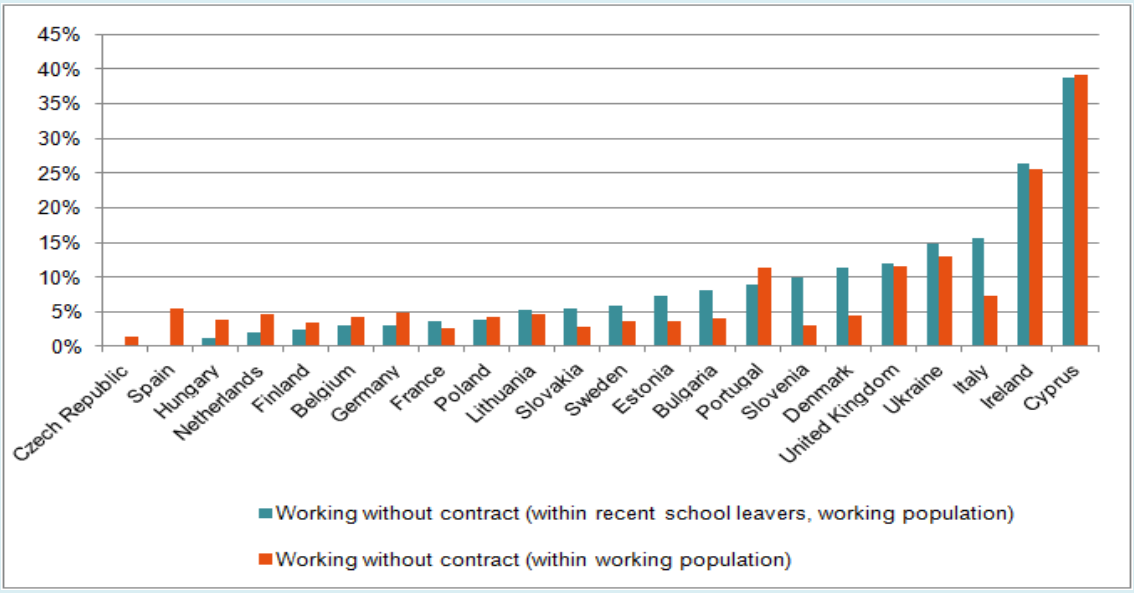
Hazans gives a list of individual determinants of informal employment: low skilled, less experienced or low educated, less productive, with a strong preference towards flexible working time, less keen on secure or stable job, belonging to groups over-represented in the informal sector (ethnic minorities, immigrants, people with disabilities, students), with low level of trust in state institutions or tax morale (Hazans 2011). The vast majority of given characteristics applies to young people – graduates entering labor market and young workers.

The following chart presents the informal dependent employment rates as a percent of people working without any contract in the population of people who are currently in paid work.

Data presented for recent school leavers (EXCEPT population) should be interpreted with caution, because they are based on very small subsamples. People under 30 years old who are not studying or training, but who finished their education no later than 5 years before the interview, are relatively small group within most of the available ESS country datasets. The recent school leavers subsample size differs from 20 cases in Italy to 153 individuals in Ukraine. Thus, if we are interested in the overall scale of informal employment in a given country, it is better to look at the estimates based on the whole working population. Countries with the highest percent of informal workers in 2012 are: Cyprus, Ireland, United Kingdom, Portugal and Ukraine. On the other extreme are countries like: Czech Republic, Slovakia, Slovenia, Finland, and France. The shares of informal workers do not differ much between general population and the recent school leavers population. However, there are some exceptions: percentages of people working without contracts in Bulgaria, Denmark, Italy and Slovenia are clearly higher within recent school leavers population than within the general population.

Size of the recent school leavers subpopulation within the ESS country samples does not allow to conduct any in-depth analysis of a socio-economic composition of the group of informal workers. However, we can use weighted data from 22 countries participating in the survey and present some basic characteristics of the group of our interest.

Figure 25: Informal dependent employment rates per country and its recent school leavers subpopulation (2012)

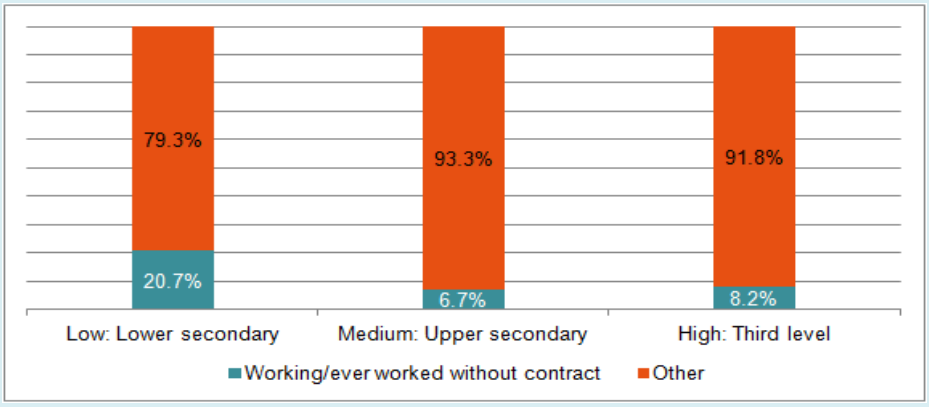


Source: Own calculations based on ESS, 2012

Recent school leavers population is comprised of people under 30 years old, but even among them the age factor still increases the risk of working without a contract. The younger cohorts are overrepresented among informal workers – 67% of informal workers are people aged 20-24 years old- while among other types of workers it is just 50%. However given the characteristics of the subpopulation (recent school leavers) this may be more linked to the educational level rather than age. The educational structure of young informal workers is quite different than that of other categories of workers – less educated groups are clearly overrepresented among the group of people who work without contracts.

Surprisingly, there are no significant differences in the experience of informal work between people who were born in the country where they are living and immigrants. On the other hand, the character of the current job and past labor market experiences may change the chances for informal employment. Youth who have ever been unemployed and were seeking work for at least 3 months are more prone to have experiences with informal work. Almost 60% of people who are working or used to work without a formal contract reported an incident of past unemployment (among other workers this percent equals to 40%). According to the ESS results, an informal job often comes in more flexible forms. The percentage of part-time workers (working less than 30 hours per week) among people who have no experience of informal work equals to 14,5%, but among people working without contract the part-time workers' percentage is twice as big (28%).

Figure 26: Comparison of educational structure - people who are working/ used to work without contract versus people with work experience who had never worked without a contract



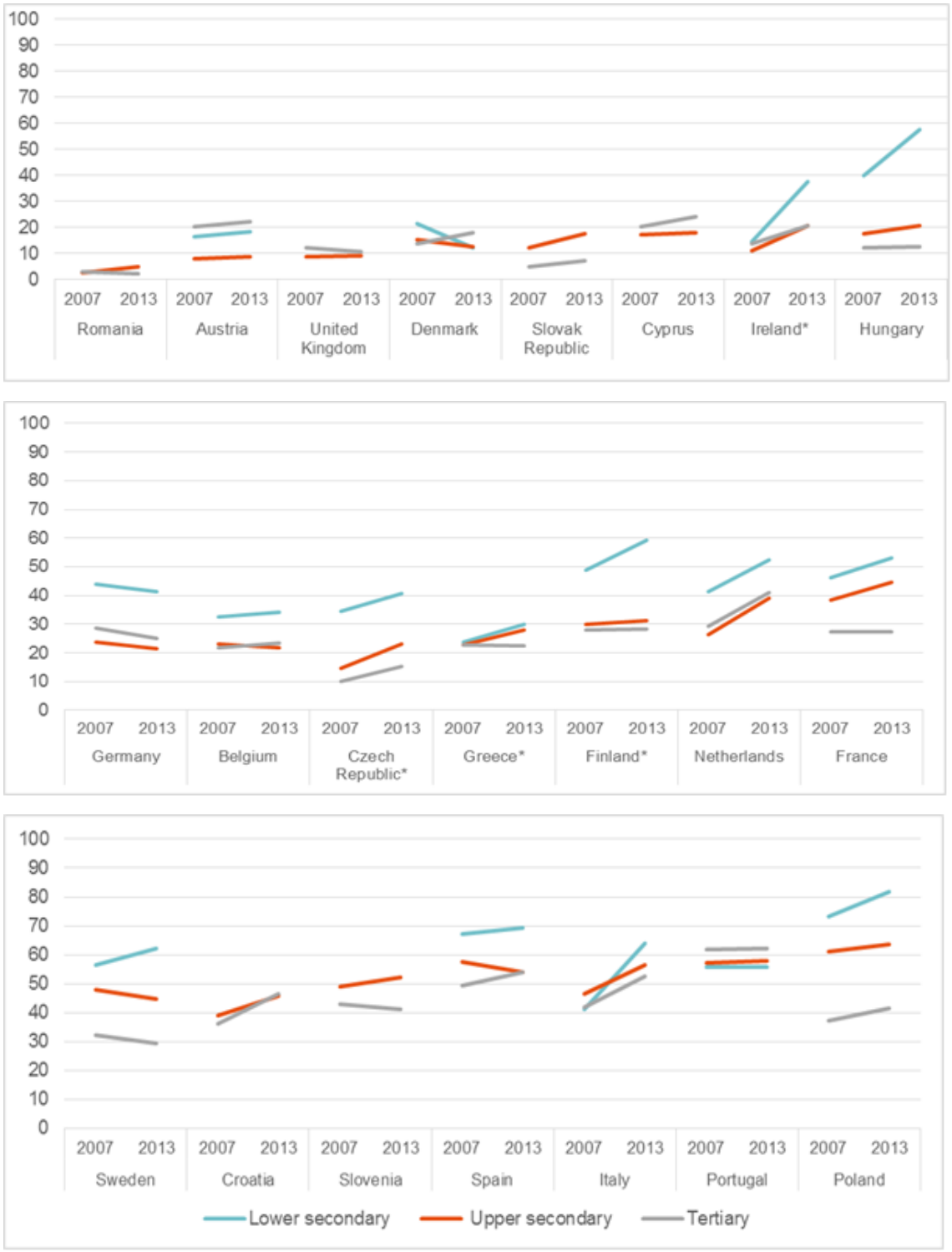
Source: Own calculations based on ESS, 2012. Weighted data, EXCEPT population (people who are working or used to work) from 22 countries participating in ESS, N=1936.

As many analyses showed, the nonstandard forms of employment are common among low-skilled workers (De Grip, Hoevenberg, and Willems 1997; Broughton, Biletta, and Kullander 2010). Increasing skills requirements in many occupations impend the position of low-skilled workers potentially forcing them to accept more flexible and insecure jobs (Borghans and Grip 2000).

Figure 27 describes the prevalence of temporary employment by education level in 2007 and 2013. In most of the countries workers with low education have a higher probability of being temporarily employed. There are no, or just small differences between workers with the upper secondary and with the higher education (the biggest are observed in Sweden, France and Poland). Interestingly, in Austria and Germany (where the dual system in vocational education exists) this difference is in favour of workers with the upper secondary education – the proportion of temporary contracts is higher among university graduates. In the dual system there is high standardization of qualifications on the national level and curricula are set in cooperation with companies. Therefore, the diplomas gained in the upper secondary education serve as good signals of employees' competence (Blossfeld 2008). As a result employers are probably less reluctant to offer a permanent contract.

When looking at the changes in temporal employment rate between 2007 and 2013 we can observe further dualization of the labour market in Ireland, Hungary, Greece, Finland, Sweden, France and Italy. In these countries the growth in the proportion of fixed-term contracts is much faster among low-skilled workers. However, there is also a group of countries where the level of education does not differentiate the type of contract. These include both: countries where the incidence of temporary employment is marginal (Romania, UK) and countries where it is high (Croatia and Portugal).

Figure 27: Temporary contracts by education level in the European countries in 2007 and 2013 (%)



Source: Own calculations based on EU-LFS. Note: Countries are sorted by the proportion of temporary contracts among upper secondary in 2013. Countries with the majority of cells with less than 30 observations have been removed. Cells with less than 30 observations have been removed. Between 30-50 observations in one or more education category.*

4.2 Reasons for having a nonstandard work arrangement

There is a growing body of research showing negative consequences of nonstandard employment (see Introduction). Therefore, the atypical work arrangements are often associated with "bad" positions. However, De Cuyper et al. (2008) note that there is mixed evidence on the impact of temporary work on well-being and associate it with the fact that analyses do not take into account the motivation behind choosing such a contract. Also Kauhanen and Nätti (2014) stress the importance of distinguishing between voluntary and involuntary nonstandard working arrangements. They show that both involuntary temporary and involuntary part-time employment are associated with lower job quality. Therefore, in addition to examining the type of work, it is also useful to examine the reasons for having it.

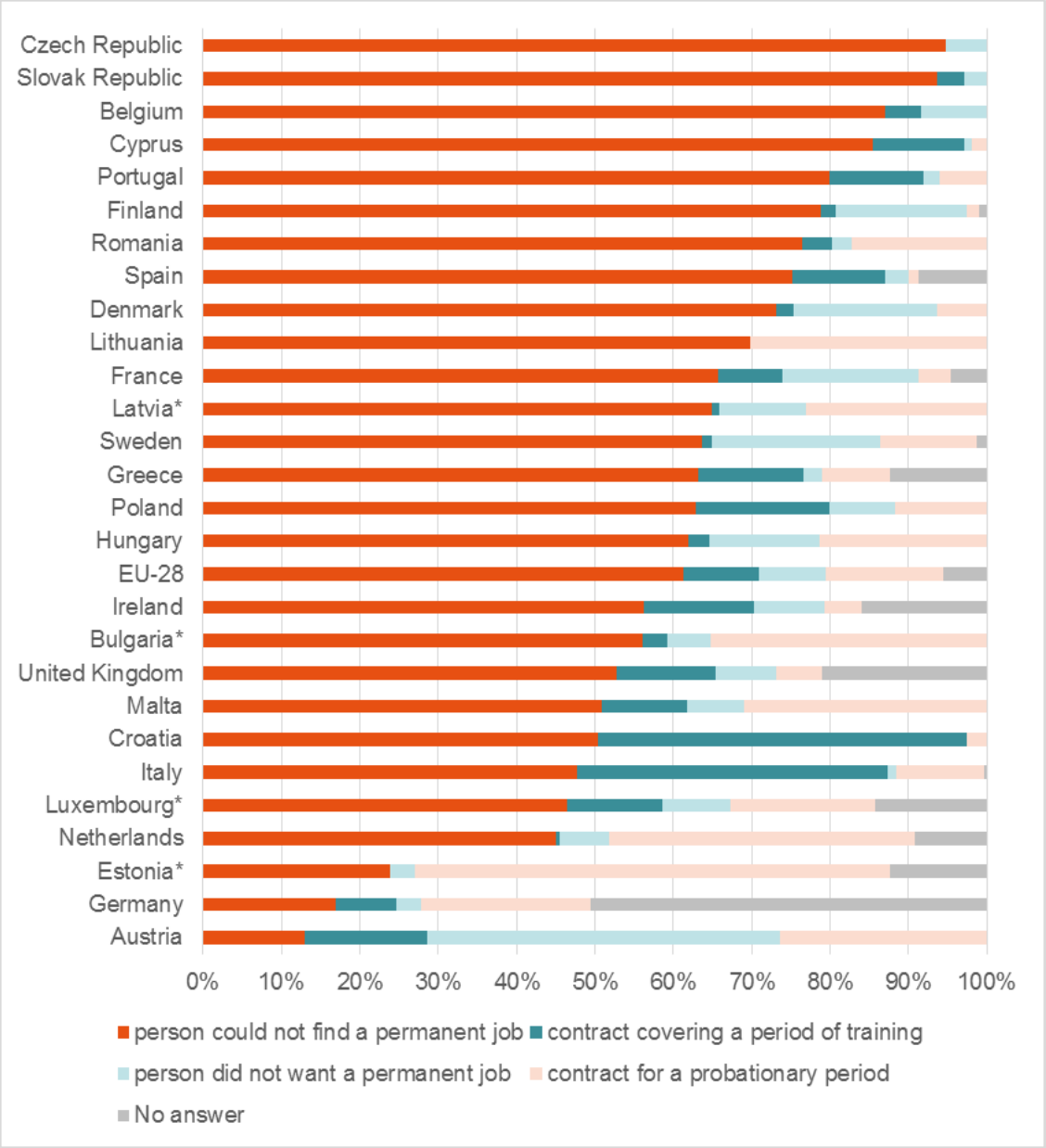
Various studies argue that there are two distinctive segments of temporary employment: forced and voluntary (Marler, Barringer, and Milkovich 2002; Nunez and Livanos 2014). According to Marler, Barringer, and Milkovich (2002) the latter consists of high-skilled workers with good employment prospects. For them, having a temporary contract is not linked to uncertainty. The dual labour market theory also applies to the part-time employment (see review in Kalleberg 2000).

Temporary employment

Following the classification in Nunez and Livanos (2014) the reasons for signing a temporary contract can be seen in light of four labour market theories: as a signal (when on training), as a screening mechanism (when on probationary period), as a flexible contract ("by choice") and, finally, as a friction of the market when the temporary employment is involuntary.

In almost all countries the majority of the temporary contracts are involuntary (Figure 28) which is consistent with the literature (e.g. Amuedo-Dorantes 2000; OECD 2014). On average across countries, in 2013, 61% of temporarily employed have this type of employment because they cannot find a permanent job. In Czech Republic, Slovakia, Belgium and Cyprus it is over 80%. The exceptions are Estonia and Austria where the main reasons for temporary employment are a probationary period and "voluntary" temporary employment (person does not want a permanent job) respectively. A contract for a probationary period plays an important role also in the Netherlands, Malta, Bulgaria, Hungary, Latvia and Lithuania where over 20% of temporarily employed have this type of contract. Temporary workers "by choice" constitute relatively high proportions of the temporarily employed labour force in Scandinavia and France (around 20%). The share of people with involuntary temporary contracts has increased in the European Union by some 15% between 2007 and 2013.

Figure 28: Reasons for temporary work (2013) (%)



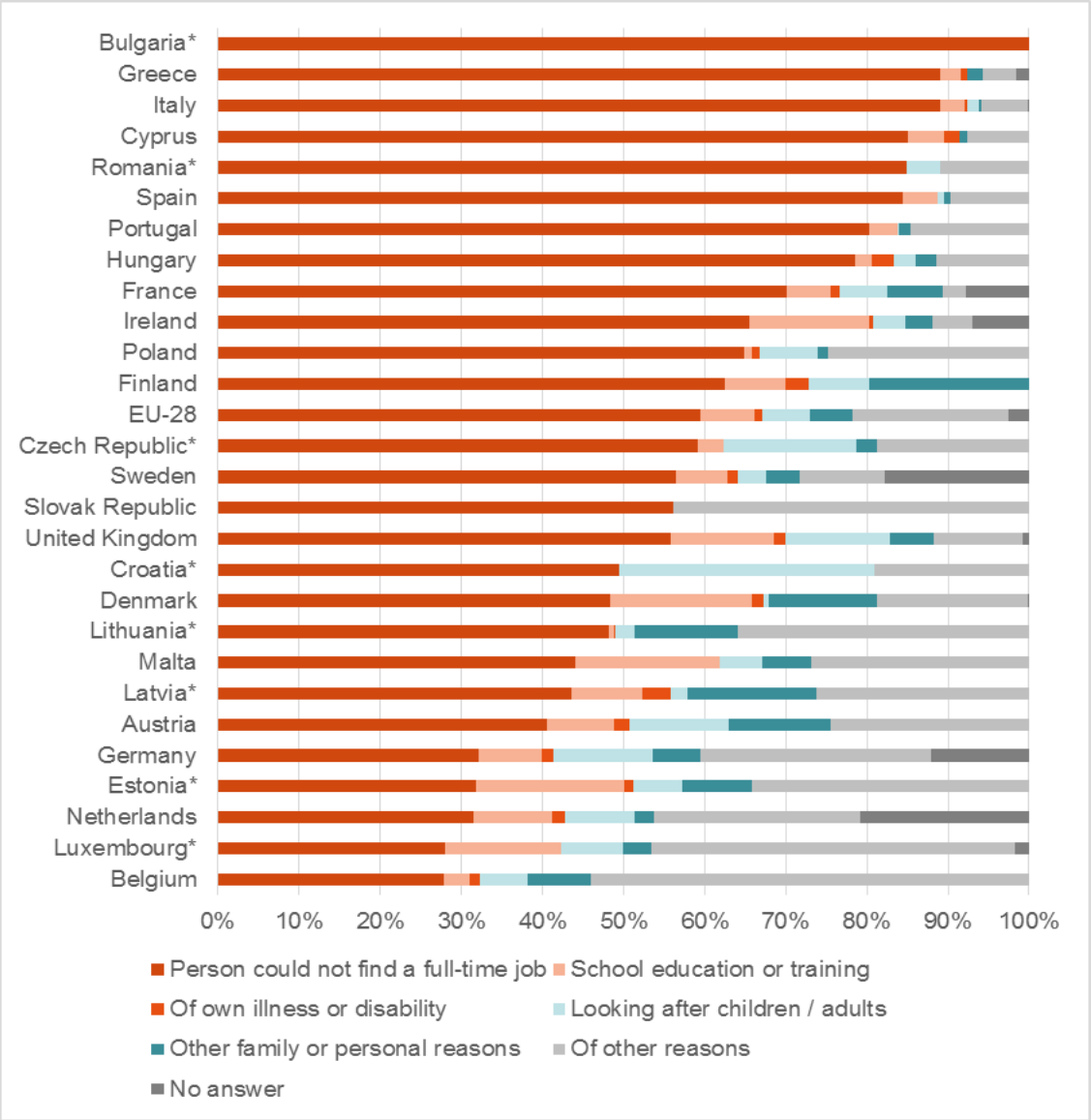
*Source: Own calculations based on EU-LFS. Note: Countries are sorted by the proportion of involuntary temporary work. There is no data for Slovenia. *Countries with less than 50 observation in the first category "person could not find a permanent job". German data should be treated with caution as there are more than 50% "no answer".*

Part-time work

Also the analysis of reasons for part-time employment of recent school leavers shows some heterogeneity in motivation for that type of work. Figure 29 presents the reasons for having part-time work by country. Across the European countries, in 2013 60% of part-time employees are forced into this type of employment. The highest share of involuntary part-time workers among the recent school leavers is in Southern European

countries (over 80%). On the opposite site are the Benelux countries and Germany with the share of the involuntary part-timers of about 30%. Family reasons, health or being in education or training are not often mentioned. This is justified in the population of recent school leavers aged 15-29. By definition they have already left formal education but not many have family obligations yet. Therefore, the second most common answer is "other reasons" which does not bring additional insights on the motivation.

Figure 29: Reasons for part-time work (2013) (%)



*Source: Own calculations based on EU-LFS. Note: Countries are sorted by the proportion of involuntary part-time work. There is no data for Slovenia. * Countries with less than 50 observations in the first category "person could not find a full-time job".*

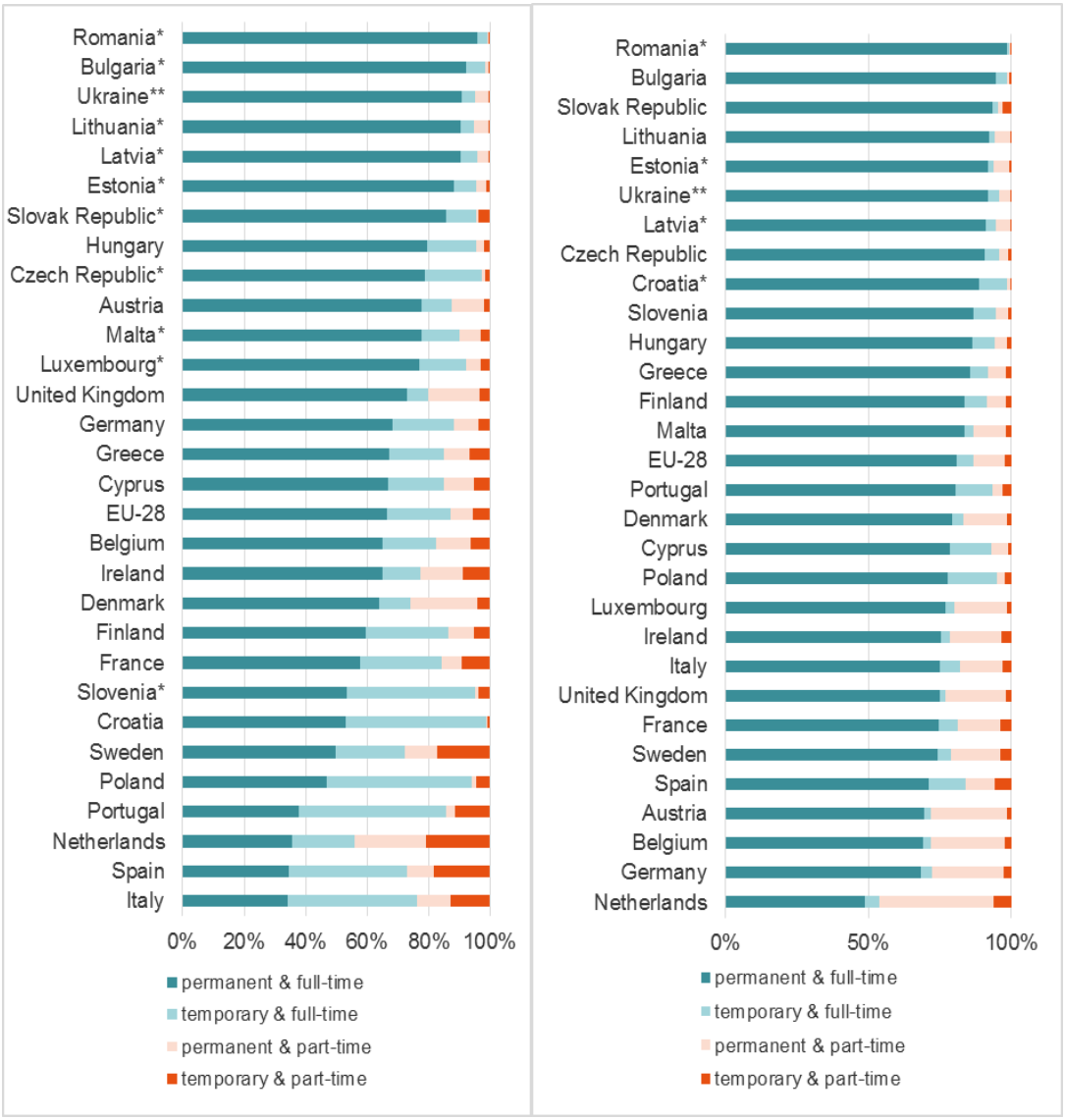
The findings in this section suggest that neither workers with temporary jobs nor part-timers form a homogeneous group of youth. Nonstandard employment is not a voluntary choice for most workers but there is also a substantial share of employees who prefer such an atypical work arrangement or view it as a stepping-stone (e.g. a probationary period). When going forward with the analysis of consequences of insecure labour market positions one needs to distinguish the involuntary nonstandard arrangements as they might trigger different results.

4.3 Objective insecurity overlap

Temporary and part-time employment are the most common types of atypical work relations. Until now we have investigated them as separate phenomena. However, there is evidence that these nonstandard forms of work overlap (Casey 1991, Rodgers and Rodgers 1989). In order to assess the cumulative insecurity among recent school leavers it is useful to examine the overlap of the insecurity measures at the individual level. Each individual can have one of the four combinations of the type of work: full-time permanent contract, part-time permanent contract, full-time temporary contract or part-time temporary contract (Figure 30).

In post-socialist countries (except for Poland) the atypical work arrangements are a marginal phenomenon – 80% of workers or more have a standard full-time job with a permanent contract independent of the age group. In contrast, in Southern European countries and in the Netherlands atypical jobs constitute more than 60% among recent school leavers. While in the Netherlands the proportion is comparable also among employees aged 30-59, in Southern European countries labour market entrants are much more vulnerable. All of these countries and Sweden have a substantial share of young workers with cumulatively insecure positions (part-time job with a temporary contract) – more than 10% of recent school leavers while such positions are marginal among employees aged 30-59. The alternative to a full-time job with a permanent contract is mostly temporary full-time work among recent school leavers and permanent part-time work among older employees.

Figure 30: Objective insecurity overlap in 2013 among recent school leavers (left panel) and among employees aged 30-59 (right panel) (%)



*Source: Own calculations based on EU-LFS. * One or more cell with <50 observations; **Source of data for Ukraine - ULFS; For Ukraine temporary contracts include temporary, seasonal contracts and casual work*

4.4 Who are temporary and part-time workers?

This section explores the profiles of workers with nonstandard work arrangements by individual characteristics such as education, gender and migration status. In the literature, there is a consensus that women, non-nationals and less-educated workers belong to “vulnerable” groups with higher risk of temporary work arrangements (Nunez and Livanos 2015, OECD 2014). Besides, women are more likely to have part-time

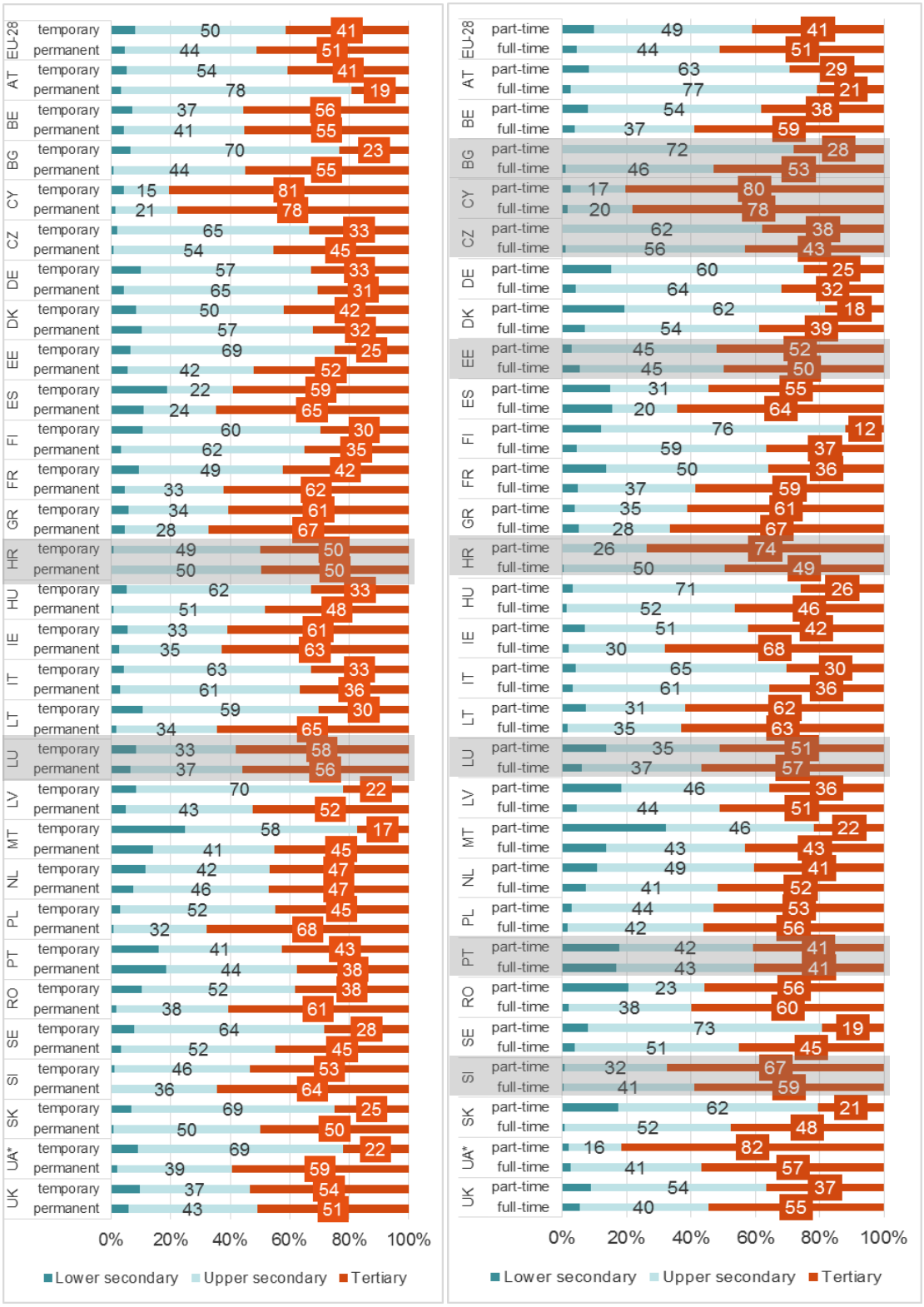
jobs in most of the countries (Kalleberg, 2000). Young age is often argued to be the greatest risk factor for holding an insecure job. As the population under investigation are recent school leavers (up to 5 years after leaving initial education) aged 15-29 we concentrate on education which is highly correlated with age.

The discussion on education in Section 4.1 refers to relative risks of having a nonstandard work arrangement for different socio-demographical groups. However, these data alone do not answer the question who are these temporary and part-time workers. The composition of the groups in insecure labour market positions depends also on the structure of the population. Even if a certain group has a very high risk of working in a nonstandard job it can be sparse and as a result not constitute a significant share of workers in this kind of jobs. This section provides additional insights into the composition of the labour force in the insecure positions by looking at education, gender and migration structures of workers in these positions.

Figure 31 shows the education structures by the type of contract (left panel) and part-time/full-time work (right panel). There is an association between the type of contract and education level in almost all of the countries with the exception of Croatia (with high prevalence of temporary contracts) and Luxembourg (where the prevalence of temporary contracts is at the average level). Although in most countries there is a disproportionate share of workers with lower secondary and upper secondary education with fixed term contracts, Austria, Denmark, Portugal and UK has an overrepresentation of workers with higher education among those with temporary contracts. While tertiary education in most of the countries reduces the chances of holding a temporary job there are many countries where a substantial share of temporary employees have a degree.

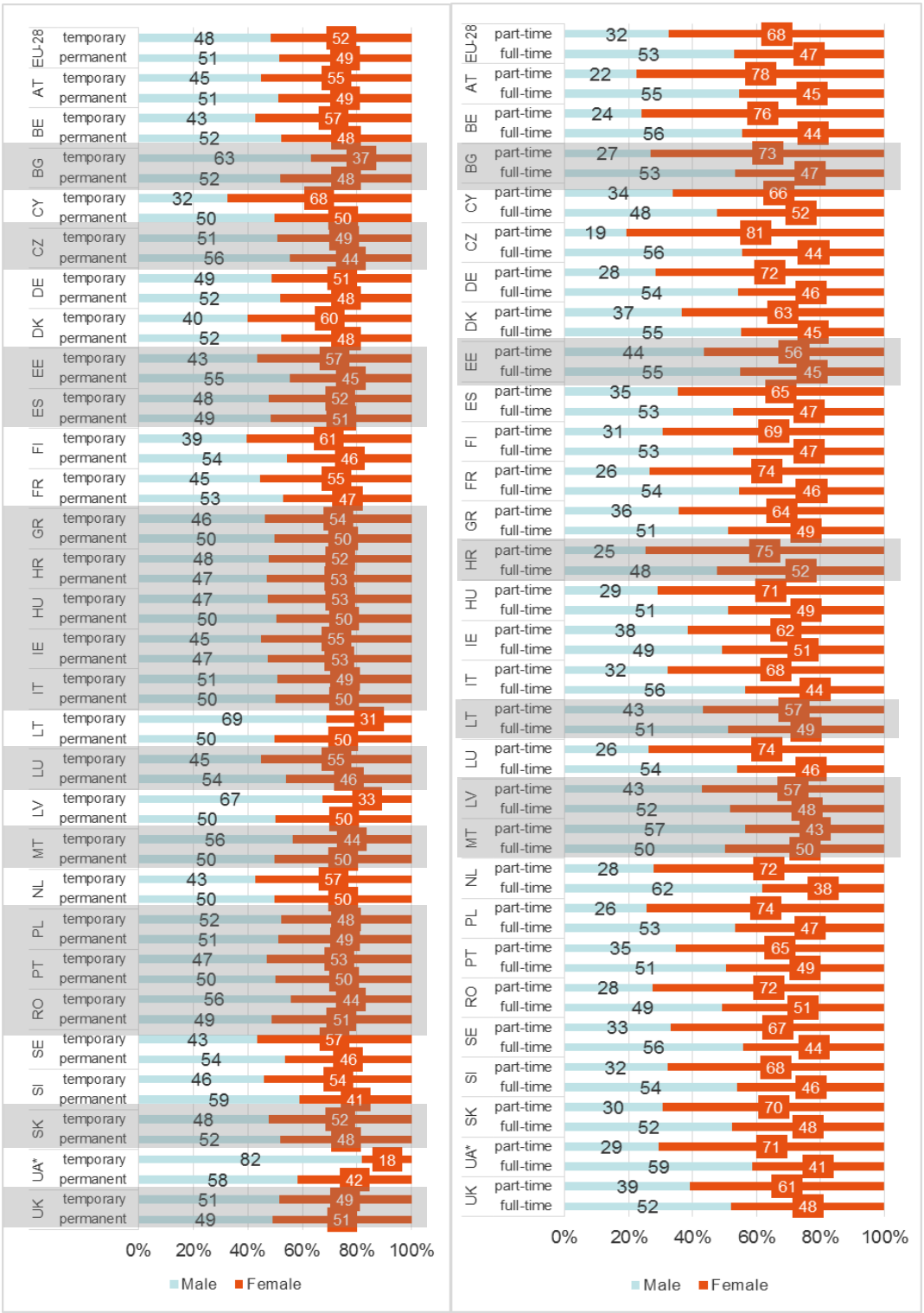
There is a disproportionate representation of workers with lower secondary and upper secondary education among those employed part-time. Yet, in a number of countries there is no association between the level of education and part-time employment. These are countries with the average or low levels of part-time employment. The variation in the shares of each education level is wider across the countries than between the types of work. The differences in the shares across the countries are mainly due to different levels of educational attainment (see Section 2.2).

Figure 31: Education structure by type of contract (2013)



Source: Own calculations based on EU-LFS. Note: In grey countries with no relationship based on chi2 test.

Figure 32: Gender structure by type of contract (2013)



*Source: Own calculations based on EU-LFS. Note: In grey countries with no relationship based on chi2 test. *Source of data for Ukraine - ULFS; For Ukraine temporary contracts include temporary, seasonal contracts and casual work; 5% of the recent school leavers lack information about permanent vs temporary contract (they are not taken into account in the Figure).*

In the majority of the European countries there is no relationship between gender and the temporary work (Figure 32 left panel, countries in grey). In Scandinavian countries, Belgium, Cyprus and Slovenia the share of women in temporary jobs is 10 p.p. higher than that for men. Conversely, men are more likely to have a fixed-term contract in Latvia and Lithuania. No specific patterns emerge however for the direction of the relationship between gender and fixed-term contracts and the incidence of temporary work. In contrast, the picture of part-time work is much more uniformed. There is a disproportionate share of women in part-time jobs across all the European countries. The relationship is not significant in the countries where part-time work in general is a marginal phenomenon. On average, women constitute 68% of part-timers while among full-time workers only 47%.

As mentioned in Section 3.3.3 immigrants are under-represented in the LFS data (Gilpin et al. 2006). In nine countries immigrants constitute less than 1% of the recent school leavers who work and in another five between 2 and 4%. In the majority of the countries there is no significant relationship between the nonstandard employment and migration status. The exceptions are Ireland and Italy where there is a disproportionate share of immigrants with permanent work and Belgium and Denmark where the opposite is true. In Cyprus immigrants are over-represented in full-time work while in Austria and Greece in part-time work.

This section compares the structure of workers' population in insecure jobs by education, gender and migration status. The LFS data confirms that temporary positions are disproportionately held by less-educated workers but no clear pattern emerge regarding gender and migration status. The evidence presented in this section suggests that there is a disproportionate share of women and less-educated workers among part-timers. Migration status is not related to either full-time or part-time work.

4.5 What are the relative risks of insecure positions for socio-economic groups?

The previous section showed the composition of the workers' population with nonstandard work arrangements, in this section we will demonstrate how the likelihood of holding an insecure position depend on gender, education and migration status.

Table 6 presents the likelihood of having a temporary contract for separate categories. Only differences significant at the 5% level are shown. In the countries with low

prevalence of temporary contracts neither of socio-demographic characteristics significantly increases the probability of holding such a contract (Bulgaria, Romania, Estonia, Lituania, Latvia, UK). There are also such countries among the ones with moderate prevalence (Czech Republic, Croatia and Luksembourg) and with the high prevalence (Greece).

Table 6: Mean differences in temporary contracts by groups and countries (2013)

	GENDER		EDUCATION				MIGRANTS	
	Female (F)	%M - %F	High (H)	%MD - %H	Low (L)	%MD - % L	Born abroad (BA)	%N - %BA
Austria	13%	.	22%	-14pp	18%	-10pp	14%	.
Belgium	27%	-7pp	24%	.	34%	-12pp	33%	-10pp
Bulgaria	5%	.	3%	.	41%	.	0%	
Cyprus	29%	-12pp	24%	.	50%	-32pp	25%	.
Czech Rep.	22%	.	15%	.	41%	.	23%	.
Germany	25%	-2pp	25%	-4pp	41%	-20pp	0%	
Denmark	18%	-6pp	18%	-5pp	12%	.	22%	.
Estonia	10%	.	4%	.	10%	.	6%	.
Spain	57%	.	54%	.	69%	-15pp	59%	.
Finland	38%	-13pp	28%	.	59%	-28pp	17%	.
France	39%	-8pp	27%	17pp	53%	.	27%	.
Greece	26%	.	23%	.	30%	.	31%	.
Croatia	46%	.	46%	.	100%		34%	.
Hungary	19%	.	13%	8pp	57%	-37pp	17%	.
Ireland	22%	.	21%	.	38%	-17pp	17%	.
Italy	55%	.	53%	4pp	64%	-8pp	47%	10pp
Lithuania	3%	.	2%	.	24%	.	0%	
Luxembourg	21%	.	19%	.	22%	.	17%	.
Latvia	4%	.	3%	.	10%	.	0%	
Malta	13%	.	6%	14pp	24%	.	18%	.
Netherlands	44%	-7pp	41%	.	52%	-14pp	47%	.
Poland	51%	.	41%	22pp	82%	-18pp	75%	-24pp
Portugal	61%	.	62%	-4pp	56%	.	59%	.
Romania	3%	.	2%	.	18%	.	37%	.
Sweden	45%	-10pp	30%	15pp	62%	-17pp	36%	.
Slovenia	53%	-13pp	41%	11pp	92%	-40pp	27%	.
Slovak Rep.	14%	.	7%	10pp	60%	-43pp	24%	.
UK	10%	.	11%	.	16%	.	13%	.
Ukraine**	3%	6pp	2%	8pp	22%	-11pp	na	na

Source: Own calculations based on EU-LFS. Source of data for Ukraine – ULFS.

Notes : Only differences significant at 0.05 level are included. %M - %F means difference between Male and Females; %MD - % H: differences between people with medium level of education (upper secondary) and Higher level of education (post secondary education), %MD - % L: differences between people with medium level of education (upper secondary) and Low level of education (lower secondary and below); %N - %BA differences between natives and born abroad.

Higher education is associated with lower likelihood of holding fixed-term contracts in France, Hungary, Italy, Malta, Poland, Sweden, Slovenia and Slovakia but there is a significant variation in this effect. In Italy recent school leavers with higher education have 53% chance to get a temporary contract while secondary raises this chance only

slightly to 57%. However, in Slovakia these chances are 7% and 17% respectively. In contrast, in Austria, Germany, Denmark and Portugal young entrants have lower probability to get a temporary job if they have a secondary education compared to a university degree. Lower education increases chances for temporary contract in most of the countries. In one in three countries women have higher probability to have a temporary job. Migration status plays a role in Belgium, Poland and Italy and in the latter actually immigrants have lower probability to hold a temporary position.

Table 7: Mean differences in part-time work by groups and countries (2013)

	GENDER		EDUCATION				MIGRANTS	
	Female (F)	%M - %F	High(H)	%MD - %H	Low (L)	%MD - % L	Born abroad (BA)	%N - %BA
Austria	19%	-14pp	17%	-6pp	30%	-20pp	17%	.
Belgium	27%	-18pp	12%	12pp	30%	.	19%	.
Bulgaria	2%	.	1%	.	0%		0%	
Cyprus	18%	.	15%	.	21%	.	8%	.
Czech Rep.	5%	.	3%	.	0%		7%	.
Germany	18%	-11pp	10%	.	32%	-21pp	0%	
Denmark	33%	-14pp	14%	14pp	49%	-21pp	25%	.
Estonia	6%	.	5%	.	3%	.	0%	
Spain	34%	-14pp	24%	12pp	26%	.	35%	.
Finland	19%	-10pp	5%	12pp	29%	.	16%	.
France	23%	-15pp	10%	10pp	35%	-15pp	18%	.
Greece	19%	-8pp	14%	.	12%	.	28%	-14pp
Croatia	2%	.	2%	.	0%		0%	
Hungary	7%	-4pp	3%	.	10%	.	0%	
Ireland	26%	-8pp	15%	18pp	49%	-16pp	25%	.
Italy	32%	-18pp	21%	4pp	28%	.	26%	.
Lithuania	6%	.	5%	.	19%	.	24%	.
Luxembourg	12%	.	7%	.	16%	.	6%	.
Latvia	5%	.	3%	.	15%	.	0%	
Malta	9%	.	5%	.	21%	.	0%	
Netherlands	60%	-34pp	38%	10pp	53%	.	35%	.
Poland	9%	-6pp	6%	.	10%	.	33%	.
Portugal	18%	-8pp	15%	.	15%	.	13%	.
Romania	1%	.	1%	.	8%	.	0%	
Sweden	36%	-18pp	14%	21pp	43%	-8pp	26%	.
Slovenia	7%	.	5%	.	7%	.	0%	
Slovak Rep.	7%	.	2%	.	54%	-48pp	0%	
UK	24%	-8pp	15%	11pp	29%	.	16%	.
Ukraine**	6%	-4pp	5%	-4pp	3%	-1pp		

Source: Own calculations based on EU-LFS.

Notes : Only differences significant at 0.05 level are included. %M - %F means difference between Male and Females; %MD - % H: differences between people with medium level of education (upper secondary) and Higher level of education (post secondary education), %MD - % L: differences between people with medium level of education (upper secondary) and Low level of education (lower secondary and below); %N - %BA differences between natives and born abroad.

Overall, as with temporary contracts, there is a group of countries where neither of the characteristics under consideration are significantly related to the probability to work

part-time (Table 7). These countries include: Bulgaria, Cyprus, Czech Republic, Estonia, Croatia, Lithuania, Luxembourg, Latvia, Malta, Romania and Slovenia. With the exception of Cyprus these are countries where such work arrangements are not popular in general. In the remaining countries women are more likely to work part-time. The differences are quite remarkable: for example, in Italy 32% of women work part-time while among men it is 14%. In the majority of countries where the level of education is associated with the probability of working part-time higher education is related to lower risk of part-time job compared to secondary education while primary education to higher risk.

4.6 Summary

This chapter has focused on the two most common types of nonstandard employment: temporary contracts and part-time work which can be a source of insecurity for workers.

Some key patterns can be observed:

- In the post-socialist countries neither temporary work (with the only exception of Poland) nor part-time work is common among employees and this holds for recent school leavers. Most of the workers in these countries end up in this type of employment involuntarily.
- Southern European countries have the highest shares of both types of nonstandard arrangements among recent school leavers and such jobs are most often involuntary. This group is more vulnerable than older workers.
- In Scandinavia and the Netherlands a high proportion of recent school leavers work part-time, and this is primarily a voluntary choice.

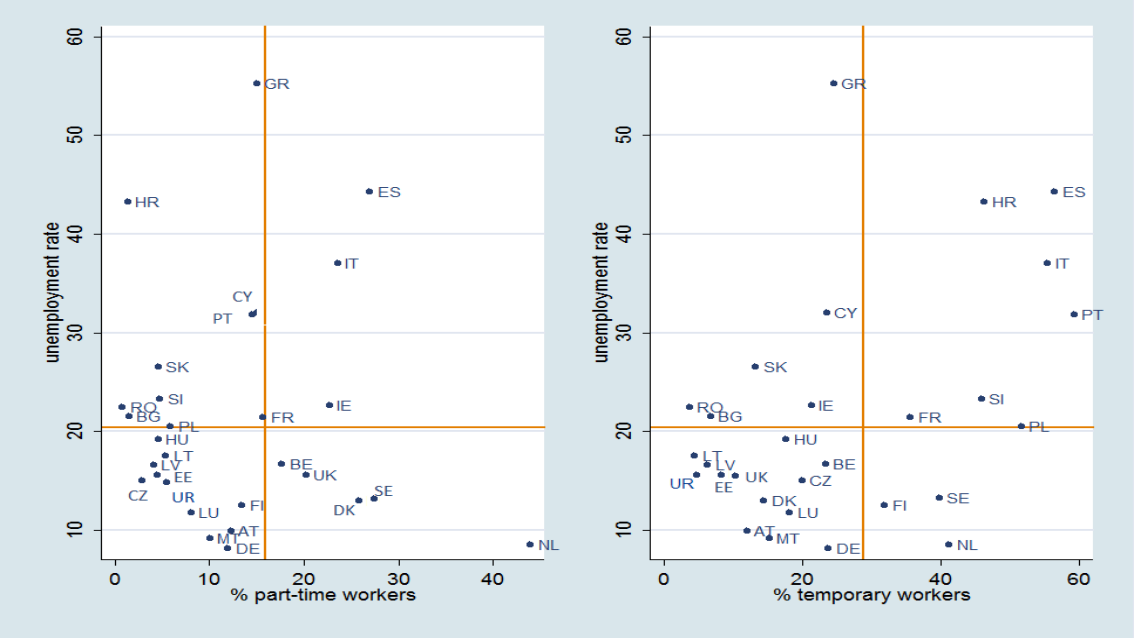
The changes in the prevalence in temporary work are heterogeneous across the European countries . Overall, the proportion of temporary contracts has only slightly increased between 2007 and 2013. There are, however, several countries where the increase is at the expense of workers with low level of education leading to greater labour market dualization. In contrast, the share of part-timers among recent school leavers has increased in almost all countries between 2007 and 2013. On average across the European countries , it has increased by 50%.

The findings in this chapter suggest that, overall, less-educated workers are over-represented among holders of both types of atypical jobs. Part-time jobs are also disproportionately held by women. Workers born abroad are not over-represented in nonstandard work arrangements but the limitations of the LFS survey with regards to migration should be born in mind. Further investigation is needed if these relationships hold also for the involuntary nonstandard arrangements.

Chapter 5.1 Labour market exclusion and insecure employment- multidimensional aspects

Thus far, two aspects of the youth labour market outcomes have been discussed in this report: (i) market participation and labour market exclusion and (ii) the scope and characteristics of precarious employment. Both aspects of the labour market are characterised by substantial variations across the European countries. In this chapter we examine to which extent these two aspects of the labour markets overlap, or coexist.

Figure 33: Unemployment and labour market insecurity indicators (2013)



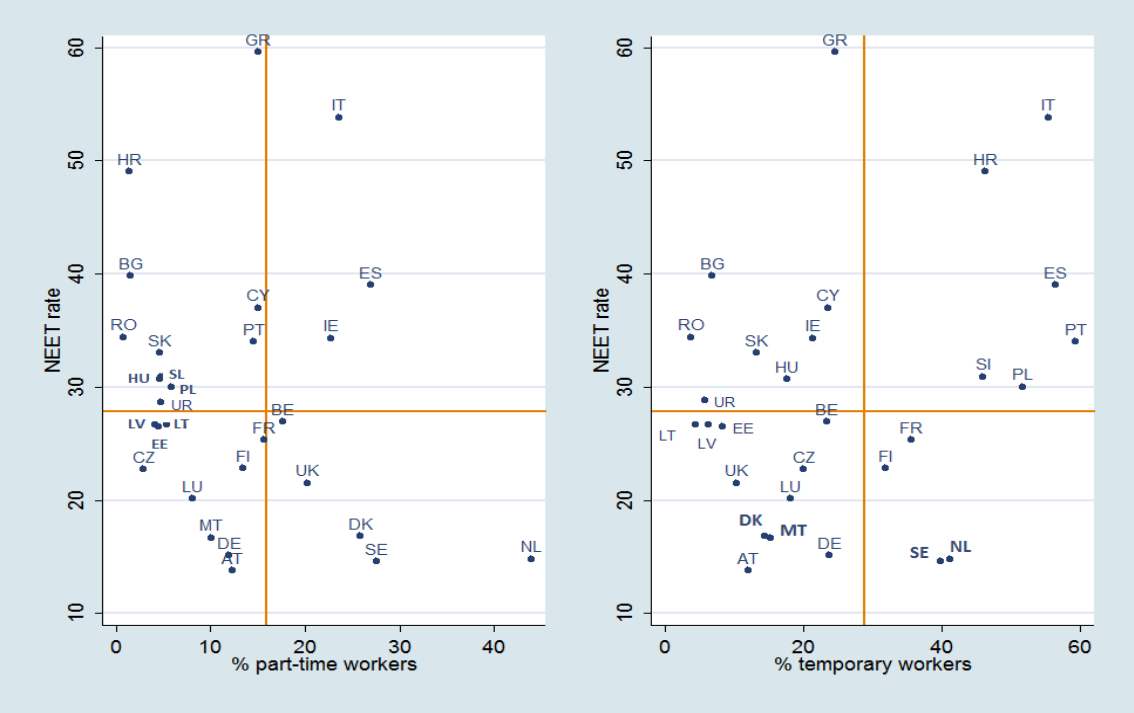
Sources: Own calculations based on EU-LFS 2013, released (December 2014).

Temporary job contracts are often recognised as a form of labour market's flexibility, as they allow for rapid reorganization of labour when labour demand changes; and they give firms ability to create employment or to vary it according to their needs. There is an ongoing discussion concerned with how the flexibility of labour market influences unemployment. Yet empirical studies of this issue provide mixed, inconclusive results (Boeri and Van Ours 2013; Nickell 1997). As it is not our aspiration to conduct another, new, detailed empirical study on these issues, we find it useful to present graphically the relationship between different characteristics of labour market for youth.

Figure 33 (Figure 34) presents the relationship between the unemployment rate (NEETs in the second figure) of recent school leavers and the share of part-time and temporary workers in this group. The orange lines indicates the EU average. Although we cannot identify linear trends which fit to the series of our data, we can still identify

certain countries in which labour market exclusion, defined by the high rate of either NEETs or unemployment, correlates with the high employment insecurity. Such a situation is observed in Spain, Italy, Portugal and Croatia (the last two only in regards to temporary jobs). Greece having the highest unemployment and NEET rates among recent school leavers has less young workers in the insecure employment than on average for the EU. At the other end of the spectrum are such countries as Austria, Germany, Luxembourg, Malta, Czech Republic, which have lower youth unemployment rate and lower employment insecurity than the EU average.

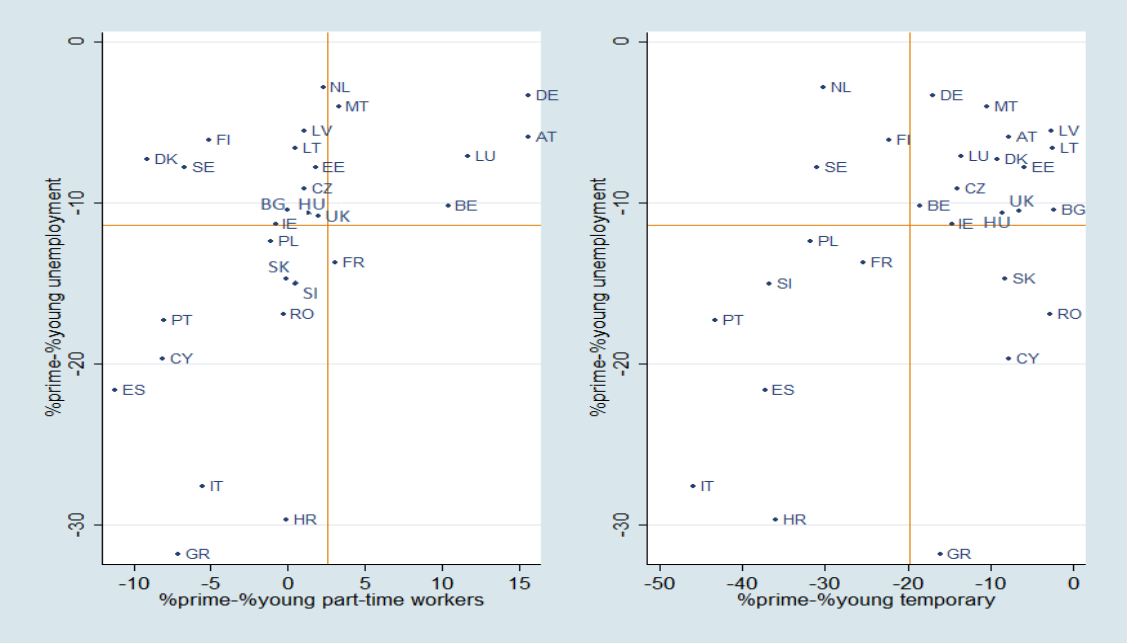
Figure 34: NEET and labour market insecurity indicators (2013)



Sources: Own calculations based on EU-LFS 2013, released (December 2014).

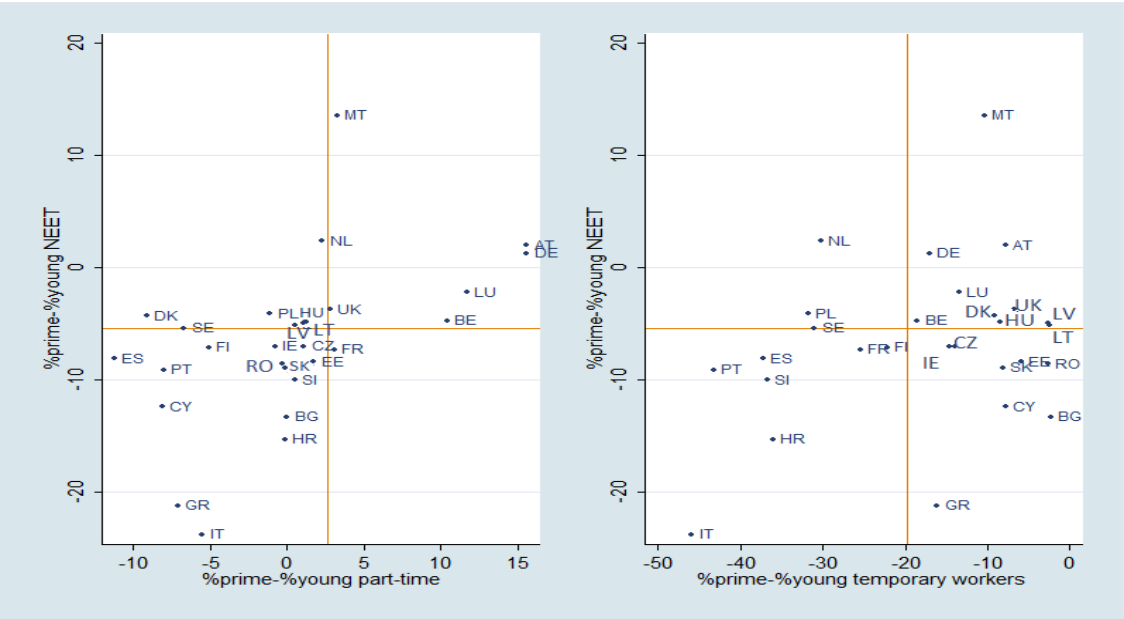
The relationship described above may reflect the overall situation in the labour market of a particular country, which may be similar for both recent school leavers and prime age workers. For better understanding of the relative situation of our young age cohort we present below the differences between indicators of labour market exclusion and insecurity for recent school leavers and prime age workers separately. As before the orange lines indicate the EU-averages. The majority of the indicators (apart from the part-time work) are below zero, which confirms the findings from the previous sections: recent school leavers have higher unemployment, NEET and temporary contracts rates than the older age cohorts, therefore they are more disadvantaged in the labour market.

Figure 35: Unemployment and labour market insecurity differences (in pp, 2013)



Sources: Own calculations based on EU-LFS 2013, released (December 2014).

Figure 36: NEET and labour market insecurity differences (in pp, 2013)



Sources: Own calculations based on EU-LFS 2013, released (December 2014).

Moreover, some of these unfavourable characteristics overlap. Recent school leavers have the most disadvantaged situation in the labour market compared to the prime age

cohort in Italy, Croatia, Portugal, and Spain. In all these countries the gaps between recent school leavers and older cohort measured by our four labour market indicators are much larger than the gaps observed in other countries. The lowest disparities and cumulative disadvantages of youth in the labour market are observed in Germany, Austria, Malta, and Luxembourg. For other countries it is difficult to indicate one dominant trend, as the relationship between indicators differs depending on which of them is considered.

Chapter 5.2 Labour market trajectories - persistence and changes

An important extension to the above presented results is an analysis of the labour market transitions of recent school leavers. Statistics presented in the preceding chapters illustrates in detail the composition and the characteristics of youth in among the unemployed, inactive, or those in insecure employment. However, among young, recent school leavers, the labour market transitions are very common. In this sub-chapter we look at the dynamics in the youth labour market, focusing on the most common labour market activities undertaken by them over the transition period of three years.

As stated in Quintini and Manfredi (2009) differences in the labour market dynamics may primarily arise from current macroeconomic situation and business cycle, labour market institutions, such as employment protection legislation, unemployment benefits, and taxation, and education system. The authors claim that high tax burden on employers lowers the dynamics of the labour market transitions, limited unemployment benefits system increases incentives for job search. Two characteristics of the education system seem to be important in shaping the labour market transition of youth: the duration of compulsory education, and the system of vocation education.

Data

For this chapter we use the EU-SILC longitudinal data from 2013. The last version of the microdata available for this dataset covers 23 Member States. We do not have information from Germany, Greece, Croatia, Romania, Sweden, additionally due to a very small sample size in Denmark, we do not show results for this country.

Our sample is defined in the same way as in the analysis based on the LFS. We focus on respondents who in the first observed wave are aged 16-29, and are not in education, and have finished education no later than 5 years before the first interview. As in the longitudinal setup we do not have information about the exact year of the most recent graduation, and we cannot merge cross-sectional data with longitudinal:

instead we use imputation based on the institutional age for completion of a given level of education. The longest available duration of panel in the EU-SILC is four years. However, due to the number of observation diminishing from wave to wave we focus on three years period. We include in the analysis those who fulfilled the above conditions and is at least observed in three waves which corresponds to years 2011, 2012, and 2013.

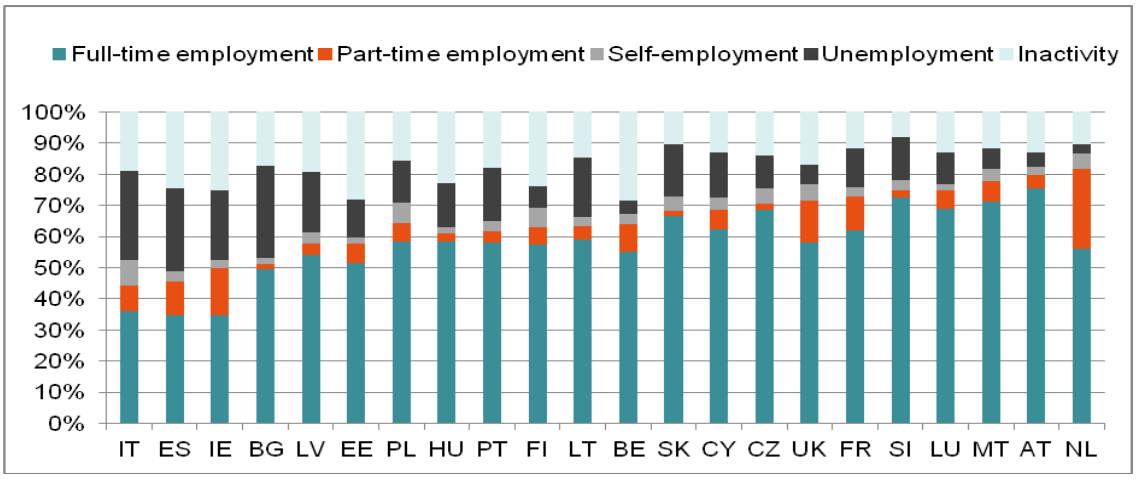
In each wave of the longitudinal survey respondents are also requested to provide information about their main labour market status in each of the twelve consecutive months. Based on this information we will construct individual trajectories for a period of 36 months. The data allows us to distinguish between: full-time employment, part-time employment, self-employment, unemployment, and different types of inactivity which we cluster into one category: inactivity. Some of the limitations arise from the fact that we use information only on the most dominant labour market status, so we ignore for example secondary jobs, which could have different characteristics than the main activity. Moreover, we cannot distinguish between probation contracts and temporary or permanent contracts. As detailed questions on monthly labour market status are retrospectively asked, we expect that some respondents are ignoring very short spells of certain labour market statuses. Finally, we are not able to recognise the changes of the employer, as monthly data only provides information about main labour market status.

Main results

First we check for how long on average recent school leavers remain employed, unemployed or inactive during our 36 months observation period.

Figure 37 indicates the differences in this respect between 22 member states. Young people from Italy and

Figure 37: Duration in months of different labour market spells (in % of 36 months)



Source: Own calculations based on "EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015"

Spain in this 3 years period are employed for around 16 months, while around 17 months they remained unemployed or inactive. This is a clear difference in comparison to Austria and Netherlands, were young school leavers on average work for more than 80% of this time and only up to six months are unemployed or inactive. If we define an episode as a homogenous labour market status which could last from 1 to 36 months we could add to the above statistics the information on the average number of different labour market episodes. The highest number of such episodes are observed in Finland, and the United Kingdom (respectively: 3.62, 2.35) indicating the highest number of labour market transitions, while in Malta, Bulgaria, and Czech Republic recent school leavers have the lowest labour market mobility (respectively: 1.65, 1.79, 1.83).

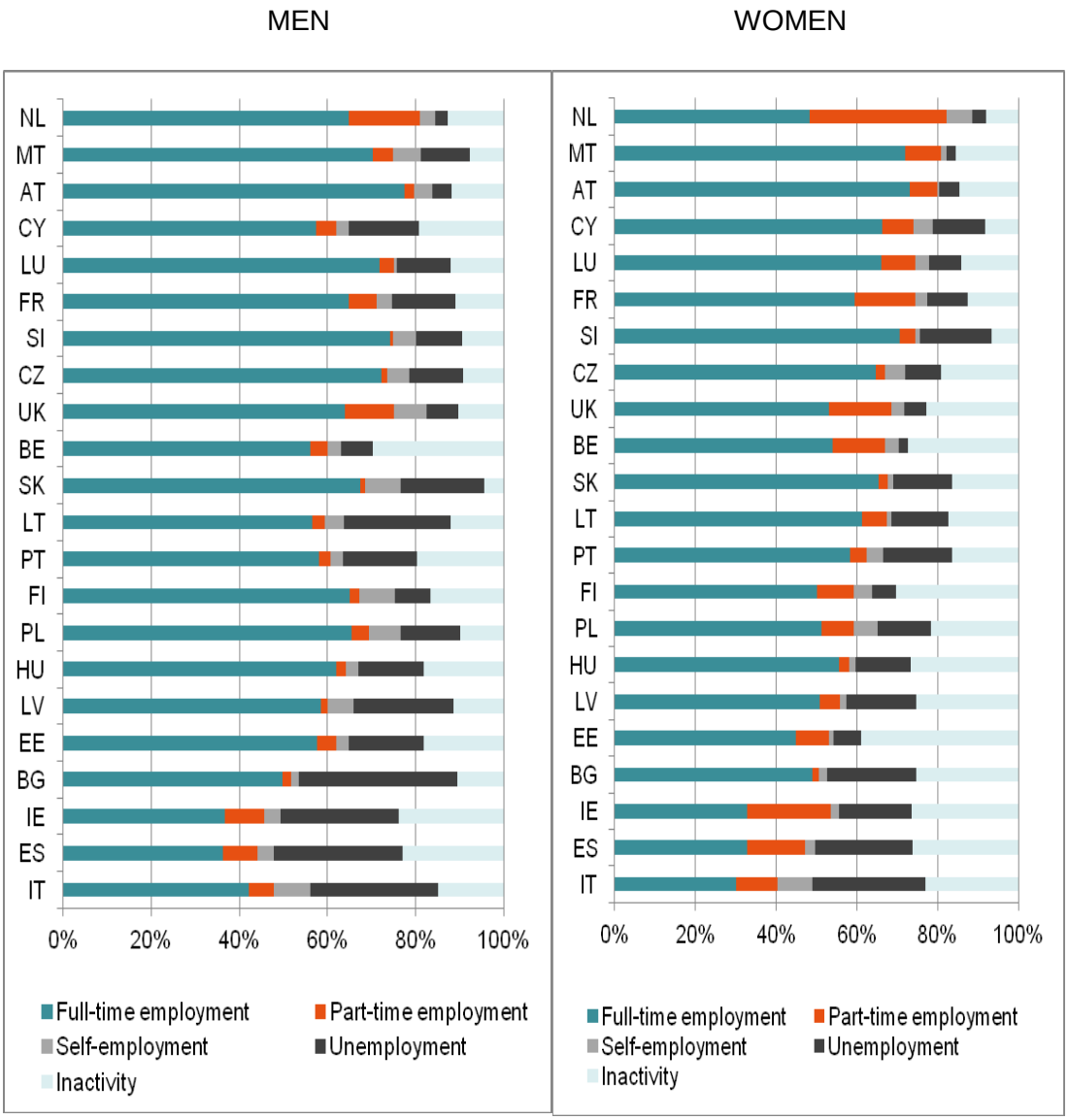
We have also explored this relationship by gender. The results are presented in Table 8. In general, young women have a slightly shorter spells of full-time employment than young men, which holds for all countries except for Cyprus and Portugal. As expected, part-time employment is more widespread among young women than men. Other findings go along with our expectations: young women who recently left education spend on average more time in inactivity than men, mainly due to childbearing/childcare and other family commitments. Although self-employment is again more common among men than women in Italy, Bulgaria, Portugal and Cyprus, longer spells of self-employment are experienced by young women than by young men.

Table 8: Characteristics of transition sequences by gender

Average duration of spells	**Male**	**Female**	**Total**
Full-time employment	21.42	19.37	20.39
Part-time employment	1.60	3.27	2.44
Self-employment	1.73	1.21	1.47
Unemployment	5.90	4.65	5.27
Inactivity	4.86	7.14	6.01
Average number of spells			
Full-time employment	0.98	0.92	0.95
Part-time employment	0.14	0.29	0.22
Self-employment	0.10	0.07	0.08
Unemployment	0.55	0.47	0.51
Inactivity	0.36	0.50	0.43
N	3942	3978	7920

Source: Own calculations based on "EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015"

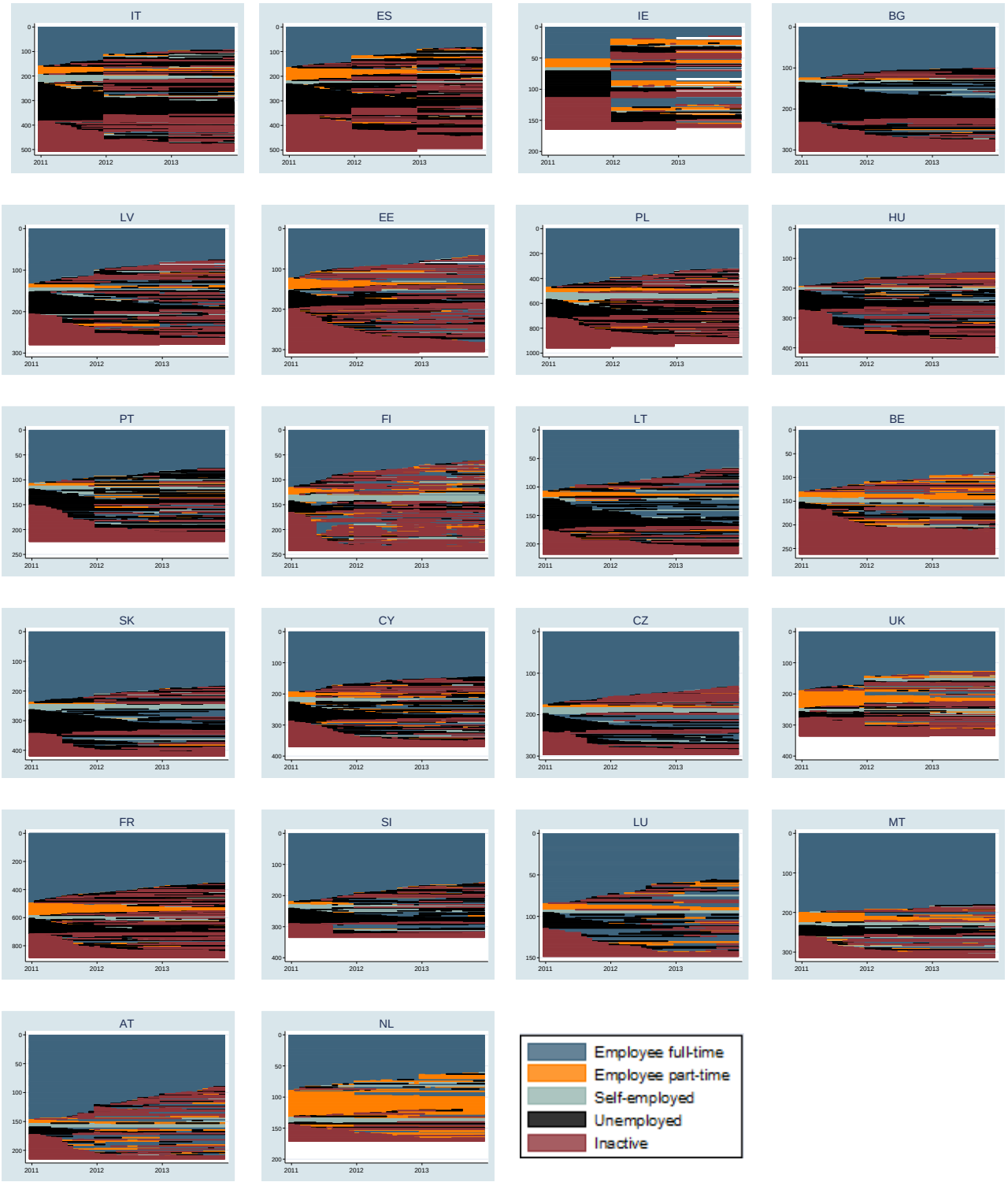
Figure 38: Duration in months of different labour market spells (in % of 36 months) by gender and country



Source: Own calculations based on "EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015"

To reflect the time dimension accurately we also present the individual trajectories grouped by country. In Figure 39 each line represents an individual trajectory, while colours indicate the current labour market status of the respondent. To make the graph more visible the trajectories were sorted according to the most widespread labour market position in the first month, while countries are sorted in the same way as in the Figure 37 above.

Figure 39: Individual labour market trajectories by country



Source: Own calculations based on "EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015"

When we compare countries which are quite similar with respect to the average length of unemployment or inactivity during the observed period, for example Spain and Bulgaria, we see that the individual trajectories differ. First, young respondents in Spain who are unemployed in January 2011 in following months became inactive, while other previous inactive or employed entered unemployment. At the same time in Bulgaria those in employment at the start of the period have rather stable situation: majority of sequence which starts with employment also end with employment. Also those who are unemployed at the beginning of 2011 still keep searching for a job, and do not turn into inactivity like in Spain, and some of them find full time jobs.

We also examined the most common sequence types and observed how they differed by country. As expected the most common sequence relates to full-time employment during the entire observation period and it holds for all countries. Yet then the differences arise: in some countries (Belgium, Estonia, Spain, France, Hungary, Poland, Portugal, United Kingdom) the second most common labour market position is unemployment, which remains stable for the entire observed period. In other countries (Slovakia, Latvia, Lithuania, Ireland, Czech Republic, Cyprus, Luxembourg, Malta and Finland) transition from inactivity or unemployment into full-time work are the second common labour market sequence. The Netherlands stand out from the other member states on account of part-time employment which after full-time work is the second widespread and stable labour market status.

Previous studies indicate that the labour market mobility of school leavers is also affected by their level of education (Wolbers 2007; Saar, Unt, and Kogan 2008). Due to a relatively small sample size we cannot not conduct the analysis for individual countries. Therefore, we pull all member states together and compare the labour market transitions among three groups: young school leavers with at most lower secondary education, young school leavers with upper secondary education, and those with post-secondary education. Table 9 illustrates the transition sequences by the level of education. The characteristics of transition sequences (its average duration and average number of spells) differ considerably by level of education in much marked way than sequence characteristics by country. As expected, school leavers with very low education are most at risk of prolonged inactivity and unemployment. They also rarely open their own business, working as a self-employed. Their counterparts with post-secondary education have spent on average 27 month from 36 analysed in different forms of employment, and only 3 month looking for a job.

Table 9: Characteristics of transition sequences by level of education

	Lower secondary and below	Upper secondary	Post secondary	Total
Average duration of spells				
Full-time employment	10.12	19.03	24.77	20.93
Part-time employment	2.00	2.54	2.51	2.47
Self-employment	0.72	1.36	1.78	1.50
Unemployment	10.96	6.70	3.07	5.34
Inactivity	11.98	6.17	3.66	5.55
Average number of spells				
Full-time employment	0.72	0.97	1.02	0.97
Part time employment	0.22	0.23	0.21	0.22
Self-employment	0.05	0.08	0.10	0.09
Unemployment	0.80	0.63	0.38	0.52
Inactivity	0.67	0.48	0.31	0.41
N	828	2955	3803	7586

Source: Own calculations based on "EU-SILC LONGITUDINAL UDB 2013 – version 1 of August 2015"

According to earlier findings in the literature labour market transitions of youth are influenced by labour market institutions and macroeconomic conditions (Brzinsky-Fay 2007).

In Table 10 we sort countries according to the average number of episodes (spells of identical labour market status) observed during 36 month in employment and self-employment. Bulgaria, Slovakia, Hungary and Czech Republic are the countries with the smallest number of employment episodes, while Austria, the Netherlands, the UK and Finland with the highest. In the table we also add some indicators of labour market protection (EPRS, EPR, EPT) indicators of spending on LMP, and real GDP growth rate in 2012 (the shade of the colour represents the value, with red the highest, and blue the lowest value), to place the 2011-2013 labour market transitions in the macro context.

Table 10: Indicators of Labour market institutions and GDP growth rate

	Number of spells (emp+self-emp)	Protection of permanent workers against individual and collective dismissals	Protection of permanent workers against (individual) dismissal	Regulation on temporary forms of employment	Public expenditure as a percentage of GDP		Real GDP growth rate - volume
		EPRC (2013) OECD)	EPR (2013) OECD)	EPT (2013) OECD)	Active measures (2012) OECD)	Passive measures (2012) OECD)	Percentage change on previous year (2012) (Eurostat)
Bulgaria	0.85	n/a	n/a	n/a	n/a	n/a	0.5
Slovakia	1.05	2.3	1.8	2.4	0.3	0.4	1.6
Hungary	1.07	2.1	1.5	2.0	0.7	0.4	-1.5
Czech Republic	1.10	2.7	2.9	2.1	0.3	0.2	-0.9
Portugal	1.12	2.7	3.0	2.3	0.5	1.6	-4.0
Poland	1.13	2.4	2.2	2.3	0.4	0.3	1.8
Ireland	1.13	2.1	1.5	1.2	0.9	2.4	-0.3
Malta	1.14	n/a	n/a	n/a	n/a	n/a	2.5
Belgium	1.17	2.9	2.1	2.4	0.8	2.0	0.1
Lithuania	1.22	n/a	n/a	n/a	n/a	n/a	3.8
Latvia	1.23	2.9	2.6	1.8	n/a	n/a	4.8
Estonia	1.24	2.1	1.7	3.0	0.3	0.4	4.7
Spain	1.25	2.3	1.9	3.2	0.6	3.0	-2.1
Slovenia	1.25	2.7	2.4	2.5	0.3	0.8	-2.7
Italy	1.26	2.8	2.4	2.7	0.5	1.6	-2.8
Cyprus	1.28	n/a	n/a	n/a	n/a	n/a	-2.4

Luxembourg	1.30	2.7	2.3	3.8	0.6	0.8	-0.7
France	1.37	2.8	2.6	3.8	0.9	1.4	0.2
Austria	1.40	2.4	2.1	2.2	0.7	1.3	0.8
Netherlands	1.57	2.9	2.8	1.2	0.9	1.6	-1.1
United Kingdom	1.62	1.6	1.1	0.5	n/a	n/a	0.7
Finland	2.08	2.2	2.4	1.9	1.0	1.4	-1.4

OECD data: Data extracted on 02 Sep 2015 17:59 UTC (GMT) from OECD.Stat, and Eurostat data: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115.

Summarizing these indicators, it is hard to distinguish homogenous clusters. Among countries with low employment transitions (low number of employment episodes) we have some countries with relatively low protection of permanent workers (Slovakia, and Hungary) and also those with very high protection (Czech Republic, Portugal). Similarly to countries with the highest transition to employment there is a mixture of countries with very low protection and high protection against dismissal. A slightly more harmonised picture emerges from the comparison of the size of public expenditures on labour market policies (column 6,7). Countries which spent relatively less on both active and passive labour policy measures have smaller occurrence of employment episodes among young school leavers, while the opposite is observed among countries with the highest employment spells.

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ANNEX

Table 11: Sample construction: EU-LFS 2013

Country	Imputation/ assumption	Information about highest level of education	Not enough information for imputation	Total number of respondents aged 15-29
	No.	No.	No.	No.
Austria	0	30148	0	30148
Belgium	374	17072	0	17446
Bulgaria	88	4457	0	4545
Cyprus	29	7594	0	7623
Czech Republic	11	6919	2	6932
Germany	3263	74106	140	77509
Denmark	2182	25766	389	28337
Estonia	19	4942	0	4961
Spain	52	15872	0	15924
Finland	55	4574	3	4632
France	80	12684	2	12766
Greece	313	35048	0	35361
Croatia	18	6268	26	6312
Hungary	0	44182	0	44182
Ireland	665	35571	648	36884
Italy	438	83291	68	83797
Lithuania	64	11516	0	11580
Luxembourg	27	2541	12	2580
Latvia	34	6235	0	6269
Malta	0	5001	0	5001
Netherlands	458	15367	171	15996
Poland	346	68964	0	69310
Portugal	226	24126	0	24352

Romania	258	37275	0	37533
Sweden	2031	58365	201	60597
Slovenia	23	11030	0	11053
Slovak Republic	110	17499	1	17610
United Kingdom	1754	11689	196	13639
Total	12918	678102	1859	692879

Assumption: All respondents aged 15-19, who hadn't provided infomation about the highest level of education, but who have not been in education during the survey were included in the sample, as they meet age criteria, not being in education criteria, and we assumed that also they hadn't finished education earlier than 5 years before the survey.

Appendix A

Comparison of EU-LFS, EU-SILC and ESS datasets

Due to some complementary information three alternative datasets for analysis of labour market exclusion: EU-LFS, EU-SILC, ESS were used in our working paper. However there are visible discrepancies in definitions of variables, sample designs, collection methods among those three data sources, and this could have an effect on results.

This technical appendix provides information about existing differences, and summarises their effects in comparison tables for summary statistics. These discrepancies, presented below should be taken into consideration if combination of different statistical sources is foreseen, especially in the subsequent part of the EXCEPT project.

The group of our interest – people under 30 years old who are not studying or training, but who finished their education no later than 5 years before the interview, constitutes specific and relatively small subpopulation within most of the available country datasets.

Thus our main article is based on the LFS dataset which is conducted on very large national samples and delivers the most detailed information about youth labour market situation. This approach is justified mainly by practical reasons – the LFS subsample is large enough for each country to make reliable computations and comparisons. However, other datasets - European Union Statistics on Income and Living Conditions (EU-SILC) and European Social Survey (ESS) - might be also useful for specific analytical tasks involving our group of interest.

EU-SILC contains a lot of information on income, poverty and living conditions, so this dataset will be used to illustrate the economic consequences of labour market

exclusion. On the other hand ESS contains many interesting sociological variables on psychological health, general well-being, trust and social support.

The last common year for all datasets is 2012, therefore this will be our base year for comparisons.

Population definition: EU-SILC and ESS

In the Except project we have focused on the situation of young people (aged 15 – 29), who are not in education or training, but they finished their education within 5 years before the year of the survey. We also excluded from the sample those, who are in compulsory military service, because they are not present in the labour market. However, due to only few observations in ESS, we decided that in case of this dataset also individuals in army will be included to the sample. The above definition has to be translated into variables available in a particular dataset. EU-SILC and ESS contain slightly different types of questions on respondent's educational and labour market status.

In EU-SILC survey questions about labour market situation, education and health are asked to people aged 16 and over, therefore sample based on this dataset does not contain individuals aged 15 and this is the most important difference from LFS. ESS collects data on respondents who are 15 years or older.

Educational status might be determined by different questions. ESS6 questionnaire uses two questions to determine respondent's status:

Using this card, which of these descriptions applies to what you have been doing for the last 7 days? (F17a); *And which of these descriptions best describes your situation (in the last seven days)?* (F17c).

The list of possible answers is common for both questions:

A. *in paid work (or away temporarily) (employee, self-employed,working for your family business)*
B. *in education, (not paid for by employer) even if on vacation*
C. *unemployed and actively looking for a job*
D. *unemployed, wanting a job but not actively looking for a job*
E. *permanently sick or disabled*
F. *retired*
G. *in community or military service*
H. *doing housework, looking after children or other persons*

a. *(other)*
b. *(Don't know)*

While using ESS datasets, to select people who are not in education we have to work on these questions and filter out people who chose answer B (in education) as the description of one of their activities or their main activity. We should be aware that both questions use relatively short reference period: last 7 days. We can imagine that people who have short breaks in their education – for ex. they might be waiting for the results of school enrolments, will not be classified as "in education", although they will continue their education.

EU-SILC survey presents a slightly different approach. There is one question about current educational status. Respondent answers if he or she is in education or not. To be in education means to participate in an educational program, which is defined under ISCED-97, therefore this applies only to regular education system (formal education). Respondents who are not participating in education during the survey, because of f. eg. summer break or because they have just begun a study, are considered as 'in education'. Those respondents, who are taking part in informal education or individual cultural activities for leisure, are considered as 'not in education'.[5]

The next criterion used to select our group of interest is based on the period which passed from the moment when their finished their education. It should not be more than 5 years since their left school or university.

The easiest way to select such people is to use the information about the year of the end of their education and filter out any individual who took part in the survey 6 years or more after completion of his last educational stage. This method was possible in EU-SILC survey. However, some people didn't answer the question about year of attainment the highest level of their education. In that case we decided to include all youth aged 16-19, who were not in education into sample. This assumption is based on the compulsory school attendance limit, which lasts up to age 16 in most of the EU countries. For older cohorts (in case of lack of year when they left school) we use approximation based on respondent's age, highest level of education he/she completed and typical age when students in each country end each level of education (based on Eurydice, 2014). When respondent's age is not higher than 5 years from the typical age of graduation, he/she is included into sample.

[5] http://ec.europa.eu/eurostat/web/income-and-living-conditions/methodology/list-variables

The ESS does not provide the necessary information about year of completion the highest level of education. Thus in ESS we had to use an approximation which is based on the external data on primary school starting age, respondent's age and the total number of years in education. The variable with primary school starting age was based on the World Bank Data which provides necessary information for most of the countries since 1970s. There were some countries which changed their primary school staring age, so we had to introduce some corrections based on respondent age and nationality. To check how much time have passed since respondent finished school, we created a new variable which is based on the difference between respondents' age and the sum of their primary school starting age and the number of years in education. Then we can checked the condition if the new variable takes a value which is less or equal to 5.

Table X presents main differences between the operational definitions of our group of interest in LFS, EU-SILC and ESS datasets.

Table A.12: Description of the main definition

Condition	LFS	EU-SILC	ESS
1. Age	Youths aged 15 to 29 in 5-year age groups	Based on the year of survey and respondent's year of birth. Youth aged 16 to 29.	Based on the year of survey (ESS6 was conducted in 2012 or 2013) and respondent's year of birth.
2. Educational status 1	People who had not been students or apprentices during the last 4 weeks neither a person in regular education but on holidays	People not in formal education - based on question about current education activity.	People who did not report to be in education (including holidays periods) in last 7 days before the interview
3. Educational status 2	Based on the year when the highest level of education finished. When no year provided but the level know based on imputation (typical graduation age by level and country)	Youth who have reached their highest level of education to 5 years before the survey. In case of lack this information, all youth aged 16-19 who are not in education and youth aged 20-29 (not in education), whose age is not higher than 5 years from typical age of graduation from level of education, they attained.	Based on a new variable (less or equal to 5) which is computed as the difference between respondent age and the sum of his primary school starting age and the number of years in education.

Subsamples sizes

While comparing results of the LFS, EU-SILC and ESS we should take into consideration that we work with separate research projects with different questionnaires and methodologies. Moreover ESS doesn't cover all the EU countries, but contains data for Ukraine, which are not available for EU-SILC and even for LFS. There are also considerable differences in the national sample size between analyzed surveys. When we look at the number of youths aged 15-29 for

each country its clear that LFS offers the largest samples, EU-SILC still has thousands of cases, but with ESS we have to work just on hundreds of cases.

Table A.13: Number of youths aged 15-29 for each country in LFS, EU-SILC[6], ESS (2012)

	LFS	EU_SILC	ESS
Austria	29999	1943	N.A
Belgium	12421	2111	407
Bulgaria	4065	2006	213
Cyprus	8038	2542	227
Czech Republic	7262	2913	326
Germany	79062	2971	584
Denmark	14814	1880	343
Estonia	5284	2734	484
Greece	35322	1658	N.A
Spain	17391	4698	318
Finland	10556	4016	392
France	87158	4249	253
Croatia	6636	2295	N.A
Hungary	49045	4754	411
Ireland	42228	1612	489
Italy	83752	6108	197
Lithuania	11947	1807	429
Luxembourg	3992	2430	N.A
Latvia	5919	2272	N.A
Matla	4817	2081	N.A
Netherlands	16776	3346	262
Poland	83469	6436	470
Portugal	25107	2112	318
Romania	38939	2439	N.A
Sweden	63007	2812	410
Slovenia	10807	5331	256
Slovakia	18746	3535	266
United Kingdom	14052	3197	333
Ukraine	N.A	N.A	448

Our sample – people aged 15-29 years old who are not studying or training, but who finished their education no later than 5 years before the interview, does not represent the majority of young people in all countries. Their share within the countries' youth population ranges from 16% for Slovenia to 34% for Sweden in EU-SILC and from 15% for Czech Republic to almost 53% for Ukraine in ESS. The high share of missing observations for some countries is a concern. We are not able to determine their educational status or the year when they finished education. The number of such cases is alarming for Sweden and Poland in EU-SILC – we have to exclude from 7% to 11% of youths aged 16-29 from analysis. In ESS situation with missing observations is

[6] In EU-SILC we have individuals aged 16-29

better, but sample sizes for several countries are really small, it's about 50 cases for Czech Republic, Italy and Slovenia.

Table A.14: EXCEPT sample size for each country in LFS, EU-SILC, ESS (2012)

	LFS			EU-SILC			ESS		
	N	N Missing	% of population in 15-29	N	N Missing	% of population in 16-29	N	N Missing	% of population in 15-29
Austria	8190	0	27.30%	587		30.21%	N.A	N.A	N.A
Belgium	3340	0	26.89%	531	59	25.15%	171	0	42.00%
Bulgaria	1013	0	24.92%	611	1	30.46%	61	0	28.60%
Cyprus	2652	0	32.99%	852		33.52%	101	1	44.50%
Czech Republic	1784	1	24.57%	710		24.37%	50	8	15.30%
Germany	22055	134	27.90%	926		31.17%	169	3	28.90%
Denmark	3009	568	20.31%	460		24.47%	65	0	19.00%
Estonia	1317	0	24.92%	730	36	26.70%	130	1	26.90%
Greece	9074	0	25.69%	478		28.83%	N.A	N.A	N.A
Spain	3999	0	22.99%	976	56	20.77%	74	3	23.30%
Finland	1398	4877	13.24%	1097		27.32%	132	0	33.70%
France	22653	354	25.99%	1438	99	33.84%	72	0	28.50%
Croatia	1599	21	24.10%	720		31.37%			
Hungary	11376	0	23.20%	1075		22.61%	128	5	31.10%
Ireland	12386	667	29.33%	405		25.12%	173	0	35.40%
Italy	17944	61	21.43%	1623		26.57%	54	3	27.40%
Lithuania	2586	0	21.65%	484	3	26.78%	152	0	35.40%
Luxembourg	952	13	23.85%	573		23.58%	N.A	N.A	N.A
Latvia	1751	2	29.58%	653	33	28.74%	N.A	N.A	N.A
Matla	1458	0	30.27%	568		27.29%	N.A	N.A	N.A
Netherlands	3751	98	22.36%	1093	15	32.67%	93	0	35.50%
Poland	22233	3195	26.64%	1862	695	28.93%	139	2	29.60%
Portugal	6469	0	25.77%	643	1	30.45%	80	2	25.20%
Romania	8812	0	22.63%	535		21.94%	N.A	N.A	N.A
Sweden	22139	286	35.14%	964	195	34.08%	139	0	33.90%
Slovenia	2201	0	20.37%	866	5	16.24%	57	0	22.30%
Slovakia	5081	0	27.10%	951		26.90%	87	5	32.70%
United Kingdom	3889	223	27.68%	1017		31.81%	103	3	30.90%
Ukraine	N.A	N.A	N.A	N.A	N.A	N.A	237	3	52.90%

Available weights

DATASET	Name & type of weight	How should we use it?
LFS	Personal yearly weight (COEFF)	Should be used for all yearly analyses. Extremely high weight (>100) have been removed.
EU-SILC	Personal cross-sectional weight PB040	Weight is useful to draw inferences on variables included in the personal questionnaire, for the population of individuals aged 16 and over living in private households
ESS	*Design* weight (DWEIGHT)	Weight corrects different probabilities of selection which are the consequence of sample designs used by countries. It should be used while working on the national dataset, for country comparisons
	Population size weight (PWEIGHT)	Corrects for the fact that most countries taking part in the ESS have similar sample sizes, although they differ in the population size. Thus population size weight must be used while we are combining data from different countries.

Datasets specific indicators of labour market exclusion

Indicators of labour market exclusion based on each dataset could be different, because of different way of asking questions – some of them relate to person's own perception of labour market situation, and some are more objective. To make our indicators as accurate as possible, we determine labour market status of young person using few questions in each dataset.

In EU-SILC, from self-declared current economic status (PL031, in previous rounds – PL030), we can select those people, who are employed. Respondent can choose one of these answers, which describes his/hers status in the best way:

1. *Employee working full-time*
2. *Employee working part-time*

3. *Self-employed working full-time (including family worker)*
4. *Self-employed working part-time (including family worker)*
5. *Unemployed*
6. *Pupil, student, further training, unpaid work experience*
7. *In retirement or in early retirement or has given up business*
8. *Permanently disabled or/and unfit to work*
9. *In compulsory military community or service*
10. *Fulfilling domestic tasks and care responsibilities*
11. *Other inactive person*

If respondent chooses an answer from 1 to 4, he/she is concerned as employed. There is no possibility to determine employment in more objective way.

To determine the aspects of labour market exclusion like unemployment and inactivity, we have to control also other questions. It is very likely, that self-declared unemployment or inactivity has nothing in common with economic definitions.

In EU-SILC for computing the unemployment and inactivity rate we consider all people, who chose answer from 5 to 11 in question PL031. In that case decisive is the answer for question PL020 – if person was actively looking for a job in last 4 weeks. And it appears, that some people, who defined themselves as inactive, in fact are economically active and unemployed and vice versa.

ESS identifies employed people in the similar way, but uses different questions. Actually to determine individual's labour market position we have the use the same questions which were used to specify his educational status: *Using this card, which of these descriptions applies to what you have been doing for the last 7 days?* (F17a); *And which of these descriptions best describes your situation (in the last seven days)?* (F17c).

The list of possible answers is common for both questions and includes option:

A. *in paid work (or away temporarily) (employee, self-employed, working for your family business)*

If respondent does not indicate being in paid work in F17A, the interviewer has to ask again: (*F18) Can I just check, did you do any paid work of an hour or more in the last seven days?*

This last question allows toensure if respondent is working or not. To include all of the respondents who were in paid work within 7 days preceding the interview we have to build the indicator based on the mentioned questions.

According to the guidelines of the International Labour Organization, an unemployed person is defined as someone aged 15 to 74 without work during the reference week who is available to start work within the next two weeks and who has actively sought employment at some time during the last four weeks[7]. There are two important elements of the mentioned definition: the two weeks reference period and stress put on active job seeking. ESS distinguish between those who are actively looking for a job and those who are "*wanting a job but not actively looking for a job".* However, the reference period is shorter in the ESS questionnaire: we ask here only about last week. Taking into consideration the ILO definition, we define an unemployed person in ESS data as an individual who perceives himself as "*unemployed and actively looking for a job"* (no matter if we ask about the main activity or one of the descriptions which are suitable).

According to ILO standards, the long term unemployment is defined *as referring to people who have been unemployed for 12 months or more*[8] and showed as a ratio within unemployed.

ESS data allow to make an aproximation of long term uemployment by asking respondents about the presence of such an episodes in their life:

a) *F36 Have you ever been unemployed and seeking work for a period of more than three months?*
b) *(ask if F36 yes) F37 Have any of these periods lasted for 12 months or more?*
c) *(ask if F37 yes) F38 Have any of these periods been within the past 5 years? (NOTE TO INTERVIEWER: these periods refer to the periods of more than 3 months at F36.)*

Thus the most precise long term unemployment indicator which can be computed on the ESS data refers to the periods of long term unemployment within 5 years preceding the interview.

In EU_SILC computing the long-term unemployment indicator is not possible for cross-sectional data. There is a question PL080 about number of month spent in unemployment, but it concerns income reference period, which could be different for each country. Therefore information is not comparable. What's more, respondent can indicate up to 12 months, which is less than usual period for long-term unemployment.

The last indicator is number of NEETs. The NEET is a person, who is not in education, does not work and does not participate in any training. Because in EXCEPT population we do not include youths who are still in education, NEET should fulfil only two conditions. In EU_SILC those youths are identified with question PL031 of self-

[7] http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics
[8] http://www.oecd-ilibrary.org/sites/factbook-2013-en/07/02/02/index.html?itemId=/content/chapter/factbook-2013-58-en

declared current economic situation, which we use also to identify employed people. To be concerned as a NEET respondent should choose answers from 5 to 11, excluding 6 (Pupil, student, further training, unpaid work experience).

Country statistics

This section compares main labour market statistics computed on LFS, EU-SILC and ESS datasets. Data were weighted with available design or post-stratification weights

Employment

Employment rate		
DATASET	Main questions and variables used for the indicator	Way of computing the indicator
LFS	Derived ILO employment status (ILOSTAT)	% of employed people within the population of recent school leavers
EU-SILC	Self-defined current economic activity (PL031)	% of employed people within the population of recent school leavers
ESS	Self defined economic activity(F17a - option A), main economic activity (F17c - option A) in last 7 days; additional control question (F18 - yes).	% of people in paid work within the EXCEPT population

Table A. 15: Working population by dateset and country

	LFS		EU-SILC		ESS	
	% working	N	% working	N	% working	N
Austria	84%	6923	73%	587	N.A	N.A
Belgium	73%	2401	79%	531	53%	153
Bulgaria	58%	541	53%	611	56%	96
Cyprus	66%	1733	60%	852	45%	123
Czech Republic	78%	1339	74%	710	81%	79
Germany	83%	18362	72%	926	82%	151
Denmark	73%	2093	68%	460	75%	62
Estonia	69%	850	71%	730	74%	147
Greece	41%	3572	40%	478	58%	74
Spain	48%	1861	49%	975	70%	132
Finland	77%	1076	67%	1097	72%	95
France	68%	14848	66%	1438	N.A	N.A
Croatia	52%	835	49%	720	N.A	N.A
Hungary	65%	6967	64%	1075	68%	125

Ireland	63%	7551	51%	405	56%	208
Italy	48%	8415	44%	1623	59%	39
Lithuania	70%	1762	63%	484	70%	148
Luxembourg	82%	753	78%	573	N.A	N.A
Latvia	67%	1085	62%	653	N.A	N.A
Matla	80%	1161	80%	568	N.A	N.A
Netherlands	85%	3218	74%	1090	88%	142
Poland	70%	14942	70%	1862	74%	128
Portugal	60%	3632	58%	643	53%	118
Romania	63%	5379	69%	520	N.A	N.A
Sweden	78%	17436	82%	964	78%	143
Slovenia	67%	1487	68%	866	78%	58
Slovakia	66%	3354	68%	951	66%	130
United Kingdom	76%	2917	72%	1016	73%	149
Ukraine	N.A	N.A	N.A	N.A	57%	287

Unemployment

Unemployment rate		
DATASET	Main questions and variables used for the indicator	Way of computing the indicator
LFS	Derived ILO working status (ILOSTAT)	Number of unemployed divided by the number of economically active (unemployed + employed)
EU-SILC	Self-defined current economic activity (PL031) – those who don't work but actively looking for a job in last 4 weeks (PL020)	Number of unemployed divided by number of economically active (unemployed + employed)
ESS	Self defined current economic activity(F17a - option C), current main activity (F17c - option C) Self defined economic activity(F17a - option C), main economic activity (F17c - option C) in last 7 days;	Unemployment ratio: % of unemployed and actively looking for a job within the EXCEPT population of unemployed and working people

Table A.16: Unemployment ratio by dataset and country

	LFS		EU-SILC		ESS	
	Unemployment ratio	N	Unemployment ratio	N	Unemployment ratio	N
Austria	9%	678	11%	477	N.A	N.A
Belgium	13%	370	14%	481	19%	100
Bulgaria	23%	173	27%	426	39%	88
Cyprus	23%	531	29%	701	46%	102
Czech Republic	15%	292	20%	654	11%	71
Germany	8%	1598	12%	740	11%	138
Denmark	14%	383	14%	340	20%	55
Estonia	17%	224	16%	593	10%	118
Greece	51%	4022	53%	396	26%	57
Spain	44%	1503	43%	820	18%	109
Finland	12%	143	14%	789	25%	90
France	21%	4525	21%	1171	N.A	N.A
Croatia	40%	567	45%	641	N.A	N.A
Hungary	21%	2175	28%	944	18%	102
Ireland	25%	2662	40%	335	36%	178
Italy	32%	4150	40%	1242	36%	36
Lithuania	21%	508	24%	422	9%	114
Luxembourg	11%	110	15%	525	N.A	N.A
Latvia	21%	361	25%	534	N.A	N.A
Matla	12%	170	13%	495	N.A	N.A
Netherlands	6%	242	6%	818	9%	133
Poland	20%	4096	19%	1602	18%	116
Portugal	33%	2001	36%	575	43%	111
Romania	21%	1622	16%	446	N.A	N.A
Sweden	14%	2741	13%	896	26%	134
Slovenia	23%	440	26%	785	17%	54
Slovakia	27%	1259	27%	893	14%	100
United Kingdom	17%	569	17%	865	16%	130
Ukraine	N.A	N.A	N.A	N.A	22%	206

Long term unemployment

Long term unemployment		
DATASET	Main questions	Way of computing the indicator
LFS	Based on duration of unemployment (DURUNE) – one year or more	% of unemployed for a year or more
EU-SILC	*In cross-sectional eu-silc we cannot compute this rate*	
ESS	Questions F37 and F38 allow to indicate episodes of long term (at least 12 months) unemployment within the past 5 years	% of respondents who experienced an episode of long term unemployment

Table A.17: Long term unemployment by dataset and country

	LFS		EU-SILC		ESS	
		N		N	within last 5 years: unemployed	N
Austria	15%	88	N.A	N.A	N.A	N.A
Belgium	30%	108	N.A	N.A	22%	24
Bulgaria	54%	94	N.A	N.A	57%	54
Cyprus	28%	145	N.A	N.A	47%	54
Czech Republic	23%	69	N.A	N.A	29%	24
Germany	25%	396	N.A	N.A	14%	33
Denmark	8%	31	N.A	N.A	20%	13
Estonia	32%	67	N.A	N.A	40%	38
Greece	54%	2148	N.A	N.A	38%	39
Spain	34%	524	N.A	N.A	19%	43
Finland	8%	11	N.A	N.A	32%	48
France	30%	1258	N.A	N.A	N.A	N.A
Croatia	53%	299	N.A	N.A	N.A	N.A
Hungary	30%	638	N.A	N.A	19%	50
Ireland	48%	1242	N.A	N.A	50%	104
Italy	46%	1852	N.A	N.A	34%	27
Lithuania	26%	133	N.A	N.A	27%	53
Luxembourg	19%	23	N.A	N.A	N.A	N.A
Latvia	35%	125	N.A	N.A	N.A	N.A
Matla	28%	47	N.A	N.A	N.A	N.A
Netherlands	13%	29	N.A	N.A	37%	18
Poland	32%	1320	N.A	N.A	24%	63
Portugal	33%	671	N.A	N.A	37%	72
Romania	43%	690	N.A	N.A	N.A	N.A
Sweden	10%	258	N.A	N.A	30%	50
Slovenia	37%	168	N.A	N.A	36%	18
Slovakia	52%	648	N.A	N.A	35%	38
United Kingdom	25%	135	N.A	N.A	34%	50
Ukraine	N.A	N.A	N.A	N.A	35%	144

Datasets specific indicators of job insecurity

ESS provides information about the type of work contract at respondent's current work or his last job (if the individual is currently unemployed). We are interested only in respondents who are currently employed - question *(F23) Do you have a work contract of unlimited duration (1) or, limited duration (2) or, do/did you have no contract (3)?* allows us to distinguish between those on temporary jobs, those who have stable job contracts of unlimited duration and people working in the grey zone.

To determine contract duration in EU_SILC we use PL140 question about type of contract. This is addressed only to employee. From that question it is possible to derive also information about informal workers, without contract. Those are respondents who are employees, question about type of contract was addressed to them, but they didn't answer to it. The reasons of not choosing any answer is encoded in question PL140_f. If (-4) *not applicable because the person is employee (PL040=3) but has not any contract* was selected, respondent is identify as informal worker.

Another ESS question: *(F29) What are/were your total 'basic' or contracted hours each week (in your main job), excluding any paid and unpaid overtime?* helps to identify part-time workers. The OECD has decided to define part-time working in terms of usual working hours under 30 per week in statistics on the incidence of part-time working[9]. We use the same criterion.

In EU_SILC question PL031 about current economic situation gives the information about time job. The first four answers distinguish this situation: (1) employee working full-time, (2) employee working part-time, (3) self-employed working full-time and (4) self-employed working part-time. We take into account only employees. So, for part-time statistics we use answer 2. To identify those who work less than 30 hours, we use question PL060 and PL100 (about number of hours in main job or other jobs). Part-time worker is identified if sum of hours does not exceed 30.

[9] https://stats.oecd.org/glossary/detail.asp?ID=3046

Part-time work

Part time		
DATASET	Main questions and variables used for the indicator	Way of computing the indicator
LFS	Workers declaration if full-time or part-time work (FTPT)	% of employees (without self-employed) who declared to work part-time
EU-SILC	Question PL031 identified employees (answer 1 and 2).	% of employees (without self-employed) who declared to work part-time
ESS	Question F29 provides information about the number of contracted working hours	% of respondents who have a work contract for less than 30 hours per week

Table A.18: Part-time workers by dataset and country

	LFS		EU-SILC		ESS	
	% part time workers	N	% part time workers	N	% part time workers	N
Austria	11%	695	11%	412	N.A	N.A
Belgium	17%	394	17%	381	29%	111
Bulgaria	1%	6	3%	292	5%	77
Cyprus	12%	194	10%	467	13%	81
Czech Republic	4%	42	2%	511	7%	71
Germany	12%	2192	17%	639	13%	140
Denmark	27%	672	26%	286	26%	54
Estonia	5%	42	9%	441	8%	129
Greece	14%	375	18%	133	31%	56
Spain	27%	473	22%	420	16%	127
Finland	12%	124	13%	617	15%	91
France	16%	2297	16%	870	N.A	N.A
Croatia	1%	7	4%	324	N.A	N.A
Hungary	6%	370	6%	692	2%	97
Ireland	23%	1729	34%	199	27%	175
Italy	22%	1495	16%	595	29%	34
Lithuania	6%	96	4%	294	1%	115
Luxembourg	7%	57	10%	425	N.A	N.A
Latvia	5%	61	7%	374	N.A	N.A
Matla	9%	104	8%	414	N.A	N.A
Netherlands	43%	1340	37%	703	33%	134
Poland	5%	668	11%	1151	5%	107

Portugal	13%	442	7%	340	12%	79
Romania	1%	30	0%	297	N.A	N.A
Sweden	27%	4590	27%	731	22%	132
Slovenia	6%	85	5%	547	11%	50
Slovakia	4%	105	4%	640	8%	97
United Kingdom	22%	622	21%	699	30%	132
Ukraine	N.A	N.A	N.A	N.A	13%	187

Temporary work

Temporary work		
DATASET	Main questions and variables used for the indicator	Way of computing the indicator
LFS	TEMP	% of employees (without self-employed) whose work is temporary
EU-SILC	Question PL140 provides information about type of contract. It is addressed only to employee.	% of employees (without self-employed) who have work contract of limited duration.
ESS	Question F23 provides information about type of contract in the current or last job. The temporary work indicator was computed for the working part of EXCEPT population	% of respondents who are currently working on the basis of the contract of limited duration

Table A.19: Temporary workers by dataset and country

	LFS		EU-SILC		ESS	
	% of temporary workers	N	% of temporary workers	N	% of temporary workers	N
Austria	11%	763	17%	471	N.A	N.A
Belgium	24%	552	33%	422	11%	146
Bulgaria	6%	32	15%	356	8%	87
Cyprus	17%	278	25%	550	6%	114
Czech Republic	19%	248	36%	572	22%	73
Germany	25%	4356	36%	760	39%	148
Denmark	17%	370	6%	356	23%	60
Estonia	8%	77	6%	536	9%	140
Greece	23%	636	32%	209	29%	65
Spain	61%	1081	65%	655	22%	126
Finland	28%	289	17%	721	34%	93
France	35%	5229	39%	1042	N.A	N.A

Croatia	48%	365	58%	427	N.A	N.A
Hungary	18%	1434	24%	805	17%	119
Ireland	21%	1565	27%	270	15%	200
Italy	54%	3864	49%	797	28%	37
Lithuania	6%	89	11%	344	7%	142
Luxembourg	19%	146	28%	484	N.A	N.A
Latvia	5%	69	10%	472	N.A	N.A
Matla	13%	141	16%	445	N.A	N.A
Netherlands	38%	1143	19%	772	34%	134
Poland	49%	6705	61%	1365	32%	117
Portugal	56%	2005	57%	438	21%	116
Romania	4%	137	8%	301	-	-
Sweden	40%	6682	23%	815	21%	137
Slovenia	44%	612	14%	610	38%	53
Slovakia	12%	354	33%	699	25%	121
United Kingdom	12%	316	7%	811	17%	146
Ukraine	N.A	N.A	N.A	N.A	8%	276

Informal work

Informal work		
DATASET	Main questions and variables used for the indicator	Way of computing the indicator
LFS	No information.	-
EU-SILC	Question PL140_f is a flag for question PL140 (about type of contract). If respondent didn't answer this question, from PL140_f we can identify the reason for that. One possible option is: (-4) person is an employee but has not any contract	% of employees who have not any contract
ESS	Question F23 provides information about respondents who are currently working without any contract or did not have a contract in last job. The informal work indicator was computed for the working part of EXCEPT population	% of respondents who are currently working without any contract

Table A. 20: Informal workers by dataset and country

	LFS		EU-SILC		ESS	
	% of informal workers	N	% of informal workers	N	% of informal workers	N
Austria	N.A	N.A	N.A	N.A	N.A	N.A
Belgium	N.A	N.A	1%	422	1%	146
Bulgaria	N.A	N.A	4%	356	4%	87
Cyprus	N.A	N.A		550	16%	114
Czech Republic	N.A	N.A	1%	572	0%	73
Germany	N.A	N.A	N.A	760	2%	148
Denmark	N.A	N.A	N.A	356	8%	60
Estonia	N.A	N.A	2%	536	5%	140
Greece	N.A	N.A	23%	209	0%	65
Spain	N.A	N.A	6%	655	2%	126
Finland	N.A	N.A	3%	721	3%	93
France	N.A	N.A	N.A	1042	N.A	N.A
Croatia	N.A	N.A	N.A	427	N.A	N.A
Hungary	N.A	N.A	4%	805	1%	119
Ireland	N.A	N.A	10%	270	14%	200
Italy	N.A	N.A		797	9%	37
Lithuania	N.A	N.A	0%	344	4%	142
Luxembourg	N.A	N.A	1%	484	N.A	N.A
Latvia	N.A	N.A	2%	472	N.A	N.A
Matla	N.A	N.A	37%	445	N.A	N.A
Netherlands	N.A	N.A		772	2%	134
Poland	N.A	N.A		1365	3%	117
Portugal	N.A	N.A	8%	438	5%	116
Romania	N.A	N.A	1%	301	-	-
Sweden	N.A	N.A		815	4%	137
Slovenia	N.A	N.A		610	7%	53
Slovakia	N.A	N.A	0%	699	4%	121
United Kingdom	N.A	N.A	6%	811	8%	277
Ukraine	N.A	N.A	-	-	5%	2649