UPLIFT – Urban PoLicy Innovation to address inequality with and for Future generaTions

Deliverable 1.3

Atlas of inequalities in Europe

Scale and trends in main dimensions of inequality in Europe

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1 Executive Summary

The aim of this study is to describe the state and evolution of social inequalities in Europe showing trends during the economic crisis and the subsequent recovery years. Long-run forces that have contributed to rising inequality include globalisation, technological change and labour market deregulation (OECD 2015, Cohen and Ladaique 2018). These forces still continue to shape the income distribution in EU member states during the period between 2008 and 2018. In addition, this period has been characterized by substantial economic fluctuations. The economic crisis in 2009 affected most EU member states, while in the second half of the period studied member states started to recover from the crisis and economic growth resumed. Regarding the entire decade most EU countries have recorded positive economic growth, albeit with important differences. Lowest growth rates were seen in the case of Southern European countries with Greece and Italy recording declining GDP over the decade. Among the best performers – together with Ireland – we find some of the Eastern European countries like Poland, Slovakia and Romania. Thus the convergence process in the EU continued with the least developed member states catching up with the more developed ones.

In the present study special emphasis was given to the analysis of the situation of urban young adults (those between 15 and 29 years of age) – the prime target group of UPLIFT project. The analysis was performed at both country and the regional level characterising these units by a set of indicators relating to the overall income distribution and most important domains of living standards, like education, employment, labour market, housing and health. Comparative European data bases (EU Study on income and Living Conditions – EU SILC - and Labour Force Survey) were used to calculate the indicators in years 2007/2008, 2012 and 2018.

The most important results from the data analysis show that

- Despite the economic fluctuations caused by the economic crisis deprivation indicators (eg. severe material deprivation or housing deprivation) were generally improving during the decade between 2008 and 2018.
- In contrast, no improvement has been detected in case of measures of inequality such as the Gini-index and (relative) poverty such as the at-risk-of-poverty rate.
- Youth have clear disadvantages compared to the older age categories with regard to employment and housing (quality and affordability). Moreover, in roughly half of the countries the disadvantage of urban youth in terms of unemployment has increased during the crisis years.
- The economic crisis had a severe effect on the urban young: unemployment and poverty increased and the income situation of middle-class urban young became more unstable during the 2008-2018 period. During the recovery years however the situation improved: the unemployment rate among the urban young declined and attained levels lower than or equal to the level in 2007, with the exception of Southern European countries.

- There seems to be a North/West-South/East divide with regards to most indicators of inequality and deprivation. The regional disparities seem also be more important in the South/East.
- Differences within countries tend to be smaller in some sectors (e.g. education), than others (e.g. unemployment).

Trends over time in periods of crisis and recovery

Our study describes inequality trends in several domains including incomes, labour market, education, housing and health. Labour market indicators show clearly the impact of the crisis. In all but one of the countries (Germany) the unemployment rate increased during the crisis years between 2007 and 2012. Unemployment increased the most in Greece and Spain, but other Southern European, South-Eastern European countries and the Baltic states have also recorded important increase (more than 5 points) of the indicator. During the 2012 and 2018 period the unemployment rate decreased in practically all member states. Despite the recovery, the Southern European countries still exhibit higher levels of unemployment in 2018 than before the crisis (with the exception of Portugal), while some Central-Eastern European countries (Poland, Slovakia, Czechia, Hungary) together with Germany managed to achieve a significant decline in unemployment.

Despite the economic fluctuations of the crisis period deprivation indicators were improving during the decade. In most countries the number of people in severe material deprivation increased substantially from 2008 to 2012, but by 2018 the rate decreased to lower levels as before the crisis. Greece, experiencing the most severe economic crisis, is the only country where in 2018 the severe material deprivation rate was still considerably higher than it was in 2008. On the other hand, the severe material deprivation improved significantly in countries like Romania, Bulgaria, the Visegrad countries and Latvia.

In the case of the housing deprivation indicator most of the member states the dominant pattern is improvement over the years, although the changes through the cycle are visible for some of the countries. In case of housing affordability, the picture is similar: there is an improvement in ten countries, although the cyclical pattern is also visible (in the Baltic states, Hungary, Cyprus and Ireland), while a few countries – most importantly Greece - show a generally declining tendency of housing affordability.

In the domain of education, we have analysed indicators such as early leavers from education. In accordance with the policy objectives the share of early leavers has been declining since 2007 in most countries, although there are a few exceptions: Hungary (from 2007) and Slovakia, Denmark and Estonia (from 2012) saw slight increases in the share of early leavers.

In a few countries (most importantly Bulgaria and Romania) unmet need in medical care declined as well during the decade, although in other cases (eg. Greece, Estonia) the value of the indicator increased.

In contrast with the improving trend in these indicators of deprivation and access to services during the 2008-2018 period, measures of inequality such as the Gini-index and (relative) income poverty did not improve. Half of the countries recorded change in the at-risk-of-poverty rate during the decade, with nine countries showing increase of poverty (most importantly Luxembourg, Sweden and the Netherlands) and five countries showing declining poverty rate. In case of the Gini index of income inequality changes over time have been quite small with a few exceptions such as, e.g. Luxembourg, Bulgaria and Hungary where inequality increased and Poland and Portugal, where inequality declined.

The general patterns of income inequality have not changed during the past decade: countries with the highest level of the Gini index can be found among the Baltic states and the South-Eastern European countries. Countries with the lowest level of income inequality are Slovakia, Czech Republic, Slovenia and also Belgium, Finland and Sweden.

Our analysis has also shown that the different indicators are sensitive to the economic cycle to a varying degree. The difference between the indicators in this respect can also be a result of the methodology. E.g. the indicators of inequality and relative poverty do not show large variation during the periods of crisis and recovery as relative measures are most sensitive to changes in the shape of the distribution, while changes in average income are not recorded by these measures. Another reason why these measures do not follow the economic cycle is that they are defined on the distribution of household disposable income thus include the inequality-reducing effect of government redistribution as well. In case of some indicators (e.g. housing) the changes might be smaller in the short run, as these indicators are less volatile compared to unemployment or income.

Well-being among the urban young population

Earlier results have shown that the young have been more severely affected by the economic crisis that has hit the EU member states in 2009. Our study analyses the evolution of well-being in case of the subgroup of the young that is most interesting for the UPLIFT project, the urban young, defined as those between 15 and 29 years of age.

Our labour market indicators do confirm the severe effect of the crisis on the urban young. The unemployment rate and the NEET rate increased among the urban young during the period between 2007 and 2012. During the recovery years however the situation improved. The unemployment rate among the urban young declined and attained levels lower than or equal to the level in 2007, with the exception of Southern European countries. On the other hand, the share of those employed on fixed-term contracts increased more importantly during this period compared to the crisis years.

The situation of middle-class urban young became more unstable during the 2008-2018 period in the majority of countries with data available for this indicator. The share of those persistently in middle-class status declined most importantly in Austria, Lithuania, the Netherlands and Greece. Transition into poverty is clearly more frequent among middle-class

urban young compared to the active age in the majority of the countries, most importantly in Finland, Sweden and Denmark.

Youth have clear disadvantages compared to the older age categories with regard to employment and housing (quality and affordability). Results show that the unemployment rate among the urban youth exceeds that of the economically active population's in all the countries except for Lithuania. Moreover, in roughly half of the countries the disadvantage of urban youth in terms of unemployment has increased during the crisis years.

In terms of housing it has been shown that urban young people exhibit higher occurrence of housing deprivation compared to those in active age in a clear majority of the EU member states. The period of economic depression impacted young people approximately equally as it has affected the rest. The urban young are also more affected by high costs of housing compared to their incomes: the share of those characterized by housing cost overburden is higher among them compared to all active age in a clear majority of countries.

Multiple disadvantage is less likely to occur among the urban young compared to those in active age, the most important exceptions being Denmark, Austria and Italy. Lower prevalence of multiple disadvantage among the young is consistent with the theory of cumulative disadvantage, which posits that disadvantages tend to cumulate over the life-course.

In case of poverty indicators and housing the relative position of the young tend to be less favourable in developed welfare states while it is more favourable in case of Eastern European countries. For example, the at-risk-of poverty rate among the urban young is at least 50% higher than in case of all active age in countries such as Denmark, Finland, France and the Netherlands, whereas in Romania and Lithuania and five other countries the urban young have lower poverty rate compared to the active age overall. The situation is similar in case of the severe material deprivation rate and the housing cost overburden rate. The reason behind these differences are partly demographic: the young in Northern EU countries leave the parental home at earlier ages, when their labour market and employment situation is more fragile, while staying longer in the parental household protects the young against poverty to a certain extent in the Southern European and Eastern European countries.

Differences between regions

Our results also demonstrate that there is substantial internal variation within the countries in many cases. The country averages conceal significant variation between regions. For example, the at-risk-of-poverty indicator in Italy in 2018 is more than three times higher in case of the Isole region (37, 3%) as in the Nord-Est region (10,5%). In case of the unemployment rate, there is substantial difference between Pais Vasco in Spain, where the unemployment rate equals 10,1%, while in the Extremadura region it is more than twice as high (24,2%). In case of the housing deprivation indicator in Romania, the Macroregiunea Doi region (eastern part of the country) recorded a value as high as 46,5%, while in the Macroregiunea Unu the corresponding value is considerably lower, 20,3%.

Regarding the pan-European picture, quite a few regional statistics bring back the expected center-periphery distribution, with peripheral regions of Southern and South-eastern European countries are the most disadvantaged. Regional data also appear to react more strongly to the crisis than national ones, although higher volatility in case of regional estimates can also be a result of smaller sample size.

Our analysis also investigated the urban-rural divide for some indicators in case of the young population. The NEET rates regarding the urban youth are lower than those relevant to the total youth of respective countries in Bulgaria, Slovakia, Poland, Slovakia or Hungary, while the opposite is true for France, Germany, the UK, Austria or the Netherlands. The reason behind this may be the fact, that poverty is more prevalent in urban areas in Western and Northern Europe, while it is a stronger phenomenon in rural areas in Central Europe.

On the other hand, for most EU member states, the share of early leavers from education and training in urban areas relative to the share regarding the whole country is at around 100% and reasonably steady over 2007-2018, however, we saw a slight decline of early leavers in urban areas since 2007, with exceptions of Portugal, Spain, Hungary and Malta. That is, we can assume that in these cases, country-level policy variables (operation of the school system) have a decisive effect.

Contributions to inequality of different individual attributes

Results decomposing inequality of disposable income among the active aged show that income differences by levels of work intensity and education contribute more to inequality compared to demographic attributes such as age, household structure or spatial variables, such as degree of urbanisation or region. There are however important differences between countries is the role of different variables. In Northern European countries work intensity has an important contribution to inequality of disposable income, but demographic variables such as age and household structure are also relatively more important than in other country groups. In Southern Europe education and work intensity are dominant but regional differences also contribute to inequality of disposable income. In Western European countries the contribution of work intensity is relatively lower, while education and household structure have similar contributions. In the Anglo-Saxon countries the pattern is similar to the one observed in Western Europe but the contribution of work intensity is even more important. In the Baltic states and Central and Eastern European countries education is relatively more important than in the other country-groups and urban-rural differences also contribute to inequality as shown by the degree of urbanisation variable.

2 List of abbreviations

Abbreviation	Full word
EU	European Union
EU-SILC	The European Union Statistics on Income and Living Conditions
GDP	Gross Domestic Product
ILO	International Labour Organization
LFS	Labour Force Survey
NEET	Not in Education, Employment or Training
NUTS	Nomenclature of territorial units for statistics
OECD	Organisation for Economic Co-operation and Development
UK	United Kingdom

3 Introduction

The aim of Deliverable 1.3 is to describe the state and evolution of social inequalities in Europe showing trends during the economic crisis and the subsequent recovery years based on a complex set of indicators. A specific focus of the analysis is placed on the primary target group of UPLIFT project, the urban young population (those between 15 and 29 years of age). The analysis will be performed at both the country and the regional level describing differences between regions and inequality within regions. Countries and regions will be characterised by a set of indicators relating to inequality in the most important domains of well-being, like income and material living conditions, education, employment, labour market, housing and health. The situation of the young will be assessed in comparison with the situation of the working age population or the total population.

A great number of comparative studies have analysed the income distribution in EU countries in the past fifteen years (examples include Alvaredo et al. 2017, European Commission 2017, Eurofound 2017, Jenkins et al. 2013, OECD 2011, OECD 2018, OECD2019). According to these studies, before the economic crisis the general tendency was that of increasing inequalities in the OECD countries (OECD 2011, Jenkins et al. 2013). Increasing inequality was mainly a result of increasing dispersion of wages in connection with globalisation, technological change and labour market deregulation which brought about an increase in non-standard work (OECD 2015, Cohen and Ladaique 2018). This tendency of rising labour market inequality has continued during the years of the economic crisis as well. The largest increase in market income inequality has been observed in countries most affected by the crisis (OECD 2013). In many EU countries, the tax and transfer systems were able to mitigate the rise in market income inequality during the early years of the crisis, so inequality of disposable income was much more stable (OECD 2013, Blanchet et al. 2019). The economic crisis not only impacted on inequality within-countries but has also affected inequality between member states. The process of income convergence among the member states suffered a setback with the economic crisis (European Commission 2017, Blanchet et al. 2019), with the Southern European countries losing ground in comparison with the more developed countries of the EU and the slowdown of convergence of some of the Eastern European countries (Medgyesi and Tóth, 2021).

Research results have also described the impacts of the recession on the young. Results show that young people were affected disproportionately by the economic crisis that hit the EU countries in 2008–09 (Eurofound, 2012; O'Reilly et al., 2015, Medgyesi 2018). The increase in youth unemployment and poverty rates was more pronounced compared to the increase experienced by older age groups and the total population. Research results also suggest that these effects of the crisis might have long-term consequences beyond the current negative effects on the well-being of the young. The experience of unemployment during one's youth might have a negative effect on employment prospects and wages in the long run (Scarpetta et al. 2010, Bell and Blanchflower 2011). Unemployment and labour market insecurity have

also a negative effect on subjective well-being among the young (Taht et al. 2019). Moreover, poverty among the young might have a negative effect on the transition into adulthood as well, delaying transition into independent living and family formation especially for those who cannot count parental support (O'Reilly et al., 2015). Research has also shown that that the extent of youth labour market problems and their effect on well-being varies strongly between countries with different education systems, labour market regulations and welfare state characteristics (O'Reilly et al., 2015).

Studies of regional inequalities in Europe have demonstrated that despite income convergence among the member states, within-country regional inequality has increased in many countries as capital regions were growing faster than average (Roses and Wolf, 2018). Since the economic crisis, variation in GDP per capita between regions of Europe has begun to increase (Alcidi et al. 2018), while variation between countries has stagnated. The literature has also described new tendencies in the geography of jobs, whereby rural regions and previously prosperous industrialised metropolitan areas are now characterised by job loss and income decline, while large metropolitan areas and their suburbs are the most dynamic in terms of income and employment creation nowadays (Iammarino et al. 2019).

Despite the ample research on the impacts of the recession on the young and also on spatial aspects of inequalities, these research streams have developed largely independently and the literature that focuses on the youth and looks at spatial inequalities is less developed. Existing examples – such as Cefalo et al. (2020) – focus only on the regional analysis of labour market integration of the young, while studies providing an analysis on wider range of well-being dimensions are scarce. In this report the aim is to describe inequalities in Europe with the focus on urban youth and at the same time provide both a country-level and a regional-level picture of the scale and trends of inequalities. This broad picture of inequalities in the EU sets the wider context for other Work Packages of UPLIFT project.

4 Measuring inequality in different domains

Inequality can be studied in various domains of living standards. Here we consider the basic dimensions as income, education and health (also included in the Human Development Index) complemented with two other dimensions: labour market and housing, which are particularly important for describing disadvantages among the young. This section presents indicators used in this study to describe inequality along these dimensions of living standards. We study inequality mainly by focusing on individuals facing hardship or exclusion in the given domain. Exclusion will be measured in the different domains by indicators such as income poverty, material deprivation, unemployment, exclusion from access to health care or housing deprivation. In addition, we also take into account the aspect of vulnerability, which considers people who are exposed to instability and are in a situation where they are likely to suffer damaging consequences if any problematic situation arises. We are not able to capture this aspect of vulnerability in all domains, but related indicators will be included in cases of income and labour market dimensions. This approach widens the scope of our analysis since vulnerability affects not only those who face outright deprivation and exclusion but also parts of the middle class.

4.1 Income and material living conditions

One basic dimension of living standards is that arising from consumption of goods and services. Although inequality in consumption could be studied directly, the literature argues that it is more useful to measure opportunities for consumption which is better described by household wealth or income. Measures of wealth are not widely available, so most accounts of inequality in material living standards are based on household income data. In this study, we use five indicators related to the distribution of income and material living conditions. Inequality in the distribution of incomes will be described by the Gini index. Two exclusion indicators considered here are the at-risk-of-poverty rate, which focuses on relative income poverty and severe material deprivation, which identifies households with high level of deprivation in consumption.

In addition to the various indicators of inequality and poverty we also study to what extent belonging to the middle-class is a stable state or whether members of the middle-class are likely to fall into poverty. Therefore we include an indicator of persistent middle-class status and an indicator of middle-class vulnerability, which measures the likelihood of middle-income households to fall into poverty.

Indicators

The *Gini coefficient* of the distribution of equivalised household income varies between 0, when all incomes are equal and 1, when a single individual (person or household) has all the income (for a more precise definition see Cowell 2011). The Gini index is the most widely used indicator

of inequality of the income distribution within a country. Data used from the European Union Statistics on Income and Living Conditions (EU-SILC) study, cross-sectional data.

The *at-risk-of-poverty rate* is the proportion of people with an equivalised net disposable income below the at-risk-of poverty threshold (Eurostat 2018), which is conventionally set at 60% of the national median equivalised disposable income (after social transfers and direct taxes). Data used: EU-SILC study, cross-sectional data.

The severe material deprivation rate describes the share of those with enforced inability to pay for at least four of the following items (Eurostat 2018): unexpected expenses, afford a one-week annual holiday away from home, a meal involving meat, chicken or fish every second day, the adequate heating of a dwelling, durable goods like a washing machine, colour television, telephone or car, being confronted with payment arrears (mortgage or rent, utility bills, hire purchase instalments or other loan payments). While the at-risk-of-poverty rate is a relative measure, the material deprivation rate is more of an absolute poverty measure. Data used: EU-SILC study, cross-sectional data.

The *persistent middle-class status* indicator shows the percentage of the population living in households where the equivalised disposable income is between the 60% and 200% of the median income in at least three years during the four-years period covered by the data. The calculation of the index requires longitudinal data, through which the same individuals are followed over four years, which is provided by the longitudinal EU-SILC.

The *middle-class vulnerability* measures the probability of falling into poverty among the middle-income groups. This measure expresses the probability of middle-income individuals (between 60% of median and 200% of median income) in a given year to be found among the poor (below 60% of equivalised household income) in the subsequent year over the four-year period covered by the data. Data used: EU-SILC study, longitudinal data.

4.2 Education

Education is important for individual living standards as developing the competencies and skills needed for labour market integration is remunerated in higher wages and better employment prospects which results in higher lifetime income and increased consumption. In addition to the effects of education on income, evidence shows that more educated individuals are more likely to report greater subjective well-being, to participate more actively in society and to enjoy better health. It is argued that education and literacy are not only instrumental for higher living standards but also directly important for well-being, as better cognitive functioning expands individuals' freedoms and opportunities independently of the effect on income (Stiglitz, Sen and Fitoussi 2009). As a consequence of its close direct and indirect link with well-being, education has long been recognised as a basic human right and several international conventions emphasise the importance of equal access to education. In case of education many approaches exist for the measurement of educational inequality. Here two measures will be used: a measure of low educational achievement (early leavers from

education and training) and a measure of inequality of opportunity in education (intergenerational educational mobility).

Indicators

Early leavers from education and training shows the share of persons aged 18 to 24 who have completed at most lower secondary education (their highest level of education or training attained is 0, 1 or 2 according to the 1997 International Standard Classification of Education – ISCED 97, see UNESCO 2003) and have not received education or training in the four weeks preceding the survey (Eurostat 2019). Data used: Labour Force Survey.

Intergenerational transmission of educational inequality (educational immobility) measures the effect of parental background on the educational attainment of children. We use an indicator, which is net of the change in educational composition of the society, the "odds ratio". The odds ratios, which are reported here show inequality in the chances of having a higher education diploma between individuals with a tertiary educated father and those whose father has lower than tertiary education. An odds ratio equal to one means no inequality in opportunities, and the higher the odds ratio is the stronger is the impact of parental education on the educational attainment of children[1]. Data used: the EU-SILC study, cross-sectional data, ad-hoc module on "Intergenerational Transmission of Disadvantages" in 2011.

4.3 Labour market

Successful integration in the labour market is important for living standards as labour earnings are typically the most important source of household income. In addition, work provides not only income but contributes to individuals' identity formation and affects social interactions as well. Ideally, measures of labour market inequality would take into account the quality of the job, which includes aspects such as job security, whether the job matches workers' skills, opportunities for development, etc. We will not be able to take into account all aspects of job quality in our analysis. Here we study two indicators of labour market exclusion, the unemployment rate which is the most widely used such measure and the "NEET" (not in education, employment or training) index, a measure that is most relevant to the younger age group. We also include an indicator of labour market precariousness, the share of those employed in fixed-term contracts.

Indicators

The unemployment rate indicates the number of unemployed people in a specific age group as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment (Eurostat 2020c). Unemployed people are defined following the ILO definition as those who report that they are without work, that they are available for work and

1 The odds ratios reported here were calculated using a logit regression where the dependent variable is 1 if individual is tertiary educated and 0 otherwise and the only independent variable is the education level of the father (with two categories: tertiary or lower than tertiary).

that they have taken active steps to find work in the last four weeks. Data used: Labour Force Survey.

The "Not in Education, Employment, or Training" (NEET) rate is applied here to those aged between 15 and 29. It indicates the relative number of young people who are neither in employment nor education or training (Eurostat 2019), who in other words are unemployed, but not receiving training, or are inactive but not studying. Data used: Labour Force Survey.

The *share of those employed on fixed-term, or temporary contracts* shows the fraction of employees who are employed with fixed-term or temporary contracts instead of permanent contracts. This measure of non-standard work is related to the insecurity or precariousness of employment. Working on temporary contracts is of course an imperfect measure as in some cases, those employed on 'standard' contracts of unlimited duration may be just as vulnerable to losing their job, nevertheless it is frequently used a measure of labour market precariousness. Data used: Labour Force Survey.

4.4 Housing

Following Bratt (2002), housing has an impact household well-being in several ways. First, housing contributes to well-being of household members through its physical presence, the quality and safety it provides. At a second level, the impact of housing can be described in relation to the composition and income situation of the household by attributes such as overcrowding or affordability. A third key attribute of housing stems from the neighbourhood to which it gives access, which can be described by attributes such as safety or access to social services. In addition to the direct effects on well-being, more indirect effects are also described in the literature such as the effect of housing on health (eg. Rolfe et al. 2020) or child educational success. The indicators we use here cannot capture all these effects. We will use a measure of housing deprivation which identifies those in low quality housing, while the other measure used is a measure of housing affordability. We cannot study homelessness, as the household surveys used cannot be representative of that population group.

Indicators

Housing deprivation identifies people living in households with one of the following deficiencies (Eurostat 2018): leaking roof, damp walls, rot; no bath or shower in the dwelling; no indoor flushing toilet for sole use of the household; difficulties of keeping the house warm; problems because of dwelling being too dark. Data used: EU-SILC study, cross-sectional data.

The *housing cost overburden rate* is the percentage of the population living in households where the total housing costs - 'net' of housing allowances - represent more than 40 % of disposable income (Eurostat 2018). Housing costs often make up the largest component of expenditures for households, thus housing cost overburden represents a serious risk of material deprivation. Data used: EU-SILC study, cross-sectional data.

4.5 Health

Health can be considered to be the most fundamental component of capabilities as the absence of health has a negative impact on the value of other life domains as well (Sen, Stiglitz and Fitoussi 2009). Inequality in the health domain can be analysed from different perspectives. Here two indicators will be used: one which concerns health status (chronic morbidity) and another assessing inequality of access to health care services. Chronic diseases are major causes of disability, ill-health, health-related retirement and premature death (Busse et al., 2010). They lead to stroke, cancer and many other leading causes of mortality and disability worldwide, representing 60 % of all deaths (Eurostat 2020) European Union has set up a "Chronic Disease" web platform that monitors and pools together research in this field (European Commission 2020a). Studies on chronic illnesses show the spread of the phenomenon also among the less affluent and young people. The economic implications of such diseases are also serious; chronic diseases depress wages, earnings, workforce participation and labour productivity, as well as increasing early retirement, high job turnover and disability. For young people, chronic diseases pose especially important problems in the intersections of health and wealth by (Busse et al. 2010; European Commission 2020a; Fattouh et al. 2019): contributing to the deterioration of other health outcomes of young people such as an increase in depression and anxiety.

Indicators

The *proportion of people reporting a chronic illness* is defined as the share of those who report suffering from any longstanding (of a duration of at least six months) illness or health problem (see Hernandez-Quevedo et al. 2010, Eurostat 2020b). This is a self-reported measure of chronic illness. Data used: EU-SILC study, cross-sectional data.

Unmet need for health care. Access to healthcare can be measured in terms of those reporting an unmet need for healthcare. The EU-SILC enables the particular reasons responsible for having a need for care unmet to be identified. The indicator we use here – following the Eurostat definition (see Eurostat 2018) – thus measures self-reported unmet needs for medical care that concern a person's own assessment of whether he or she needed examination or treatment for a specific type of health care, but did not have it or did not seek it because of one of the following: 'financial reasons', 'waiting list' or 'too far to travel'. It is worth noting that such an indicator is also included in the health services chapter of the 'European Core Health Indicators'. It should be borne in mind, however, that the indicator is based on self-reported unmet needs, and, accordingly, on the implicit assumption that these reflect actual problems in accessing healthcare. Data used: EU-SILC study, cross-sectional data.

4.6 Multiple disadvantage

In order to describe the interlinks between disadvantages in different domains we study how the disadvantages combine and to what extent the general population and the urban young are characterised by multiple disadvantage. We define an index of multiple disadvantage based on the five domains of living standards that we have studied. Each domain (poverty, education, labour market, housing and health) is represented by one binary indicator of disadvantage. In the domain of poverty an individual is regarded as disadvantaged if he/she is at-risk-of poverty or in severe material deprivation. This indicator combines the perspective of relative and absolute poverty. In the domain of education, the disadvantaged are those for whom the highest education degree obtained is lower secondary or lower. In the labour market domain, the unemployed will be regarded as disadvantaged. In case of housing the disadvantaged are those living in housing deprivation, while in the case of health, those living with chronic illness. Finally, we define our indicator of multiple disadvantage as those who are disadvantaged in at least three of the five indicators outlined above.

4.7 Indicators of the role of individual attributes in shaping the income distribution

In this section we study the contribution of individual attributes (such as age, education, labour market attachment stc.) to overall income inequality by an inequality decomposition method. This approach decomposes inequality of equivalised household disposable income and studies the extent to which total inequality is attributable to differences between average incomes of different subgroups of the society. Such decompositions of inequality offer a useful tool for depicting patterns of the proximate drivers of inequality.

In the analysis we include various factors that are relevant for income formation. Work attachment of household members is measured by the work intensity variable which shows the extent to which household members are in work and, if they are, on whether they work full time or part time. Factors related to the distribution of wages, such as education level, gender or age (which is related to labour market experience) are also included in the analysis. Spatial variables like the degree of urbanisation and region might also affect opportunities for income generation. In addition to these, household structure also has to be considered, as the number of adults in the household or the presence of dependent children also affect household income. The indicators calculated show the proportionate contribution of a grouping variable (such as age, work attachment or education) to total inequality. See a more detailed description of the methodology in section 5.7.

4.8 Data used

Most of the indicators are analysed using the European Union Statistics on Income and Living Conditions (EU-SILC). EU-SILC is an output harmonised data collection, which is built on a common framework of concepts, procedures and classifications but in the same time allowing national statistics offices a certain degree of discretion to implement the guidelines (e.g. Wolff et al., 2010). For example, the framework allows to base many income variables on administrative data rather than on survey data and in some countries (Nordic countries, the Netherlands and Slovenia) income data and some demographic information is obtained from administrative registers. Indicators calculated from the most recent publicly available data – 2018 for most countries, except the UK, Slovakia and Ireland where it is 2017 – will be compared with data from a post-crisis year (2012) and a pre-crisis year (2008). Regional data in EU-SILC is restricted for most countries to the NUTS1 level. In case of Germany and the Netherlands no regional data were provided in the data file so only country-level data are available, while some other countries constitute only one NUTS1 region.

Indicators related to intergenerational mobility will be studied using the ad-hoc module „Intergenerational transmission of disadvantages" which was included in the study in 2011. Similar data have not been collected more recently so change in intergenerational mobility will not be described. In case of this indicator sample size is more limited so no regional breakdowns will be provided for the youth specific indicators. Middle-class vulnerability will be studied using longitudinal data from EU-SILC. While the main aim of EU-SILC is to provide cross-sectional microdata on income and living conditions, it also has a four-year rotating panel component. While the sample size of the longitudinal database is smaller than that of the cross-sectional one and covers only four years, it still gives an opportunity to follow individual-level changes over time. Longitudinal data from 2018 has not yet been released for Portugal, Slovakia and the UK, so in the case of these countries only data for earlier years will be shown.

Inequality indicators in the education and employment domains were calculated from the European Union Labour Force Survey (EU LFS), which is a large household sample survey providing quarterly results on labour participation of people aged 15 and over as well as on persons outside the labour force. The Labour Force Surveys are conducted by the national statistical institutes across Europe and are centrally processed by Eurostat. All definitions apply to persons aged 15 years and over living in private households. Persons carrying out obligatory military or community service are not included in the target group of the survey, as is also the case for persons in institutions/collective households. Indicators will be calculated for years 2007, 2012 and 2018. Regional data are available at NUTS2 level in case of the LFS.

5 Results of the analysis of indicators

5.1 Income and material living conditions

5.1.1 The Gini coefficient of the distribution of equivalised household income

Figure 1.1.1 shows the change of Gini coefficient of equivalent disposable income in European countries over time for three data points; 2008, 2012 and 2018. It is important to keep in mind that disposable income includes incomes of households obtained on the labour and capital market together with all private and government transfers received by the households after the deduction of direct taxes paid. In 2018 the most equal European countries in terms of income distribution are Slovakia, Slovenia, Czech Republic, Belgium, and Finland. At the other end of the spectrum are Bulgaria, Lithuania, Latvia, Romania, and Luxembourg. For most countries, the changes over time have been quite small but there are countries that have seen quite a significant increase in the Gini coefficient, e.g. Luxembourg, Bulgaria and Lithuania. In the case of Bulgaria, Luxembourg, the UK and the Netherlands the coefficient has decreased from 2008 to 2012 but then increased by 2018. This trend could show that these countries have seen delayed effects of the 2007-2008 financial crisis, at least in terms of the Gini coefficient. The timelier impact of the crisis on income inequality followed by a recovery is seen in countries where the Gini coefficient increased from 2008 to 2012 but then decreased by 2018, e.g. Slovakia, France, Estonia, and Cyprus. Countries that have seen a steady decrease might illustrate that income inequality of disposable income was not affected much by the crisis in those countries, e.g. Poland, Belgium, Portugal, and Latvia. There are, however, a range of developments that potentially affect this measure, such as changes in female labour market participation, taxation reforms and welfare spending.

There are also regional differences in the Gini coefficient and in 2018 the biggest within country differences were seen in Spain, Italy and the UK (Figure 1.1.2). In Italy, the regions with highest Gini coefficient were the islands Sardinia and Sicily and the Piemonte region in north-eastern Italy; the lowest income inequality was in the north-western regions. In Spain, the Andalusia region in the South had the highest Gini coefficient and Aragon region in the North the lowest. The western parts of the UK had lower income inequality and the highest income inequality was in London where the average incomes also are higher.

The income inequality situation for the urban youth (aged 15-29) shows that the most unequal countries in 2018 were Bulgaria, Italy, Spain, Luxembourg and Greece (Figure 1.1.3). The most equal in terms of income inequality were recorded for the youth in Slovenia, Slovakia, Czech Republic, Cyprus and Belgium. This pattern of countries belonging to the top and bottom of the Gini coefficient spectrum is similar to Gini coefficient for the total economically active population, with the exception of a relatively worse situation for the urban youth in the Southern European countries. The Gini coefficient has steadily increased for the urban youth in Luxembourg, Spain, Italy and Malta. It has decreased in Portugal, the UK, Poland and Czech Republic. A delayed effect of the 2007-2008 financial crisis for the urban youth in terms of

income inequality can be observed in Bulgaria and Germany. In most countries, the 2012 Gini is higher than that of 2008 or 2018, exhibiting immediate effects of the crisis: most notably Greece, Latvia, Ireland, Denmark, Estonia, Sweden, Austria, France and Cyprus. In some countries, the level of Gini coefficient had declined back to the 2008 values or less by 2018 (e.g. France, Austria, Cyprus, Estonia, Latvia, Greece) but in others the decrease from 2012 to 2018 has been minimal or non-existent (e.g. Spain, Romania, Ireland, Denmark, Sweden). Overall, this suggests that the lasting effect of the crisis on inequality among the urban youth was small or we fail to measure changes in inequality properly.

Regional changes in the Gini coefficient among the urban youth from 2012 to 2018 show that in some countries the regional differences were quite big and some regions have done much better than others have (Figure 1.1.4). In the case of the UK the Gini coefficient for the entire country shows a small decline during that period but there are many regions where the income inequality among the urban youth has increased (the biggest increase has been in Scotland). Italy and Spain also show big regional differences with a negative change (i.e. increase in the Gini coefficient) in Andalusia in Spain and in Sardinia, Palermo and southern parts of Italy. Positive change can be observed in central parts of Italy and in central parts of Spain.

A comparison of the situation of the youth and the active age (aged 15-64) population (Figure 1.1.5) shows that in 2018 in most countries income inequality among the youth was slightly smaller and changes over time were quite modest. Biggest changes for the urban youth (relative to the active age group) have been registered in Romania, Ireland, Belgium and Luxembourg where in 2008 the situation for the youth was better relative to the active age but by 2018 this gap has narrowed down. Few countries display an opposite direction of change: in 2008 income inequality among the Bulgarian and Hungarian youth was higher than among the active age group but in 2018 it was lower.

Although the country values for relative differences between the youth and the active age group are not very big, there are some regional differences that stand out. In 2018, all over Europe there were much fewer regions where the youth was doing better than the active age group than regions where the youth was doing worse in terms of income inequality (Figure 1.1.6). Among positive exceptions we see some regions in France, the UK, Poland and Romania. Negative examples were all of Sweden, Denmark, Czech Republic, Slovakia, Luxembourg, plus some regions in Finland, Belgium, France, Spain, Portugal, Italy, Austria and Poland. Obviously, many factors affect these different trajectories, such as enrolment into higher education, youth unemployment levels, influx of refugees, and the degree of family formation in younger age groups.

Figure 1.1.1. The Gini coefficient of equivalised household income in EU member states

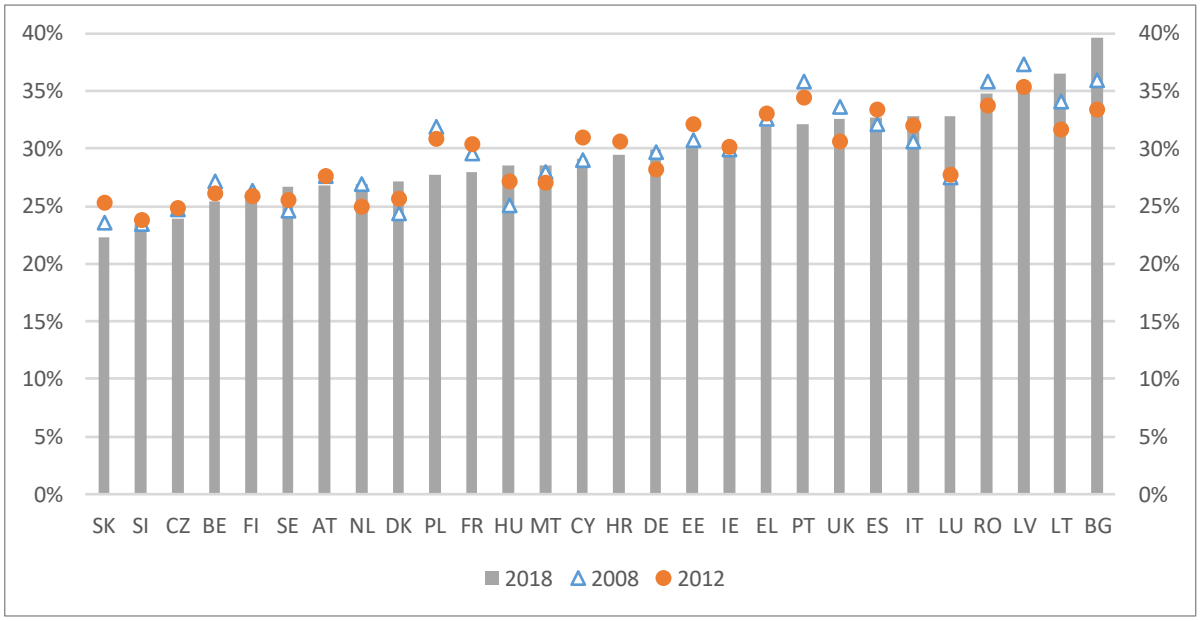


Figure 1.1.2. The Gini coefficient of equivalised household income in regions of the EU, 2018

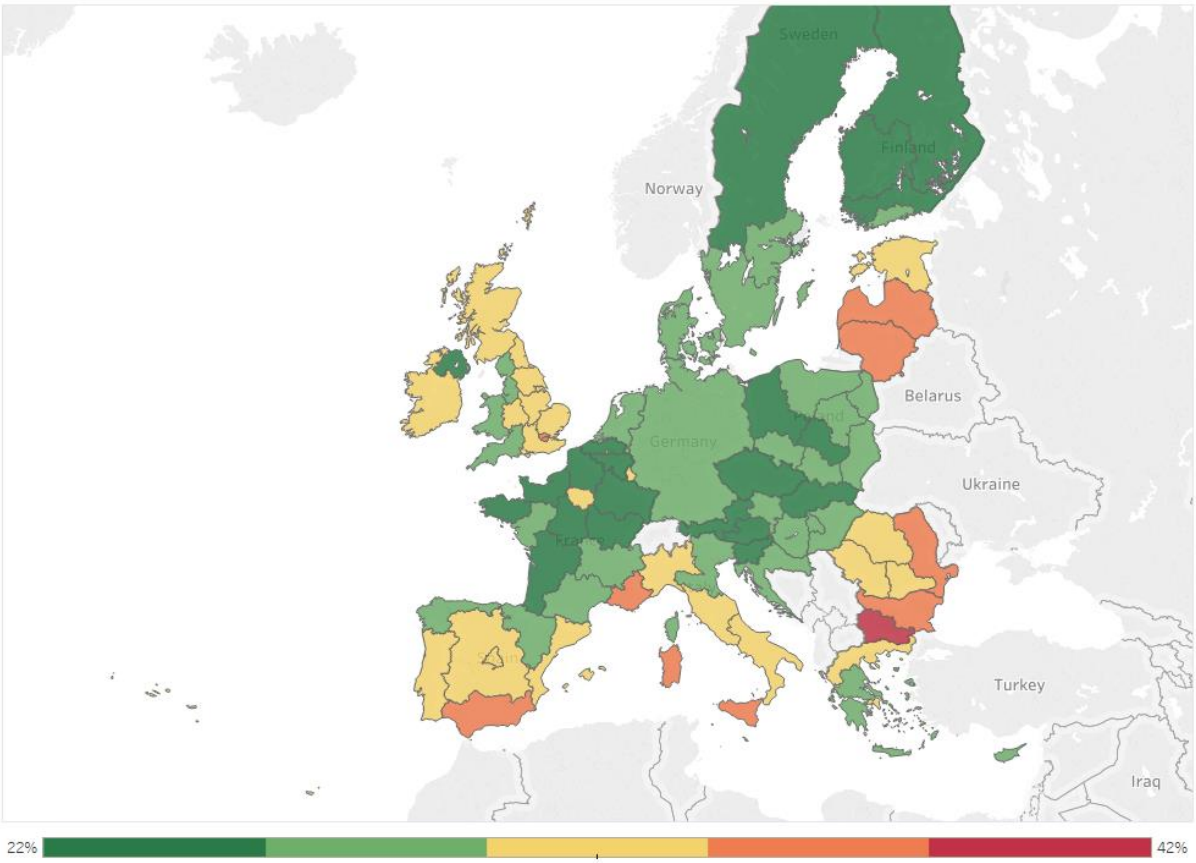


Figure 1.1.3. The Gini coefficient of equivalised household income among urban youth (aged 15-29) in EU member states

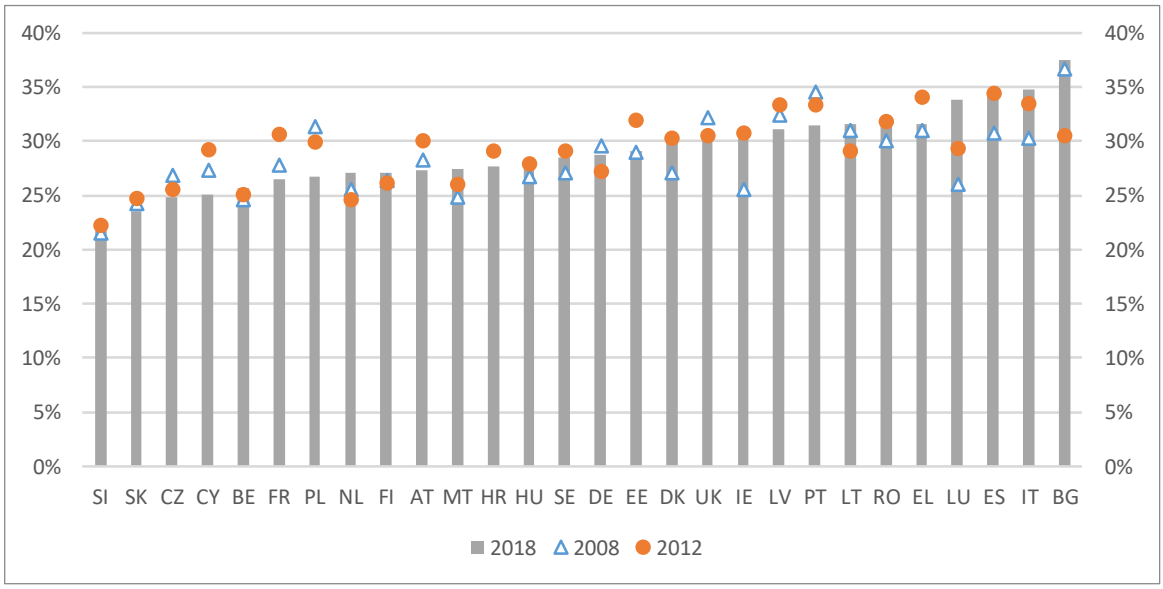


Figure 1.1.4. Point change in the Gini coefficient of equivalised household income among the urban young population (aged 15-29) in regions of the EU, 2012-2018

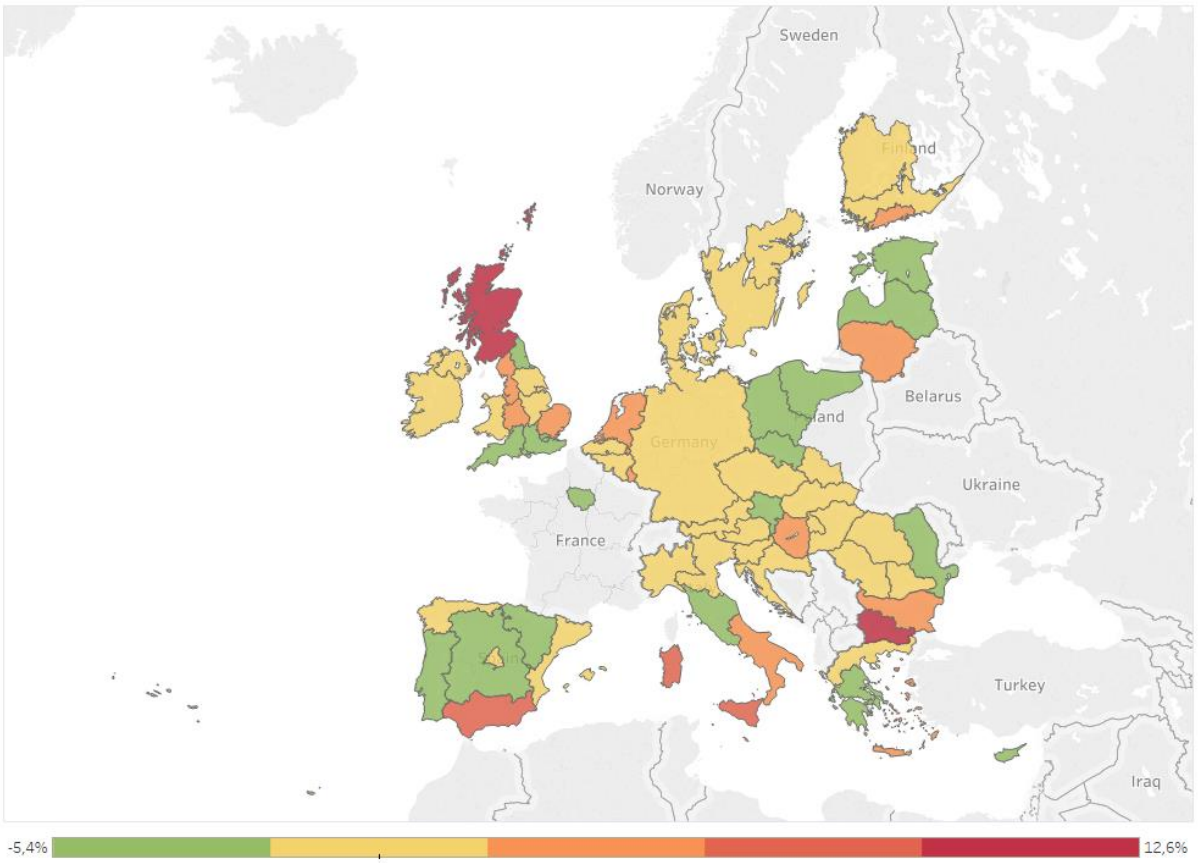


Figure 1.1.5. The Gini coefficient of equivalised household income among urban youth (15-29) relative to the active age (aged 15-64) in EU member states

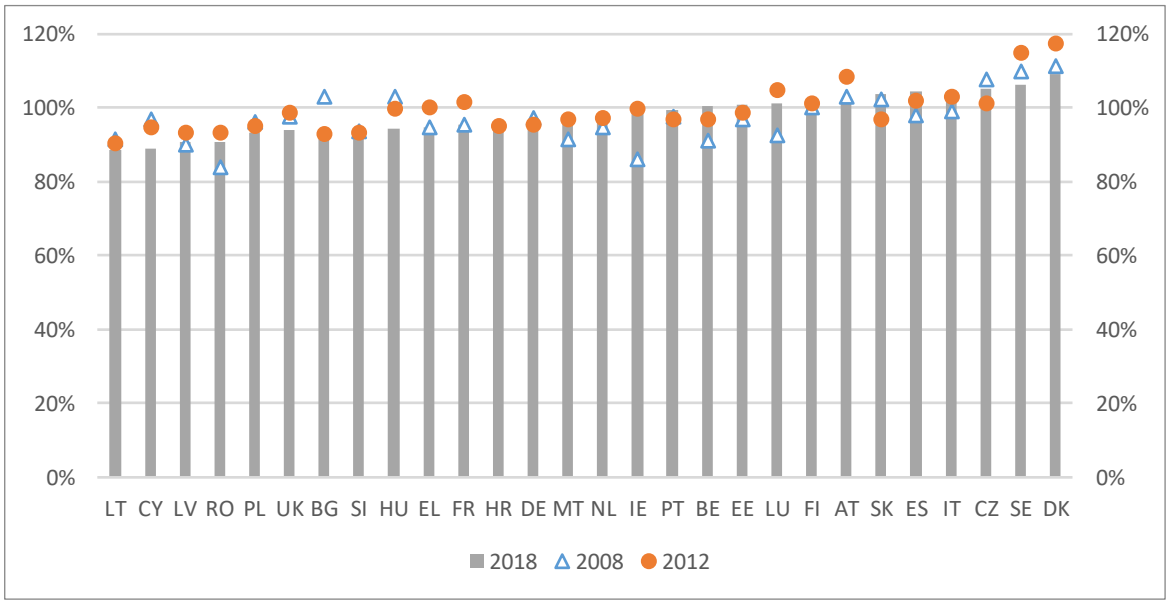
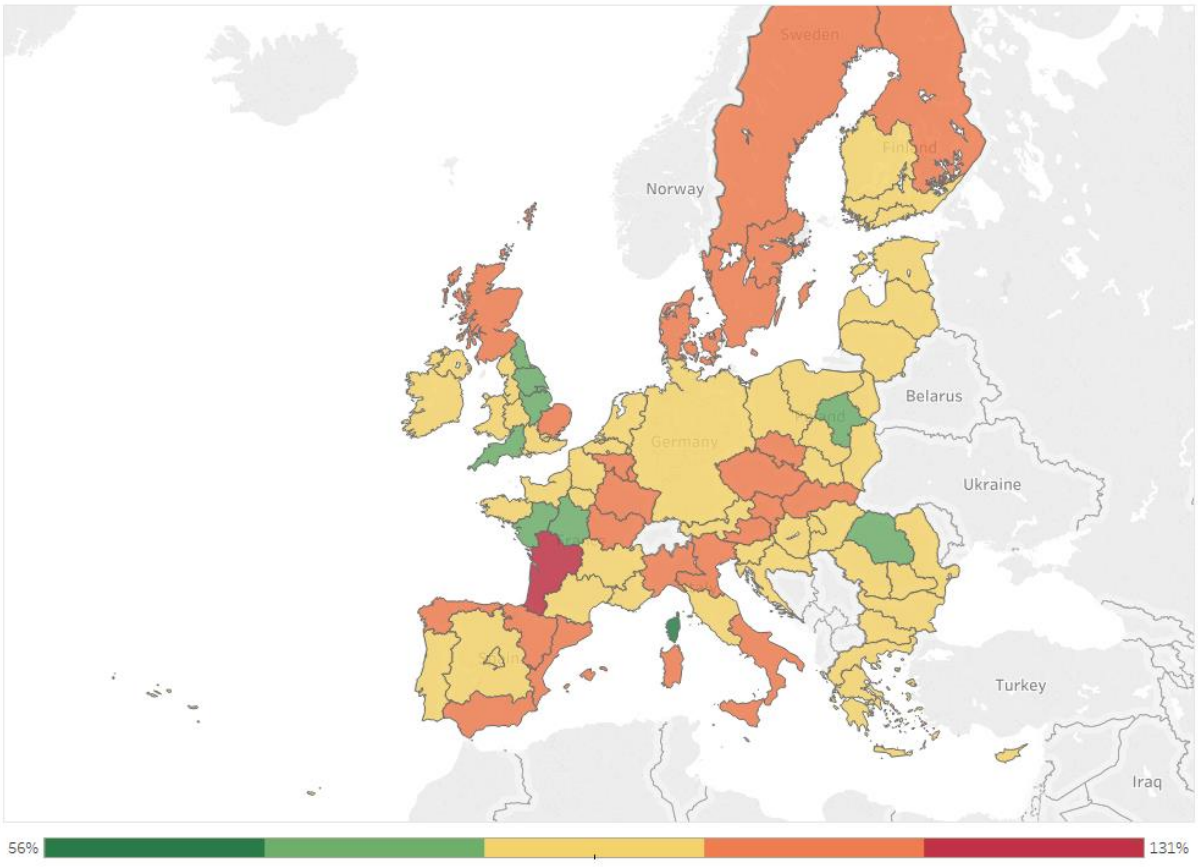


Figure 1.1.6. The Gini coefficient of equivalised household income among urban youth (15-29) relative to the active age (aged 15-64) in EU regions, 2018



5.1.2 At-risk-of-poverty rate

In Europe in 2018, the proportion of people with an equivalised net disposable income below the at-risk-of poverty threshold was between 9.6% and 23.5% (Figure 1.2.1). The lowest shares were seen in the Czech Republic, Finland, Slovakia, Denmark and Hungary. The highest shares were in Romania, Latvia, Lithuania, Bulgaria and Estonia. These Eastern European countries were followed by Southern European countries: Spain, Italy, Croatia and Greece. Interestingly, some countries have seen a rather big fluctuation in the at-risk-of-poverty-rate over the years. For example, in Latvia, Lithuania and Estonia the at-risk-of-poverty rate decreased from 2008 to 2012 and then increased from 2012 to 2018[2]; in Luxemburg and the Netherlands it has increased over the years; in Greece the rate significantly increased from 2008 to 2012 but by 2018, it fell below the 2008 level.

The regional differences in 2018 were biggest in Spain, Italy and Romania (Figure 1.2.2). In Spain more people were at risk of poverty in the southern and central parts of the country (except in Madrid); in Italy a similar tendency can be seen in the southern parts and in Sardinia and Sicily, and in Romania in the eastern part of the country.

In 2018, the at-risk-of-poverty rate for the urban youth varied between 9.7% in the Czech Republic and 31.9% in Denmark (Figure 1.2.3). It is noteworthy that the Nordic countries together with Luxembourg also record high levels of at-risk-of-poverty rate among the urban young. One potential explanation could be that young tend to leave the parental home earlier in these countries compared to Southern or Central Europe (see eg. Mandic 2008), which exposes them to an increased risk of poverty in early years of the labour market career. The at-risk-of-poverty rate shows much bigger fluctuation over the years among the urban young than it does for the total population The youth has shown an increased risk of poverty after the crisis (in 2012 and 2018) in comparison to the 2008 levels in most countries: Denmark, Luxembourg, Spain, Italy, Greece, Ireland, the Netherlands, France, Portugal, Belgium, Estonia, Latvia, Romania, Cyprus, Lithuania, Slovakia, Slovenia and Malta. The at-risk-of-poverty rate among the youth has not changed much over time in Sweden, Hungary and Bulgaria. Only in a few countries, the youth were less in risk of poverty in 2018 than they were in 2008, i.e. in Germany, Austria, Poland, Czech Republic, Poland and Bulgaria.

Regional differences in the change from 2012 to 2018 for the at-risk-of-poverty rate among urban youth show that in Europe there are more regions where the change was positive (i.e. the rate decreased) than negative (Figure 1.2.4). Positive examples of regions with a decreased rate were located in Finland, the UK, Austria, Romania, Greece, Spain and Portugal. Regions with increasing at-risk-of-poverty rate among the youth were located in the UK, the Netherlands, Belgium, Luxembourg, Poland, Austria, Italy, Greece and Spain.

2 On the one hand, these results may come as a consequence of low sample sizes of the Baltic countries. On the other hand, these countries generally show higher over time volatility in response to shocks.

The at-risk-of-poverty rate among urban youth relative to the entire active age group shows that in 2018 in most European countries young people were more in risk of poverty (Figure 1.2.5). The relative difference in favour of young people was mostly prevalent in Central and Eastern European countries, i.e. Romania, Lithuania, Croatia, Bulgaria, Poland and Latvia, plus in Malta. The highest rates of young people at risk of poverty in relation to active age were in Northern and Western European countries, i.e. Denmark, Finland, France, the Netherlands, Austria, Luxembourg and Sweden. Sweden is the only country that has seen a steady decrease of this gap over the years but in 2018 the youth in Sweden were still 1.4 times more at-risk-of-poverty than the total active age group. Most countries have seen an increase of young people being more in risk of poverty in relation to the active age group over the years.

Regional differences in the at-risk-of-poverty rate among the urban youth relative to the active age in 2018 also show that young people were less at risk of poverty in Central and Eastern European countries (plus in Portugal) and more at risk of poverty in Western and Northern European countries (Figure 1.2.6). However, there were also regions in the UK, Spain, Italy and France where the youth was less at risk of poverty in relation to the active age group.

Figure 1.2.1. The at-risk-of-poverty rate in EU member states, total population

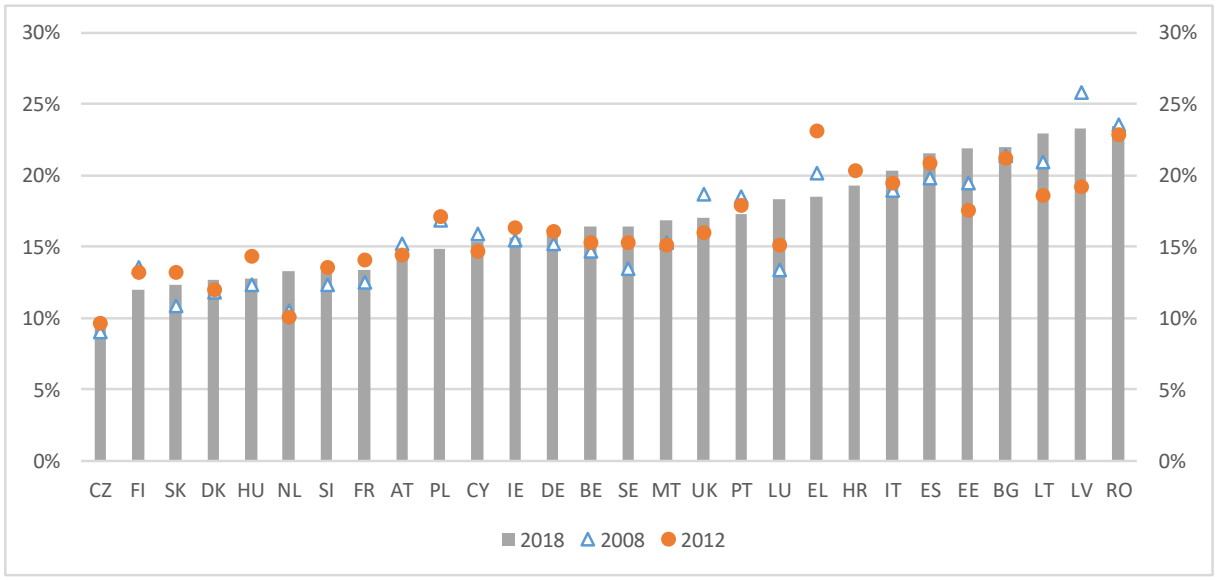


Figure 1.2.2. The at-risk-of-poverty rate in regions of the EU, total population, 2018

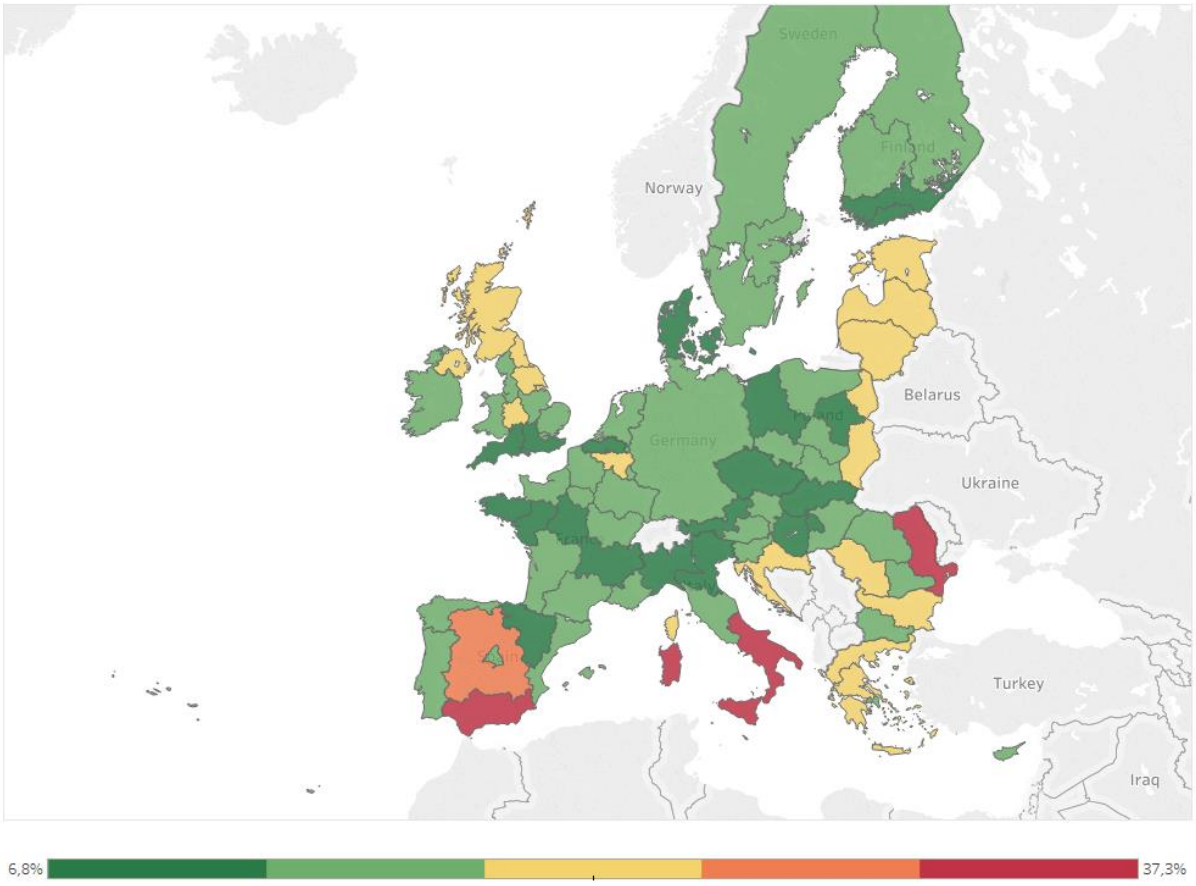


Figure 1.2.3. The at-risk-of-poverty rate among urban youth (aged 15-29) in EU member states

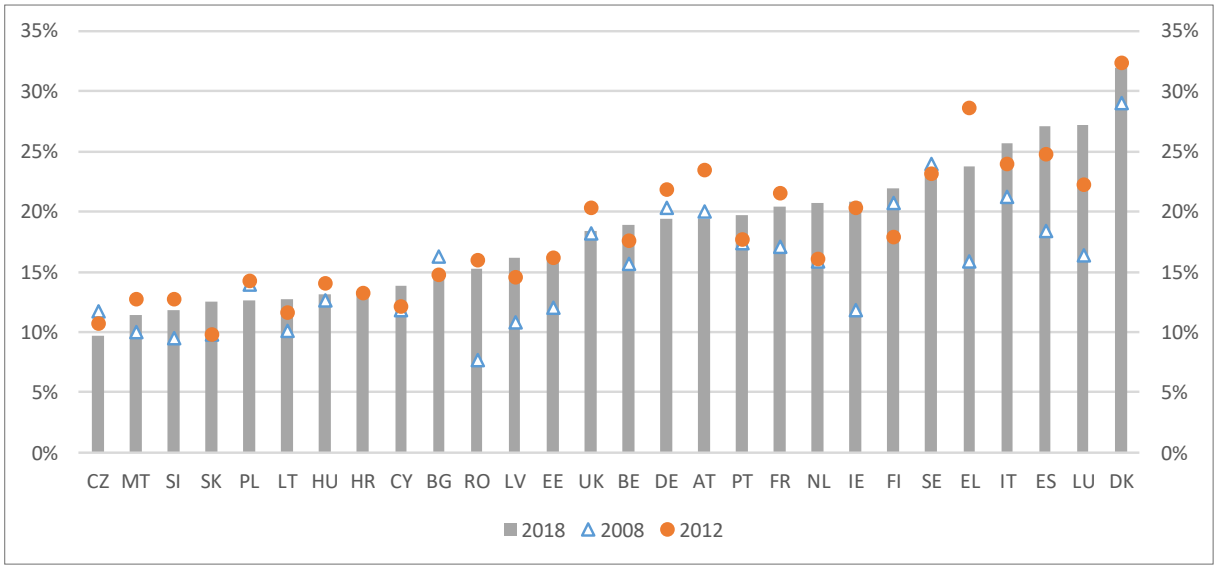


Figure 1.2.4. Point change in the at-risk-of-poverty rate among urban young population (aged 15-29) in regions of the EU, 2012-2018

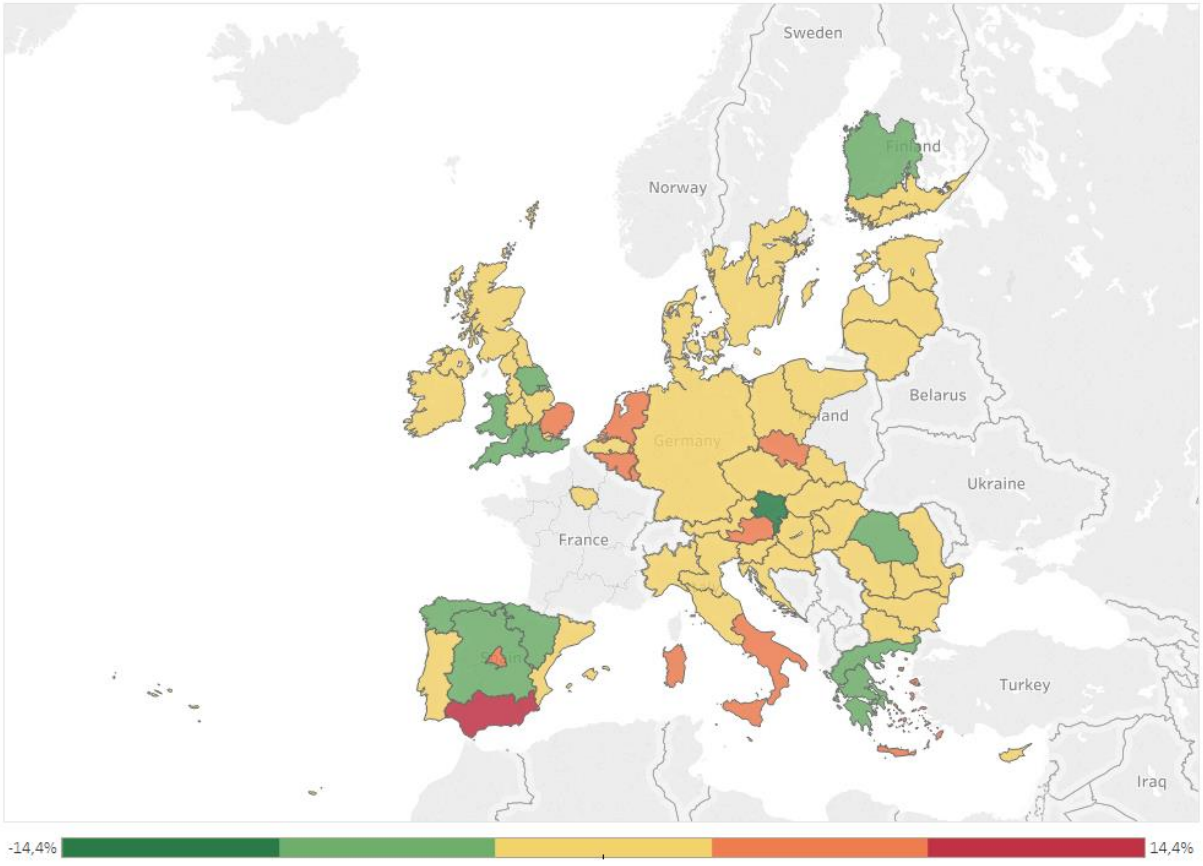


Figure 1.2.5. The at-risk-of-poverty rate among urban youth (15-29) relative to the active age (aged 15-64) in EU member states

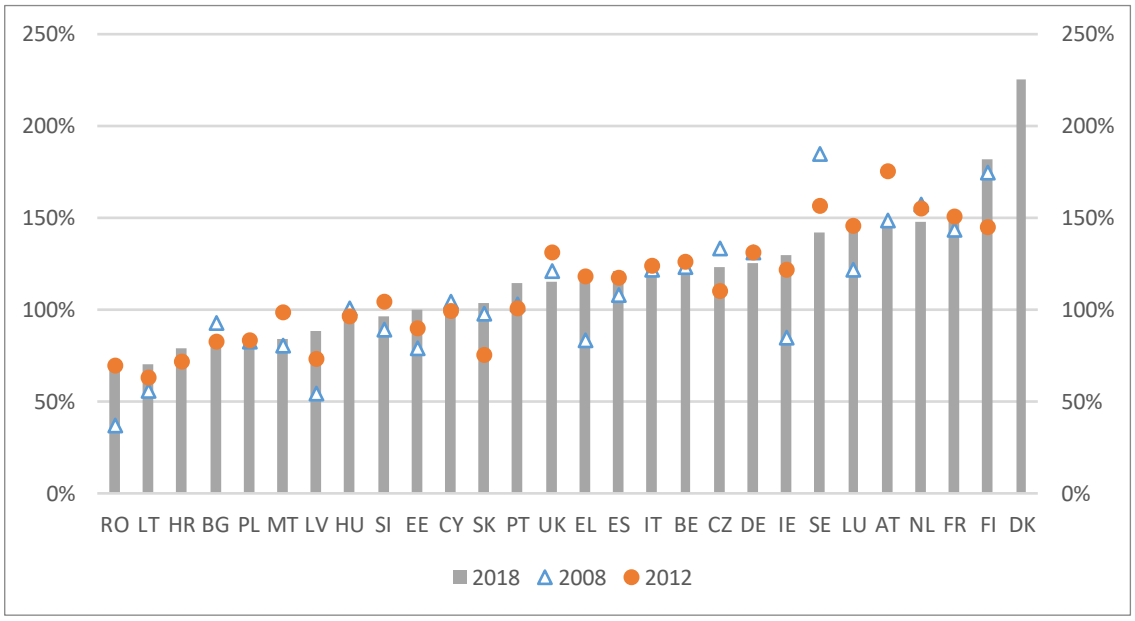
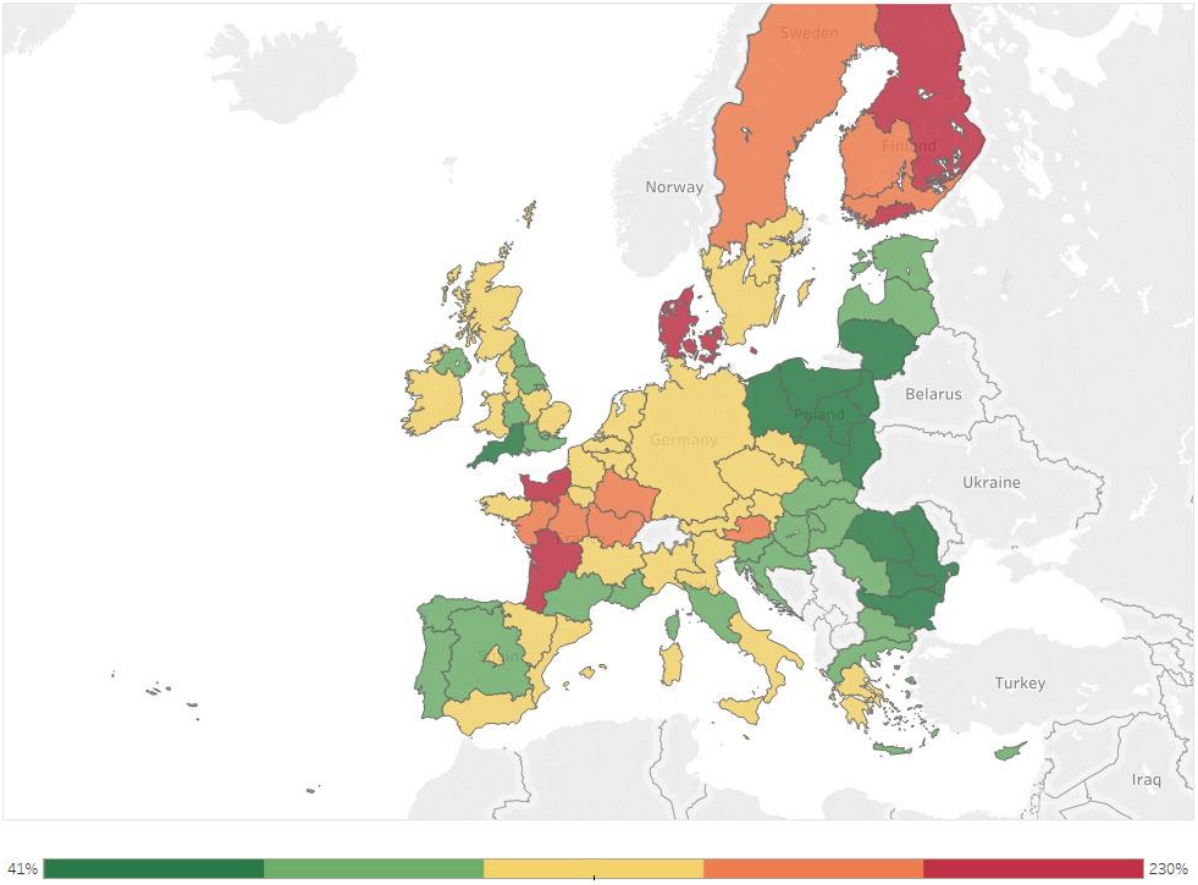


Figure 1.2.6. The at-risk-of-poverty rate among urban youth (15-29) relative to the active age (aged 15-64) in EU regions, 2018



5.1.3 The severe material deprivation rate

In 2018, the differences among European countries in severe material deprivation rates were quite substantial: ranging from 1.3% in Luxembourg to 20.9% in Bulgaria (Figure 1.3.1). However, almost half of all countries scores below 5 %. The severe material deprivation rate was generally lower in Western and Northern European countries and higher in Central and Eastern European countries. The 2007-2008 financial crisis brought along considerable fluctuation in the share of people falling into severe material deprivation: in most countries the number of people in severe deprivation increased substantially from 2008 to 2012, but by 2018 the rate decreased back to 2008 level or even lower. The fall in the severe material deprivation rate has been particularly important in the least developed member states of the EU, Bulgaria, Romania and Hungary. Countries with an already low severe material deprivation rate have shown very small changes over time: e.g. Luxembourg, Sweden, the Netherlands, Finland and Denmark. Only a few countries have shown a constant decrease over the years: Romania, Slovakia, Portugal, Poland and Austria. Greece, experiencing the most severe economic crisis, is the only country where in 2018 the severe material deprivation rate was still considerably higher than it was in 2008.

In most countries, in 2018, regional differences in severe material deprivation rate were quite small (Figure 1.3.2). Two countries stand out with bigger regional differences: Italy and Romania. In Italy, the northern parts had much lower severe material deprivation rate than the southern parts of the country. In Romania, the eastern parts had higher rates than the northern part, showing a similar pattern as was observable for poverty rates by regions.

In 2018, the severe material deprivation rate among the urban youth ranged from 1.9% in Luxembourg to 20.6% in Greece (Figure 1.3.3). The overall pattern of severe deprivation among the youth was similar to the one displayed for the total population: in general, there were less young people living in severe material deprivation in Northern and Western European countries than in Central and Eastern European countries; and most countries have seen an increase in the severe material deprivation rate from 2008 to 2012, followed by a decrease from 2012 to 2018 (in many cases down to the 2008 level or even lower). Interestingly, the severe material deprivation rate among the youth decreased more from 2012 to 2018 in Central and Eastern European countries than it did in Northern and Western European countries (Figure 1.3.4). The central parts of Spain (except Madrid), Greek islands and Cyprus have experienced the largest increase in youth living in severe material deprivation.

In 2018, in most European countries the urban youth lived more often in severe material deprivation in relation to the active age group (Figure 1.3.5). The severe material deprivation rate among youth relative to the entire active age category was smaller in Central and Eastern European countries (Lithuania, Latvia, Poland, Slovenia, Estonia, Bulgaria etc.) and higher in Northern, Western and Southern European countries (Ireland, Finland, France, Portugal, Sweden, the UK etc.). In most countries the situation for the youth has steadily changed for the better over the time but there are also countries where the difference compared with the active age group substantially increased from 2008 to 2012 (e.g. Austria, Luxembourg, Estonia).

In Luxembourg and Estonia, it decreased by 2018 but did not reach the 2008 level. Sweden stands out as an only country where the level stayed the same 2008-2012 (youth doing better in relation to active age people) followed by a considerable increase in 2018 (youth doing worse). In 2018, regional differences within countries in the severe material deprivation rate among the youth in relation to the active age group were quite small for most countries (Figure 1.3.6). France and the UK stand out with having the most variety between regions – in both countries regions where the youth is doing better and where the youth is doing much worse than the active age group, are represented.

Figure 1.3.1. The severe material deprivation rate in EU member states, total population

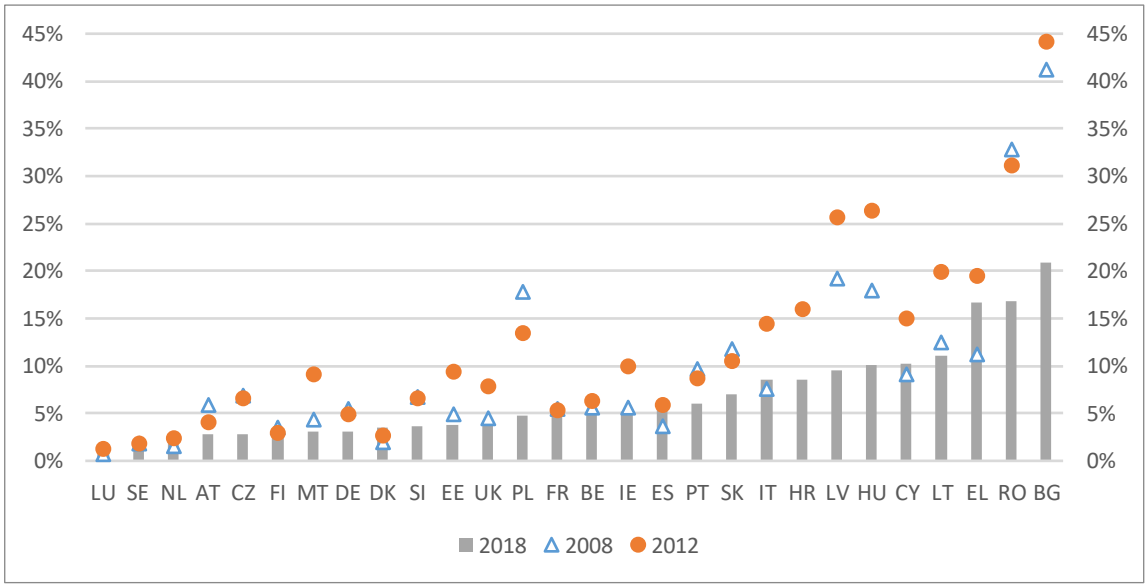


Figure 1.3.2. The severe material deprivation rate in regions of the EU, 2018

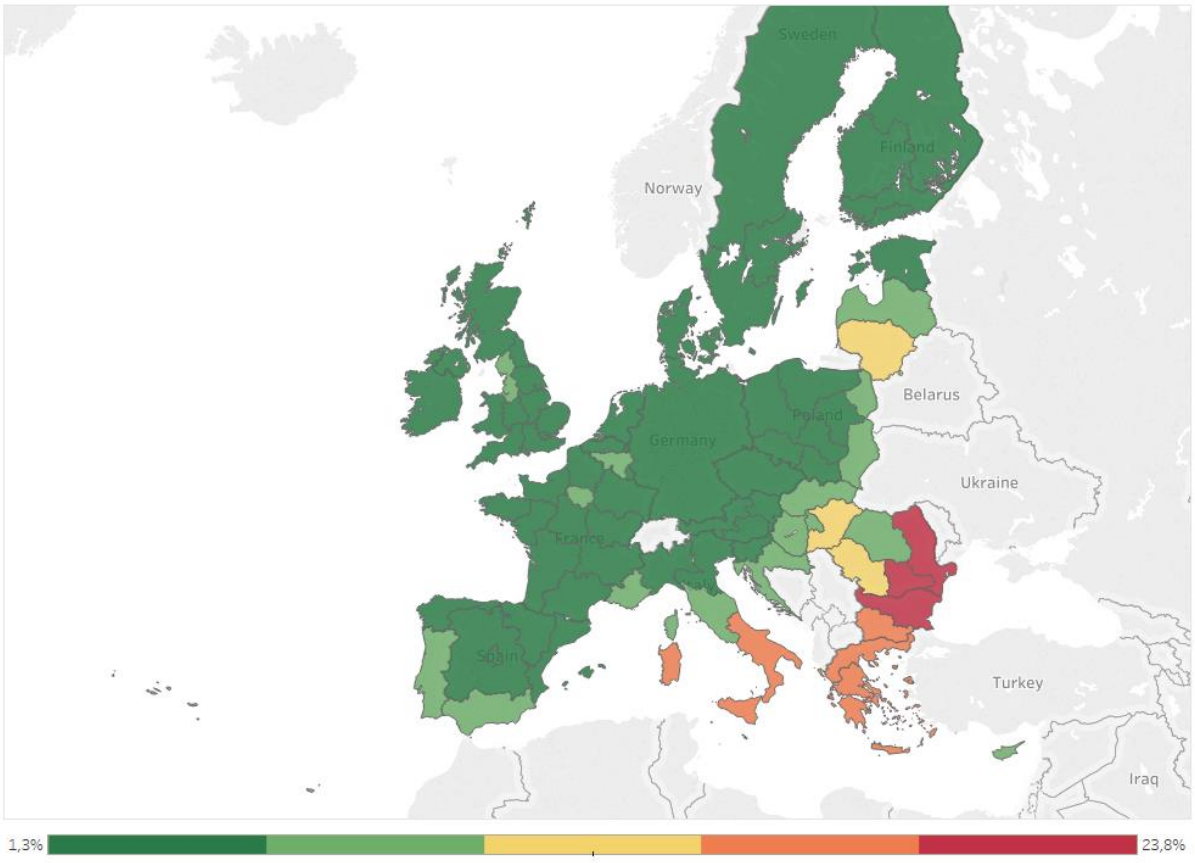


Figure 1.3.3. The severe material deprivation rate among urban youth (aged 15-29) in EU member states

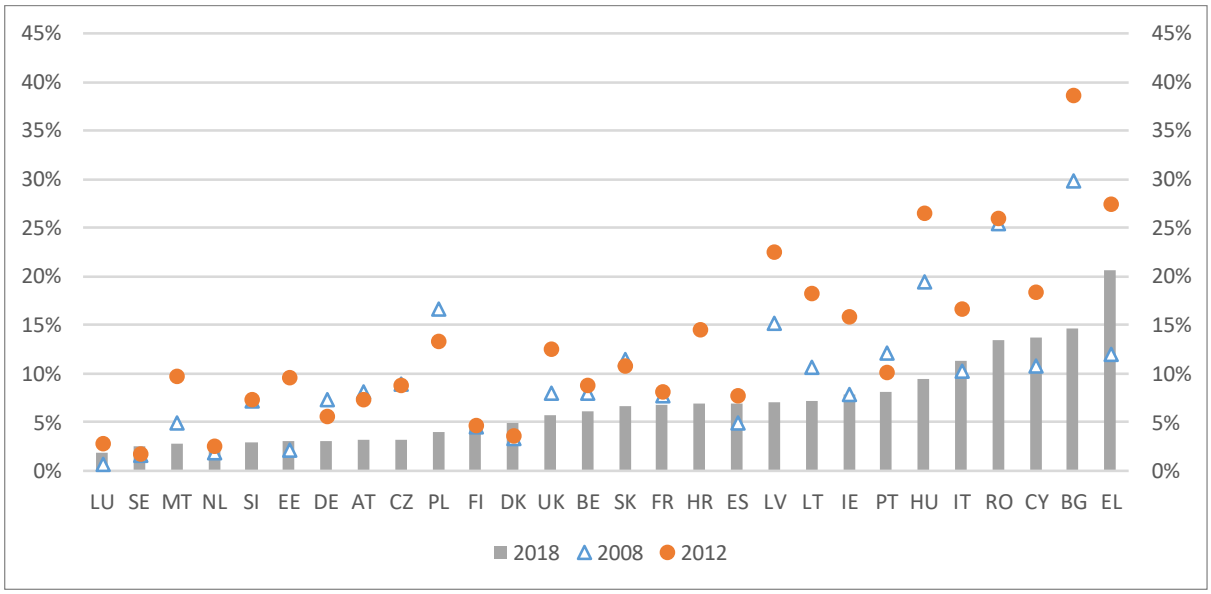


Figure 1.3.4. Point change in the severe material deprivation rate among urban young population (aged 15-29) in regions of the EU, 2012-2018

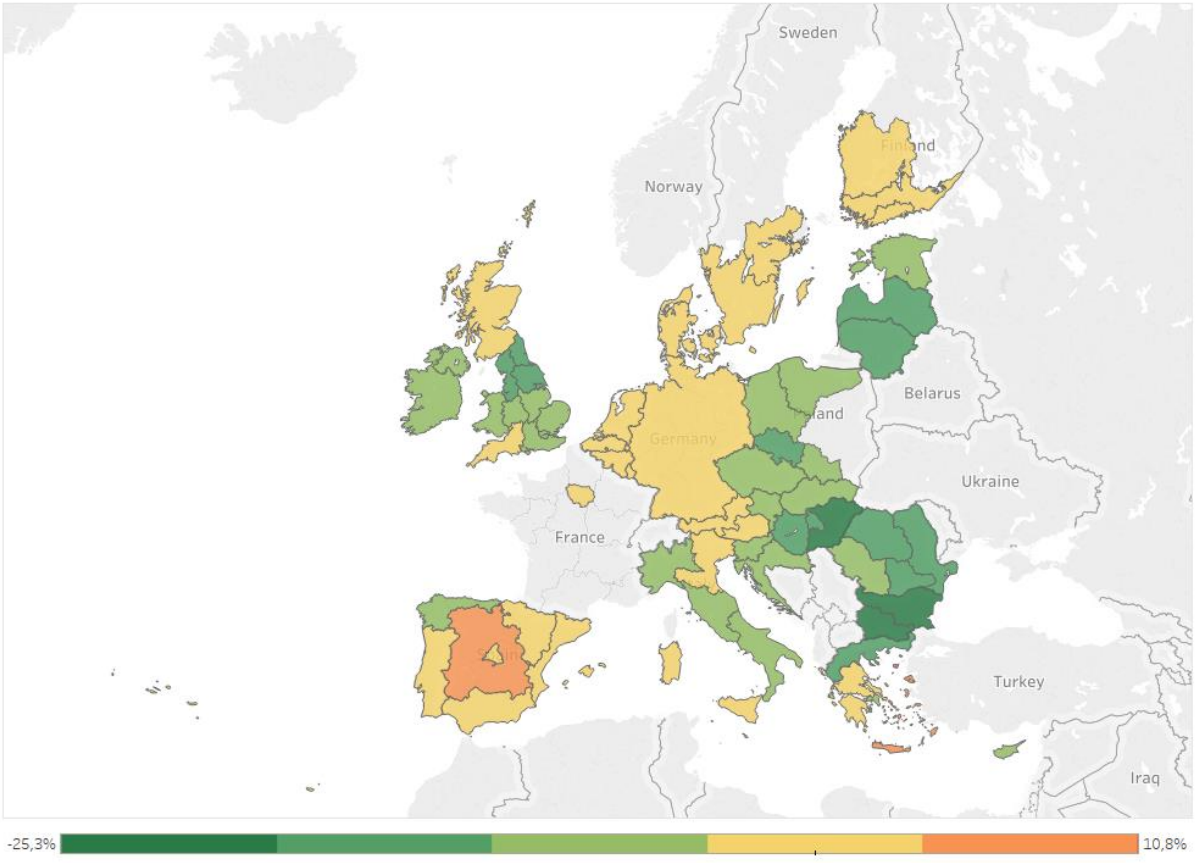


Figure 1.3.5. The severe material deprivation rate among urban youth (15-29) relative to the active age (aged 15-64) in EU member states

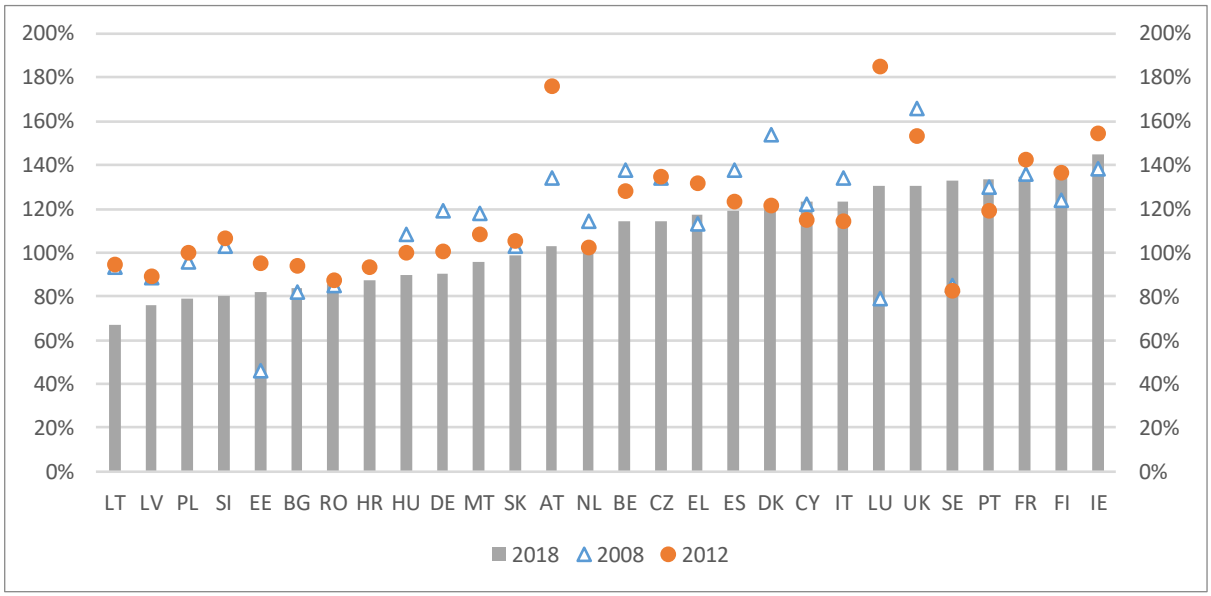
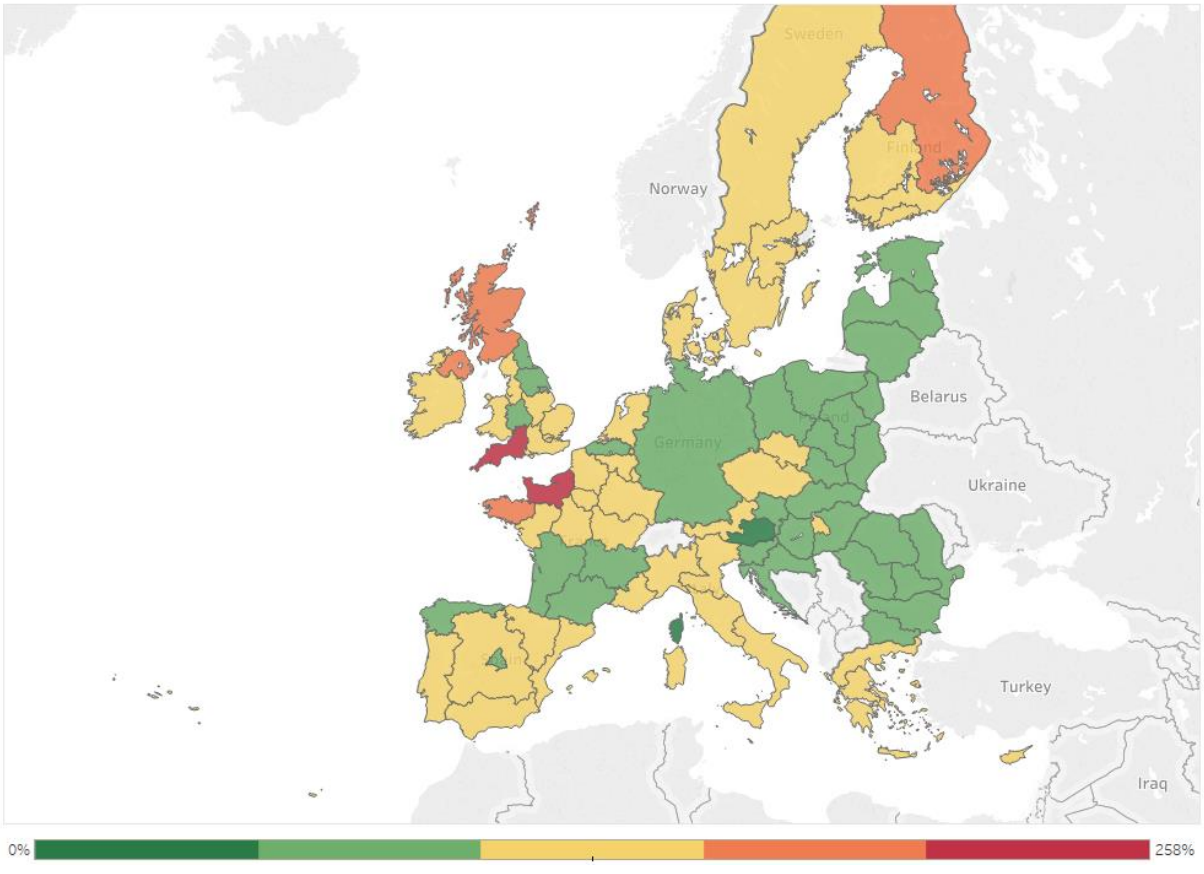


Figure 1.3.6. The severe material deprivation rate among urban youth (15-29) relative to the active age (aged 15-64) in EU regions, 2018



5.1.4 Persistence of middle-class status

The persistent middle-class status indicator shows the percentage of the population living in households where the equivalised disposable income is between the 60% and 200% of the median income in at least three years during the four-years period covered by the data. The calculation of the index is based on longitudinal data, through which the same individuals are followed over four years, which is provided by the longitudinal EU-SILC. Three four-years long periods are analysed here, namely: 2005-2008, 2009-2012 and 2015-2018. Persistence of middle-class status is interpreted here as an indicator of stability of the middle positions in the income distribution. High percentage of those persistently in middle-class status in a country or region means that middle-income individuals are less likely to experience transitions (eg. transition into poverty), while a low percentage of persistence of middle-class shows that middle-class position is likely to be unstable and the transitions to other states (including poverty) are more likely to occur.

On all figures, countries are ordered based on the shares of the 2015-2018 period. Figures 1.4.1, 1.4.3 and 1.4.5 depict how the share of those persistently in middle-class status in EU member states varies relevant to the whole population, to the urban youth (aged 15-29) and to the share of the urban youth relative to the active age (aged 15-64) population, respectively. Figures 1.4.2, 1.4.4 and 1.4.6 provide similar data in case of regions. As longitudinal data from 2018 has not yet been released for Portugal, Slovakia and the UK, in the case of these countries only data for earlier years will be shown on the following figures (and the same applies to the following, middle-class vulnerability indicator as well).

Among the countries where this data was available, Figure 1.4.1 shows that those possessing the highest shares of persistent middle-class status in 2018 are Sweden, Finland, Denmark and the Czech Republic. On the other end of the ranking, countries with relatively lower shares are Lithuania, Bulgaria, Latvia or Romania. In countries like Lithuania, Luxembourg, Austria and Sweden the values relevant to this latest period studied lie below those regarding the 2005-2008 and 2009-2012 periods. This suggests that as an aftermath of the global financial crisis in 2008, the position of the middle-class became more unstable in these countries.

Figure 1.4.2 shows the share of those persistently in middle-class status in regions of the EU in the 2015-2018 period. Lithuania (which constitutes one NUTS1 level region) posits the lowest value of all, where the 56,5% of people constitute steadily the middle-class. In Italy, the share of those persistently in middle-class status varies widely among regions. In Isole region this rate is 56,9%, in the Centro region 74,2% while in the Nord-Est is 77,1%. Data here thus support the general idea of Italy having important inter-regional differences. In Romania, in Macroregiunea Doi region, 58,6% of people belong persistently to the middle class. whereas the region where the most do is Macroregiunea Unu, with 66,6%. This intra-county regional difference of 8% is much smaller than the difference regarding Italy (20,2%). Belgium is also a country, where great differences arise across countries, between regions. The region of the

capital: Région de Bruxelle-Capitale has quite a low share of 58,6%, while Vlaams Gewest region has 82,1%. This difference of 23,5% being the greatest among all countries shows that cities such as Brussel can be very heterogeneous therefore those being persistently in the middle-class constitute a lower share. In France, Languedoc-Roussillon-Midi-Pyrénées is the region where the share of those persistently constituting the middle-class is the lowest being 72,8%. This value in international comparison is rather high. Nordic countries prove to be somewhat exceptional in this dimension as well, as they have even higher rates. In Finland, more than 80% of the population is part of the middle-class consistently across the country. In Sweden values vary in a similar range, with Norra Sverige region having the highest share among all European regions: 85,7%.

Figure 1.4.3 illustrates the share of those persistently in middle class status with respect to the urban youth aged 15-29. A prominent characteristic is that values are more dispersed here than they were regarding the whole population. This indicates that the relative income position of the youth was more robustly affected in terms of middle-class persistence during the decade between 2008 and 2018. Countries with highest shares of the urban young persistently in middle-class position in 2018 are Slovenia, the Czech Republic, Hungary and Sweden, those with lowest are Denmark, Italy, Bulgaria and Spain. In case of the urban young a declining share of those persistently in middle-class status is detected in the majority of countries with data available for this indicator. Most important decline between 2008 and 2018 can be seen in Austria, Lithuania, the Netherlands and Greece where the indicator dropped by more than 13 points. The few exceptions to this trend of declining persistent middle-class indicator among the urban young are Slovenia, the Czech Republic, Hungary and Latvia.

On Figure 1.4.4 we show the percentage point change in the share of those persistently in middle-class status among the urban young in EU regions between 2012-2018. Negative measures in this section will be analogous with decreasing shares of middle-class persistence, while positive ones correspond to the opposite. In Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Finland, Lithuania, Luxemburg, Latvia and Poland values in all regions are negative, meaning that the share of those urban young persistently in the middle-class declined. Countries where positive percentage point changes are detected include Greece, Hungary, certain regions of Spain and Slovenia.

Figure 1.4.5 exhibits the share of those persistently in middle-class status among the urban young relative to the active aged population. Therefore, values above 100% represent that the share regarding the youth is higher than that of the active aged population. This is the case for the bulk of the countries in at least one of the investigated periods. On the right end of the distribution we find more Central and Eastern European Countries, such as Slovakia, Lithuania, Lithuania, Cyprus or Romania. In these countries, the urban youth has a somewhat more advantageous position relative to the active aged population as the share of those in persistent middle-class status is higher among them. On the other hand, in Denmark, the Netherlands, Finland or Italy, the urban youth is relatively less likely to be persistently part of the middle-class.

Lastly, we turn to analysing the share of those persistently in middle-class status among the urban young relative to the active aged in EU regions between 2015-2018 (see Figure 1.4.6). In Austria, in all three regions we found that the share regarding the urban youth is lower than that of the active aged population, indicated by relative shares of 77,8% - 98,3%. This entails that the urban youth is somewhat more vulnerable than those aged 15-64, since a lower share of the youth is consistently part of the middle-class. In Belgium, Bulgaria, Spain, France, Poland, Romania, some regions show positive relative shares, some have negative. In Spain, in Sur, the relative share amounts to 83,5%, while in the Canarias it is 128,1%, which points onto great intra-country differences. In Italy and Sweden values regarding all of the regions are less than 100%. In Italy, however, there are much larger variations between regions. While in Sweden the relative rate ranges between 89,3% and 98,2%, in Italy it does so between 52,8% and 98,2%. The 52,8% regards the Isole region, where the share of those persistently in middle-class status among the urban youth is about half of that relevant to the active aged population.

Figure 1.4.1. Share of those persistently in middle-class status in EU member states

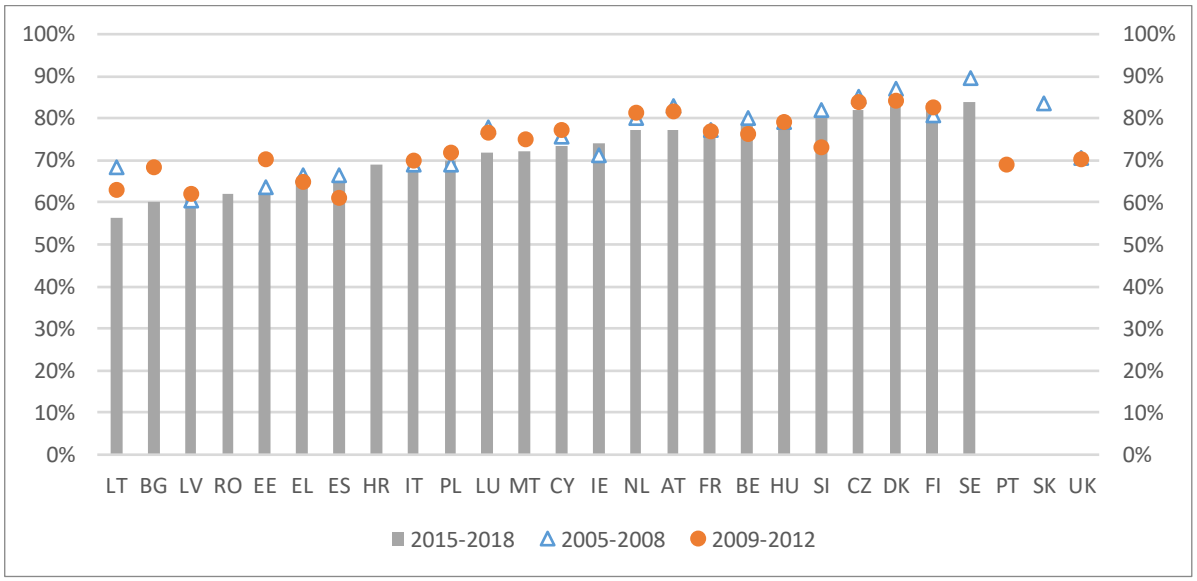


Figure 1.4.2 Share of those persistently in middle-class status in regions of the EU %

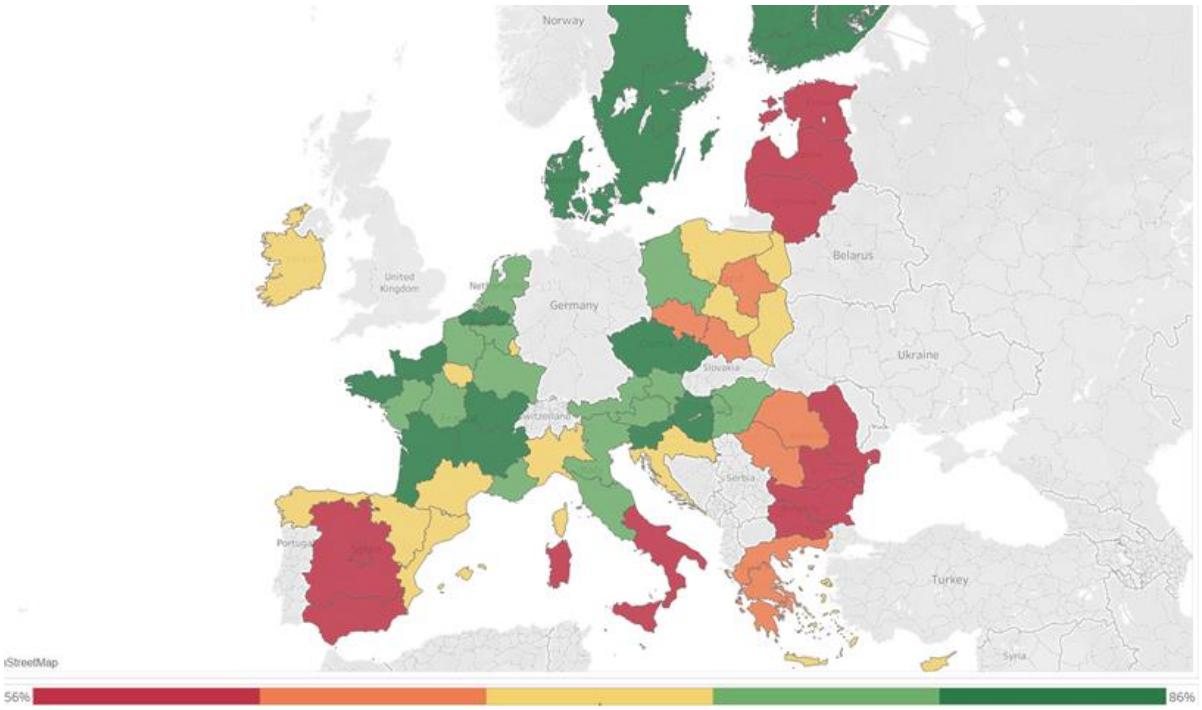


Figure 1.4.3 Share of those persistently in middle-class status among urban youth (aged 15-29) in EU member states

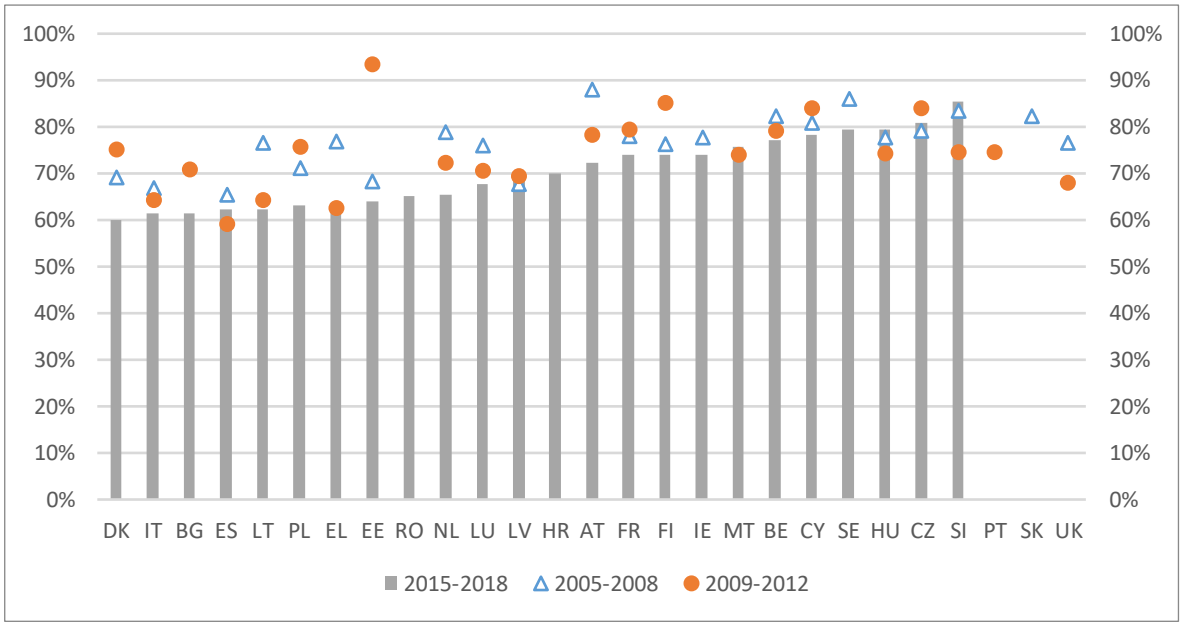


Figure 1.4.4 Point change in the share of those persistently in middle-class status among the urban young (15-29) in EU regions, 2012-2018

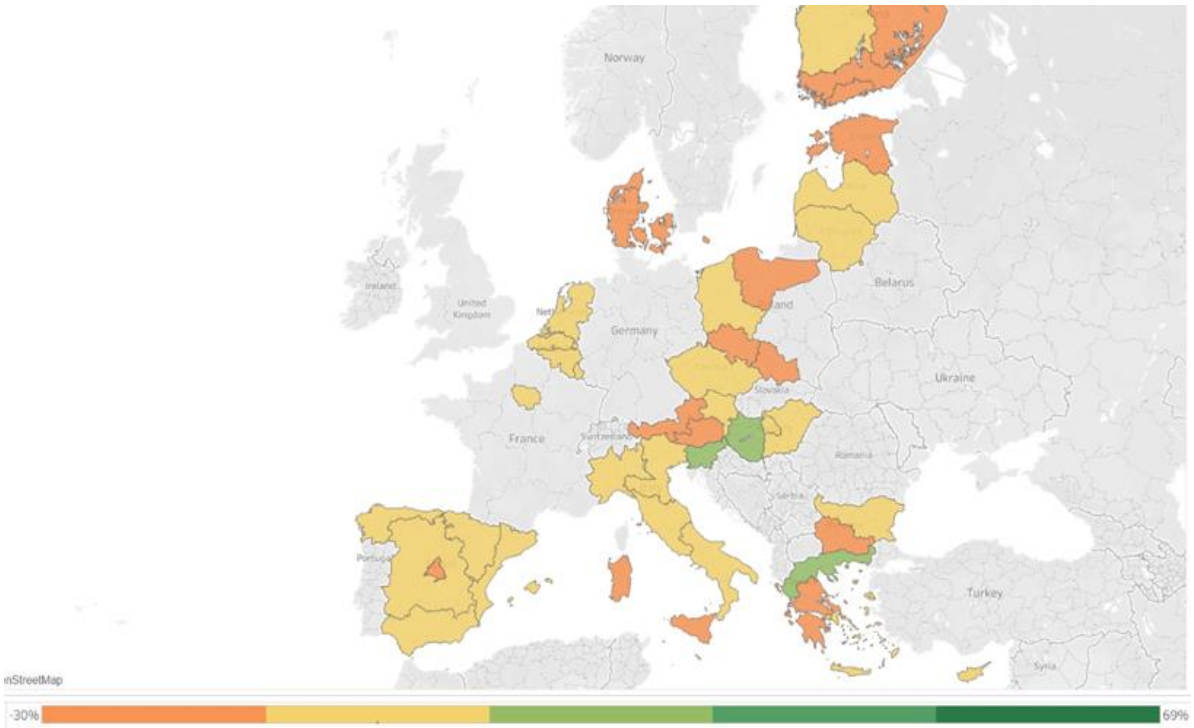


Figure 1.4.5 Share of those persistently in middle-class status among the urban young (15-29 age group) relative to the active age (15-64 age group)

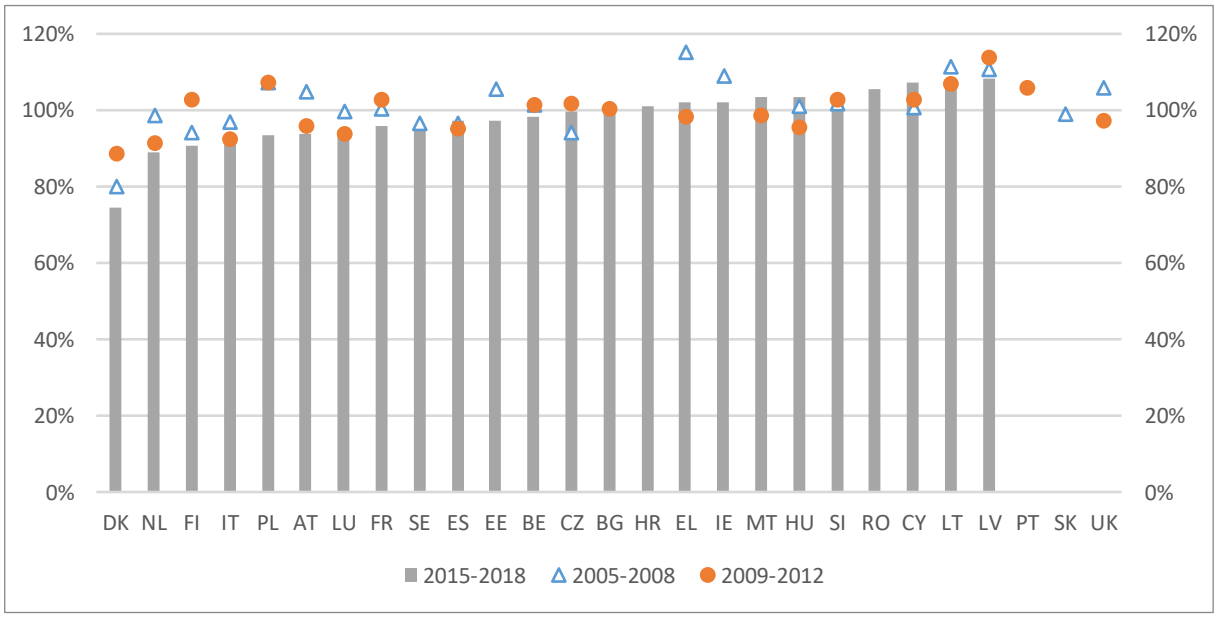
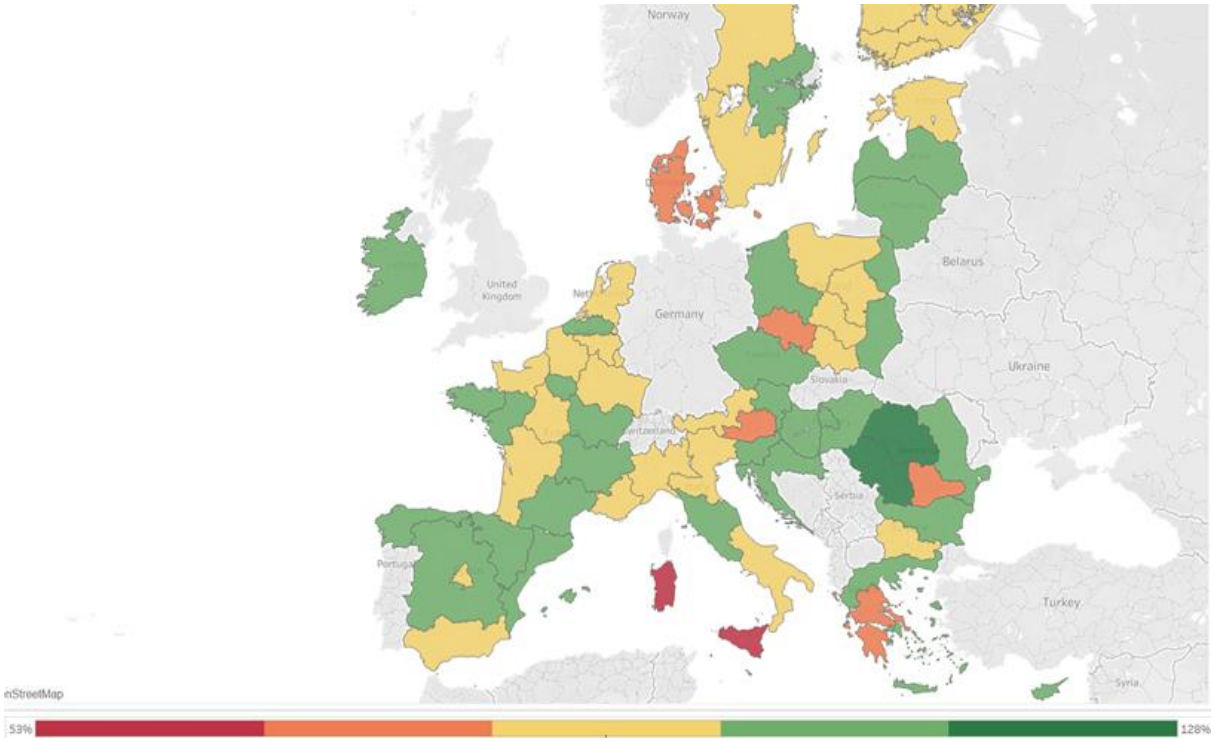


Figure 1.4.6 Share of those persistently in middle-class status among the urban young (15-29) relative to the active aged in EU regions, 2015-2018



5.1.5 Middle-class vulnerability

Figure 1.5.1 depicts the share of middle-class falling into poverty in EU member states, therefore, the higher the values are on this graph, the greater is vulnerability of the middle-class in the given country. Based on data stemming from 2015-2018, countries where this measure is low include the rather developed welfare economies of Europe: Finland, Sweden, Denmark, Czech Republic, Slovenia, the Netherlands, France, Cyprus and Austria, while countries where this measure is relatively high are: Bulgaria, Lithuania, Latvia, Luxembourg, Spain and Estonia. In most of the countries, values regarding the three different periods examined are close to each other. However, in a few cases some major differences can be observed across countries in the distinct time periods. In Bulgaria, between 2005 and 2008 11.9% of middle-class people experienced transition into poverty, between 2009 and 2012 this decreased to 6.6% and later between 2015 and 2018 it increased again to 8.9%. The highest value taken on this graph regards the 2005-2008 measure of Latvia, when 14.8% of mid-class people fell into poverty. During the following four years this declined to 9.5% and then further to 8.7% by 2018. In Lithuania this measure between 2005 and 2012 is relatively stable around 4.7% but then by 2018 it increased to 7.8%. With regards to Spain an opposite pattern in tendency is distinguishable, where the 2005-2012 value is around 12.3% and then by 2018 decreases to 7.8%.

In the Bruxelles-Capitale region of Belgium, the percentage of the mid-class experiencing transition into poverty equalled 11.4% in 2018, while in the region of Vlaams Gewest it only was 4.5%. Similarly, big intra-country differences are observable for Italy, where in the Sud region the above outlined value is 10.1% while in the Nord-Est region it is merely. 3.7%.

Figure 1.5.3 reflects the same measure as Figure 1.5.1, however, only for the urban young aged 15-29. The ordering of the countries changed somewhat. Probably the most striking difference is demonstrated by Denmark, where in the period of 2005-2008, 12.5% of the mid-class urban youth fell into poverty, while this was only 3.7% regarding the population as a whole (Figure 1.5.1). Values regarding periods before and after hand reflect changes in the same direction when comparing the youth to the whole population.

In the Canarias region of Spain, the share of mid-class urban youth falling into poverty between 2012-2018 declined by 16.3 percentage points, while in other regions of Spain such measures declined as well, though less in magnitude. Intra-country regional differences were substantial in Poland, where in the region of Wschodni this share of urban youth falling into poverty fell by 9.4%, while in Wschodni, it increased by 8.4% between 2012 and 2018.

In Figure 1.5.5, one can see how the mid-class urban youth falling into poverty relates to the economically active population falling into poverty. Values less than 100% represent countries where the youth is relatively less vulnerable, whereas those exceeding 100% correspond to countries where the mid-class urban youth transitioning into poverty is greater than the same regarding the active age population. As such, in the majority of the countries, namely Czech

Republic, Italy, Greece, Austria, Lithuania, Spain, Belgium, the Netherlands, France, Finland, Sweden and Denmark, in the period between 2015 and 2018 relatively more mid-class urban youth fell into poverty, than the relevant country's active age population. Though the latest examined period data is missing for Portugal, Slovakia and the United Kingdom, most of the data points are similar in magnitude regarding the three distinct periods. This meaning, that the share of middle-class urban youth experiencing transition into poverty relative to the active age population in the EU member states was roughly stable over time. Exceptions include Denmark, where the values regarding 2005-2012 are extremely high reaching 300% - meaning that the share of youth transitioning into poverty is approximately three times the share of active age population falling into poverty -, while it decreased by 2018 to 256.1%.

Figure 1.5.1. Share of middle-class experiencing transition into poverty in EU member states

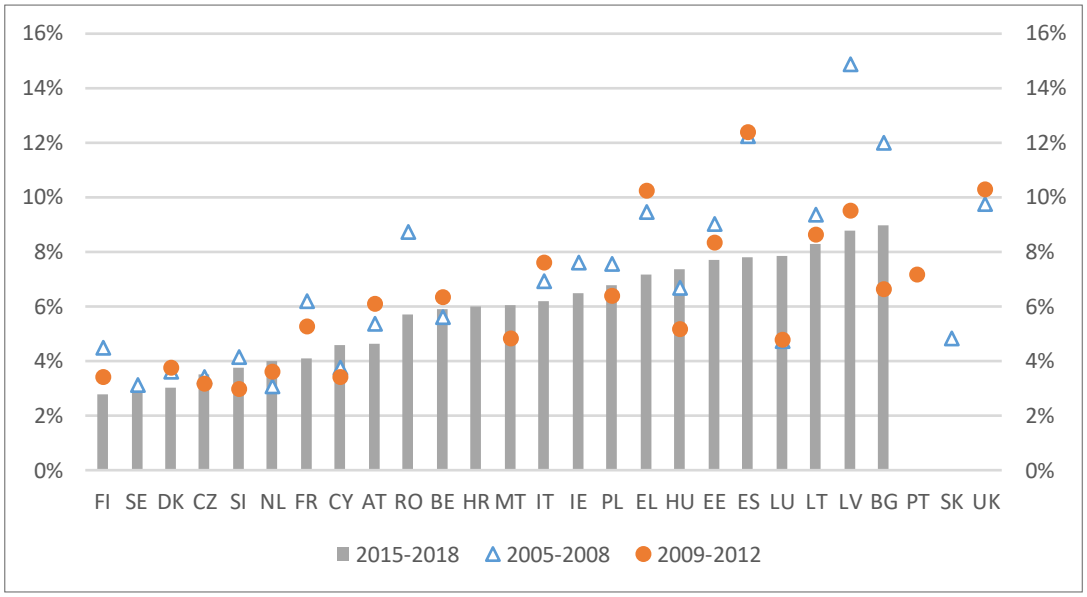


Figure 1.5.2 Share of middle-class experiencing transition into poverty in regions of the EU

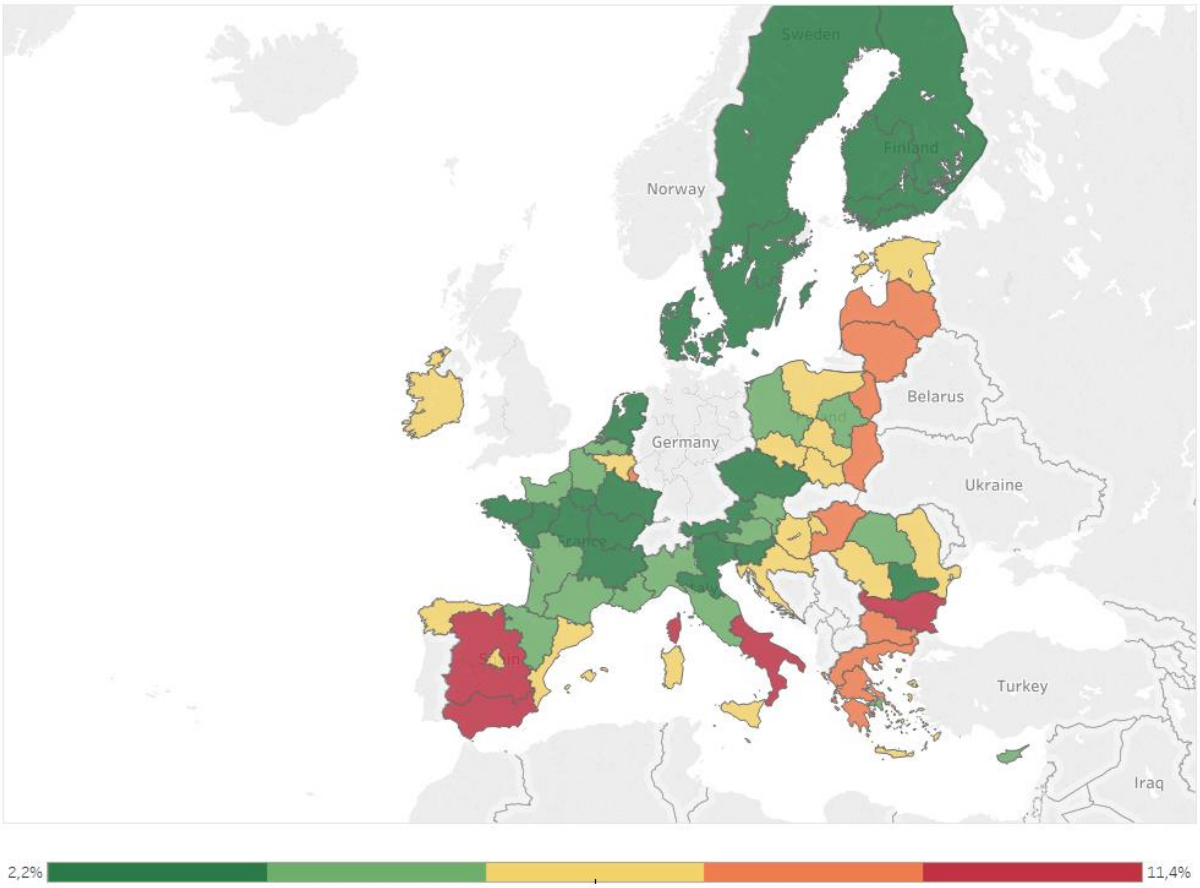


Figure 1.5.3. Share of urban young (aged 15-29) middle-class experiencing transition into poverty in EU member states

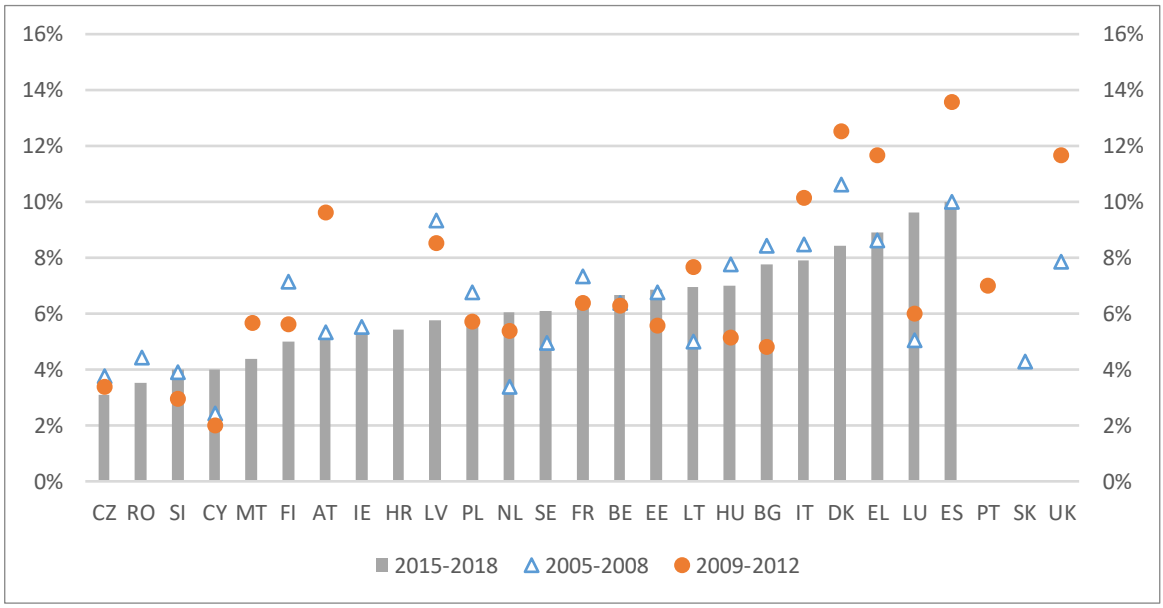


Figure 1.5.4. Point change in the share of urban young (aged 15-29) middle-class experiencing transition into poverty in regions of the EU

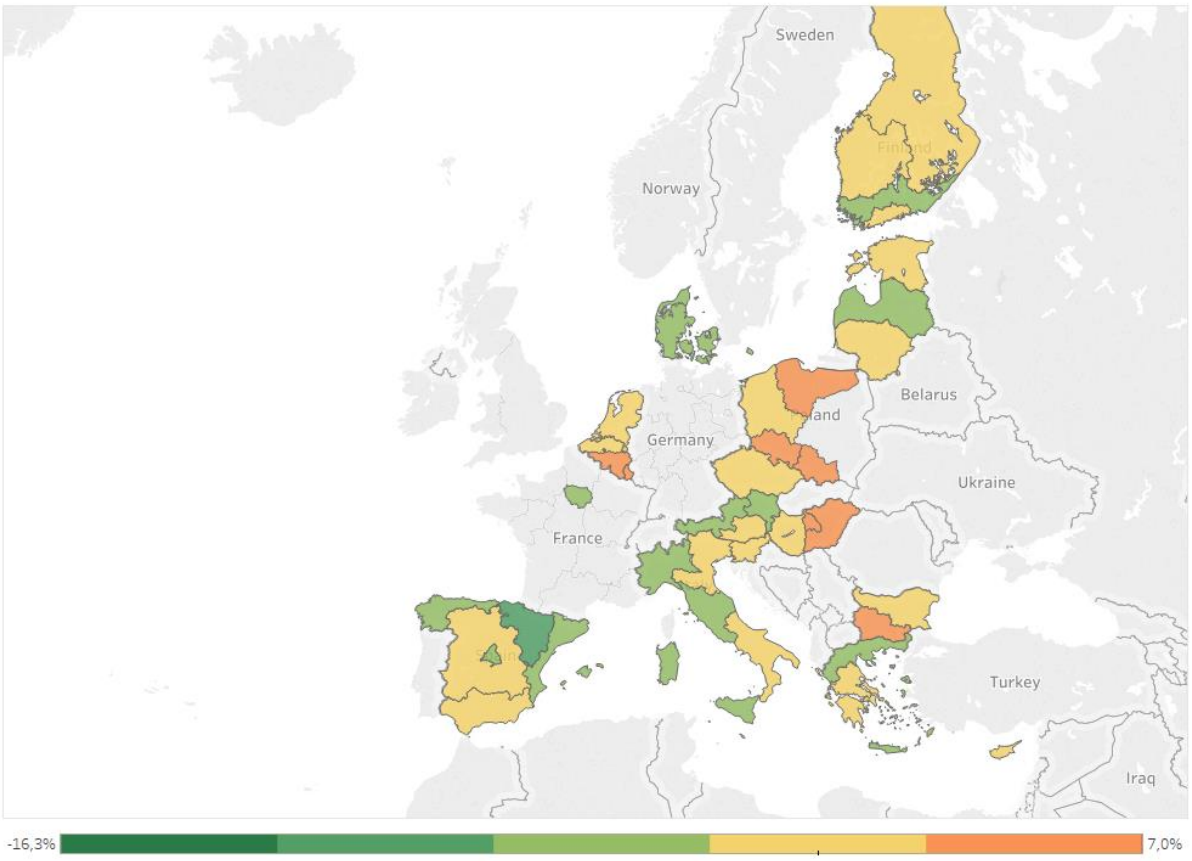


Figure 1.5.5. Share of urban young (15-29) middle-class experiencing transition into poverty relative to the active age (aged 15-64) in EU member states

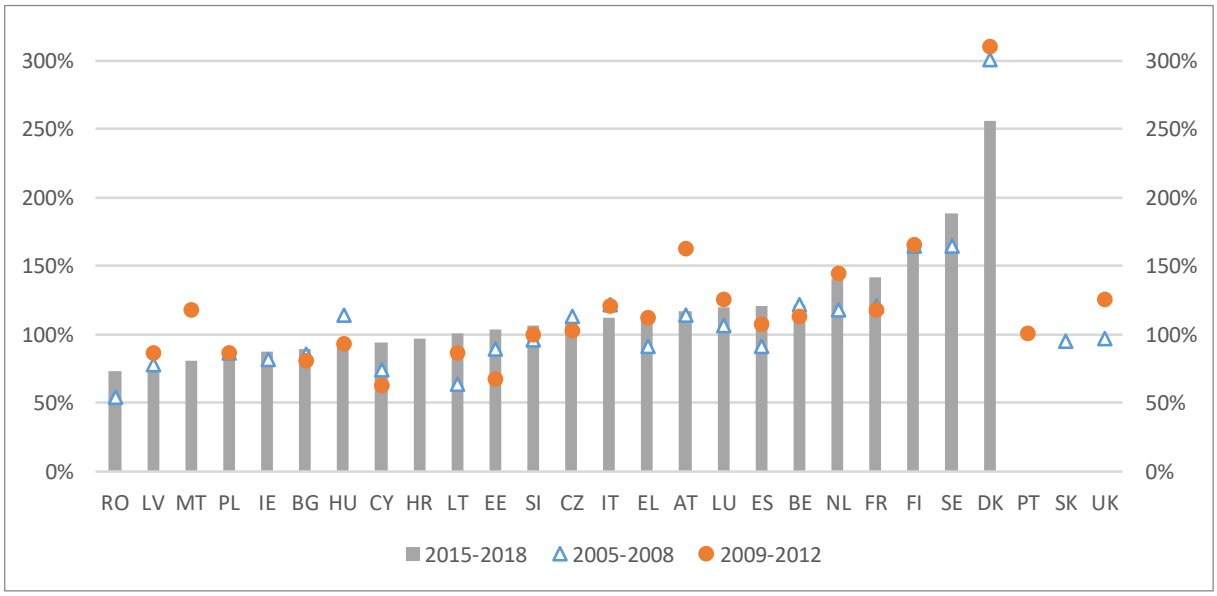
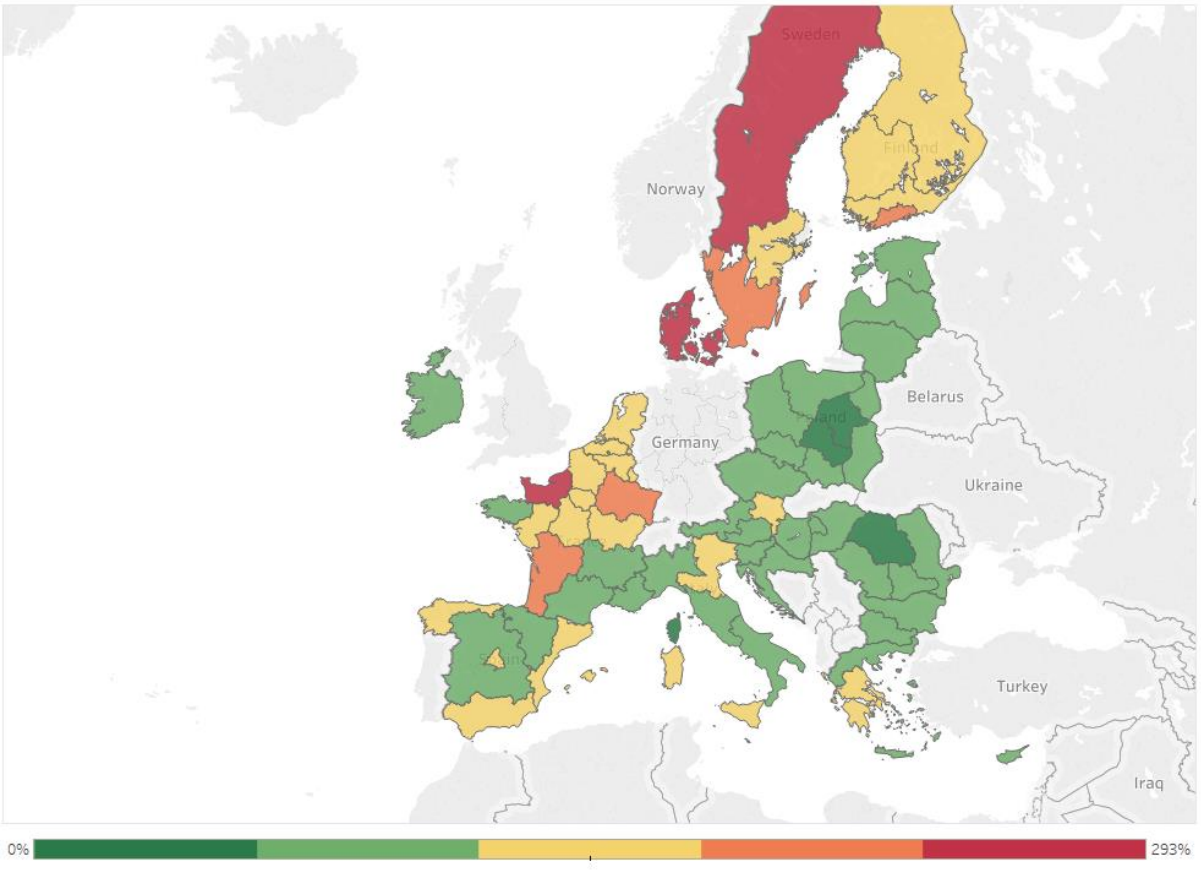


Figure 1.5.6. Share of urban young (15-29) middle-class experiencing transition into poverty relative to the active age (aged 15-64) in regions of the EU, 2015-2018



5.2 Education

5.2.1 Early leavers from education and training

As shown in Figure 2.1.1, there is considerable variation in the share of early leavers from education and training aged 15-24 between EU member states[3], based on EU Labour Force Survey data. As of 2018, most EU member states have relatively small shares of early leavers (below 10%). However, a small number of countries have noticeably larger shares, in excess of 10%. Malta, Spain and Romania stand out with percentages around 15%. There is also another distinct group with shares of between 9 and 12%: Italy, the United Kingdom, Estonia, Hungary and Bulgaria. For the remaining countries, there is a gradual difference in the share of early leavers from just over 8% in Portugal and Denmark to under 4% in Slovenia, Poland, Lithuania, Greece and Croatia. In terms of trends in the share of early leavers since 2007 and 2012, there has been general decline in the share in most countries, although there are a few exceptions. Particularly large declines in the percentage of early leavers from education and training were observed in Portugal, Spain and Malta. Other noticeable declines in the share were observed in Latvia, Ireland, Luxembourg and Greece; however, this was from a lower initial share in 2007. Croatia, Slovenia, Poland, the Czech Republic and Sweden saw comparatively little change in the percentage early leavers. Meanwhile Hungary (from 2007) and Slovakia, Denmark and Estonia (from 2012) saw slight increases in the share of early leavers.

In Figure 2.1.2, it is apparent that there are differences in the share of early leavers from education and training aged 15-24 between regions (NUTS 1 or 2) within EU member states (plus Iceland, Switzerland and Norway), according to 2018 EU Labour Force Survey data. This is especially the case in France, Spain, Italy, the United Kingdom, Hungary, Slovakia, Romania and Bulgaria. The region with the highest share of early leavers from education and training was Corsica, France, with 28.6%. The region with the lowest share was Cantabria, Spain, with 0.7%. The largest difference between regions within a country was in France (26.5%) between Corsica (28.6%) and Auvergne (2.1%), while the smallest difference between regions within a country was in Slovenia (0.3%) between Western Slovenia (3.8%) and Eastern Slovenia (3.5%).

The share of early leavers from education and training aged 15-24 in urban areas in different EU member states is shown in Figure 2.1.3. As can be seen, it is broadly similar to shares observed for countries as a whole. The only countries with distinct differences in shares between urban areas and the country as a whole for 2018 are Romania, Bulgaria and Hungary. As for the whole country data, in urban area there has been a general decline in the share of early leavers from education and training since 2007 and 2012. Exceptions include Latvia, Croatia, Poland, Slovenia, the Czech Republic, Sweden, Denmark, Hungary and Romania, which have seen little change, and Estonia and Slovakia, which have seen increases since 2012. Additional discussion of the share of early leavers from education and training in urban areas

3 Includes the United Kingdom, which was an EU member when the data was collected.

accompanies Figure 2.1.5, which presents the share of early leavers in education and training for urban areas relative to the share for the whole country.

In Figure 2.1.4, there are clear differences in the percentage point (pp) change between 2012 and 2018 in share of early leavers from education and training aged 15-24 in urban areas between different European regions. While most regions have experienced slight increases or decreases in the share of early leavers (less than 2 pp, some regions have seen significantly larger decreases. For example, Hainaut in Belgium; the Ionian Islands and Eastern Macedonia and Thrace in Greece; Cantabria, La Rioja, Extremadura, the Balearic Islands and Murcia in Spain; Hedmark and Oppland, South Eastern Norway, Agder and Rogaland, and Trøndelag in Norway; and North Region, Central Region and Madeira in Portugal all had declines in the share of early leavers of over 8 percentage points between 2012 and 2018. Also, there were a small number of regions that observed a distinct increase in the share of early leavers: the Northwest region in the Czech Republic; the Autonomous City of Melilla in Spain; Åland in Finland; Northern Hungary and Northern Great Plain in Hungary or South-West Oltenia in Romania. There is also considerably variation in the percentage point change in share between regions within countries: a 0.3 pp increase in East Flanders and an 8.5 pp decrease in Hainaut in Belgium, 6.6 pp increase in the Northwest region and a 1.2 pp decrease in Central Moravia in the Czech Republic, or a 7.0 pp increase in South-West Oltenia and a 3.9 pp decrease in the North-West region in Romania.

For most EU member states, the share of early leavers from education and training aged 15-24 in urban areas relative to the share for the whole country is around 100% or slightly higher or lower (Figure 2.1.5). However, there are some countries that show much greater differences in the shares of early leavers when comparing urban areas to the country as a whole. In 2018, both Luxembourg and Austria had an over 20% higher share of early leavers in urban areas compared to the country overall. Several countries also exhibited considerably lower shares in urban areas relative to the whole country. Croatia, Hungary, Lithuania and Slovakia all had shares of early leavers in urban areas that were between 60 and 80% of the share across the whole country. Bulgaria, Romania and Latvia, meanwhile, had shares in urban areas in 2018 of less than 60% of that of the country overall. For most EU members states, the share of early leavers in urban areas relative to the country as a whole has remained reasonably steady between 2007, 2012 and 2018. However, there have been some noticeable changes in some countries. Latvia saw a large decrease in the share of early leavers in urban areas compared to the whole country between 2012 and 2018. Croatia saw a considerable decrease between 2007 and 2012, while Slovakia saw a decrease between 2007 and 2012, followed by a (smaller) increase from 2012 to 2018. Luxembourg has seen a large increase between 2007 and 2012, while Lithuania has seen a distinct increase since 2012. In Slovenia, a substantial decline in the share in urban areas relative to the whole country between 2007 and 2012 was followed by a similar increase between 2012 and 2018.

Figure 2.1.6 shows the share of early leavers from education and training aged 15-21 in urban areas in European regions in 2018 relative to the share across the whole region. For most

regions, the share in urban areas is similar to that of the region as a whole, as indicated by the regions coloured yellow. However, there are several regions where the share in urban areas is considerably different to the share across the region overall. For example, Walloon Brabant in Belgium (131.6%); the Southeast region in the Czech Republic (135.7%); Thuringia in Germany (131.2%); Åland in Finland (198.1%); Centre-Val de Loire, Upper Normandy, Languedoc-Roussillon in France (133.1%, 140.5%, 134.4%); and the Northern and Western region in Ireland (160.4%) all have much higher shares of early leavers from education and training in urban areas relative to the region overall. Meanwhile, the Northwestern, Northern Central and Northeastern regions of Bulgaria (37.0%, 47.2% and 32.2%, respectively); Crete, Epirus and the Ionian Islands in Greece (46.5%, 19.7% and 28.0%, respectively); and the North-West, Central and West regions in Romania (26.0%, 25.2% and 48.5%, respectively) all have shares in urban areas which are less than half that of the region as a whole. There are also some noticeable differences between regions within countries: 131.6% (Walloon Brabant) and 66.2% (Namur) in Belgium, 135.7% (Southeast region) and 69.8% (Northeast region) in the Czech Republic, 127.9% (Northern Aegean Region) and 19.7% (Epirus) in Greece, 198.1% (Åland) and 69.2% (West Finland) in Finland, 121.7% (Western Transdanubia) and 56.5% (Southern Transdanubia) in Hungary, 121.7% (Mazovia) and 57.4% (Lesser Poland) in Poland, 106.2% (Bucharest-Ilfov) and 25.2% (Central region) in Romania, 127.7% (Bratislava) and 56.9% (Eastern Slovakia) in Slovakia, 140.5% (Upper Normandy) and 64.5% (Lorraine) in France and 160.4% (Northern and Western region) and 89.8% (Southern region) in Ireland.

Figure 2.1.1. Share of early leavers from education and training (15-24 age group) in EU member states

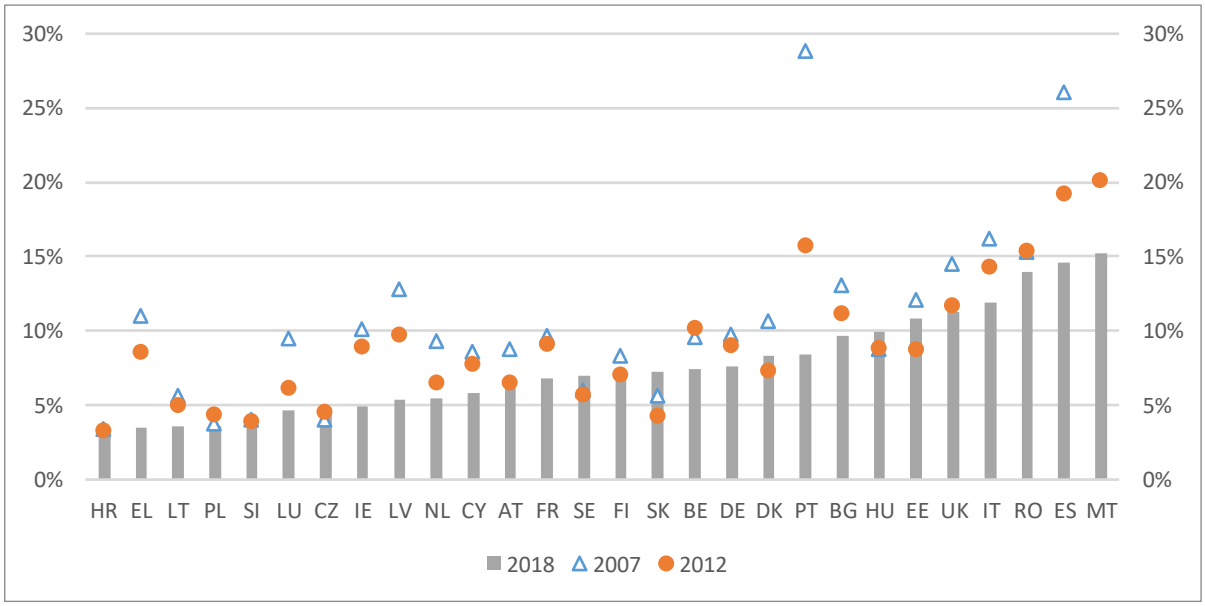


Figure 2.1.2. Share of early leavers from education and training (15-24 age group) in regions of the EU, 2018

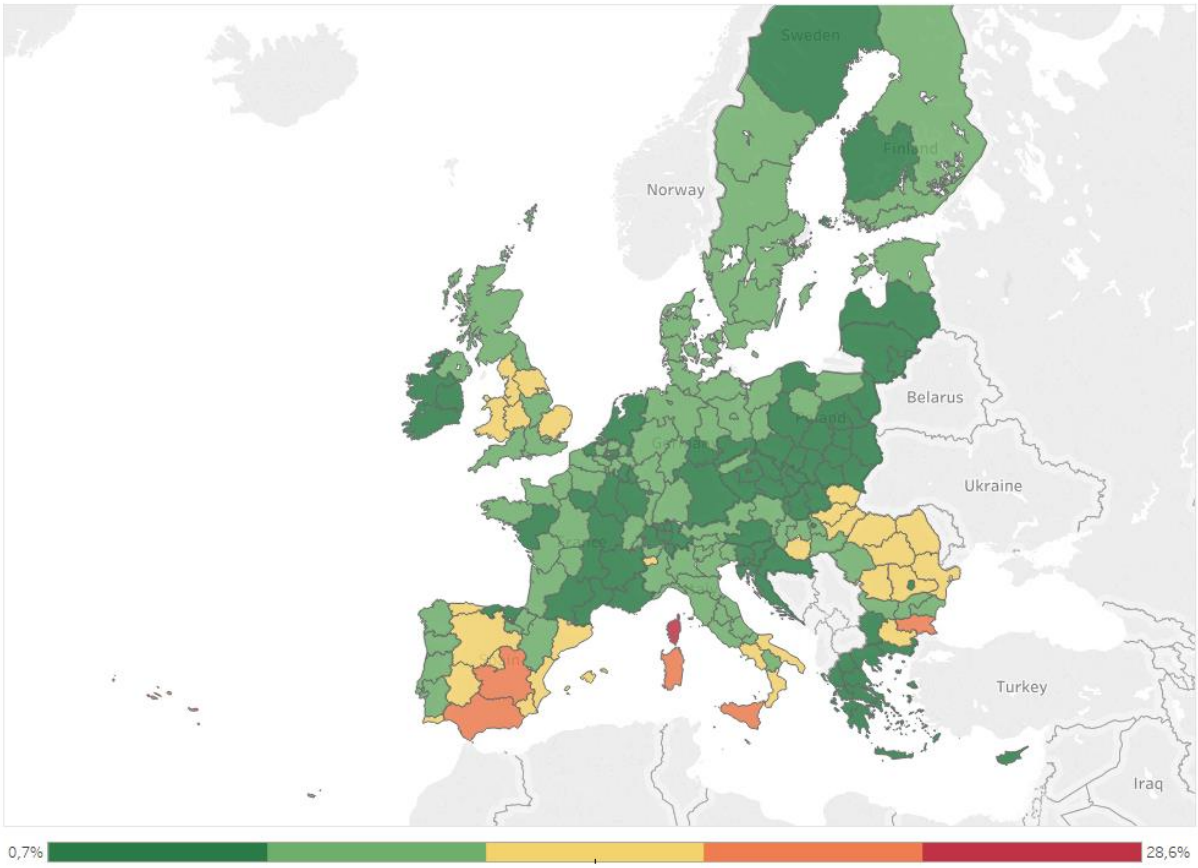


Figure 2.1.3. Share of early leavers from education and training (15-24 age group) in urban areas of EU member states

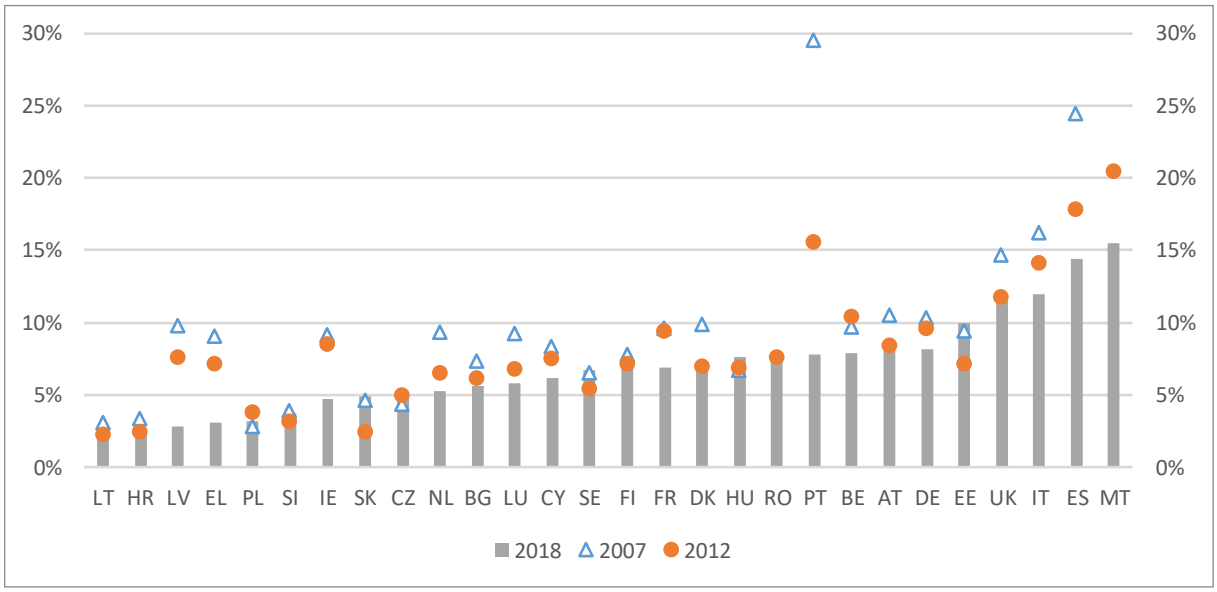


Figure 2.1.4. Point change in share of early leavers from education and training (15-24 age group) in urban areas of regions of the EU, 2012-2018

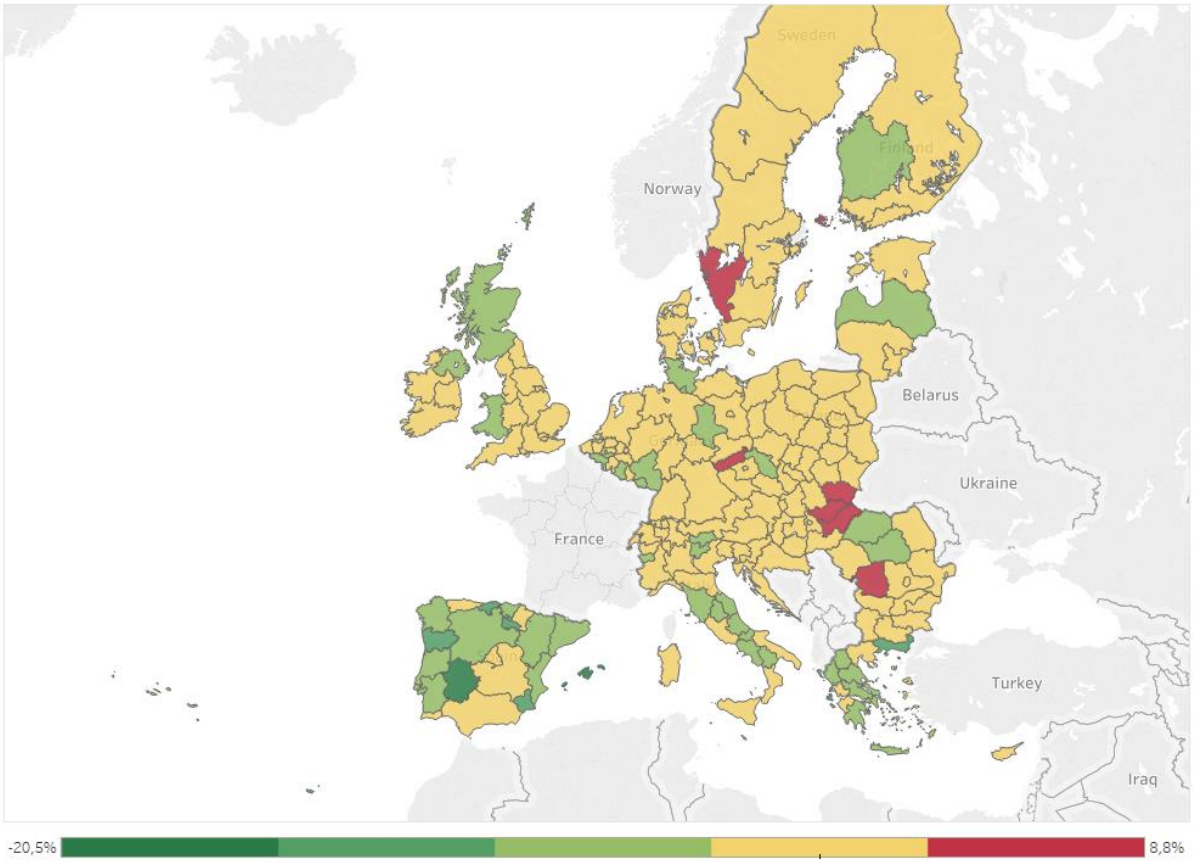


Figure 2.1.5. Share of early leavers from education and training (15-24 age group) in urban areas relative to all those aged 15-24 in EU member states

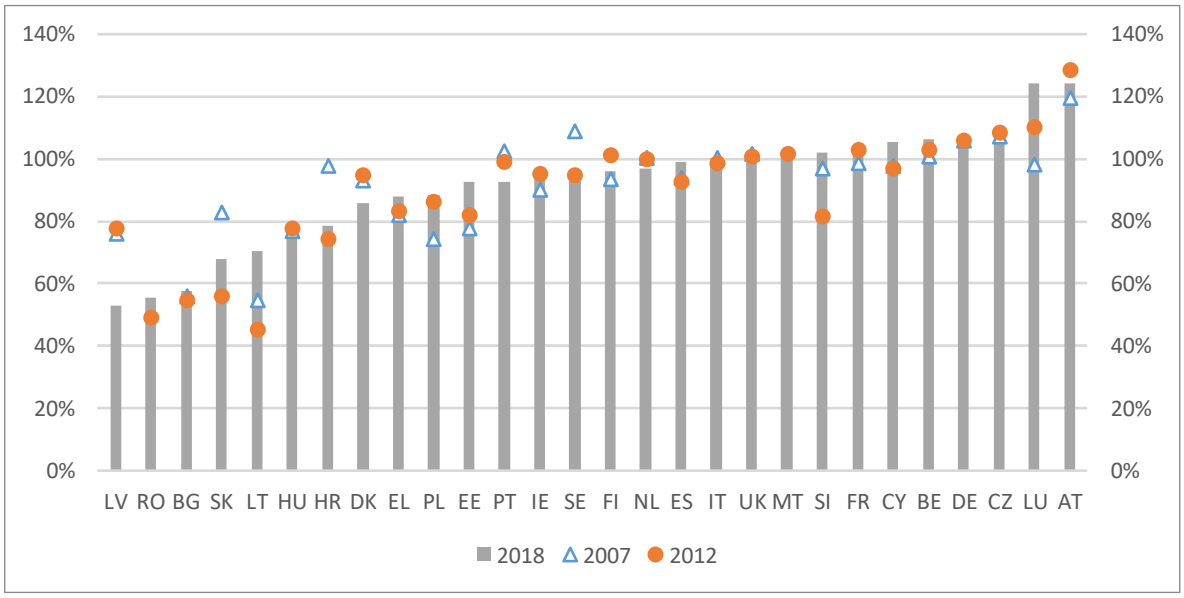
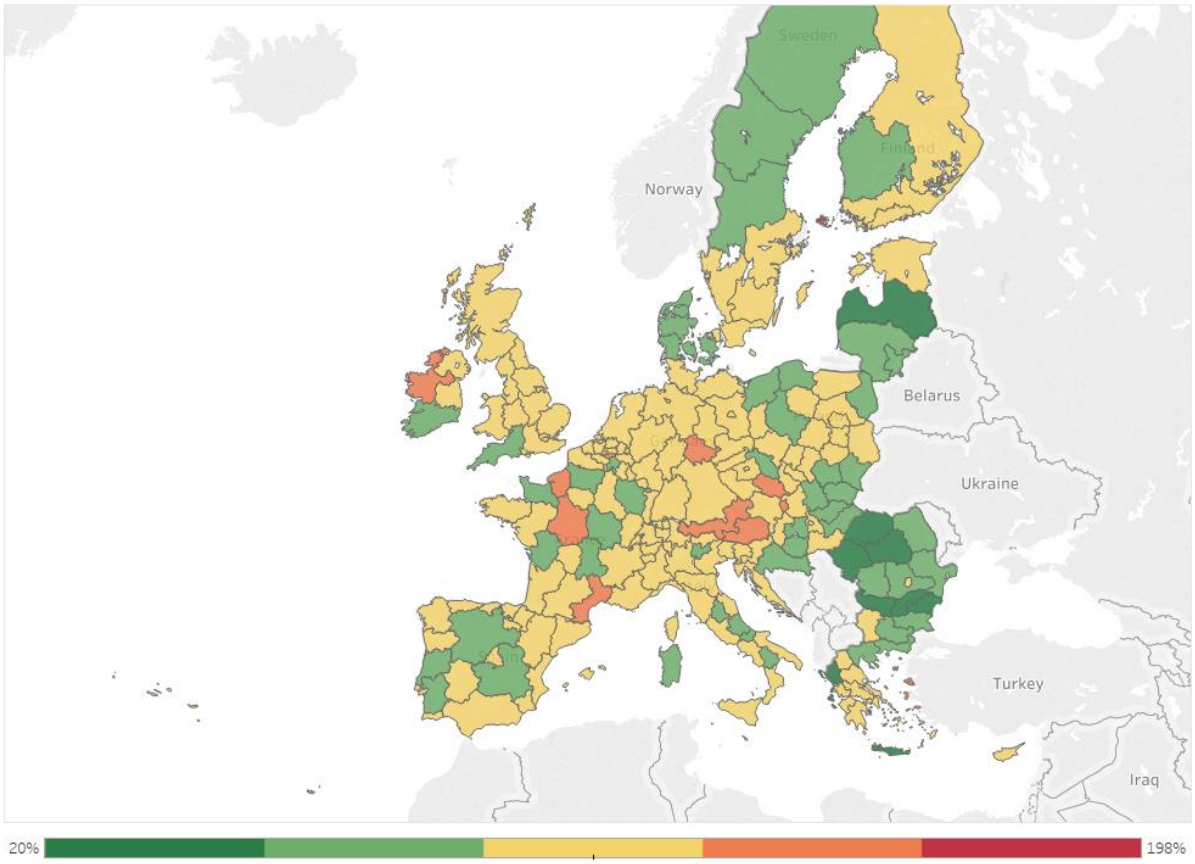


Figure 2.1.6. Share of early leavers from education and training (15-24 age group) in urban areas relative to all those aged 15-24 in EU regions, 2018



5.2.2 Indicator of educational immobility

The measure of intergenerational educational immobility used here - the odds ratio of educational immobility - is based on the difference in the probability of children having tertiary degree between those with a tertiary educated father and those with a father not having a tertiary diploma. An odds ratio equal to one means no inequality in opportunities, that is, equal chances of having a tertiary diploma among individuals with different levels of parental education. Higher odds ratios mean stronger inequality of opportunity in intergenerational educational mobility. In 2011 the weakest effect of parental education on child's probability to obtain tertiary education can be observed in Finland, Estonia, Germany, the Netherlands, Sweden, Denmark etc. (Figure 2.2.1). Highest inequality of educational opportunities was registered in Romania, Portugal, Luxembourg, Bulgaria, Italy and Hungary. Regional differences show significant differences between regions in Romania (Figure 2.2.2). Some regional differences can also be observed in Bulgaria, Italy, Poland and Portugal.

In the case of this indicator the group of young had to be enlarged to the age group between 15 and 35 in order to increase sample size for the urban youth. The odds ratio of educational immobility among the urban youth (Figure 2.2.3) and its relation to active age (Figure 2.2.4) shows that in 2011 the youth had better opportunities for educational mobility in relation to the entirety of active age people in all countries, except in the case of the Netherlands. In the case of the Netherlands this could be due to having highly qualified older generations, relative to which intergenerational mobility is indeed low, as there is not much room for improvement in terms of educational attainment levels regarding their offspring. In some countries where the educational mobility opportunities for total population were low (e.g. Romania, Italy, Hungary, Cyprus) the opportunities for the youth were much better (see in Figure 2.2.4). Overall, educational mobility opportunities for the youth were much better in most countries in relation to active age. This is true also for some countries that had better educational opportunities for the total population as well (e.g. Finland, Estonia, Slovenia, Latvia).

Figure 2.2.1. Odds ratio of educational immobility in EU member states, total population, 2011

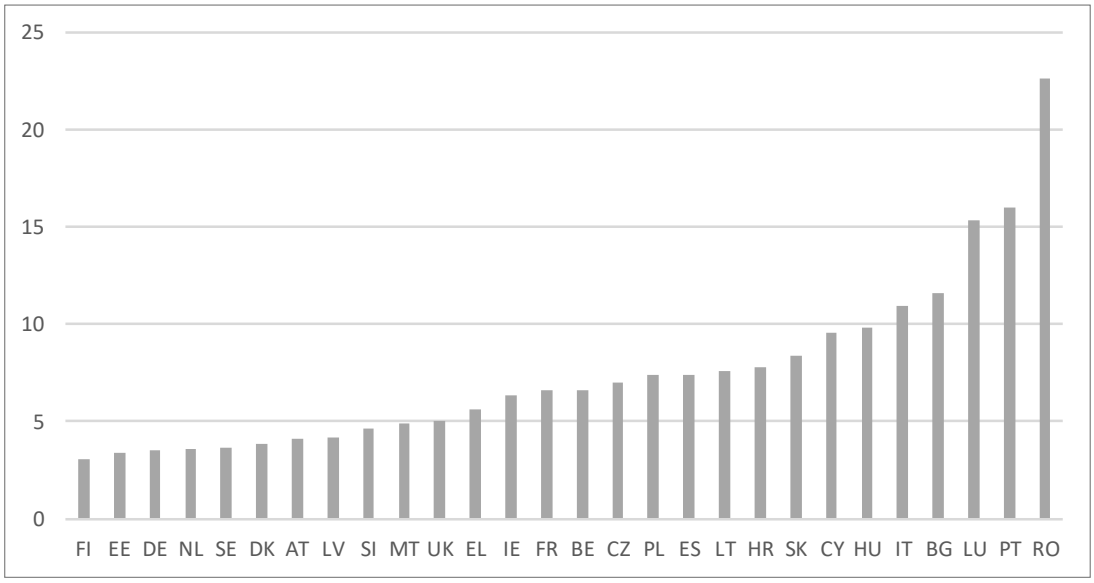


Figure 2.2.2. Odds ratio of educational immobility in regions of the EU, 2011

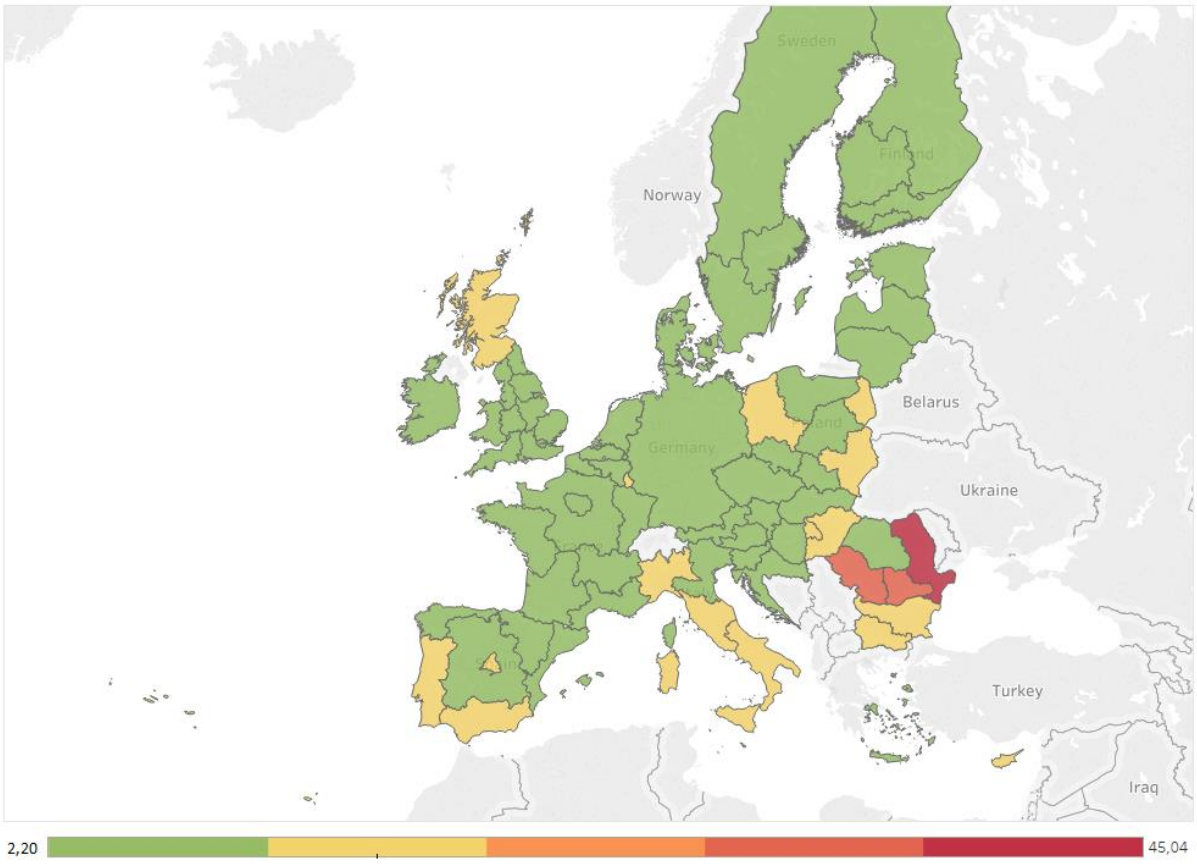


Figure 2.2.3. Odds ratio of educational immobility among urban youth (aged 15-35) in EU member states, 2011

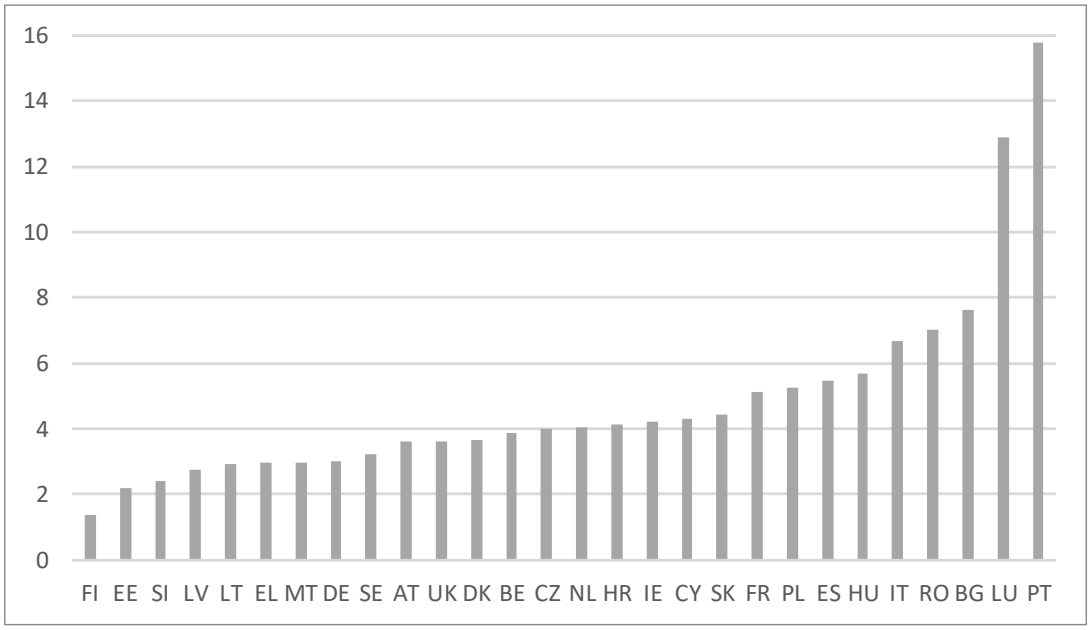
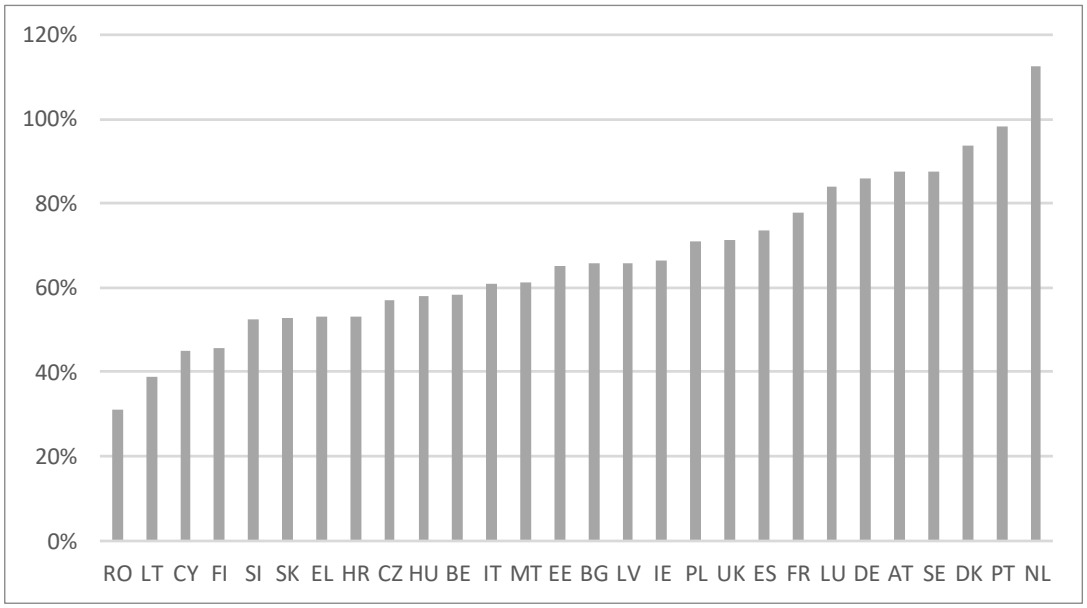


Figure 2.2.4. Odds ratio of educational immobility among urban youth (15-35) relative to the active age (aged 15-64) in EU member states, 2011



5.3 Labour market

5.3.1 The unemployment rate

Figure 3.1.1 shows unemployment rates for the EU member states for three years: 2007, 2012 and 2018. One general tendency this figure reveals is that in all but one of the countries (Germany in the exception) the 2007 unemployment rate lies below the 2012 rate. Then, in the majority of the countries, the unemployment rate by 2018 decreased as compared to the situation in 2012 – grey bars range below the orange dots. This is the case for all of the countries except for Austria and Lithuania. Such variation in the unemployment rate is likely observed as an aftermath or the global financial crisis, when after 2008, most of countries under investigation entered a recession of varying severity. By 2018, European economies seem to have more or less stabilised. Those with the highest unemployment rates relative to the others are Greece, Spain, Italy, Cyprus, Croatia; those with the lowest are Czech Republic, Germany, Malta, Hungary, the Netherlands, Poland.

Figure 3.1.2 depicts unemployment rates in regions of the EU member states in 2018, graphically. Looking at this map, one can tell that in most welfare states of Europe such as the United Kingdom, Germany, the Netherlands, Belgium, France or Austria, only dark and light green colours are detectable - indicating relatively low unemployment rates – with some slight regional differences present, for example in France. Higher unemployment rates are observed in Southern European countries: Spain, Italy and Greece. Intra-country regional inequality measured by the unemployment rate is much more prominent in these latter set of countries. In Spain, in the region of País Vasco, the corresponding unemployment rate amounts to 0.1%, while in Ciudad Autónoma de Ceuta, it is 0.31%. Regarding Italy, similar magnitudes of regional differences are emergent. In the northern province of Provincia Autonoma di Bolzano/Bozen, the unemployment rate is only 0.03%, while in the very southern province Calabria, it is 0.22%. While in Spain and Italy there is a notable trend of vast differences among regions, in Greece, most of the regions have relatively higher unemployment rates across all regions.

Figure 3.1.3 represents the same as Figure 3.1.1, though only for the urban youth now, for those aged 15-29. If we compare these two graphs, it is visible that the ordering of the countries did not change much, pointing on the fact that the relative positions of countries remains stable across different age groups analysed. The tendency of having a lowest 2007 measure, a high 2012 one and a third levelling in between these aforementioned two relevant to 2018 prevails on this graph also for many countries. However, the range of the unemployment rates on the vertical axis rocketed on Figure 3.1.3 relative to those on Figure 3.1.1. If focusing on the 2012 values, we see a big variation in unemployment rates. Regarding the population aged 15-74 in Greece, the unemployment rate was 24.4%, among the urban youth it was 43.5%. To give other two examples, in Spain these two measures relate as 25.2% to 41.5% and in Croatia 15.9% to 32.8% when comparing Figure 3.1.1 and Figure 3.1.3 values respectively. This analysis suggests that the financial crisis has impacted the urban youth much stronger as measured by unemployment rates relative to the economically active part of the

population. Furthermore, a great inter-country variation of unemployment rates is present, ranging from 0.05% in Czech Republic to 0.32% in Greece in 2018.

Figure 3.1.4 demonstrates the point change in the unemployment rate among the urban young population aged 15-29 in regions of the EU between 2012 and 2018. Shades of green point to decreasing unemployment rates, while yellow and orange refer to increasing ratios of unemployed people. In regions of Hungary, Slovakia or the Czech Republic, there is a strong decreasing tendency of the unemployment rates, covering the whole entity of the countries. On the contrary, in Austria, Spain, Italy or Greece different magnitudes and directions of changing unemployment rates are observable. In East Austria, unemployment rates have increased by 0.005, in South Austria have decreased by 0.006 percentage points between 2012 and 2018. In Extremadura region of Spain rates have increased by 0.03 percentage points, while in Andalúcia they have decreased by 0.17 percentage points. To sum up, there are big differences in trends and magnitudes of shifts in the unemployment rate across the diverse regions of the EU member states.

Figure 3.1.5 shows unemployment rates among the urban youth relative to the economically active population's unemployment rate in the EU member states. This picture somewhat confirms those deductions outlined above, when examining Figure 3.1.3 and its relation to Figure 3.1.1. Except for the 2018 unemployment rate of Lithuania, all values on this figure show values over 100%. This means, that in all EU countries in all the years examined, unemployment rates relevant to the urban youth exceed those regarding the population aged 15-74. This matter of fact should be paid attention to from perspectives of policy makers. From this graph, it is further clarified, that the relative (large) differences in unemployment rates in the different years on Figures 3.1.1 and 3.1.3 are stable over time and for this end, we see rather similar ratios on this graph when confronting measures from different years.

On Figure 3.1.6, values represented in Figure 3.1.5 are illustrated across the different regions studied, for 2018. Darker green coloured regions are the ones, where the unemployment ratio among the urban youth relative to the unemployment ratio prevalent for the economically active population is relatively low. In these regions, there is no big disparity between unemployment rates of the two distinctly identified groups of the population, while in regions coloured light green or yellow, the unemployment rate regarding the youth is higher. Most of the countries show some intra-country regional differences. In Germany and the United Kingdom, the biggest variation in the outlined ratio between regions is 70%. This is present between the German regions Berlin (lowest) and Schleswig-Holstein highest), as well as between the English regions Northern Ireland (lowest) and North East England (highest). Within the Czech Republic, prevailing regional differences are even higher. The ratio in question regarding the region of Jihozápad is 135%, while the same of Střední Morava is 367%, rendering an enormous difference of 232% between these two regions.

Figure 3.1.1. The unemployment rate in EU member states

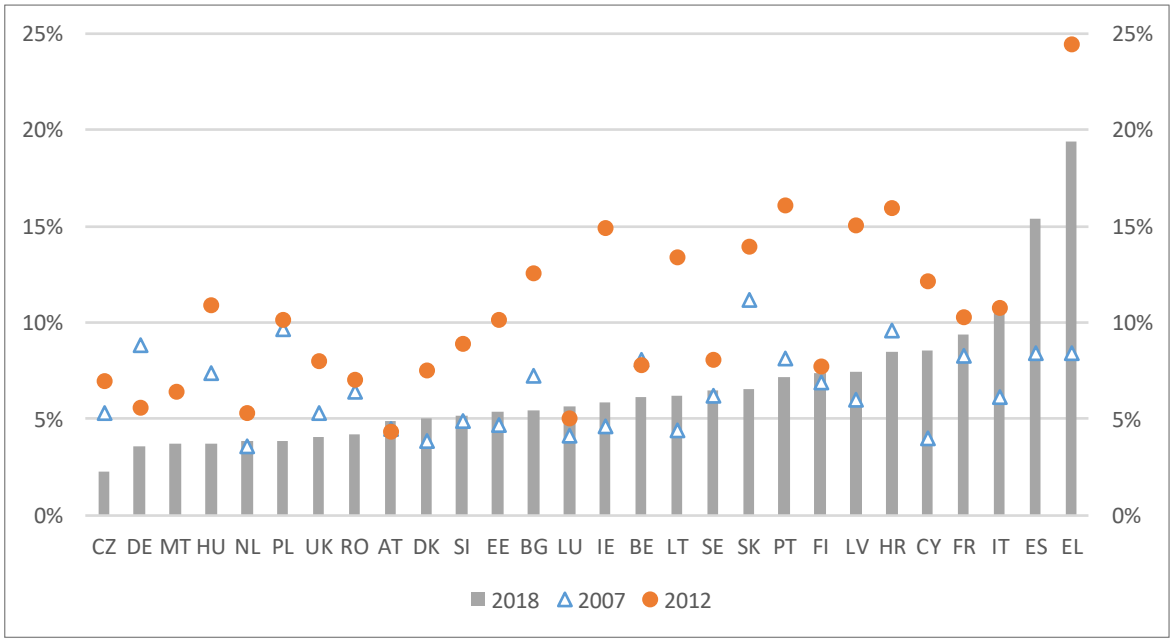


Figure 3.1.2. The unemployment rate in regions of the EU, 2018

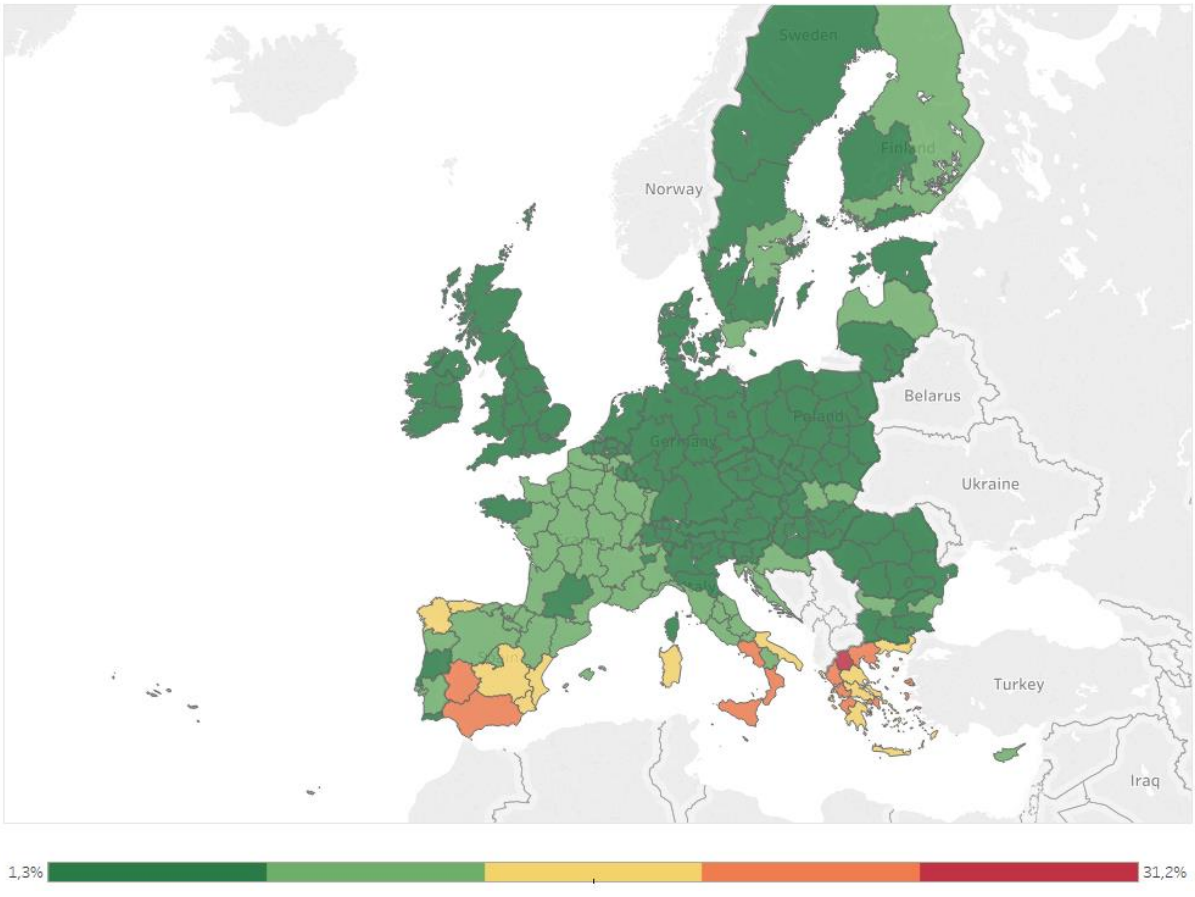


Figure 3.1.3. The unemployment rate among urban youth (aged 15-29) in EU member states

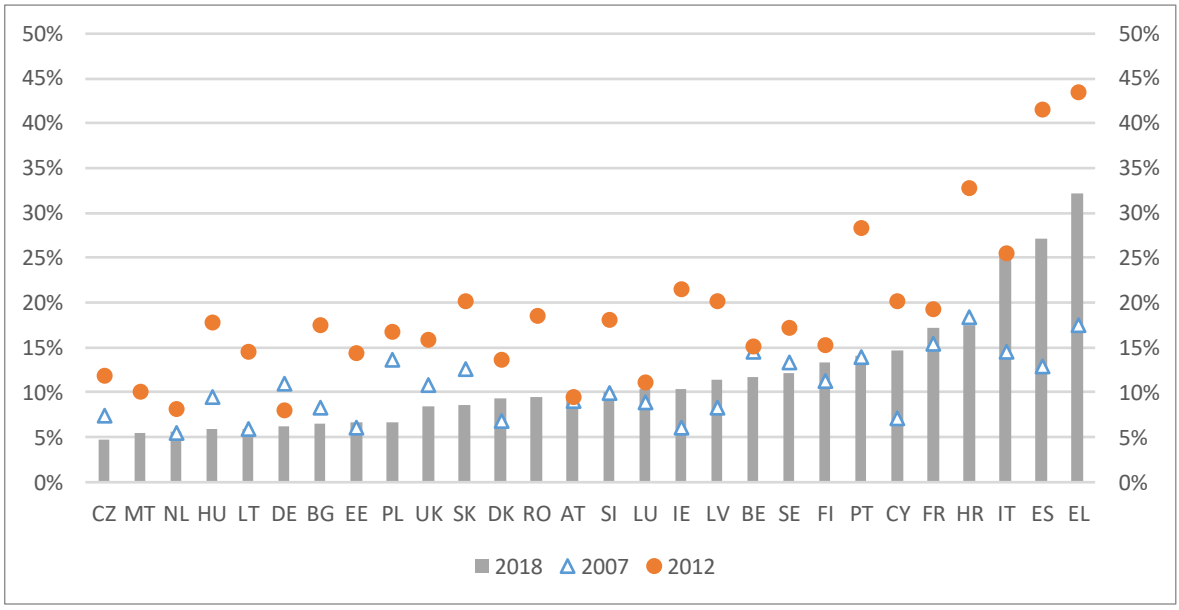


Figure 3.1.4. Point change in the unemployment rate among urban young population (aged 15-29) in regions of the EU, 2012-2018

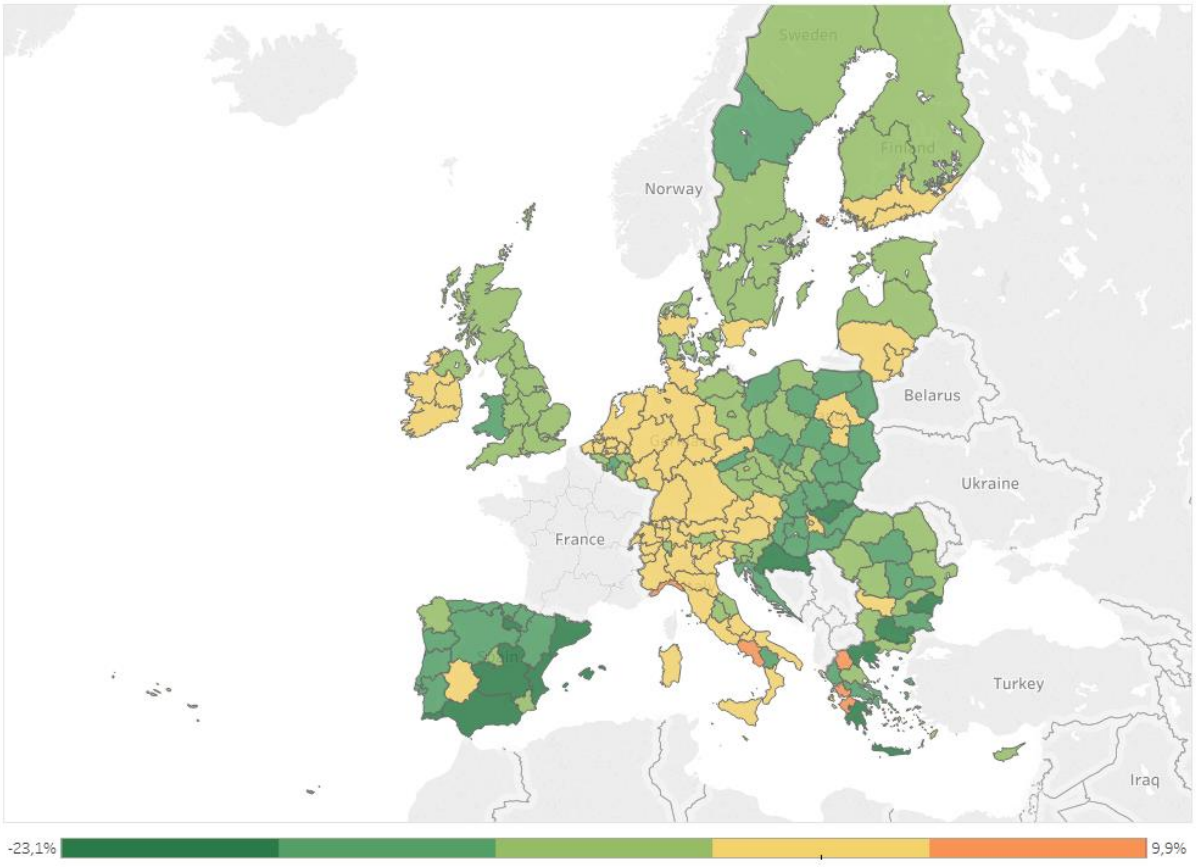


Figure 3.1.5. The unemployment rate among urban youth (15-29) relative the unemployment rate among the active age (aged 15-74) in EU member states

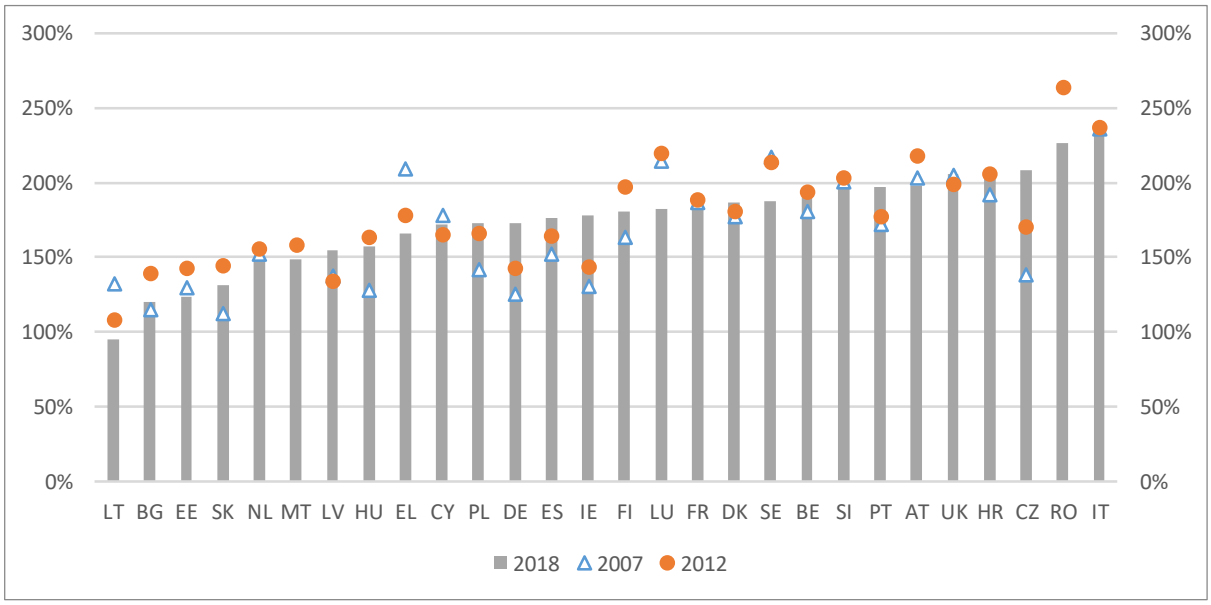
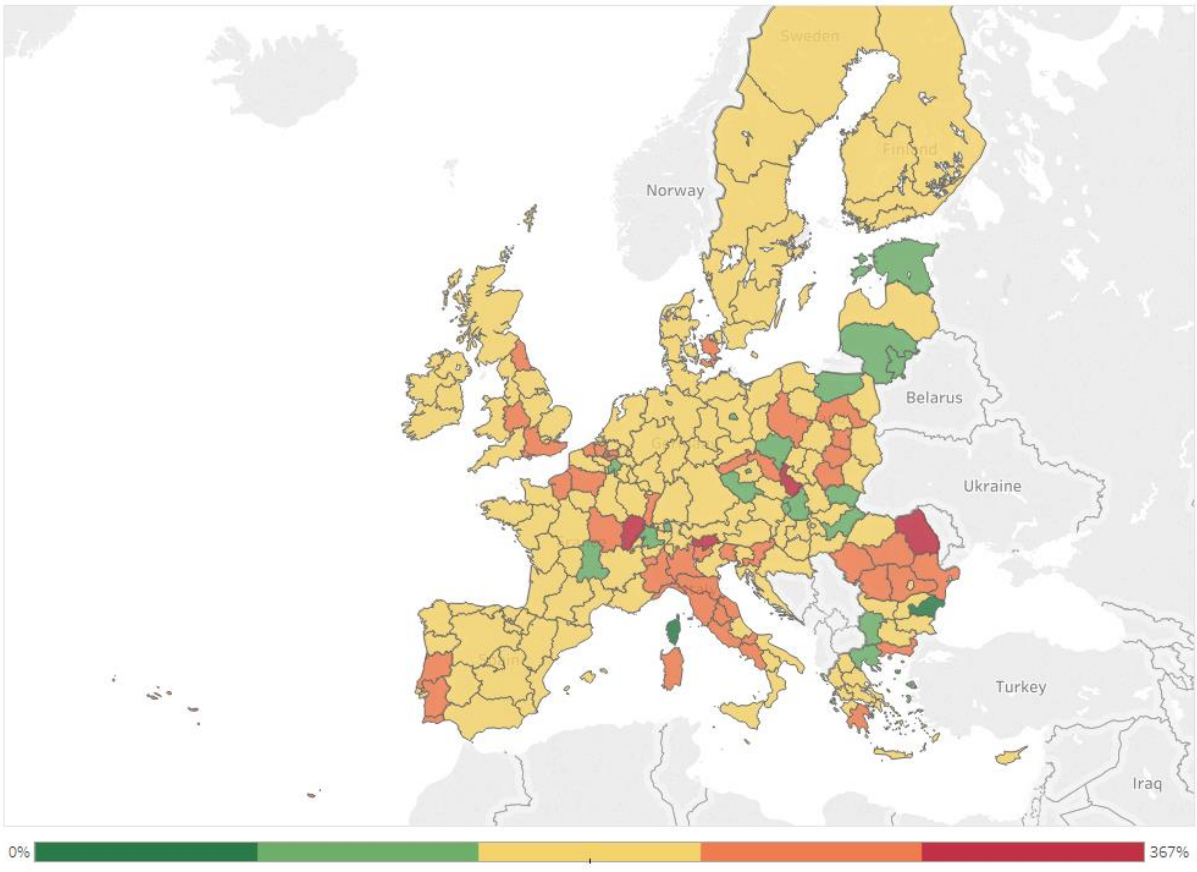


Figure 3.1.6. The unemployment rate among urban youth (15-29) relative to the active age (aged 15-74) in EU regions, 2018



5.3.2 NEET (not in education, employment or training) indicator

The NEET rate serves as a broader measure of potential youth labour market entrants than youth unemployment, since it also includes young persons outside the labour force not in education or training. By including both the unemployed and the inactive non-student youth this measure provides a broader conceptualization of youth suffering labour market exclusion or marginalization.

Figure 3.2.1 presents the NEET rate regarding the youth aged 15-29 for all 28 EU member states for the years: 2007, 2012, 2018. Countries with the highest NEET rate based on the 2018 values are Italy, Greece, Bulgaria, Romania, Cyprus, Croatia, Spain and Slovakia. Those with the lowest are the Netherlands, Sweden, Malta, Lithuania, and Germany. To give a numerical example, in 2018, in Italy, 23.4% - almost one fourth - of the youth aged 15-29 was outside the labour force - not in education, employment or training. A similar tendency as that was observable for the unemployment rate is present here, whereby the 2018 measure lies above that of 2007 and below that of 2012. In absolute terms, however, these rates are roughly half of the urban youth unemployment rates implied by Figure 3.2.3 from the section above.

Figure 3.2.2 displays a graphical illustration of the EU member states' NEET rate regarding the urban youth in 2018. One can immediately tell that the Southern European countries, and more specifically the southern parts of these countries have relatively high NEET rates, indicated by yellow, orange or red on the map. The highest NEET rate regarding Spain is prevalent in the region of Ciudad Autónoma de Ceuta (0.24%), in Italy in Sicilia (0.38%) and in Greece in Dytiki Makedonia (0.29%). When comparing this map to that of the youth unemployment rates, it is visible that the NEET rates are more dispersed across regions in the countries. The region with the lowest NEET analysed here in the Finnish Aland (0.02%), while the one with the highest is the Greek Dytiki Makedonia (0.29%).

Figure 3.2.3 presents NEET rates of the urban youth for EU member states for 2007, 2012 and 2018. With regards to the vast majority of the countries, 2007 values again lie below those from 2012, which then by 2018 settle at a rate usually between the aforementioned two. Therefore, aftermaths of the great financial crisis are undoubtedly noticeable when studying the urban youth as well. In dynamics, this graph mirrors quite well Figure 3.2.1, while the ordering of the countries and absolute levels of rates changed somewhat. To highlight some differences between these two figures, it is deducible that in cases of some countries, NEET rates regarding the urban youth are lower than those relevant to the total youth of respective countries. To give an example, the 2012 NEET rate of the youth population in Bulgaria was 24.5%, while the same regarding the urban youth was 19.5%. This tendency is also true for Slovakia (0.19% and 0.16%, respectively) or Hungary (0.18% and 0.16%, respectively) pointing on the fact that the urban youth seems to be more included in the labour force relative to rural areas, presumably as a consequence of greater urban opportunities.

Figure 3.2.4 displays percentage point changes in the NEET rate among the urban young population aged 15-29 in regions of the EU between 2012 and 2018. Indicated by shades of

green, regions are shown where the NEET rate relevant to the urban youth is decreasing, while orange colours mark those where is it increasing. In Spain, the United Kingdom, Slovakia, Slovenia, Sweden, Portugal, Poland, the Netherlands, Malta, Cyprus Bulgaria, Germany and Hungary, in all regions NEET rates are falling, while in Greece, Finland, Italy, Denmark, Czech Republic, Belgium, and Austria some regions show increasing, some decreasing tendencies. To give a numerical example, in the Greek region Peloponnisos, there has been a 14 pp decrease in the NEET rate between 2012 and 2018, while in Ionia Nisia a slight increase of 0.7 pp has been prevailing. Similar to Greece, in the Italian region of Basilicata, the NEET rates has been declining by 4 pp, whereas in Calabria it has been rising by 3.7 pp during the analysed period. Therefore, this figure helps to understand that although in many countries NEET rates are steadily decreasing across all regions, in several others there are big intra-country regional variations.

On Figure 3.2.5, the NEET rate among the urban young relative to the NEET rate among all the young is displayed for the years: 2007, 2012 and 2018. Many values concentrated around 100% suggest that the NEET rate among the urban youth is relatively close to that of the youth altogether. This implies that systems of education are specific to each country and this renders urban and rural NEET rates close to each other. Lower than 100% measures indicate that the ratio of those not in education, employment or training among the urban youth is lower than that prevalent to all the youth. If we assume greater chances of opportunities to enter the labour force in urban areas, this case is well-founded. However, it is probable that demographic factors, the allocation and density of cities in the different countries do play a significant role as well. Such countries, with lower than 100% measures in 2018 were Bulgaria, Lithuania, Poland, Hungary, Romania, Latvia, Slovakia, Estonia, Denmark, Greece, Croatia, Ireland, Portugal, Cyprus, Sweden and Finland. On the other hand, Figure 3.2.5 ratios exceeding a 100% mark those cases, where the NEET rate among the urban youth is higher than that among all the youth. In other words, the ratio of youth not in education, employment or raining in urban areas outstrips the same ratio regarding all the youth, including rural areas as well. One explanation for this may be overly concentrated youth in urban areas not efficiently allocated and hence left without an occupation. These countries include Italy, France, the United Kingdom, Spain, the Netherlands, Czech Republic, Malta, Belgium, Germany, Slovenia, Austria and Lithuania.

Figure 3.2.6 reveals the NEET rate among the urban young relative to the entire age group aged 15-29 in EU regions for 2018. Values below 100% imply again regions where the NEET rate relevant to the urban youth is lower than that of the youth altogether. Measures that are exactly at 100% show that the given region is a big urban city and therefore, the urban youth NEET rate and the NEET for all the youth equal each other – this is the case for the regions: Greater London, Hamburg, Hessen, Berlin, Praha, Antwerp and Brussels Capital. In most of the countries, there are both regions where this measure is below 100% and exceeds it. A strikingly low value is prevalent in the Polish region of Dolnoslaskie, where the above described ratio is 0.66%, suggesting that the urban NEET rate is well below that of the whole youth. All in all,

confronting this graph to the previous one, it is clear that urban-rural differences within countries are relatively small, whereas regional differences are more important.

Figure 3.2.1. The NEET (not in education, employment or training) rate in EU member states, 15-29 age group

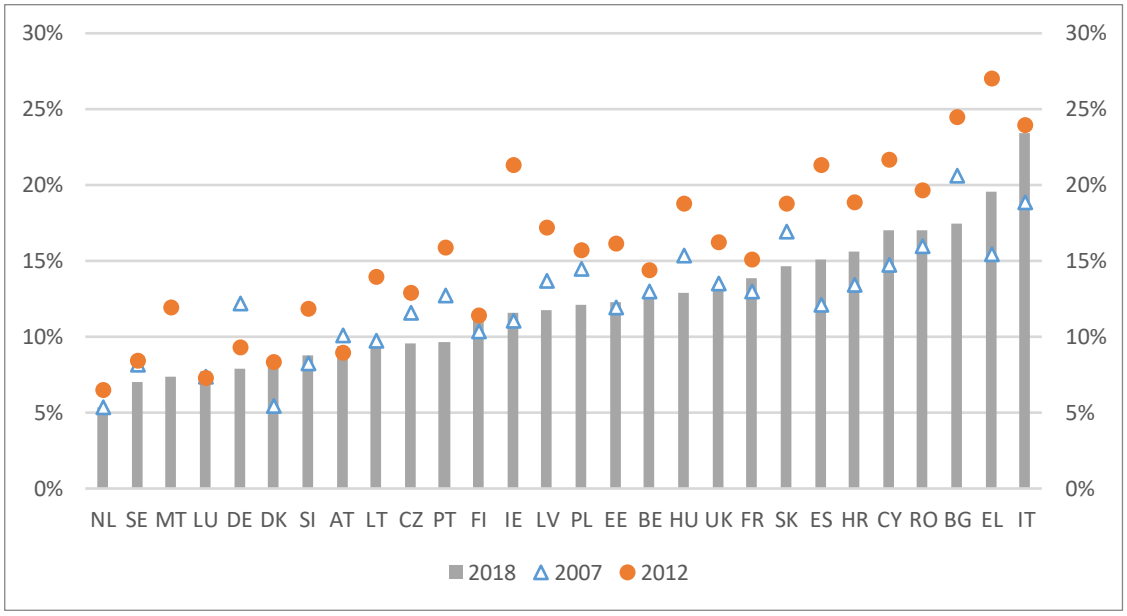


Figure 3.2.2. The NEET (not in education, employment or training) rate in regions of the EU, 2018, 15-29 age group

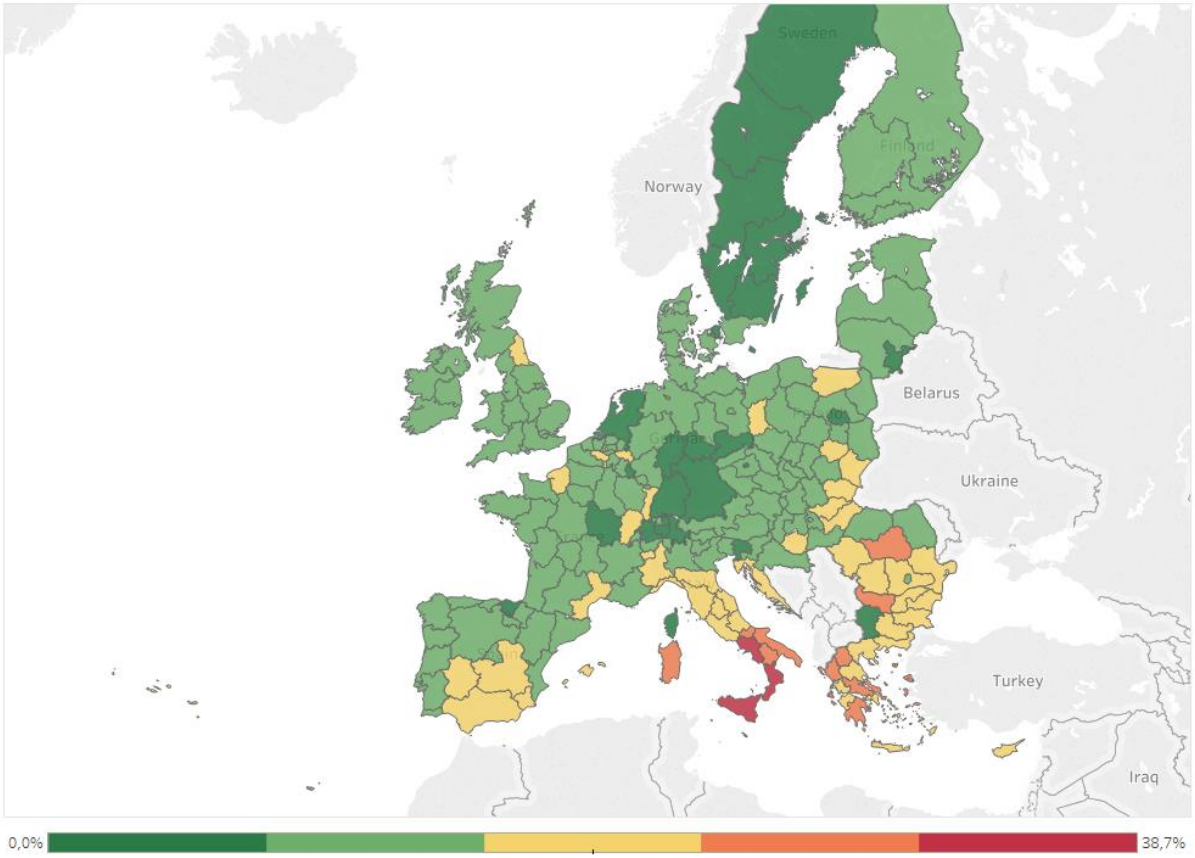


Figure 3.2.3. The NEET (not in education, employment or training) rate among urban youth (aged 15-29) in EU member states

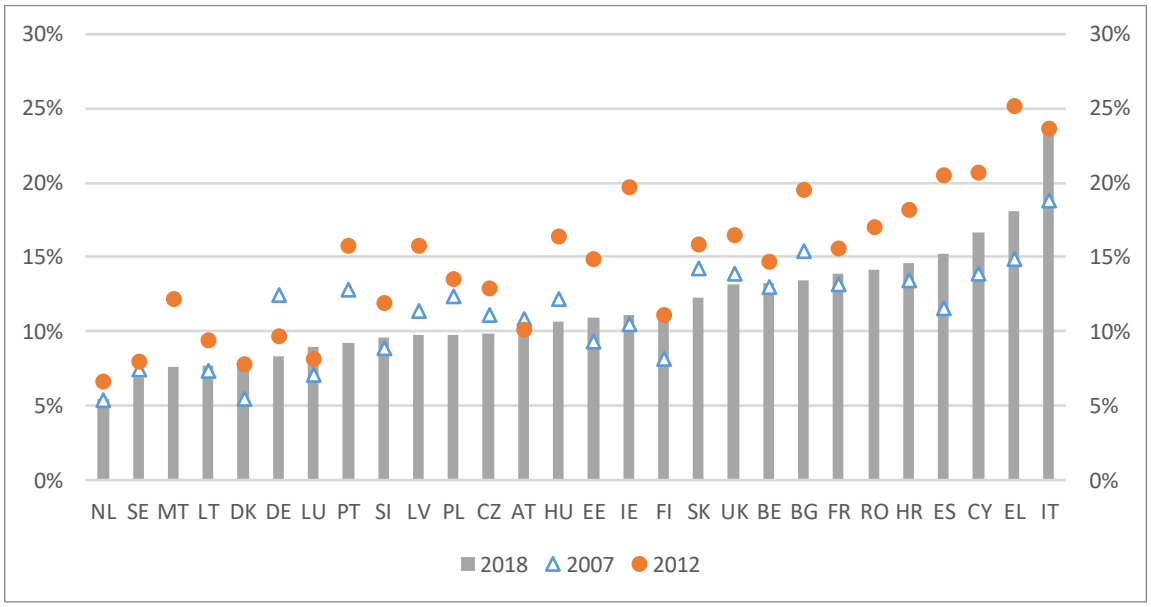


Figure 3.2.4. Point change in the NEET (not in education, employment or training) rate among urban young population (aged 15-29) in regions of the EU, 2012-2018

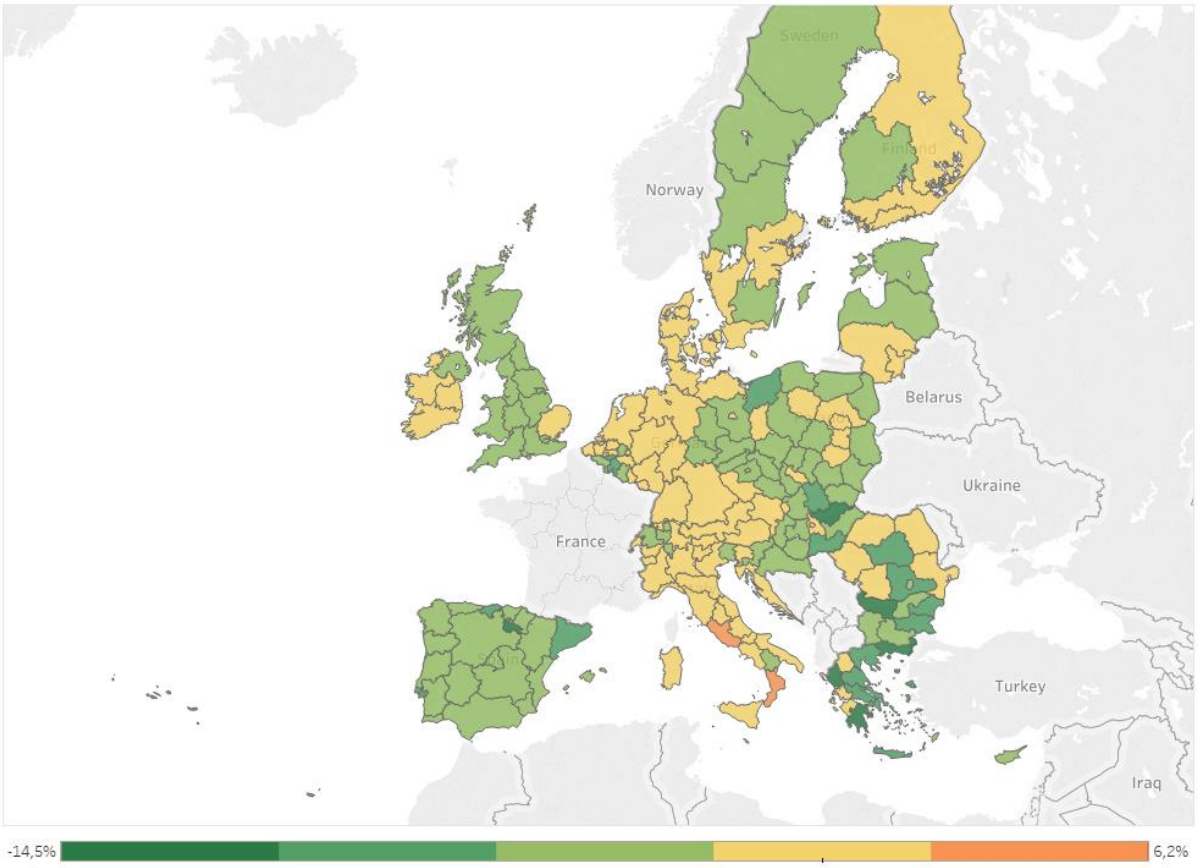


Figure 3.2.5. The NEET (not in education, employment or training) rate among the urban young (15-29) relative to the NEET rate in the entire age group (aged 15-29) in EU member states

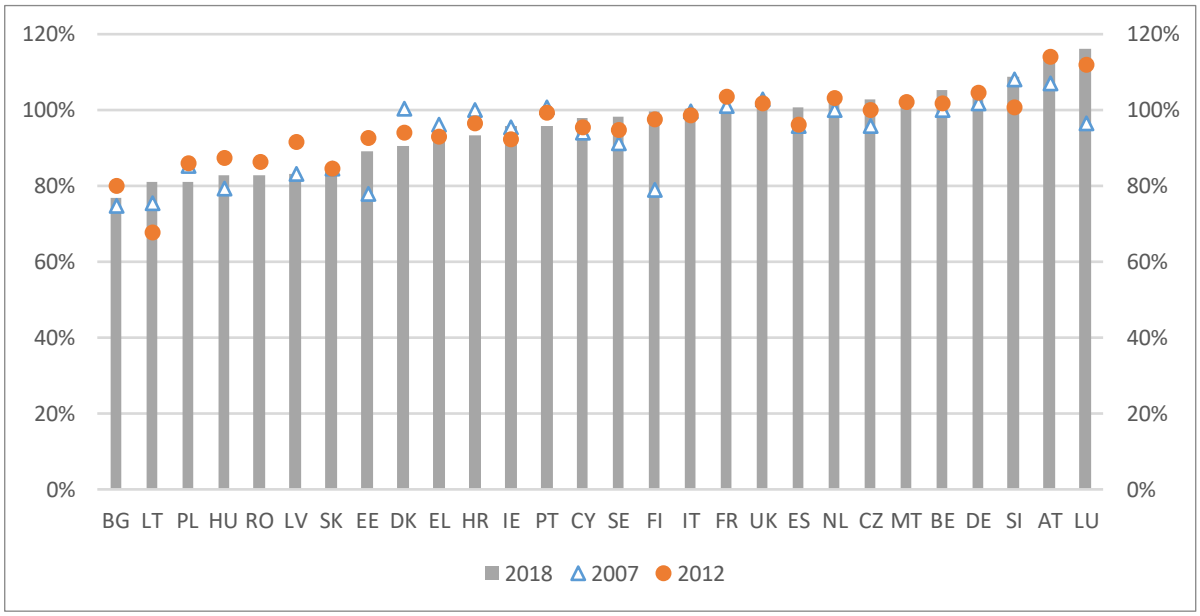
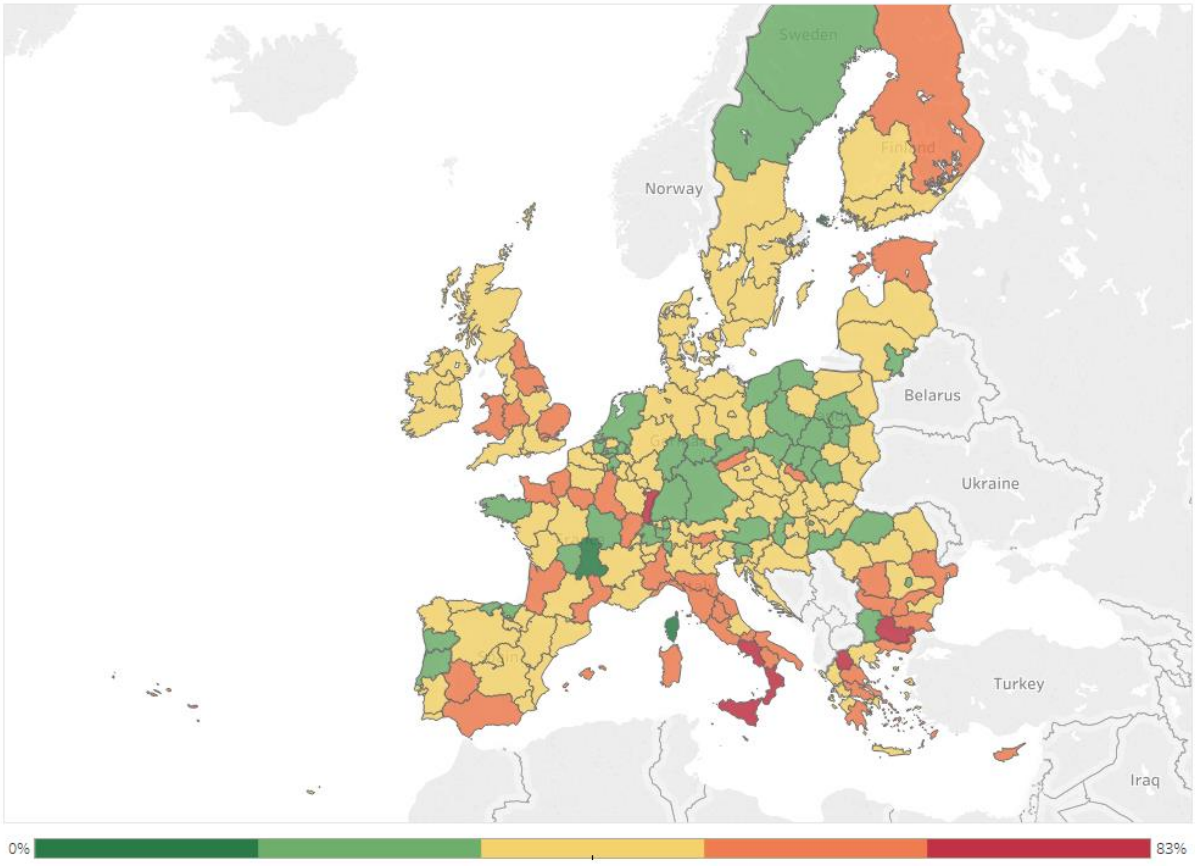


Figure 3.2.6. The NEET (not in education, employment or training) rate among the urban young (15-29) relative to the entire age group (aged 15-29) in EU regions, 2018



5.3.3 Share of those with fixed term contracts

In 2018, the share of those employed on fixed-term or temporary contracts was highest in Spain and Poland, where this share was close to one quarter (see Figure 3.3.1.). The indicator was also relatively high in Portugal, the Netherlands and Croatia, where the share of temporary or fixed term employment also exceeds 20%. On the other end of the country ranking the share was the lowest in Romania, the Baltic states and Bulgaria where less than 5% of the employees were working on fixed-term or temporary contracts. Looking at changes in the values of the indicator between 2007 and 2018 we cannot see a general tendency of increasing importance of fixed-term employment. Despite having the largest importance of fixed term or temporary contracts, Spain has seen the share of these employees declining during the past decade, as before the economic crisis the share of those on such contracts was over 30%. Similar decline has been observed in Poland as well, where the share of these employees has declined by 4 points. Contrary to these tendencies Croatia has seen a 7-point increase in the share of those with fixed-term or temporary contracts and the share has also increased in the Netherlands and Italy (by 4-5 points). Overall, during the entire period between 2007 and 2018, the share increased in eight countries and declined in seven.

As shown in Figure 3.3.2., the regions with the highest values of the indicators are the southern regions of Spain Andalucía, Extremadura, Región de Murcia and the Canarias, but the Lódzkie region in Poland and Ionia Nisia in Greece also have share above 30%. Share below 3% were observed in all Romanian regions and also in Lithuania and the Yugozapaden region in Bulgaria. Most important regional differences can be seen in Spain, where the region of Madrid has a much lower share compared to the Southern regions (18%) and Poland, where the Malopolskie region has only 17% of employees with fixed term contracts, which is much lower than was observed in the Lódzkie region.

Among the urban young population, it is again Spain, where the share of employees in fixed-term or temporary employment is the highest (see Figure 3.3.3.). In 2018, 56% of Spanish urban young employees were working under such contracts. The share of urban young employees with fixed-term contracts is also above one half in Portugal and close to this in Italy, Slovenia and Poland. Lowest figures (below 10%) among the urban young employees were observed in Romania, Bulgaria, the Baltic states and Hungary. Overall the country ranking among the urban young employees seems to be more or less similar to that observed among all employees.

There is a considerably stronger tendency of increasing importance of fixed term employment among the urban young compared to that was observed for all employees. Among the urban young fifteen countries have seen the share of these employees increasing during the 2007-2018 period, while only five countries have recorded declining shares of fixed-term employment. Most important increases were observed in Italy and Croatia where the share increased by 15-20 points. In case of both countries the rise was more pronounced during the recovery period (2012-2018), while the increase was smaller in the crisis period (2007-2012).

Those regions where the share of fixed term contracts declined the most during the 2012 and 2018 period are Norra Mellansverige (SE), Mellersta Norrland (SE), Saarland (DE), Malopolskie (PL), Ipeiros (GR) and Podlaskie (PL) (see Figure 3.3.4.). In these regions the values of the indicators declined by approximately 10 points. The value of the indicator increased by at least 20 points in Italian regions of Molise, Sardegna, Liguria and Emilia-Romagna, and also in regions in some other Southern European countries Dytiki Makedonia (GR), Jadranska Hrvatska (HR), Regiao Autónoma dos Açores (PT). The most important regional differences in this respect can be seen in Greece as Ipeiros region belongs to the group with most important decline in the indicators, whereas Dytiki Makedonia belongs to the group of regions where the indicators increased the most.

As Figure 3.3.5. shows in all countries – except Bulgaria –, the share of employees with fixed term or temporary contracts is higher than average among the urban young population. The difference is the largest in case of Slovenia, Germany and Italy, where the share of these employees is approximately three times higher among the urban young than among all employees. In addition to Bulgaria, countries where the difference between young and the all employees is the smallest are Latvia, Hungary, Romania and Malta. The „disadvantage" of young adults increased the most between 2007 and 2018 in case of the Czech Republic, Italy, Spain and Portugal. A significant increase can be seen in case of Lithuania and Estonia as well, but in these countries the general prevalence of fixed term contracts is very low.

The regions where the share of those with fixed-term contracts is more than 3.5 times higher in case the urban young compared to all employed are the Centru (RO), Ciudad Autónoma de Ceuta (ES), Liguria (IT), Brandenburg (DE), Lazio (IT), Thuringia (DE) regions and Molise region in Italy (see Figure 3.3.6.). The regions where in 2018 the share of those with fixed-term contracts is lower among the young urban population as compared to all employees are the following: Sud-Est (RO), Yugozapaden (BG), Severen tsentralen (BG), Yuzhen tsentralen (BG) and Észak-Alföld (HU).

Figure 3.3.1. The share of employees with fixed-term or temporary contracts in EU member states

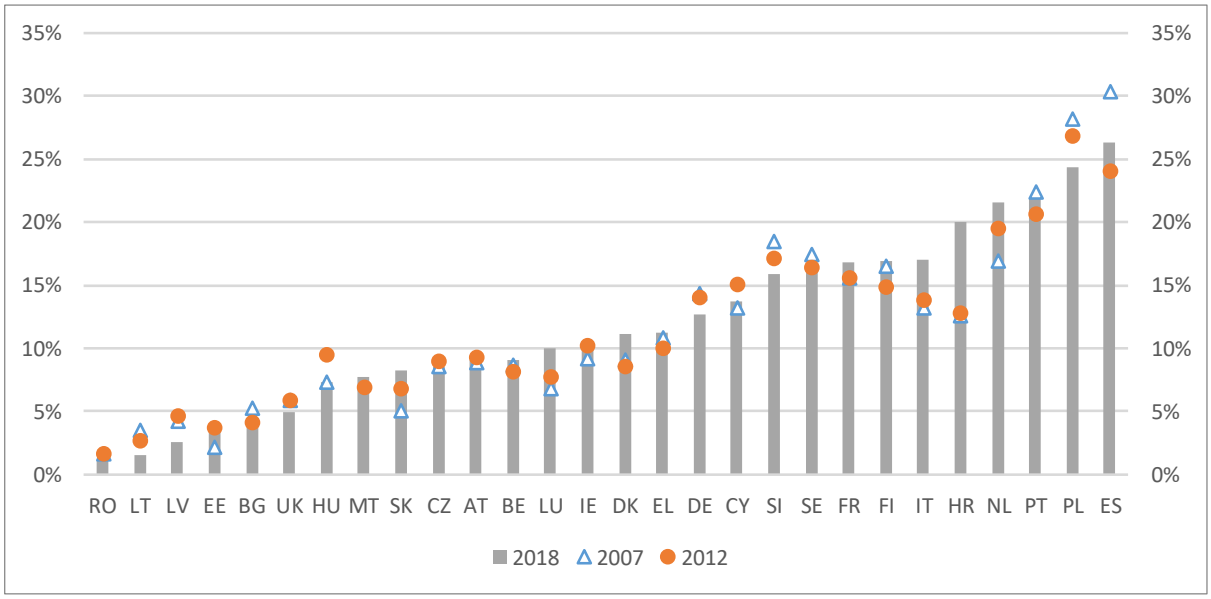


Figure 3.3.2. The share of employees with fixed-term or temporary contracts in regions of the EU, 2018

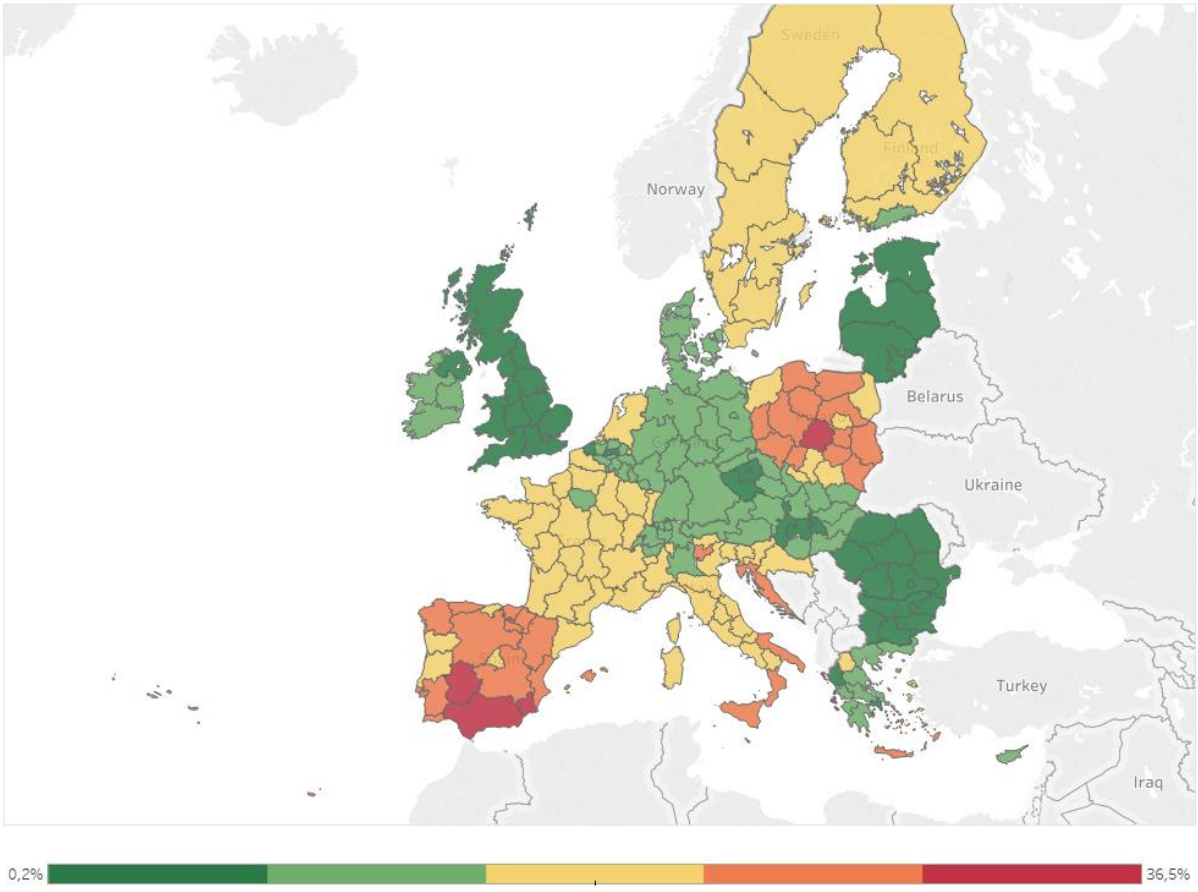


Figure 3.3.3. The share of employees with fixed-term or temporary contracts among urban youth (aged 15-29) in EU member states

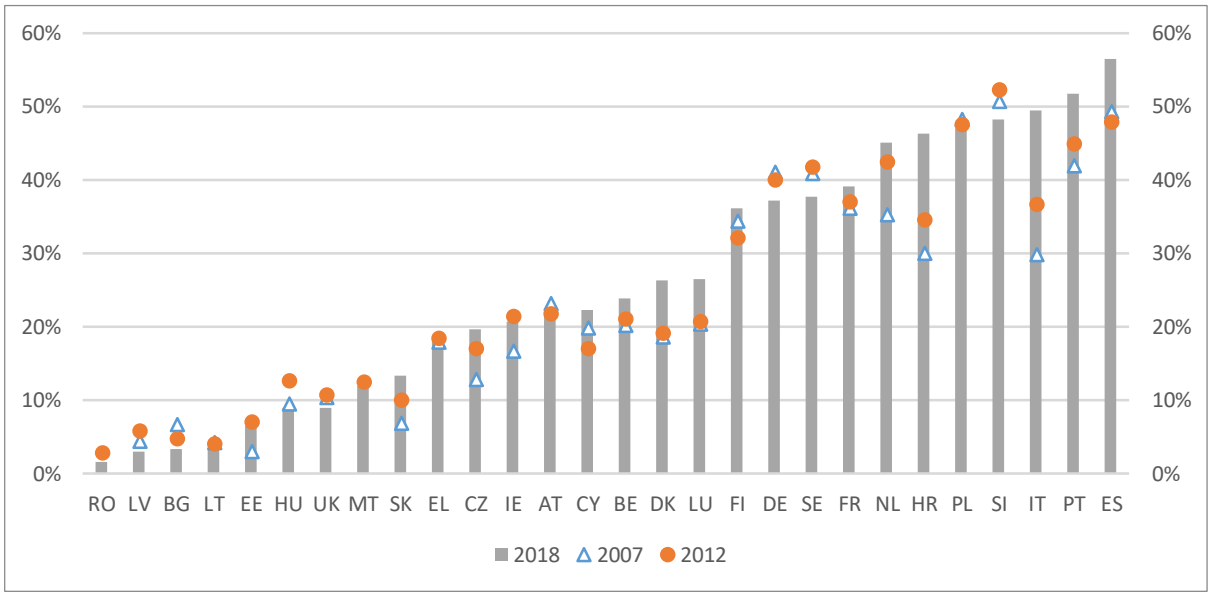


Figure 3.3.4. Point change in the share of employees with fixed-term or temporary contracts among urban youth (aged 15-29) in regions of the EU, 2012-2018

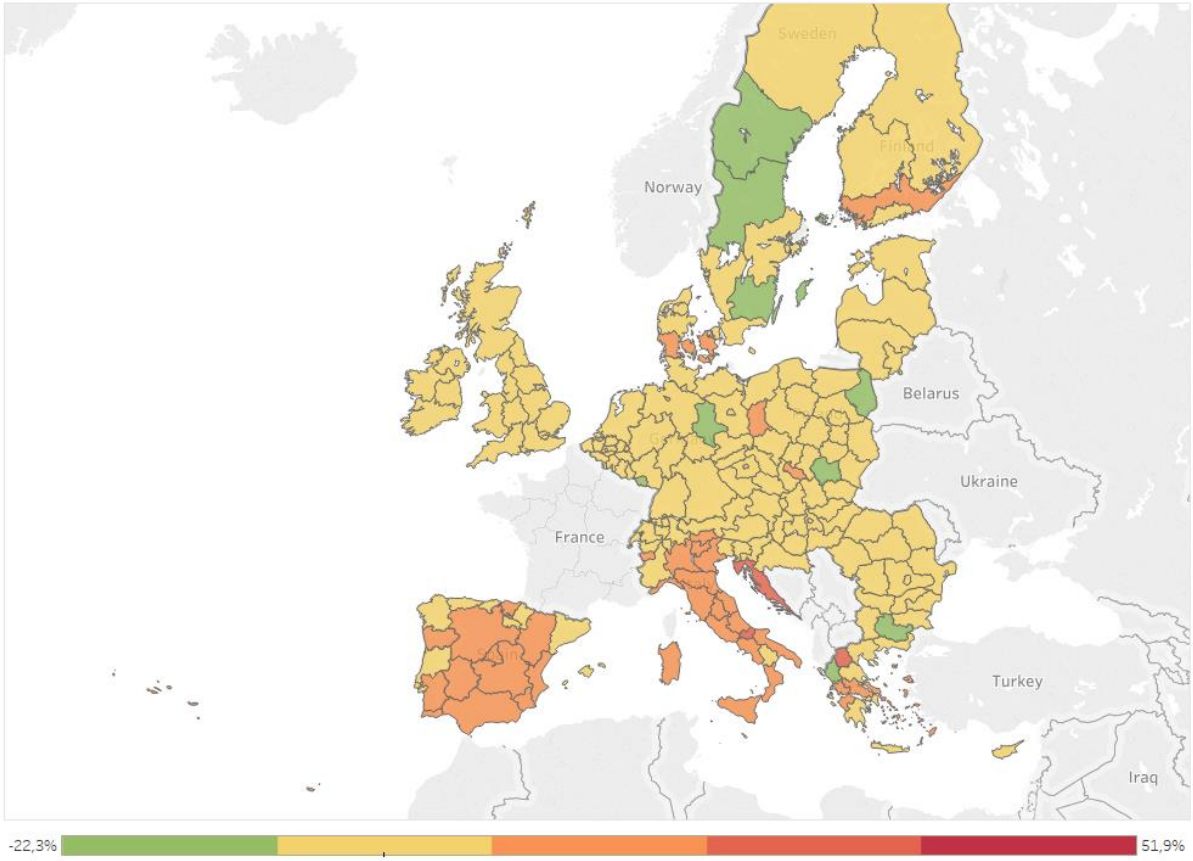


Figure 3.3.5. The share of employees with fixed-term or temporary contracts among urban youth (aged 15-29) relative to the share among all employees in EU member states

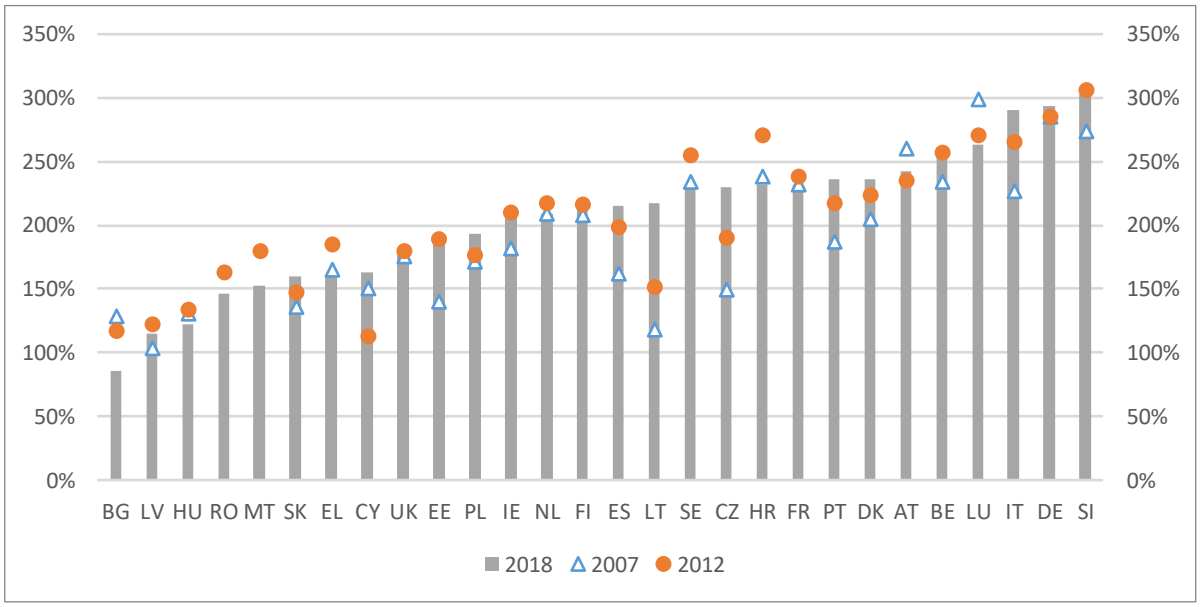
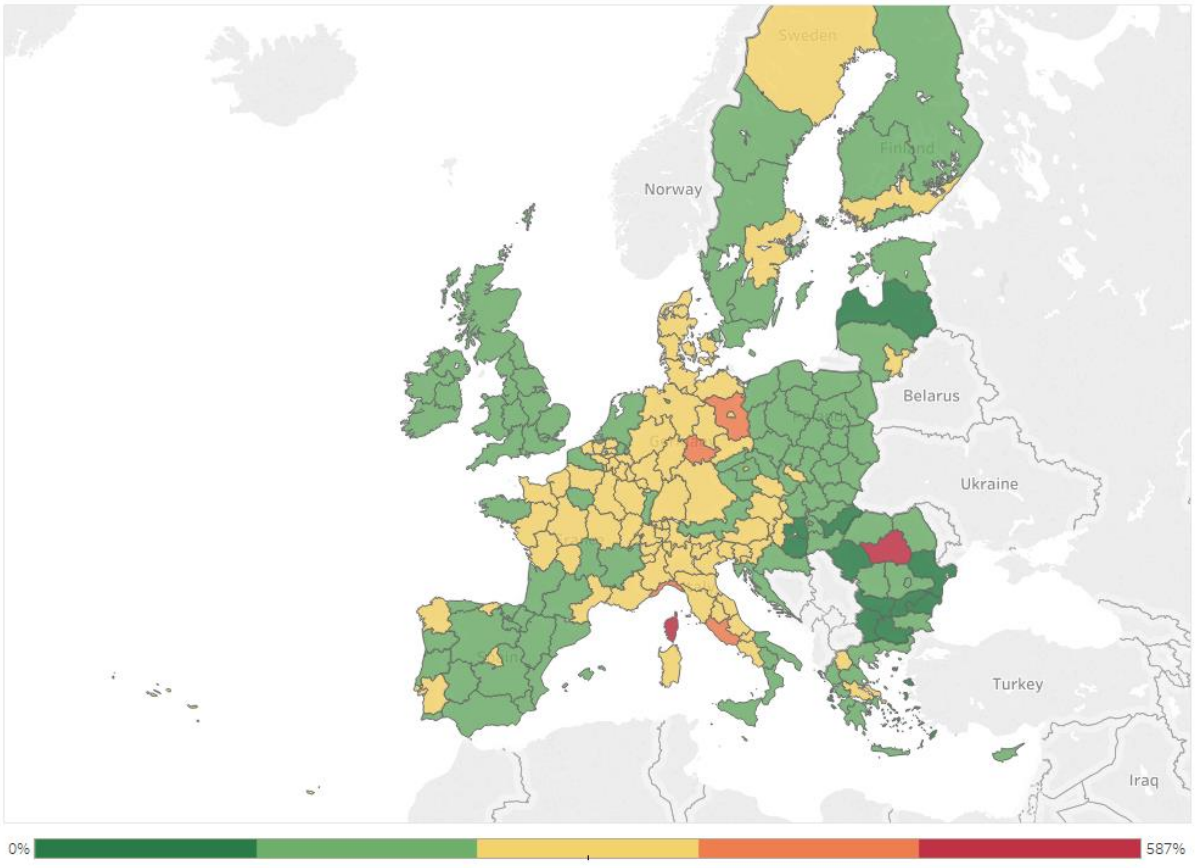


Figure 3.3.6. The share of employees with fixed-term contracts among urban youth (aged 15-29) relative to the share among all employees in regions of the EU, 2018



5.4 Housing

5.4.1 Housing deprivation

As of 2018, the average rate of housing deprivation for population aged 15-64 by member states was 19.7%. Since 2008, the rate of people reporting the lack of any of the aforementioned deficiency has slightly dropped (down from 22.4 both in 2008 and 2012). Although the overall situation with the housing conditions in EU countries has improved, it must be recognised that decent housing conditions are far from being achieved by a large section of people in the EU.

There is also a great heterogeneity between EU member states as regards housing deprivation (Fig. 4.1.1). Countries with the highest share of population living in non-decent housing conditions are Romania, Cyprus and Portugal – the rate of housing deprivation was above 30% among the 15-64 age group (people in active age). When split down by urban regions, the especially high rate applies Romania's Macroregiunea Doi (Macroregion Two) (47 %), while the other regions show housing deprivation of less than 30% of the population (Fig. 4.1.2). The lowest rates of people experiencing housing deprivation (with less than 10%) were found in Finland, Slovakia, and Czech Republic. In most countries the rate varied between 10 and 30%.

When the same indicator was measured ten years ago there were altogether seven countries where the rate of housing deprivation was more than 30% (besides those mentioned countries, the rate was as high also in Slovenia, Hungary, Bulgaria and Latvia). Positive changes over 10-year period signified more substantial shift in some countries – for example in Romania there was a drop from 51.5 to 30.7%, and a substantial fall was also found in Italy, Poland, Estonia, Slovenia, Hungary, Latvia, and Romania). On the contrary, a noticeable increase in share of people living in severe housing conditions over a decade took place in Portugal. Some countries also experienced worsening of the housing conditions between 2008 and 2012 (i.e., the time characterised by economic regression) followed by a fall in the rate between 2012 and 2018: this pattern was followed by Latvia, Estonia, Ireland and Denmark.

Young people (15-29 y) in average do not exhibit a particular risk group as regards housing deprivation in EU member states (the average rate for this age group was 20.3 in 2018, down 1.3 pp from year 2008) (Fig. 4.1.3). In Slovakia, Estonia, Czech Republic, and Finland young people in general experience housing deprivation the least, while the rates show the highest values in Portugal and Cyprus.

The period between 2008 and 2012 signified a 1 pp increase in the average rate of housing deprivation in countries. In many EU member states, the rate of young people living in severe housing conditions dropped and did so to an even greater extent than for the rest of the population. For instance, the 10-year period brought about an especially positive change (in comparison with the total 15-64 population) for Lithuania. The period of economic regression impacted young people more or less in a similar way as for the rest. In those countries where

the housing conditions worsened for the total population, they also worsened for young, and in those countries where the housing condition improved, they also improved for the young.

For young people, region-wise, the largest increases in the share of urban young people in housing deprivation were in the Northwest, Northeast, Community of Madrid and South regions in Spain; Portugal; the North East, East Midlands and South West regions in the UK; Macroregion Północny in Poland; East Sweden in Sweden; Wallonia in Belgium; and Cyprus. The greatest improvement (i.e., decline) in housing deprivation occurred in the "Aegean Islands, Crete" region in Greece, the Nord-Est region in Italy; and in Northern Ireland and Wales in UK (Fig. 4.1.4).

Thus, young people in general experience quite average rates as compared to the whole population (i.e., those of active age). In several member states, the youth even represent a slightly advantaged group when it comes to living in severe housing conditions. This is the case in Romania, Estonia and Lithuania (Fig. 4.1.5). On the other hand, France, Ireland, the Netherlands, Finland, Denmark and Austria represent a group of countries where young people are less well off in terms of housing conditions as compared to the rest of the working age population. From all the regions in EU member states for which there are data, Eastern Austria (Austria), East Midlands (UK), Bourgogne-Franche-Comté and Normandy (both France) are the regions where the young age-group (15-29 y) is the most overrepresented in terms of living in severe housing conditions (experiencing housing deprivation) (Fig. 4.1.6). In the two French regions mentioned, the young age group is especially highly overrepresented among those experiencing housing deprivation (by 50 and 80% respectively). In contrast, young people are most underrepresented in the group experiencing housing deprivation in Macroregiunea Unu (Macroregion One) and Macroregiunea Trei (Macroregion Three) in Romania (65 and 48 % respectively), as well as in Northern Ireland in the UK (42 %).

Figure 4.1.1. Share of individuals in housing deprivation in EU member states

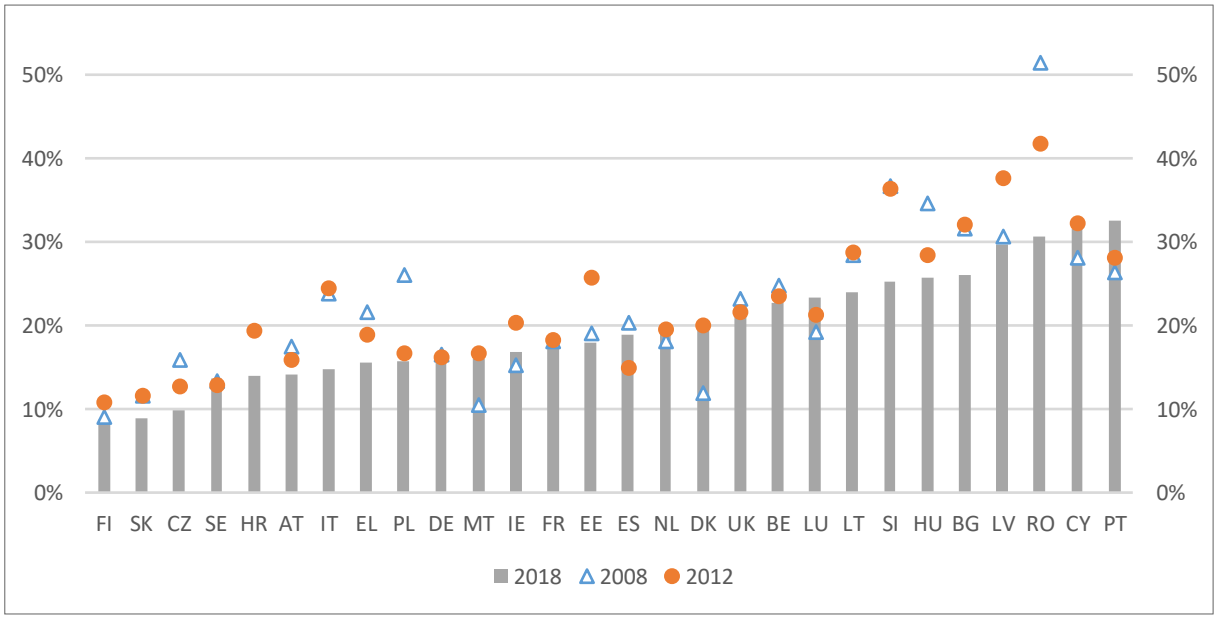


Figure 4.1.2. Share of individuals in housing deprivation in regions of the EU, 2018

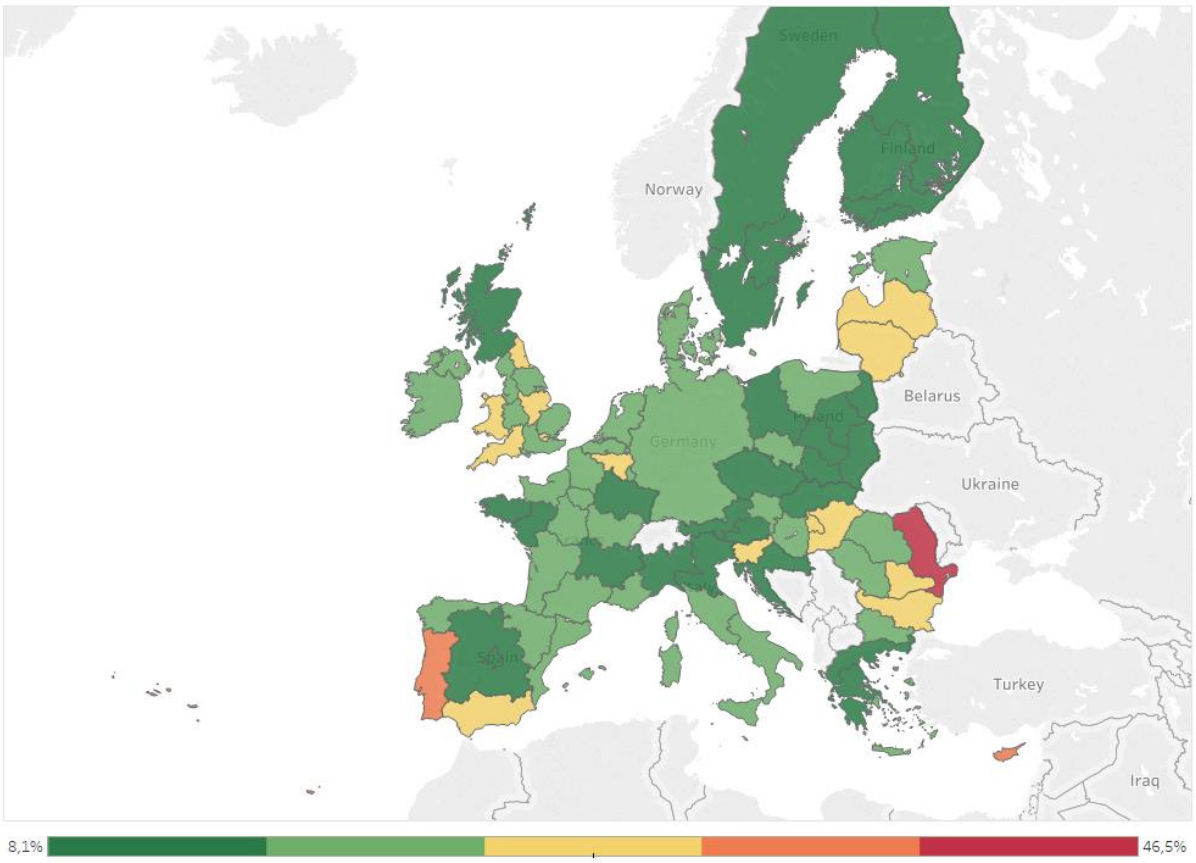


Figure 4.1.3. Share of urban youth (aged 15-29) in housing deprivation in EU member states

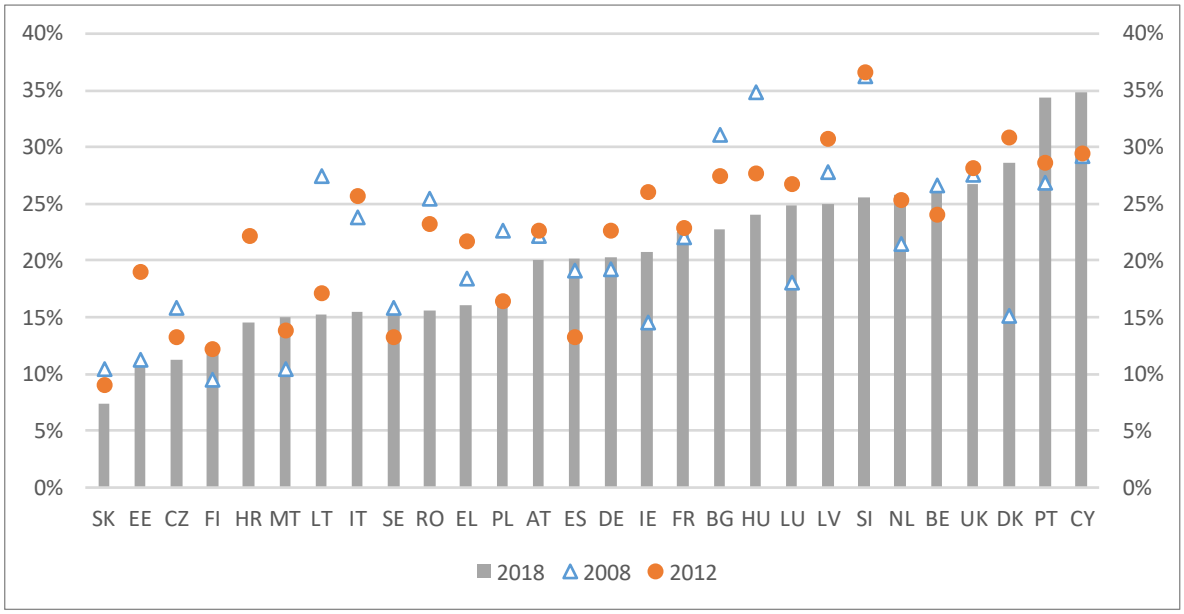


Figure 4.1.4. Point change in share of urban young population (aged 15-29) in housing deprivation in regions of the EU, 2012-2018

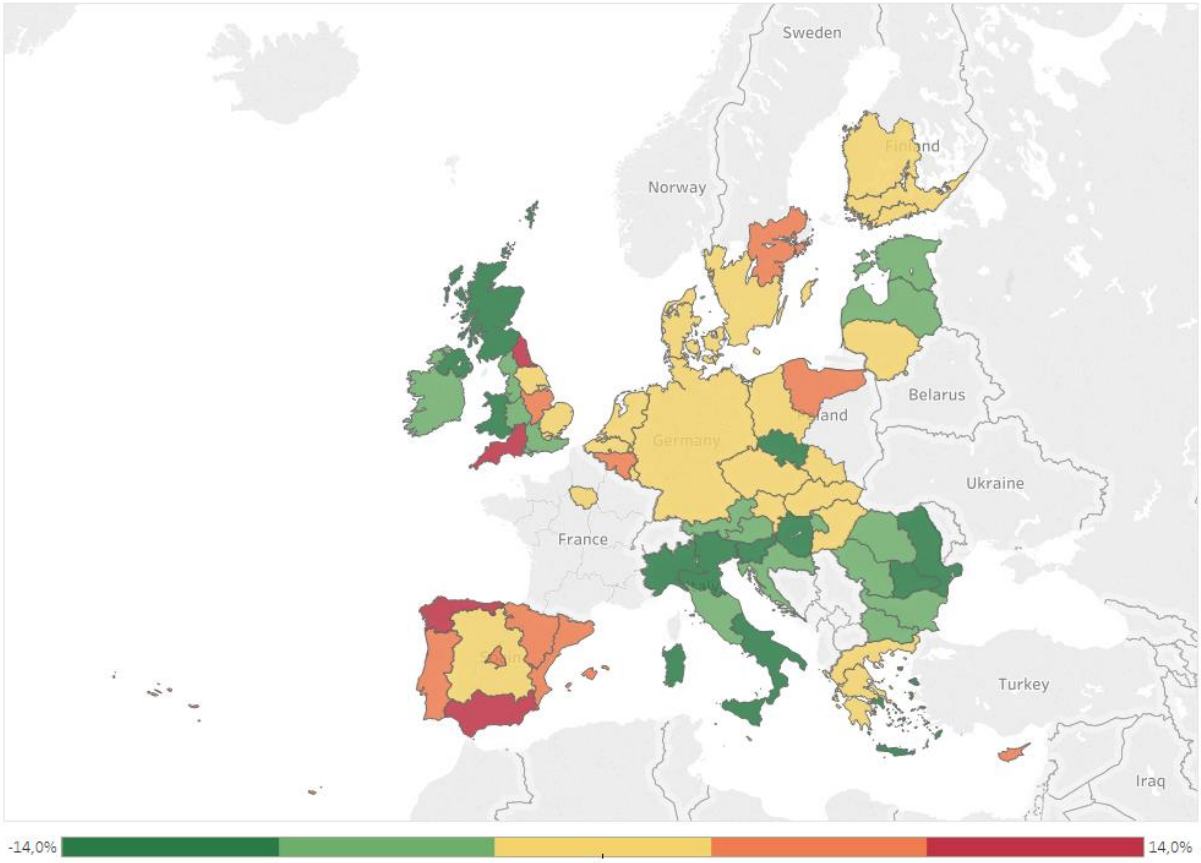


Figure 4.1.5. Housing deprivation among urban youth (15-29) relative to the active age (aged 15-64) in EU member states

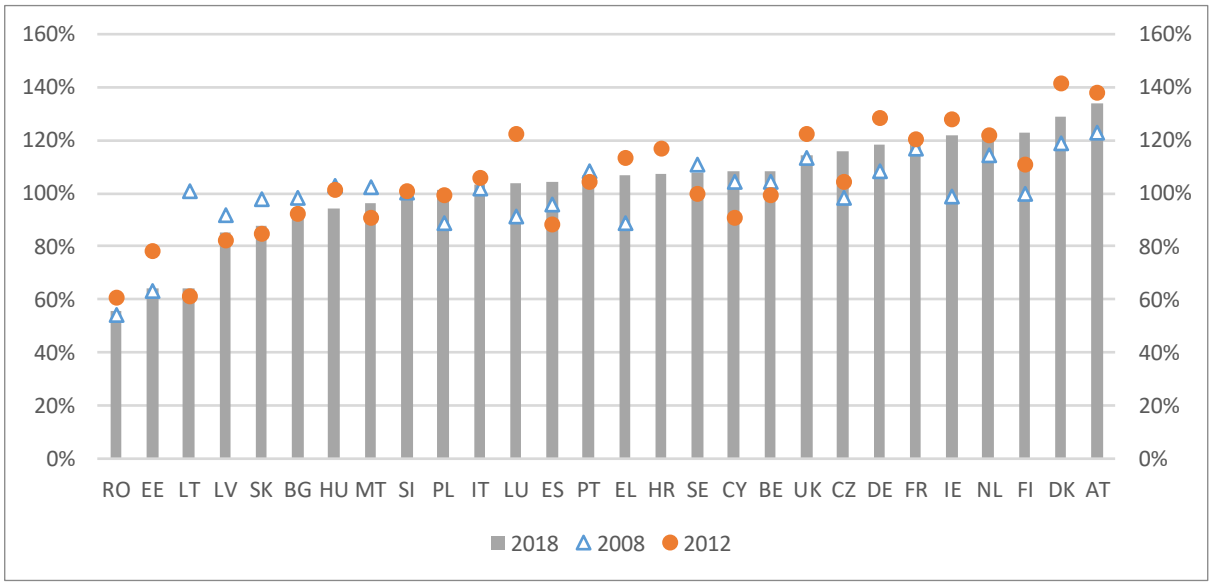
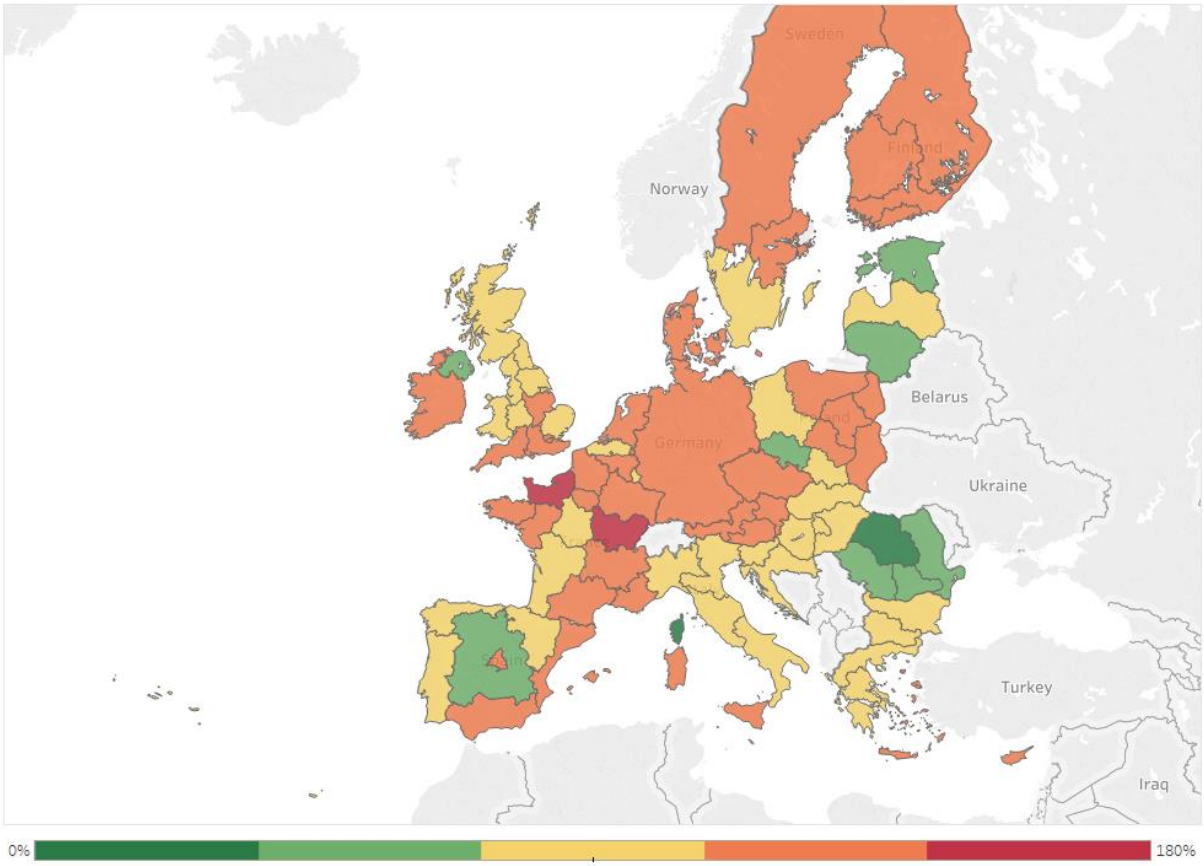


Figure 4.1.6. Housing deprivation among urban youth (15-29) relative to the active age (aged 15-64) in EU regions, 2018



5.4.2 Housing affordability

On average, 9.8% of people aged 15-64 in the EU-28 countries spent more than 40% of the household disposable income on housing in 2018. There was a slight drop (0.5 pp) from 2008 (the housing cost overburden rate was 10.3 in 2008), as well as from 2012 (10.5). There were substantial cross-country differences in the housing cost overburden rate in all the observed years (Fig. 1). In 2018, the housing cost overburden rate was over 15% in five countries – Denmark, Poland, UK, Bulgaria and Greece. The rate was particularly high in Greece: 39.5, i.e., almost 40% of people in Greece could be considered as overburdened by housing costs according to the EU standard on housing affordability. By the contrast, the rate was under 5% in seven countries (Malta, Cyprus, Estonia, Finland, Ireland, France and Slovenia) (Fig. 4.2.1). These differences in housing affordability are partly the outcomes of the differences in national housing policies (different extent of public subsidies provided by the governments), but they represent also the trends of economic cycles.

As regards urban regions, all regions in Greece (Central Greece, Northern Greece, "Aegean Islands, Crete" and Attica) had the highest housing cost overburden rates (over 30 p), followed by Macroregion Północno-Zachodni (Poland), Corsica (France) and London (UK) (Fig. 4.2.2). Meanwhile, Malta, Cyprus and the French regions Centre-Val de Loire and Alsace-Champagne-Ardenne-Lorraine had the lowest rates (less than 3 %) in 2018.

All in all, most member states reported decreases in their respective housing cost overburden rates in between 2008 and 2018. But there were also countries in the EU where the housing affordability worsened over the period. Poland, Luxembourg and Greece saw more than 5 pp increase in the housing cost overburden rate during the decade. It is also true that the majority of countries faced an increasing share of people experiencing housing cost overburden between 2008 and 2012 (which can be associated with the time of economic recession), but a slight drop afterwards (during 2012-2018). The member states where the temporary worsening in housing affordability was especially visible were Estonia, Ireland, Lithuania, Hungary, Poland and Greece – most of these countries have a dual rental system and a relatively low share of rental housing in housing supply (except in Poland). Hence, it follows that these countries with a high share of homeownership tend to experience during-recession 'shocks' more than the others.

Younger age group (15-29) exhibited slightly higher rates of overburden as compared to the rest of the working age population (Fig. 4.2.3). In total, 12.4% in member states could be considered as overburdened in 2018 among the youth, while there were 12.2% of such a decade earlier, and 13.5% in 2012. In Denmark and Greece young people were especially vulnerable as regards the housing costs (over 30% experienced too high burden in 2018). On the contrary, in Malta, Cyprus, Hungary and Slovenia, young people have the lowest likelihood of being in the risk group for housing cost overburden.

Luxembourg, Poland and Greece experienced the highest change between 2008 and 2018 (+5 pp change), whereas, in Denmark and Romania, the situation with young people being

overburdened with housing costs improved the most (more than 5 pp decrease). Ireland, Latvia, Hungary, Estonia, Latvia and Greece experienced an increasing share of youth with high housing costs during the economic recession years (2008-2012). The point change during 2012-2018 was the most negative in Yorkshire, the Humber and London in the UK and the "Aegean Islands, Crete" region in Greece. The most positive changes took place in Macroregiunea Patru (Macroregion Four) and Macroregiunea Unu (Macroregion One) in Romania, and in the Brussels Capital Region in Belgium (Fig. 4.2.4).

All in all, we can see that the economic hardships during 2008-2012 hit younger groups especially (there was no such increase among the working age group as a whole), as they are more likely to depend on market rents, mortgages and housing loans. In total, the 15-29 age-group was 1.3 times overrepresented as being overburdened as compared to the rest in 2018 (Fig. 4.2.5). Young people were the most overrepresented in the risk group experiencing too high housing costs in Finland, Estonia and Denmark (two times more often they were found to be experiencing housing cost overburden compared to the whole active population), but there are also many other EU member states where young people are much more likely to be found among the vulnerable (in terms of too high housing expenses).

Regarding EU regions, in Southern Austria (Austria), Denmark, South Finland and North and East Finland (both in Finland), and Pays de la Loire, Normandy, Brittany and Aquitaine-Limousin-Poitou-Charentes (all in France), young people by more than twice as likely to experience housing cost overburden than the active population as a whole (Fig. 4.2.6). The lowest risk of a housing cost overburden situation for young people occurs in the regions of Bourgogne-Franche-Comté (France) and Macroregiunea Unu (Macroregion One) (Romania). In these regions, the percentage of young people with high burden of housing costs is no more than 50% of the rate for all active age people.

Figure 4.2.1. Housing cost overburden rate in EU member states

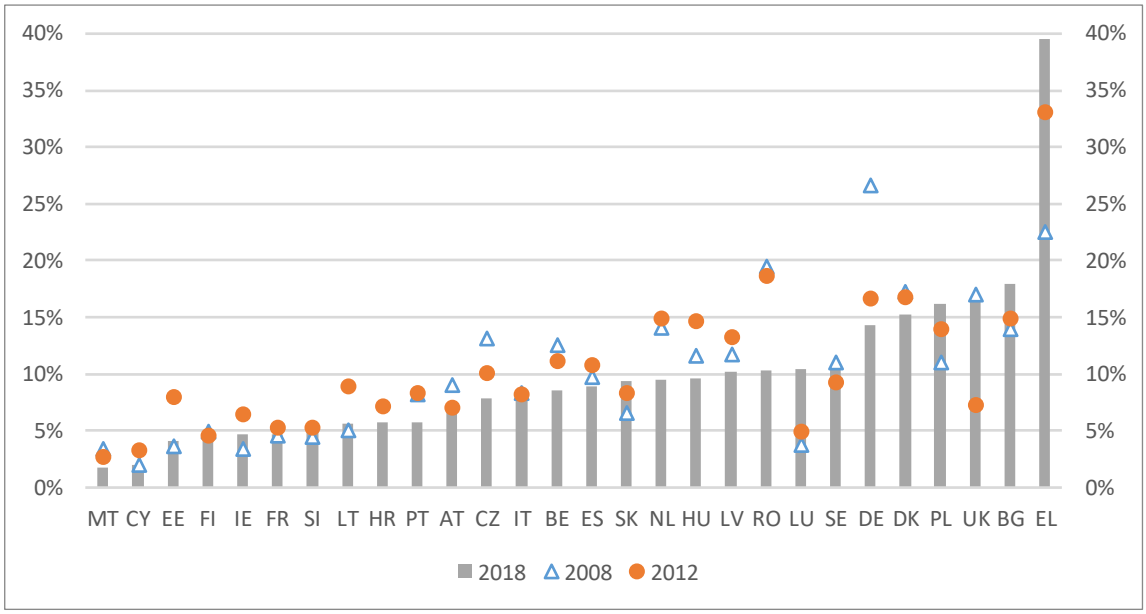


Figure 4.2.2. Housing cost overburden rate in regions of the EU, 2018

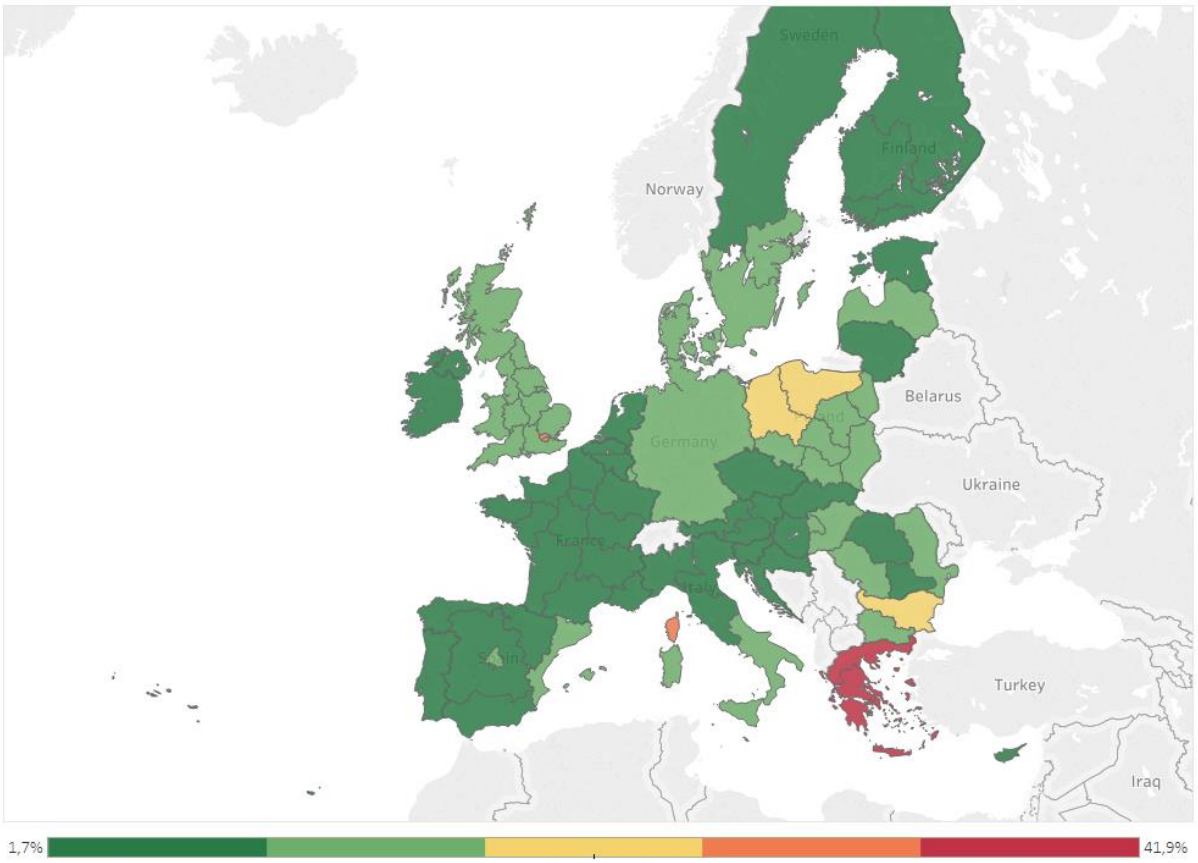


Figure 4.2.3. Housing cost overburden rate among urban youth (aged 15-29) in EU member states

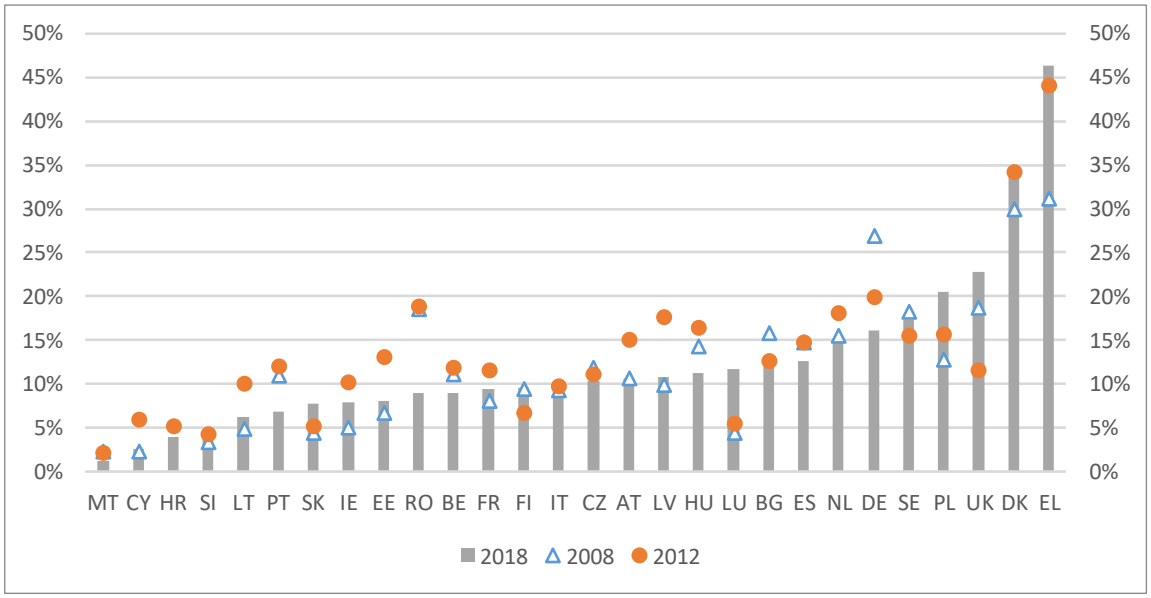


Figure 4.2.4. Point change in housing cost overburden rate among urban young population (aged 15-29) in regions of the EU, 2012-2018

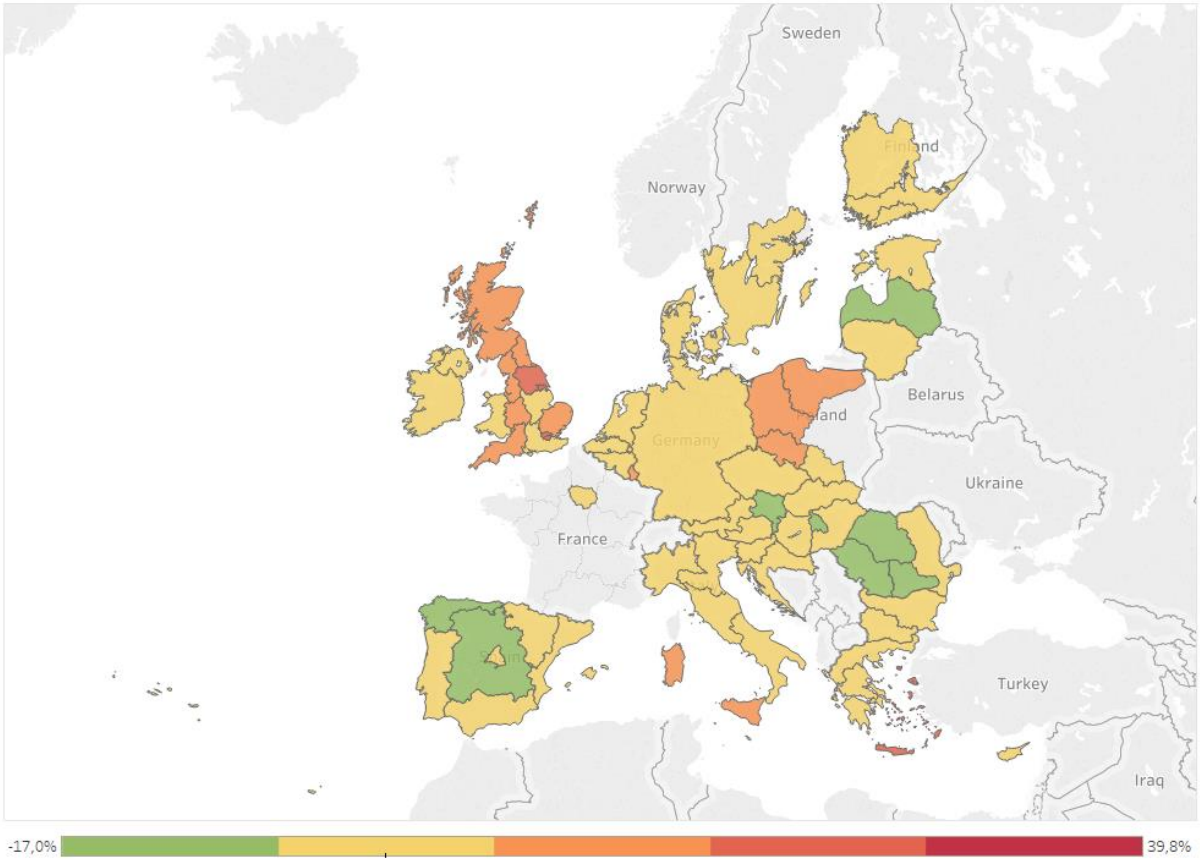


Figure 4.2.5. Housing cost overburden rate among urban youth (15-29) relative to the active age (aged 15-64) in EU member states

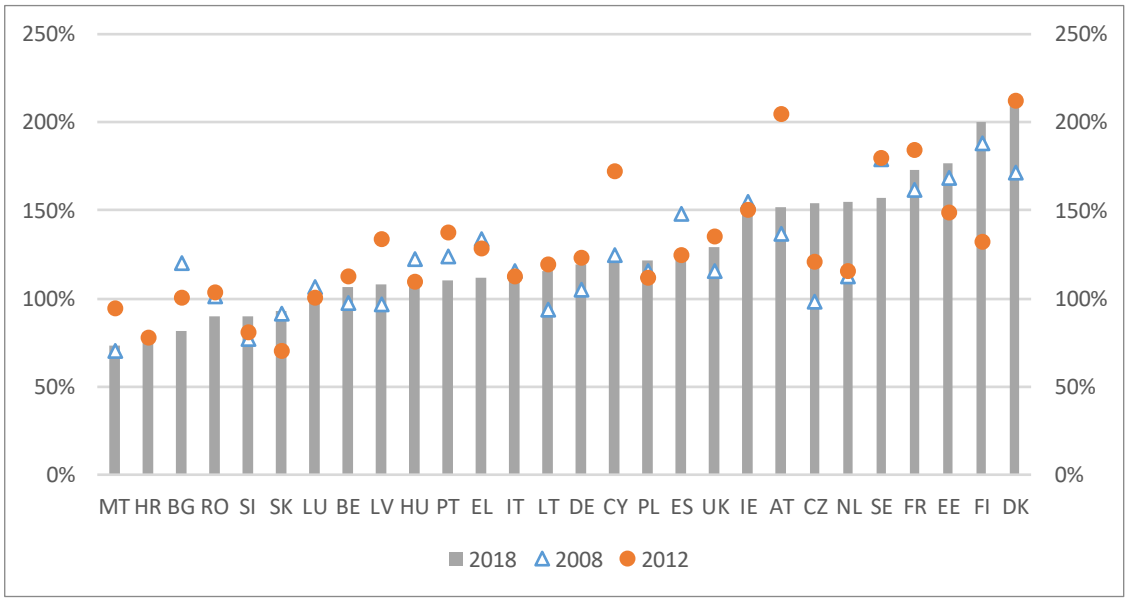
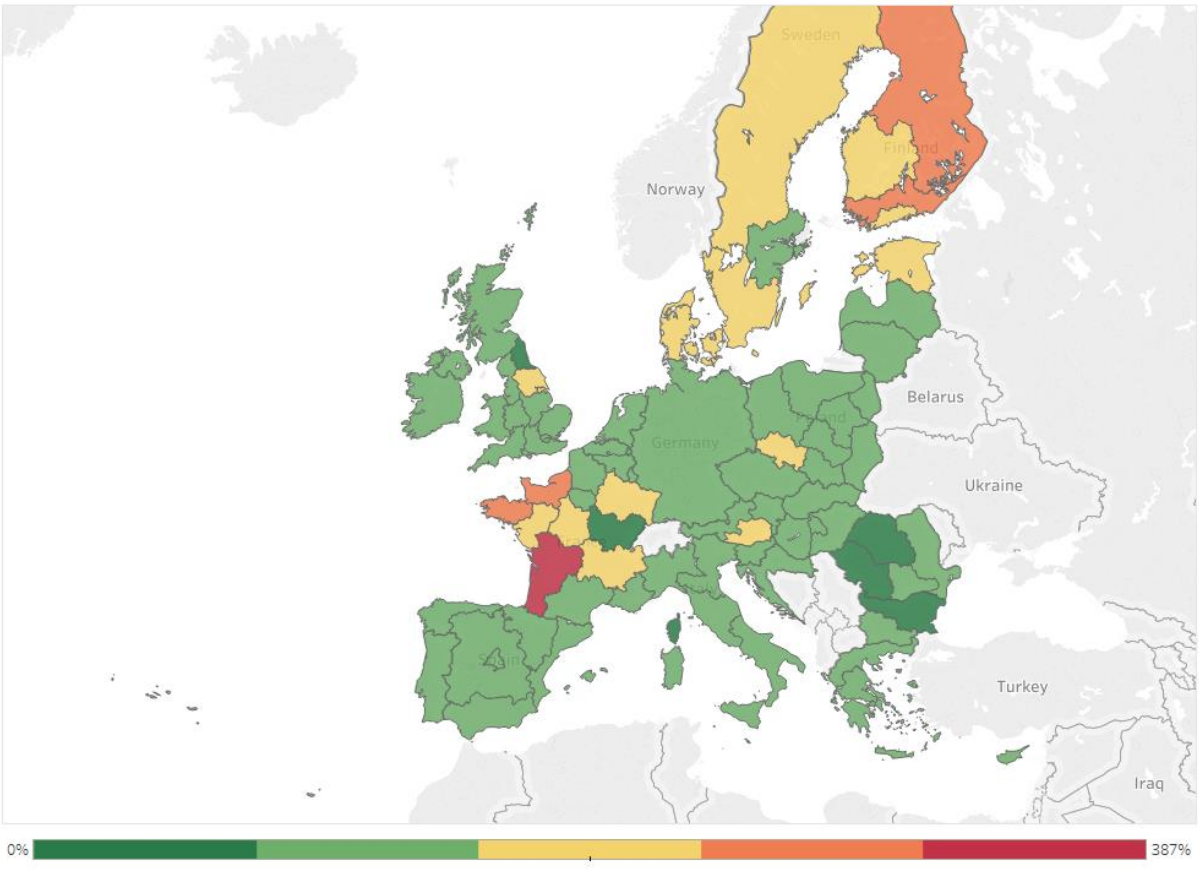


Figure 4.2.6. Housing cost overburden rate among urban youth (15-29) relative to the active age (aged 15-64) in EU regions, 2018



5.5 Health

5.5.1 Self-reported chronic illness

Next, we will provide a concise overview on regional differences in chronic illnesses in Europe. It is important to keep in mind that the indicator in use here is based on a self-perceived account if chronic illness. Figure 5.1.1 shows considerable variation in chronic illnesses between European Union member states[4], based on EU Statistics on Income and Living Conditions or EU-SILC data. We find that the prevalence of chronic illnesses ranges between 20 and 40 per cent in most European countries. In other words, at least every fifth European suffers from at least one chronic disease. The lowest prevalence of chronic diseases — less than 30% — can be observed in Italy, Romania, Bulgaria, Greece, Belgium, Luxembourg and Ireland. The highest rates of chronic diseases — more than 40% — were registered in Finland, Estonia, Germany, Slovenia and Portugal. Figure 5.1.2 further shows that there are North-South differences in that chronic illnesses are more prevalent in North Europe and less prevalent in South-East Europe. Figure 5.1.1 further shows that there is an increasing trend in the share of people with chronic diseases in Europe between 2008 and 2018. In many countries, the share of people with chronic illnesses has increased by at least 5 pp. The major exceptions are Italy, Romania and the Netherlands, where the share of people with chronic illnesses has decreased.

When it comes to young people aged 15-29 living in Europe, two important observations can be made based on Figure 5.1.3. While the prevalence of chronic illnesses is expectedly lower among young people compared to the total population, it is notable that the variation between EU member states is bigger. In Romania, Italy, Bulgaria and Greece, less than 5% of young people report chronic illnesses while the respective figure is more than 20% in Finland, Estonia, Germany, Denmark, Sweden, Austria and UK. In other words, an even more clear North-South differences in chronic illnesses characterize young people. Intra-European variations are so marked that Eurostat (2020) has made the following comment: "These differences between EU member states could also be related to cultural differences in self-perception and in practices for diagnosis, management and treatment of long-standing health problems".

Figure 5.1.3 further shows that intra-European variation has grown in last 10 years, since some of the countries located in Northern Europe, such as Estonia and Finland, have undergone an especially rapid growth in the prevalence of chronic diseases among young people. According to Eurostat (2020), young women in Europe, on average, have 4% higher prevalence of chronic illnesses compared to young men, with the biggest gender gap in Denmark, Germany and Slovenia. The prevalence of chronic illnesses is higher among young men compared to young women in Estonia, Lithuania and Cyprus. When zooming into the NUTS regions within countries (Figure 5.1.4, no particular pattern emerges. For example, in Italy, the wealthier Northern part has lower prevalence in chronic illnesses while the opposite can be observed in

[4] Includes the United Kingdom, which was an EU member when the data was collected.

Finland where wealthier Southern part has higher prevalence in chronic illnesses among young people. Eurostat further shows that the prevalence of chronic illnesses varies by income level: 20% of young people in the first (lowest) income quintile have a chronic disease compared with 13% for the fifth (highest) income quintile. This pattern characterizes all EU member states, with the largest gaps being in Germany, Estonia and Sweden.

Figures 5.1.5 and 5.1.6 finally reveal that both the intra-European differences as well as the North-South divide is most pronounced when calculating the share of those with chronic illness among the urban youth (aged 15-29 years) relative to the active population (aged 15-64). In Bulgaria, the prevalence of chronic illnesses among urban young people is only 20% of that of active population, while the respective figure is 80% in Denmark. The trend towards increased ratio of young people-active population in terms of chronic illness has grown especially rapidly in northern parts of Europe.

Figure 5.1.1. Share of population (16 years of age or above) with chronic illness in EU member states

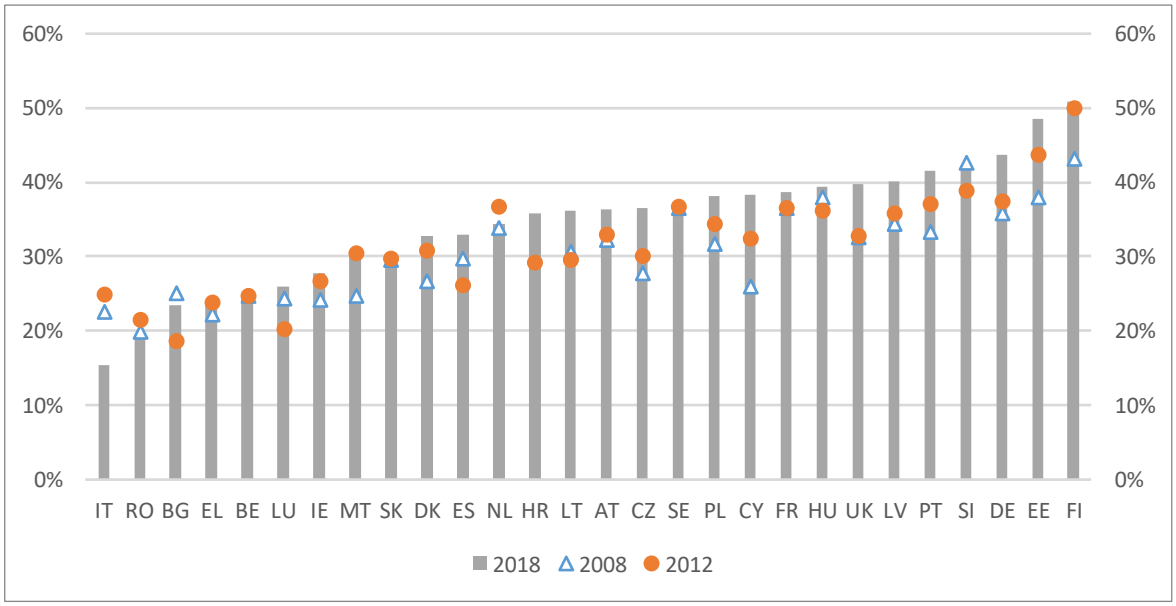


Figure 5.1.2. Share of population (16 years of age or above) with chronic illness in regions of the EU, 2018

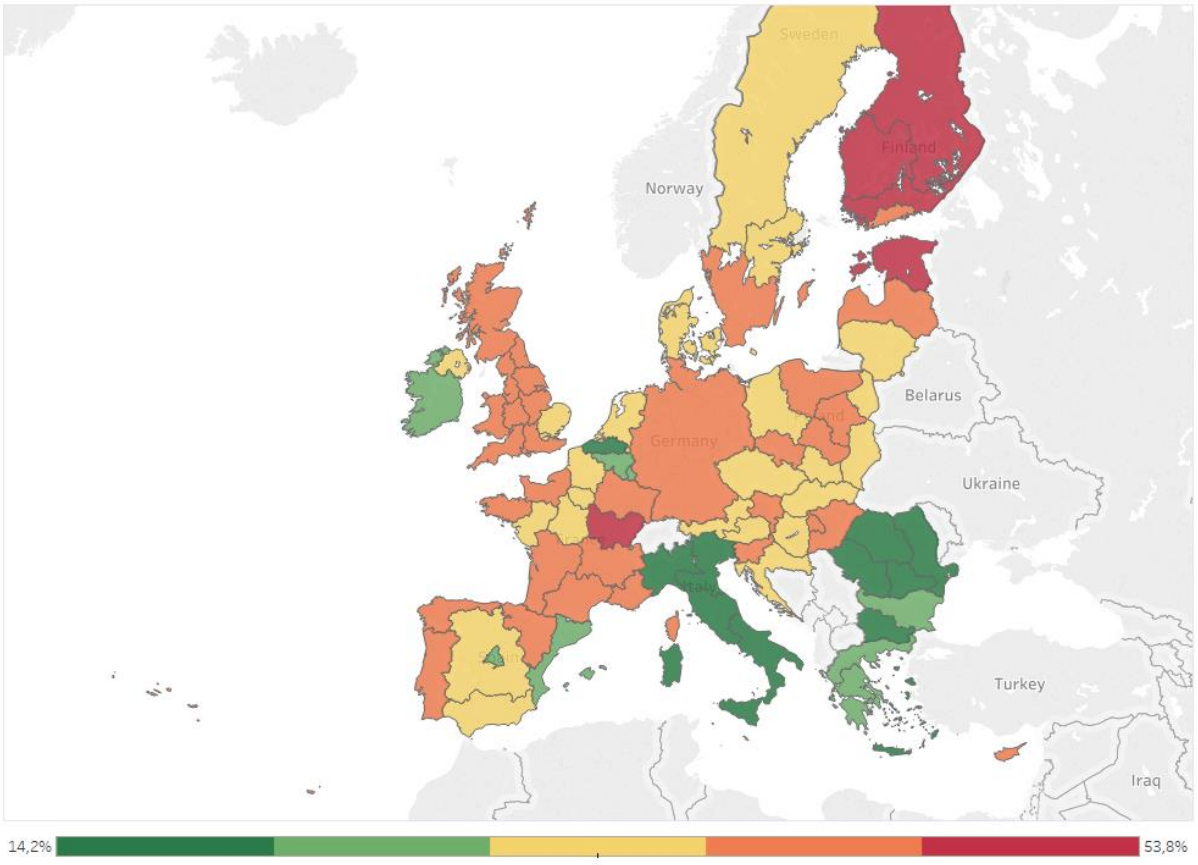


Figure 5.1.3. Share of urban youth (aged 16-29) with chronic illness in EU member states

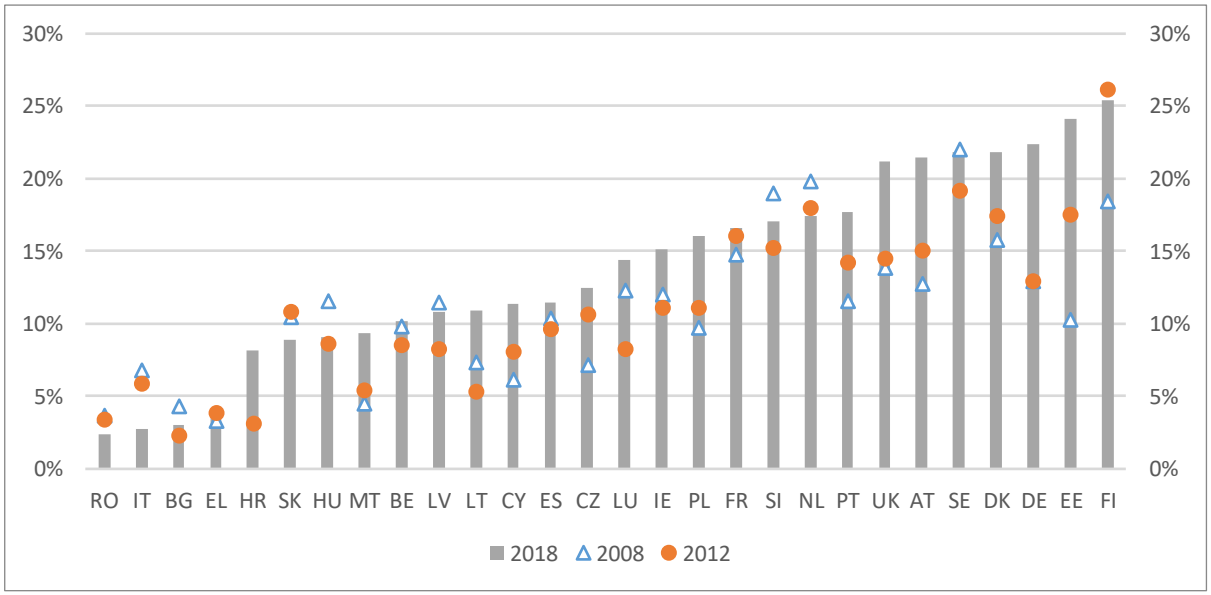


Figure 5.1.4. Point change in share of urban young population (aged 16-29) with chronic illness in regions of the EU, 2012-2018

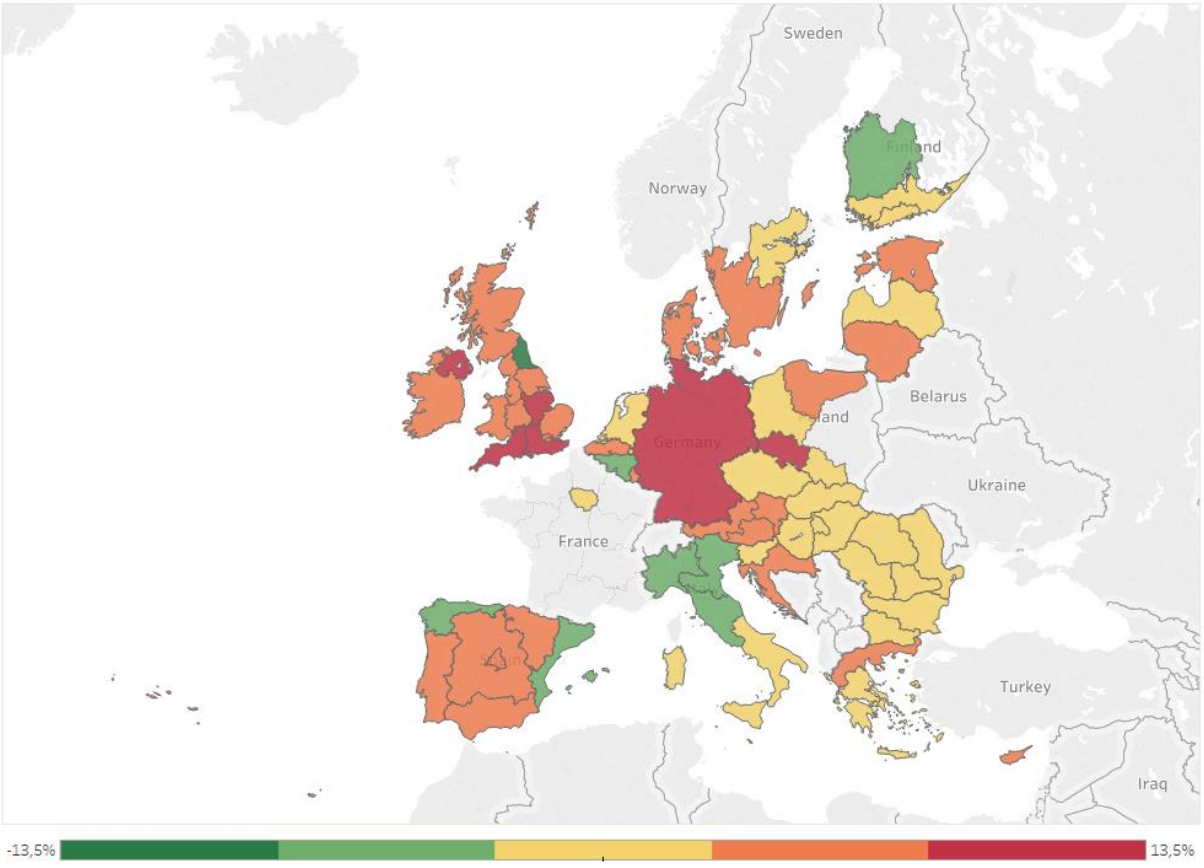


Figure 5.1.5. Share of those with chronic illness among urban youth (16-29) relative to the active age (aged 15-64) in EU member states

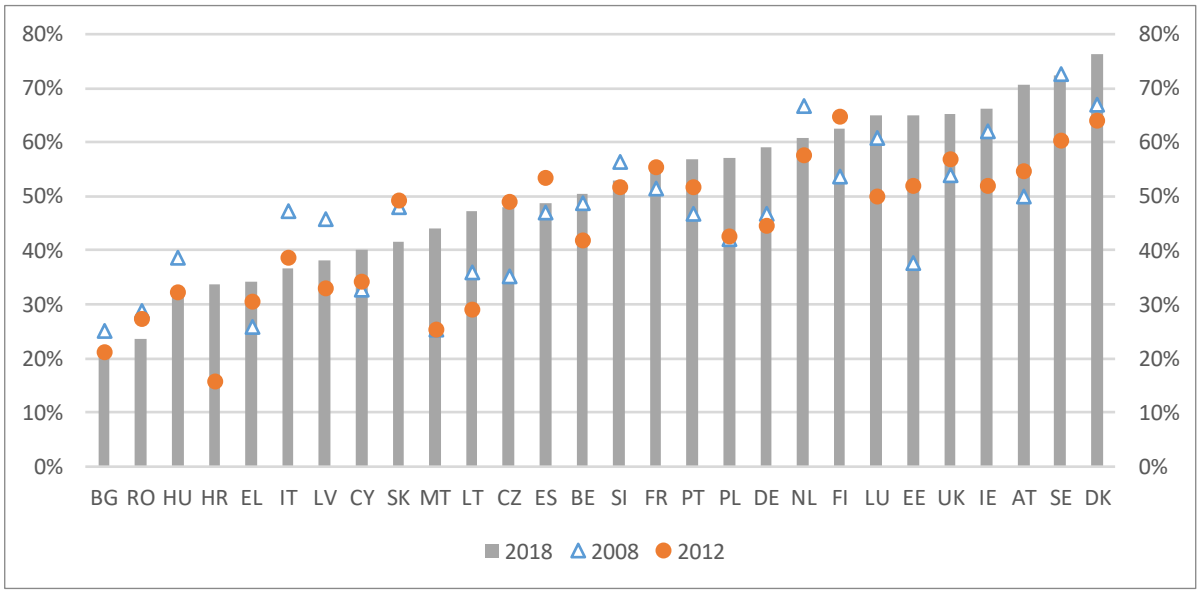
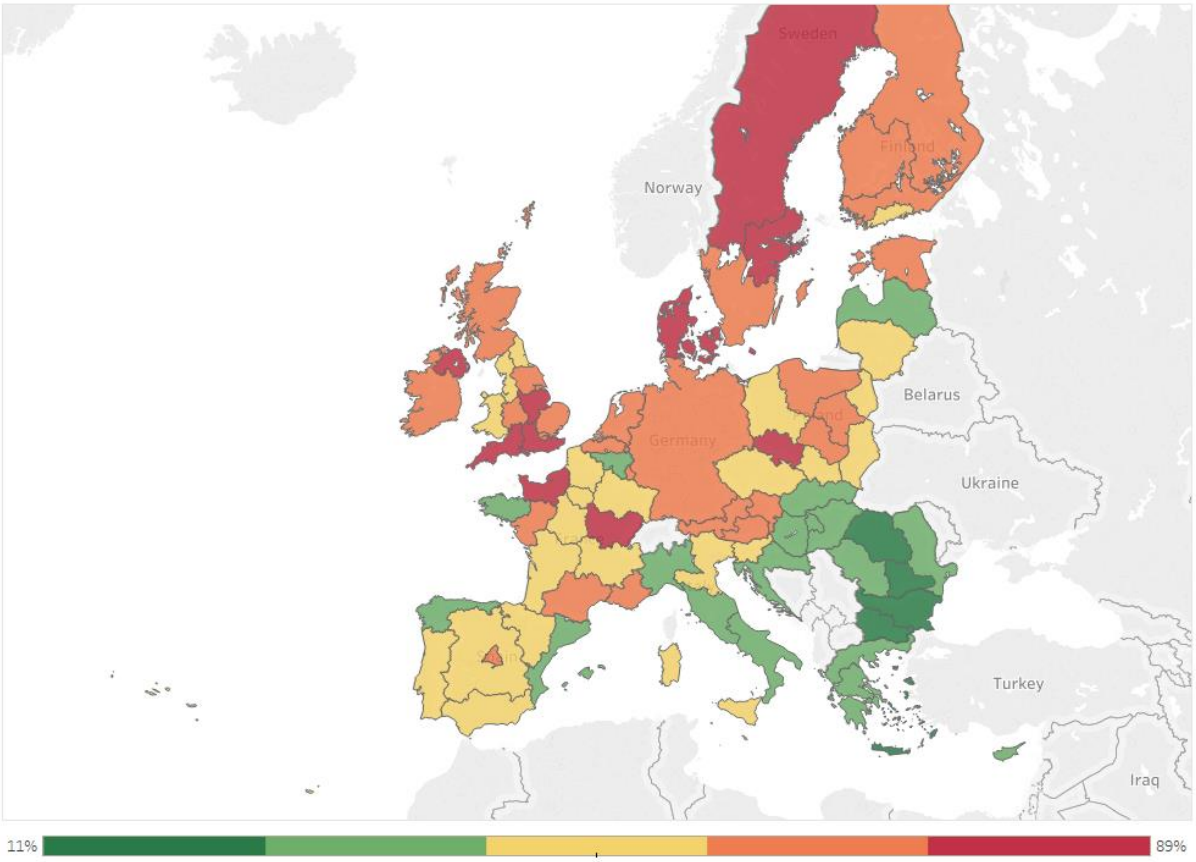


Figure 5.1.6. Share of those with chronic illness among urban youth (16-29) relative to the active age (aged 15-64) in EU regions, 2018



5.5.2 Proportion of people reporting unmet need in medical care

The share of population with unmet needs may vary from 0% to 100% in theory. 0% would corresponds to the extreme when no one has unmet needs, while a value of 100% would indicate a situation where everybody has some sort of unmet need(s). Figure 5.2.1 depicts such values regarding the EU member states for three points in time: 2008, 2012 and 2018. The overarching picture shows that countries with the lowest share of people reporting unmet needs are Austria, Spain, Germany, Malta, Luxembourg, Czech Republic and the Netherlands, while those with the highest share are: Greece, Estonia, Latvia, Poland and Finland. For many countries, changes in this indicator have been minor over time, however, for some there are striking shifts of reportings. On the one hand, certain countries have seen an improving tendency (declining shares of people with unmet needs) in the last decade, between 2012 and 2018. Smaller improvements can be seen in the cases of Germany, Hungary, Cyprus, Portugal, Croatia and Ireland and major ones in Bulgaria and Romania. On the other hand, there are countries where relatively more people noted increased unmet needs in 2018 than in 2012, eg. Greece, Estonia, Finland, Slovenia. In an outstanding number of countries, the share of people with unmet needs has increased from 2008 to 2012, eg. Spain, Malta, Denmark, France, Cyprus, Portugal, Belgium, Slovakia, Ireland, Italy, Romania, Finland, Poland, Latvia, Estonia, Greece.

This increment may be attributed to the effect of the Great Financial Crisis as factors determining whether one reports unmet needs include financial constraints and difficulties to travel. In a large subsample of these aforementioned countries, the 2018 values show signs of recovery compared to the 2012 state[5] - a lower share of population with unmet needs -, eg. Cyprus, Portugal, Ireland, Italy, Romania, Latvia, Poland, which may be explained by economic recovery and exiting of the recession. An interesting outlier is Bulgaria, where the share of people reporting unmet needs has steadily declined through 2008 – 2012.

Regarding regional differences in 2018, in the region of Bruxelle-Capitale in Belgium the percentage of those with unmet needs in medical care amounted to 6.9%, while the same in Vlaams Gewest was only 0.9%. An even larger disparity between regions is detectable in the case of Italy, where in the Isole region the same as above equalled 10.7% in contrast with 2.9% in the Nord-Est region in 2018. This difference may well be explained by the vast economic differences across the different provinces of Italy. In England, the biggest inequality in terms of unmet needs in 2018 is shown between London and Northern Ireland where the corresponding percentages equal to 2.6% and 6.4%, respectively.

Figure 5.2.3 presents a similar to the previous graph, though only regarding the urban youth aged 15-29. As such, we are able to tell how the urban youth differs in terms of their unmet needs as compared to the whole population. Here dynamics are a little different, as in many of the examined countries (Greece, Estonia, Sweden, Slovenia, Finland, Slovakia, United Kingdom, Denmark, Lithuania), the highest share of urban youth with unmet needs in medical

5 Similarly to the Gini coefficient of income inequality.

care is shown in 2018 rather than 2008 or 2012. Countries with the lowest shares of urban youth with unmet needs are Austria, Spain, the Netherlands, Croatia and the Czech Republic. A striking value is the one of Greece, where the share of urban youth with unmet needs amounts to 23.8% in 2018 (2.4% and 2.6% in 2008 and 2012, respectively), while the same is 20.1% for the whole population. This points to the fact that in Greece, the urban youth had relatively more unfulfilled needs than the whole population and a considerable upwards shift in unmet needs – or a change of the youth population structure – has occurred between 2012 and 2018. The pp change in unmet needs between 2012 and 2018 is a striking positive 23 pp in the Greek region of Attiki, 11.5 pp in Nisia Aigaiou, Kriti and 20.9 pp in Voreia Ellada, which can explain the aforementioned change. In Estonia, a similar tendency is prevalent, where the pp change in unmet needs of the urban youth between 2012 and 2018 equals 6.4. On the contrary, in France positive shifts have happened between 2012 and 2018, whereas the reported unmet needs of the urban youth declined. In the Sud-Ouest region by 4.5 pp, in the Méditerranée by 2.4 pp and in the Est region by 2.3 pp.

In Figure 5.2.5 the share of the urban youth with unmet needs in medical care relative to the economically active population is shown. Therefore, values exceeding 100% refer to situations where the share or urban youth with unmet needs is higher than the share of the economically active population with unmet needs. In the majority of the countries, values do not exceed 100% in none of the years under investigation, meaning that the share of urban youth with unmet needs is less than the share of active age population, eg.: Croatia, Bulgaria, the Netherlands, Latvia, Spain, Lithuania, Portugal, Poland, Hungary, Italy, Romania, Cyprus, Austria, Belgium, Estonia, Finland, Ireland, Germany and Greece. In other countries such as Sweden, France, Slovenia or Slovakia, at least in one of the analysed years, values outstrip 100%, suggesting that the urban youth reported more needs unfulfilled than the active age population. Regional differences regarding Finland in 2018 are quite striking. While in the region of Helsinki-Uusimaa, the percentage of the urban youth with unmet needs in medical care relative to the active age population is 13.4%, in Etelä-Suomi (South Finland) it is 140%, and in Pohjois- ja Itä-Suomi (North East) is 137.5%. Some of the highest values are reported for the Swedish regions Sodra Sverige and Norra Sverige, where 226.7% and 210.7% has been the prevailing ratio of urban youth relative to the active aged population (Figure 5.4.6). Similar variation is observable among different regions in France, to give an example: the Figure 5.2.5 value regarding the region of Nord-Pas-de-Calais-Picardie is 215%, for Normandy 87.6% and for Bourgogne-Franche-Comté it is 45.8%. This shows how unmet medical needs vary widely both among countries, but across regions of the same country as well.

Figure 5.2.1. Share of population (16 years of age or above) with unmet need in medical care in EU member states

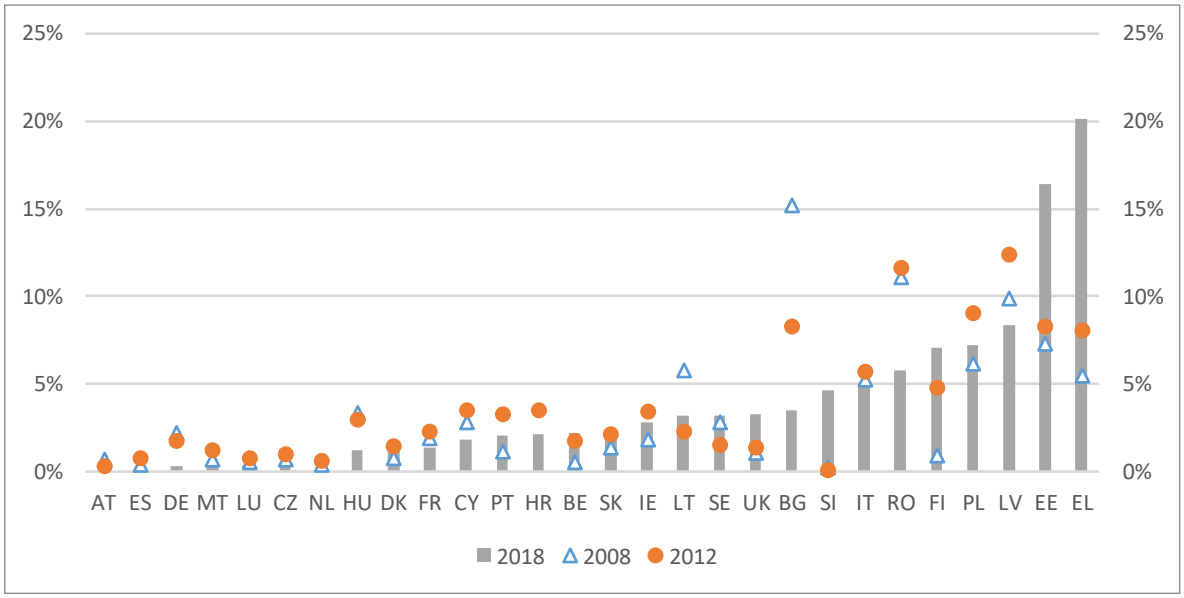


Figure 5.2.2. Share of population (16 years of age or above) with unmet need in medical care in regions of the EU

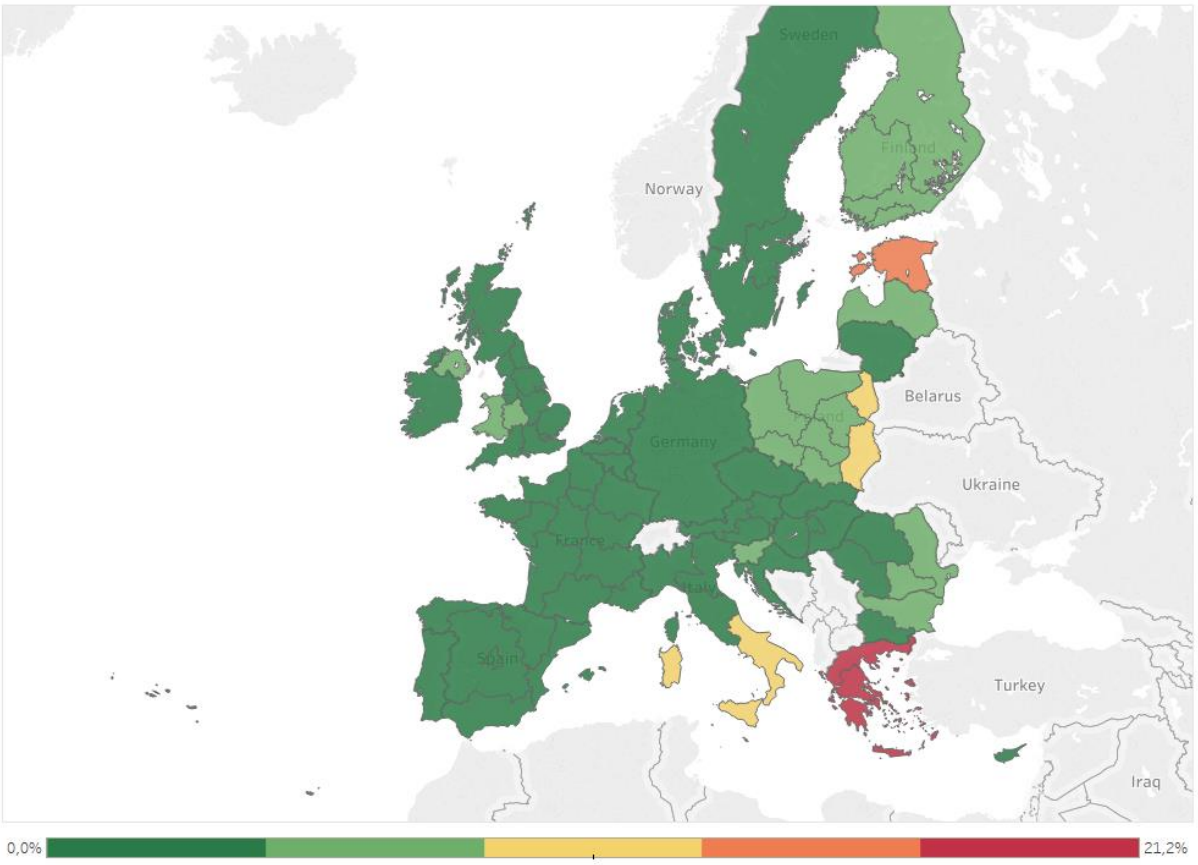


Figure 5.2.3. Share of urban youth (aged 15-29) with unmet need in medical care in EU member states

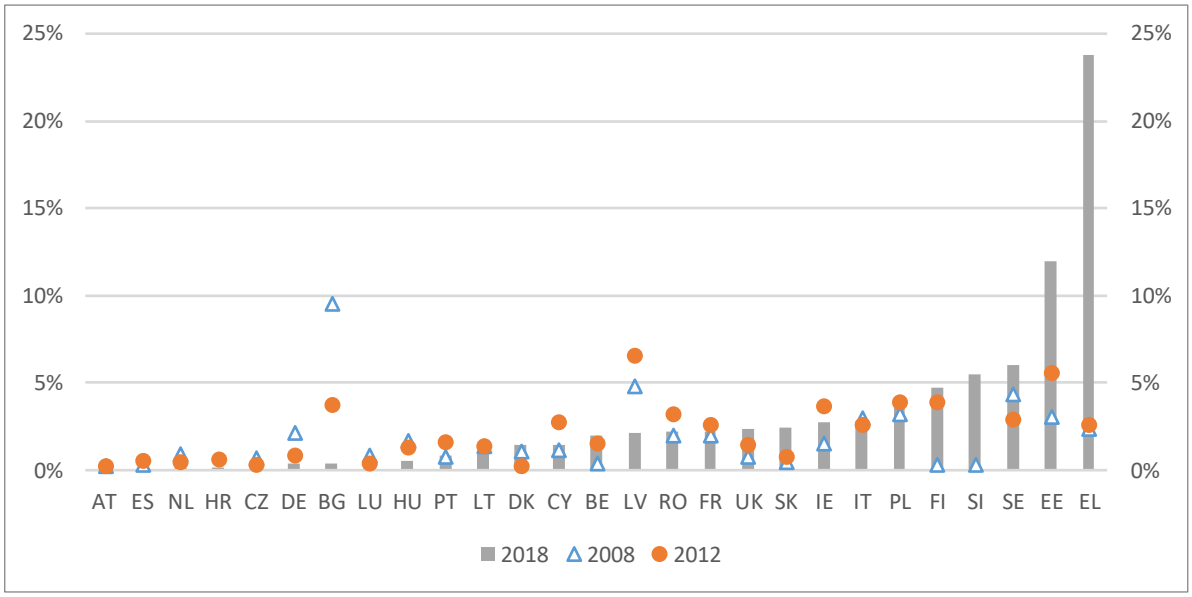


Figure 5.2.4. Point change in the share of urban youth (aged 16-29) with unmet need in medical care in regions of the EU

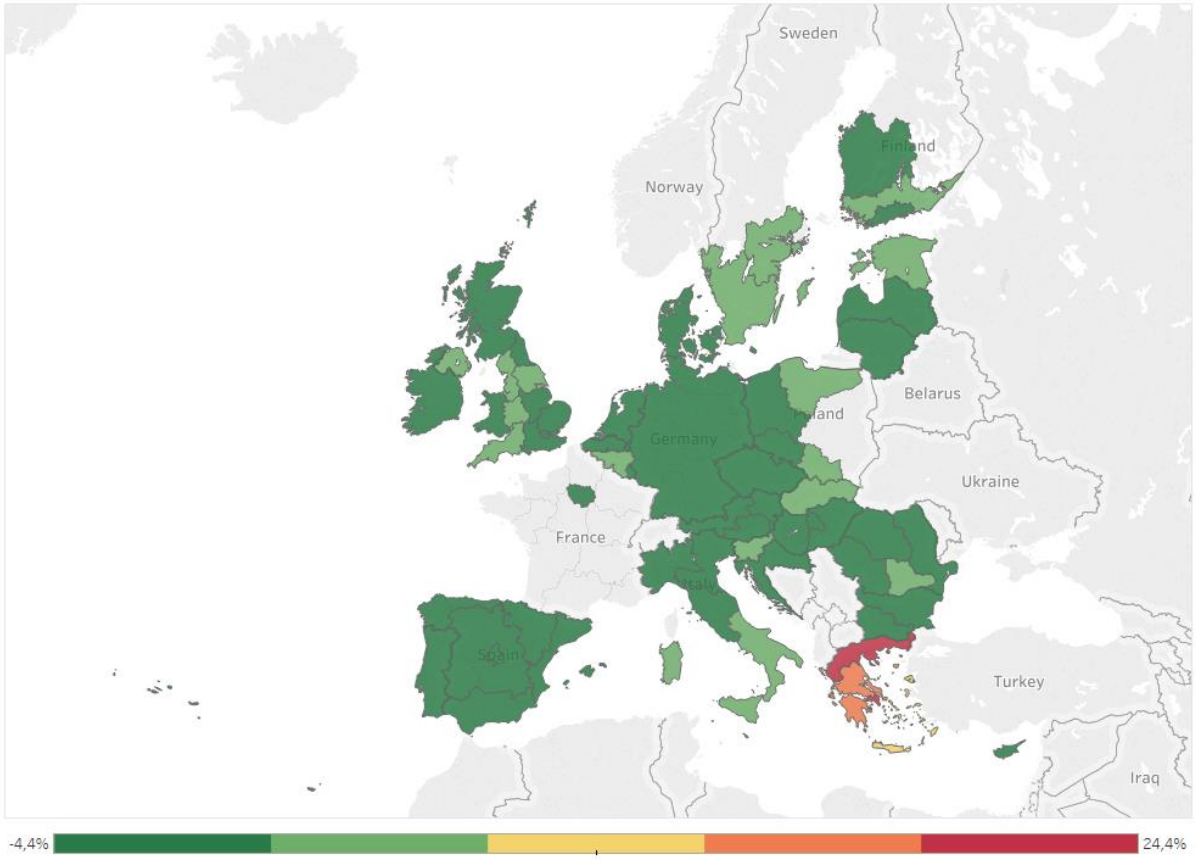


Figure 5.2.5. Share of those with unmet need in medical care among urban youth (16-29) relative to the active age (aged 15-64) in EU member states

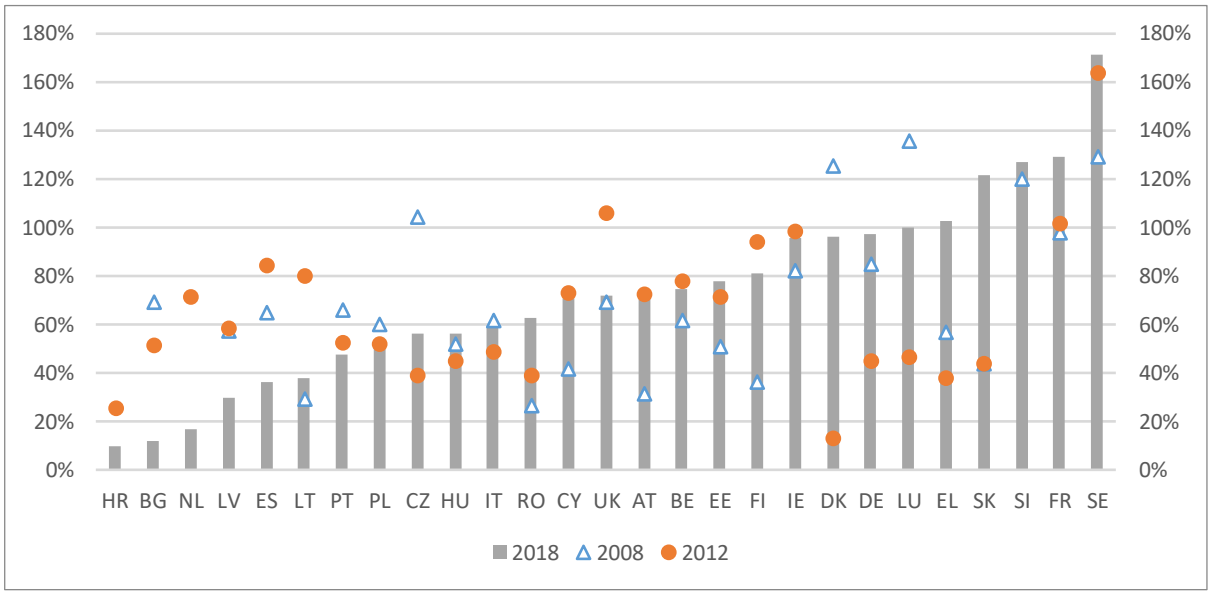
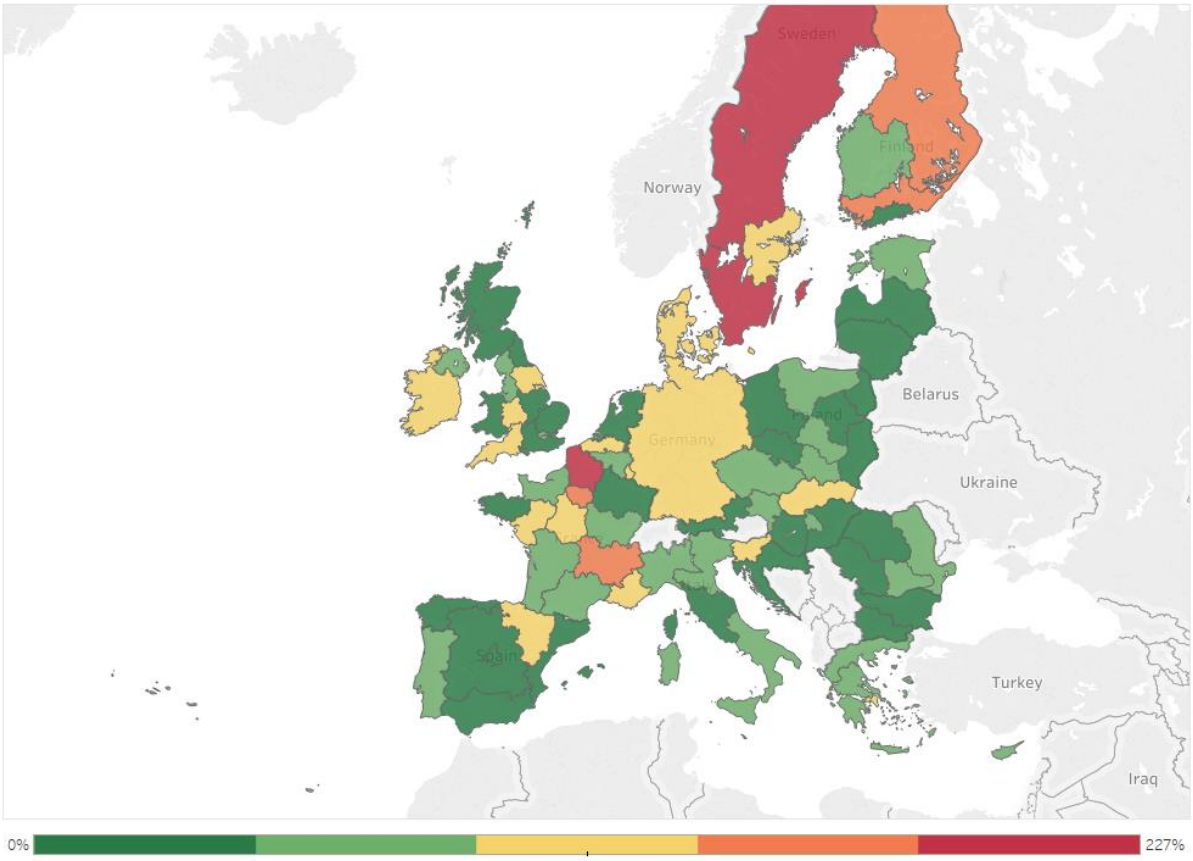


Figure 5.2.6. Share of those with unmet need in medical care among urban youth (16-29) relative to the active age (aged 15-64) in regions of the EU, 2018



5.6 Multiple disadvantage

As described earlier our index of multiple disadvantage is based on the five domains of living standards that we have studied earlier. Each domain (poverty, education, labour market, housing and health) is represented by one binary indicator of disadvantage. In the domain of poverty an individual is regarded as disadvantaged if he/she is at-risk-of poverty or in severe material deprivation. In the domain of education, the disadvantaged are those for whom the highest education degree obtained is lower secondary or lower. In the labour market domain the unemployed will be regarded as disadvantaged. In case of housing the disadvantaged are those living in housing deprivation, while in the case of health, those living with chronic illness. The indicator of multiple disadvantage is defined as those who are disadvantaged in at least three of the five indicators outlined above.

Figure 6.1 illustrates the share of those in multiple disadvantage in EU member states for 2008, 2012, 2018. Having countries ordered based on the 2018 values, countries on the far right end, with a higher share of multiple disadvantaged are Portugal, Bulgaria, Romania and Cyprus. Those with the lowest shares of multiple disadvantaged are the Czech Republic, Slovakia, Germany and Austria. An interesting incident is that on the left of the graph, data points for the three different years are rather close together, while those in the middle and right with more disadvantages are more scattered. This seems to suggest that the value of the indicator is more stable, less volatile among the countries with lower values of the indicator.

Figure 6.2 shows the share of those in multiple disadvantage regarding the whole population in regions of the EU in 2018. In Belgium we find important intra-country regional difference as in Vlaams Gewest this measure amounts to 5,2%, while in Region de Bruxelles-Capitale it is more than three times this: 17,7%. A similarly big difference is noticeable in Spain's case where in the Noreste 8,6% of people are multiple disadvantaged, while in Sur there are 25,5%. Investigating the distribution of all the regions of European member states, we find the Brittany region of France with 4,5% at the lower end, together with the Czech Republic with 4,7% and Slovakia with 5,2%. At the upper end, one can find the Romanian region Macroregiunea Doi with a value of 25,2% or Portugal with 22,7%.

Figure 6.3 shows the share of those in multiple disadvantage in EU member states for the urban youth. The ordering of the countries is somewhat different from the pattern seen in case of the whole population. Countries with less than 5% of multiple disadvantage in 2018 are the Czech Republic, Slovakia, Malta, Poland, Lithuania, Croatia, Estonia and Romania. On the other end of the country ranking Denmark, Portugal, Spain and Bulgaria have values higher than 10%. Between 2008 and 2012 the share of multiple disadvantaged increased among the urban young in case of majority of the countries, but the value of the indicator recovered by 2018 in many cases.

Figure 6.4 shows the point change in the share of those in multiple disadvantage among the urban young population between 2012 and 2018. Negative values mean that in the given region the share of those with multiple disadvantage was decreasing, while positive rates correspond to the opposite. In Austria, to Ostoesterreich region -0,4% corresponds, to Westoesterreich 0,2% and to Suedoesterreich 3,2%. This pattern, that the point change among countries' regions is very divergent is observable across several countries, such as Belgium, Greece, Spain, Finland and the UK.

Figure 6.5 shows the share of those in multiple disadvantage among the urban young relative to the active aged in EU member states. For the majority of the countries the number are below 100%, indicating that multiple disadvantage is less likely among the urban young compared to those in active age. The exceptions are Denmark, Austria and Italy, as in these countries the share of the multiple disadvantaged is higher among the young compared to the active age. Lower incidence of multiple disadvantage among the young is consistent with the theory of cumulative disadvantage, according to which disadvantages experienced in the early stages of life brings additional risks and the accumulation of risks leads to accumulation of disadvantages over the life-course (Melo et al. 2019). In numerous countries, the 2008 and 2012 measures lie below those from 2018, suggesting that lately the situation of the youth became more disadvantaged relative to the active aged population. Southern, Eastern European countries, such as Romania, Lithuania, Malta, Croatia, Slovenia, Greece show up rather at the left end of the distribution, with relatively favourable situation of the urban young in multiple disadvantage compared to the active aged. On the other end we find Western, Northern Countries: Denmark, Austria, Italy, Denmark, Luxembourg or Belgium, with relatively unfavourable situation of the urban young.

Figure 6.6 depicts the share of those in multiple disadvantage among the urban youth relative to the active aged population in regions of the EU in 2018. In 3 different regions of Romania, these relative rates are quite low: in Macroregiunea Unu it is 14%, in Macroregiunea Patru it is 28,3% and in Macroregiunea Trei it is 28,9%. These low values suggest that the share of multiple disadvantages among the youth is relevantly lower than that among the active aged population. Other countries, where regional data was not available, but values relevant for the country as a whole are similar - sufficiently lower than 100% -, are Lithuania with 43,2%, Malta with 51,7%, Croatia with 52% or Slovenia with 56,9%. Inspecting the other end, we find regions of countries more from Western and Northern Europe. These include the french Normandy region with a measure of 178%, Denmark as a whole with 162,5%, in France Bourgogne-Franche-Comté, Pays de la Loire, Aquitaine-Limousin-Poitou-Charentes and Centre-Val de Loire regions with 159,8%, 137,5%, 132,9% and 128,8%, respectively or the Austrian Westoesterreich and Ostoesterreich regions with 123,8% and 117,2%.

Figure 6.1. Share of those in multiple disadvantage in EU member states

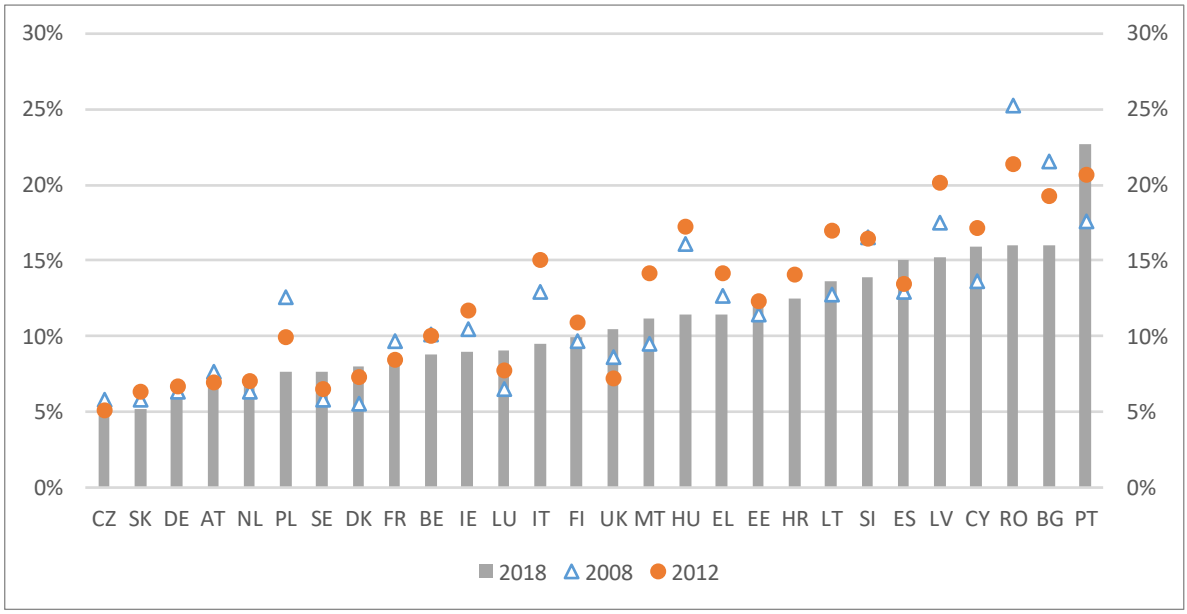


Figure 6.2. The share of those in multiple disadvantage in regions of the EU, total population, 2018

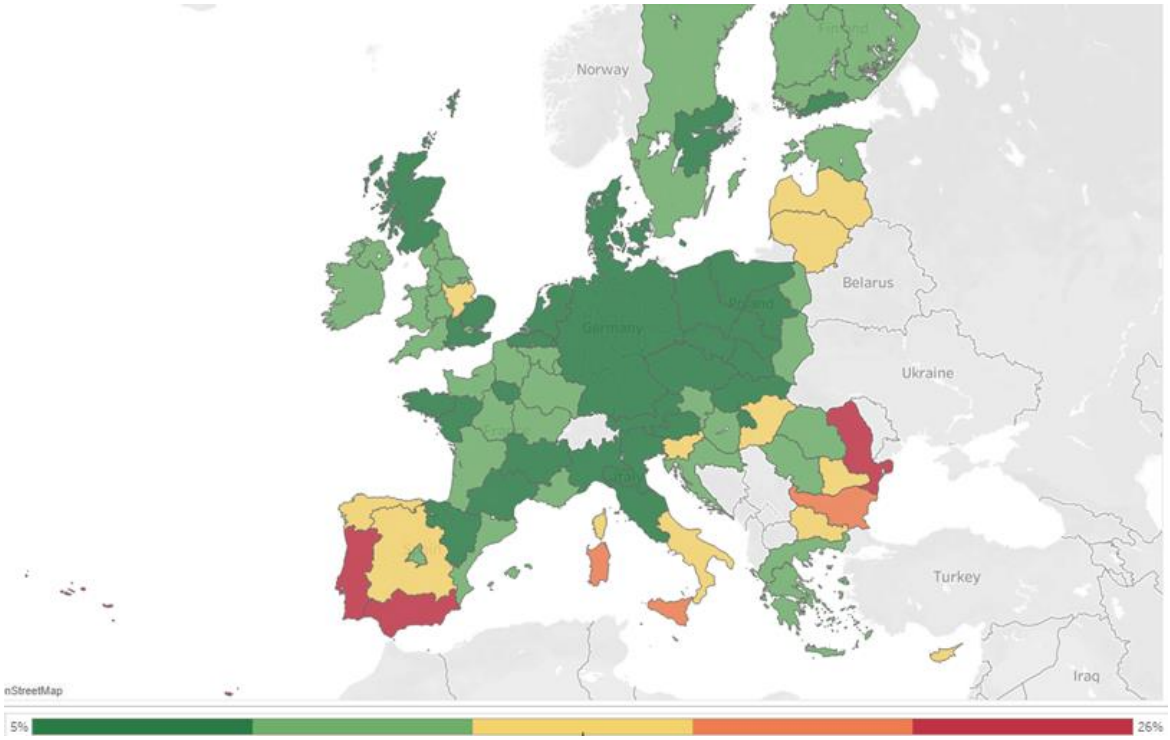


Figure 6.3 Share of those in multiple disadvantage among the urban young (15-29 age group) in EU member states

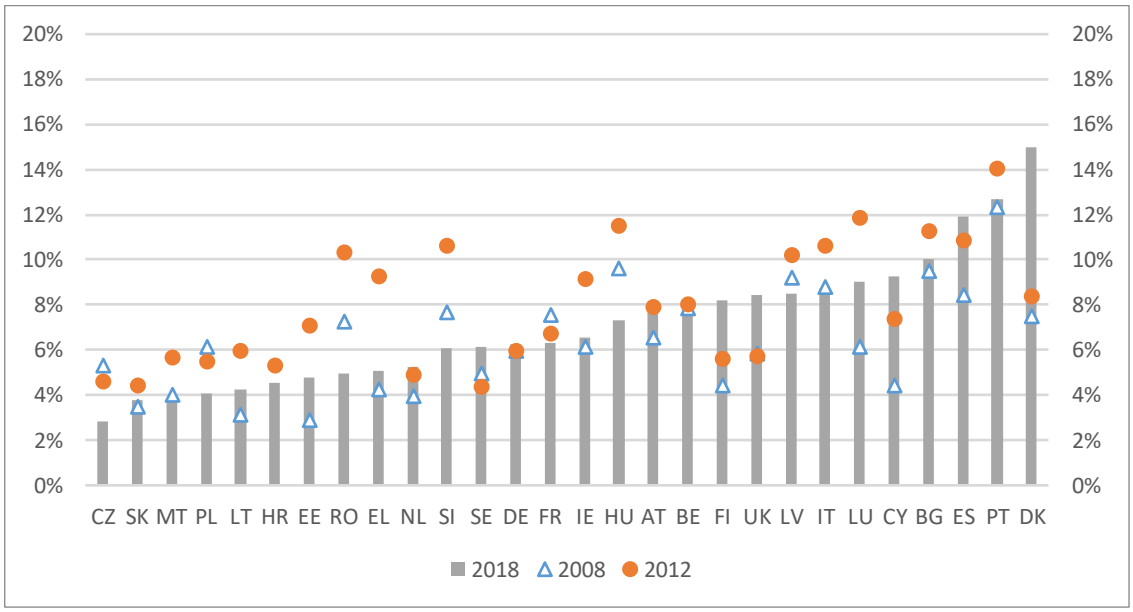


Figure 6.4 Point change in the share of those in multiple disadvantage among urban young population (aged 15-29) in regions of the EU, 2012-2018

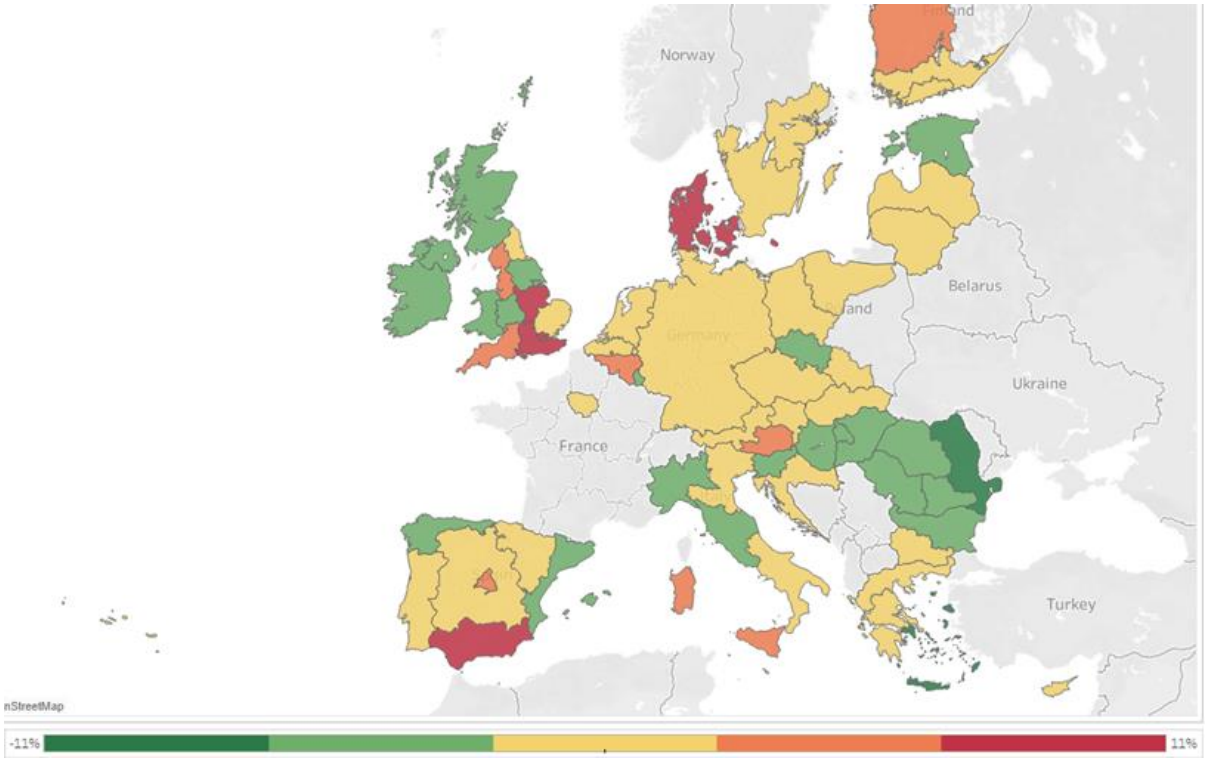


Figure 6.5 Share of those in multiple disadvantage among the urban young (15-29 age group) relative to the active age (15-64 age group) in EU member states

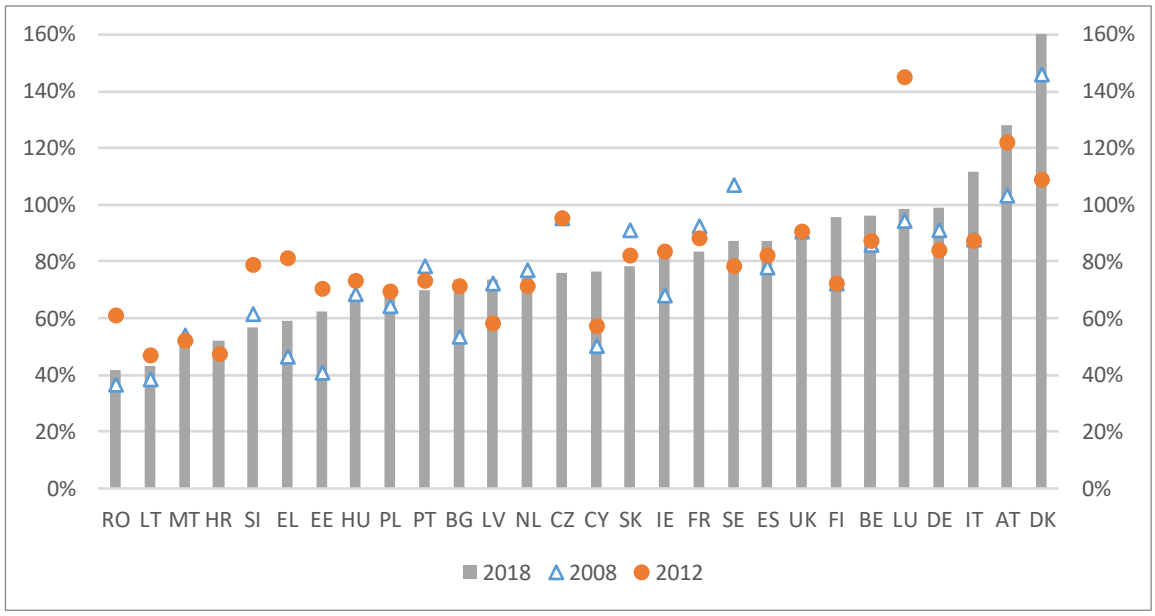
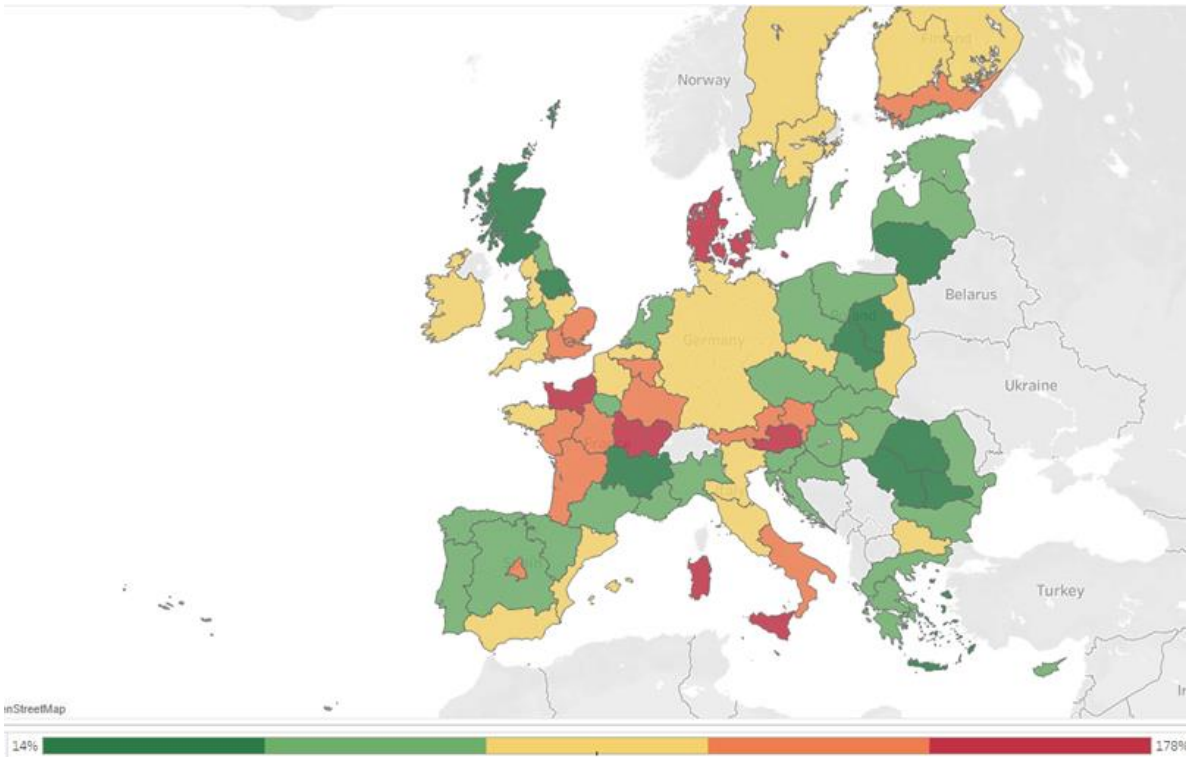


Figure 6.6 The share of those in multiple disadvantage among urban youth (15-29) relative to the active age (aged 15-64) in regions of the EU, 2018



In the following, we turn to the analysis of how the multiple disadvantages are structured in the five dimensions (poverty, education, labour market, housing, health). More precisely we describe the most frequent combinations of disadvantages among the multiple disadvantaged (those who are disadvantaged in at least three domains).

A combination of disadvantages that is outstanding and relevant in many of the countries being analysed in 2018 is when someone is disadvantaged in the poverty domain (is in at-risk-of poverty or severe material deprivation), the education domain (the highest education degree obtained is lower secondary or lower) and are living with some chronic illness (see Table 3). In Finland, out of all multiple disadvantaged people, 44% are disadvantaged in the above described dimensions. In Malta the corresponding figure is 39%, in Croatia and the Czech Republic 36%. The fact that these types of disadvantages go hand in hand might reflect that those poorly educated are definitely with higher chances of being at-risk-of-poverty and hence their health affected. Another case when this combination might arise with high frequency is in countries where there is above average poverty among the elderly who also tend to have poorer health. Also another very eminent and frequent combination is disadvantages in the poverty, education and housing domains. This part of the population is either at-risk-of-poverty or in severe material deprivation, their highest education degree obtained is lower secondary or lower and live in housing deprivation. In Romania 53%, in Bulgaria and Italy 23-29% of all multiple disadvantaged are disadvantaged in such a combination.

Combinations of disadvantages including labour market disadvantage (unemployment) are also prevalent. For example, in Slovakia 46% of those in multiple disadvantage are disadvantaged in the labour market domain, while in Spain 39% of those in multiple disadvantage are unemployed, which is also true for 35% in Finland. In case of the urban young the most frequent combinations are similar as in the total population. One difference is that the combinations involving unemployment are more prevalent among the urban young compared to the total population in almost all countries. The exceptions are Belgium, Germany, Denmark and Sweden.

In the earlier years 2012, also the combination of disadvantages in the poverty, education and health domain was the most frequent one (see Table 2). Out of all multiple disadvantaged, in Finland 44%, in Sweden 40% and in the UK 28% are deprived in such a manner. The increasing prevalence of combinations including unemployment is also visible between 2008 and 2012. During the crisis period multiple disadvantage involving unemployment increased the most in Spain, Greece and Italy, but also Romania and the UK (see Table 1 and Table 2).

Table 1 Combinations of domains of disadvantages among those in multiple disadvantage in 2008 (% among the multiple disadvantaged, whole population)

	Education, Housing, Health	Poverty, Housing, Health	Poverty, Education, Health	Poverty, Education, Housing	Poverty, Education, Housing, Health	Poverty, Education, Labour market	Other with Labour market	Total
AT	18	10	26	11	14	2	19	100
BE	21	6	19	15	11	4	25	100
BG	3	11	20	25	15	6	20	100
CY	20	6	29	16	23	1	5	100
CZ	14	15	15	8	7	7	34	100
DE	7	17	16	8	7	4	42	100
DK	22	10	24	10	8	5	21	100
EE	13	21	28	6	20	1	10	100
EL	22	3	24	25	15	3	9	100
ES	23	3	23	13	10	9	19	100
FI	11	4	55	3	7	6	15	100
FR	26	6	23	9	11	5	21	100
HU	22	15	9	16	18	2	19	100
IE	18	4	31	10	13	8	17	100
IT	24	2	18	23	14	6	13	100
LT	13	19	24	13	18	2	12	100
LU	29	4	18	20	10	2	17	100
LV	7	20	22	17	19	1	14	100
MT	21	1	42	11	9	7	10	100
NL	36	10	23	8	14	1	8	100
PL	15	15	18	18	17	2	15	100
PT	27	0	20	20	15	3	15	100
RO	11	6	3	55	20	0	5	100
SE	15	10	41	4	4	6	21	100
SI	20	14	13	10	23	1	20	100
SK	12	15	28	9	11	6	19	100
UK	15	14	35	12	11	2	10	100

Table 2 Combinations of domains of disadvantages among those in multiple disadvantage in 2012 (% among the multiple disadvantaged, whole population)

	Education, Housing, Health	Poverty, Housing, Health	Poverty, Education, Health	Poverty, Education, Housing	Poverty, Education, Housing, Health	Poverty, Education, Labour market	Other with Labour market	Total
AT	18	11	23	8	8	5	27	100
BE	17	6	18	16	14	5	23	100
BG	3	9	12	32	14	5	24	100
CY	24	6	19	10	19	3	18	100
CZ	12	14	18	7	7	5	35	100
DE	7	19	17	7	6	4	41	100
DK	17	12	18	10	11	3	29	100
EE	20	24	13	8	15	2	18	100
EL	16	4	21	13	11	9	25	100
ES	14	1	18	8	5	22	32	100
FI	11	7	44	3	8	3	25	100
FR	23	10	23	9	10	4	21	100
HR	8	8	25	11	16	7	26	100
HU	11	15	12	17	17	3	24	100
IE	18	5	22	8	9	8	31	100
IT	21	3	18	22	14	8	15	100
LT	14	13	14	14	18	3	25	100
LU	21	3	15	27	8	6	20	100
LV	13	18	9	15	15	2	28	100
MT	30	1	30	11	13	7	8	100
NL	31	16	15	8	12	1	18	100
PL	12	14	21	12	16	4	21	100
PT	27	1	16	11	11	8	26	100
RO	14	7	5	49	19	0	5	100
SE	12	14	40	4	5	5	20	100
SI	15	15	12	9	19	1	30	100
SK	11	13	21	6	10	5	35	100
UK	18	16	28	5	10	3	20	100

Table 3 Combinations of domains of disadvantages among those in multiple disadvantage in 2018 (% among the multiple disadvantaged, whole population)

	Education, Housing, Health	Poverty, Housing, Health	Poverty, Education, Health	Poverty, Education, Housing	Poverty, Education, Housing, Health	Poverty, Education, Labour market	Other with Labour market	Total
AT	19	11	23	8	6	3	30	100
BE	15	8	24	19	12	4	19	100
BG	6	8	14	29	16	5	22	100
CY	24	8	19	9	15	3	23	100
CZ	11	16	36	3	6	7	22	100
DE	7	23	23	6	8	2	30	100
DK	14	22	15	12	9	3	25	100
EE	10	25	27	6	19	1	12	100
EL	17	4	25	13	12	9	20	100
ES	18	2	22	9	10	11	28	100
FI	9	6	44	3	4	5	30	100
FR	24	8	21	8	10	4	26	100
HR	8	7	36	6	15	4	23	100
HU	17	15	10	18	19	2	19	100
IE	15	8	29	9	10	7	23	100
IT	15	2	23	23	8	14	16	100
LT	9	26	15	10	17	1	22	100
LU	22	8	19	17	11	3	20	100
LV	9	30	15	10	18	1	17	100
MT	25	1	39	13	16	1	4	100
NL	22	23	22	7	12	2	13	100
PL	14	19	23	10	15	1	18	100
PT	34	2	16	10	18	3	17	100
RO	11	5	8	53	22	0	1	100
SE	14	12	33	8	7	3	22	100
SI	14	15	20	7	17	3	24	100
SK	10	10	14	9	10	7	39	100
UK	20	15	32	7	12	3	12	100

Table 4 Combinations of domains of disadvantages among the urban young (15-29 years old) in multiple disadvantage in 2018 (% among the multiple disadvantaged urban young)

	Education, Housing, Health	Poverty, Housing, Health	Poverty, Education, Health	Poverty, Education, Housing	Poverty, Education, Housing, Health	Poverty, Education, Labour market	Other with Labour market	Total
AT	18	10	12	25	0	8	27	100
BE	10	2	10	51	6	5	17	100
BG	2	2	0	46	4	5	41	100
CY	10	10	1	31	2	9	37	100
CZ	3	0	29	5	1	44	19	100
DE	12	16	15	22	10	2	22	100
DK	2	26	18	20	12	4	17	100
EE	13	10	20	15	8	2	31	100
EL	1	6	3	31	4	14	41	100
ES	4	4	6	20	4	19	42	100
FI	6	14	24	8	3	16	31	100
FR	11	8	8	27	5	7	36	100
HR	5	5	10	22	4	6	48	100
HU	7	3	2	42	11	4	31	100
IE	4	10	14	25	7	16	24	100
IT	0	3	3	24	1	35	34	100
LT	13	12	3	37	2	5	28	100
LU	11	4	10	37	6	5	28	100
LV	14	4	10	40	10	6	16	100
MT	11	3	10	31	5	10	29	100
NL	12	41	3	21	5	3	15	100
PL	14	8	14	30	8	4	21	100
PT	14	7	7	26	10	5	31	100
RO	0	0	2	90	4	0	4	100
SE	11	17	24	18	5	6	19	100
SI	13	7	2	16	6	8	48	100
SK	4	3	5	28	4	13	43	100
UK	16	19	11	12	6	11	25	100

5.7 Contributions of individual attributes to inequality: a regression-based decomposition approach

In this section we study the contribution of individual attributes (such as age, education, labour market attachment stc.) to overall inequality by an inequality decomposition method. This approach decomposes income inequality and studies what fraction of total inequality is attributable to differences between average incomes of different subgroups of the society by gender, race or education for example. Such decompositions of inequality offers a useful tool for depicting patterns of the proximate drivers of inequality. The approach followed here is a multivariate decomposition based on Cowell and Fiorio (2009), which in turn is based on the results obtained by Shorrocks (1982) and Fields (2003). The contributions of the characteristics of individuals (e.g. age, education level, household composition and household work intensity) to income inequality are calculated based on a multivariate regression analysis. The starting point of the analysis is a regression model of the form:

$$Y_i=\Sigma b_k X_k+\varepsilon_i$$

Where Y_i is equivalised disposable income and X_k (k=1…K) are various individual and household attributes (eg. gender, age, education level etc.) that are measured in the survey, b_k are regression coefficients estimated by the model and ε_i is an error term.

After running the regression, the method by Fields (2003) and Cowell and Fiorio (2009) propose a formula[6] based on Shorrocks (1982) to calculate the proportionate contribution of a right-hand side variable to overall inequality. The advantage of the regression-based decomposition over univariate decomposition methods (e.g. the decomposition of the Theil-index) is that it indicates the contribution of each factor holding the values of the other factors constant, and the contributions of the variables included in the analysis - together with the residual - sum to total inequality.

In this analysis we study factors behind the distribution of equivalised household disposable income. The distribution of disposable income and it's evolution over time is the result of a complex set of processes, involving various economic and demographic factors and their interaction with the social welfare system in place. A household's disposable income is first the result of all incomes from the labour market and the capital market that the members of the household obtain during the year. But the distribution of market income is altered by two types of redistribution: redistribution within the household and redistribution by the government. Members of the same household share their resources, therefore the

[6] The formula used to measure the proportionate contribution of the composite variable $C_k=b_kX_k$ to overall inequality is $cov(C_k,Y)/var(Y)$,where b_k is the estimated regression coefficient for variable k, X_k is the value of the k-th explanatory variable, "cov" stands for covariance and "var" stand for variancve.

consumption and living standards of individual household members depend on total household income and on the number of active and inactive household members.

The distribution of market income is then modified by the payment of social insurance contributions and taxes and the receipt of transfers from the government. In the analysis we restrict the sample to those in active age (between 15 and 64 years of age) as here we are mainly interested in inequality among the active age and less concerned about inequality between the active age and those in inactive phases of the lifecycle (the children and the elderly).

In the set of right-hand side variables we include various factors that are relevant for income formation of households. Household income from employment depends above all on the extent to which household members are in work and, if they are, on whether they work full time or part-time. It also depends on factors related to the distribution of wages, such as education level, gender or age (which is related to labour market experience). Spatial variables also affect employment chances: the degree of urbanisation and region might also affect opportunities on the labour market. In addition to factors related to income from employment, the importance of household structure also has to be considered. Demographic characteristics of the household - such as the presence of dependent children in the household - also affect equivalised household income. Based on these considerations, we define grouping variables partly on the level of the individual, such as gender[7], age, education level; and partly on the level of household: household structure, work attachment of the household members, degree of urbanisation and region.

In the following we present the main results of the analysis by describing the differences between countries in the proportional contribution of various population characteristics to total inequality.

5.7.1 Income differences between age-groups

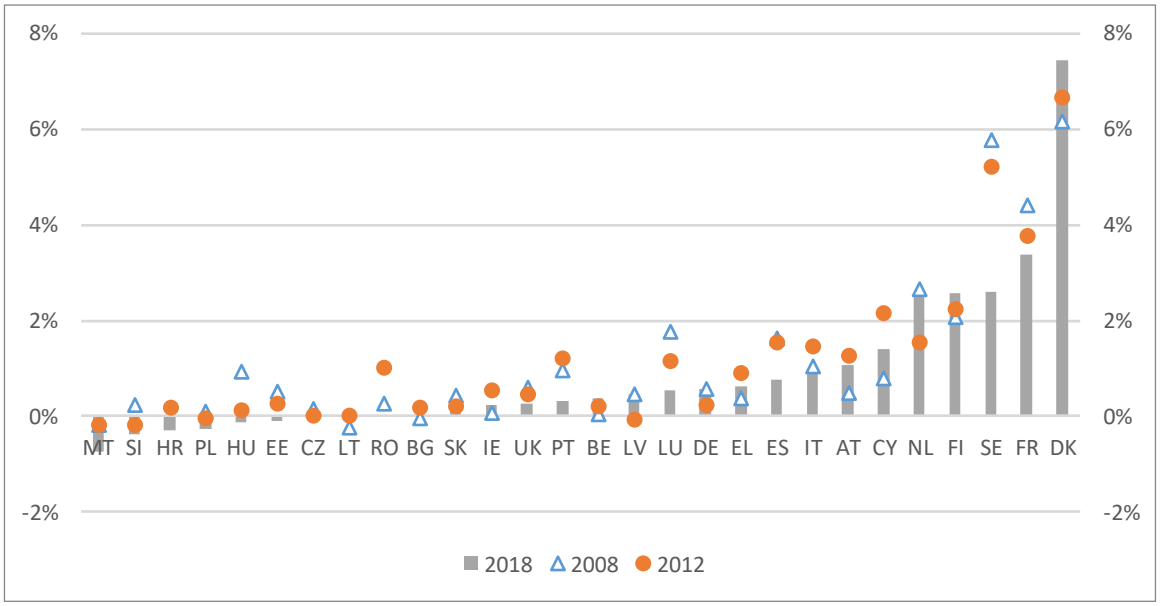
To examine the effect of age on the distribution of income, working age individuals were divided into three groups: young working age (15-29), mid working age (30-49) and older working age (50-64. As it is shown in Figure 7.1, in general, differences in income between those in the different age groups contribute relatively little to overall inequality of disposable income among working age individuals. There are however a few countries – most importantly the Northern European countries, France and the Netherlands – where the contribution of age is relatively important. The highest contribution can be seen in Denmark, where income differences between age groups account for 7,5% of total inequality. In case of Denmark the contribution of age is more important than all of the other factors (including education) except work intensity of the household. The regression results show a steep age-income profile in

[7] Although we include gender in the regression models, it's effect is not analysed separately, as the contributions to inequality of disposable income are very small in all countries. As our analysis is about disposable income reflecting the impact of redistribution within households and by the government, this analysis is not suitable study gender gaps in employment and wages for example.

case of Denmark: income among the middle aged exceeds that of youngest age group by 19%, while among the older age groups income is 42% higher than among the young. The income disadvantage of the young is also important in France, where incomes among the older age group are 29% higher compared to the young. In Denmark the contribution of age to total inequality has increased since 2008, while in case of Sweden and to some extent in France a decline in the contribution of age can be detected.

It has to be taken into account that in cross-sectional analysis differences between age groups reflect ageing affects and cohorts effects in the same time. Over time individuals accumulate experience on the labour market and are able to find the job that best matches their skills which results in increasing earnings with aging. But differences between cohorts might alter the picture. Eg. in case of transition countries the depreciation of human capital accumulated during the socialist period leads to smaller earnings advantage among older workers. In addition, it has to be kept in mind, that the analysis here is about disposable income, which reflects also the effect of redistribution within households and redistribution by the government as well.

Figure 7.1 The proportional contribution of income differences by age to total inequality among the active age (15-64 years of age)

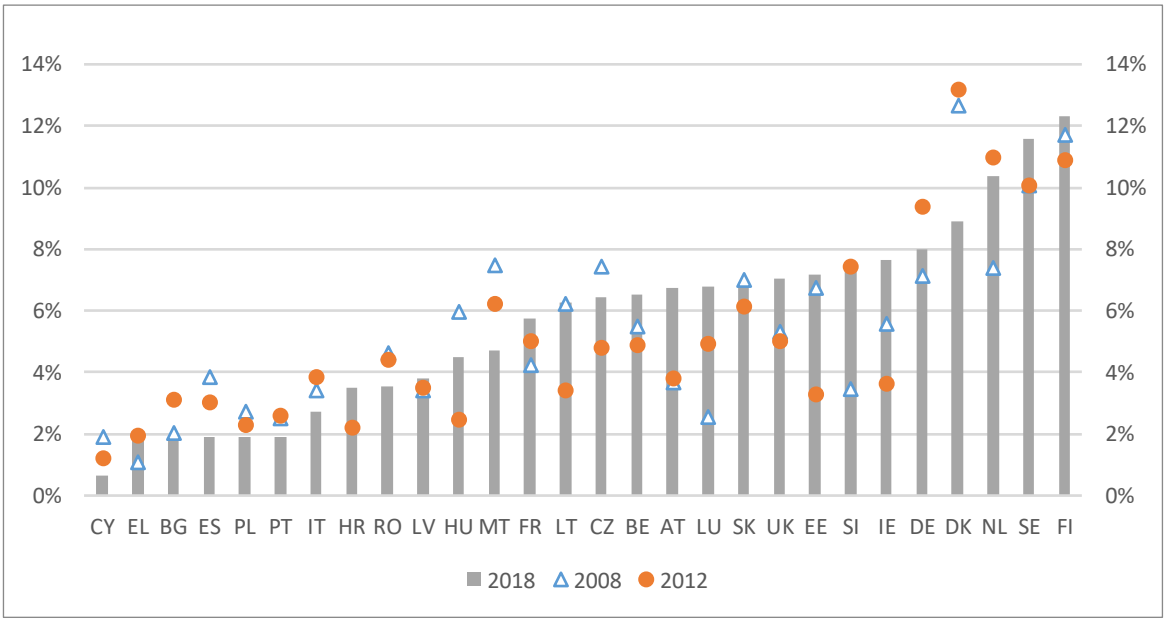


5.7.2 Income differences between groups with different household structure

Households are divided into six broad types to assess the effect of household composition on income inequality: one-person households, two- or more-person households without children, single-parent households, two-person households with one or two children, two-person households with three or more children, and other households with children. In 2018 the role of household structure is again most important in the Northern European countries, most notably in Finland and Sweden and the Netherlands. In these countries the contribution of the

variable is higher than 10%. In the majority of EU member states the contribution of household structure to overall inequality is higher than 6%. In countries where household structure seems to be more important the basic pattern shows lower income among the one-adult households and the single-parent households compared to other household types. On the other hand, in Southern European countries such as Cyprus, Greece, Spain, Portugal and also in Bulgaria and Poland the contribution of household structure remains under 2%. In France, Austria, Luxembourg, UK, Slovenia, Ireland, the Netherlands and Sweden the contribution of household structure increased between 2008 and 2018. In Spain, Hungary, Malta, the Czech Republic and Denmark the importance of income differences between households of different composition declined.

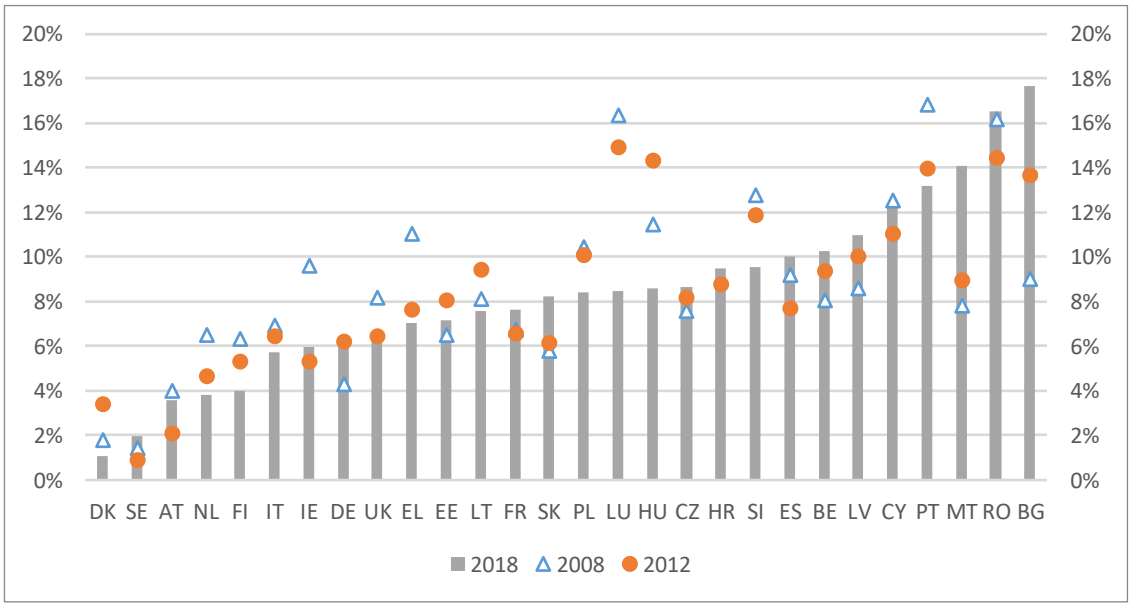
Figure 7.2 The proportional contribution of income differences by household structure to total inequality among the active age (15-64 years of age)



5.7.3 Income differences between groups with different levels of education

In order to assess the effect on income distribution of variations in educational attainment, individuals were divided into three groups, according to their highest level of education obtained: only basic (primary or lower secondary) schooling, upper secondary education, or tertiary qualifications. Figure 7.3 shows the effect of education on income inequality in the years studied.

Figure 7.3 The proportional contribution of income differences by levels of education to total inequality among the active age (15-64 years of age)



There is considerable variation between Member States in the contribution of education level to overall inequality as shown in Figure 7.3. Despite this variability, overall education seems to a more important in shaping the income distribution compared to the demographic characteristics reviewed earlier. In 2018 income differences between people with different education level accounts for 17,7% of overall inequality in Bulgaria and 16,5% in Romania. Also Malta, Portugal and Cyprus show relatively high contributions, with values between 12 and 14%. On the other end of the country ranking Denmark and Sweden record only 2% contribution of education to overall income inequality, while Austria, Netherlands and Finland have 4%. The contribution of education increased the most between 2008 and 2018 in Bulgaria, Malta, Slovakia, Latvia and Belgium, while it declined most importantly in Luxembourg, Greece, Ireland, Portugal, Slovenia and Hungary.

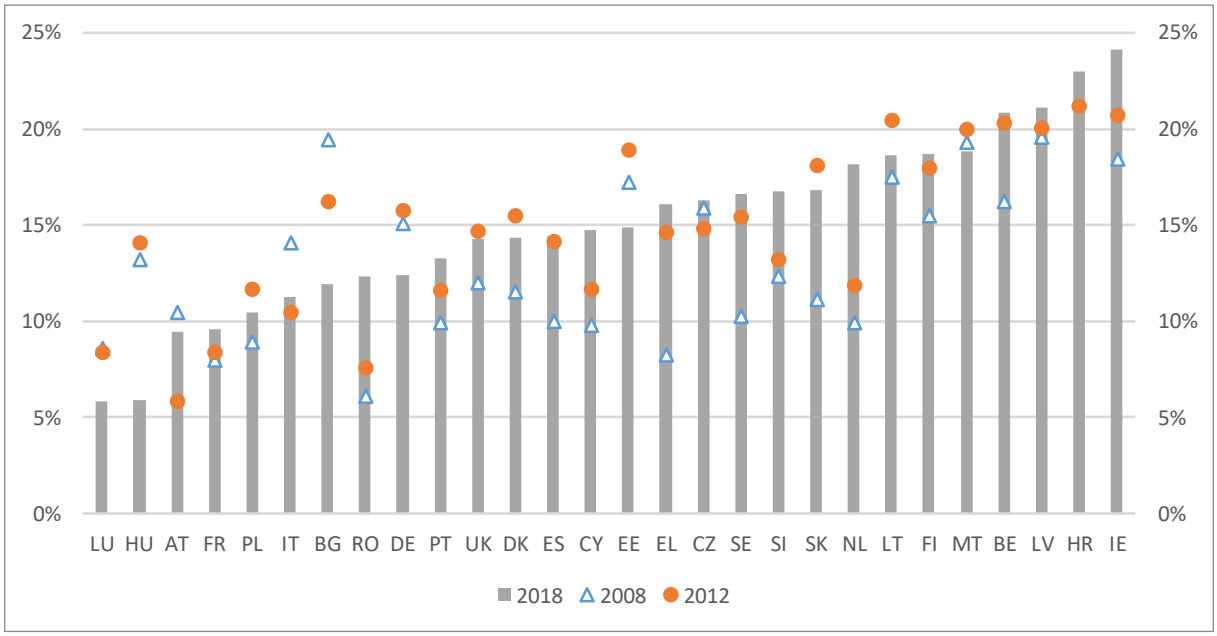
5.7.4 Differences between groups according to work attachment of the household members

The work attachment of household members is measured by work intensity which is defined here as the ratio of the number of months spent in employment during the year by household members of working age (i.e. those aged 16-64) - adjusted for part-time working (i.e. weighted by the number of hours worked per week relative to 35) - to the number of months they would work if they were all employed full time (defined as working 35 hours a week or more) throughout the year. Households where everyone of working age is employed full time throughout the year have a work intensity of 1. Those where no one of working age is employed have a work intensity of 0, while those with only one partner of a couple in full-time

employment have a work intensity of 0.5. Households are divided into three groups with respect to work intensity: less than or equal to 0.5; 0.5-0.99; and 1.

Work intensity of the household of the individual is the most important among the factors studied here: its contribution is between 6% in Luxembourg and 24% in Ireland. In addition to Ireland, countries where the contribution of work intensity to overall inequality is the highest are Croatia, Latvia and Belgium, where the contribution exceeds 20%. Countries where the contribution of work intensity is low are Hungary, where the work intensity account for 6% of overall inequality – similarly to Luxembourg. Austria, France and Poland follow among the countries with lowest contribution, with values close to 10%. Between 2008 and 2018 the contribution of work intensity increased by at least 3 percentage points in 13 countries, most importantly in the Netherlands, Greece, Sweden, Romania. Decline in the role of work intensity of similar magnitude has been observed only in case of two countries, Bulgaria and Hungary.

Figure 7.4 The proportional contribution of income differences by levels of household work intensity to total inequality among the active age (15-64 years of age)

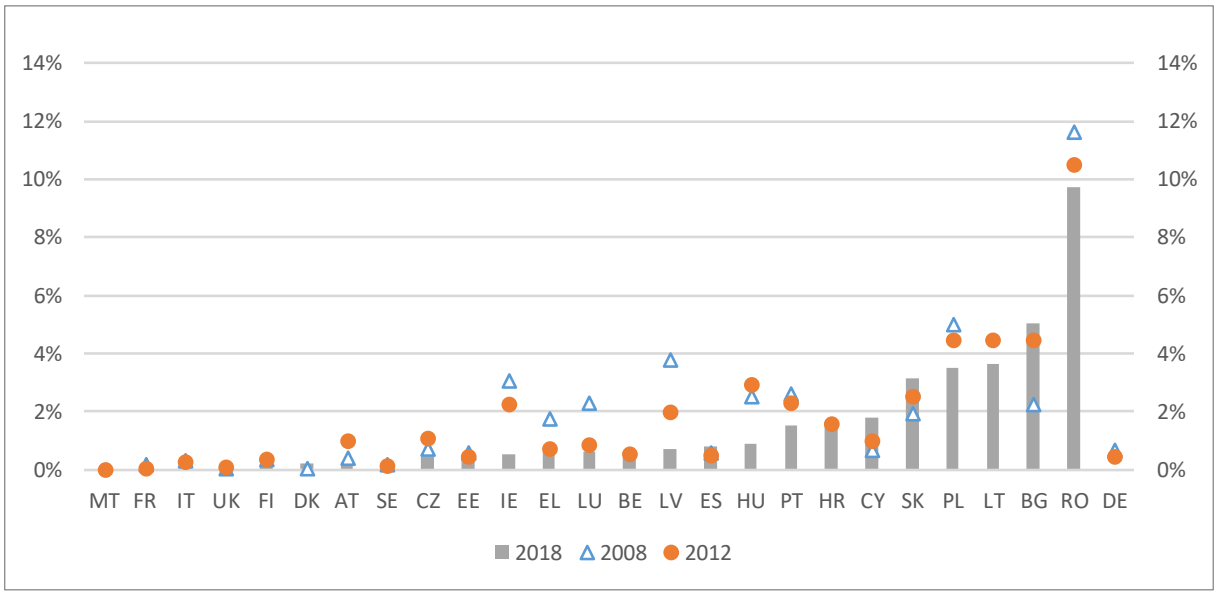


5.7.5 The role of spatial variables: urbanisation and region

Income differences according to the degree of urbanisation account only for a small part of income inequality in most EU member states (See Figure 7.5.1). In 2018 the contribution of degree of urbanisation to overall income inequality exceeded 2% only five countries. Urbanisation plays the most important role in Romania, where income difference between people living in rural and urban areas account for 10% of income inequality. In Bulgaria the

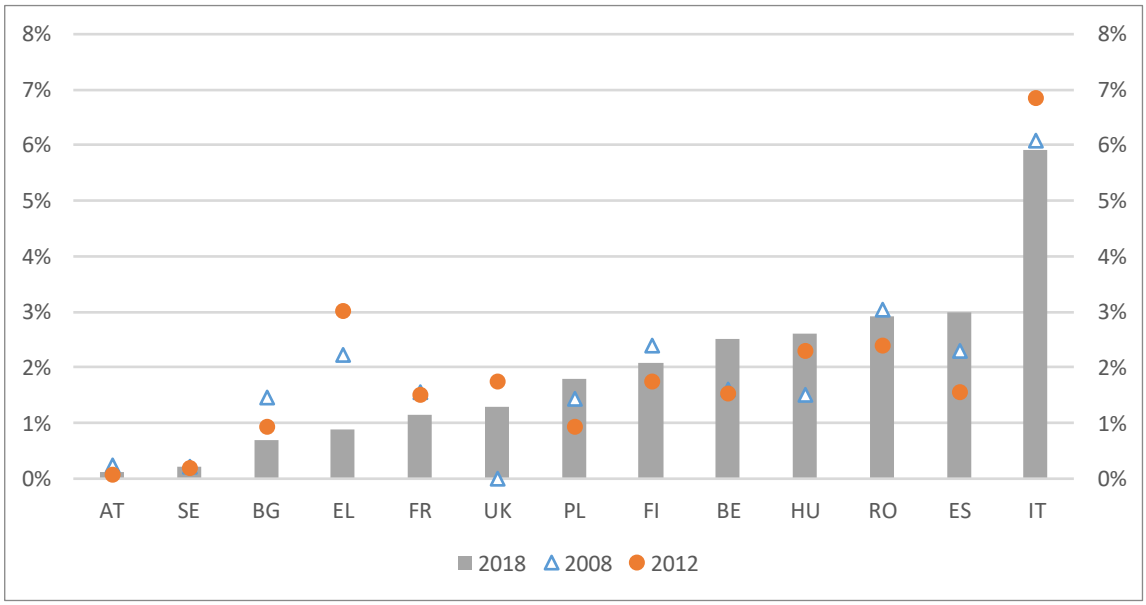
contribution of urbanisation is 5%, and three more countries Lithuania, Poland and Slovakia have values higher than 3%. Only Bulgaria and to some extent Slovakia have seen the contribution of this factor increase between 2008 and 2018. In case of the other countries the role of urbanisation has been stagnating or declining during this period.

Figure 7.5.1 The proportional contribution of income differences by degree of urbanisation to total inequality among the active age (15-64 years of age)



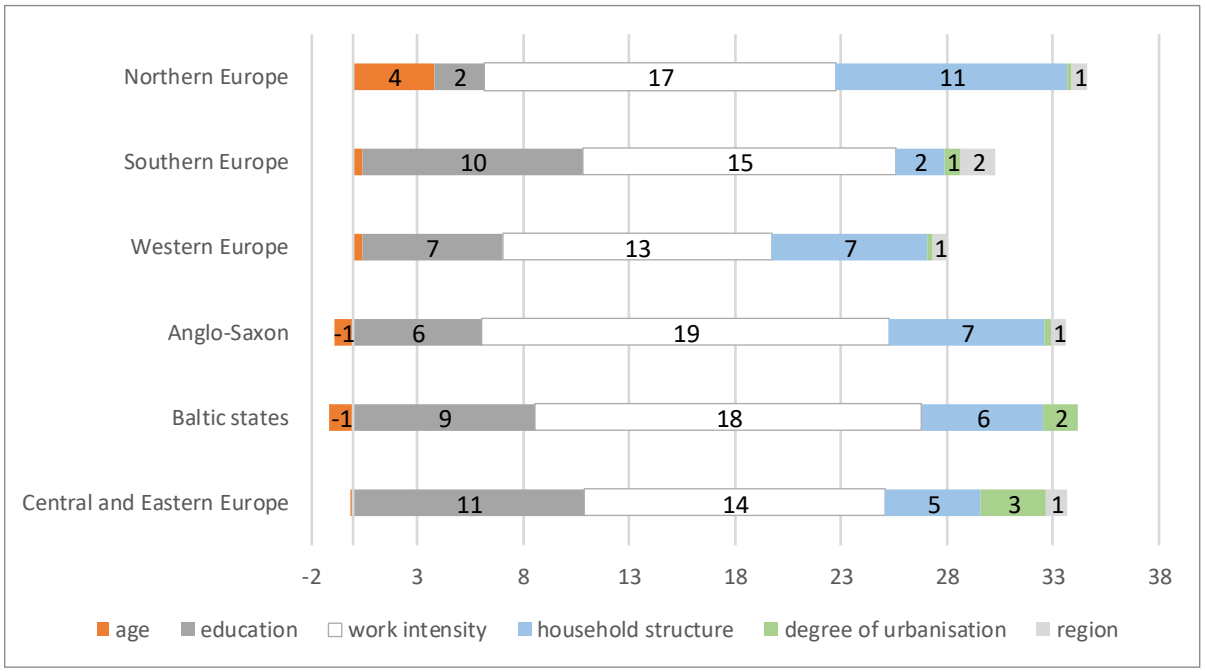
We have also looked at the contribution of regional income differences to total. We looked at regions at NUTS1 level, but we had to restrict the analysis those countries where regional data was available and where the country has more than one NUTS1 level regions (see Figure 7.5.2). In all years regional income differences are most important in Italy, where these differences account for 6-7% of overall inequality. In 2018 the contribution of differences between regions is around 3% in Spain and Romania and there are only two more countries (Belgium and Hungary) where it is higher than 2%. In Austria and Sweden regional income differences do not contribute to inequality, while in case of Bulgaria and Greece the contribution is lower than 1%. Limitations of the analysis have to naturally acknowledged here: due to lack of data we were not able to look at the effect of regional difference at a finer level of disaggregation.

Figure 7.5.2 The proportional contribution of income differences by region (NUTS1) to total inequality among the active age (15-64 years of age)



To summarise the results of the inequality-decomposition analysis, we calculated the average contributions of different variables over groups of countries (see Figure 7.6). In Northern Europe work intensity has an important contribution to inequality of disposable income, but demographic variables such as age and household structure are also relatively more important than in other country groups. In Southern Europe education and work intensity are dominant but regional differences also contribute to inequality of disposable income. In Western Europe the contribution of work intensity is relatively lower, while education and household structure have similar contributions. In the Anglo-Saxon countries the pattern is similar to the one observed in Western Europe but the contribution of work intensity is even more important. In the Baltic states and Central and Eastern European countries education is relatively more important than in the other country-groups and urban-rural differences also contribute to inequality as shown by the degree of urbanisation variable.

Figure 7.6. Average contribution of different variables to inequality of disposable income among those in active age (15-64 years) by country group



Note: numbers here are unweighted averages over countries. Northern Europe includes: Sweden, Finland and Denmark. Western-Europe: France, Germany, Belgium, Netherlands, Luxembourg, Austria. Southern Europe: Spain, Italy, Greece, Portugal, Malta, Cyprus. Central Eastern Europe: Visegrad countries, Slovenia, Romania, Bulgaria, Croatia. Baltic states are Estonia, Lithuania and Latvia.

Table 5 Proportionate contributions of variables to inequality of disposable income among the active age (15-64 years) calculated with the Fields method, 2018 (%)

	Age	Education	Work intensity	House-hold structure	Degree of urbanisa-tion	Region	Residual
AT	0.7	3.6	9.5	6.7	0.3	0.1	79.2
BE	-0.3	10.3	20.8	6.5	0.6	2.5	59.3
BG	1.5	17.7	12.0	1.8	5.1	0.7	61.3
CY	-0.8	12.4	14.7	0.6	1.8	0.0	71.2
CZ	-1.3	8.6	16.3	6.4	0.4	0.0	69.4
DE	-1.3	5.9	12.4	8.0	0.0	0.0	74.9
DK	6.2	1.1	14.4	8.9	0.2	0.0	69.2
EE	-1.1	7.2	14.9	7.2	0.4	0.0	71.4
EL	-0.4	7.1	16.1	1.8	0.6	0.9	73.9
ES	0.5	10.0	14.4	1.9	0.8	3.0	69.4
FI	2.5	4.0	18.7	12.3	0.1	2.1	60.3
FR	2.3	7.7	9.6	5.8	0.0	1.1	73.6
HR	-0.8	9.5	23.0	3.5	1.6	0.0	63.2
HU	0.1	8.6	5.9	4.5	0.9	2.6	77.4
IE	-0.8	5.9	24.1	7.6	0.5	0.0	62.5
IT	1.7	5.7	11.2	2.7	0.0	5.9	72.6
LT	-1.3	7.6	18.6	6.3	3.7	0.0	65.1
LU	0.1	8.5	5.8	6.8	0.6	0.0	78.1
LV	-1.1	11.0	21.1	3.8	0.7	0.0	64.4
MT	0.4	14.1	18.8	4.7	0.0	0.0	62.0
NL	0.9	3.8	18.2	10.4	0.0	0.0	66.8
PL	-1.9	8.4	10.5	1.9	3.5	1.8	75.8
PT	1.0	13.2	13.3	1.9	1.5	0.0	69.1
RO	1.5	16.5	12.4	3.5	9.7	2.9	53.4
SE	2.8	2.0	16.6	11.6	0.3	0.2	66.6
SI	-1.6	9.5	16.7	7.6	0.0	0.0	67.8
SK	1.2	8.2	16.8	6.9	3.2	0.0	63.7
UK	-1.0	6.2	14.3	7.1	0.1	1.3	72.0

Note: regression models also control for gender.

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