Economic Growth, Poverty, Inequality and Social Transfers in the European Union

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Introduction

Combating poverty and social exclusion is one of the main targets of social policy measures implemented by the EU and its member states (Maastricht Treaty). Reduction of poverty and social exclusion, along with sustainable economic growth and increasing employment, are among the main areas of interest of the European Commission, and are fundamental parts of the Lisbon Strategy. Likewise, in a revised version of the Lisbon Strategy, social inclusion is still considered a strategic area for the EU. Moreover, on a long-term basis, challenging both poverty and social exclusion is one of the principal aims of the European Cohesion Policy (European Commission, 2011). One of the five major goals of the Europe 2020 Strategy was to promote social inclusion, in particular by lifting at least 20 million individuals out of poverty by 2020 (Copeland, Daly, 2012). Objectives to reduce poverty and socioeconomic differences both between and within countries are also included in the economic, social, and regional policies of the EU and its individual nations.

While the EU member states are granted considerable autonomy in selecting the approaches they use to combat poverty and social exclusion, the European Commission has stressed that each country is expected to generate internationally comparable results when implementing social policies in this area. In order to monitor the process of social inclusion, a list of 18 indicators monitoring poverty and social exclusion was proposed in 2001 (Atkinson et al., 2002). Since then, this list has been continuously modified and complemented. It contains both indicators based on household incomes (monetary indicators) and indicators based on non-monetary symptoms of poverty (non-monetary indicators). In addition, the European Commission launched a new survey designed to measure incomes and living conditions in the EU member states (EU Statistics on Income and Living Conditions – EU-SILC). The EU-SILC is coordinated by Eurostat, and provides internationally comparable results (Wolff, Montaigne, Gonzáles, 2010). The EU-SILC results are used to monitor the process of social inclusion in the EU, and to perform international comparative analysis of poverty and social exclusion in the EU member states. As the scope and the methods of this analysis are constantly being modified, better tools for measuring the phenomena of poverty and social exclusion are being developed.

In recent years, many approaches to analysing and combating poverty have been introduced, in particular the approach known as pro-poor growth (Kakwani, Pernia, 2000; Dollar, Kraay, 2002; Ravallion, Chen, 2003; Kakwani, Khandker, Son, 2004). This approach assumes that although strong economic growth is necessary for development, it is not a sufficient condition for poverty reduction. Whether economic growth is favourable to the poor is determined by the participation of various groups in generating and distributing national income. Participation in generating national income is ensured by the workfare state, and participation in its distribution is ensured by the welfare state through the redistribution of income.

In this context, the following question arises: Does economic growth, as measured by GDP growth, translate into higher personal incomes for impoverished individuals, and, ultimately, into poverty reduction? Moreover, economic growth can result in higher levels of income inequality between the poor and the non-poor, and may even cause poverty to increase. Thus, economic growth cannot necessarily be considered pro-poor. If it is assumed that economic growth is accompanied by poverty reduction, then macroeconomic policies should focus on actions supporting growth, while limiting funds for programs that provide direct support for the poor. If, however, it is assumed that economic growth does not lead to poverty reduction, state policies should put more emphasis on providing direct financial support for the poor through the social protection system (Klasen, 2008; Duclos, 2009). Among the core forms of social protection are social transfers and expenditures. When social transfers are pro-poor – i.e., when they are properly designed and delivered – they can make significant contributions to improving the current lives of the poor, and have the potential to reduce persistent poverty. Moreover, these transfers can reduce levels of inequality between the poor and the non-poor. In summary, sustained economic growth in which the poor participate directly, as well as properly designed social transfers aimed at the poorest segments of the population, are essential for poverty reduction.

The connection between economic growth, inequality, and poverty is one of the most contested and discussed topics in world economics. A large number of empirical studies have found that this relationship is inconsistent across countries (Funke, Strulik, 1999; Dollar, Kraay, 2002; Adams, 2004; Iradian, 2005; Arrar et al., 2009; Kakwani, Son, 2008; Duclos, 2009; Essama-Nssah, Lambert, 2009; Bibi et al., 2012; Khan et al., 2013; Leitner, Stehrer, 2014; Tebaldi, Kim, 2015; Kośny, Yalonetzky, 2015; Harmáček, Syrovátka, Dušková, 2017; Zeman, Shamsuddin, 2017; Chen et al., 2018; Alvaredo et al., 2020; Lo Buet, Palmisano, 2020).

In addition, the issue of the pro-poorness of social transfers and their effects on income inequality and poverty reduction has been the subject of scientific discussions

and empirical research for more than a decade. The research on this question has generated different results for different countries (Paulus et al., 2010; Caminada et al., 2011; Fabrizi et al., 2014; Brady, Bostic, 2015; Ostry et al., 2014; Tebaldi, Kim, 2015; Alper, Demiral, 2016; Anderson et al., 2016; Avram, 2016; Baldini et al., 2016; European Union, 2016; Marx, Salanauskaite, Verbist, 2016; Celikay, Gumus, 2017; Eurostat, 2018; Hlaskova, 2018; Sanches, Perez-Corral, 2018; Ulu, 2018; Mieziene, Krutuliene, 2019; Notten, Guio, 2019; Halaskova, Bednar, 2020). The findings of these studies depend to a large extent on the current levels of economic development and the general welfare regimes in the examined countries (Forster, Whiteford, 2009; Baldini et al., 2016).

The aim of this study is to analyse the relationships between economic growth, social transfers, inequality, and poverty. Moreover, our study investigates the impact of economic growth and social transfers on inequality and poverty, as well as the efficacy of the allocation of social transfers in the EU member states. The analyses presented here examine the changes in economic growth, social transfers, poverty, and inequality (or, more precisely, income inequality), as well as the impact of economic growth and social transfers on reductions in poverty and income inequality between the poor and the non-poor in 27 EU member states from 2005 to 2017. The period covered by the analysis represents a dynamic phase in the history of the EU, as during this period a number of new countries were admitted, and Europe was dealing with the effects of the worldwide economic and financial crisis.

In the theoretical part of the study, various measures of analysed of the aforementioned phenomena and processes are proposed. A growth pattern analysis is performed to investigate the question of whether economic growth is pro-poor based on the poverty equivalent growth rate. Different aspects of poverty are examined using the multi-dimensional approach. This approach to poverty measurement is focused on the effects of the coincidence of monetary poverty and non-monetary poverty (material deprivation). We propose new measures of different aspects of multidimensional poverty, including latent poverty and manifest poverty indicators. To analyse the inequalities between the poor and the non-poor, measures with the properties necessary for this type of analysis are used, including Zenga's inequality indices and the income quintile share ratio. The analysis of the impact of social transfers on poverty reduction is based on the measurement of the differences between poverty indices before and after social transfers. The pro-poorness of social transfers is assessed by examining the share of social transfers in income, and the correctness of their targeting. To investigate whether social transfers are well targeted at the poor, the Transfer Allocation Efficiency Index is proposed. The effects of social transfers on the relative income of the poor are assessed using a new

point measure of how relative income changes in the distribution of income before and after social transfers (Relative Income Change Through Transfers). In addition, the effects of social transfers on total income inequality, and on income inequality between the poor and the non-poor, are estimated by looking at the changes in the Zenga point index, the Zenga synthetic index, and the income quantile share ratio before and after social transfers.

In the empirical part of the study, we aim to answer the question whether an increase in economic growth translates into an increase in the income of the population. Moreover, we estimate how and to what extent is economic growth related to poverty and how beneficial it is for the poor. We also check how and to what extent does economic growth affect income inequality. Finally, we examine if social transfers are favourable to the poor by checking how and to what extent do social transfers affect the relative income of the poor, alleviate inequality between the poor and the non-poor, and reduce poverty. Moreover, the following clusterings of countries of the EU-27 are carried out:

- jointly by changes in GDP, poverty, and inequality between the poor and the non-poor during the period 2006–2017; and
- by the social transfer policies implemented, and their effects on the financial situations of the poor.

The empirical analyses are based on the latest available panel data from the European Union Survey on Income and Living Conditions (EU-SILC), and Eurostat data on income, GDP, and inflation.

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Part I

Theoretical background and methodology

1. Economic growth-social transfers-inequality-poverty model

The relationship between economic growth, inequality, and poverty has been examined extensively in both the theoretical discourse and empirical research, and has led to the proposal of various theoretical models for assessing this relationship. One of the leading examples of these models is the poverty-growth-inequality triangle (Bourguignon, 2004), which has also been called the growth-inequality-poverty triangle (Dhrifi, 2015). The triangle in the model emphasises the interrelationship between economic growth, income distribution, and poverty reduction. An important advantage of this model is that it recognises that economic growth and income distribution influence each other; and that, at the same time, income distribution and growth affect poverty.

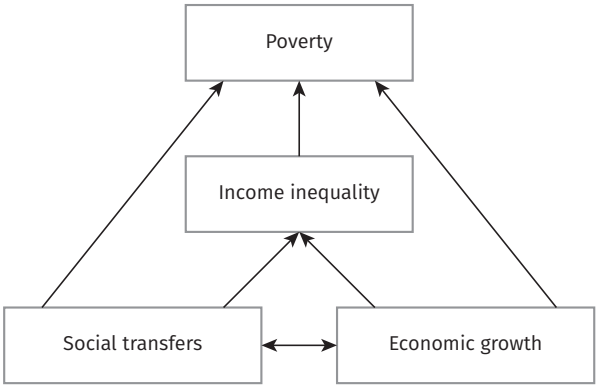
Bourguignon (2004) has shown that when economic growth mainly benefits the already well-off, even a high level of growth can lead to an increase in income inequality, and, consequently, to an increase in poverty. Moreover, if the level of income inequality is too high, growth may be hampered, which could result in an increase in poverty. Conversely, when income inequality promotes economic growth that benefits the least well-off, growth can be a mechanism through which inequality could lead to a reduction in poverty (Duque, McKnight, 2019).

Bourguignon's model has stimulated considerable debate. Its critics often argue that the model is overly simplistic, overlooking the processes that create phenomena, and ignoring significant factors that determine poverty (e.g., Chemli, Smida, 2013). However, it is important to emphasise that despite these criticisms, the model has been a starting point for many studies on the relationship between economic growth, inequality, and poverty.

Recognising Bourguignon's model as the starting point, the links between economic growth, social transfers, income inequality, and poverty may be illustrated using the model shown in Figure 1.

The model defines changes in poverty as a function of economic growth and social transfers. Thus, both of these phenomena and their connections should be considered determinants of a 'development strategy'. This strategy for reducing poverty involves the synthesis of nationwide economic growth and social transfer policies. The arrows heading economic growth and social transfers indicate that economic growth and social transfers influence each other (Arjona, Ladaique, Pearson, 2001; Barrientos, 2012; Villa, 2014). It is clear that economic growth positively influences the state's ability to implement transfer policies. The social transfer amounts a state provides depend not just on its welfare regime, but on its budgetary capabilities, which are significantly influenced by the state's level of economic development, and thus by economic growth.

Figure 1. Relationships between economic growth and social transfers, and their effects on income inequality and poverty reduction



Source: Authors' model based on Bourguignon (2004).

How social transfers affect economic growth is less clear-cut. There are a number of channels and processes through which social transfers may either enhance or impede growth. Although economic growth is seldom an explicit objective of social transfers, they affect growth indirectly. The receipt of transfers is often associated with a range of household-level investments in human capital and other productive assets that can enhance economic growth. These transfers may, for example, allow households to invest in more high-risk and potentially profitable activities than they would otherwise. On the other hand, social transfers may provide strong incentives

for individuals, and especially older people, to withdraw from the labour market, which could undermine economic growth.

Economic growth and social transfers can affect poverty either directly, or indirectly through changes in income inequality. Both economic growth and social transfers reduce poverty in an absolute sense by increasing the income of the poor, enabling them to meet their basic needs to a minimum acceptable level. The more the poor benefit from economic growth, and the larger the scale and the more effective the targeting of the social transfers, the greater the reduction in poverty. The indirect effects of economic growth and social transfers on poverty can result in changes in relative poverty through changes in levels of income inequality between the poor and the non-poor. When the poor benefit from economic growth more than the non-poor, and social transfers are well-targeted (reaching mainly the poor), poverty decreases in relative terms. However, both the inefficient targeting of social transfers and economic growth that is unfavourable to the poor (the non-poor benefit from growth more than the poor) can increase relative poverty.

The relationship between economic growth and social transfers may differ across EU countries. Moreover, economic growth and social transfers can affect poverty in different ways, both directly and indirectly. Thus, an empirical analysis of the relationship between economic growth, social transfers, and poverty in EU countries is necessary to identify the paths of economic and social developments that are actually being realised in these countries. Gaining a better understanding these various paths of development can support efforts to design policies to combat poverty in the EU member states.

2. Measurement of poverty

2.1. Poverty definition

The very first step in measuring poverty is providing a definition of the phenomenon in question. The specific definition of poverty used directly influences outcomes of the measurement (Hagenaars, 1986). Depending on the definition of poverty chosen, different social groups or various regions in a regional analysis may be seen as poverty-stricken.

The discrepancies in the outcomes of poverty analyses, and in the resulting social policy concepts aimed at combating poverty, are the direct consequence of the lack of a precise and widely accepted definition of poverty. Moreover, the notion of poverty evolves over time, and differs between geographical areas. Households that

are seen as poor today would not be considered poverty-stricken several decades ago. In addition, people who are considered poor in Western European countries have repeatedly been shown to have higher material status than the average material status of inhabitants of India.

In this paper, an economic definition of poverty is used. Poverty implies a situation in which an individual person, family, or household does not have sufficient financial resources (both cash in the form of current income, and income from previous periods and accumulated non-cash assets) to satisfy their basic needs at an acceptable level (Czapiński, Panek, 2015).

2.2. Criteria of poverty measurement

A crucial decision researchers must make when measuring poverty is to define the criteria for this measurement. Until the 1970 s, the majority of researchers used the conventional, unidimensional approach to measuring poverty. According to the unidimensional approach, the assessment of whether individuals' basic needs are fulfilled should be based exclusively on their current income or expenditures expressed in monetary terms. However, the view gradually gained ground that identifying the impoverished based only on monetary indicators is incomplete and inadequate. The objection to this approach is not just that the income/expenditure levels people report may be underestimated. A far more important concern is that because of the way household income and expenditure levels are surveyed, the current income received by households does not reflect the real ability of households to meet their needs, as it does not take into account household savings from previous periods, which households can also use to meet their needs. Moreover, households with very low current income that have savings from previous periods can use these savings to meet their current needs. Measuring current household expenditures is similarly problematic, as it does not reflect the ability of households to satisfy their needs, because after incurring expenditures in a given period, households may still have financial means at their disposal (both income from the current period and savings from income obtained in previous periods), which they could have used (but did not use, because they did not need to) for expenditures. Thus, measuring poverty by either current expenditures or current incomes may lead to the incorrect identification of poor households. When poverty analyses rely on these criteria, households that have sufficient financial resources to satisfy their basic needs at a minimum acceptable level, but which are not indicated by their current income or current expenses, can be considered poor.

Many researchers have argued that poverty should be treated as a multidimensional phenomenon. Townsend was one of the first researchers to emphasise the drawbacks inherent in identifying the poor exclusively on the basis of the current income criterion. He argued that poverty analyses should include dwelling conditions, affluence, education, and professional and financial resources (Abel-Smith, Townsend, 1965; Townsend, 1979). A broader look at the problem of poverty than just through the prism of income (expenditures) was also presented by, among others, Atkinson and Bourguignon (1982), Hagenaars (1986), Sen (1999), Panek (1996), Whelan et al. (2001), Bourguignon and Chakravarty (2003), Tsui (2002), Betti et al. (2005), Deutsch and Silber (2005), and Alkire and Foster (2007). The authors of a report providing recommendations regarding the indicators of poverty and social exclusion used by the European Union also pointed to the multidimensional nature of the concept of poverty (Atkinson et al., 2002).

In practice, the EU has gone beyond relying on purely monetary (income) measures of poverty. Another indicator of poverty listed among the EU's headline targets for social inclusion in the context of the Europe 2020 Strategy is the material deprivation rate, which is based on the symptoms of material deprivation (non-monetary poverty). The proposal to use non-monetary (material deprivation) measures in addition to monetary measures of poverty marks a significant step towards the development of a comprehensive assessment of poverty, as it incorporates both monetary and non-monetary (material deprivation) indicators of poverty. The EU's approach suggests that both current monetary income and past income should be taken into account when analysing the ability of individuals to meet their basic needs.

In this study, a multi-dimensional approach is used to analyse different aspects of poverty. This approach to poverty measurement is focused on the investigation not only of monetary poverty and material deprivation, but on the coincidence of monetary poverty and non-monetary poverty (material deprivation).

2.3. Equivalence scales

The income a household requires to ensure that its needs are satisfied at the same level does not grow proportionally to the growing number of persons in the household. For instance, ensuring that the needs of a four-person household are satisfied at the same level as those of a one-person household does not require expenditure (income) levels that are four times higher. The phenomenon of household unit costs decreasing together with the growth in the number of household members is called economies of scale. Therefore, to compare the extent to which the needs of different households are fulfilled, the households' income levels have to be adjusted

so that they reflect the differences in the size and composition of the households. The most popular and validated way to adjust monetary incomes is using equivalence scales. Equivalence scales are parameters that can be used to measure the effects of the size and demographic characteristics of households on their needs, and, thus, on the amount of income (expenditure) households require to satisfy their needs at the same level. The equivalence scales for a household of a given type indicate how many times the household's income should be diminished or increased to ensure that its needs are met at the same level as that of a standard household used as the reference point for comparison. In most cases, the standard household, with the equivalence scale of one, is a one-person household.

The estimation of equivalence scales can be based on a variety of characteristics, with the most important being the household's size. While other variables that are often used, such as the age and sex of the household members or the place of residence, enable the more precise estimation of equivalence scales by taking the heterogeneity of the needs of different households into account, the estimation process can become cumbersome when such variables are included.

The equivalence scales may be generally defined as a ratio of the cost (expenditure) function of a given household to the cost function of a benchmark household (Deaton, Muellbauer, 1980)[1]:

$$m_i = \frac{C(\boldsymbol{P}, u, \boldsymbol{X_i})}{C(\boldsymbol{P}, i, \boldsymbol{X}_{i'})}, \tag{1}$$

where:
$C(\cdot)$ is the neoclassical cost function;
$\boldsymbol{P}$ is the vector of prices;
u is the level of utility that corresponds to the expenditure (income) level needed to fulfil the household's needs;
$\boldsymbol{X}_i$, $\boldsymbol{X}_{i'}$ are vectors of characteristics of the i-th and the i'-th households, where the i'-th households constitutes a benchmark (usually a one-person) household.

The type of equivalence scale chosen significantly affects the outcomes of any poverty and inequality analysis (Lanjouw et al., 2009). There is no single widely accepted method for estimating equivalence scales (Deaton, 1997). We can distinguish between two fundamental approaches to estimating equivalence scales: namely, objective and subjective approaches. When an objective approach is applied, the

1 Estimates of these scales depend on the level of utility at which we carry out the comparison. Thus, the Equation (1) defines the entire class of equivalence scales that differ from each other by utility level. To obtain estimates of equivalence scales regardless of utility level, very strong restrictions are assumed, which are not satisfied by most of the demand models. See, e.g., Lewbel (1991); Donaldson, Pendakur (1999).

equivalence scales are estimated without relying on the self-assessment of income by households. When a subjective approach is used, the equivalence scales are estimated based on the self-assessment of income by the surveyed households. Moreover, the objective approaches to determining equivalence scales can be divided into normative and empirical methods. When a normative method is used, the value of equivalence scales is set by the experts; whereas when an empirical methods is applied, the scales are determined by the consumer behaviour of the households (their actual expenses) using econometric models. All of these methods have their advantages and shortcomings.

In most comparative analyses of poverty across the EU member states, the normative modified OECD equivalence scales are used (Burniaux et al., 1998; Panek, 2011). The modified OECD scales assign a value of one to the first household member, of 0.5 to every additional adult household member, and of 0.3 to each child in the household. The main advantage of using the normative scales is that they are simple, which makes them easily adaptable for the purposes of international comparisons. These scales define the change in income required to satisfy the household's needs, while increasing the number of household members and changing their demographic characteristics.

2.4. Identification of impoverished individuals

In this study, the analysis of monetary poverty is based on the household equivalent disposable income. The disposable income is defined as the sum of the net monetary income gained by all household members (see part II, chapter 1). The household equivalent disposable income is calculated by dividing the disposable household income by the OECD modified equivalence scales.

In order to identify the subpopulation of individuals experiencing monetary poverty, a minimum level of income individuals require to meet their basic needs must be determined. This level of income is called the monetary poverty line. Individuals with income below this poverty line are considered to be monetarily impoverished. Eurostat's official poverty analysis uses national poverty lines, which are computed as 60% of the national household equivalent median income, for each country separately. The poverty lines that are calculated in this way increase as the median (mean) income grows. The rate of incidence of poverty changes only as a result of a change in the inequality of incomes. This may lead to disturbing results. For instance, if the incomes of all households grow, but the equality of incomes also rises, the rate of incidence of poverty could increase. Some researchers have even disputed whether the fraction of median (mean) income should be used to determine the poverty line, arguing

that it should instead be considered a benchmark for measuring income inequality (Veitt-Wilson, 1987). Moreover, the adoption of different monetary poverty lines in different member states (national monetary poverty lines) makes the resulting estimates of poverty incomparable between countries. Bradshaw and Mayhem (2010, p. 6) criticised this method for determining the poverty line by citing the example of a misleading analysis from 2008. According to the authors, this analysis found that the incidence of poverty was 19% in Estonia and Great Britain, even though the threshold of monetary poverty for the two countries differed significantly: for a couple with two children, the threshold was 9,770 of standard purchasing power parity units (PPS[2]) in Estonia, and was 24,380 PPS in Great Britain. In addition, the monetary poverty threshold estimated for Romania was 1,710 PPS per person per day, which was below the poverty line usually applied in analyses of poverty for the least developed countries in the world. At the same time, in the wealthier EU member states, many surveyed households with incomes below the poverty line have reported that they do not have difficulties making ends meet (i.e., satisfying their basic needs at a minimum acceptable level).

To ensure that the poverty assessments obtained in the survey are consistent with those reported by Eurostat in 2017, relative national poverty lines are adopted here, as in Eurostat's analyses. However, to ensure that in the analyses of changes in poverty over time these changes are not determined by changes in income inequality, but rather by the ability of households to meet their basic needs at an acceptable level, the 2017 national poverty lines are adopted as the poverty lines in the remaining years of the period, based on the prior expression of income in all surveyed years in 2017 prices (i.e., by using the overall consumer price indices for the surveyed countries).

For the identification of the subpopulation experiencing non-monetary poverty (material deprivation), a list of material deprivation symptoms and the arrangement of a material deprivation line are needed. The analysis of material deprivation is based on the following nine symptoms of material deprivation (non-monetary poverty), as proposed in the Europe 2020 Strategy:

- being unable to handle unexpected financial expenses;
- being unable to afford an annual one-week holiday away from home for all household members;
- having arrears on mortgage or rent payments or utility bills;
- being unable to afford a meal with meat, chicken, or fish (or a vegetarian equivalent) every second day;

2 See chapter 6.

- being unable to adequately heat the household's dwelling;
- lacking a car for financial reasons;
- lacking a washing machine for financial reasons;
- lacking a colour television for financial reasons; and
- lacking a telephone for financial reasons.

These proposed indicators of material deprivation have been criticised (Guio, Gordon, Marlier, 2012; Nolan, Whelan, 2011; Kaczmarek-Firth, Dupré, 2018). The main criticisms are related to the weak reliability of some of these items. It has also been pointed out that efforts must be made to ensure that the selected items (symptoms of material deprivation) accurately capture current living patterns and expectations, and that the list of items must be adapted in response to societal changes.

Guio et al. (2012) have suggested that material deprivation indicators should have the following properties:

- *suitability*, to ensure that citizens in different EU countries perceive the material items as necessary for people to have an 'acceptable' standard of living in the country where they live;
- *validity*, to ensure that the material deprivation indicators exhibit statistically significant relative risk ratios with independent variables known to be correlated with material deprivation (income poverty, subjective poverty, and health problems);
- *reliability*, to assess the internal consistency of the scale as a whole, i.e., how closely related the set of material deprivation indicators are as a group; and
- *additivity*, to check whether a person with a material deprivation indicator score of two is actually suffering from more severe material deprivation than a person with a score of one, i.e., that the components of the material deprivation indicators add up.

Only the first six material deprivation indicators proposed in the Europe 2020 Strategy have been found to have all four properties, and are thus considered appropriate for the assessment of material deprivation. Consequently, in recent years, the EU-SILC survey has collected information on these six indicators of material deprivation only. Finally, the empirical analysis of material deprivation in the EU countries is based on these six indicators.

2.5. Poverty measurement

The most popular aggregate measures of poverty are aggregate poverty indices. These indices aggregate individual measures of poverty over a given population. Researchers can use these indices to, for example, conduct an analysis for a given

territory or a chosen class of individuals. As none of the aggregate poverty measures is universal, no single measure can provide information on all aspects of monetary poverty. Thus, when conducting a poverty analysis, researchers should always consider using more than one aggregate measure. The poverty indices used in this study concentrate on three basic aspects of poverty: namely, on the incidence, depth, and severity of poverty (Panek, Zwierzchowski, 2014).

The most popular measure of monetary poverty incidence is the *monetary poverty headcount ratio*, which is the share of individuals (persons, households) with incomes falling below the poverty line:

$$H^{mp} = \frac{n_{mp}}{n}, \tag{2}$$

where:
n is the number of individuals in the analysed population; and
n_{mp} is the number of monetarily impoverished individuals in the analysed population.

This measure is equal to zero when all individuals have incomes above the poverty line, and is equal to one when all individuals are monetarily impoverished.

The headcount ratio does not provide information about other aspects of poverty. In particular, it does not provide information about the depth of poverty, as it is based on the same value, regardless of whether the impoverished household's income is near the poverty line or falls well below the threshold. Therefore, to assess other aspects of poverty, other types of indices will be calculated in this paper.

The basic index measuring monetary poverty depth is the *monetary poverty gap index*:

$$I^{mp} = \frac{1}{n_{mp}} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i}{y^*} \right), \tag{3}$$

where:
y^* is the monetary poverty line; and
y_i is the equivalent income of the i-th individual.

The monetary poverty gap index is equal to the average, unweighted individual gaps of poverty in the analysed population. This means that all individuals are assigned the same weight. The index measures the average distance between a monetarily poor individual's equivalent income and the monetary poverty line, and thus indicates how poor each monetarily impoverished individual is. The index equals zero when there are no impoverished individuals in the analysed population, and it equals one when the incomes of all individuals in the population are equal to zero.

Another important aspect of poverty is its severity. The indices of the severity of monetary poverty are designed not only to measure the incidence and the depth of monetary poverty, but also the income inequality among the monetarily impoverished. The measure of the severity of monetary poverty applied in the empirical analysis is the *monetary poverty Watts index* (Watts, 1964, 1969; Zheng, 1993):

$$W^{mp} = \frac{1}{n}\sum_{i=1}^{n_{mp}} \ln\left(\frac{y^*}{y_i}\right). \tag{4}$$

The values of this measure range between zero and one. The value of the index is equal to zero if all individuals have incomes higher or equal than the poverty line. It is equal to zero when all incomes are above the poverty line and so there are not the poor. The value of the index increases together with the number of monetarily poor individuals, and with increasing income gap and levels of income inequality between these individuals. Its maximal value is attainable only in a population in which all individuals have an income equal to zero.

All of the measures of monetary poverty listed above were developed for the purposes of material deprivation (non-monetary poverty) analysis, and of joint analysis of material deprivation and monetary poverty (Panek, 2015). As was mentioned above, based on the limited information available from the latest EU-SILC dataset and new recommendations regarding indicators of material deprivation (Guio, Marlier, 2017), only the first six symptoms proposed in the Europe 2020 Strategy are used for the material deprivation assessment. An individual who has at least three of the listed symptoms is considered to be materially deprived.

We assume that the risk of material deprivation grows if the number of reported symptoms of material deprivation increases. Next, after arranging the number of deprivation symptoms by decreasing degree of deprivation (from the largest number of deprivation symptoms to the absence of deprivation symptoms), we define a variable by assigning successive natural numbers to these numbers of symptoms ($z = 0, 1, 2,..., k$). The index measuring material deprivation incidence, which corresponds to the headcount monetary poverty ratio, is the *material deprivation headcount ratio*. It is the percentage of materially deprived individuals (individuals with three or more material deprivation symptoms):

$$H^{md} = \frac{n_{md}}{n}, \tag{5}$$

where:

n_{md} is the number of materially deprived individuals.

In order to measure the depth of material deprivation, we propose the *material deprivation gap index*:

$$I^{md} = \frac{1}{n_{md}} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right), \tag{6}$$

where:
z_i is the value of the z-th variable for the i-th individual; and
z^* is the material deprivation line corresponding to the maximum number of material deprivation symptoms at which the individual is no longer considered to be materially deprived.

Similarly, we propose measuring the severity of material deprivation with the *material deprivation Watts index*:

$$W^{md} = \frac{1}{n} \sum_{i=1}^{n_{md}} \ln \left(\frac{z^*}{z_i} \right). \tag{7}$$

The multidimensional approach to poverty measurement is focused on the analysis of the coincidence of monetary poverty and non-monetary poverty (material deprivation). The coincidence of monetary poverty and material deprivation indicates more severe poverty. Individuals who are both monetarily impoverished and materially deprived not only do not have an acceptable level of current income, they lack accumulated assets (from previous periods), which indicates that they lack the resources required to meet their basic needs. Thus, individuals suffering from both monetary poverty and material deprivation are often experiencing severe poverty. In this study, we refer to the coincidence of monetary poverty and material deprivation as *manifest poverty*. We further assume that when individuals are experiencing either monetary poverty or material deprivation, but not both, they are less likely to be experiencing severe poverty. Here, we refer to this state as *latent poverty*[3].

To jointly analyse monetary poverty and material deprivation, two types of poverty indices have been proposed. The measures applied in this study correspond to the indices designed to measure monetary poverty and material deprivation.

Let $\Omega = (\omega_1, \omega_2, \omega_n)$ be the set of individuals. The *manifest poverty headcount ratio* is the proportion of individuals who are both monetarily impoverished and materially deprived, and is defined as follows:

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3 See also the definition of manifest poverty and latent poverty in multidimensional approach using fuzzy set theory (Betti, Verma, 1999).

$$H^M = \frac{|\Omega^M|}{|\Omega|}, \tag{8}$$

where:
$\Omega^M = \{\omega : \omega \in \Omega^{mp} \wedge \omega \in \Omega^{md}\}$,
Ω^{md} is the set of materially deprived individuals;
Ω^{mp} is the set of monetarily impoverished individuals.

To measure the depth of manifest poverty, we propose the *manifest poverty gap index*:

$$I^M = \frac{\sum_{\omega \in \Omega^M} \left(\frac{y^* - y_i}{y^*}\right) + \sum_{\omega \in \Omega^M} \left(\frac{z^* - z_i}{z^*}\right)}{2\,|\Omega^M|}, \tag{9}$$

To measure the severity of manifest poverty, we propose the *manifest poverty Watts index*:

$$W^M = \frac{\sum_{\omega \in \Omega^M} \ln\left(\frac{y^*}{y_i}\right) + \sum_{\omega \in \Omega^M} \ln\left(\frac{z^*}{z_i}\right)}{2\,|\Omega^M|}. \tag{10}$$

The latent poverty indices are obtained in the same way as the manifest poverty indices. The *latent poverty headcount ratio*, which is the share of individuals who are only monetarily poor or are only materially deprived, is defined as:

$$H^L = \frac{|\Omega^L|}{|\Omega|}, \tag{11}$$

where:
$\omega \in \Omega^L = \Omega'^L \cup \Omega''^L$,
$\Omega'^L = \{\omega : \omega \in \Omega^{mp} \wedge \omega \notin \Omega^{md}\}$,
$\Omega''^L = \{\omega : \omega \in \Omega^{md} \wedge \omega \notin \Omega^{mp}\}$.

The *latent poverty gap index* is obtained as:

$$I^L = \frac{\sum_{\omega \in \Omega^L} \left(\frac{y^* - y_i}{y^*}\right) + \sum_{\omega \in \Omega^L} \left(\frac{z^* - z_i}{z^*}\right)}{2\,|\Omega^L|}. \tag{12}$$

Finally, to measure the severity of latent poverty, the *latent poverty Watts index* is proposed:

$$W^L = \frac{\sum_{\omega \in \Omega^L} \ln\left(\frac{y^*}{y_i}\right) + \sum_{\omega \in \Omega^L} \ln\left(\frac{z^*}{z_i}\right)}{2\,|\Omega^L|}. \tag{13}$$

3. Pro-poorness of economic growth

3.1. Concepts of pro-poor economic growth

International institutions (UN, 2000; OECD, 2007) have defined pro-poor growth as growth that benefits the poor, and enables them to improve their economic situations. As this definition is very vague and imprecise, it provides little guidance on how pro-poor growth should be measured, or on how pro-poor policies should be formulated. In recent years, there have been many proposals for a more specific definition of pro-poor growth (Ravallion, Chen, 2003; Kakwani, Khandker, Son, 2004; Kraay, 2006; Klasen, 2008; Khandker, Son, 2008; Essama, Lambert, 2009).

The proposed definitions can be classified into two distinct groups with respect to their conceptual approaches: absolute and relative. This distinction is closely related to the general concept of measuring poverty and inequality. According to the absolute approaches, the process of growth is considered favourable to the poor if the wealth of the poor (measured by income) increases (Kakwani, Khandker, Son, 2004). According to the relative approaches, growth is considered to be favourable to the poor only is the wealth of the poor grows faster than wealth of the non-poor (Kakwani, Khandker, Son, 2004); i.e., when economic growth leads to a decline in income inequality. When a relative approach is applied, changes in the poverty sphere are analysed on the basis of both growth and the distribution of income among the poor and the non-poor. Consequently, growth is described as pro-poor in relative terms only if it leads to reductions in both the incidence of poverty and income inequality. In this paper, we mainly use a relative approach to assess whether growth is pro-poor.

3.2. Analysis of the growth pattern

The growth pattern indicators are based on the analysis of poverty elasticity with respect to economic growth. Kakwani and Subarrao (1990) proposed decomposing the changes in poverty into growth and inequality components. The poverty elasticity is estimated using the Lorenz curve, which allows for the identification of the two components. Similarly, Kakwani and Pernia (2000) proposed comparing the changes in poverty indices resulting from changes in income inequality with hypothetical changes in these poverty indices, which would occur if the shape of income distribution remained constant over time, and only the mean income changed.

Poverty indices can be characterised by the poverty line (y^*), the mean income of individuals (μ), and the Lorenz function ($L(q)$):

$$P(y^*, \mu, L(q)). \tag{14}$$

Changes in poverty index between the initial period $t = 1$ and the final period $t = 2$ can be described using two components:

- the growth component (G_{12}) – changes resulting from the change in the mean income; and
- the inequality component (I_{12}) – changes resulting from the change in income inequality.

The change in poverty index (P_{12}) can be presented as:

$$P_{12} = P_2 - P_1 = Ln[P(y^*, \mu_1, L_1(q))] - Ln[P(y^*, \mu_2, L_2(q))], \tag{15}$$

and furthermore decomposed into growth and inequality components:

$$P_{12} = G_{12} + I_{12}. \tag{16}$$

Kakwani (2000) defined the two components as follows:

$$G_{12} = \frac{1}{2}\{Ln[P(y^*, \mu_2, L_1(q))] - Ln[P(y^*, \mu_1, L_1(q))] + Ln[P(y^*, \mu_2, L_2(q))] + \\ - Ln[P(y^*, \mu_1, L_2(q))]\}, \tag{17}$$

and

$$I_{12} = \frac{1}{2}\{Ln[P(y^*, \mu_1, L_2(q))] - Ln[P(y^*, \mu_1, L_1(q))] + Ln[P(y^*, \mu_2, L_2(q))] + \\ - Ln[P(y^*, \mu_2, L_1(q))]\}, \tag{18}$$

where:

$P(y^*, \mu_2, L_1(q))$ is the estimate of the poverty index at the level of income from the final period and the distribution of income from the initial period; and

$P(y^*, \mu_1, L_2(q))$ is the estimate of the poverty index at the level of income from the initial period and the distribution of income from the end period.

The total growth elasticity of poverty is defined as the ratio of the proportional change in poverty to the proportional change in the mean income. We can estimate it as the total differential of the expression:

$$\eta = \frac{dLnP(y^*, \mu, L(q))}{g_{12}}, \tag{19}$$

where:
$g_{12} = dLn(\mu) = Ln(\mu_2) - Ln(\mu_1)$ – growth rate of mean income,
$g_{12}(q)$ –growth rate of the income at the q-th quantile of income distribution, while:

$$g_{12}(q) = dLn(y(q)) = Ln(y_2(q)) - Ln(y_1(q)), \tag{20}$$

where:
$y_1(q)$, $y_2(q)$ – q-th quantiles of income distribution in the initial and final periods.

The decrease in the poverty index is influenced by both the increase in mean income and the decrease in the inequality of income distribution. Hence, the total growth elasticity of poverty can be presented as the sum of the relative growth elasticity of poverty (h_g) and the relative inequality elasticity of poverty (h_i) (Kakwani, Son, 2008):

$$\eta = \eta_g + \eta_i. \tag{21}$$

The components of equation (17) can be expressed as:

$$\eta_g = \frac{G_{12}}{g_{12}}, \tag{22}$$

and

$$\eta_i = \frac{I_{12}}{g_{12}}. \tag{23}$$

Generally, the total growth elasticity of poverty (η) in the relative sense is neutral if the increase in income of individuals is proportionally the same for the poor and the non-poor.

The growth elasticity of poverty (h_g) describes the proportional change in the poverty index as a result of a one per cent increase in mean income, assuming that the relative income inequality does not change. Similarly, the inequality elasticity of poverty indicates by what percentage the value of the poverty index would change if income inequality increased by one per cent in the absence of growth.

As the growth elasticity of poverty (h_g) is generally negative, mean income growth should reduce poverty given a constant income distribution. On the other hand, changes in income inequality resulting from economic growth may have both negative and positive effects on poverty changes. Negative h_i means that growth reduces inequality, and thus reduces poverty; i.e., growth is pro-poor. Positive h_i indicates that changes in the income distribution are not favourable to the poor.

Ultimately, when growth is pro-poor (not pro-poor) in relative terms, the total growth elasticity of poverty is lower (greater) than the neutral growth elasticity of

poverty. Based on the decomposition of poverty index, Kakwani and Pernia (2000) defined the pro-poor growth index (PPGI) as the ratio of the total growth elasticity of poverty to the relative growth elasticity of poverty[4]:

$$PPGI = \frac{\eta}{\eta_g}. \tag{24}$$

When *PPGI* is greater than one, the inequality elasticity of poverty is generally negative ($\eta_i < 0$), and both poverty and inequality decrease as a result of the increase in mean income. Growth is considered strictly pro-poor, as the poor benefit proportionally more than the non-poor. If *PPGI* is less than zero (i.e., if $\eta_i > 0$ and $|\eta_i| > |\eta_g|$), growth is non-pro-poor, as it leads to both increased poverty and inequality. Finally, when $0 < PPGI < 1$ (i.e., if $\eta_i > 0$ and $|\eta_i| < |\eta_g|$), poverty decreases due to an increase in mean income, but this decrease is mitigated by an increase in income inequality. Such a pattern is not strictly pro-poor, as it can be seen as a form of trickle-down growth favouring the poor. However, while the average income of the poor grows, the non-poor benefit proportionally more.

In order to assess the extent to which growth reduces poverty, Kakwani, Khandker and Son (2004) proposed a modified measure of pro-poor growth by including the actual growth rate. They defined the poverty equivalent growth rate (*PEGR*) as a hypothetical growth rate of mean income (g_{12}^*) that would affect the level of poverty in the same way as the actual growth rate (g_{12}) given constant relative inequality. The proportional reduction in poverty is equal to ηg_{12}. If the changes in income distribution were neutral in the relative sense, then an increase in mean income g_{12}^* would cause a proportional reduction in poverty equal to $\eta_g g_{12}^*$, which should be equal to ηg_{12}. *PEGR* is defined as:

$$PEGR = g_{12}^* = \frac{\eta}{\eta_g} g_{12} = PPGI * g_{12}. \tag{25}$$

A positive *PEGR* value implies a decrease in the corresponding poverty index. The larger the *PEGR*, the greater the poverty reduction. Thus, if the goal of social policy is to reduce poverty, the *PEGR* can be used as a measure of the effectiveness of that policy. Growth is strictly pro-poor when the *PEGR* is greater than the mean income growth rate ($PEGR > g_{12}$). If the PEGR is greater than zero but less than the rate of growth of mean income ($0 < PEGR < g_{12}$), poverty is still reduced, but

4 During a recession, the mean income growth rate is negative ($g_{12} < 0$) and poverty usually increases as both P_{12} and G_{12} are negative. If income inequality does not change, a recession is called pro-poor if $P_{12} < G_{12}$ and favourable to the rich if $P_{12} > G_{12}$. In this case, *PPGI* is defined as $PPGI = \frac{\eta_g}{\eta}$ (Kakwani, Pernia, 2000), and the recession will be described as favouring the poor when $PPGI > 1$, and as not favouring the poor when $PPGI < 1$.

inequality increases. It is also possible that an increase in mean income is accompanied by an increase in poverty ($PEGR < 0$). In this case, the increase in mean income is outweighed by the increase in inequality.

During a recession ($g_{12} < 0$), poverty generally increases. However, a large decline in income inequality may still lead to poverty reduction. Such a recession is called strongly pro-poor, and corresponds to $PEGR > 0$. On the other hand, when $g_{12} < PEGR < 0$, the recession will favour the poor, as they lose proportionally less than the non-poor; however, the relevant poverty index will increase. The recession will be unfavourable to the poor when $PEGR < g_{12} < 0$. In this case, poverty grows, and the poor lose proportionally more than the non-poor (Kakwani, Khandker, Son, 2004).

The PEGR indices were estimated according to the formula (25). To estimate the PPGI we used the growth and inequality decomposition of poverty index (Kakwani, 1995). However, the poverty indices $P(y^*, \mu_2, L_1(q))$ and $P(y^*, \mu_1, L_2(q))$ were estimated in this survey by adjusting poverty line instead of adjusting the mean income as was proposed by Kakwani and Son (2008). These two approaches yield identical empirical results.

When estimating the poverty index $P(y^*, \mu_1, L_2(q))$, we use the distribution of household income from the final period, while adjusting the poverty line. Similarly, when estimating $P(y^*, \mu_2, L_1(q))$, we use the distribution of household incomes from the beginning period and adjust the poverty line. To estimate poverty elasticities η, η_g and η_i we used the following formulas:

$$\eta = \eta_g + \eta_i, \tag{28}$$

$$\eta_g = \frac{\{Ln[P(z\mu_1 / \mu_2, y_1)] - Ln[P(z, y_1)] + Ln[P(z, y_2)] - Ln[P(z\mu_2 / \mu_1, y_2)]\}}{2g_{12}}. \tag{29}$$

$$\eta_i = \frac{\{Ln[P(z\mu_2 / \mu_1, y_2)] - Ln[P(z, y_1)] + Ln[P(z, y_2)] - Ln[P(z\mu_1 / \mu_2, y_1)]\}}{2g_{12}}. \tag{30}$$

4. Income inequality analysis

4.1. Choice of income inequality measurement method

During the last few decades, inequality has played an important role in the discourse on poverty, and on the well-being of societies and individuals more generally (Sen, Foster, 1997; Hopkins, 2008). Thus, the question of how these inequalities

should be measured continues to be discussed. There are many inequality indexes in the literature (Sen, Foster, 1997). Which measure of inequality is most appropriate for an analysis depends on the purpose of the analysis. In our study, the analysis of income inequality focuses on inequality between the poor population and the non-poor population. Inequality is a broader concept than poverty, as it is defined over the entire population, and it is not focused on poor individuals only (Haughton and Khandker, 2009). The distribution of income in which each household has the same income is called an egalitarian distribution, and is completely free of inequality. Thus, when the income distribution is unequal, it deviates from the egalitarian distribution. When measuring inequality, we examine the degree of this deviation.

The most popular measure of inequality is arguably the Gini index. A number of extensions and generalisations of this index are available in the literature (see for example Giorgi, Gigliarano, 2017; Pasquazzi, Zenga, 2018; Barcena-Martin, Silber, 2020). However, the Gini index does not have the properties needed for analyses of income inequalities between the poor and the non-poor (Gastwirth, 2017). One of the main drawbacks of the Gini coefficient is that it does not respond in the same way to income transfers between people in opposite tails of the income distribution as it does to transfers in the middle of the distribution. Thus, it is more sensitive to the income of the middle classes than it is to the income of the extremes. Furthermore, very different income distributions can have the same Gini coefficient.

In this study, we use measures with the properties necessary for analysing the inequalities between the poor and the non-poor: namely, Zenga's inequality indices and the income quintile share ratio.

4.2. Income inequality measurement

The new inequality index proposed by Zenga (Zenga, 2007; Zenga, Radaelli, Zenga, 2012), which is applied in the empirical analyses, has all the properties that are usually required for inequality measures (Subramanian 2004; Pasquazzi, Zenga, 2018). First, the Zenga index, which is extremely important in the context of poverty analysis, measures the inequality between the poorest part of the population and the richer remaining part of the population.

The Zenga measure of inequality is based on the inequality Zenga curve $Z(p)$ (Polisicchio, Porro 2008), which is defined in terms of the lower and upper arithmetic means of a distribution. The Zenga curve is given by:

$$Z(p) = 1 - \frac{L(p)}{p}\frac{1-p}{1-L(p)}, \tag{33}$$

where:
p is the quantile of income distribution arranged in ascending order ($0 \leq p \leq 1$); and $L(p)$ is the Lorenz curve.

The Zenga curve measures the inequality between the poorest $p \times 100\%$ of the population and the richer remaining $1 - p \times 100\%$ of the population by comparing the mean incomes of these two disjoint and exhaustive subpopulations.

This idea of measuring income inequality, as has already been mentioned, involves comparing the arithmetic means of the incomes of two disjoint and exhaustive groups, called the lower and upper groups. The division of the ordered data into two groups is performed by choosing a point of division. At one extreme, the lower group consists of only the lowest observed income. At the other extreme, the upper group consists of only the highest observed income.

Let $\boldsymbol{y} = (y_1, y_2, y_n)$ be an ordered vector of non-negative values $y_1 \leq y_2 \leq \ldots \leq y_n$, representing the distribution of income.

Starting from the definition of the lower and the upper mean income of the population:

$$M^{-}(\boldsymbol{y}, y_i) = \frac{\sum_{i=1}^{n_{k-1}} y_i}{n_{k-1}}, \tag{34}$$

and

$$M^{+}(\boldsymbol{y}, y_i) = \frac{\sum_{i=n_k}^{n} y_i}{n - n_{k-1}}. \tag{35}$$

where:
n_k is the number of individuals with income equal or lower than the division line. for a given y_i-th income, Zenga's point indices (Zenga, 2007) are defined as:

$$I(\boldsymbol{y}, y_i) = \frac{M^{+}(\boldsymbol{y}, y_i) - M^{-}(\boldsymbol{y}, y_i)}{M^{+}(\boldsymbol{y}, y_i)}, \tag{36}$$

Because our study focuses on the situation of the poor, in our analyses, the following point index will be used:

$$I(\boldsymbol{y}, y_k) = \frac{M^{+}(\boldsymbol{y}, y_k) - M^{-}(\boldsymbol{y}, y_k)}{M^{+}(\boldsymbol{y}, y_k)}, \tag{37}$$

where the point of the division of the ordered data is an income equal to the poverty line ($y_k = y^{*}$); e.g., the income of an individual.

Using the point inequality measures $I(\boldsymbol{y}, y_i)$, Zenga (2007) defines the synthetic inequality index as the weighted average of all point indices:

$$Z = \frac{1}{n}\sum_{i=1}^{n} I_i(\boldsymbol{y}, y_i). \tag{38}$$

In addition to the Zenga index, the income quintile share ratio (S80/S20) that measures inequality between the poor and the richer parts of the population was used in our analysis. The income quintile share ratio is the ratio of the share of the 20% of persons with the highest income in total household income to the 20% of persons with the lowest income in total person income:

$$S80 / S20 = \frac{S_{80}}{S_{20}}, \tag{39}$$

where:
S_{80}, S_{20} is the total income received by the 20% of the population with the highest income (the top quintile), and the total income received by the 20% of the population with the lowest income (the bottom quintile), respectively.

5. Pro-poorness of social transfers and their effects on the relative income of the poor, the reduction in poverty, and the income inequality between the poor and the non-poor

5.1. The definition of social transfers

A number of studies conducted over the past two decades have found that there is a strong negative correlation between poverty and social transfers, as well as between income inequality and social transfers. Countries with higher social expenditure levels are likely to have lower poverty rates (Caminada, Goudswaard, Koster, 2011; Forster, d'Ercole, 2005; Anderson et al., 2018; Leventi et al., 2018). Public spending affects poverty reduction in several ways: i.e., it can improve the overall growth performance of the economy, and it can increase the chances of the poor contributing to the growth process (mainly by strengthening human capabilities and reducing transaction costs). Social spending by governments can also have positive effects on growth and poverty reduction through improvements in the provision of social services, spending on public goods, and infrastructure access (Wilhelm, Fiestas, 2005). Since social transfers account for larger shares of the incomes of the poor rather than of the rich, they can lead to a decline not only in total income inequality, but also in income inequality between the poor and the non-poor (Anderson et al., 2017; Sánchez, Pérez-Corral, 2018; d'Agostino et al., 2020).

Transfers received by households – according to the definition adopted for the EU-SILC survey included in Regulation (EC) No 1177/2003 of the European Parliament and of the Council concerning community statistics on income and living conditions (EU-SILC) regarding definitions and updated definitions for Eurostat – may be defined as the social benefits (transfers) and the regular inter-household cash transfers households receive (CSO, 2019).

Social transfers are defined as current transfers made by central, state, or local institutional units that are received by households during the income reference period, and that are intended to relieve them from the financial burden of a number of risks. Included in these transfers are the value of any social contributions and income tax the beneficiary has paid to social insurance schemes or to tax authorities.

The social transfers we examine include:

- family/children-related allowances,
- housing allowances,
- unemployment benefits,
- old-age benefits,
- survivors' benefits,
- sickness benefits,
- disability benefits,
- education-related allowances, and
- social exclusion benefits not classified elsewhere.

Social transfers do not include benefits paid from schemes into which the recipient has made voluntary payments only, independently of his/her employer or the government.

5.2. Pro-poorness of social transfers

Among the basic conditions that must be considered when measuring the effectiveness of social transfers in combating poverty and income inequality between the poor and the non-poor are their relative size (their share in income), and whether they are correctly targeted. An assessment of the pro-poorness of social transfers depends on their relative size (their share in income) and their correct targeting. The relative size of social transfers is measured by their share in income (SSTI):

$$SSTI = \frac{\frac{1}{n}\sum_{i=1}^{n} x_i}{\frac{1}{n}\sum_{i=1}^{n} y_i}, \tag{40}$$

where:
x_i – social transfers to the i-th person.

The correctness of the targeting of social transfers – i.e., the verification the hypothesis that they should go primarily to the poor part of the population – is carried out through the Transfer Allocation Efficiency Index (TAEI). The TAEI is defined as:

$$TAEI = \frac{\frac{1}{n_{k-1}}\sum_{i=1}^{n_{k-1}} x_i}{\frac{1}{n}\sum_{i=1}^{n_k} x_i}, \tag{41}$$

The TAEI indicates how many times social transfers to the poor are higher than social transfers to the non-poor.

5.3. Measurement of the impact of social transfers on the relative income of the poor, the reduction in poverty, and the income inequality between the poor and the non-poor

The effects of social transfers on the relative income of the poor were assessed using a point measure of relative income changes in the distribution of income before and after social transfers (Relative Income Change Through Transfers – RICTT). The RICTT measure, based on the relative income change measure proposed by Kośny (2011), is defined as:

$$RICTT(\boldsymbol{y}^{BT}, \boldsymbol{y}, y_k) = I(\boldsymbol{y}^{BT}, y_k) - I(\boldsymbol{y}, y_k) = \frac{M^-(\boldsymbol{y}, y_k)}{M^+(\boldsymbol{y}, y_k)} - \frac{M^-(\boldsymbol{y}^{BT}, y_k)}{M^+(\boldsymbol{y}^{BT}, y_k)}, \tag{42}$$

where:
$\boldsymbol{y}^{BT}, \boldsymbol{y}$ are vectors of incomes before and after social transfers.

Its values range between –1 and 1. The RICTT, expressed in percentage points, indicates the changes in the share of the average income of the poor in the average income of the non-poor in response to social transfers. Positive values of the RICTT indicate that the relative situations of the poor have improved, while negative values indicate that their situations have deteriorated, and zero values indicate that there were proportional or no changes in their situations.

Analysis of the impact of social transfers on monetary poverty reduction based on the measurement of the difference between monetary poverty indices[5] after and before social transfers is as follows:

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5 Social transfers lead primarily to reductions in monetary poverty.

$$P_{12} = P_2 - P_1 \,, \tag{43}$$

where:

P_2, P_1 are the monetary poverty indices after and before social transfers.

The following three types of indicators are used to measure these changes (see chapter 2.5):

- the monetary poverty headcount ratio,
- the monetary poverty gap index, and
- the monetary poverty Watts index.

The impact of social transfers on total income inequality and income inequality between the poor and the non-poor was estimated by changes in the Zenga point index, the Zenga synthetic index, and the income quantile share ratio before and after social transfers:

$$dI(\boldsymbol{y}, \boldsymbol{y}^{BT}) = I(\boldsymbol{y}, y_k) - I(\boldsymbol{y}^{BT}, y_k), \tag{44}$$

and

$$dZ(\boldsymbol{y}, \boldsymbol{y}^{BT}) = Z(\boldsymbol{y}) - Z(\boldsymbol{y}^{BT}), \tag{45}$$

and

$$dS80/S20(S80/S20, (S80/S20)^{BT}) = S80/S20 - (S80/S20)^{BT}. \tag{46}$$

where:

$I(\boldsymbol{y}^{BT}, y_k), I(\boldsymbol{y}, y_k)$ are the Zenga point indices before and after social transfers;

$Z(\boldsymbol{y}^{BT})$, $Z(\boldsymbol{y})$ are the synthetic Zenga indices before and after social transfers;

$(S80/S20)^{BT}, S80/S20$ are income quantile share ratios before and after social transfers;

y_k is income after transfers of the k-th poor equal to the poverty line after transfers ($y_k = y^*$);

x_i are social transfers to the i-th person.

Part II

Comparative analysis of economic growth, poverty, inequality, and social transfers in EU member states over the 2006–2017 period

1. Data source and assumptions

The empirical analyses conducted in this research are based on data from the European Union Survey on Income and Living Conditions (EU-SILC) carried out in the 2005–2018 period. The main objective of the EU-SILC is to provide data that are comparable across the EU on the income, poverty, social exclusion, and living conditions of the populations of the EU members states. Although the survey is conducted by national statistical offices, it collects information on core variables in every EU member state. These core variables describe:

- the demographic composition of households;
- the health status and participation in education and economic activities of household members;
- the level and source of households' income;
- the durable goods equipment of households;
- housing conditions;
- the existence of certain symptoms of material deprivation in households.

The survey is based on representative random samples of households and individuals aged 16 and older who are members of a drawn sample of households for each EU member state. The EU-SILC is an instrument designed to collect timely and comparable cross-sectional and longitudinal micro-data through the use of a rotational panel method in a four-year cycle. For every country in the survey,

there is a drawn sample that is divided into four subsamples, all of which have the same size and structure. From the second year of the survey onwards, one of the four sub-samples is removed from the sample and another is drawn that has the same size and structure as all of the sub-samples. From the third year of the survey onwards, each sub-sample is expected to stay in the survey for four years.

The survey results are weighted so that they represent the size and the structure of the entire population of households and citizens for each EU member state. The total sum of weights corresponds to the total number of households and individuals for each country[6].

The sample sizes differ across countries, and can be as low as 4,000 households or as high as 20,000 households. Missing data on incomes are imputed using methods of data imputation (Wolf et al. 2010).

In the EU-SILC households, all members who were over age 16 by 31 December of the year preceding the survey are considered to be statistical objects of interest (CSO, 2019). A household is defined as a group of people living in the same dwelling who share their incomes. Members of a family who live together but do not share their incomes are considered as separate households.

In our analysis of poverty, income inequality, and social transfers, the object of interest is defined as a person (not as a household). As a consequence, all of our measures and indicators are calculated for the population of individuals. However, impoverished persons are identified through the identification of impoverished households, as all members of impoverished households are considered to be impoverished. We use this approach to analyse both monetary poverty and non-monetary poverty (material deprivation). In the monetary poverty analysis, each person is assigned the equivalent disposable income of the household to which s/he belongs. It is also assumed that every member of a household is experiencing the same material deprivation symptoms as those of his/her household. Likewise, in the analysis of poverty, income inequality, and social transfers, each person is assigned the equivalent disposable income of the household to which s/he belongs. To ensure the comparability of household wealth as measured by income across EU countries, the incomes used for comparisons of wealth in the EU are quoted in the purchasing power standard (PPS), which is an artificial common reference currency used in the EU for international comparisons.

The figures given for the EU-27 were obtained as the population-weighted averages of the national figures. These figures, which reflect the changes in the

6 For instance, the weights system in Poland takes into account selection probability for dwellings, survey completeness according to the place of residence class, and consistency of the composition of the sample according to age and gender with the census data and from current demographic estimates (CSO, 2019).

examined phenomena from 2006 to 2017 based on data from the EU-SILC, do not take Malta into account, as the panel data for Malta are only available from 2008 onwards. However, given the country's small population, its exclusion does not significantly affect the results of the EU-27 estimations.

Household income is defined as the yearly household equivalent disposable income in the last calendar year preceding the survey[7]. The equivalent disposable income is calculated by dividing the disposable household income by the OECD modified equivalence scales. The disposable income is defined as the sum of the net monetary income earned by all household members. The disposable income does not take into account any fringe benefits received by household members (except for the use of the company car) and other forms of non-monetary income. However, the food produced by households living in rural areas often substantially increases their ability to meet their basic needs. This can lead to the underestimation of the disposable income of certain households, particularly of those engaged in farming.

As was mentioned above, all incomes are expressed in 2017 prices using the overall consumer price indices for the surveyed countries. The analysis of the surveyed phenomena in particular years is based on cross-sectional data. However, in the analysis of the changes in the examined phenomena, the same households are observed in two-year panels between 2006 and 2017. This approach allows us to mitigate the sampling error, which is higher when using cross-sectional data.

7. Economic growth in the EU-27 member states

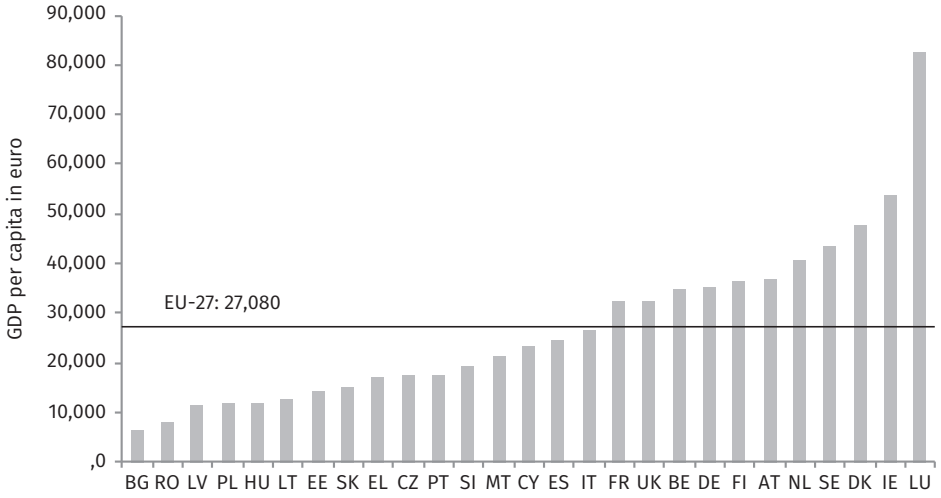
7.1. Economic growth

The economic strength of the different EU countries varies considerably. In 2017, the dispersion of GDP per capita across the EU-27 countries was very wide (Figure 2 and Table 1 in Appendix). Of the 27 countries, Luxembourg had by far the highest GDP per capita, at more than three times the EU-27 average. Ireland had the second-highest GDP per capita, at 99% above the EU-27 average; followed by Denmark, Sweden, and the Netherlands, all of which had a GDP per capita that was more than 50% above the EU-27 average. With the exception of Greece, Portugal, Spain, and Italy, all of the old EU member states had a GDP per capita

7 With the exception of Great Britain (where the yearly household incomes was estimated on the basis of the current monthly income) and Ireland (where the yearly income was estimated to comprise of both half of the income from the year preceding the survey and half of the estimated yearly income from the year of the survey).

above the EU-27 average. By contrast, the GDP per capita of all of the new member states was less than the EU-27 average. Bulgaria, followed by Romania, Latvia, and Poland, were the countries with the lowest GDP per capita, at 56% or more below the EU-27 average.

Figure 2. GDP per capita in the EU countries[8] in 2017



Source: Authors' creation based on data in Table 1 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The real GDP per capita in the European Union (27 countries) increased by 9.1% between 2006 and 2017 (Figure 3 and Table 2 in Appendix). Over this period, Greece, Italy, and Cyprus were the only EU countries that experienced economic contractions, which were accompanied by increases in unemployment. Thus, between 2006 and 2017, GDP per capita fell by 21.7% in Greece, by 6.8% in Italy, and by 2.1% in Cyprus.

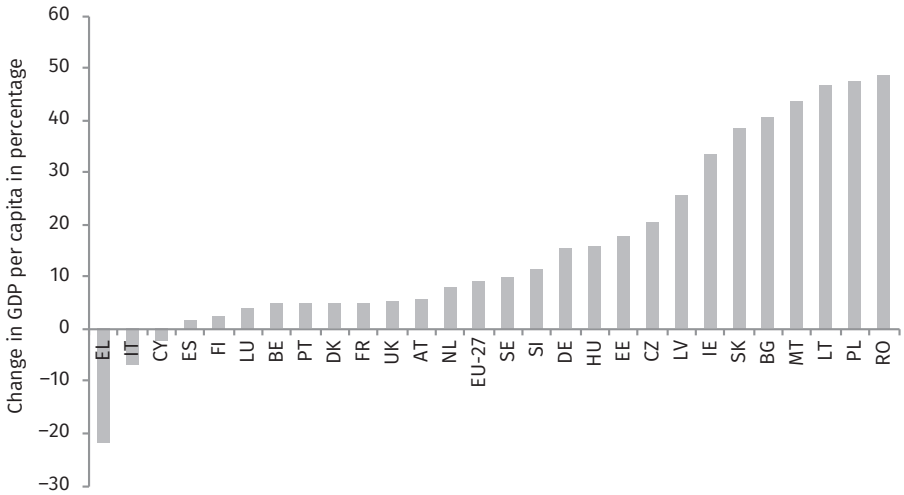
During this period, the EU countries with the fastest-growing economies were those that had very low GDP per capita in 2006, and that joined the EU in 2004. Between 2006 and 2017, Romania had the largest increase in GDP per capita, at 48.7%; followed by Poland at 47.5%, Lithuania at 46.8%, Malta at 43.4%, and Bulgaria at 40.4%.

In the period before the economic crisis that started in mid-2008, GDP per capita had been increasing in all 27 countries (Table 2 in Appendix). The crisis had a devastating impact on the economic systems of most EU member states, including large negative effects on their GDP per capita. However, the EU-27 countries

8 Abbreviations of the EU-27 members states are given in Table 1 in Appendix.

were not equally affected by the negative consequences of the crisis. In particular, Poland did not experience any real financial crisis, and lost no GDP per capita, either during the crisis period or over the whole 2006–2017 period. Moreover, the global financial and economic crisis had relatively little impact on the economies of Bulgaria, Germany, Lithuania, Malta, and Slovakia. In these countries, the GDP per capita decreased in only in one year during the 2006–2017 period.

Figure 3. Changes in GDP per capita in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

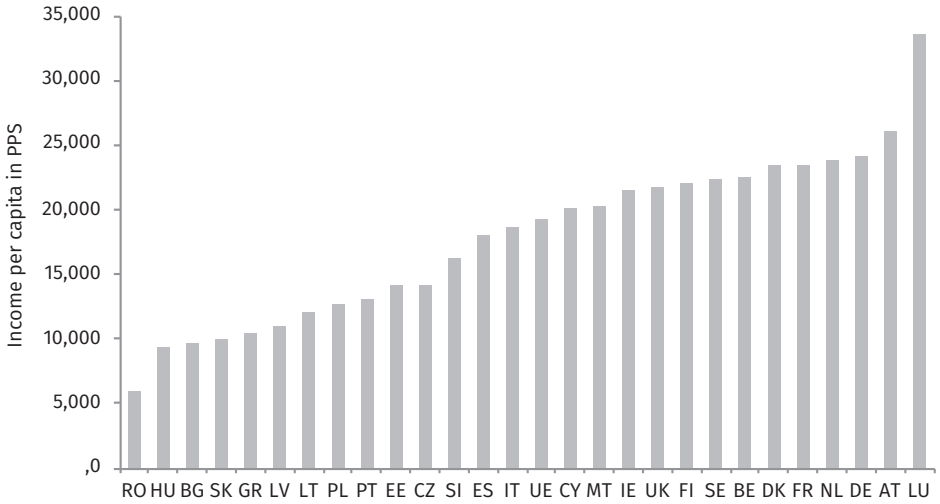
The EU countries that were most severely affected by the crisis were Portugal, Italy, Greece, Cyprus, and Spain, as in these countries, a national debt crisis played a catalytic role in the negative consequences of the economic and financial crisis. Thus, in these countries, GDP per capita was declining, not just during the crisis, but in many subsequent years.

7.2. Income of the population

Like GDP, the mean income of the population, expressed in purchasing power parity, varied considerably across the EU-27 member states over the study period (Figure 4 and Table 1 in Appendix). In 2017, the average income for the whole EU-27 was 19,270 PPS. In general, the Nordic and Western European countries had higher mean income values, while the Southern and Eastern European countries had lower mean income values than the overall EU-27 average.

In 2017, the EU-27 country with the highest average income was Luxembourg (33,484 PPS), followed by Austria (26,076 PPS), Denmark (24,114 PPS), the Netherlands (23,704 PPS), France (23,441 PPS), Germany (23,387 PPS), Belgium (22,437 PPS), Sweden (22,243 PPS), and Finland (22,061 PPS). In the United Kingdom and Ireland, the average income was very similar, at around 21,500 PPS. The EU-27 member state with the lowest average income in 2017 was Romania, at 5,928 PPS. The mean income in Hungary, Bulgaria, and Slovakia was around 10,000 PPS. As a result of the economic crisis, the mean income in Greece was among the lowest in the EU-27 in 2017, at 10,462 PPS. In the same year, the mean income in Lithuania was 12,000 PPS, while the mean income in Latvia was 11,000 PPS. In both Poland and Portugal, the mean income was nearly 13,000 PPS; whereas in Estonia and Czechia, the mean income was just over 14,000 PPS. Of the new EU-27 member states, Slovenia had the highest mean income in 2017, at more than 16,000 PPS. This mean income value was only slightly surpassed by those of the remaining four southern European countries: in 2017, the mean income was almost 18,000 PPS in Spain, 18,700 PPS in Italy, over 20,000 in Cyprus, and 20,200 PPS in Malta.

Figure 4. Mean income per capita in the EU-27 countries in 2017

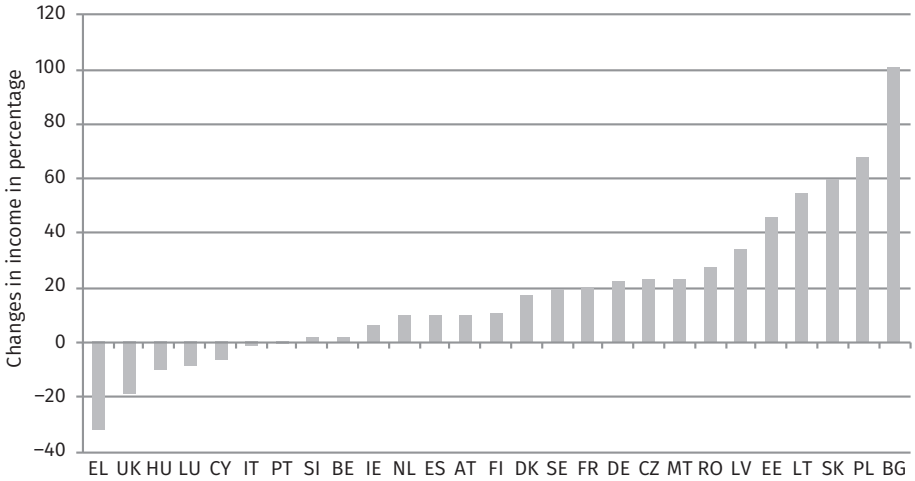


Source: Authors' creation based on data in Table 1 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 5 summarises the changes in the incomes of individuals in EU countries over the 2006–2017 period. The mean income in the whole EU increased by 14.6%, and this change was larger than the increase in GDP (of 9.1%) over the same period. In general, the changes in incomes across countries followed a pattern similar

to that for the changes in GDP. The largest increases in incomes were in the new EU member states: Bulgaria had the biggest increase (over 100%), followed by Poland (67.5%), Slovakia (59.4%), Lithuania (54.7%), Estonia (45.6%), Latvia (34.4%), and Romania (27.7%).

Figure 5. Changes in mean income per capita in the EU-27 countries during 2006–2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

A majority of the old EU member states experienced a moderate increase in the average individual income, of between 10% and 20%. This group of countries was led by Germany, where an increase in the average income of more than 20% was observed. A decrease in the average income was found only in the five countries that were hit hardest by the economic crisis of 2008. The largest decline in income was observed in Greece, where the average person experienced a 31.7% reduction in income between 2006 and 2017. Thus, in 2017, Greece had a lower average income than many of the new EU member states from Eastern Europe (compare Figure 4). Over the study period, the average income decreased in Hungary, Luxembourg, and Cyprus as well. Interestingly, the United Kingdom experienced a relatively large decrease in average income between 2006 and 2017 (of 18.7%), even though the country's GDP per capita increased by more than 5% over this period (compare Figure 3).

7.3. Relationship between changes in economic growth and changes in income

Figure 6 depicts the correspondence between the changes in the real GDP and the mean income of the population. The data points represent the EU-27 countries, and the dashed line is a fitted regression line. The two axes (lines $x = 0$ and $y = 0$) represent the lack of change in GDP per capita and average income, and they divide the plot into four quadrants. The upper-right quadrant contains data points representing countries that experienced an increase in both GDP and mean income during the analysed period. By contrast, the lower-left quadrant contains the data points representing countries that experienced a decrease in both GDP per capita and mean income during this period. The upper-left quadrant, which does not contain any data points, represents a hypothetical situation in which there was a decrease in GDP and an increase in mean income. Finally, the lower-right quadrant contains countries that experienced an increase in GDP per capita, but a decrease in mean income, over the analysed period.

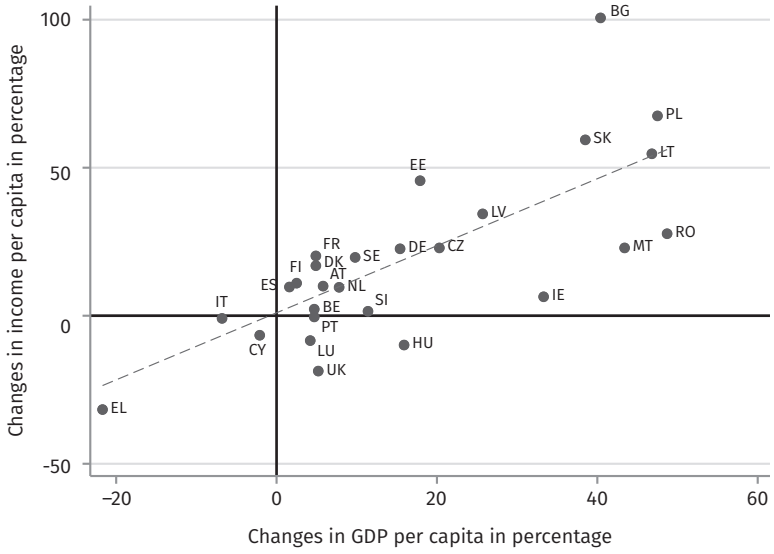
The regression line has a slope parameter equal to 1.022, which means that, on average, an increase in GDP per capita resulted in a very similar increase in mean income across the EU-27 countries. The data points lying above the regression line represent countries in which the increase in income was proportionally larger than the increase in GDP per capita (for countries with positive rates of GDP change), or the decrease in income was smaller than the corresponding drop in GDP (for countries with negative rates of GDP change).

By contrast, the data points lying below the regression line represent countries in which the increase in mean income was proportionally smaller (or even negative in some cases) than the increase in GDP per capita (for countries with positive rates of GDP change), or the decrease in income was larger than the corresponding drop in GDP. The greater the distance from the regression line, the more unusual the situation in each country was (for countries with negative rates of GDP change).

In general, the data points representing southern European countries, with the exception of Spain and Italy, lie below the regression line. This means that in these countries, the increase in mean income was smaller than the increase in GDP per capita; or, as in case of Greece, the decrease in mean income was larger than the decrease in GDP per capita. Similar patterns were observed in Germany, Slovenia, Belgium, Lithuania, Poland, Romania, Ireland, and the United Kingdom. The United Kingdom and, albeit to a lesser degree, Portugal were the only countries where the mean income decreased despite the positive rate of economic growth. The highest ratio of change in income to the change in GDP per capita was observed in Bulgaria and Estonia. A ratio of higher than one was also observed other Eastern European

countries, like Czechia, Slovakia, and Latvia; and in a majority of western European and Nordic countries.

Figure 6. The correspondence between the increase/decrease in GDP and the mean income in the EU-27 countries during the 2006–2017 period



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

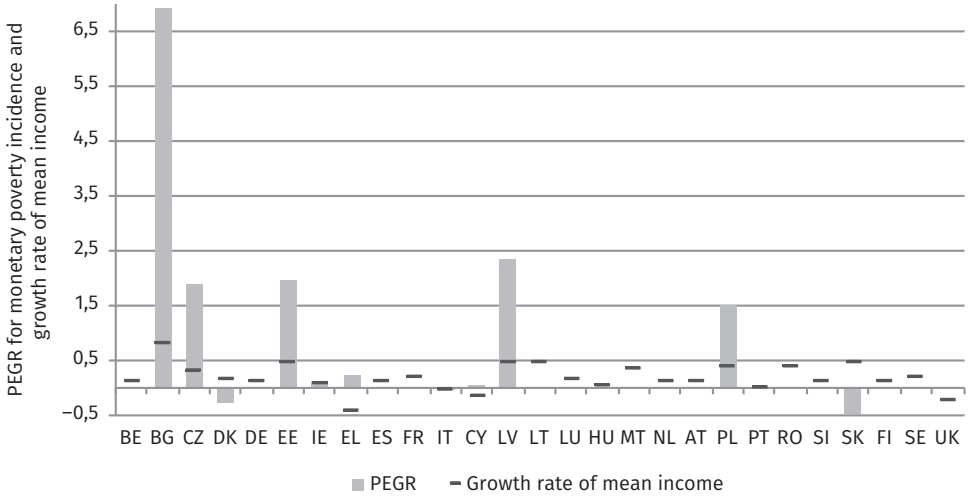
7.4. Pro-poorness of economic growth

Figure 7 depicts the PEGR values for monetary poverty in the E-27 countries over the 2006–2017 period, which were found to be statistically significant in relation to the growth rate of the mean income.[9] PEGR values higher than the growth rate of mean income were observed in five Eastern European countries: namely, Bulgaria, Czechia, Estonia, Latvia, and Poland. These five countries experienced the largest reductions in the incidence of monetary poverty over the analysed period (compare Figure 10). The observation that the PEGR values in these countries were higher than the growth rate of the average income suggests that poverty was declining as a result of both economic growth and reductions in income inequality. In Greece and Cyprus, the PEGR values were positive, and the mean income declined. This finding suggests that during the recession, the poor in these two countries lost relatively less than the non-poor in terms of poverty reduction. In other words, the

9 Statistical significance was assessed using bootstrap method for 200 subsamples.

loss of income was experienced most acutely by individuals whose incomes were higher than the poverty line.

Figure 7. PEGR values for monetary poverty incidence and the growth rate in mean income during 2006–2017



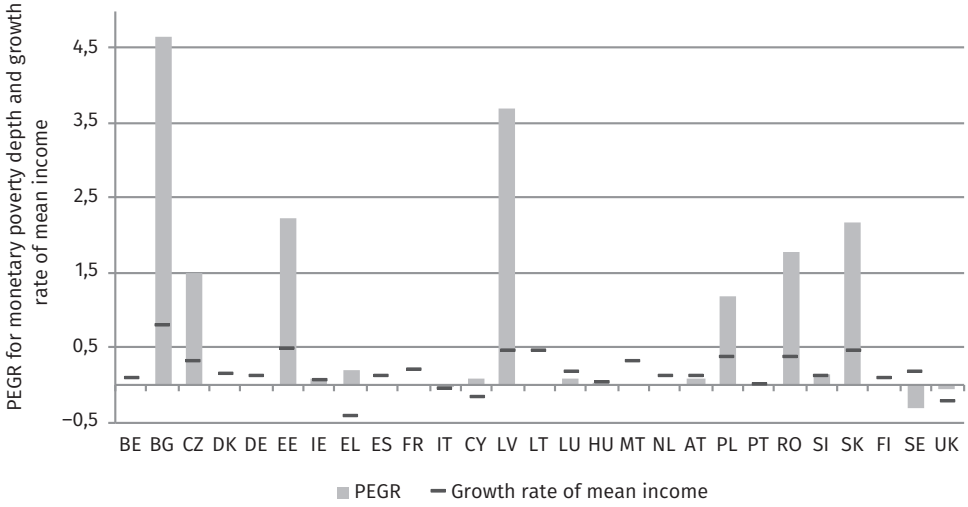
Note: Only PEGR values that were found to be statistically significant at the 0.05 level are drawn.

Source: Authors' creation based on data in Table 3 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 8 displays the PEGR values for monetary poverty depth. As in the case of monetary poverty incidence, the highest values were observed for Eastern European countries: namely, Bulgaria, Latvia, Estonia, Slovakia, Romania, Czechia, and Poland. In these countries, the average distance between income and the poverty line among the poor was reduced. A negative trend was observed only in Sweden. Thus, while there was a positive change in the mean income in Sweden, the average income of impoverished individuals in Sweden decreased over the analysed period. In Ireland, Luxembourg, Austria, and Slovenia, the PEGR values were positive, but they were lower than the mean income growth rate. While the distance to the poverty line was reduced among the impoverished in these countries, the relative gain in income was lower among the poor than among the non-poor.

Figure 9 presents the PEGR values for monetary poverty severity, as expressed by the Watts poverty index. Given that the values of the Watts index depend on poverty incidence, poverty depth, and inequalities between the poor and non-poor, these PEGR values can be interpreted as representing the influence of income on different aspects poverty combined.

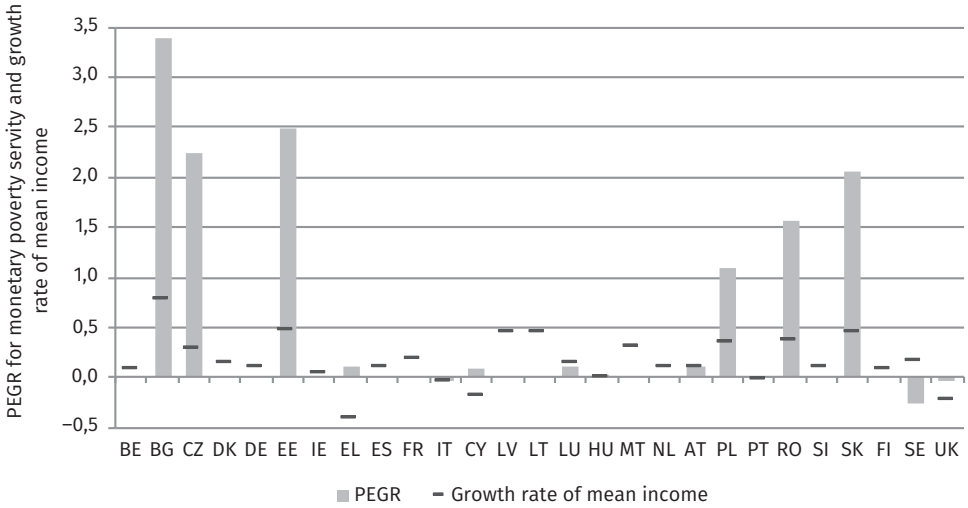
Figure 8. The PEGR for monetary poverty depth and the growth rate in mean income during 2006–2017



Note: Only PEGR values that were found to be statistically significant at the 0.05 level are drawn.

Source: Authors' creation based on data in Table 3 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 9. The PEGR for monetary poverty severity and the growth rate in the mean income during 2006–2017



Note: Only PEGR values that were found to be statistically significant at the 0.05 level are drawn.

Source: Authors' creation based on data in Table 3 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The PEGR values for monetary poverty severity are very similar to the PEGR values for monetary poverty depth (compare Figure 8). The highest values were observed in Eastern European countries: namely, Bulgaria, Estonia, Czechia, Slovakia, Romania, and Poland. In these countries, the changes in income were particularly beneficial for the poor, and poverty was reduced due to both increases in the mean income of the poor and decreasing inequality. The PEGR value for monetary poverty severity was negative for Sweden. This means that despite the increase in mean income in Sweden, the material conditions of the poor in that country worsened over the analysed period.

In Austria and Luxembourg, poverty decreased overall. However, in these countries, the poor gained less than the non-poor, as the PEGR values, while positive, were lower than the growth rate in the mean income. In Greece and Cyprus, the mean income decreased over the analysed period, and the PEGR values were positive, which implies that the overall conditions of the impoverished improved. By contrast, in the United Kingdom, both the change in the mean income and the PEGR value were negative, which indicates that conditions of the poor worsened during times when the mean income was decreasing.

8. Poverty in the EU-27 member states

8.1. Monetary poverty

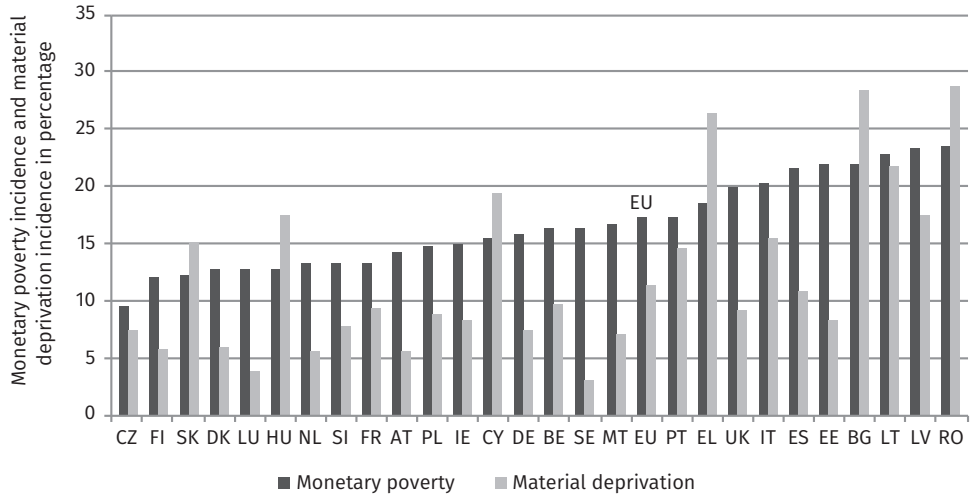
In our empirical analysis, we focus on the incidence of poverty and its changes over the period studied[10]. It is the poverty incidence and its changes that provide us with the basis for assessing whether economic growth was accompanied by poverty reduction, and whether the policies aimed at poverty reduction were effective.

In 2017, an estimated 87.242 million people in the EU-27, or around 17.2% of the total population, had an equivalent income that was below the respective national poverty line (Figure 10 and Table 4 in Appendix). However the incidence of monetary poverty differed considerably across the EU-27 member states. The EU countries with the highest monetary poverty rates in 2017 were Romania (23.5%), Latvia (23.3%), Lithuania (22.9%) Bulgaria (22.0%), Estonia (21.9%), Spain (20.8%), and Italy (20.3%). At the other end of the spectrum, the EU countries with the lowest monetary poverty rates in 2017 were Czechia (9.6%), Finland (12.0%),

10 The values of the indicators characterising poverty depth and poverty severity can be found in Tables 4 and 5 in Appendix.

Slovakia (12.2%), and Denmark (12.7%). This may seem surprising, as several relatively poor new EU member states like Czechia and Slovakia had some of the lowest levels of monetary poverty, while other well-developed and relatively rich countries like Germany or Sweden had higher monetary poverty rates. This pattern can be explained by differences in income inequality levels between countries, which greatly influence how poverty is assessed when setting national poverty lines.

Figure 10. Monetary poverty incidence and material deprivation incidence in the EU countries in 2017



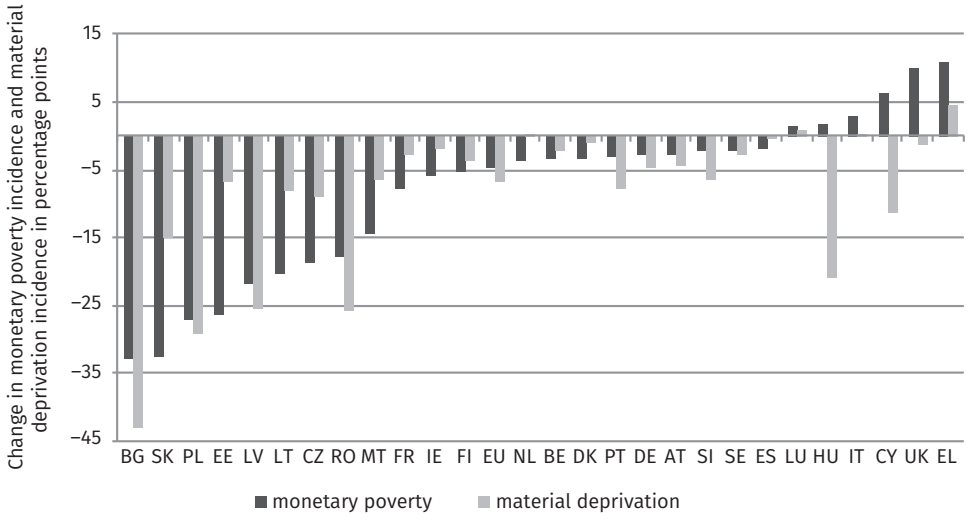
Source: Authors' creation based on data in Table 4 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

When we look at how the incidence of monetary poverty developed over the analysed period, we can see that the number of the monetarily poor in the EU-27 was 20.6 million lower in 2017 than it was in 2006, which represents a decrease of roughly five percentage points (Figure 11 and Table 5 in Appendix). During the analysed period, there have been welcome improvements in most of the countries that had high monetary headcount ratios in 2006. The greatest improvements occurred in the newer accession states of Bulgaria (33.1 percentage points), Slovakia (32.7 percentage points), and Poland (27.1 percentage points); i.e., in the countries with the highest range of monetary poverty in the initial year of the study.

When we look at how the incidence of monetary poverty developed between 2006 and 2017, we can see that it increased not only in countries that were hit hard by the economic and financial crisis, but also in countries that experienced increases in economic growth during the analysed period. The largest increases occurred in

Greece (10.8 percentage points), the United Kingdom (10.1 percentage points), Cyprus (6.4 percentage points), and Italy (3.1 percentage points). In Greece, Cyprus, and Italy, these increases were primarily the result of the economic and financial crisis, which hit these countries particularly hard. On the other hand, the increase in the monetary poverty incidence in the United Kingdom was influenced by a decrease in income in real terms over this period of 19.0 percentage points (see chapter 7.2). The percentage of the population who were monetarily poor also increased slightly in Hungary (by 1.7 percentage points) and Luxembourg (by 1.5 percentage points).

Figure 11. Changes in monetary poverty incidence and material deprivation incidence in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

In the EU-27, we observed a decrease in the incidence of monetary poverty from year to year throughout the analysed period (Table 4 in Appendix). At the same time, there were significant differences between countries due to the trend of the changes in the incidence of monetary poverty. There was no significant increase in the incidence of monetary poverty in any of the analysed years only in Belgium, Denmark, the Netherlands, and Finland. At the other end of the spectrum, the countries with the most frequent significant year-on-year increases in the monetary headcount ratio were Spain (six times) and the United Kingdom (five times), followed by Greece, Portugal, and Romania (four times each). In other countries, significant increases in the monetary headcount ratio occurred most often during the global economic crisis.

8.2. Material deprivation

Here, we recall that the unlike the incidence of monetary poverty, the incidence of material deprivation (non-monetary poverty) is measured using the absolute approach. The material deprivation of individuals is not compared with that of other individuals, but with an absolute threshold. Thus, the results of a comparative analysis of material deprivation between countries are not influenced by inequalities in material deprivation in the compared countries.

In 2017, the incidence of material deprivation in the EU-27 as a whole was 11.3% (57.316 million persons), and was thus about one and a half times lower than the incidence of monetary poverty (Figure10 and Table 4 in Appendix). This is because approximately 50% of the individuals whose current income did not meet their basic needs had savings from previous periods, which, together with their current income, were sufficient to meet these needs. Thus, they cannot be considered poor, despite being monetarily poor. More than one-fifth of the population was materially deprived in five member states: namely, Romania (28.8%), Bulgaria (28.3%), Greece (26.4%), and Lithuania (21.7%). At the opposite end of the spectrum, the countries with the lowest shares of the population who were materially deprived were Sweden (3.1%), Luxembourg (3.8%), Austria (5.6%), the Netherlands (5.7%), and Finland (5.8%).

The average decline in the incidence of material deprivation in the EU-27 as a whole was 6.7 percentage points (29.5 million persons) over the analysed period (Figure 11 and Table 5 in Appendix). The changes in the incidence of material deprivation differed considerably between the EU-27 countries over this period. From 2006 to 2017, only a few countries recorded a reduction in the incidence of material deprivation of more than 25 percentage points. These were mainly countries that had very high material deprivation headcount ratios in 2006, and that joined the EU in 2004 or later: namely, Bulgaria (a reduction of 43.1 percentage points), Poland (a reduction of 29.3 percentage points) Romania (a reduction of 25.8 percentage points), and Latvia (a 25.5 reduction of percentage points). The only country in the EU-27 that experienced a considerable increase in the incidence of material deprivation between 2006 and 2017 was Greece (of 4.4 percentage points); i.e., the country that was most severely affected by the economic and financial crisis.

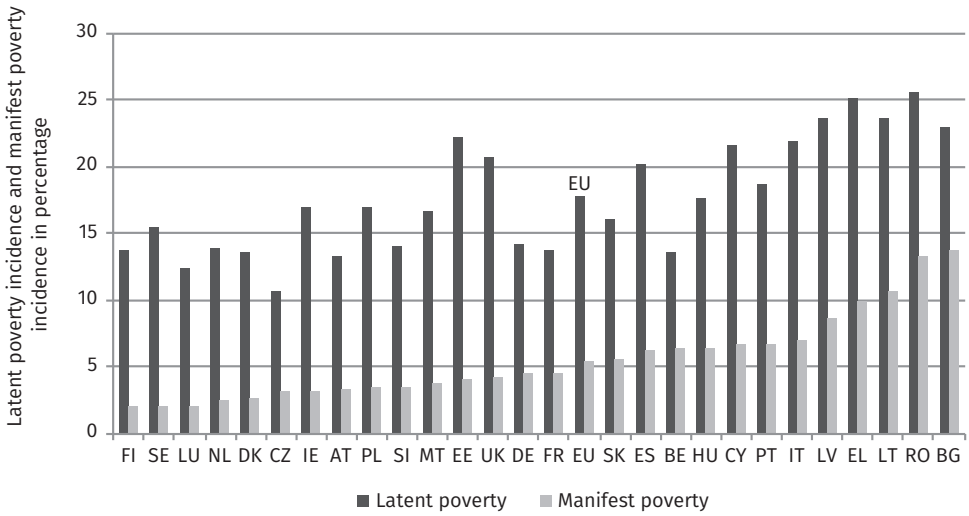
There was no significant increase in the material deprivation headcount ratio in the EU-27 in any of the analysed years in relation to the previous year (Table 5 in Appendix). We can observe a similar pattern in the 2006–2017 period in both the old EU countries (Belgium, France, Luxembourg, Malta, the Netherlands, Austria, Finland, and Sweden) and the countries that joined the EU in 2004 (Czechia and

Poland). In the analysed period, only Romania, Spain, and Ireland experienced a threefold increase in the material deprivation headcount ratio. This ratio doubled in the 2006–2017 period in Denmark, Estonia, Italy, Cyprus, Lithuania, Hungary, and the United Kingdom.

8.3. Latent poverty

In 2017, the incidence of latent poverty for the EU-27 as a whole was 17.7%, a figure that represents 89.779 million people (Figure 12 and Table 4 in Appendix). These people were classified as only monetarily poor or materially deprived. Thus, we should consider them as being at risk of poverty. In 2017, Romania (25.6%), Greece (25.1%), Latvia (23.6%), Lithuania (23.5%), and Bulgaria (23.0%) were the EU countries with the highest incidence of latent poverty. These are the least economically developed countries of the new EU, apart from Greece. However, of the EU countries, Greece was most severely affected by the economic and financial crisis. The lowest incidence of latent poverty in 2017 was in Czechia (10.7%) Luxembourg (12.3%), and Austria (13.3%).

Figure 12. Latent poverty incidence and manifest poverty incidence in the EU countries in 2017



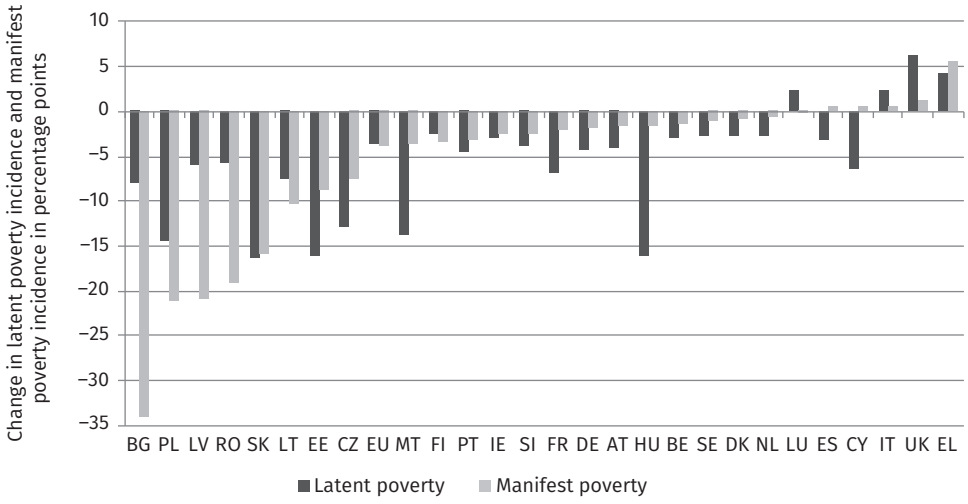
Source: Authors' creation based on data in Table 4 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

In the EU-27, the latent poverty headcount ratio fell by 3.6 percentage points (15.8 million persons) in the 2006–2017 period (Figure 13 and Table 5 in Appendix).

The incidence of latent poverty increased between 2006 and 2017 only in the United Kingdom (6.2 percentage points), Greece (4.2 percentage points), Italy, and Luxembourg (2.3 percentage points). In the other EU countries, the risk of poverty was lower in 2017 than it was in 2006. The biggest declines in the incidence of latent poverty were in Estonia (16.6 percentage points), Hungary (16.4 percentage points), and Slovakia (18.6 percentage points).

In the EU-27, the incidence of latent poverty decreased slightly from year to year over the 2006–2017 period (Table 5 in Appendix). It increased significantly at least four times over the analysed period only in the United Kingdom (five times) and in Ireland, Sweden, Bulgaria, and Hungary (four times each); i.e., in both the old EU countries with high levels of economic development and the new EU countries with lower levels of economic development.

Figure 13. Changes in latent poverty incidence and manifest poverty incidence in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

8.4. Manifest poverty

As we noted above, the coincidence of monetary poverty and material deprivation accounts for the more severe cases of poverty. The manifestly poor are both monetarily poor and materially deprived (see chapter 2.5). If an individual is monetarily impoverished and materially deprived, s/he lacks not only an acceptable level of current income, but also sufficient accumulated assets (from previous

periods) to enable him/her to meet his/her basic needs at an acceptable level. These individuals often cannot escape poverty without state aid.

The manifest poverty headcount ratio suggests that in 2017, 5.4% of the EU-27 population were living in poverty (more than 27.4 million people, Figure 12 and Table 4 in Appendix). Thus, in 2017, a full 12.3% more people in the EU-27 were considered poor, rather than at risk of poverty. Bulgaria (13.7%), Romania (13.3%), Lithuania (10.6%), and Greece (9.9%) were the EU countries with the highest incidence of manifest poverty in 2017. The lowest manifest poverty headcount ratios in 2017 were observed in Luxembourg (3.8%), Austria (5.6%), the Netherlands (5.7%), Finland (2.0%), Sweden (2.0%), Luxembourg (2.1%), Denmark (2.6%), and Czechia (3.1%).

A considerably smaller percentage of people in the EU-27 were affected by manifest poverty in 2017 than in 2006. Thus, the manifest poverty headcount ratio declined by 3.9 percentage points between 2006 and 2017 (Figure 13 and Table 5 in Appendix). The manifest poverty headcount ratio varied considerably across the EU-27 member states. Although there were improvements in most years in some countries with typically high poverty rates, the differences between the countries remained very large at the end of the period.

We observed a decrease in the percentage of the manifestly poor in the vast majority of the EU-27 between 2006 and 2017. The largest decreases in this period were in countries that had relatively high manifest poverty headcount rates in 2006: namely, Bulgaria (34.1 percentage points), Poland (21.0 percentage points), Latvia (20.8 percentage points), and Romania (19.0 percentage points). Greece, which was severely affected by the global economic and financial crisis, was the only EU country that experienced a considerable increase in the incidence of manifest poverty (1.31 percentage points) over the analysed period.

In the EU-27, the incidence of manifest poverty increased slightly year on year between 2009 and 2012 (Table 5 in Appendix). In the other years, the incidence of manifest poverty decreased, although a significant drop occurred in 2006 only. In the vast majority of countries, there was a significant increase in the incidence of manifest poverty only in isolated years. However, in Romania and Cyprus, the value of the manifest poverty headcount ratio quadrupled over the analysed period, although the incidence of manifest poverty was lower in 2017 than it was in 2006. Moreover, the increase in the incidence of manifest poverty tripled in Greece and Italy between 2006 and 2017.

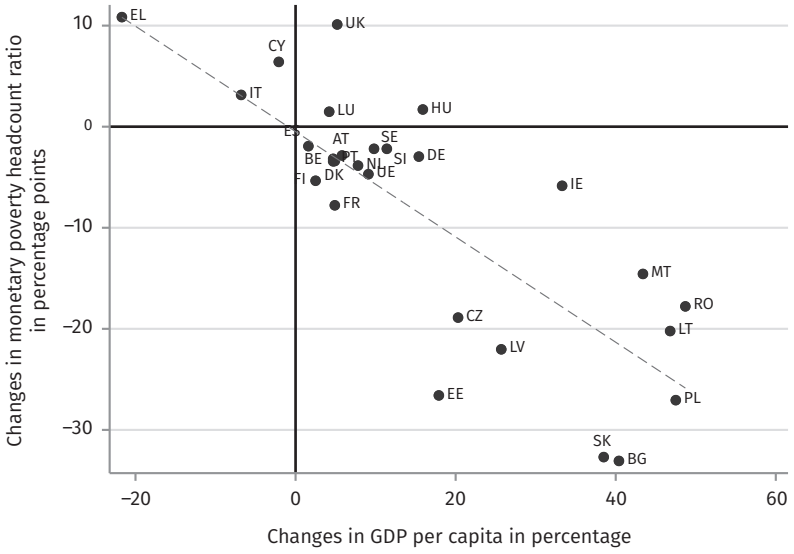
8.5. Relationship between changes in GDP per capita and changes in poverty incidence

Figures 14–17 illustrates the relationship between the changes in GDP per capita and the changes in the incidence of poverty from 2006 to 2017 in the EU-27 member states. The rise or fall is expressed as a comparison between the last and the first year. The data points represent the EU-27 countries, and the dashed line is a fitted regression line. The two intersecting black lines ($x = 0$ and $y = 0$) represent the lack of change in GDP per capita and poverty indices, and they divide the plot into four quadrants. The data points that lie above the regression line represent countries where the changes in poverty indices were less favourable than the average changes in the EU-27 countries that accompanied the changes in GDP per capita (poverty decreased less than average; or it increased alongside an increase in GDP per capita; or it increased more than average alongside a decrease in GDP per capita). By contrast, the data points situated below the regression line represent countries where changes in poverty indices were more favourable than their average changes across the EU-27 countries in relation to changes in GDP per capita (poverty decreased more than average decrease; or it increased less than average alongside a decrease in GDP per capita; or it decreased alongside a decrease in GDP per capita). The greater the distance of the data point from the regression line, the more unusual the change in poverty accompanying the change in GDP per capita in a given country was.

Figure 14 displays the relationship between the changes in GDP per capita and the changes in the monetary poverty headcount ratio. In Figure 14, the majority of the EU-27 countries are located in the bottom-right quadrant. In these countries, an increase in GDP per capita was accompanied by a decline in the incidence of monetary poverty. The largest positive changes were observed in new EU countries that had relatively low GDP per capita together with a high incidence of monetary poverty in 2006: namely, Bulgaria, Slovakia, Poland, and Lithuania (the bottom-right quadrant). In contrast, a negative change could be observed only in Greece, Cyprus, and Italy, where a decrease in GDP per capita was accompanied by an increase in the incidence of monetary poverty (the upper-left quadrant). In the United Kingdom, Hungary, and Luxembourg, there was an increase in the incidence of monetary poverty over the analysed period, despite an increase in GDP per capita (the upper-right quadrant). This pattern demonstrates that in these countries, increases in GDP per capita failed to fully translate into reductions in the incidence of monetary poverty. In other words, in these countries, economic growth did not lead to income increases for the population. In these countries, the decrease in income in real terms over

this period was 19.0, 20.0, and 8.4 percentage points, respectively (see chapter 7.2), which resulted in an increase in the incidence of monetary poverty.

Figure 14. The correspondence between the rise/fall of GDP and monetary poverty incidence in the EU – 27 countries from 2006 to 2017



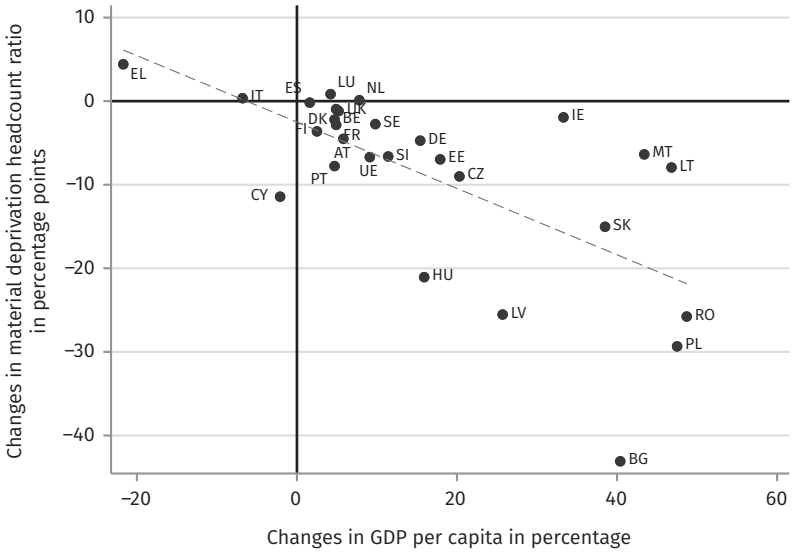
Source: Authors' creation based on data in Tables 2 and 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The regression line has a slope parameter equal to –0.537, which means that on average across the EU-27 countries, an increase in GDP per capita of 1% resulted in a decline in the mean monetary poverty incidence of 0.537 percentage points.

For most of the EU-27 countries, the correlation between GDP growth and changes in the incidence of material deprivation was generally similar to the correlation between changes in GDP per capita and changes in the incidence of monetary poverty in the analysed period (Figures 14 and 15). As a general rule, the higher the growth in GDP per capita, the larger the decline in the incidence of material deprivation. The EU-27 countries that had both the largest increases in GDP per capita and the largest increases in the material deprivation incidence were Bulgaria, Poland, and Romania (the bottom-right quadrant). The opposite – and, thus, the worst – situation was observed only in Greece, where both the material deprivation incidence and GDP per capita increased (the upper-left quadrant). Cyprus was the only country where the material deprivation incidence decreased despite a decrease in GDP per capita in this period (the bottom-left quadrant).

The regression line has a slope parameter equal to –0.401. This means that on average across the EU-27 countries, an increase/decrease in GDP per capita of 1% resulted in a decline in the mean material deprivation incidence of 0.401 percentage points.

Figure 15. The correspondence between the rise/fall of GDP and material deprivation incidence in the EU-27 countries from 2006 to 2017

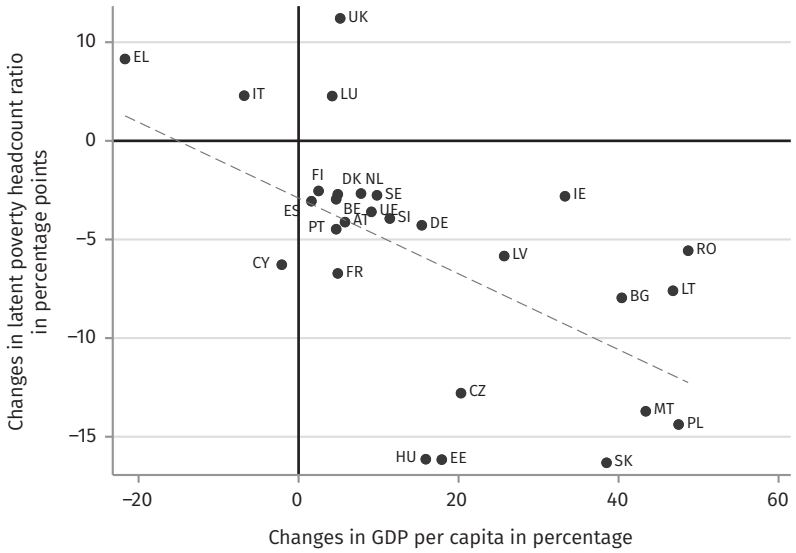


Source: Authors' creation based on data in Tables 2 and 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

In the vast majority of EU-27 countries, there was both an increase in GDP per capita and a decline in the incidence of latent poverty in the 2006–2017 period (Figure 16), which indicates that economic growth in these countries coincided with a decrease in the risk of poverty. Positive changes in the largest scale occurred in Poland, Slovakia, and Malta (the bottom-right quadrant). Unfavourable changes in both GDP per capita (decrease) and the incidence of latent poverty (increase) occurred only in Greece and Italy (the upper-left quadrant). In Cyprus, the latent poverty incidence declined, although GDP per capita decreased over the analysed period (the bottom-left quadrant). Unusual changes in the relationship between the values of these indicators were observed in the United Kingdom and Luxembourg. Despite the growth in GDP per capita, the latent poverty incidence increased in these countries (the upper-right quadrant); i.e., the risk of poverty increased. As in the case of the rise in monetary poverty incidence, this pattern can be attributed to a decline in real incomes in the UK and Luxembourg.

The regression line has a slope parameter equal to –0.205, which means that on average across the EU-27 countries, an increase in GDP per capita of 1% resulted in a decline in the mean latent poverty incidence of 0.205 percentage points.

Figure 16. The correspondence between the rise/fall of GDP and latent poverty incidence in the EU-27 countries from 2006 to 2017

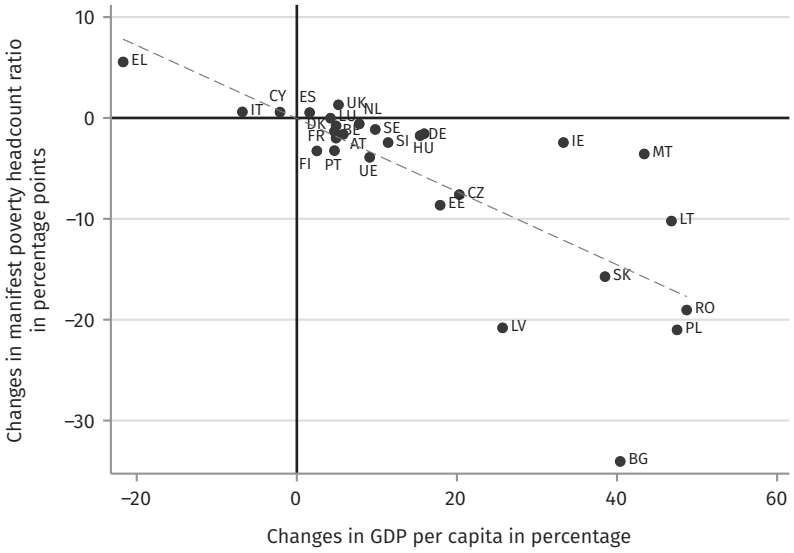


Source: Authors' creation based on data in Tables 2 and 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

In the analysed period, an increase in GDP per capita together with a decrease in the manifest poverty incidence occurred in most of the countries where a positive change in GDP per capita was accompanied by a decrease in the latent poverty incidence (Figures 16 and 17). The most positive changes occurred in Bulgaria, Poland, and Romania (the bottom-right quadrant). The United Kingdom also experienced a decline in the manifest poverty incidence in conjunction with an increase in GDP per capita (the upper-right quadrant). This occurred because in the UK, the rise in the incidence of monetary poverty and latent poverty was accompanied by a decline in real income. The worst situation was observed in Greece, which experienced both a decrease in GDP per capita and an increase in the manifest poverty incidence between 2006 and 2017 (the upper-left quadrant). In this country, unlike in the United Kingdom, the incidence of poverty grew substantially alongside a significant decline in GDP.

The regression line has a slope parameter equal to –0.366. This means that, on average across the EU-27 countries, an increase decrease in GDP per capita of 1% resulted in a decline in the mean manifest poverty incidence of 0.366 percentage points.

Figure 17. The correspondence between the rise/fall of GDP and manifest poverty incidence in the EU-27 countries from 2006 to 2017



Source: Authors' creation based on data in Tables 2 and 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

9. Income inequality in the EU-27 member states

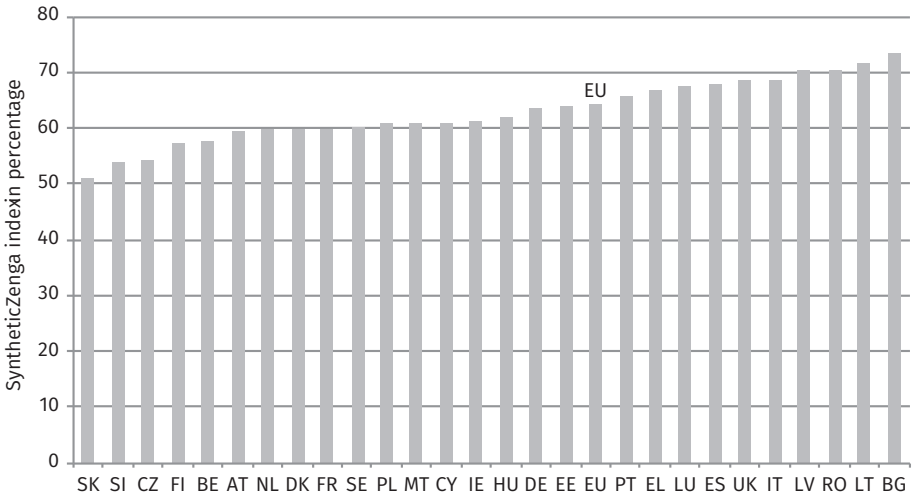
9.1. Income inequality

The synthetic Zenga inequality index (Z) provides a summary measure of the income distribution as a whole. In 2017, it was 64.27% for the EU-27, as measured by the population-weighted average of the national figures (Figure 18 and Table 1 in Appendix). The synthetic Zenga index of the EU-27 countries varied by about 20%, over a range stretching from 53.91% for Slovakia to 73.53% for Bulgaria. The largest income disparities (other than in Bulgaria) of at least 70.0% were recorded in Lithuania (71.72%) and Romania (70.61%). On the other end of the spectrum were countries with a more even income distributions (Z less than 60%): namely, Slovakia, Slovenia, Czechia, Finland, Belgium, Austria, the Netherlands, Denmark, France, and Sweden.

In the EU-27 countries, total income inequality increased only by 0.42 percentage points between 2006 and 2017 (Figure 19 and Table 2 in Appendix). The largest decline in total income inequality over this period was observed in Luxembourg (8.6 percentage points), Bulgaria (5.4 percentage points), Sweden (5.1 percentage

points) and Hungary (4.8 percentage points). Of the EU-27 countries, Poland had the largest average increase in inequality (5.1 percentage points), followed by Slovakia (4.8 percentage points) and Portugal (4.5 percentage points). We observed significant differences between countries due to the trends in the changes in income inequality year by year (Table 2 in Appendix).

Figure 18. Synthetic Zenga index in the EU-27 countries in 2017

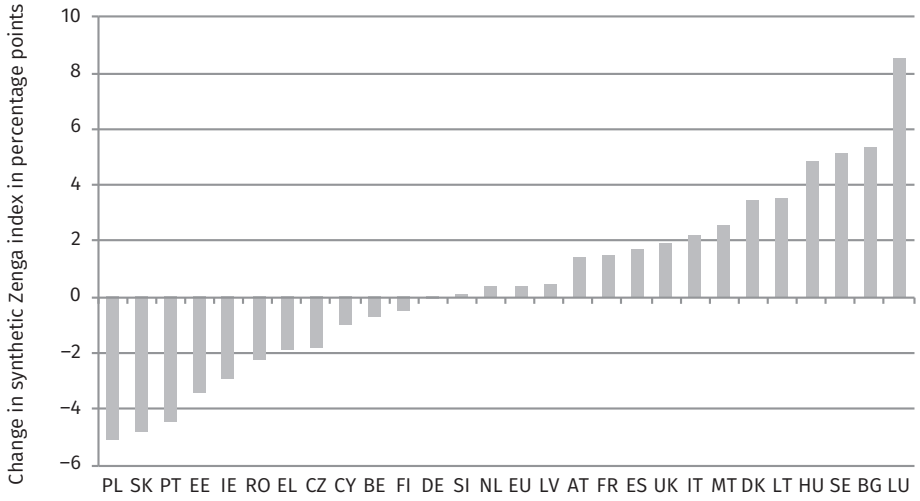


Source: Authors' creation based on data in Table 1 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Up to this point in our analysis, we have focused on income inequality across the entire distribution. However, in the debate on the impact of inequality on poverty, a great deal of attention has been paid to the gap between the poorest part of the population and the richer remaining part of the population. The assessment of these inequalities was carried out by means of point Zenga index (I), taking as a division line the poverty line, and the income quintile share ratio (S80/S20).

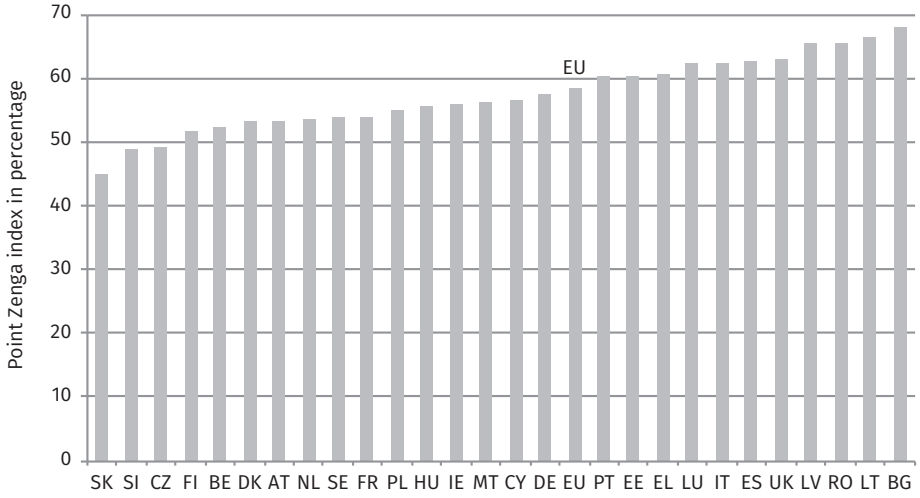
In 2017, the point Zenga index for the EU-27 was 58.4% (Figure 20 and Table 1 in Appendix). The countries with both the highest and the lowest income inequality between the poor and the non-poor in 2017 were also the countries that had the highest and the lowest income inequality levels in the total population under study (as measured by the synthetic Zenga index). Bulgaria, Lithuania, and Romania had relatively high point Zenga index values (68.2%, 66.6%, and 65.5%, respectively). At the other end of the spectrum, Slovakia, Slovenia, and Czechia had the lowest point Zenga index values (51.02%, 48.7%, and 49.2% respectively).

Figure 19. Changes in synthetic Zenga index in the EU-27 countries during 2006–2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 20. Point Zenga index in the EU-27 countries in 2017

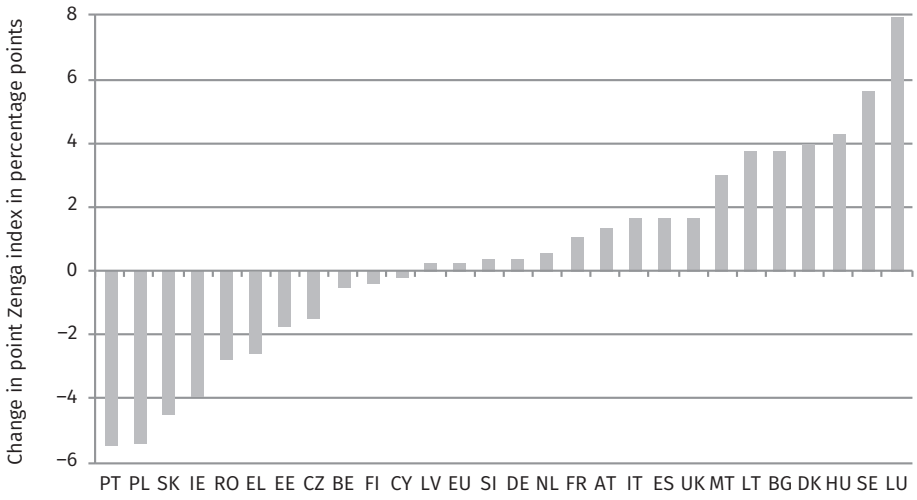


Source: Authors' creation based on data in Table 1 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Inequality between the poor and the richer parts of the EU-27 population rose by only 0.23 percentage points between 2006 and 2017 (Figure 21 and Table 2 in Appendix). This estimate was lower than the income inequality calculated for

the general population. The EU-27 countries with the largest decreases in income inequality between the poor and the non-poor, of more than four percentage points, were Portugal, Poland, and Slovakia (5.5, 5.5, and 4.5 percentage points, respectively). Meanwhile, the EU-27 countries with the largest increases in income inequality, of more than four percentage points, were Luxembourg, Sweden, and Hungary (7.9, 5.6, and 4.3 percentage points, respectively).

Figure 21. Changes in point Zenga index in the EU-27 countries during 2006–2017

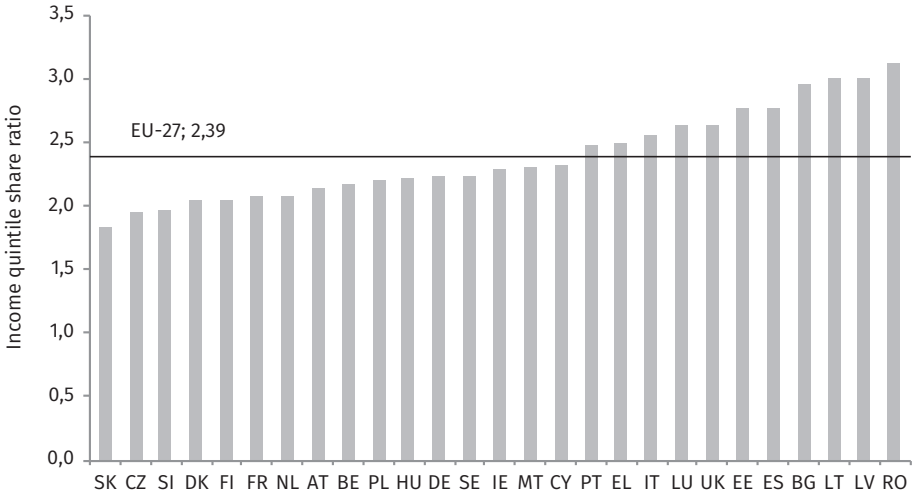


Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The average income, measured as the population weighted average, of the richest 20% of the population in the EU-27 countries was 2.4 times higher than average income of the poorest 20% of the population in 2017 (Figure 22 and Table 1 in Appendix). Slovakia (S80/20 ratio was 1.83), Czechia (S80/S20 ratio was 1.94), and Slovenia (S80/20 ratio was 1.97) belong to the group of EU-27 countries with the lowest income quintile share ratio in 2017 (Figure 11 and Table 1 in Appendix). Romania had the highest S80/S20 ratio (3.12), followed by Latvia (3.01) and Lithuania (3.00). Thus, the share of income of the richest 20% of the population relative to the income of the poorest 20% of the population was more than 1.5 times higher in Romania than it was in Slovakia. It should be noted that in 2017, both the largest and the smallest income gaps between the richest and the poorest parts of the population, as measured by the highest S80/S20 ratio, occurred in the new EU member states.

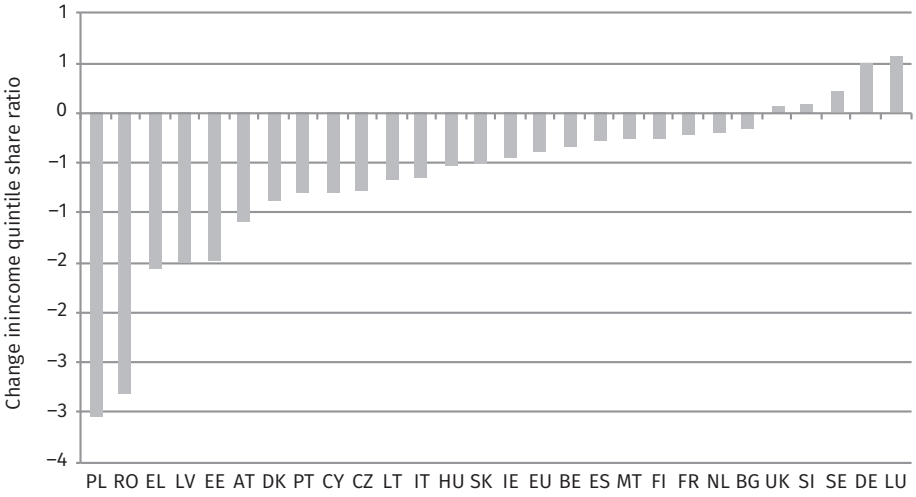
In the EU-27, the S80/S20 ratio decreased by 0.39 between 2006 and 2017 (Figure 22 and Table 2 in Appendix).

Figure 22. Income quintile share ratio in the EU-27 countries in 2017



Source: Authors' creation based on data in Table 1 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 23. Changes in the income quintile share ratio in the EU-27 countries during 2006–2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The ratio of the total income of the richest 20% of the population to the total income of the poorest 20% of the population declined in the vast majority of countries (in 22 countries) over the examined period. The largest decreases occurred in the

new EU countries Poland Romania, and Latvia (3.04, 2.82, and 1.50, respectively); and in Greece (1.55), the old EU country that was the most severely affected by the economic and financial crisis. By contrast, the only countries where significant increases in this ratio occurred were Luxembourg, Germany, and Sweden (0.56, 0.50, and 0.22, respectively); i.e., highly developed countries of the old EU.

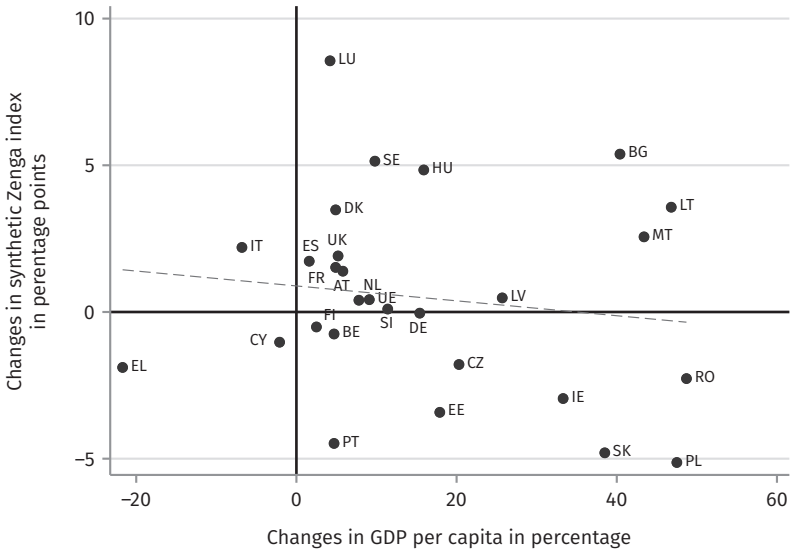
9.2. Relationship between changes in GDP per capita and changes in income inequality

Figures 24–26 illustrate the relationship between changes in GDP per capita and changes income inequality in the EU-27 countries from 2006 to 2017. The rise or fall is expressed as a comparison between the last and the first year. The data points represent the EU-27 countries, and the dashed line is a fitted regression line. The two intersecting black lines ($x = 0$ and $y = 0$) represent the lack of change in GDP per capita and income indices, and they divide the plot into four quadrants. The data points lying above the regression line represent countries where changes in income inequality were less favourable than the average changes in income inequality in the EU-27 countries that accompanied changes in GDP per capita (income inequality decreased less than average, or it even increased with an increase in GDP per capita, or it increased more than average with a decrease in GDP per capita). By contrast, the data points situated below the regression line represent countries where changes in income inequality were more favourable than their average changes in the EU-27 countries that accompanied changes in GDP per capita (income inequality indices decreased more than average, or it increased less than average with a decrease in GDP per capita, or it even decreased with a decrease in GDP per capita). The greater the distance of the data point from the regression line, the more unusual the change in income inequality that accompanied the change in GDP per capita in a given country was.

Figure 24 illustrates the relationship between the rise/fall of GDP per capita and total income inequality in the EU-27 countries from 2006 to 2017. The countries located within the upper-right quadrant experienced an increase in both GDP per capita and income inequality. The countries where a high level of economic growth was accompanied by a significant increase in income inequality were the new EU countries of Lithuania and Bulgaria. In contrast, the EU-27 countries that experienced a significant increase in GDP per capita alongside a significant decrease in income inequality (located within the bottom-right quadrant in Figure 24) were Poland, Slovakia, and Romania, which are also new EU countries. The only EU-27 countries where a decline in GDP per capita was accompanied by a decline in income inequality

were Greece and Cyprus (bottom-left quadrant). Italy was the only EU-27 country that experienced a decrease in GDP per capita alongside an increase in income inequality (upper-left quadrant.

Figure 24. The correspondence between the rise/fall of GDP and the synthetic Zenga index in the EU countries from 2006 to 2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

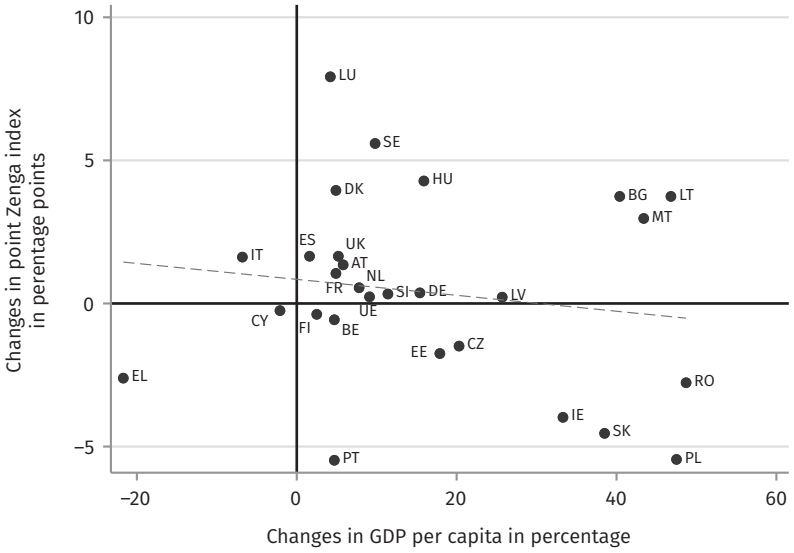
The regression line has a slope parameter equal to –0.027. This means that, on average across the EU-27 countries, an increase in GDP per capita of 1% resulted in a decline in the mean total income inequality of 0.027 percentage points.

The picture of the relationship between the rise or fall of income inequality and the income inequality between the poorest and the richer parts of the population across the EU-27 from 2006 to 2017 is almost the same as the picture of the relationship between the changes in total income inequality and GDP per capita (Figure 26 and 25).

The regression line has a slope parameter equal to –0.029, which means that on average across the EU-27 countries, an increase in GDP per capita of 1% resulted in a decline in the mean latent poverty incidence of 0.029 percentage points.

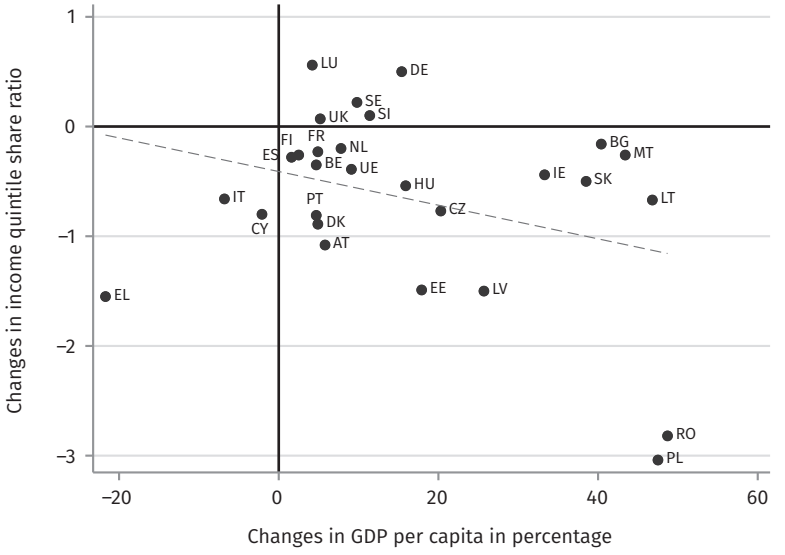
However, the picture of the relationship between changes in the S80/S20 ratio and GDP per capita is significantly different from the picture of the relationship between changes in total income inequality and GDP per capita (Figure 26).

Figure 25. The correspondence between the rise/fall of GDP and the point Zenga index in the EU countries from 2006 to 2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 26. The correspondence between the rise/fall of GDP and the income quintile share ratio in the EU countries from 2006 to 2017



Source: Authors' creation based on data in Table 2 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

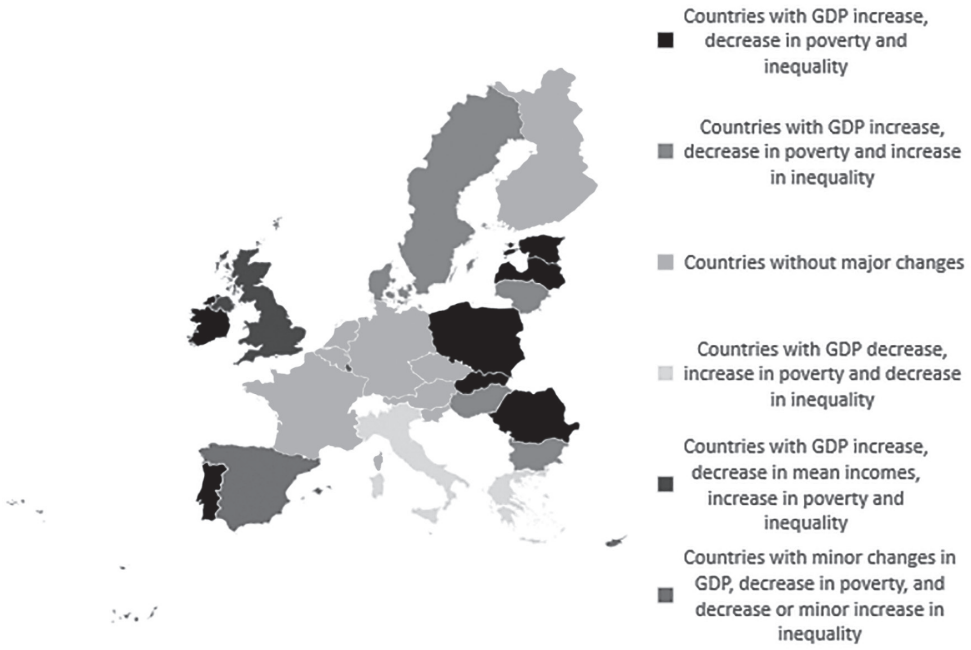
First, the number of countries located in the bottom-right quadrant is significantly higher in Figure 26 than it is in Figures 24 and 25; i.e., countries where an increase in GDP per capita was accompanied by a decrease in the income quintile share ratio. The EU-27 countries that experienced a significant increase in GDP per capita in conjunction with a significant increase in the value of this inequality indicator were Germany and Luxembourg (upper-right quadrant). Among the many countries that experienced both an increase in GDP per capita and a decrease in the income quintile share ratio, Romania stands out as having undergone the largest changes in both indicators (upper-left quadrant). Greece was the only EU-27 country where both GDP per capita and the S80/S20 ratio decreased in the analysed period (bottom-left quadrant).

The regression line has a slope parameter equal to –0.015. This means that on average across the EU-27 countries, an increase in GDP per capita of 1% resulted in decline in a mean S80/S20 ratio of 0.015.

10. Identification of similar groups of the EU-27 member states by economic growth, poverty, and inequality between the poor and the non-poor

By investigating changes in GDP, poverty, and inequality between the poor and the non-poor over the research period, we were able to classify the EU-27 countries in terms of these phenomena. The first group may be referred to as the countries that experienced the most positive developments in these three phenomena. This group is comprised of such former Eastern Bloc countries as Poland, Slovakia, Romania, Latvia, and Estonia; but also Ireland and Portugal. The second group includes both new EU members (Bulgaria, Lithuania, Hungary, and Malta) and the Nordic countries (Denmark and Sweden). These are countries that underwent positive changes in GDP and reductions in latent poverty (risk of poverty) and manifest poverty (both monetary poverty and material deprivation), but also increases in income inequality between the poor and the non-poor. The third group of countries includes countries in which there were no significant changes in three analysed phenomena in the analysed period: namely, Belgium, Germany, France, Austria, Finland, the Netherlands (old EU member states), Czechia, and Slovenia (the most developed countries of the former Eastern Bloc). The countries that had a clearly negative development trajectory in the research period, albeit with a declining level of income inequality between the poor and the non-poor, are Greece and Italy (the fourth group).

Figure 27. Classification of EU member states by GDP growth, poverty reduction and changes in inequality between the poor and the non-poor



Source: Authors' creation based on data in Table 2 and Table 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The United Kingdom and Luxembourg make up an unusual group of countries (the fifth group). In these countries, there was a decrease in disposable income per capita, even though there was an increase in GDP per capita, which translated into an increase in the risk of poverty.

The last group of countries (the sixth group), which includes Cyprus and Spain, also underwent unusual developments in the analysed period. In these countries, the risk of poverty decreased and there was little change in manifest poverty, even though GDP per capita fell or increased only slightly.

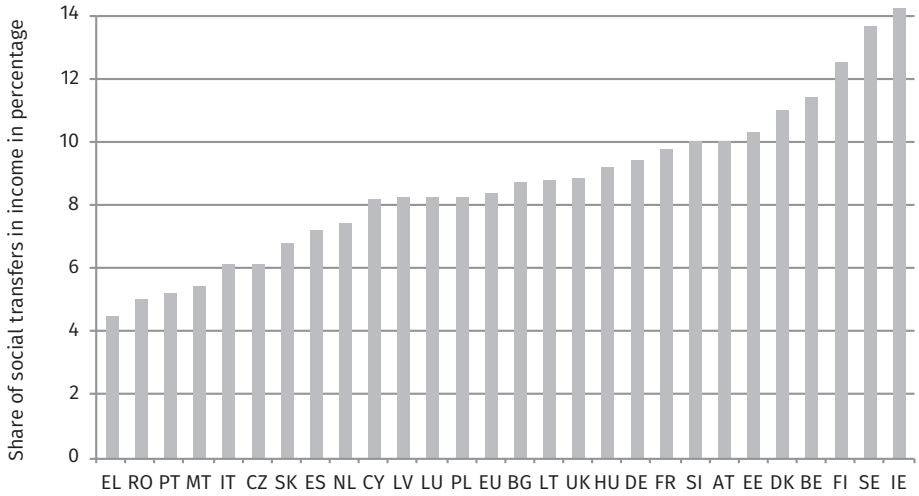
11. Social transfers in the EU-27 member states

In this section, we summarise the EU-27 countries' social transfer systems by assessing the pro-poorness of their social transfers, as well as their effects on the relative income of the poor, monetary poverty, and income inequality levels between the poor and the non-poor.

11.1. Pro-poorness of social transfers

The average of the share of social transfers in income (SSTI) across the EU-27 countries was 8.4% in 2017 (Figure 28 and Table 6 in Appendix). The social transfers were most generous in Ireland, Sweden, Finland, Belgium, and Denmark, where the share of social transfers in income exceeded 11% (14.2%, 13.7%, 12.5%, 11.4%, and 11.0%, respectively); while they were least generous in Greece, Romania, Portugal, and Malta, where the share of social transfers in income was less than 6% (4.5%, 5.0%, 5.2%, and 5.5%, respectively).

Figure 28. Share of social transfers in income in the EU countries in 2017



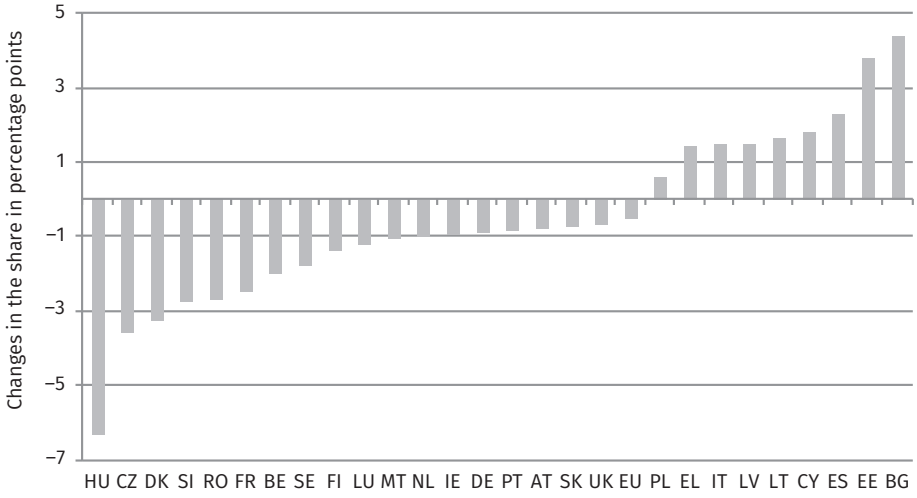
Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The average share of social transfers in income across the EU-27 countries did not change significantly between 2006 and 2017 (Figure 29 and Table 7 in Appendix). Among the countries surveyed, the SSTI underwent the largest decreases, of more than three percentage points, in Hungary, Czechia, and Denmark (4.4, 3.8, and 2.3 percentage points, respectively). There was a significant increase in the SSTI, of more than two percentage points, only in Bulgaria, Estonia, and Greece (6.3, 4.3, and 3.3 percentage points, respectively).

Social transfers are considered properly targeted if they go primarily to the poorer parts of society. In 2017, social transfers to the poor were, on average, more than 40% higher than social transfers to the non-poor in the EU-27 countries (Figure 30 and Table 6 in Appendix). Social transfers were distributed in the most pro-poor manner

in the Netherlands, France, and Belgium. In these countries, social transfers were, on average, over 80% higher for poor people than for non-poor people (by 88.7%, 88.3%, and 86.8%, respectively). In contrast, Latvia, Greece, Bulgaria, Italy, and Spain distributed social transfers in the least pro-poor manner. In these countries, social transfers were, on average, lower for poor people than for non-poor people (counted for 66.4%, 72.2%, 75.1%, 82.0%, and 98.2% of social transfers to the non-poor, respectively).

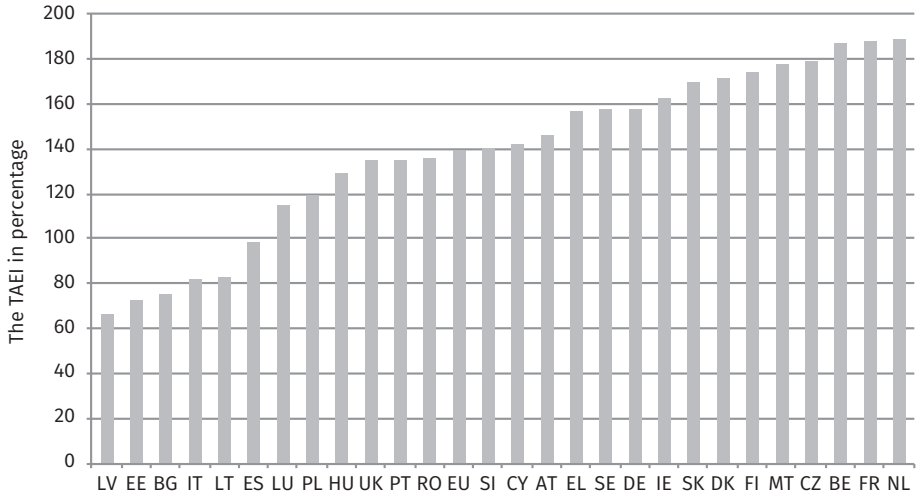
Figure 29. Changes in the share of social transfers in income as a result of social transfers in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

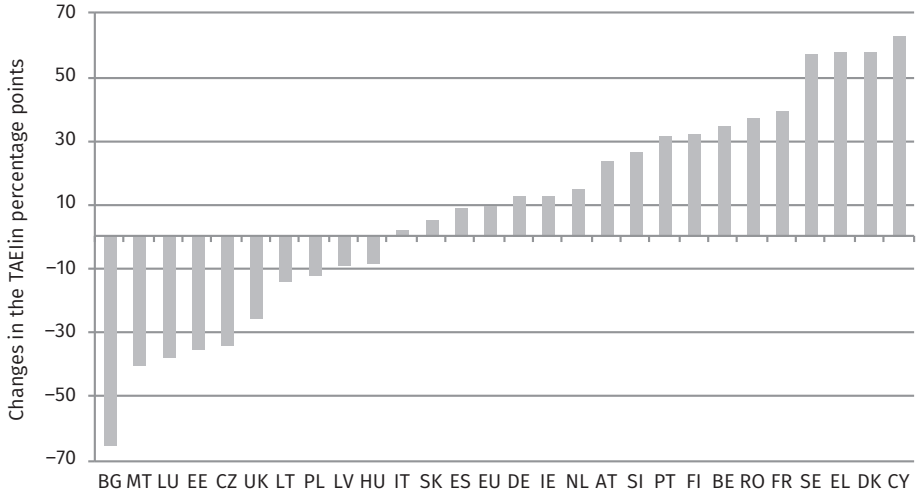
On average across the EU-27 countries, the proper targeting of social transfers improved between 2006 and 2017 (Figure 31 and Table 7 in Appendix). Over this period, the TAEI values increased by almost 10 percentage points. Changes in the allocation of social transfers differed between countries, in terms of both direction and scale. The most favourable changes occurred in Cyprus, Denmark, Greece, and Sweden, where the TAEI increased by more than 50 percentage points (by 62.3, 57.9, 57.5, and 57.0 percentage points, respectively). Meanwhile, the most unfavourable changes occurred in Bulgaria, Malta, Luxembourg, Estonia, and Czechia, where the TAEI decreased by more than 30 percentage points (by 65.2, 40.7, 38.1, 35.0, and 34.2 percentage points, respectively).

Figure 30. The TAEI as a result of social transfers in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 31. Changes in the TAEI as a result of social transfers in the EU countries in 2017

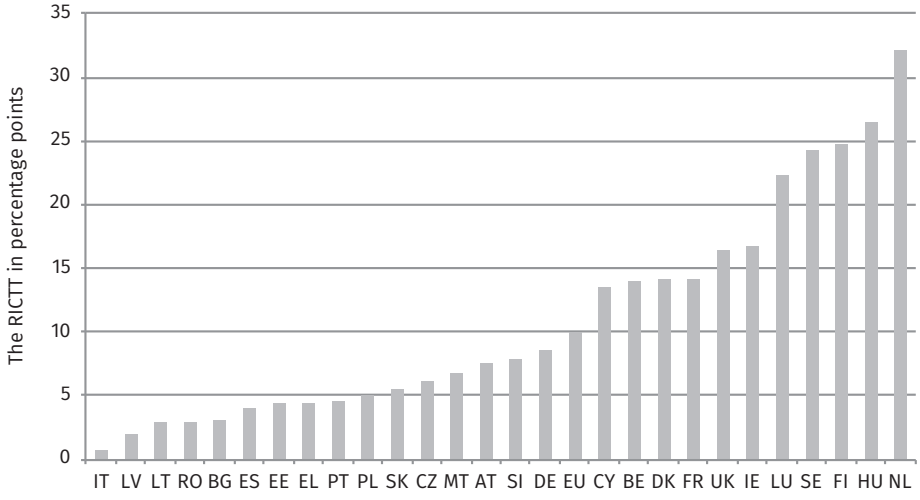


Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

11.2. Impact of social transfers on the relative income of the poor, poverty reduction, and the decline in income inequality between the poor and the non-poor

As expected, social transfers helped to close the income gap between the poor and the non-poor. On average across the EU-27 countries in 2017, social transfers led to an increase of 9.9 percentage points in the share of the average income of the poor in the average income of the non-poor (Figure 32 and Table 6 in Appendix). The RICTT differed considerably between the analysed countries in 2017, ranging from 0.7 in Italy to 32.1 in the Netherlands. Thus, across the EU-27 countries, social transfers increased the share of the average income of the poor in the average income of the non-poor by between 0.7 and 32.1 percentage points. Social transfers improved the relative income of the poor the most, after the Netherlands, in Hungary, Finland, Sweden, and Luxembourg. In these countries, the share of the average income of the poor in the average income of the non-poor increased by 26.5, 24.7, 24.3, and 22.3 percentage points, respectively. At the other extreme, social transfers improved the relative income of the poor the least, after Italy, in Latvia, Lithuania, Romania, and Bulgaria. These are among the new and old EU countries that were most affected by the economic and financial crisis. In these countries, the RICTT had values below four percentage points (2.0, 2.9, 2.9, and 3.1 percentage points, respectively).

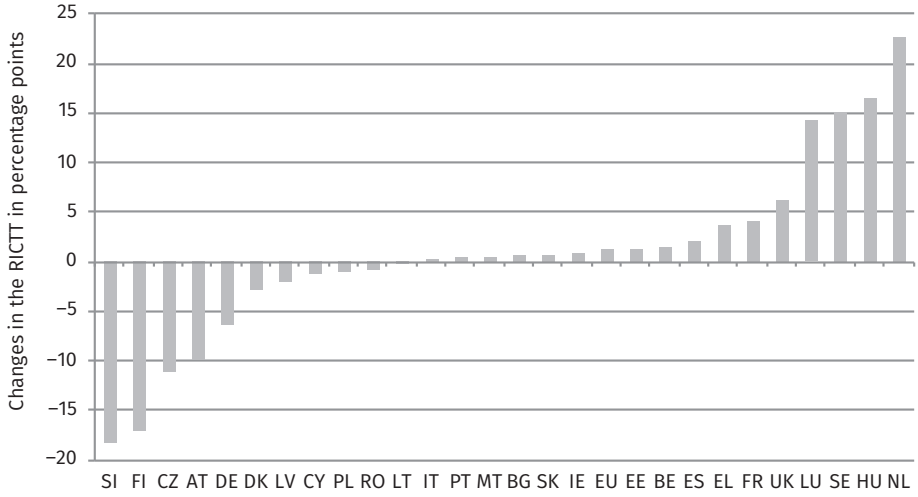
Figure 32. The RICCT as a result of social transfers in the EU countries in 2017.



Source: Authors' creation based on data in Table 5 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Both on average across the EU-27 and in the vast majority of individual countries, the changes in the RICCT values between 2006 and 2017 were small, at less than five percentage points (Figure 33 and Table 7 in Appendix). Over this period, the RICTT increased by more than 10 percentage points only in the Netherlands, Hungary, Sweden, and Luxembourg (by 22.8, 16.5, 15.0, and 14.4 percentage points, respectively). Conversely, the RICTT decreased by more than five percentage points in Slovenia, Finland, Czechia, and Austria over the analysed period.

Figure 33. Changes in the RICTT as a result of social transfers in the EU countries during 2006–2017



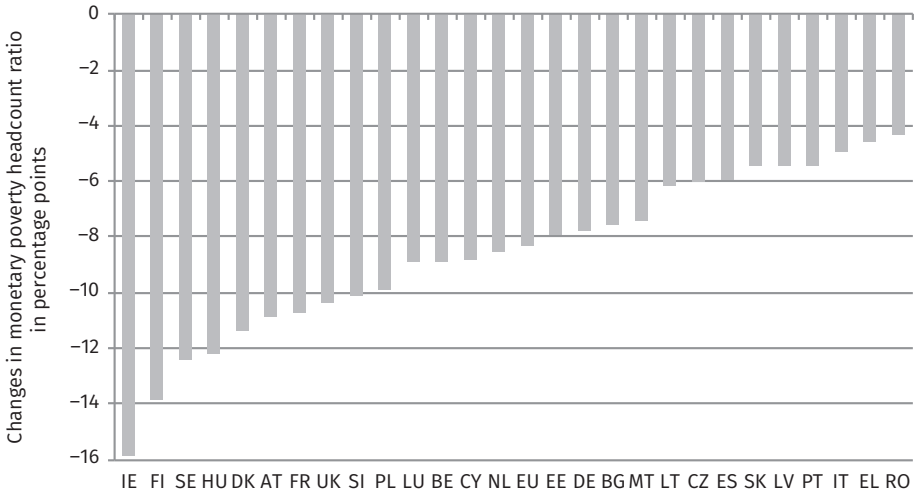
Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The sizes of the social transfers and the effects these transfers had on reductions in poverty and decreases in income inequality varied in the surveyed countries, depending on both the general level of development of the country, and the country's system of social transfers.

Across the EU-27 countries in 2017, social transfers led to an average reduction in the number of monetarily poor people of 8.3 percentage points (Figure 34 and Table 6 in Appendix). The extent to which social transfers reduced the number of the monetarily poor varied across the EU-27 member states. In 2017, the number of the monetarily poor was reduced by more than 12 percentage points as a result of social transfers in four member states: namely, Ireland (a reduction of 15.9 percentage points), Finland (a reduction of 13.9 percentage points), Sweden (a reduction of 12.4 percentage points), and Hungary (a reduction of 12.2 percentage points). Meanwhile,

in six member states, the number of the monetarily poor was reduced by less than six percentage points: namely, in Romania (a reduction of 4.3 percentage points), Greece (a reduction of 4.5 percentage points), Italy (a reduction of 4.9 percentage points), and Portugal (a reduction of 5.4 percentage points).

Figure 34. Changes in monetary poverty incidence as a result of social transfers in the EU countries in 2017

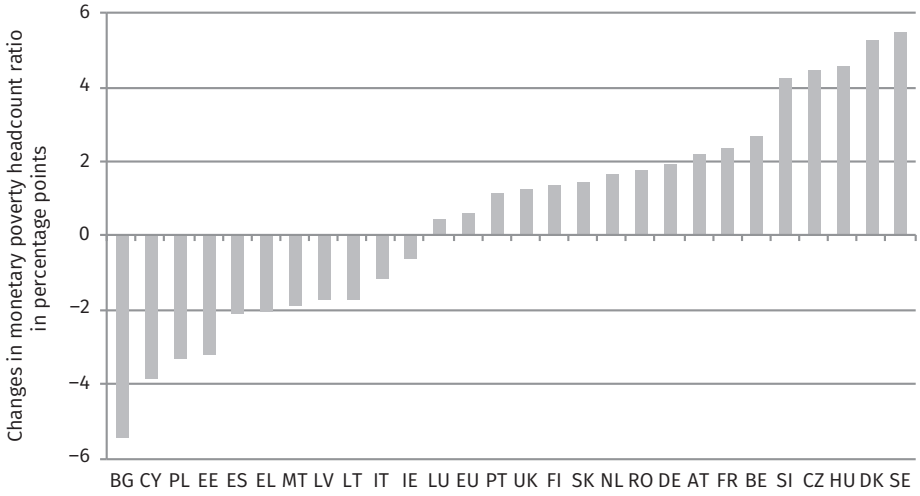


Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The average reductions in the incidence of monetary poverty as a result of social transfers across the EU-27 countries between 2006 and 2017 were at similar levels (Figure 35 and Table 7 in Appendix).

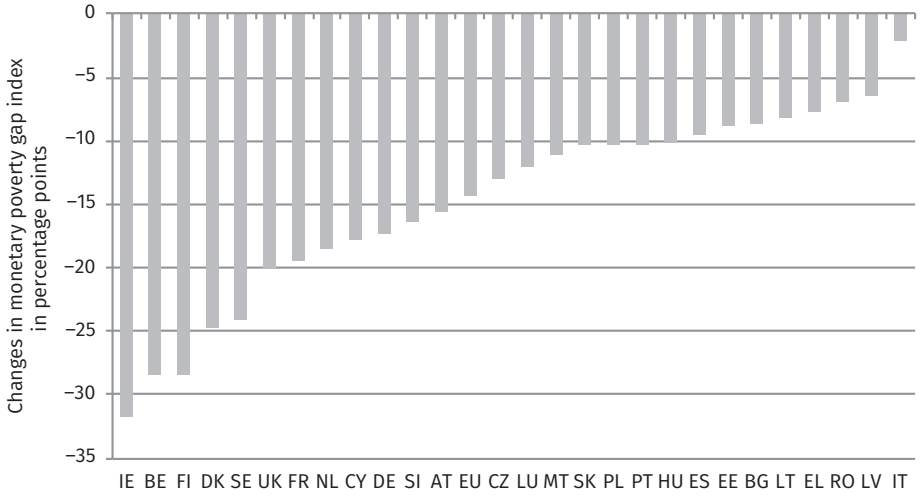
However, the studied countries differed significantly in terms of the scale and the direction of changes in the reduction in monetary poverty between 2006 and 2017. The degree of this reduction declined significantly, by more than two percentage points, in Bulgaria, Cyprus, Poland, Estonia, Spain, and Greece (by 5.5, 3.9, 3.3, 3.2, 2.1, and 2.1 percentage points, respectively); and thus in both the new and the old EU countries that were most affected by the economic and financial crisis. At the other end of the spectrum, the countries where the degree of the reduction in the incidence of monetary poverty due to social transfers increased the most between 2006 and 2017, by more than four percentage points, were Sweden, Denmark, Hungary, Czechia, and Slovenia (by 5.5, 5.3, 4.6, 4.5, and 4.2 percentage points, respectively). These countries were both members of the old EU with high levels of economic development, and as well as new member countries that first joined the EU in 2004.

Figure 35. Changes in monetary poverty incidence as a result of social transfers in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 36. Changes in monetary poverty depth as a result of social transfers in the EU countries in 2017



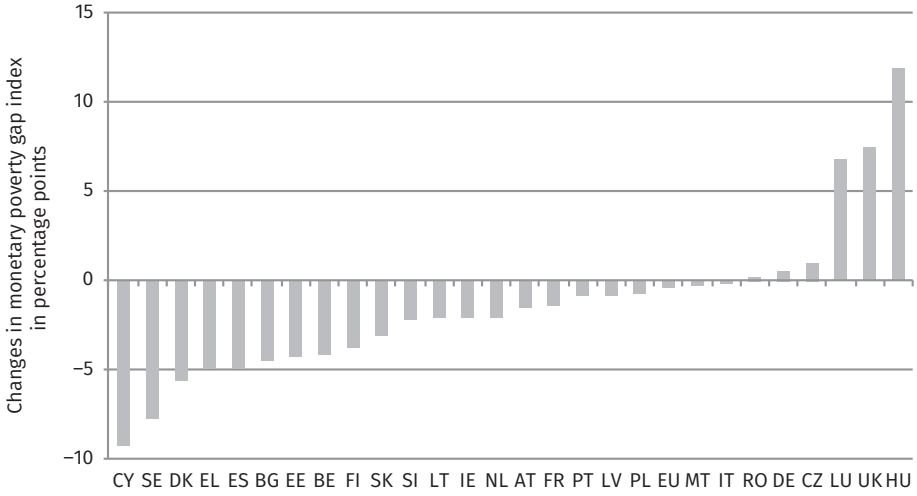
Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Across the EU-27 countries, the average reduction in monetary poverty depth increased by 14.3 percentage points in 2017 (Figure 36 and Table 6 in Appendix).

This reduction was almost twice as large as the decrease in the incidence of monetary poverty. These findings demonstrate that the social transfers were generally more effective at reducing the depth than the incidence of monetary poverty. At the same time, these results indicate that the social transfers were being properly allocated to the poorest individuals.

There were large differences across the EU-27 countries in the extent to which monetary poverty depth was reduced as a result of social transfers. In 2017, this reduction varied by as much as 29.6 percentage points. Italy, Latvia, and Romania stand out as having the smallest reductions in monetary poverty depth (2.1, 6.5, and 6.9 percentage points, respectively). Meanwhile, in a further five countries, which can be identified more clearly in Figure 36, this reduction was less than 10 percentage points. At the other end of the spectrum, Ireland, Belgium, and Finland are the countries where social transfers reduced the monetary poverty depth the most, by more than 30 percentage points (31.7, 28.5, and 28.4 percentage points, respectively).

Figure 37. Changes in monetary poverty depth as a result of social transfers in the EU countries during 2006–2017



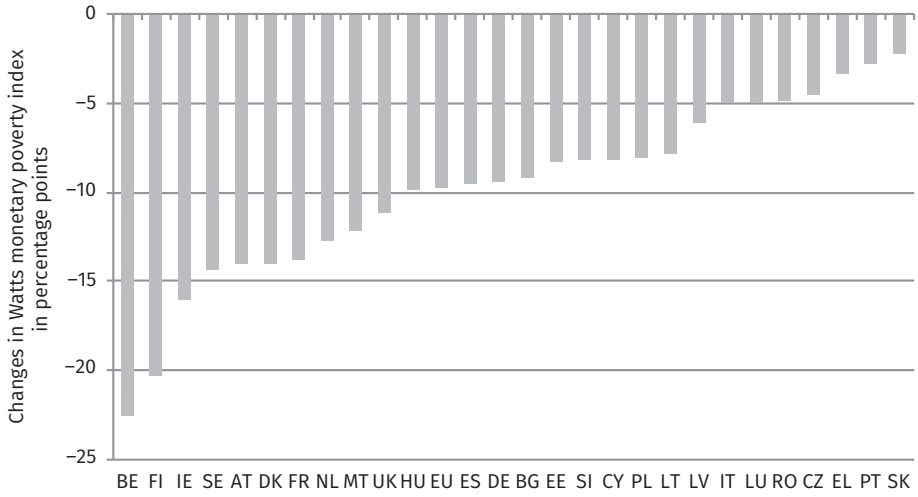
Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

The reduction in the depth of monetary poverty as a result of social transfers, as well as the reduction in the incidence of monetary poverty across the EU-27 between 2006 and 2017, were at similar levels (Figure 37 and Table 7 in Appendix). At the same time, in most of the countries studied, the degree of this reduction decreased

over the analysed period. Among the countries with the largest decreases in the reduction in the depth of monetary poverty as a result of social transfers, Cyprus, Sweden, Denmark, Greece, and Spain (by 9.3, 7.8, 5.6, 4.9, and 4.9 percentage points, respectively) stand out. By contrast, the only countries where there was a significant increase of more than five percentage points in the reduction in the depth of poverty between 2006 and 2017 were Hungary, the United Kingdom, and Luxembourg (by 11.9, 7.5, and 6.8 percentage points, respectively).

Across the EU-27 in 2017, the average reduction in the severity of monetary poverty as a result of social transfers, as measured by the Watts index, was about 10 percentage points (Figure 38 and Table 6 in Appendix). The scale of this reduction was greater than that for the incidence of monetary poverty, but was smaller than that for the depth of monetary poverty. As the Watts index measures both the incidence and the depth of monetary poverty, as well as the level of income inequality among the monetarily impoverished, it indicates that there was a significant decline in income inequality among the poor as a result of social transfers.

Figure 38. Changes in the severity of monetary poverty as a result of social transfers in the EU countries in 2017

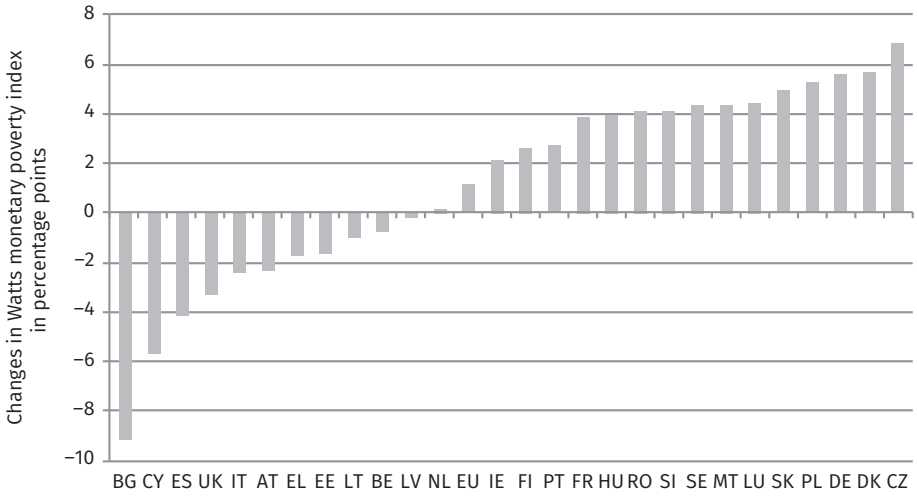


Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

While the differences in the reduction in the severity of monetary poverty through social transfers in the EU-27 between 2006 and 2017 were not significant, these differences were larger than those between the reduction in the incidence and the depth of monetary poverty (of more than one percentage point, Figure 39 and

Table 7 in Appendix). However, these differences were significant in many of the countries surveyed. The countries with the largest decreases in the reduction in the severity of monetary poverty as a result of social transfers over the analysed period, of more than four percentage points, were Bulgaria, Cyprus, and Spain (by 9.2, 5.7, and 4.2 percentage points, respectively). At the opposite end of the spectrum were the countries with the largest increases in the reduction in the severity of monetary poverty due to social transfers: namely, Czechia (by 6.9 percentage points), followed by Germany, Denmark, Poland, and Slovakia (by more than 4.9 percentage points).

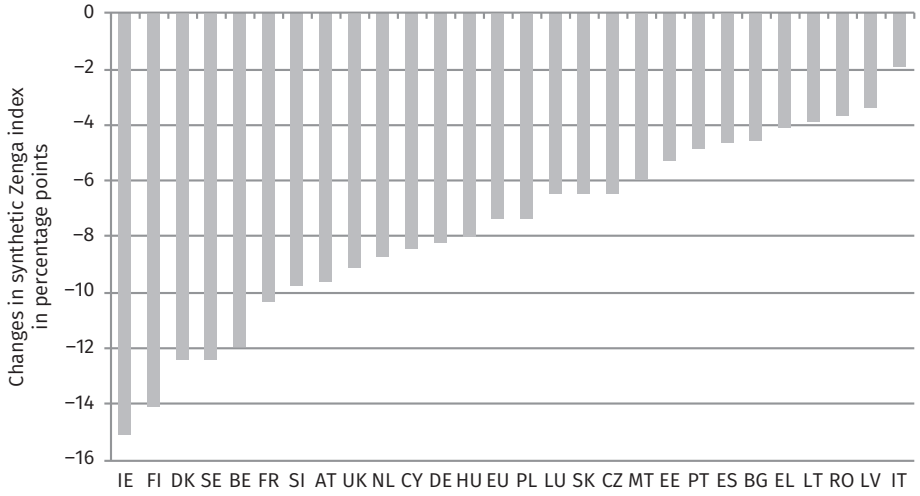
Figure 39. Changes in the severity of monetary poverty as a result of social transfers in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

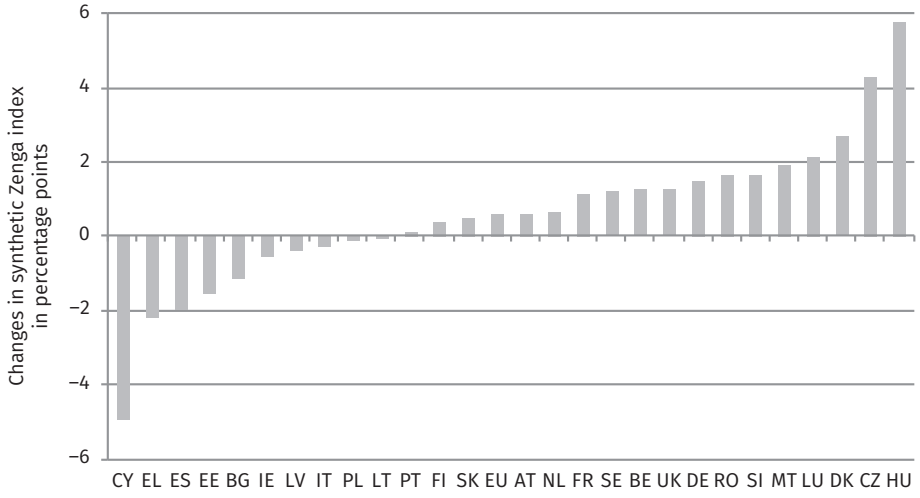
Social transfers resulted not only in reductions in monetary poverty, but also in decreases in income inequality. Across the EU-27, the average reduction in total income inequality as a result of social transfers was 7.4 percentage points in 2017 (Figure 40 and Table 6 in Appendix). Among the EU-27 countries, the largest reductions in the synthetic Zenga index values due to social transfers, and, thus, the largest reductions in total income inequality, occurred in Ireland, Finland, Denmark, and Sweden (by 15.1, 14.1, 12.4, and 12.4 percentage points, respectively). The smallest decreases in total income inequality in 2017 were recorded in Italy, Latvia, Romania, and Lithuania (1.9, 3.4, 3.7, and 3.9 percentage points, respectively).

Figure 40. Changes in the synthetic Zenga index as a result of social transfers in the EU countries in 2017



Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 41. Changes in the synthetic Zenga index as a result of social transfers in the EU countries during 2006–2017



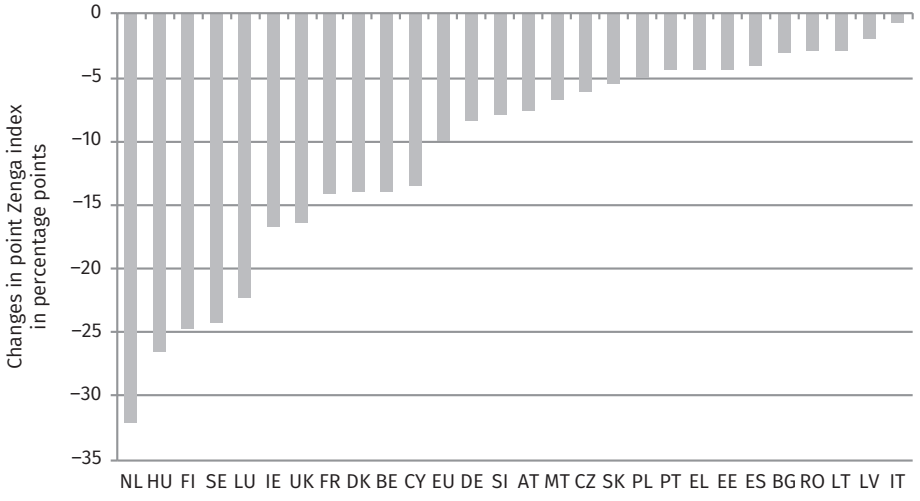
Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

On average across the EU-27, the changes in the reduction in the total income inequality as a result of social transfers between 2006 and 2017 were not insignificant

(Figure 41 and Table 7 in Appendix). At the same time, however, the differences between countries in terms of both the size and the direction of these changes were considerable. According to the synthetic Zenga index, the largest increases in this reduction were in Hungary, Czechia, Denmark, and Luxembourg (by 5.8, 4.3, 2.7, and 2.2 percentage points, respectively). By contrast, the largest decreases in this reduction were in Cyprus, Greece, Spain, and Estonia (by 4.9, 2.2, 2.0, and 1.6 percentage points, respectively).

On average across the EU-27, the impact of social transfers on the reduction in income inequality between the poor and the non-poor, as measured by the point Zenga index, was smaller than the impact of social transfers on the reduction in the total level of income inequality of 9.9 percentage points over the analysed period (Figure 42 and Table 6 in Appendix). The largest reductions, of more than 20 percentage points, were in the Netherlands (32.2 percentage points), Hungary (26.6 percentage points), Finland (24.7 percentage points), Sweden (24.3 percentage points), and Luxembourg (22.3 percentage points). By contrast, the smallest reductions, of four percentage points or less, were in Italy (0.7 percentage points), Latvia (2.0 percentage points), Lithuania (2.9 percentage points), Romania (2.9 percentage points), Bulgaria (3.1 percentage points), and Spain (4.0 percentage points).

Figure 42. Changes in the point Zenga index as a result of social transfers in the EU countries in 2017

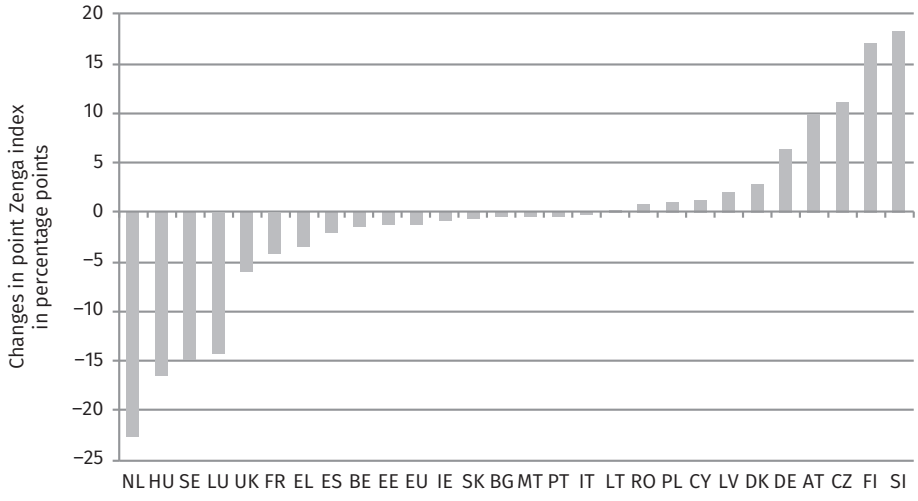


Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

On average across the EU-27 countries, there was a substantial decline (by 1.3 percentage points) in the reduction in inequality between the poor and the rich parts of the population as a result of social transfers from 2006 to 2017 (Figure 43 and Table 7 in Appendix). The differences between the analysed countries were very large due to changes in the degree of this reduction. The largest increases in this reduction, of more than six percentage points, were in Slovenia, Finland, Czechia, Austria, and Germany (18.4, 17.1, 11.1, 9.8, and 6.4 percentage points, respectively). At the other extreme, the countries with the largest declines in this reduction between 2006 and 2017, of more than 10 percentage points, were the Netherlands, Hungary, Sweden, and Luxembourg (22.8, 16.5, 15.0, and 14.4 percentage points, respectively).

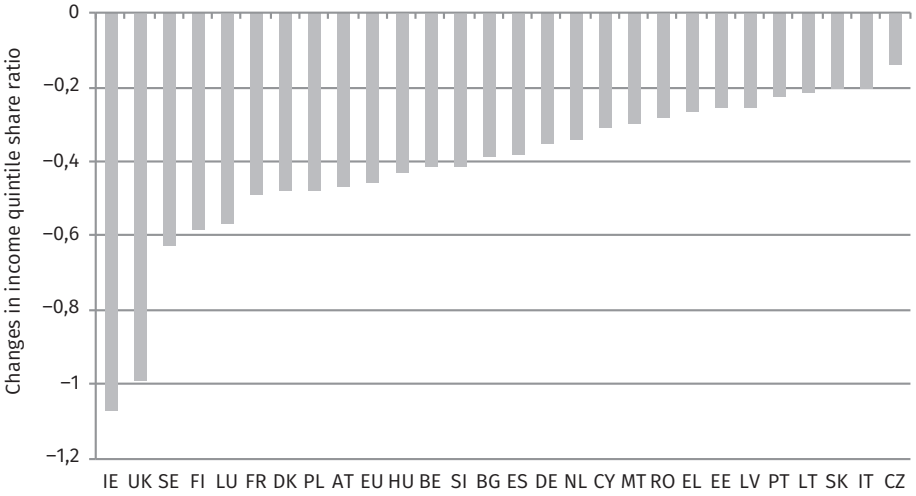
On average across the EU-27 countries, the ratio of the income of the richest 20% to the income of the poorest 20% decreased by 0.46 between 2006 and 2017 due to social transfers (Figure 44 and Table 6 in Appendix). Ireland, the United Kingdom, Sweden, Finland, and Luxembourg were among the countries with the largest reductions in the income quintile share ratio (1.08, 0.99, 0.63, 0.58, and 0.57 points, respectively). The impact of social transfers on the decline in income inequality between the income of the richest 20% and the income of the poorest 20% was smallest in Czechia, Italy, Slovakia, Lithuania, and Portugal.

Figure 43. Changes in the point Zenga index as a result of social transfers in the EU countries during 2006–2017



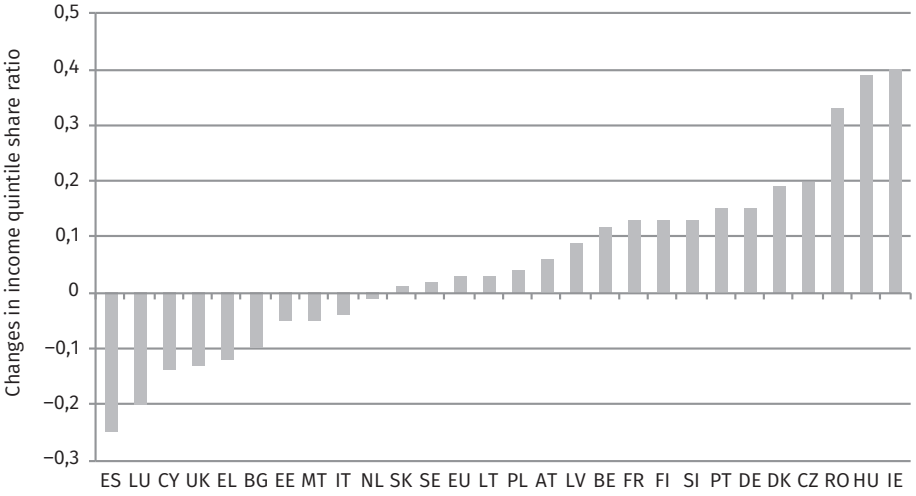
Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 44. Changes in the income quintile share ratio as a result of social transfers in the EU countries in 2017



Source: Authors' creation based on data in Table 6 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

Figure 45. Changes in the income quintile share ratio as a result of social transfers in the EU countries during 2006–2017



Source: Authors' creation based on data in Table 7 in Appendix. The responsibility for all conclusions drawn from the data lies entirely with the authors.

On average across the EU-27, the differences in the reduction in the ratio of the income of the richest 20% to the income of the poorest 20% from 2006 to 2017

were not significant (this reduction increased by only 0.03 on average, Figure 45 and Table 7 in Appendix). At the same time, both the scale and the sign of these differences varied considerably across the EU-27 countries. The declines in the income quantile share ratio as a result of social transfers between 2006 and 2017 were largest in Spain, Luxembourg, Cyprus, the United Kingdom, and Greece (0.25, 0.25, 0.14, 0.13, and 0.12, respectively). By contrast, the largest increases in this ratio over the analysed period were in Ireland, Hungary, and Romania (0.40, 0.39, and 0.33, respectively).

12. Classification of the EU-27 member states by the pro-poorness of social transfers and their effects on poverty reductions, declines in income inequality between the poor and the non-poor, and the relative income of the poor

The relative increase in the income of the poor (increase in the share of the average income of the poor in the average income of the non-poor in response to social transfers), as well as the reduction in the incidence of poverty and income inequality between the poor and the non-poor, depend on both the share of social transfers in income (as measured by SSTI), and the effectiveness of the targeting of social transfers (measured by TAEI); i.e., on whether they go primarily to the poorer parts of society. It is important to stress that the share of social transfers in income in the examined countries depended not only on their welfare regimes, but also on the specific budgetary resources available in these countries. Indeed, at a national level, the extent to which social transfers were properly targeted, and the increase in the income of the poor due to social transfers, varied greatly in 2017.

We can distinguish several groups of countries in the EU-27 according to the pro-poorness of their social transfers. The first group of countries includes all Nordic countries (Finland, Sweden, Denmark) as well as Belgium, Ireland, and Austria. In these countries, social transfers not only made up a large share of disposable income (more than 10%), they were very well targeted. On average in this group, social transfers to the poor were 40% larger than social transfers to the non-poor in 2017. Czechia, Malta, and Slovakia, as well as France and the Netherlands, also had very positive social transfer policies in 2017. In these countries, the shares of social transfers in income were lower (below 6%) than they were in the first group of countries, but they were also targeted primarily to the poor. Greece, Romania, and Portugal form a group of countries in which the shares of social transfers in income were negligible in 2017, but these transfers went mainly to the poor.

The last group of countries includes Lithuania, Bulgaria, Latvia, Spain, and Italy. In these countries in 2017, the social transfers went mainly to the non-poor, rather than to the poor. Moreover, in these countries, social transfers made up a very small share of disposable income.

The analysis of the impact of social transfers on the reduction in the incidence of monetary poverty, the decline in the level of income inequality between the poor and the non-poor, and the relative increase in the income of the poor, allows us to appreciate how beneficial these social transfers were for the poor. At the same time, this analysis enables us to distinguish groups of EU-27 countries in which the impact of social transfers on the financial situations of the poor due to the factors mentioned above was similar.

Finland, Sweden, and Hungary were the EU-27 countries in which social transfers most clearly improved all aspects of the financial situations of the poor in 2017. In these countries, social transfers significantly decreased the percentage of the monetarily poor in the population and the levels of income inequality between the poor and non-poor, and increased the relative income of the poor. While Luxembourg can also be included in this group, it differs from the other countries in that in Luxembourg, there was a relatively small decrease in the percentage of the monetarily poor in the population as a result of social transfers. Another group of countries consists of Denmark, Ireland, the Netherlands and Austria. In these countries, there were strong declines in the incidence of monetary poverty as a result of social transfers in 2017, but the declines in income inequality between the poor and the non-poor and the relative increases in the income of the poor were much smaller. The impact of social transfers should also be assessed positively, albeit to a much lesser extent than in the two previously distinguished country groups, in the new EU-27 countries of Czechia, Cyprus, Poland, Malta, and Slovakia, and in the old EU-27 countries of Germany and Belgium. In the group of countries that includes Bulgaria, Estonia, and Lithuania, social transfers did little to improve the situations of the poor based on the highlighted financial dimensions in 2017. These countries were characterised by slight decreases in the incidence of monetary poverty and income inequality between the poor and non-poor, as well as slight increases in the relative income of the poor. The last group of countries, in which the impact of transfers on the financial situations of the poor was clearly the least favourable, is made up of Romania, Latvia, Italy, Greece, and Portugal. In these countries, social transfers improved the financial situations of the poor to a much smaller extent than they did in the rest of the EU-27 countries in 2017.

When we examine all of the indicators we referred to above together, we can distinguish two fundamentally different groups of countries in terms of their social

transfer policies, and the effects of these policies, in 2017. The first group includes Finland, Sweden, Denmark, Ireland, the Netherlands, and Austria, whose social transfer policies can be assessed very positively. At the other extreme are countries such as Bulgaria, Lithuania, Latvia, Italy, and Spain, whose transfer policies must be assessed very negatively. In these countries, social transfers were not only poorly targeted, they did little to improve the financial situations of the poor.

Summary and recommendations

In this research, we have explored development issues within the EU, while paying specific attention to important socio-economic phenomena that greatly affect the welfare of the poor inhabitants of the EU: namely, the impact of economic growth and social transfers on the reduction in poverty and in income inequality between the poor and the non-poor. We analysed these phenomena between 2006 and 2017, a dynamic period that was characterised by the enlargement of the EU, the onset of the global economic and financial crisis, and the large-scale immigration of refugees and asylum seekers, among other events. These events and issues provided the conditions needed to examine the relationships between the phenomena mentioned above.

To ensure that economic growth is accompanied by an increase in the wealth of the population in the countries studied, including the poor, growth should translate into an increase in the income of the population, and, ultimately, a reduction in poverty. While economic growth is important, it is not sufficient to reduce poverty and income inequality between the poor and the non-poor unless it is accompanied by a system of social protections, the essential elements of which are social transfers and expenditures. At the same time, the amount of help a state can provide to the poor depends on its budgetary capabilities, which are greatly influenced by the level of economic development in the state.

Social transfer expenditures are vital for the poor. Their impact the reduction in poverty and in inequality between the poor and the non-poor is considerable and significant. Moreover, social transfers can increase the chances that the poor will be able to contribute to the growth process. It should be also emphasised that excessive income inequality can actually harm economic growth, by, for example, fuelling financial instability, hampering investment, and reducing productivity. How effective social transfer systems are in reducing poverty and income inequality between the poor and the non-poor depends on their pro-poorness; i.e., the size of the social transfers, as well as the degree to which they are properly targeted.

To clarify the relationship between economic growth, social transfers, income inequality, and poverty, we proposed the economic growth-social transfers-inequality-poverty model. An assessment of the impact of economic growth and social transfers

on reductions in poverty and income inequality between the poor and the non-poor was carried out using a wide array of methods and tools. Different aspects of poverty were examined using the multi-dimensional approach. We also proposed new approaches for measuring different aspects of multidimensional poverty focused on the investigation of the coincidence of monetary poverty and non-monetary poverty (material deprivation). A growth pattern analysis that examined whether economic growth was pro-poor was based on the poverty equivalent growth rate (PEGR). To analyse the inequalities between the poor and the non-poor, measures with the properties necessary for this type of analysis were used: namely, Zenga's inequality point indices and income quintile share ratios. An assessment of the pro-poorness of social transfers was performed using measures of the social transfers share in income (SSTI) and of the effectiveness of their targeting (Transfer Allocation Efficiency Index – TAEI). The effects of social transfers on the relative income of the poor were assessed using a new point measure of relative income changes in the distribution of income before and after social transfers (Relative Income Change Through Transfers – RICTT). The analysis of the impact of social transfers on poverty reduction was based on the measurement of the differences between poverty indices before and after social transfers. However, the impact of social transfers on inequality between the poor and the non-poor was estimated by the changes in the Zenga indices and the income quintile share ratios before and after social transfers.

The EU has historically included countries with widely varying levels of economic strength. The less economically developed countries have tended to report the highest levels of economic growth, owing to their relatively cheap labour force and their relatively low economic starting positions. The largest increase in GDP per capita over the 2006–2017 period was in Romania, followed by in Poland, Lithuania, Malta, and Czechia. Only Greece, Italy, and Cyprus, which were most severely affected by the economic and financial crisis, reported an economic contraction during the analysed period. In general, we observed a positive correlation between economic growth, as measured by GDP per capita, and disposable income growth. In the vast majority of the EU-27 countries, increases in GDP per capita were accompanied by increases in the mean income of the population. The United Kingdom, Hungary, and Luxembourg were the only EU-27 countries in which economic growth did not translate into an increase in the income of the population over the analysed period. In Greece, Italy, and Cyprus, both GDP per capita and the mean income decreased between 2006 and 2017.

After investigating changes in GDP per capita, poverty, and inequality between the poor and the non-poor between 2006 and 2017 in the EU-27 countries, we were able to classify these countries in terms of these phenomena. The group of countries

that experienced the most positive developments for these three phenomena were former Eastern Bloc countries, such as Poland, Slovakia, Romania, Latvia, and Estonia; but also Ireland and Portugal. The countries that had the most negative development trajectories over the research period, despite also having declining income inequality between the poor and the non-poor, were Greece and Italy.

The PEGR values, which measure the impact of changes in incomes distribution on the relative situations of the poor, had the highest values in several of the new EU member states: namely, in Bulgaria, Latvia, Czechia, Poland, and Estonia. In these countries, the material conditions of the poor improved dramatically, not only due to a general increase in wealth, but also to a decrease in income inequality. By contrast, in Sweden, the relative material conditions of the poor worsened over the analysed period.

The share of social transfers in income in the examined countries depended not only on their welfare regimes, but also – as was mentioned above – on the specific budgetary resources available in these countries. Indeed, at a national level, the extent to which social transfers were well-targeted, and thus increased the relative income of the poor, varied widely in 2017. We can distinguish several groups of countries in the EU-27 based on these two factors. In the first group of countries, which consists of all Nordic countries (Finland, Sweden, Denmark), as well as Belgium, Ireland, and Austria, social transfers not only made up a large share of the disposable income (above 10%), they were also very well-targeted. Lithuania, Bulgaria, Latvia, Spain, and Italy were at the opposite end of the spectrum, and their transfer policies should be evaluated very negatively. In these countries, social transfers went mainly to the non-poor rather than to the poor, and social transfers made up a very small share of disposable income in 2017. The analysis of the impact of social transfers on the reduction in the incidence of monetary poverty, the decline in levels of income inequality between the poor and the non-poor, and the relative increase in income of the poor, has allowed us to appreciate how beneficial social transfers were for the poor. Finland, Sweden, and Hungary were the EU-27 countries in which social transfers most clearly improved all aspects of the financial situations of the poor in 2017. In these countries, social transfers significantly decreased the percentage of the monetarily poor in the population and the income inequality between the poor and non-poor, and increased the relative income of the poor. While Luxembourg can also be included in this group, it differs from the other countries in that in Luxembourg, there was a relatively small decrease in the percentage of the monetarily poor in the population as a result of social transfers. The group of countries in which the impact of transfers on the financial situations of the poor was clearly the least favourable was composed of Romania, Latvia, Italy, Greece, and

Portugal. In these countries, social transfers improved the financial situations of the poor to a much smaller extent than they did in the rest of the EU-27 countries in 2017. When we examine all of the indicators we referred to above together, we can distinguish two fundamentally different groups of countries in terms of their social transfer policies, and the effects of these policies, in 2017. The first group includes Finland, Sweden, Denmark, Ireland, the Netherlands, and Austria, whose social transfer policies can be assessed very positively. At the other extreme are countries such as Bulgaria, Lithuania, Latvia, Italy, and Spain, whose transfer policies we must be assessed very negatively. In these countries, social transfers were not only poorly targeted, they did little to improve the financial situations of the poor. The differences we observed in the economic development levels and the social transfers policies, as well as in the impact of these policies on poverty and income inequality between the poor and the non-poor, across the EU countries clearly show that ongoing research into the associations between them is needed to recognise the different economic and social development paths these countries are likely to take in the future. Gaining a better understanding of these various paths of development can help to support policies designed to combat poverty within the EU member states.

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Appendix

Table 1. GDP per capita, income per capita, and income inequality in the EU-27 countries in 2006 and 2017

Country and period	GDP per capita in euro*	Mean income per capita in PPS**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
EU-27					
2006	24,810	17,537	58.15	63.85	2.78
2017	27,080	19,270	58.38	64.27	2.39
Belgium					
2006	32,800	21,960	53.05	58.47	2.51
2017	35,040	22,437	52.48	57.72	2.17
Bulgaria					
2006	4,500	4,811	64.45	68.15	3.12
2017	6,310	9,648	68.19	73.53	2.95
Czechia					
2006	14,530	11,532	50.69	56.27	2.71
2017	17,490	14,167	49.20	54.48	1.94
Denmark					
2006	45,990	20,002	49.50	56.50	2.93
2017	47,740	23,387	53.44	59.98	2.04
Germany					
2006	30,930	19,668	57.02	63.62	1.72
2017	35,380	24,114	57.38	63.58	2.22
Estonia					
2006	12,270	9,720	62.11	67.36	4.25
2017	14,480	14,151	60.35	63.94	2.77
Ireland					
2006	40,390	20,190	59.90	64.28	2.72
2017	53,890	21,481	55.92	61.33	2.27
Greece					
2006	21,840	15,310	63.27	68.66	4.04
2017	17,100	10,462	60.65	66.77	2.49
Spain					
2006	24,000	16,326	60.99	66.31	3.04
2017	24,430	17,917	62.64	68.04	2.77
France					
2006	30,850	19,510	52.92	58.47	2.30
2017	32,380	23,441	53.98	59.99	2.07

Country and period	GDP per capita in euro*	Mean income per capita in PPS**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
Italy					
2006	28,480	18,857	60.57	66.41	3.22
2017	26,490	18,691	62.19	68.62	2.55
Cyprus					
2006	23,740	21,453	56.67	62.10	3.10
2017	23,200	20,045	56.42	61.07	2.31
Latvia					
2006	9,240	8,156	65.29	69.93	4.50
2017	11,620	10,961	65.51	70.42	3.01
Lithuania					
2006	8,690	7,819	62.86	68.14	3.67
2017	12,760	12,092	66.60	71.72	3.00
Luxembourg					
2006	79,190	36,551	54.27	59.14	2.07
2017	82550	33,484	62.18	67.71	2.63
Hungary					
2006	10,340	10,364	51.30	57.09	2.75
2017	12,010	9,334	55.57	61.93	2.21
Malta					
2006	14,820	16,438	53.29	58.46	2.56
2017	21,310	20,198	56.26	61.02	2.30
Netherlands					
2006	37,780	21,631	53.08	59.49	2.28
2017	40,730	23,704	53.63	59.90	2.08
Austria					
2006	34,700	23,705	52.12	58.13	3.22
2017	37,030	26,076	53.47	59.52	2.13
Poland					
2006	7,980	7,576	60.42	65.91	5.23
2017	11,790	12,691	54.97	60.78	2.20
Portugal					
2006	16,840	13,012	65.71	70.25	3.28
2017	17,650	12,964	60.23	65.77	2.47
Romania					
2006	5,560	4,079	68.29	72.88	5.94
2017	8,280	5,928	65.52	70.61	3.12
Slovenia					
2006	17,460	16,055	48.39	53.91	1.87
2017	19,430	16,289	48.72	54.01	1.97
Slovakia					
2006	10,800	6,284	49.62	55.78	2.33
2017	14,980	10,017	45.08	50.98	1.83
Finland					
2006	35,490	19,877	52.23	57.68	2.30

Country and period	GDP per capita in euro*	Mean income per capita in PPS**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
2017	36,380	22,061	51.85	57.17	2.04
Sweden					
2006	39,540	18,579	48.33	54.88	2.01
2017	43,430	22,242	53.92	60.01	2.23
United Kingdom					
2006	30,810	26,668	61.18	66.71	2.57
2017	32,430	21,690	62.83	68.61	2.63

Note: One asterisk (*) – constant prices from 2010, two asterisks (**) – constant prices from 2017.

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 2. Changes in GDP per capita, mean income per capita and income inequality in the EU countries during 2006–2017

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
EU-27					
2006–07	1.028	1.045	0.64	−0.24	−0.02
2007–08	1.003	1.063	0.25	−0.31	−0.01
2008–09	0.954	0.997	−0.39	−0.32	0.00
2009–10	1.020	0.962	−0.11	0.07	0.00
2010–11	1.017	0.994	−0.48	−0.37	−0.02
2011–12	0.991	0.987	−0.23	0.24	−0.01
2012–13	0.998	1.001	0.18	0.19	0.03
2013–14	1.014	1.002	−0.19	−0.41	−0.03
2014–15	1.021	1.038	−0.16	−0.62	−0.03
2015–16	1.018	1.035	0.05	−0.58	−0.04
2016–17	1.026	1.003	0.31	−0.07	−0.01
2006–17	1.091	1.146	0.23	0.42	−0.39
Belgium					
2006–07	1.029	0.977	−0.06	0.86	−0.02
2007–08	0.977	1.002	−0.80	−1.92	−0.01
2008–09	0.972	1.022	−0.28	−0.24	0.01
2009–10	1.019	0.977	−0.04	0.66	−0.02
2010–11	1.004	0.998	−0.90	−0.51	0.00
2011–12	1.001	0.986	−0.26	−1.32	0.01
2012–13	1.000	1.055	−1.03	−0.96	−0.02
2013–14	1.011	0.993	−0.34	0.46	0.00
2014–15	1.015	1.024	0.75	−0.05	0.01
2015–16	1.008	1.047	−1.37	−1.23	−0.05
2016–17	1.012	0.946	−0.19	−0.90	−0.05
2006–17	1.047	1.022	−0.57	−0.75	−0.35

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
Bulgaria					
2006–07	1.071	0.974	2.99	0.54	0.04
2007–08	1.066	1.360	0.55	−1.43	−0.01
2008–09	0.972	1.114	−1.22	−2.21	−0.22
2009–10	1.012	0.994	0.00	1.26	0.12
2010–11	1.049	0.972	−2.08	−1.76	−0.14
2011–12	1.009	0.929	0.61	0.11	0.03
2012–13	1.009	1.080	2.79	0.31	−0.07
2013–14	1.025	1.144	−0.62	−0.93	−0.02
2014–15	1.047	1.073	0.81	1.39	0.06
2015–16	1.046	0.989	1.63	0.62	0.09
2016–17	1.043	1.155	−1.52	−0.78	−0.09
2006–17	1.404	2.006	3.74	5.38	−0.16
Czechia					
2006–07	1.050	1.047	0.84	−0.90	−0.05
2007–08	1.016	1.024	3.89	−0.94	−0.06
2008–09	0.948	1.042	−1.42	−0.24	−0.01
2009–10	1.022	0.943	1.44	−0.07	0.03
2010–11	1.020	1.014	0.35	−1.99	−0.07
2011–12	0.991	0.991	−2.35	−1.10	−0.02
2012–13	0.999	1.038	−1.48	−0.40	−0.02
2013–14	1.021	1.021	−1.80	−1.08	−0.04
2014–15	1.052	1.044	1.22	−0.90	−0.03
2015–16	1.023	1.064	1.01	0.05	0.01
2016–17	1.049	0.987	1.37	−0.64	−0.01
2006–17	1.203	1.229	−1.49	−1.79	−0.77
Denmark					
2006–07	1.005	1.043	−0.59	−1.51	−0.01
2007–08	0.989	1.009	−1.13	−1.68	−0.02
2008–09	0.956	0.968	0.82	−0.16	−0.01
2009–10	1.014	0.993	−1.70	−3.72	−0.06
2010–11	1.009	1.081	−3.18	−3.21	−0.08
2011–12	0.999	0.982	−3.16	−2.04	−0.07
2012–13	1.005	1.025	−0.82	−0.94	−0.01
2013–14	1.011	1.027	−1.50	0.51	−0.05
2014–15	1.016	1.013	−0.67	−1.19	−0.03
2015–16	1.024	1.057	−1.40	−1.29	−0.01
2016–17	1.022	0.966	−2.17	−1.87	−0.02
2006–17	1.049	1.169	3.95	3.48	−0.89
Germany					
2006–07	1.032	1.154	0.17	−0.11	0.03
2007–08	1.012	1.021	−0.93	−1.29	−0.02
2008–09	0.956	0.987	−0.03	−0.40	0.03

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2009–10	1.044	0.968	−0.05	0.00	0.01
2010–11	1.039	1.012	−0.48	−0.77	0.00
2011–12	1.002	1.015	1.29	1.68	0.03
2012–13	1.002	1.019	1.06	1.70	0.05
2013–14	1.018	0.974	−0.55	−0.86	−0.02
2014–15	1.006	1.048	−0.75	−0.85	−0.03
2015–16	1.014	1.027	−0.51	−0.77	−0.04
2016–17	1.022	0.993	1.80	1.99	0.01
2006–17	1.154	1.226	0.37	−0.04	0.50
Estonia					
2006–07	1.082	1.077	−0.94	−2.37	−0.10
2007–08	0.952	1.009	−0.52	−0.22	0.01
2008–09	0.857	1.087	−1.31	0.06	−0.14
2009–10	1.029	0.909	0.03	0.82	0.01
2010–11	1.077	0.952	−0.53	−0.79	0.03
2011–12	1.035	1.025	−0.83	−1.15	−0.06
2012–13	1.017	1.060	2.67	1.96	0.22
2013–14	1.033	1.095	−1.05	−1.79	−0.09
2014–15	1.020	1.110	−0.89	−2.40	−0.06
2015–16	1.030	1.096	0.36	−1.40	−0.01
2016–17	1.055	0.984	−0.08	−1.55	−0.02
2006–17	1.179	1.456	−1.75	−3.42	−1.49
Ireland					
2006–07	1.022	1.073	−0.93	−1.10	−0.05
2007–08	0.935	0.984	−2.82	−2.67	0.01
2008–09	0.940	0.965	2.03	2.76	0.06
2009–10	1.013	0.995	−0.81	−0.83	−0.03
2010–11	1.002	0.971	−0.06	−0.03	0.07
2011–12	0.997	0.972	−2.08	−2.24	−0.03
2012–13	1.007	1.024	−0.55	−0.62	−0.04
2013–14	1.079	0.979	−0.37	−1.43	−0.01
2014–15	1.240	1.044	1.01	−0.15	−0.04
2015–16	1.009	1.035	0.90	0.41	0.00
2016–17	1.079	1.026	−1.52	−2.79	−0.09
2006–17	1.333	1.064	−3.98	−2.95	−0.44
Greece					
2006–07	1.030	1.000	1.36	−0.16	−0.02
2007–08	0.994	1.002	1.61	1.03	−0.03
2008–09	0.954	1.030	−1.78	−0.59	−0.04
2009–10	0.944	0.948	−4.03	0.11	0.08
2010–11	0.900	0.881	−2.60	1.32	−0.05
2011–12	0.934	0.837	−1.32	0.88	0.11
2012–13	0.980	0.898	−2.45	−0.47	−0.01

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2013–14	1.014	1.012	0.12	−0.05	−0.14
2014–15	1.002	1.025	0.08	−0.33	0.00
2015–16	0.999	1.029	−1.29	−1.95	−0.12
2016–17	1.015	0.989	−1.85	−2.10	−0.17
2006–17	0.783	0.683	−2.61	−1.89	−1.55
Spain					
2006–07	1.016	1.013	0.02	−1.05	0.01
2007–08	0.992	1.159	1.99	1.48	0.03
2008–09	0.954	1.030	1.71	2.18	0.14
2009–10	0.997	0.947	−1.04	0.73	0.07
2010–11	0.988	0.945	0.08	0.07	−0.04
2011–12	0.970	0.963	−1.99	−0.95	−0.03
2012–13	0.989	0.976	0.63	1.08	0.20
2013–14	1.017	1.002	−0.81	−0.92	−0.18
2014–15	1.039	1.019	−0.20	−0.83	−0.02
2015–16	1.029	1.068	0.31	−0.56	−0.10
2016–17	1.028	0.988	−2.06	−1.53	−0.07
2006–17	1.016	1.097	1.65	1.73	−0.28
France					
2006–07	1.018	0.984	3.53	2.01	0.01
2007–08	0.997	1.189	2.22	2.32	0.07
2008–09	0.966	1.006	0.40	−0.83	0.00
2009–10	1.014	0.980	−0.75	0.11	0.00
2010–11	1.017	1.016	−0.98	−0.83	−0.03
2011–12	0.998	1.008	−1.31	−0.77	−0.01
2012–13	1.001	1.005	−0.24	−0.87	0.00
2013–14	1.005	0.983	−0.20	−0.51	0.00
2014–15	1.007	1.034	−0.01	−0.41	−0.03
2015–16	1.007	1.032	0.01	−0.56	−0.04
2016–17	1.019	0.965	−1.00	−1.17	−0.01
2006–17	1.049	1.202	1.05	1.52	−0.23
Italy					
2006–07	1.009	1.020	−0.68	−1.48	−0.10
2007–08	0.983	1.005	0.08	0.49	0.00
2008–09	0.942	1.008	0.36	−0.44	−0.05
2009–10	1.013	0.974	1.09	1.44	0.09
2010–11	1.003	1.003	−1.57	−0.73	−0.05
2011–12	0.966	0.956	−0.85	0.07	−0.04
2012–13	0.977	0.974	−0.13	−0.61	0.00
2013–14	0.998	0.991	0.32	0.00	−0.02
2014–15	1.009	1.001	0.62	−0.01	−0.01
2015–16	1.015	1.053	−1.26	−1.57	−0.08
2016–17	1.018	1.010	0.01	0.01	−0.02

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2006–17	0.932	0.991	1.62	2.20	−0.66
Cyprus					
2006–07	1.029	1.108	−1.08	−2.04	0.02
2007–08	1.010	0.957	−0.09	0.30	0.00
2008–09	0.954	1.028	0.83	−0.60	−0.03
2009–10	0.994	0.944	−1.06	−1.36	−0.04
2010–11	0.979	1.014	−0.80	0.36	0.01
2011–12	0.951	0.999	−1.95	1.03	0.15
2012–13	0.937	0.918	0.40	2.96	−0.02
2013–14	0.993	0.963	−2.26	−2.36	−0.08
2014–15	1.038	0.947	0.09	−1.10	−0.05
2015–16	1.060	1.052	−1.39	−2.45	−0.10
2016–17	1.042	1.018	0.08	−1.84	−0.07
2006–17	0.979	0.934	−0.25	−1.03	−0.80
Latvia					
2006–07	1.109	1.083	4.84	2.00	0.45
2007–08	0.977	1.118	−1.69	−1.28	−0.20
2008–09	0.872	0.957	−4.11	−0.93	−0.26
2009–10	0.976	0.839	−2.60	−1.70	−0.28
2010–11	1.085	0.975	0.39	0.00	0.01
2011–12	1.055	1.007	−0.07	−0.64	0.02
2012–13	1.034	1.057	0.53	−0.04	0.04
2013–14	1.020	1.116	0.58	−0.79	−0.10
2014–15	1.049	1.085	0.18	−0.86	−0.15
2015–16	1.033	1.130	1.03	0.12	0.12
2016–17	1.042	0.973	1.85	0.37	0.03
2006–17	1.257	1.344	0.22	0.48	−1.50
Lithuania					
2006–07	1.124	1.163	2.65	0.50	0.10
2007–08	1.037	1.071	0.92	0.87	−0.02
2008–09	0.861	1.041	−2.03	0.36	−0.02
2009–10	1.038	0.829	−4.44	−4.86	−0.23
2010–11	1.085	0.916	−0.39	−1.48	−0.01
2011–12	1.052	1.086	1.98	1.92	0.09
2012–13	1.046	1.089	0.01	−0.56	0.05
2013–14	1.044	1.073	2.59	1.95	0.09
2014–15	1.030	1.118	1.11	−0.34	0.03
2015–16	1.038	1.109	−0.52	−0.89	−0.11
2016–17	1.058	1.000	1.25	−0.35	0.07
2006–17	1.468	1.547	3.74	3.57	−0.67
Luxembourg					
2006–07	1.066	1.005	0.53	0.40	−0.03
2007–08	0.970	0.965	−0.79	0.11	−0.02

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2008–09	0.939	1.005	−1.05	−2.08	−0.01
2009–10	1.029	0.939	−0.89	−1.23	−0.06
2010–11	1.002	0.965	−0.78	0.35	−0.03
2011–12	0.974	0.971	1.24	1.10	0.07
2012–13	1.010	1.063	−0.40	−2.20	−0.04
2013–14	1.019	0.975	0.57	0.57	−0.02
2014–15	1.023	1.037	2.29	3.15	0.09
2015–16	1.019	0.968	0.66	−0.11	0.16
2016–17	0.996	1.028	5.44	1.93	0.03
2006–17	1.042	0.916	7.92	8.56	0.56
Hungary					
2006–07	1.004	0.921	−0.54	−0.74	−0.02
2007–08	1.012	0.949	−0.28	−0.18	−0.01
2008–09	0.934	0.997	−4.30	−0.50	0.02
2009–10	1.014	0.932	3.92	3.64	0.14
2010–11	1.022	1.055	0.91	0.59	−0.07
2011–12	0.991	1.002	−1.36	0.64	−0.01
2012–13	1.021	0.951	−0.07	0.24	−0.03
2013–14	1.045	1.044	−0.91	−1.31	−0.01
2014–15	1.041	1.045	0.45	−1.54	−0.11
2015–16	1.024	1.038	0.67	−1.42	−0.09
2016–17	1.046	0.974	1.99	−2.00	0.03
2006–17	1.159	0.901	4.28	4.84	−0.54
Malta					
2006–07	1.044	1.005	0.00	0.00	
2007–08	1.032	1.036	−0.73	−1.53	0.00
2008–09	0.981	1.018	0.55	1.72	−0.04
2009–10	1.050	0.966	−0.36	−1.13	−0.02
2010–11	1.000	1.009	−1.04	−1.01	−0.06
2011–12	1.032	1.002	0.25	−0.20	0.02
2012–13	1.040	1.043	−1.22	−1.86	−0.09
2013–14	1.055	1.022	0.83	0.59	0.05
2014–15	1.070	1.057	0.62	0.80	0.01
2015–16	1.015	1.039	0.17	−0.40	0.00
2016–17	1.051	1.014	1.35	1.29	0.04
2006–17	1.434	1.229	2.97	2.56	−0.26
Netherlands					
2006–07	1.035	1.061	0.35	−1.57	−0.04
2007–08	1.018	1.070	−0.22	−0.82	−0.02
2008–09	0.958	0.984	−0.93	−2.37	−0.03
2009–10	1.008	0.959	0.17	−0.02	0.02
2010–11	1.011	0.970	−0.41	0.43	−0.01
2011–12	0.986	0.985	−1.57	−1.13	−0.01

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1 / t = 2$)		($t = 1 - t = 2$)		
2012–13	0.996	0.982	0.54	1.37	0.03
2013–14	1.011	0.976	0.01	0.52	0.02
2014–15	1.015	1.042	1.96	0.46	0.06
2015–16	1.017	1.084	1.34	0.11	0.00
2016–17	1.023	0.990	0.47	0.42	−0.05
2006–17	1.078	1.096	0.55	0.40	−0.20
Austria					
2006–07	1.034	1.017	−1.85	−2.28	−0.02
2007–08	1.011	1.027	−0.11	−2.31	−0.05
2008–09	0.960	1.020	0.86	−0.16	−0.04
2009–10	1.016	0.992	−1.73	−1.77	−0.01
2010–11	1.026	1.006	−0.18	0.05	−0.01
2011–12	1.002	0.988	−0.11	−0.58	−0.06
2012–13	0.994	0.980	−1.97	−2.21	−0.09
2013–14	0.991	1.039	−0.54	−1.26	−0.01
2014–15	1.000	1.000	−1.51	−1.74	−0.01
2015–16	1.007	1.024	2.50	0.11	−0.01
2016–17	1.018	1.006	−1.21	−1.01	−0.03
2006–17	1.058	1.100	1.35	1.39	−1.08
Poland					
2006–07	1.071	1.068	1.37	−0.28	−0.06
2007–08	1.042	1.156	2.01	−1.05	0.00
2008–09	1.019	1.040	−3.54	−0.64	0.01
2009–10	1.036	0.991	1.39	−0.27	−0.07
2010–11	1.047	1.053	−0.17	0.19	−0.03
2011–12	1.013	1.009	−0.28	−0.43	−0.06
2012–13	1.012	1.044	0.40	−0.29	−0.03
2013–14	1.034	1.041	0.45	−0.73	−0.02
2014–15	1.043	1.041	0.12	−1.34	−0.09
2015–16	1.032	1.079	−0.43	−1.88	−0.19
2016–17	1.048	1.016	1.34	−1.33	−0.05
2006–17	1.475	1.675	−5.45	−5.13	−3.04
Portugal					
2006–07	1.023	1.016	0.29	0.17	−0.02
2007–08	1.002	1.000	0.59	0.02	−0.07
2008–09	0.968	0.992	1.24	−0.14	0.00
2009–10	1.017	0.987	−0.87	0.34	0.03
2010–11	0.984	0.973	−0.12	0.23	0.00
2011–12	0.963	0.983	−0.87	−0.66	−0.06
2012–13	0.996	0.984	−0.49	−0.20	0.02
2013–14	1.013	1.022	−0.17	−0.72	−0.07
2014–15	1.022	1.003	0.02	−0.43	0.05
2015–16	1.023	1.056	−0.01	−0.82	−0.09

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2016–17	1.038	0.982	−1.47	−1.75	−0.06
2006–17	1.047	0.996	−5.48	−4.48	−0.81
Romania					
2006–07	1.088	.	−0.05	−2.04	−0.25
2007–08	1.111	1.001	−0.67	−0.91	−0.14
2008–09	0.953	1.042	−3.69	−1.63	−0.08
2009–10	0.967	0.970	−0.89	−0.13	−0.01
2010–11	1.024	0.960	−1.43	−0.83	0.00
2011–12	1.025	0.986	0.09	1.48	−0.06
2012–13	1.041	1.018	1.16	0.86	0.13
2013–14	1.040	1.001	−0.58	−0.97	−0.08
2014–15	1.034	1.111	−0.77	−1.52	−0.10
2015–16	1.053	1.065	0.42	−1.74	−0.07
2016–17	1.079	1.107	3.80	1.18	0.09
2006–17	1.487	1.277	−2.77	−2.27	−2.82
Slovenia					
2006–07	1.064	1.022	1.73	−0.11	−0.01
2007–08	1.034	1.006	0.24	−0.84	−0.01
2008–09	0.916	1.029	−0.08	0.62	0.02
2009–10	1.010	0.916	0.22	0.02	0.03
2010–11	1.007	1.019	−0.38	0.03	0.02
2011–12	0.972	0.992	−0.55	0.75	0.05
2012–13	0.988	0.979	0.21	0.34	0.03
2013–14	1.027	1.010	0.19	−0.40	−0.04
2014–15	1.021	1.056	−0.19	−0.68	−0.03
2015–16	1.031	1.011	0.11	−1.50	−0.05
2016–17	1.047	0.982	0.08	−0.39	0.00
2006–17	1.114	1.015	0.33	0.10	0.10
Slovakia					
2006–07	1.107	1.144	3.47	0.14	0.02
2007–08	1.054	1.138	5.88	1.26	0.03
2008–09	0.943	1.181	3.96	0.49	0.05
2009–10	1.056	1.057	1.94	1.21	0.01
2010–11	1.035	1.029	−0.33	−0.75	0.06
2011–12	1.017	1.038	−0.27	−0.40	−0.04
2012–13	1.005	0.952	−0.69	0.69	−0.11
2013–14	1.025	1.045	−0.35	−3.91	−0.07
2014–15	1.047	1.001	−0.59	−0.05	0.01
2015–16	1.020	1.040	−1.73	−1.07	−0.09
2016–17	1.029	0.888	−2.76	−4.49	−0.01
2006–17	1.385	1.594	−4.54	−4.80	−0.50
Finland					
2006–07	1.049	1.019	0.63	−0.48	0.03

Country and period	GDP per capita*	Mean income per capita**	Income inequality		
			$I \cdot 100$	$Z \cdot 100$	S80/20
	($t = 1$ / $t = 2$)		($t = 1 - t = 2$)		
2007–08	1.003	1.046	0.70	0.09	−0.02
2008–09	0.915	1.024	−0.80	−0.40	−0.05
2009–10	1.027	0.974	−0.09	−0.13	0.01
2010–11	1.021	1.013	1.12	0.28	0.00
2011–12	0.981	1.005	−0.51	−1.19	−0.04
2012–13	0.986	1.015	−0.69	−0.50	0.02
2013–14	0.992	0.982	−1.17	−1.14	−0.02
2014–15	1.002	1.013	−0.74	−0.65	−0.05
2015–16	1.025	1.035	0.22	−0.40	−0.02
2016–17	1.030	0.981	−0.03	−0.17	0.00
2006–17	1.025	1.110	−0.38	−0.51	−0.26
Sweden					
2006–07	1.027	1.050	2.89	0.31	0.03
2007–08	0.988	1.059	−1.61	0.33	0.04
2008–09	0.948	1.029	−3.27	−0.92	0.01
2009–10	1.051	0.937	4.64	0.19	−0.03
2010–11	1.024	1.016	2.81	−0.02	0.01
2011–12	0.987	1.039	2.40	−0.31	0.01
2012–13	1.003	1.056	0.35	0.10	0.00
2013–14	1.016	0.986	−0.98	0.49	0.03
2014–15	1.034	1.020	−1.33	0.46	−0.02
2015–16	1.008	1.039	−1.05	−0.11	−0.02
2016–17	1.012	0.959	−2.50	−2.65	0.02
2006–17	1.098	1.197	5.59	5.14	0.22
United Kingdom					
2006–07	1.015	1.046	−0.35	0.25	0.03
2007–08	0.989	0.978	−2.40	−2.45	−0.08
2008–09	0.952	0.878	−0.06	−0.33	−0.01
2009–10	1.013	0.919	−1.07	−1.34	−0.10
2010–11	1.004	0.962	0.43	0.23	0.03
2011–12	1.008	0.977	1.72	2.04	0.00
2012–13	1.015	0.985	0.18	0.15	0.01
2013–14	1.021	1.008	0.59	0.73	0.06
2014–15	1.016	1.065	−1.11	−0.85	−0.03
2015–16	1.009	0.945	1.72	1.66	0.09
2016–17	1.011	1.049	1.65	2.09	0.10
2006–17	1.052	0.813	1.65	1.91	0.07

Note: One asterisk (*) – constant prices from 2010, two asterisks (**) – constant prices from 2017.

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 3. Changes in the growth rate in income and the poverty equivalent growth rates in the EU countries during 2006–2017

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
EU-27				
2006–07	.	.	.	.
2007–08	.	.	.	.
2008–09	.	.	.	.
2009–10	.	.	.	.
2010–11	.	.	.	.
2011–12	.	.	.	.
2012–13	.	.	.	.
2013–14	.	.	.	.
2014–15	.	.	.	.
2015–16	.	.	.	.
2016–17	.	.	.	.
2006–17	.	.	.	.
Belgium				
2006–07	0.045	−0.023	−0.105	−0.083
2007–08	0.059	−0.294	−0.323	0.200
2008–09	0.036	−0.094	0.055	−0.070
2009–10	0.034	−0.006	−0.025	−0.045
2010–11	0.018	0.004	0.005	−0.025
2011–12	0.052	−0.074	0.502	−0.176
2012–13	0.004	−0.041	0.006	0.005
2013–14	0.018	−0.006	−0.744	0.026
2014–15	0.031	−0.120	−0.111	0.276
2015–16	−0.005	−0.000	−0.011	−0.056
2016–17	0.031	−0.100	0.081	−0.140
2006–17	0.091	−1.457	1.438	1.739
Bulgaria				
2006–07	0.412	−2.441*	−5.405	5.799
2007–08	0.193	−0.414*	−0.287*	−0.327*
2008–09	0.023	0.043*	0.039*	0.037*
2009–10	−0.010	−0.008*	−0.009*	−0.009*
2010–11	−0.038	0.016	0.012	0.009
2011–12	0.079	−0.091*	−0.253	−0.992
2012–13	0.132	1.021	−12.94	−0.586
2013–14	0.007	0.009*	0.008*	0.007*
2014–15	−0.018	−0.008*	−0.011*	−0.014*
2015–16	0.124	−0.577	1.183	0.462*
2016–17	−0.008	−0.020	−0.010*	−0.009*
2006–17	0.790	6.923*	4.655*	3.397*
Czechia				
2006–07	0.102	−0.783*	−3.738	−2.153

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2007–08	0.181	−0.910*	−0.851*	−0.801
2008–09	−0.035	−0.004	−0.006	−0.003
2009–10	0.056	−0.092	−0.122	−0.087
2010–11	0.043	0.148*	0.111*	0.108
2011–12	0.005	−0.010	0.006	0.007
2012–13	−0.012	−0.005*	−0.003	0.018
2013–14	−0.034	0.079	0.072	0.432
2014–15	0.046	0.209	0.257	0.238
2015–16	0.044	−0.735	15.06	−0.170
2016–17	0.074	−0.328	−1.139	−1.007
2006–17	0.302	1.882*	1.488*	2.247*
Denmark				
2006–07	0.041	0.271	0.060	0.315
2007–08	0.013	0.004	0.012*	0.015*
2008–09	0.055	−0.156	0.066	−0.027
2009–10	0.066	0.167	0.083	0.089
2010–11	0.032	0.063	0.037*	0.035*
2011–12	0.034	−0.180	0.038*	0.056
2012–13	0.018	0.065	0.032	0.030
2013–14	0.093	−0.193	0.150*	0.202
2014–15	0.011	0.016	0.010	0.013*
2015–16	0.028	0.270	0.045	0.040
2016–17	0.045	0.162	0.063*	0.056*
2006–17	0.157	−0.264*	−5.463	−0.142
Germany				
2006–07	.	.	.	.
2007–08	.	.	.	.
2008–09	.	.	.	.
2009–10	.	.	.	.
2010–11	.	.	.	.
2011–12	.	.	.	.
2012–13	.	.	.	.
2013–14	.	.	.	.
2014–15	.	.	.	.
2015–16	.	.	.	.
2016–17	0.050	−0.018	0.017	0.012
2006–17	0.105	−0.594	3.504	0.601
Estonia				
2006–07	.	.	.	.
2007–08	.	.	.	.
2008–09	0.169	−1.003	−2.395	−7.462
2009–10	0.115	0.007	−0.032*	−0.070
2010–11	−0.059	−0.008	0.017	0.005
2011–12	−0.033	−0.018*	−0.017*	−0.018*

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2012–13	0.048	−0.002	−0.011	−0.028
2013–14	0.083	−0.158*	−0.361	−0.768
2014–15	0.098	−0.049*	−0.007	−0.024
2015–16	0.063	0.203*	0.159*	0.153*
2016–17	0.056	0.163*	0.109*	0.108*
2006–17	0.471	1.971*	2.236*	2.485*
Ireland				
2006–07	.	.	.	.
2007–08	.	.	.	.
2008–09	0.005	0.018	−0.004	0.002
2009–10	−0.042	0.025	0.065	0.044
2010–11	.	.	.	.
2011–12	.	.	.	.
2012–13	0.001	0.000	0.001	0.009*
2013–14	−0.001	−0.000	−0.001*	−0.001*
2014–15	0.019	1.497	0.052	0.033
2015–16	0.044	−47.86*	0.121	0.089*
2016–17	0.041	1.561	−0.318	−0.018
2006–17	0.057	0.099*	0.097*	0.090
Greece				
2006–07	0.049	0.143	0.031	0.072*
2007–08	0.061	0.000	0.043	0.032*
2008–09	0.028	−0.449	0.030*	0.033*
2009–10	−0.078	−0.026*	−0.007	−0.004
2010–11	−0.145	−0.046*	−0.071*	−0.052
2011–12	−0.056	−0.024*	−0.018	−0.042*
2012–13	−0.043	−0.004	−0.204	−0.092
2013–14	−0.022	−0.070	0.044	−1.147
2014–15	−0.005	−0.006	−0.007	−0.007
2015–16	0.021	0.032*	0.027*	0.025*
2016–17	0.033	0.064*	0.044*	0.046*
2006–17	−0.409	0.235*	0.190*	0.103*
Spain				
2006–07	0.081	−0.096*	−1.414	49.48*
2007–08	0.026	0.005	0.020*	0.021*
2008–09	−0.011	−0.008*	−0.010*	−0.010*
2009–10	−0.010	−0.007*	−0.008	−0.022
2010–11	0.004	0.003*	0.003*	0.003*
2011–12	−0.039	−0.003	0.000	−0.011
2012–13	−0.022	−0.013*	−0.017*	−0.017*
2013–14	−0.001	−0.001*	−0.001*	−0.001*
2014–15	0.026	0.074	0.039*	0.061
2015–16	0.042	0.281	0.098	0.083
2016–17	0.030	−0.047	0.045*	0.036*

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2006–17	0.117	−0.264	−0.090	−0.085
France				
2006–07	0.186	−0.879*	−18.82	−3.542
2007–08	0.109	−0.081*	−0.278	−0.194
2008–09	0.017	0.029*	0.048	0.061
2009–10	0.017	0.011*	−0.068	−0.063
2010–11	0.026	−0.015	0.108	0.062
2011–12	0.002	0.001	0.003	0.002
2012–13	0.009	0.016	0.020	0.015
2013–14	0.005	0.002	0.002	0.020
2014–15	0.007	0.016	0.011	−0.036
2015–16	0.028	0.144	0.079	0.073
2016–17	0.012	0.026	0.016*	0.017*
2006–17	0.199	−6.233	−0.930	3.909
Italy				
2006–07	0.034	0.101*	0.061*	0.066
2007–08	0.031	0.004	0.003	0.009
2008–09	0.018	0.796	−0.035	0.058
2009–10	0.015	0.009*	0.012*	0.013*
2010–11	0.012	0.005	0.020	0.016
2011–12	−0.018	−0.009*	−0.013*	−0.014*
2012–13	0.005	−0.063	0.016	−0.020
2013–14	0.015	−0.267	−0.640	0.059
2014–15	0.006	0.040	0.002	0.005*
2015–16	0.021	0.038*	0.026*	0.035
2016–17	0.018	−0.004	−0.017	0.000
2006–17	−0.040	−0.010*	−0.029*	−0.033*
Cyprus				
2006–07	0.038	0.086*	0.065*	0.064*
2007–08	0.057	0.000	−0.026	−0.052
2008–09	0.043	−0.372	1.115	−1.150
2009–10	0.042	0.127	0.078*	0.137
2010–11	0.025	0.010*	−0.002	−0.008
2011–12	−0.038	−0.025*	−0.020*	−0.018*
2012–13	−0.029	−0.018*	−0.018*	−0.019*
2013–14	−0.074	0.148	0.168	0.182
2014–15	0.023	0.037*	0.037*	0.036*
2015–16	0.024	0.035*	0.032*	0.031*
2016–17	0.042	0.132*	0.117*	0.109*
2006–17	−0.170	0.038*	0.086*	0.087*
Latvia				
2006–07	0.311	−0.679*	−0.334*	−0.337*
2007–08	0.093	0.019*	0.007	0.005
2008–09	−0.149	−0.003	0.044*	0.017

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2009–10	−0.078	0.086*	0.415	0.692
2010–11	0.053	−0.006	−0.006	−0.033
2011–12	0.049	−0.025	−0.088	−0.775
2012–13	0.069	0.349	1.334	0.544
2013–14	0.082	5.994	0.520	1.044
2014–15	0.072	0.204*	0.196*	0.278
2015–16	0.046	−0.011	−0.037	−0.031
2016–17	0.099	−0.355	−0.131	−0.054
2006–17	0.464	2.341*	3.683*	4.876
Lithuania				
2006–07	0.215	−0.708*	−0.531*	−0.561*
2007–08	0.163	−0.072*	−0.081*	−0.044
2008–09	−0.142	−0.004	−0.025*	−0.035*
2009–10	−0.066	0.129	−0.424	−0.184*
2010–11	0.131	−0.247*	−1.849	0.819
2011–12	0.069	−0.021	−0.000	−0.004
2012–13	0.047	−0.090	−0.490	−0.071
2013–14	0.083	−0.419	−0.065	−0.034
2014–15	0.047	0.104*	0.952	0.137
2015–16	0.050	−12.83*	0.138	0.173
2016–17	0.096	−0.758	−0.204	−0.050
2006–17	0.459	7.667	−6.897	−4.236
Luxembourg				
2006–07	0.045	−0.052	−0.066	−0.077
2007–08	0.052	−0.113	0.698	−0.683
2008–09	0.002	0.002*	0.002	0.002*
2009–10	0.015	0.031	0.040	0.022
2010–11	0.016	0.010*	0.008	0.011
2011–12	0.036	−0.029	−0.019	0.007
2012–13	−0.018	0.031	−0.013	0.014
2013–14	0.015	−0.042	0.029	0.010
2014–15	0.006	0.006*	0.006*	0.005
2015–16	0.027	−0.000	−0.012	−0.001
2016–17	0.177	−0.633	−0.142	−0.077
2006–17	0.160	0.021	0.094*	0.105*
Hungary				
2006–07	0.094	−0.095*	−0.246	0.820
2007–08	0.068	0.014*	−0.008	−0.007
2008–09	−0.104	−0.029*	−0.011*	−0.008
2009–10	0.102	−0.005	0.025*	0.026*
2010–11	0.047	−0.025	0.003	0.012*
2011–12	−0.030	−0.019*	−0.021*	−0.021*
2012–13	0.030	−0.010	−0.062	−0.018
2013–14	−0.012	−0.182	−0.032	−0.019

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2014–15	0.041	0.079*	0.086	0.464
2015–16	0.047	0.088*	0.090*	0.096
2016–17	0.077	1.447	0.250	0.185
2006–17	0.019	0.003	0.016*	0.017*
Malta				
2006–07	.	.	.	.
2007–08	0.065	−0.047*	−0.191	−1.792
2008–09	−0.005	−0.005*	−0.004*	−0.004*
2009–10	0.039	0.335	−0.471	0.123*
2010–11	0.039	−0.015	−0.071*	−0.132
2011–12	0.038	−0.059	−0.016	−0.037
2012–13	0.044	−0.022	−0.172	0.501
2013–14	0.059	0.854	−0.507	−0.338
2014–15	0.015	−0.196	−0.008	−0.002
2015–16	0.062	0.977	0.751	0.508
2016–17	0.039	−0.032	−0.009	−0.005
2006–17	0.323	5.450	21.17	8.475
Netherlands				
2006–07	0.067	0.515	0.174	0.226
2007–08	0.026	−0.003	0.117	0.005
2008–09	0.018	0.031*	0.021*	0.022*
2009–10	0.004	0.003	0.004	0.002
2010–11	0.024	0.012*	0.005	0.004
2011–12	0.006	0.004	0.001	0.007
2012–13	0.013	0.007*	0.010*	0.008
2013–14	0.039	−0.005	−0.205	−0.007
2014–15	0.045	−0.025	0.001	−0.011
2015–16	0.046	−0.221	0.436	0.377
2016–17	0.032	−0.048	−0.005	0.003
2006–17	0.117	−0.743	−0.260	−0.019
Austria				
2006–07	0.049	0.052*	0.051*	0.051*
2007–08	0.029	0.029*	0.026	0.032
2008–09	0.049	0.107	0.052*	0.050*
2009–10	0.030	0.036	0.032	0.031*
2010–11	0.024	0.006	0.026*	−0.003
2011–12	0.017	0.020	0.004	0.032*
2012–13	0.066	0.071*	0.068*	0.068*
2013–14	−0.000	0.000	0.000	0.000
2014–15	0.016	0.016*	0.016*	0.015*
2015–16	0.066	0.305	0.071	0.074
2016–17	0.021	0.023*	0.022	0.023
2006–17	0.118	0.067	0.098*	0.106*

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
Poland				
2006–07	0.170	−3.532	−2.832	−6.365
2007–08	0.202	41.22	10.37	4.380
2008–09	−0.151	0.040*	0.038*	0.033*
2009–10	0.136	−33.13	9.496	7.889
2010–11	0.034	0.006*	0.005*	0.005
2011–12	0.027	−0.002	−0.023*	−0.026
2012–13	0.039	−0.395	1.171	2.313
2013–14	0.042	0.162*	0.142*	0.150
2014–15	0.039	0.627	0.145*	0.110*
2015–16	0.039	0.150	0.075*	0.067*
2016–17	0.092	−2.315	0.991	1.180
2006–17	0.360	1.506*	1.180*	1.096*
Portugal				
2006–07	0.043	0.040*	0.040*	0.040*
2007–08	0.040	0.019	−0.001	0.015
2008–09	0.062	0.041	−0.003	−0.910
2009–10	−0.012	−0.010	−0.010	−0.011
2010–11	−0.021	−0.019*	−0.019*	−0.020*
2011–12	−0.026	−0.019	−0.022	−0.023*
2012–13	−0.031	−0.026*	−0.022	−0.018
2013–14	−0.002	−0.002*	−0.002*	−0.002*
2014–15	0.037	0.064	0.074	−0.241
2015–16	0.029	0.037*	0.033*	0.033*
2016–17	.	.	.	.
2006–17	−0.009	−0.005	−0.008*	−0.009*
Romania				
2006–07	0.165	−0.166*	−1.627*	7.375
2007–08	0.072	0.013	−0.028*	−0.068*
2008–09	−0.080	−0.007	−0.003	0.015*
2009–10	0.000	0.000	0.000	0.000
2010–11	−0.018	−0.013	−0.007*	−0.003
2011–12	−0.008	−0.006	−0.007*	−0.007*
2012–13	0.052	0.029*	−0.035*	−0.052
2013–14	0.024	−0.025	0.443	0.131
2014–15	0.033	0.053	0.095*	0.062*
2015–16	0.076	−0.317	0.569*	0.345*
2016–17	0.179	1.065	−3.883	−1.645*
2006–17	0.373	−1.910	1.773*	1.574*
Slovenia				
2006–07	−0.578*	−0.526*	−0.582	−0.578*
2007–08	−0.106*	−0.162*	−0.231*	−0.106*
2008–09	−0.004	−0.000	0.000	−0.004
2009–10	−0.010	0.006*	0.006*	−0.010

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2010–11	0.007*	0.008*	0.008*	0.007*
2011–12	−0.012*	−0.015*	−0.015*	−0.012*
2012–13	0.002	0.002	0.003	0.002
2013–14	−0.026	0.594	0.148	−0.026
2014–15	0.667*	−0.428	0.036	0.667*
2015–16	−0.020*	−0.147	−0.853	−0.020*
2016–17	−0.043*	−0.063*	−0.075*	−0.043*
2006–17	0.104	14.62	0.134*	0.183
Slovakia				
2006–07	0.199	−0.222	0.063	−0.028
2007–08	0.186	−0.027	−0.264	−0.093
2008–09	0.090	0.041*	−0.015	−0.070
2009–10	0.045	−0.036	0.032*	0.038*
2010–11	0.092	0.325	0.176	0.125*
2011–12	−0.009	−0.007	−0.008	−0.007
2012–13	−0.001	−0.001	−0.000*	−0.001*
2013–14	−0.026	−0.036	−0.084	−0.009
2014–15	0.017	0.020*	−0.173	0.018*
2015–16	.	.	.	.
2016–17	.	.	.	.
2006–17	0.459	−0.488*	2.167*	2.050*
Finland				
2006–07	0.053	0.079	0.067	0.077
2007–08	0.062	0.057*	0.057*	0.058*
2008–09	0.029	0.044	0.036	0.034*
2009–10	0.037	0.057	0.040*	0.082
2010–11	0.047	0.063	0.027	0.040
2011–12	0.037	0.029	−0.004	0.039
2012–13	0.016	0.017	0.018	0.016
2013–14	0.001	0.002*	0.001*	0.001*
2014–15	0.011	0.007	0.007	0.005
2015–16	0.021	0.041	0.007	0.072
2016–17	0.029	0.031*	0.031*	0.032*
2006–17	0.094	0.476	0.530	0.679
Sweden				
2006–07	0.068	−0.105*	0.152	−0.027
2007–08	−0.005	−0.004*	−0.004*	−0.004*
2008–09	−0.087	0.004	−0.005	−0.001
2009–10	0.161	−2.681	−4.080	−3.808
2010–11	0.093	−0.128*	−0.179	−0.089
2011–12	0.067	−0.160	−0.280	−0.091
2012–13	0.020	−0.004	0.309	0.049
2013–14	−0.021	−0.009	−0.004	−0.009
2014–15	0.003	0.002	0.001	−0.000

Country and period	Growth rate in mean income**	Poverty equivalent growth rate		
		poverty incidence	poverty depth	poverty severity
2015–16	0.023	−0.026	0.042*	0.037
2016–17	−0.002	−0.003	−0.003*	−0.003
2006–17	0.179	6.934	−0.302*	−0.259*
United Kingdom				
2006–07	−0.096	−0.022*	0.001	−0.002
2007–08	−0.137	0.032*	0.052*	0.075
2008–09	0.057	1.113	0.324	0.165
2009–10	0.013	0.024	0.019*	0.019*
2010–11	0.119	−0.640	−0.544	−0.647
2011–12	0.009	0.007*	0.007*	0.008*
2012–13	0.100	−0.386	−0.662	−2.159
2013–14	0.044	−0.041	−0.018	−0.014
2014–15	0.002	0.002	−0.000	0.001
2015–16	−0.002	−0.002*	−0.002*	−0.002*
2016–17	.	.	.	.
2006–17	−0.217	−0.003	−0.049*	−0.048*

Note: One asterisk (*) indicates that the estimates are significant at the 0.05 level, two asterisks (**) – constant prices from 2017, a dote (.) for the country is due to lack of panel data for that country, a dote (.) for the EU-27 is due the fact that the estimation of PEGR for the EU-27 as the population weighted average of the national figures may result in the incorrect estimation of this indicator.

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 4. Poverty in the EU-27 countries in 2006 and 2017

Country and period	Poverty indices · 100											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
EU-27												
2017	17.2	31.3	7.4	11.3	15.2	1.5	17.7	25.2	3.4	5.4	25.0	35.9
2006	21.9	30.2	9.2	18.0	22.6	4.0	21.3	24.8	5.8	9.3	29.8	35.4
Belgium												
2017	16.4	23.9	5.0	9.8	23.1	1.8	13.6	20.2	2.6	6.3	27.3	30.2
	0.4	0.5	0.2	0.3	1.0	0.1	0.3	0.6	0.2	0.3	1.6	1.0
2006	19.8	24.8	6.3	12.0	24.6	2.3	16.6	21.6	3.6	7.6	28.1	32.0
	0.4	0.4	0.2	0.3	0.8	0.1	0.3	0.5	0.2	0.2	1.3	0.8
Bulgaria												
2017	22.0	32.6	10.6	28.3	26.9	6.1	23.0	25.6	12.2	13.7	32.5	34.4
	0.4	0.4	0.3	0.4	0.5	0.1	0.4	0.5	0.3	0.3	0.9	0.6
2006	55.1	39.9	37.5	71.4	64.4	31.8	31.0	36.2	23.1	47.8	59.4	56.8
	0.5	0.4	0.8	0.5	0.7	0.3	0.5	0.6	0.4	0.5	0.9	0.5
Czechia												
2017	9.6	21.0	2.5	7.4	14.0	0.8	10.7	16.2	3.7	3.1	20.9	24.3
	0.2	0.6	0.1	0.2	0.8	0.1	0.3	0.5	0.3	0.1	1.8	1.0

Country and period	Poverty indices · 100											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2006	28.5	21.9	8.0	16.4	23.0	2.9	23.5	17.3	2.9	10.7	27.9	34.1
	0.3	0.3	0.2	0.3	0.7	0.1	0.3	0.3	0.1	0.3	1.1	0.8
Denmark												
2017	12.7	30.4	4.3	6.0	19.6	1.0	13.6	28.1	3.6	2.6	23.7	32.1
	0.5	2.5	0.4	0.3	1.6	0.1	0.5	2.3	0.3	0.3	4.0	4.1
2006	16.1	31.7	5.0	7.0	24.8	1.3	16.3	30.9	3.2	3.4	26.7	26.9
	0.5	1.8	0.3	0.3	1.9	0.1	0.5	1.8	0.3	0.3	3.6	2.0
Germany												
2017	15.9	33.9	5.6	7.4	15.0	0.9	14.2	31.1	2.3	4.5	22.8	33.5
	0.3	2.2	0.2	0.2	0.6	0.0	0.2	2.5	0.2	0.2	1.1	1.2
2006	18.9	33.7	7.4	12.1	18.8	1.8	18.5	28.9	4.0	6.3	26.3	34.8
	0.2	0.8	0.2	0.2	0.5	0.1	0.2	0.8	0.2	0.2	1.0	1.0
Estonia												
2017	21.9	28.2	8.5	8.4	13.1	0.9	22.2	24.6	1.8	4.1	22.5	37.3
	0.4	0.6	0.4	0.3	0.7	0.1	0.4	0.6	0.2	0.2	1.6	2.2
2006	48.5	34.5	23.9	15.4	20.4	2.4	38.4	29.0	0.5	12.8	34.1	65.4
	0.5	0.3	0.5	0.4	1.0	0.1	0.5	0.3	0.1	0.4	1.3	1.6
Ireland												
2017	14.9	21.2	4.2	8.4	13.1	0.9	17.0	18.6	2.9	3.2	17.4	19.7
	0.5	0.6	0.2	0.4	1.1	0.1	0.5	0.6	0.3	0.2	2.2	1.3
2006	20.8	22.6	6.5	10.3	21.5	1.7	19.8	20.1	2.2	5.6	25.9	25.4
	0.5	1.0	0.7	0.4	1.3	0.1	0.5	1.0	0.2	0.3	2.1	0.9
Greece												
2017	18.5	34.1	9.0	26.4	19.4	4.1	25.1	20.7	8.2	9.9	31.5	33.0
	0.2	0.3	0.2	0.2	0.3	0.1	0.2	0.2	0.2	0.2	0.7	0.5
2006	7.7	36.7	3.3	22.0	28.7	4.8	20.9	27.8	16.7	4.4	37.9	32.9
	0.2	1.4	0.2	0.4	0.9	0.2	0.4	1.0	0.6	0.2	2.2	1.0
Spain												
2017	21.5	34.6	10.5	10.9	14.1	1.3	20.1	27.0	2.0	6.2	28.8	50.4
	0.3	0.5	0.3	0.2	0.6	0.1	0.3	0.4	0.1	0.2	1.3	1.5
2006	23.4	32.5	10.8	11.1	14.5	1.3	23.2	26.1	1.7	5.7	28.0	43.3
	0.3	0.4	0.3	0.3	0.7	0.1	0.3	0.4	0.1	0.2	1.4	1.3
France												
2017	13.4	26.3	3.5	9.4	11.9	0.9	13.7	21.7	2.8	4.5	18.3	22.6
	0.3	1.9	0.1	0.2	0.5	0.0	0.3	1.9	0.2	0.2	1.0	0.8
2006	21.2	24.5	6.4	12.2	17.9	1.7	20.4	21.2	3.2	6.5	23.5	28.8
	0.3	0.4	0.1	0.3	0.6	0.1	0.3	0.4	0.2	0.2	1.1	0.7
Italy												
2017	20.3	37.0	11.7	15.5	18.5	2.4	21.8	26.9	5.3	7.0	32.1	49.3
	0.3	0.4	0.3	0.2	0.4	0.1	0.3	0.4	0.1	0.2	1.0	1.3
2006	17.2	31.4	7.1	15.1	24.1	2.8	19.5	24.2	6.6	6.4	33.8	38.6
	0.2	0.4	0.1	0.2	0.5	0.1	0.2	0.3	0.2	0.1	1.0	0.7

Country and period	Poverty indices · 100											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
Cyprus												
2017	15.4	20.2	3.8	19.4	6.5	1.1	21.5	10.6	2.5	6.6	15.8	16.4
	0.4	0.5	0.2	0.5	0.4	0.1	0.5	0.4	0.2	0.3	1.2	0.9
2006	9.0	18.8	2.1	30.8	18.5	4.7	27.8	17.5	12.7	6.0	21.1	19.3
	0.3	0.5	0.1	0.5	0.5	0.1	0.5	0.5	0.4	0.2	1.3	0.8
Latvia												
2017	23.3	33.7	11.4	17.4	17.1	2.4	23.6	24.9	4.1	8.6	29.1	41.7
	0.4	0.6	0.3	0.4	0.5	0.1	0.4	0.5	0.2	0.3	1.1	1.1
2006	45.3	35.2	23.5	42.9	33.2	10.7	29.4	26.4	8.0	29.4	38.1	43.4
	0.6	0.4	0.5	0.6	0.6	0.2	0.5	0.5	0.3	0.5	0.9	0.7
Lithuania												
2017	22.9	33.4	10.7	21.7	20.0	3.5	23.5	23.2	5.2	10.6	30.9	36.1
	0.6	0.8	0.5	0.5	0.8	0.2	0.6	0.7	0.3	0.4	1.6	1.1
2006	43.1	33.1	20.7	29.6	31.8	7.1	31.1	24.4	4.3	20.8	38.7	52.2
	0.6	0.4	0.5	0.5	0.8	0.2	0.5	0.4	0.2	0.5	1.2	1.2
Luxembourg												
2017	12.8	34.7	6.6	3.8	10.0	0.3	12.3	29.9	0.6	2.1	26.3	56.7
	0.5	1.3	0.4	0.3	1.4	0.0	0.4	1.2	0.1	0.2	3.6	5.8
2006	11.3	19.8	2.8	3.0	12.9	0.3	10.0	17.5	0.4	2.1	20.5	31.1
	0.5	0.6	0.2	0.2	1.9	0.1	0.5	0.7	0.1	0.2	2.8	1.9
Hungary												
2017	12.8	31.7	6.5	17.5	17.7	2.5	17.6	20.2	6.9	6.4	28.2	30.5
	0.4	0.8	0.4	0.4	0.6	0.1	0.4	0.6	0.3	0.3	1.5	1.2
2006	11.1	23.0	3.5	38.6	29.1	8.5	33.7	23.8	16.9	8.0	36.1	35.1
	0.2	0.4	0.1	0.4	0.4	0.1	0.4	0.4	0.3	0.2	1.3	0.7
Malta												
2017	16.8	21.1	4.9	7.1	11.6	0.7	16.6	17.9	1.5	3.7	19.0	26.1
	0.5	0.6	0.3	0.3	0.9	0.1	0.5	0.5	0.2	0.2	1.9	1.5
2006	31.4	25.7	11.3	13.5	14.6	1.6	30.3	21.0	1.6	7.3	25.3	36.3
	0.5	0.4	0.3	0.4	0.7	0.1	0.5	0.4	0.1	0.3	1.3	1.0
Netherlands												
2017	13.3	28.3	4.8	5.7	12.1	0.6	13.9	25.7	2.3	2.5	17.4	27.3
	0.3	0.9	0.3	0.2	0.8	0.0	0.3	0.8	0.2	0.2	1.9	2.0
2006	17.2	25.4	4.6	5.6	12.4	0.6	16.6	24.3	1.2	3.1	16.5	20.8
	0.4	0.8	0.2	0.3	1.0	0.1	0.4	0.9	0.2	0.2	1.7	1.1
Austria												
2017	14.3	27.8	6.4	5.6	14.3	0.7	13.3	24.1	1.6	3.3	24.0	39.3
	0.4	0.7	0.3	0.3	1.2	0.1	0.4	0.7	0.2	0.2	2.0	2.0
2006	17.2	24.7	6.0	10.1	15.9	1.3	17.4	19.0	2.2	4.9	25.7	33.0
	0.3	0.5	0.2	0.3	1.0	0.1	0.3	0.4	0.2	0.2	1.9	1.4
Poland												
2017	14.8	28.5	6.0	8.9	18.5	1.3	16.9	23.7	4.0	3.4	27.3	36.0
	0.2	0.3	0.1	0.2	0.5	0.0	0.2	0.3	0.2	0.1	1.1	0.9

Country and period	Poverty indices · 100											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2006	41.9	31.5	18.6	38.2	31.4	9.3	31.3	24.9	7.8	24.4	35.7	40.1
	0.3	0.2	0.2	0.3	0.3	0.1	0.3	0.2	0.1	0.2	0.5	0.3
Portugal												
2017	17.3	28.4	7.2	14.6	12.1	1.5	18.7	19.4	3.1	6.6	23.1	30.3
	0.3	0.4	0.2	0.3	0.4	0.1	0.3	0.3	0.2	0.2	0.9	0.8
2006	20.5	28.8	8.0	22.4	23.1	4.0	23.2	20.8	7.1	9.8	31.7	33.2
	0.4	0.5	0.2	0.5	0.8	0.2	0.5	0.5	0.4	0.3	1.4	0.8
Romania												
2017	23.5	39.4	14.4	28.8	18.8	4.4	25.6	24.3	8.1	13.3	31.6	36.3
	0.4	0.6	0.4	0.5	0.5	0.1	0.4	0.5	0.3	0.4	1.0	0.7
2006	41.3	39.8	25.6	54.6	51.8	20.2	31.2	31.4	17.3	32.3	54.0	51.9
	0.4	0.3	0.4	0.4	0.6	0.3	0.4	0.5	0.3	0.4	0.8	0.4
Slovenia												
2017	13.3	21.8	3.7	7.7	13.6	0.8	14.0	17.1	2.2	3.5	22.3	27.2
	0.3	0.4	0.1	0.2	1.0	0.1	0.3	0.4	0.2	0.2	2.1	1.1
2006	15.5	24.6	4.8	14.3	17.3	2.0	17.9	18.5	4.9	5.9	24.9	27.0
	0.3	0.7	0.2	0.3	0.6	0.1	0.3	0.6	0.2	0.2	1.4	0.8
Slovakia												
2017	12.2	25.9	4.7	15.2	13.8	1.7	16.1	11.7	4.2	5.6	29.9	35.5
	0.3	0.8	0.2	0.3	0.5	0.1	0.3	0.4	0.2	0.2	1.6	1.3
2006	44.9	25.2	15.1	30.2	22.7	5.4	32.4	18.8	3.2	21.3	28.3	35.7
	0.4	0.2	0.2	0.4	0.5	0.1	0.4	0.3	0.1	0.3	0.7	0.5
Finland												
2017	12.0	19.6	3.1	5.8	13.3	0.6	13.7	18.0	3.0	2.0	16.2	20.1
	0.3	0.5	0.2	0.2	0.9	0.0	0.4	0.5	0.2	0.1	2.0	1.3
2006	17.4	20.1	4.5	9.4	18.0	1.3	16.2	18.1	2.6	5.3	21.3	23.9
	0.3	0.4	0.2	0.3	0.9	0.1	0.3	0.4	0.2	0.2	1.4	0.8
Sweden												
2017	16.4	27.8	6.2	3.1	8.5	0.2	15.4	26.3	0.5	2.0	18.8	42.2
	0.4	0.8	0.3	0.2	1.0	0.0	0.4	0.8	0.1	0.2	2.3	4.3
2006	18.6	25.3	6.8	5.8	16.1	0.8	18.2	22.9	1.8	3.1	23.7	42.5
	0.4	0.5	0.3	0.2	0.9	0.0	0.3	0.5	0.2	0.2	1.8	3.8
United Kingdom												
2017	19.9	32.2	8.9	9.2	12.6	1.0	20.6	26.7	1.8	4.2	24.2	38.7
	0.2	0.4	0.2	0.2	0.4	0.0	0.2	0.4	0.1	0.1	1.0	1.4
2006	9.8	30.3	4.0	10.4	17.7	1.5	14.4	22.9	6.3	2.9	26.1	28.6
	0.2	0.7	0.2	0.2	0.7	0.1	0.3	0.5	0.3	0.1	1.9	1.2

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 5. Changes in poverty in the EU-27 countries during 2006–2017

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
EU-27												
2006–07	-3.20	-2.01	-1.89	-1.52	-1.56	-0.57	-1.37	-1.89	0.11	-1.68	-2.04	-3.71
2007–08	-0.84	0.02	-0.22	-0.80	-0.99	-0.14	-0.39	-0.48	-0.33	-0.62	0.17	1.03
2008–09	0.66	-0.49	0.14	0.05	-0.13	-0.03	-0.35	-0.11	-0.18	0.53	-0.92	-1.99
2009–10	-0.48	-0.40	-0.21	0.69	0.34	0.11	-0.20	-0.80	0.12	0.21	0.92	0.12
2010–11	-0.21	-0.93	-0.25	0.90	0.18	0.16	-0.15	-1.17	0.29	0.42	0.18	-0.83
2011–12	0.95	-0.11	0.59	-0.59	-0.11	-0.11	-0.09	0.10	-0.56	0.23	-0.04	1.45
2012–13	-0.69	0.70	-0.12	-1.20	-0.99	-0.33	-0.84	0.84	-0.27	-0.52	-0.98	-0.43
2013–14	-1.04	-0.78	-0.70	-1.43	-0.17	-0.18	-1.15	-0.53	-0.27	-0.66	-0.20	-0.54
2014–15	-1.58	-0.10	-0.54	-0.71	0.03	-0.05	-0.71	-0.06	0.24	-0.79	0.26	0.11
2015–16	-1.67	-1.47	-1.26	-1.13	-0.43	-0.24	-0.89	-0.98	0.00	-0.95	-0.69	-0.68
2016–17	-0.91	-0.29	-0.46	-1.32	-0.84	-0.31	-0.71	-0.01	-0.21	-0.76	-1.02	-0.71
2006–17	-4.70	1.10	-1.80	-6.70	-7.40	-2.50	-3.60	0.40	-2.40	-3.90	-4.80	0.50
Belgium												
2006–07	-0.80	-1.43	-0.57	-2.48*	-0.91	-0.44*	0.10	-1.14	-0.72*	-1.69*	-0.33	0.87
2007–08	-2.44*	-0.39	-1.48*	-0.61	-4.69*	-0.44*	-1.88*	-1.13	0.23	-0.59	-3.13	-1.63
2008–09	-1.41*	-5.46*	-0.40	0.05	-0.22	0.00	0.42	-5.62*	0.39	-0.89*	-1.09	-4.50*
2009–10	-0.29	-0.74	-0.34	0.46	-1.69	-0.09	-0.04	-2.06*	-0.41	0.10	0.03	0.72
2010–11	0.39	0.08	-0.20	-0.45	0.46	-0.01	1.10	1.12	-0.59	-0.58	-0.39	-3.98*
2011–12	-1.73*	-1.99*	-0.69	-0.41	-5.82*	-0.53*	-2.00*	-2.11*	-0.23	-0.07	-5.40*	-1.91
2012–13	-0.22	-1.02	-0.71	-0.64	3.32*	0.19	0.18	-0.77	0.13	-0.52	2.64	-3.18
2013–14	-0.30	-1.02	-1.13*	0.52	-2.75*	-0.12	-1.27*	-1.60	-0.77*	0.75	-2.51	-7.52*
2014–15	-1.58*	0.25	-0.58	0.27	-3.94*	-0.29*	-1.24*	-0.67	0.06	-0.04	-2.63	-1.72
2015–16	0.29	-0.73	-0.01	-0.84	0.99	-0.02	0.94	0.95	0.59	-0.74	-0.46	-1.28
2016–17	-1.51*	-1.71	-0.42	-1.10*	2.49	0.01	-1.95*	-0.84	-0.09	-0.33	0.49	-4.55*
2006–17	-3.43	-0.86	-1.28	-2.21	-1.47	-0.51	-2.96	-1.37	-1.04	-1.34	-0.76	-1.77
Bulgaria												
2006–07	-19.00*	-6.11*	-18.54*	-23.34*	-11.60*	-9.80*	-8.16*	-8.22*	-5.13*	-17.09*	-8.90*	-9.81*
2007–08	-6.32*	-0.83	-3.72*	8.11*	14.89*	7.32*	6.61*	9.48*	11.42*	-2.41*	8.72*	5.59*
2008–09	-3.18*	-0.32	-1.80*	0.75	0.36	0.48	3.20*	2.24*	2.23*	-2.82*	-0.35	-0.39
2009–10	3.57*	0.70	2.04*	0.14	-3.80*	-1.65*	-0.34	-4.29*	-4.23*	2.03*	-1.29	-1.67*
2010–11	1.59*	0.26	0.99	2.32*	0.15	0.64*	0.58	-0.03	-0.28	1.66*	0.12	0.35
2011–12	-2.49*	-1.24	-2.32*	-3.89*	2.13*	-0.10	-2.57*	0.79	1.24*	-1.91*	0.91	1.12*
2012–13	-7.68*	0.85	-3.05*	-12.06*	-1.32*	-3.68*	-4.71*	0.34	-0.78	-7.52*	-0.34	-0.06
2013–14	-1.22	-2.08*	-2.17*	1.84*	-1.70*	-0.10	1.74*	-2.19*	-0.98	-0.56	-1.23	-1.80*
2014–15	1.73*	1.11	2.74*	-1.80*	-0.20	-0.53*	-0.66	-0.43	-1.30*	0.29	0.68	2.54*
2015–16	-4.32*	-2.90*	-4.05*	-1.70*	0.66	-0.20	-0.05	1.56	2.33*	-2.99*	-1.51	-2.80*
2016–17	-0.23	-2.17*	-1.49*	-13.21*	-4.17*	-4.06*	-4.92*	1.48*	-4.74*	-4.26*	-5.80*	0.00
2006–17	-33.07	-7.28	-26.91	-43.09	-37.54	-25.72	-7.96	-10.56	-10.89	-34.05	-26.95	-22.42
Czechia												
2006–07	-7.86*	-0.98	-2.29*	-0.51	-2.77*	-0.40*	-3.90*	-0.81	1.15*	-2.24*	-2.93*	-6.34*

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2007–08	−9.15*	1.03	−2.35*	−0.01	−2.14*	−0.25*	−4.76*	−2.20*	0.89*	−2.20*	0.55	−5.74*
2008–09	2.21*	−0.19	0.54*	−0.35	2.04*	0.17	−0.46	1.34	0.22	1.16*	−0.05	1.38
2009–10	−1.57*	−0.35	−0.44*	0.55	−1.33	−0.10	−0.15	−1.08	−0.18	−0.44	−0.80	−2.18
2010–11	−2.98*	0.37	−0.80*	0.21	−0.78	−0.06	−0.71	−1.74*	0.10	−1.03*	2.18	0.34
2011–12	−0.14	−1.81*	−0.23	−1.75*	0.33	−0.18	−1.25*	0.36	−0.25	−0.32	−1.97	−1.31
2012–13	1.60*	−1.21	0.06	0.01	−0.23	−0.05	0.50	−0.29	−0.49	0.56	−1.40	−1.35
2013–14	0.61	0.10	0.04	−1.81*	−0.28	−0.24*	−1.12*	0.55	−1.09*	−0.04	−0.67	0.69
2014–15	−3.06*	0.16	−0.81*	−0.84	−2.21*	−0.31*	−1.95*	−0.44	0.27	−0.98*	−1.72	−3.59*
2015–16	−2.03*	−0.15	−0.43*	−0.60	−1.20	−0.15	−0.86	−1.57*	−0.04	−0.88*	0.96	2.74
2016–17	−2.30*	−0.68	−0.69*	−0.89*	−1.98	−0.24*	−1.99*	0.42	0.53	−0.60*	−4.51	−7.55*
2006–17	−18.89	−0.94	−5.54	−9.00	−9.04	−2.14	−12.79	−1.07	0.80	−7.60	−7.01	−9.83
Denmark												
2006–07	−2.55*	−4.52	−0.65	−0.23	−12.14*	−0.39	−0.87	−7.23*	−0.36	−0.95	−0.34	−4.56
2007–08	0.23	12.39*	−1.64*	1.01*	4.75	0.23*	0.20	11.58*	0.00	0.52	−0.42	−15.58
2008–09	−2.24	−7.80	−0.26	−0.86	0.45	−0.06	−1.32	−7.52	0.49	−0.89	−5.37	−25.83
2009–10	−4.97*	−2.22	−3.39*	0.63	9.09*	0.43*	−2.81*	−15.21*	2.42*	−0.77	52.18	4.61
2010–11	−2.67*	−7.57	−5.45*	1.61*	−7.14	−0.10	−1.99	−12.27*	0.20	0.47	−2.21	−1.15
2011–12	−1.43	−17.78*	−1.30	0.66	5.76*	0.40*	−0.54	−4.64	0.88	−0.11	−29.88	−11.92
2012–13	−1.51	−0.15	−0.60	−1.96*	−6.70*	−0.58*	−0.89	−0.35	−0.54	−1.29	−6.21	−2.40
2013–14	−2.69*	−11.27*	−2.09*	0.11	0.32	0.04	−2.25	−12.20*	0.70	−0.16	1.04	−0.96
2014–15	−1.84	13.95	−1.49	−2.10*	1.02	−0.18	−1.66	13.41	−0.82	−1.14*	1.51	−4.72
2015–16	−1.62	−2.26	−1.21	−0.43	0.25	−0.07	−0.17	−2.49	−0.04	−0.94	0.42	−4.13
2016–17	−2.88*	−5.35	−2.70*	−0.26	2.98	0.10	−2.89*	−4.20	1.20*	−0.13	−0.79	6.11
2006–17	−3.40	−1.35	−0.70	−0.96	−5.19	−0.34	−2.71	−2.76	0.39	−0.78	−3.02	5.15
Germany												
2006–07	−0.31*	−1.55*	−0.14*	0.83*	0.29*	0.17*	−1.39*	−2.41*	0.03*	0.95*	0.41*	0.07*
2007–08	0.90*	−1.01*	0.46*	−0.48*	1.28*	0.03*	0.39*	−1.32*	−0.05*	0.01*	1.25*	3.64*
2008–09	−1.45*	−0.45*	−1.62*	−1.42*	−1.00*	−0.32*	−1.04*	0.08*	−0.41*	−0.91*	−1.09*	−3.71*
2009–10	−1.54*	0.26*	−0.23*	0.78*	−0.22*	0.11*	−1.47*	−0.13*	0.14*	0.36*	−0.27*	−1.82*
2010–11	−0.81*	−1.13*	−0.55*	−0.94*	−0.34*	−0.17*	−0.51*	−0.83*	−0.09*	−0.62*	−0.68*	−0.64*
2011–12	0.68*	1.21*	0.30*	0.23*	0.51*	0.09*	0.25*	1.22*	−0.07*	0.33*	0.71*	0.58*
2012–13	0.27*	4.24*	1.03*	−0.65*	0.51*	−0.06*	1.05*	5.12*	0.02*	−0.71*	1.05*	1.70*
2013–14	−2.31*	−2.50*	−1.37*	−0.42*	−2.43*	−0.26*	−2.09*	−3.01*	−0.01*	−0.32*	−1.98*	−1.26*
2014–15	−1.89*	−1.25*	−0.63*	−1.07*	−2.20*	−0.29*	−1.76*	−0.43*	−0.24*	−0.60*	−2.77*	−3.39*
2015–16	−2.18*	−1.14*	−1.69*	−0.29*	−1.08*	−0.11*	−0.91*	−1.89*	0.13*	−0.78*	−0.51*	−1.86*
2016–17	−0.52	2.74	0.26	−0.46	0.71	−0.02	−0.42	3.41	0.53*	−0.28	0.24	0.83
2006–17	−2.96	0.18	−1.80	−4.73	−3.79	−0.92	−4.28	2.17	−1.67	−1.75	−3.52	−1.29
Estonia												
2006–07	−8.70*	−3.42*	−6.78*	−4.13*	−2.11*	−0.57*	−6.28*	−2.00*	−0.06	−3.28*	−3.78*	−8.02*
2007–08	0.46	−2.01*	−1.61*	2.57*	0.74	0.30*	0.53	−2.70*	0.31*	1.25*	−1.04	−8.69*
2008–09	5.01*	−0.32	2.33*	4.40*	1.29	0.64*	1.68	−1.63*	−0.20	3.86*	0.88	−0.20
2009–10	5.16*	1.17	3.52*	−0.13	0.29	0.03	3.62*	2.26*	−0.22	0.70	0.32	3.81
2010–11	−0.18	−0.50	−0.82	0.68	0.60	0.18	−0.92	−0.59	−0.16	0.71	−0.08	−2.09

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2011–12	−3.48*	−1.92*	−3.20*	−1.48*	0.68	−0.08	−2.40*	−0.57	0.49*	−1.28*	−1.92	−4.57
2012–13	−1.85*	1.03	−0.76	−1.89*	−1.14	−0.35*	−0.43	0.81	−0.61*	−1.66*	0.51	−2.24
2013–14	−5.29*	−2.44*	−4.01*	−1.75*	1.25	−0.04	−2.68*	−2.17*	0.06	−2.18*	−0.74	−7.43*
2014–15	−5.68*	−2.46*	−3.63*	−0.30	2.31*	0.15	−3.97*	−3.18*	0.51*	−1.01*	1.35	−6.16*
2015–16	−3.39*	1.16	−1.83*	0.59	−0.52	0.02	−3.37*	1.26	0.08	0.29	−2.29	−5.02*
2016–17	−2.68*	−4.87*	−1.37*	−1.48*	−0.08	−0.15	−0.95	−4.02	0.38	−1.60*	−2.15	−4.15
2006–17	−26.59	−6.25	−15.36	−6.97	−7.27	−1.47	−16.16	−4.44	1.27	−8.65	−11.61	−28.08
Ireland												
2006–07	−0.38	0.21	0.06	2.83*	−0.26	0.43	2.83*	2.76*	3.18*	−0.19	−5.37	−4.02
2007–08	1.42	−0.27	0.43	1.87	−3.22	−0.14	3.45*	−2.98*	−0.72	−0.08	1.03	1.54
2008–09	5.50*	2.25*	2.37*	−0.98	−1.80	−0.30	3.58*	1.96*	−1.38*	0.47	0.05	6.09*
2009–10	−0.14	1.94*	1.38*	6.56*	2.16*	1.07*	1.51	1.77	2.81*	2.45*	0.18	−1.91
2010–11	0.91	0.17	−0.04	3.45*	0.35	0.49	0.16	−0.45	0.48	2.10*	0.33	−1.50
2011–12	0.79	−2.36*	−1.03	−0.71	−0.32	−0.19	−0.47	−0.29	−0.47	0.28	−2.50	−5.87*
2012–13	−1.31	−1.27	−1.41*	−10.66*	−8.04*	−2.62*	−2.05*	−1.50	−3.78*	−4.96*	−5.12*	−0.55
2013–14	−3.08*	−2.09*	−2.15*	−2.23*	0.18	−0.17	−3.11*	−2.28*	−0.79*	−1.10*	0.58	−1.08
2014–15	−2.56*	−0.02	−0.29	−3.59*	1.89	−0.17	−3.65*	2.10*	0.33	−1.25*	−0.42	1.10
2015–16	−3.25*	−1.30	−1.55*	−1.57*	−0.84	−0.19	−2.74*	−1.03	−0.12	−1.04*	−1.36	−0.91
2016–17	−3.71*	−2.93*	−1.88*	−1.79*	−0.73	−0.21	−0.51	−1.97	0.49	−2.50*	−4.72	−13.41*
2006–17	−5.85	−1.44	−2.30	−1.94	−8.36	−0.84	−2.81	−1.55	0.68	−2.44	−8.54	−5.68
Greece												
2006–07	−1.65*	13.90*	−1.10*	−3.75*	−7.10*	−1.68*	−3.07*	0.15	−3.86*	−1.17*	−4.48	−3.45*
2007–08	0.01	7.73	0.38	0.93	−2.14*	−0.20	1.10	0.14	−0.54	−0.08	0.72	−5.04*
2008–09	−0.37	−19.27*	−0.91*	0.59	−0.33	0.03	−0.34	−3.11*	0.73	0.28	−12.12*	−5.61*
2009–10	2.73*	−7.44*	0.64*	−0.60	−0.02	−0.17	−1.32*	−3.74*	−3.45*	1.72*	2.18	6.35*
2010–11	6.29*	0.27	3.07*	4.09*	1.19	0.87*	1.89*	−1.31	−1.84*	4.24*	3.49	4.29*
2011–12	3.09*	−1.35	4.32*	−1.83*	−1.65	−0.71*	−2.92*	−1.45	−2.35*	2.09*	−2.24	5.85*
2012–13	2.00*	−3.94*	−0.93	−2.27*	−3.26*	−1.07*	−2.00*	−1.56*	−2.82*	0.87	−4.89*	−4.32*
2013–14	−0.49	1.25	−0.01	0.14	1.96*	0.47*	−1.08	−0.08	0.78*	0.36	2.18	2.49*
2014–15	−0.60	0.27	−0.35	0.87	2.81*	0.83*	0.97	0.01	0.54	−0.35	3.18*	1.89*
2015–16	−2.26*	−2.78*	−3.01*	−2.74*	−2.62*	−1.10*	1.46*	1.46*	0.78*	−3.23*	−4.03*	−4.36*
2016–17	−2.54*	−4.01*	−2.27*	−5.08*	−3.37*	−1.60*	−0.45	−1.34*	−0.99*	−3.59*	−3.83*	−1.89*
2006–17	10.84	−2.62	5.73	4.41	−9.29	−0.73	4.15	−7.08	−8.48	5.55	−6.45	0.12
Spain												
2006–07	−1.91*	−2.08*	−1.71*	−1.12*	−0.80	−0.18*	−0.24	−1.51	−0.31	−1.40*	−1.84	−8.08*
2007–08	0.27	5.57*	2.54*	3.28*	2.14*	0.56*	−0.87	1.50	0.84*	2.21*	6.04*	7.36*
2008–09	1.71*	3.00*	1.80*	1.91*	−0.29	0.20	0.55	2.74*	−0.24	1.53*	−1.27	−3.88
2009–10	1.73*	0.39	−0.18	−1.58*	1.53*	0.01	0.47	2.38*	−0.34	−0.16	2.27	6.80*
2010–11	0.96*	−0.13	1.42*	1.74*	−1.39*	0.01	0.75	−3.04*	−0.79*	0.97*	2.65	6.09*
2011–12	2.16*	−1.09	1.20*	−1.05*	0.37	−0.04	0.89	0.20	−0.63*	0.11	1.28	−0.39
2012–13	2.88*	1.99*	2.57*	1.85*	0.46	0.20*	0.82	2.03*	−0.09	1.95*	0.11	2.79
2013–14	−0.78	−1.12	−1.02*	−1.14*	−0.25	−0.12	−0.53	−0.91	0.19	−0.70*	0.12	0.99
2014–15	−2.14*	−1.62*	−1.09*	−0.26	−0.95	−0.13	−1.38*	−2.46*	−0.33	−0.51	−0.66	−5.46*

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2015–16	−2.30*	−0.70	−1.85*	−1.77*	1.53	−0.06	−1.42*	0.31	0.11	−1.33*	0.46	3.49
2016–17	−0.80	−4.47*	−3.51*	−0.56	−0.73	−0.13	0.27	−2.91*	0.25	−0.81*	−3.78	−11.26*
2006–17	−1.93	2.11	−0.27	−0.18	−0.44	0.02	−3.06	0.89	0.33	0.53	0.81	7.13
France												
2006–07	−7.07*	−3.59*	−2.66*	−0.99*	−1.45	−0.23*	−4.76*	−3.83*	1.63*	−1.65*	−2.71	−7.18*
2007–08	−2.17*	−2.23	−0.92*	−0.35	−1.02	−0.14	−1.34*	−3.04*	−0.41	−0.59*	−0.19	−3.08*
2008–09	−1.57*	0.77	−0.30	−1.23*	1.52	−0.01	−1.64*	1.51	0.95*	−0.58*	0.41	1.13
2009–10	1.28*	−3.25*	−0.18	−0.18	−2.29*	−0.19*	0.86	−2.04*	−0.91*	0.12	−3.54	−5.19*
2010–11	−0.40	−2.06*	−0.61*	0.09	1.57*	0.12	0.21	−1.24*	0.84*	−0.26	0.50	0.28
2011–12	0.20	−0.67	−0.23	−0.72	−0.93	−0.17	−1.30*	−0.77	−1.37*	0.39	−0.77	−1.39
2012–13	−0.89	0.09	−0.30	−0.34	−2.47*	−0.22*	−0.56	−0.07	−0.11	−0.34	−2.68	−2.56*
2013–14	0.12	0.10	−0.10	−1.48*	0.22	−0.15	0.22	0.80	−0.51	−0.79*	0.27	0.04
2014–15	−0.74	−0.69	−0.09	0.29	−0.74	−0.02	−0.15	−0.62	0.22	−0.15	−1.32	−2.77*
2015–16	−1.42*	−1.01	−0.58*	−1.50*	1.70	−0.05	−1.49*	0.19	0.20	−0.72*	0.28	−0.08
2016–17	−0.82	−1.74	−0.59*	0.24	−1.91*	−0.10	−0.49	−2.14	−0.29	−0.04	−2.03	−3.63*
2006–17	−7.78	1.80	−2.85	−2.84	−5.98	−0.85	−6.72	0.52	−0.38	−2.00	−5.19	−6.24
Italy												
2006–07	−2.16*	−0.95	−1.08*	0.03	1.12	0.12	−0.63	−0.84	0.93*	−0.76*	0.95	−1.13
2007–08	0.20	−0.15	0.21	−4.58*	−4.99*	−1.15*	−2.19*	0.51	−3.04*	−1.10*	−3.88*	2.54
2008–09	−0.78*	0.71	−0.44	0.17	−0.48	−0.02	−0.56	−0.38	−0.03	−0.03	0.49	−2.05
2009–10	1.00*	1.66*	1.39*	6.51*	1.49*	1.09*	3.43*	−1.64*	2.57*	2.04*	1.63	−0.06
2010–11	0.33	−2.60*	−0.86*	2.95*	1.42*	0.73*	0.10	−1.40*	1.63*	1.59*	−1.22	−5.04*
2011–12	1.90*	0.86	1.61*	−1.49*	−1.15*	−0.44*	0.10	0.10	−1.74*	0.15	1.01	6.93*
2012–13	−0.30	0.05	−0.08	−0.86*	−1.42*	−0.35*	−0.70	−0.51	−0.34	−0.23	−0.54	2.76
2013–14	−0.62	0.05	−0.44	−0.17	0.31	0.04	−0.76	0.45	0.20	−0.01	−0.50	−3.40*
2014–15	−0.48	1.17	1.03*	−0.69	5.32*	0.67*	1.04*	3.35*	1.63*	−1.11*	3.30	5.95*
2015–16	−1.83*	−2.96*	−1.01*	−2.88*	−1.15	−0.65*	−1.31*	−1.71*	−0.81*	−1.70*	−1.44	0.53
2016–17	−0.15	−0.29	0.02	−1.59*	−3.38*	−0.73*	−1.30*	−0.69	−1.28*	−0.22	−2.42	1.75
2006–17	3.14	5.59	4.59	0.35	−5.62	−0.45	2.29	2.74	−1.28	0.60	−1.73	10.69
Cyprus												
2006–07	−2.52*	−2.45*	−0.78*	−11.65*	−9.51*	−3.23*	−8.53*	−9.12*	−7.67*	−2.82*	−3.36	−3.82*
2007–08	0.00	−1.44	−0.21	−3.73*	0.47	−0.21	−3.19*	0.94	0.18	−0.27	−2.06	−1.46
2008–09	−1.39*	−0.67	−0.34*	0.35	−4.11*	−0.58*	1.34	−3.57*	−2.68*	−1.19*	−1.99	−2.08
2009–10	−1.94*	−2.75*	−0.50*	0.46	1.72*	0.30*	0.37	0.09	1.25*	−0.92*	−0.56	1.31
2010–11	0.53	−1.49	−0.05	2.96*	0.80	0.36*	2.17*	−0.84	0.28	0.66*	2.31	2.19
2011–12	4.70*	−1.61*	0.87*	1.76*	1.03*	0.37*	1.04	1.34*	−0.18	2.71*	−1.89	0.01
2012–13	4.60*	0.87	1.37*	−0.68	−2.41*	−0.56*	−0.47	−0.50	−2.17*	2.19*	−1.08	0.42
2013–14	1.71*	0.08	0.45	0.53	−1.56*	−0.29*	−0.30	−0.37	−0.85*	1.27*	−1.38	−1.31
2014–15	−3.66*	−0.73	−1.29*	−2.02*	1.70*	0.21	−1.79*	0.40	1.28*	−1.94*	0.35	−0.93
2015–16	−4.49*	−3.16*	−1.91*	−2.49*	−2.36*	−0.57*	−1.50*	−3.74*	−1.09*	−2.74*	−1.57	−2.17
2016–17	−3.95*	−0.45	−1.08*	−1.51*	−1.77*	−0.36*	−0.31	−0.09	0.72*	−2.57*	−2.63	−3.35*
2006–17	6.41	1.38	1.72	−11.43	−11.98	−3.55	−6.28	−6.87	−10.17	0.58	−5.27	−2.88

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
Latvia												
2006–07	−10.43*	0.20	−5.45*	−9.19*	−5.94*	−3.35*	−2.14*	−2.60*	−1.80*	−8.74*	−1.73	−1.47
2007–08	1.12	−0.74	0.17	−0.08	−3.04*	−0.76*	2.36*	0.03	−0.77	−0.66	−2.76*	−1.48
2008–09	8.76*	−0.72	5.22*	4.19*	2.20*	1.34*	0.05	0.05	−0.91*	6.45*	0.96	5.03*
2009–10	2.34*	−1.12*	0.35	2.57*	1.38*	0.94*	−0.01	0.04	0.59	2.46*	−0.22	−1.71
2010–11	−0.39	−0.06	−0.91	−4.17*	−1.00	−1.16*	−0.03	−0.07	−2.05*	−2.27*	−0.08	0.65
2011–12	−1.03	−1.29*	−2.01*	−1.73*	0.44	−0.20	0.37	0.60	0.85*	−1.56*	−0.85	−1.32
2012–13	−5.03*	−0.58	−3.14*	−6.32*	−2.74*	−1.83*	−0.29	0.42	−0.75*	−5.53*	−1.84	−1.19
2013–14	−4.97*	−1.38	−2.91*	−5.32*	0.66	−0.65*	−2.62*	−1.03	0.04	−3.84*	0.86	1.16
2014–15	−5.73*	−1.21	−2.83*	−3.30*	−3.40*	−1.09*	−3.54*	−0.42	0.24	−2.75*	−3.95*	−5.50*
2015–16	−0.41	−0.83	−0.46	−0.74	2.41*	0.28	−0.61	0.48	0.70*	−0.27	0.96	1.06
2016–17	−3.67*	1.45	−0.79	−3.25*	−0.55	−0.55*	−1.32*	1.32	0.06	−2.80*	0.55	2.35
2006–17	−22.03	−1.46	−12.09	−25.53	−16.10	−8.33	−5.84	−1.46	−3.95	−20.81	−9.03	−1.69
Lithuania												
2006–07	−10.07*	−0.89	−5.35*	−1.24	−2.25*	−0.66*	−3.11*	−1.62*	1.39*	−4.10*	−1.72	−8.96*
2007–08	−2.80*	−0.69	−0.99	−1.87*	−0.75	−0.46	0.93	−0.47	0.30	−2.80*	−0.01	1.13
2008–09	10.30*	2.83*	7.26*	9.61*	0.50	1.69*	5.68*	1.25	0.38	7.11*	1.17	5.62*
2009–10	1.65	−2.11*	−1.73*	−0.10	−2.65*	−0.69*	0.66	−1.27	−1.04*	0.45	−3.01	−5.64*
2010–11	−5.57*	−3.42*	−6.37*	0.18	0.22	0.10	−3.63*	−2.88*	1.58*	−0.88	−1.94	−8.96*
2011–12	−1.28	0.94	−0.15	−2.84*	−3.01*	−1.17*	−0.33	−1.10	−1.60*	−1.90*	0.04	2.01
2012–13	−2.24*	−1.06	−1.11	−0.57	−1.34	−0.39	−0.73	−2.86*	−0.81*	−1.04	−0.05	−0.56
2013–14	−4.09*	1.29	−0.82	−3.31*	3.06*	0.16	0.56	2.70*	1.29*	−3.98*	2.53	1.95
2014–15	−4.32*	1.12	−2.27*	−0.92	−2.74*	−0.63*	−3.97*	0.80	1.30*	−0.63	−2.55	−3.43
2015–16	−2.34*	−2.60*	−1.99*	−0.63	0.23	−0.05	−0.60	−1.62	0.92*	−1.18	−1.23	−4.40
2016–17	−4.35*	1.37	−0.81	−1.73	1.02	−0.09	−0.76	2.03	0.44	−2.66*	0.42	−4.44*
2006–17	−20.22	0.30	−10.00	−7.94	−11.77	−3.62	−7.60	−1.19	0.93	−10.22	−7.76	−16.08
Luxembourg												
2006–07	−0.99	−0.22	−0.29	0.23	−1.73	−0.03	−0.66	−0.53	−0.23	−0.05	−1.94	−6.17*
2007–08	−1.26	−2.10	−0.47	−1.02*	−0.90	−0.07	−0.43	−2.07	−0.27	−0.92*	0.32	−1.52
2008–09	−1.57*	−0.82	−0.84*	−0.23	0.42	−0.01	−1.58*	0.01	0.33	−0.11	−3.59	−5.24
2009–10	−1.20*	1.26	−0.44	0.17	0.23	0.01	−0.49	−1.44	−0.10	−0.27	5.47	10.05*
2010–11	1.53*	−2.24	0.40	−0.43	1.24	0.01	1.04	−0.08	−0.05	0.03	−2.88	−9.82*
2011–12	−0.81	0.44	0.13	0.67	2.65	0.12	−0.76	−0.58	0.60*	0.30	4.33	6.02
2012–13	0.46	3.98*	0.16	−0.87*	−5.93*	−0.22*	0.73	3.98*	−0.75*	−0.57*	−2.61	−6.22
2013–14	−0.61	−1.25	0.51	−0.53	3.51	0.07	−1.08	0.74	0.30	−0.03	−2.85	1.59
2014–15	1.77*	3.25*	1.01	0.34	−2.24	−0.04	1.79*	0.11	−0.59*	0.16	9.54*	42.13*
2015–16	−0.02	−0.54	−0.01	−0.93*	−3.33	−0.17*	0.00	0.27	−0.53*	−0.48	−2.00	−3.42
2016–17	−3.95*	5.19*	−0.61	−0.12	−1.21	−0.05	−3.85*	3.27	−0.20	−0.11	1.25	3.64
2006–17	1.48	14.89	3.78	0.84	−2.93	−0.01	2.27	12.40	0.16	−0.02	5.81	25.61
Hungary												
2006–07	−1.56*	−1.53	−0.91*	−3.04*	−1.72*	−1.01*	−1.77*	−0.68	−0.21	−1.41*	−2.78	−3.29*
2007–08	0.58	−1.91*	−0.06	3.91*	2.07*	1.32*	2.52*	0.90	1.13*	0.99*	1.91	3.58*
2008–09	5.51*	0.53	1.37*	−4.35*	−3.12*	−1.59*	−5.79*	−3.12*	−3.37*	3.48*	−4.09*	−5.79*

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2009–10	−0.25	2.83*	0.52*	2.03*	1.05*	0.63*	1.56*	0.10	0.09	0.10	3.68*	3.33*
2010–11	−0.70	1.34*	0.26	2.11*	0.84	0.69*	1.33*	1.27*	1.68*	0.04	0.85	0.23
2011–12	4.08*	1.95*	1.90*	−0.23	0.02	−0.07	−2.30*	−0.14	−1.16*	3.07*	0.11	−0.21
2012–13	−0.42	−0.97	−0.25	−6.35*	−0.44	−1.34*	−4.07*	−0.15	−1.25*	−1.35*	−1.13	−0.21
2013–14	−0.06	−0.55	−0.57	−3.07*	−0.55	−0.72*	−1.33	−1.28	−1.80*	−0.90	0.23	0.43
2014–15	−4.58*	0.29	−0.92	−5.23*	−2.01*	−1.29*	−1.82*	1.50	−0.06	−4.00*	−2.80	−2.04*
2015–16	−4.79*	0.65	−1.50*	0.13	−1.48*	−0.26	1.60*	0.02	1.27*	−3.13*	−2.32	−3.18*
2016–17	−5.07*	2.46	−1.85*	−8.32*	0.88	−1.03*	−10.76*	−2.08*	−0.70	−1.32*	6.38*	8.73*
2006–17	1.70	8.73	3.05	−21.06	−11.37	−6.04	−16.14	−3.57	−10.02	−1.56	−7.85	−4.56
Malta												
2006–07	.	.	.	.	.	.	.	.	.	.	.	.
2007–08	−0.82	−2.76	−1.31	−0.23	−0.05	−0.02	−0.13	−2.81	−0.56	−0.46	−0.03	−4.15
2008–09	−0.65*	0.16	−0.65*	−1.27	1.73	0.04	−1.82*	0.35*	0.19	−0.05	1.73	2.16
2009–10	−3.23	−2.79	−2.34	1.25	2.22	0.51	−1.28	−1.51	1.88*	−0.35	0.12	−2.52
2010–11	−2.33	−0.22	−0.68	−4.33	1.78	−0.42	−2.69	0.06	−0.37	−1.98	2.47	3.33
2011–12	0.63	0.36	0.36	−5.03	−3.88	−0.94	−0.13	1.60	−1.74	−2.14	−3.42	1.04
2012–13	−3.34	−0.54	−1.18	−1.36*	0.98	−0.09	−3.24*	0.32	0.77	−0.73	−1.10	−2.14
2013–14	0.35	−0.85*	−0.04	0.30*	−4.60	−0.21	−0.05	−2.19	−0.97*	0.35	−1.53	0.86*
2014–15	−3.13	−5.84	−1.84	−0.53	1.79	0.02	−3.17	−5.57	0.31	−0.24	0.16	−4.42
2015–16	−3.17*	−4.32	−1.94*	−0.88	0.25	−0.05	−2.80*	−4.01	−0.15	−0.62	−1.51	−0.19
2016–17	−4.51*	−0.06	−1.33	−0.82	−2.25	−0.14	−3.48	−1.49	0.12	−0.93*	−0.50	0.69
2006–17	−14.57	−4.63	−6.42	−6.37	−2.99	−0.88	−13.71	−3.11	−0.11	−3.57	−6.26	−10.25
Netherlands												
2006–07	−4.51*	−0.06	−1.33*	−0.82*	−2.25	−0.14*	−3.48*	−1.49	0.12	−0.93*	−0.50	0.69
2007–08	−0.60	−2.06	−0.04	0.30	−2.59	−0.06	−0.65	−2.07	−0.09	0.18	−2.73	−2.51
2008–09	−2.40*	−4.26	−1.22*	0.15	−0.89	−0.03	−1.87*	−5.70*	0.44	−0.19	0.82	−2.45
2009–10	0.31	3.42	−0.03	−0.52	1.48	0.03	−0.80	4.07	−0.85*	0.30	2.38	3.29
2010–11	0.23	−0.83	−0.07	0.51	0.58	0.07	−0.26	0.14	0.37	0.50	−2.09	−4.42
2011–12	0.72	−1.00	−0.68	0.07	−0.34	−0.01	0.20	−0.62	−0.18	0.30	−0.76	−0.59
2012–13	0.95	2.36	0.46	−1.15*	−1.39	−0.17	1.65*	3.28	−0.18	−0.93	−2.58	−2.95
2013–14	−0.34	−3.12*	−0.32	−1.22*	1.85	−0.02	−0.40	−2.18	−0.63*	−0.58	0.17	−7.19*
2014–15	−1.32	1.84	−0.21	−0.38	−1.86	−0.12	−1.15	2.40	0.42	−0.27	−3.30	−0.11
2015–16	−2.15*	−0.61	−0.87*	−0.15	−1.92	−0.10	−2.23*	−1.08	−0.03	−0.03	−1.01	0.96
2016–17	−1.24*	1.75	−0.02	−0.45	0.30	−0.03	0.03	1.37	0.08	−0.86*	−0.58	−1.14
2006–17	−3.85	2.95	0.21	0.11	−0.30	0.03	−2.67	1.42	1.10	−0.59	0.89	6.53
Austria												
2006–07	−1.52*	−4.58*	−2.23*	2.97*	−0.58	0.33*	−1.29	−4.11*	1.91*	1.37*	−3.92	−10.11*
2007–08	−2.37*	1.25	−0.44	−2.00*	0.42	−0.22	−2.94*	−0.33	−0.99*	−0.71	2.83	2.56
2008–09	−2.10*	−0.87	−1.38*	0.11	0.04	0.03	−2.60*	−0.77	1.14*	0.31	−1.64	−2.10
2009–10	−1.55*	−3.44*	−2.16*	−2.74*	−0.87	−0.42*	−0.63	−2.39*	−0.78*	−1.83*	−1.33	−4.62
2010–11	0.80	0.09	0.46	0.10	−0.94	−0.04	0.99	−0.71	−0.94*	−0.04	1.00	−1.76
2011–12	−0.67	0.71	−0.23	−0.31	1.92	0.08	0.33	0.39	0.07	−0.66	2.96	1.22
2012–13	−3.33*	−5.23*	−4.58*	−0.87	−0.51	−0.13	−3.64*	−5.15*	−0.20	−0.28	−1.11	−8.58*

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2013–14	−0.76	0.56	0.13	−2.50*	−0.66	−0.31*	−1.40*	0.32	−1.53*	−0.93*	2.04	7.51
2014–15	−0.88	−2.62*	−0.94	−1.23*	−0.29	−0.17	−0.94	−1.57	−0.03	−0.58	−1.87	−5.61
2015–16	−2.53*	1.84	−1.18	−1.24*	−0.37	−0.15	−2.36*	0.02	−0.09	−0.71	3.46	10.25
2016–17	−0.66	−1.93	−0.96	−1.51*	−4.06	−0.39*	−1.01	−1.26	−1.03*	−0.58	−3.27	−6.39
2006–17	−2.85	3.09	0.36	−4.51	−1.64	−0.57	−4.12	5.06	−0.56	−1.62	−1.73	6.35
Poland												
2006–07	−9.94*	−2.49*	−5.80*	−6.23*	−5.59*	−2.65*	−2.82*	−1.23*	0.42	−6.68*	−5.50*	−7.74*
2007–08	−10.44*	−2.44*	−5.05*	−3.39*	−1.27*	−0.92*	−3.64*	−2.91*	1.65*	−5.10*	−0.73	−3.62*
2008–09	11.67*	1.22*	5.20*	−1.05*	−0.66	−0.29*	1.92*	1.55*	−4.16*	4.35*	0.03	6.20*
2009–10	−7.35*	−1.63*	−3.64*	−1.87*	0.72	−0.16	−3.20*	−1.22*	1.58*	−3.01*	−0.39	−3.43*
2010–11	0.53	−0.33	0.16	0.22	−0.59	−0.07	0.09	−0.46	−0.21	0.33	−0.46	0.02
2011–12	−0.71	0.58	−0.11	−2.38*	−0.25	−0.42*	−1.16*	−0.31	−0.89*	−0.96*	1.28	3.07*
2012–13	−2.96*	0.01	−1.07*	−4.00*	0.24	−0.54*	−3.48*	1.07*	−0.49*	−1.74*	−0.46	0.01
2013–14	−3.04*	−0.58	−1.41*	−4.39*	1.37	−0.48*	−3.13*	0.78	−0.19	−2.15*	0.50	2.78*
2014–15	−3.87*	−0.84	−2.09*	−0.95*	−1.79*	−0.36*	−1.67*	−2.66*	−0.41	−1.57*	0.94	−0.59
2015–16	−4.25*	−1.50*	−2.49*	−1.54*	0.11	−0.21*	−3.21*	0.82	1.28*	−1.28*	−4.00*	−8.41*
2016–17	−4.78*	−0.47	−1.74*	−2.22*	−0.87	−0.35*	−2.53*	−0.64	0.44	−2.23*	−0.19	−0.33
2006–17	−27.06	−3.00	−12.58	−29.34	−12.89	−7.99	−14.38	−1.16	−3.80	−21.01	−8.37	−4.13
Portugal												
2006–07	−0.68	−0.40	0.01	−2.50*	−3.97*	−0.84*	−0.03	−0.71	−1.43*	−1.58*	−2.56	−0.01
2007–08	−1.44*	1.12	−0.08	−1.74*	2.93*	0.21	−1.66*	3.40*	1.96*	−0.76	0.20	0.53
2008–09	−3.11*	−0.75	−1.33*	−0.35	−2.41*	−0.37*	−1.24	−2.69*	−0.77	−1.11*	−1.01	−3.23*
2009–10	1.89*	−0.99	0.47	−1.09	0.18	−0.10	−1.41*	−0.59	−1.32*	1.10*	0.45	1.89
2010–11	1.76*	2.80*	1.74*	2.05*	−0.12	0.19	1.56*	1.99*	0.13	1.12*	0.06	0.57
2011–12	2.11*	0.77	1.69*	2.99*	−1.04	0.15	0.84	−0.68	0.04	2.13*	−0.34	0.16
2012–13	1.50*	0.59	0.98*	0.72	0.72	0.18	1.22*	0.94	−0.19	0.50	0.65	−0.07
2013–14	−0.83	0.17	−0.74	−3.10*	0.57	−0.26	−1.19*	0.42	−0.47	−1.37*	1.73	5.02*
2014–15	−1.44*	−1.35*	−1.16*	−2.25*	−0.82	−0.38*	−1.23*	−0.81	−0.38	−1.23*	−0.62	0.81
2015–16	−1.51*	−0.82	−1.25*	−1.22*	0.31	−0.10	−1.67*	−0.44	0.23	−0.53	−0.20	−0.98
2016–17	−1.69*	−2.84*	−1.50*	−1.19*	−3.93*	−0.55*	−0.84*	−1.96*	−0.43	−1.02*	−5.04*	−5.77*
2006–17	−3.18	−0.39	−0.82	−7.77	−11.04	−2.50	−4.48	−1.44	−4.02	−3.24	−8.64	−2.88
Romania												
2006–07	−8.66*	−2.35*	−6.69*	−7.76*	−0.42	−1.96*	1.11	0.72	0.47	−8.76*	−1.25	−2.24*
2007–08	−2.05*	0.16	−1.27*	1.52*	−1.01	0.00	0.81	−0.54	0.85*	−0.67	−0.91	−2.66*
2008–09	6.76*	−1.38*	2.64*	1.63*	−0.55	0.08	−0.17	0.27	−1.31*	4.28*	−1.58	0.38
2009–10	2.85*	0.81	2.44*	−0.72	−1.11	−0.48*	0.90	−0.46	−1.82*	0.62	0.58	3.70*
2010–11	3.85*	0.46	2.14*	1.67*	−0.33	0.20	−0.64	0.94	−0.26	3.08*	−0.79	0.72
2011–12	3.96*	0.54	2.77*	−0.66	0.16	−0.07	0.18	2.25*	−0.27	1.56*	−0.37	3.85*
2012–13	−1.78*	1.42*	−0.58	−0.62	−2.08*	−0.73*	0.13	−0.04	−0.49	−1.27	−0.38	−0.89
2013–14	−1.12	−0.93	−1.22	−2.75*	0.31	−0.39	−1.61*	0.33	−0.02	−1.13	−0.41	0.94
2014–15	−2.27*	−2.12*	−4.24*	0.16	−0.40	−0.05	2.44*	−0.46	0.98*	−2.28*	−1.80	−7.36*
2015–16	−5.12*	−1.87*	−4.24*	−2.31*	−2.56*	−1.05*	−1.31*	−1.83*	0.12	−3.06*	−3.03*	−7.44*
2016–17	−5.64*	0.16	−3.35*	−3.03*	0.09	−0.42*	−3.15*	−1.63*	0.35	−2.76*	0.89	−2.24*

Country and period	Changes in poverty indices · 100 ($t = 1 - t = 2$) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2006–17	−17.78	−0.42	−11.24	−25.77	−33.04	−15.78	−5.57	−7.13	−9.16	−19.04	−22.40	−15.62
Slovenia												
2006–07	−2.27*	0.27	−0.74*	0.29	−3.36*	−0.29*	−1.51*	−1.72*	−0.25	−0.24	−2.51	−3.23*
2007–08	−2.38*	−1.71*	−1.18*	−0.02	−0.67	−0.06	−0.92*	−2.78*	0.13	−0.74*	0.58	−1.78
2008–09	0.76*	−0.87	0.13	−0.49	−1.40*	−0.18*	−0.40	0.27	−0.70	0.33	−3.45	−2.97*
2009–10	0.19	0.38	0.07	2.25*	0.06	0.21*	2.14*	−0.08	0.84*	0.15	−0.62	−2.29
2010–11	0.02	−0.30	0.01	−0.05	0.95	0.09	−0.28	−0.78	−0.18	0.13	2.63	2.48*
2011–12	2.49*	1.10	0.92*	0.51	−0.67	0.00	1.68*	1.53*	−0.69*	0.66*	−1.02	0.46
2012–13	0.54	0.53	0.28	0.16	0.73	0.08	0.13	1.40*	0.26	0.28	−0.63	−1.11
2013–14	−1.11*	−0.34	−0.52*	−0.53	−0.26	−0.08	−1.20*	−0.50	0.14	−0.22	−0.15	0.35
2014–15	−1.43*	−1.01	−0.72*	−1.04*	0.54	−0.07	−1.14*	−0.55	0.12	−0.66*	0.09	−1.41
2015–16	−2.69*	−0.80	−0.96*	−0.43	−1.66	−0.16*	−1.85*	−0.85	0.56	−0.63*	−2.61	−3.26*
2016–17	−0.73	−1.52*	−0.52*	−0.69	−1.13	−0.13	−0.69	−1.28*	−0.47	−0.36	−1.20	−2.36
2006–17	−2.19	−2.81	−1.09	−6.62	−3.69	−1.15	−3.94	−1.45	−2.70	−2.44	−2.64	0.19
Slovakia												
2006–07	−17.86*	−0.90	−6.26*	−2.90*	−4.58*	−1.33*	−6.03*	−0.84	2.38*	−7.36*	−4.56*	−10.66*
2007–08	−11.31*	2.85*	−2.84*	−3.93*	0.93	−0.32*	−3.79*	−0.42	1.72*	−5.72*	4.24*	1.93*
2008–09	−1.69*	1.62	−0.40	−1.36*	0.85	−0.08	−1.90*	0.67	0.02	−0.57	1.38	−0.14
2009–10	−0.96	1.10	0.40	−1.60*	0.06	−0.19	−0.77	−0.16	−0.19	−0.89*	1.91	4.38*
2010–11	−1.12*	−3.74*	−1.86*	1.23*	−0.22	0.11	−0.06	−3.28*	0.16	0.08	−0.26	−3.80*
2011–12	1.29*	2.10*	0.94*	−0.79	−0.64	−0.24	0.18	0.65	−0.94*	0.16	0.86	2.20
2012–13	−0.26	0.07	−0.68	−1.68*	−0.66	−0.35	−2.03*	−0.99	−0.89*	0.05	−0.06	−1.44
2013–14	−1.42*	1.85	0.05	−2.71*	−0.38	−0.46*	−1.21	2.46*	0.02	−1.46*	−0.32	0.89
2014–15	−0.09	−1.85	−1.20*	−1.72*	−2.11*	−0.51*	−1.05	−1.86*	−0.66	−0.38	−1.39	1.90
2015–16	−2.03*	4.35*	−1.21*	−2.44*	1.53	−0.22	−3.16*	1.27	−0.60	−0.65	4.26	1.38
2016–17	−0.76	−10.19*	−0.87*	−0.45	−6.13*	−0.70*	−0.44	−7.67*	−1.13*	−0.39	−8.18*	−4.98*
2006–17	−32.69	0.69	−10.41	−15.03	−8.94	−3.66	−16.32	−7.10	1.02	−15.73	1.56	−0.24
Finland												
2006–07	−2.15*	−0.78	−0.76*	−1.02*	−2.52	−0.21*	−1.12	−0.78	0.00	−1.02*	−2.54	−2.70
2007–08	−1.62*	0.29	−0.01	−0.34	0.80	0.00	−2.22*	0.33	0.13	0.13	0.29	0.13
2008–09	−0.82	−2.25*	−0.68*	−0.10	−1.49	−0.08	−0.62	−1.22	0.27	−0.15	−4.37	−6.43*
2009–10	−1.09	−1.36	−0.44*	0.16	2.28	0.10	−0.35	−0.42	0.81*	−0.30	−1.28	−5.32*
2010–11	−1.33*	1.64*	−0.03	−0.14	0.59	0.01	−1.02	0.56	0.06	−0.23	3.01	3.48
2011–12	−1.69*	−0.57	−0.76*	0.20	−1.31	−0.04	−0.96*	−1.08	0.17	−0.27	−2.20	−4.59*
2012–13	0.22	−0.98	−0.24	−0.82*	1.43	0.01	−0.24	−0.71	−0.34	−0.18	3.23	3.73
2013–14	−0.32	−1.27	−0.41	0.01	−2.04	−0.07	0.33	−1.15	0.04	−0.32	−2.90	−2.21
2014–15	−1.24*	−1.86*	−0.57*	−0.15	0.40	0.01	−1.28*	−1.19	0.36	−0.05	−1.85	−2.70
2015–16	−1.51*	−0.18	−0.45*	0.03	−1.20	−0.05	−1.13*	−0.78	−0.09	−0.18	−1.59	−4.51
2016–17	−1.34*	−1.07	−0.59*	−0.93*	1.00	−0.02	−1.08*	−0.48	0.43	−0.59*	0.01	−0.65
2006–17	−5.35	−0.49	−1.36	−3.62	−4.66	−0.75	−2.54	−0.06	0.35	−3.27	−5.11	−3.77
Sweden												
2006–07	−2.04*	−8.57	0.02	−0.70*	−4.80*	−0.21*	−1.24*	−9.30	−0.01	−0.75*	−4.07	3.68
2007–08	2.31*	−1.95	0.60*	−0.19	−0.31	−0.03	1.91*	−1.41	−0.62*	0.10	1.66	−3.92

Country and period	Changes in poverty indices · 100 (t = 1 – t = 2) *											
	monetary poverty			material deprivation			latent poverty			manifest poverty		
	H^{mp}	I^{mp}	W^{mp}	H^{md}	I^{md}	W^{md}	H^{L}	I^{L}	W^{L}	H^{M}	I^{M}	W^{M}
2008–09	4.84*	0.94	1.55*	−0.47*	0.97	−0.01	4.42*	2.11	−0.26	−0.03	−0.17	6.39
2009–10	−6.90*	0.86	−2.14*	0.00	2.72	0.06	−6.24*	−0.89	0.45*	−0.33	4.74	2.05
2010–11	−3.35*	2.01	−0.62	−0.03	1.18	0.03	−2.25*	0.12	0.49	−0.56*	4.66	−11.39
2011–12	−2.48*	1.85	−0.42	−1.22*	−1.56	−0.16*	−2.37*	2.62	−0.42	−0.67*	−2.44	5.03
2012–13	−0.77	0.25	−0.42	−0.24	−6.64*	−0.12*	−0.61	0.60	0.83*	−0.20	−10.82	−3.65
2013–14	1.14	−1.52	0.44	0.32	−2.22	−0.03	1.41*	−1.33	−0.83*	0.02	−5.30	−18.54*
2014–15	0.30	−1.97	−0.13	−0.69*	2.47	0.00	0.39	−1.85	0.02	−0.39*	5.95	14.18
2015–16	−0.74	−3.39	−0.85	0.11	3.36	0.04	−1.00	−3.52	0.09	0.18	3.45	−1.41
2016–17	0.27	−3.65*	−0.19	0.17	1.67	0.04	0.06	−2.13	0.30	0.19	−5.72	−18.59*
2006–17	−2.19	2.49	−0.60	−2.75	−7.65	−0.57	−2.76	3.39	−1.27	−1.14	−4.90	−0.34
United Kingdom												
2006–07	3.80*	−4.14*	0.98*	0.68	−0.34	0.07	2.56*	−0.79	−0.91*	0.96*	−3.92	−3.43
2007–08	5.20*	−0.62	1.52*	−2.75*	−4.90*	−0.64*	2.92*	0.08	−3.05*	−0.24	−1.43	4.75
2008–09	−1.90*	−1.22	−1.43*	2.23*	0.80	0.32*	−0.05	−1.34	1.33*	0.19	−1.30	−6.07*
2009–10	−1.13	−0.68	−0.53	0.62	1.59	0.18	−0.99	−1.01	0.34	0.24	1.44	2.25
2010–11	−2.87*	−1.08	−1.42*	1.29*	0.50	0.21	−1.51*	−2.01*	0.89*	−0.04	0.17	−2.40
2011–12	1.71*	−0.17	0.93*	0.69	1.37	0.27*	2.14*	0.03	0.46	0.13	1.74	2.91
2012–13	−3.43*	−0.71	−1.47*	−1.51*	−1.52	−0.38*	−3.45*	−1.10	0.10	−0.75*	−1.61	−3.04*
2013–14	−0.59	0.75	−0.02	−2.38*	0.81	−0.23	−1.59*	1.00	−0.71*	−0.69*	1.46	2.03
2014–15	−1.17*	1.90	0.10	−0.61	1.85	0.11	−0.60	−0.02	0.52	−0.59	5.29*	8.24*
2015–16	2.74*	−2.69*	0.42	0.35	−2.27*	−0.19	1.82*	−2.96*	−1.18*	0.63*	−0.22	2.46
2016–17	3.17*	3.09*	3.21*	−0.96*	0.50	−0.05	2.62*	3.34*	−0.58*	−0.21	3.01*	11.37*
2006–17	10.11	1.90	4.90	−1.19	−5.14	−0.49	6.21	3.79	−4.51	1.30	−1.94	10.13

Note: Asterisk (*) indicates that the estimates are significant at the 0.05 level.

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 6. Changes in monetary poverty, income inequality and the relative income of the poor as a result of social transfers and the targeting of social transfers in the EU-27 countries in 2017

Country and period	Changes in monetary poverty and income inequality						Social transfers		
							relative income	targeting	share
	H^{mp} · 100	I^{mp} · 100	W^{mp} · 100	I · 100	Z · 100	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
EU-27	0.58	−0.33	1.11	−1.30	0.58	0.03	9.92	139.33	8.4
Belgium	2.69	−4.16	−0.77	−1.45	1.25	0.12	13.98	186.75	11.4
Bulgaria	−5.46	−4.49	−9.16	−0.54	−1.14	−0.10	3.1	75.12	8.7
Czechia	4.45	0.94	6.87	11.11	4.30	0.20	6.13	179.05	6.14
Denmark	5.26	−5.58	5.68	2.94	2.68	0.19	14.05	171.1	11.03
Germany	1.92	0.50	5.58	6.38	1.50	0.15	8.44	157.84	9.41
Estonia	−3.20	−4.29	−1.70	−1.31	−1.56	−0.05	4.3	72.18	10.3
Ireland	−0.63	−2.12	2.16	−0.78	−0.54	0.40	16.69	162.04	14.21

Country and period	Changes in monetary poverty and income inequality						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
Greece	−2.05	−4.91	−1.77	−3.64	−2.19	−0.12	4.36	156.53	4.49
Spain	−2.07	−4.88	−4.14	−2.09	−1.97	−0.25	4.03	98.24	7.23
France	2.35	−1.44	3.89	−4.20	1.17	0.13	14.1	188.34	9.8
Italy	−1.18	−0.05	−2.40	−0.08	−0.30	−0.04	0.66	81.98	6.13
Cyprus	−3.86	−9.29	−5.70	1.15	−4.94	−0.14	13.55	142.32	8.15
Latvia	−1.72	−0.82	−0.17	2.01	−0.39	0.09	1.96	66.39	8.25
Lithuania	−1.71	−2.13	−0.98	0.09	−0.04	0.03	2.9	82.82	8.78
Luxembourg	0.43	6.84	4.41	−14.35	2.16	−0.20	22.34	114.85	8.26
Hungary	4.58	11.94	3.97	−16.45	5.78	0.39	26.56	129.52	9.22
Malta	−1.85	−0.30	4.33	−0.39	1.95	−0.05	6.78	177.74	5.46
Netherlands	1.64	−2.05	0.13	−22.79	0.67	−0.01	32.15	188.7	7.41
Austria	2.22	−1.55	−2.32	9.84	0.60	0.06	7.57	145.7	10.05
Poland	−3.28	−0.70	5.24	0.98	−0.09	0.04	5.05	119.11	8.29
Portugal	1.14	−0.86	2.74	−0.37	0.10	0.15	4.42	134.89	5.24
Romania	1.74	0.24	4.09	0.89	1.64	0.33	2.91	135.47	5.01
Slovenia	4.21	−2.17	4.14	18.39	1.64	0.13	7.9	139.88	10.02
Slovakia	1.44	−3.15	4.91	−0.64	0.51	0.01	5.54	169.6	6.78
Finland	1.40	−3.78	2.60	17.05	0.40	0.13	24.68	174.11	12.49
Sweden	5.50	−7.76	4.32	−14.98	1.20	0.02	24.3	157.34	13.71
United Kingdom	1.24	7.44	−3.33	−6.12	1.25	−0.13	16.39	134.71	8.9

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 7. Changes in monetary poverty, income inequality and the relative income of the poor as a result of social transfers and changes in the targeting of social transfers in the EU-27 countries during 2006–2017

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
EU-27									
2006	−8.85	−13.96	−10.83	−8.62	−7.93	−0.49	8.62	129.61	8.88
2007	−8.59	−14.28	−9.97	−12.61	−7.52	−0.44	12.61	129.53	8.66
2008	−8.87	−14.23	−9.96	−11.37	−7.87	−0.49	11.37	132.18	8.77
2009	−9.21	−15.11	−11.03	−14.64	−8.32	−0.57	14.64	131.78	9.37
2010	−9.20	−15.27	−11.27	−16.43	−8.25	−0.58	16.43	132.98	9.28
2011	−8.61	−15.61	−10.74	−11.85	−8.02	−0.54	11.85	135.69	9.02
2012	−8.85	−15.66	−11.31	−11.79	−8.29	−0.58	11.79	136.48	9.07
2013	−8.73	−14.91	−11.18	−13.24	−7.88	−0.55	13.24	138.64	8.97
2014	−8.50	−15.53	−11.07	−11.73	−7.87	−0.52	11.73	140.41	8.78
2015	−8.34	−15.21	−10.28	−11.48	−7.72	−0.49	11.48	140.76	8.58

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2016	−8.47	−15.08	−10.46	−11.80	−7.59	−0.48	11.80	138.39	8.61
2017	−8.27	−14.29	−9.72	−9.92	−7.35	−0.46	9.92	139.33	8.40
Belgium									
2006	−11.54	−24.33	−21.84	−12.53	−13.25	−0.54	12.53	152.26	13.39
2007	−11.54	−23.37	−22.43	−12.01	−12.60	−0.53	12.01	151.21	12.79
2008	−11.82	−22.42	−22.19	−25.12	−12.63	−0.48	25.12	154.63	12.51
2009	−12.07	−24.25	−22.55	−24.31	−12.86	−0.55	24.31	140.36	13.17
2010	−12.28	−25.56	−24.74	−24.04	−13.55	−0.56	24.04	150.25	13.58
2011	−11.75	−25.51	−27.33	−13.14	−13.39	−0.59	13.14	152.96	13.57
2012	−10.72	−27.73	−24.25	−13.84	−13.21	−0.47	13.84	183.20	12.35
2013	−11.57	−27.03	−25.58	−13.82	−13.68	−0.65	13.82	181.10	12.30
2014	−11.03	−29.46	−26.42	−39.33	−13.78	−0.62	39.33	183.54	12.67
2015	−10.95	−28.68	−26.05	−32.34	−13.26	−0.54	32.34	175.10	12.34
2016	−10.34	−27.84	−24.94	−14.14	−12.93	−0.52	14.14	178.37	11.77
2017	−8.85	−28.49	−22.61	−13.98	−12.00	−0.42	13.98	186.75	11.40
Bulgaria									
2006	−2.07	−4.12	−0.01	−2.56	−3.39	−0.29	2.56	140.33	4.32
2007	−4.96	−6.58	−6.80	−4.61	−4.47	−0.29	4.61	115.08	5.74
2008	−5.15	−5.00	−5.05	−4.93	−3.49	−0.26	4.93	90.21	5.48
2009	−7.16	−4.36	−5.96	−2.18	−3.73	−0.24	2.18	68.68	7.95
2010	−5.45	−4.66	−5.64	−3.62	−3.50	−0.25	3.62	89.15	6.06
2011	−4.32	−4.86	−5.97	−1.90	−3.07	−0.22	1.90	85.73	6.61
2012	−5.45	−5.23	−7.86	−2.26	−3.52	−0.27	2.26	89.82	6.97
2013	−6.44	−4.39	−7.92	−0.95	−3.31	−0.19	0.95	65.22	9.67
2014	−6.94	−5.95	−7.94	−2.22	−3.94	−0.27	2.22	82.23	8.46
2015	−5.28	−5.54	−5.00	−2.09	−3.18	−0.26	2.09	80.78	7.14
2016	−5.76	−8.57	−7.06	−3.06	−3.87	−0.36	3.06	84.95	7.30
2017	−7.53	−8.61	−9.17	−3.10	−4.53	−0.39	3.10	75.12	8.70
Czechia									
2006	−10.44	−13.91	−11.38	−17.24	−10.74	−0.34	17.24	213.23	9.71
2007	−12.26	−13.16	−9.12	−7.85	−10.06	−0.32	7.85	159.82	10.12
2008	−10.20	−13.50	−6.47	−6.94	−8.82	−0.27	6.94	165.68	8.93
2009	−10.98	−11.11	−7.26	−5.95	−8.67	−0.27	5.95	164.06	9.04
2010	−9.43	−11.45	−5.96	−5.72	−7.77	−0.25	5.72	154.57	8.44
2011	−8.50	−12.71	−6.05	−6.30	−7.83	−0.24	6.30	156.55	7.87
2012	−9.20	−11.83	−6.01	−6.38	−7.93	−0.24	6.38	163.66	7.55
2013	−9.17	−12.70	−6.97	−7.11	−8.50	−0.20	7.11	202.83	7.45
2014	−8.29	−12.00	−7.37	−6.82	−8.14	−0.18	6.82	203.97	7.14
2015	−7.40	−13.70	−8.38	−7.31	−8.02	−0.19	7.31	222.39	6.99
2016	−7.23	−12.74	−5.77	−6.45	−7.12	−0.17	6.45	185.54	6.74
2017	−5.99	−12.97	−4.51	−6.13	−6.44	−0.14	6.13	179.05	6.14

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
Denmark									
2006	−16.63	−19.09	−19.67	−16.99	−15.11	−0.67	16.99	113.20	14.30
2007	−17.35	−21.56	−14.66	−25.67	−15.25	−0.70	25.67	114.66	14.63
2008	−18.08	−17.37	−13.48	−30.97	−16.26	−0.88	30.97	111.76	17.80
2009	−17.05	−14.22	−14.16	−36.49	−14.62	−0.78	36.49	92.19	15.65
2010	−16.77	−22.91	−15.14	−12.89	−15.20	−0.82	12.89	122.11	15.14
2011	−15.74	−22.80	−14.33	−12.63	−14.65	−0.79	12.63	116.11	14.51
2012	−16.59	−21.97	−15.74	−18.25	−14.76	−0.95	18.25	113.26	14.58
2013	−15.31	−24.59	−15.96	−33.69	−14.24	−0.80	33.69	139.35	13.84
2014	−14.20	−23.97	−13.86	−12.85	−13.82	−0.65	12.85	148.02	13.37
2015	−13.39	−23.77	−14.48	−36.78	−13.30	−0.62	36.78	151.08	12.41
2016	−13.04	−23.37	−15.42	−12.55	−13.28	−0.59	12.55	157.07	11.90
2017	−11.37	−24.67	−13.99	−14.05	−12.43	−0.48	14.05	171.10	11.03
Germany									
2006	−9.67	−17.82	−14.99	−14.82	−9.74	−0.51	14.82	145.05	10.30
2007	−8.65	−20.42	−12.84	−12.81	−9.67	−0.44	12.81	159.36	10.11
2008	−9.10	−19.11	−12.45	−9.36	−9.90	−0.41	9.36	169.86	9.69
2009	−8.73	−22.21	−13.97	−37.29	−10.64	−0.44	37.29	181.11	10.31
2010	−9.15	−21.92	−12.60	−36.86	−10.62	−0.50	36.86	176.71	10.48
2011	−8.06	−21.84	−11.36	−10.50	−10.16	−0.43	10.50	173.67	9.84
2012	−8.03	−21.45	−12.04	−10.21	−9.91	−0.43	10.21	169.17	9.99
2013	−8.14	−18.29	−11.45	−11.71	−9.05	−0.51	11.71	158.79	9.93
2014	−7.97	−20.35	−12.08	−9.59	−9.22	−0.43	9.59	167.70	9.91
2015	−8.40	−20.79	−11.18	−9.84	−9.52	−0.42	9.84	164.78	9.84
2016	−7.76	−21.70	−11.53	−16.17	−9.07	−0.36	16.17	159.15	9.72
2017	−7.75	−17.32	−9.41	−8.44	−8.24	−0.36	8.44	157.84	9.41
Estonia									
2006	−4.71	−4.48	−6.56	−2.99	−3.73	−0.20	2.99	107.22	6.49
2007	−5.19	−5.07	−6.45	−2.69	−3.97	−0.20	2.69	100.34	6.30
2008	−7.27	−5.05	−8.08	−2.86	−4.20	−0.17	2.86	86.18	7.97
2009	−8.16	−8.08	−12.29	−4.30	−6.07	−0.31	4.30	99.21	10.40
2010	−6.34	−7.80	−12.72	−4.01	−5.94	−0.37	4.01	103.50	10.08
2011	−6.15	−6.94	−10.31	−3.43	−4.87	−0.29	3.43	98.39	9.67
2012	−6.89	−6.96	−10.79	−3.49	−4.90	−0.19	3.49	101.23	9.64
2013	−6.25	−7.08	−9.83	−10.45	−4.42	−0.17	10.45	90.94	9.41
2014	−6.35	−6.18	−8.00	−2.85	−4.06	−0.20	2.85	93.10	8.00
2015	−7.54	−7.47	−8.38	−14.27	−4.73	−0.17	14.27	83.08	9.69
2016	−8.11	−7.46	−9.17	−2.85	−4.97	−0.20	2.85	70.75	10.71
2017	−7.91	−8.77	−8.26	−4.30	−5.29	−0.25	4.30	72.18	10.30
Ireland									
2006	−15.23	−29.60	−18.22	−15.91	−14.59	−1.48	15.91	149.16	15.17
2007	−18.05	−31.40	−17.84	−18.39	−16.28	−1.66	18.39	119.34	16.66

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2008	−20.97	−33.84	−19.19	−22.85	−19.17	−2.76	22.85	88.88	20.07
2009	−20.27	−34.52	−22.19	−33.03	−18.93	−5.35	33.03	71.00	22.49
2010	−20.78	−33.48	−21.75	−19.89	−19.49	−4.71	19.89	78.33	22.73
2011	−18.51	−32.40	−22.71	−23.66	−18.60	−4.67	23.66	90.84	21.68
2012	−17.10	−35.33	−22.48	−21.70	−19.06	−4.97	21.70	93.69	20.79
2013	−16.63	−30.97	−21.13	−37.56	−17.10	−3.24	37.56	106.66	18.92
2014	−16.28	−32.04	−19.82	−38.55	−17.05	−2.30	38.55	137.61	17.80
2015	−15.33	−31.70	−15.97	−22.26	−16.43	−1.67	22.26	142.14	16.84
2016	−16.11	−29.84	−16.88	−15.15	−15.24	−1.49	15.15	160.19	15.02
2017	−15.86	−31.72	−16.06	−16.69	−15.13	−1.08	16.69	162.04	14.21
Greece									
2006	−2.48	−2.77	−1.51	−0.72	−1.91	−0.15	0.72	98.99	3.05
2007	−2.67	4.50	−0.91	−19.22	−1.71	−0.16	19.22	97.33	3.05
2008	−2.12	1.72	−0.96	0.05	−1.85	−0.15	−0.05	90.88	3.27
2009	−1.89	−1.41	−1.51	−0.53	−1.73	−0.20	0.53	86.15	3.69
2010	−2.90	−3.58	−1.18	−4.67	−2.08	−0.20	4.67	107.97	3.76
2011	−3.20	−2.95	−1.73	−8.36	−1.85	−0.17	8.36	88.15	4.30
2012	−4.77	−5.36	−1.45	−20.80	−3.50	−0.29	20.80	100.44	4.63
2013	−4.22	−5.82	−2.79	−2.58	−3.47	−0.26	2.58	112.59	4.23
2014	−3.89	−3.93	−3.19	−4.07	−2.54	−0.26	4.07	99.52	3.98
2015	−3.74	−5.55	−2.39	−2.47	−3.03	−0.29	2.47	124.76	4.03
2016	−3.76	−5.84	−3.04	−3.00	−3.23	−0.31	3.00	130.11	4.10
2017	−4.53	−7.68	−3.28	−4.36	−4.10	−0.27	4.36	156.53	4.49
Spain									
2006	−3.90	−4.54	−5.41	−1.94	−2.63	−0.13	1.94	89.48	4.95
2007	−5.46	−6.83	−6.49	−2.35	−3.52	−0.28	2.35	66.45	7.01
2008	−6.64	−6.63	−7.65	−2.52	−4.11	−0.33	2.52	69.59	7.86
2009	−7.92	−8.86	−10.06	−14.16	−5.10	−0.51	14.16	78.07	9.56
2010	−8.69	−10.02	−12.69	−4.25	−5.76	−0.56	4.25	87.00	9.93
2011	−7.92	−9.01	−12.57	−3.72	−5.01	−0.56	3.72	91.72	9.76
2012	−9.45	−11.10	−14.59	−7.56	−6.20	−0.73	7.56	86.74	11.38
2013	−8.11	−11.99	−16.24	−5.19	−6.10	−0.72	5.19	91.33	10.95
2014	−7.67	−10.26	−14.18	−4.60	−5.76	−0.68	4.60	94.13	9.35
2015	−6.88	−11.51	−11.99	−5.02	−5.68	−0.64	5.02	100.80	8.65
2016	−6.45	−9.22	−10.58	−3.98	−4.86	−0.56	3.98	101.66	7.68
2017	−5.97	−9.42	−9.55	−4.03	−4.60	−0.38	4.03	98.24	7.23
France									
2006	−13.05	−17.93	−17.69	−9.90	−11.56	−0.62	9.90	149.12	12.28
2007	−10.50	−18.49	−14.07	−26.71	−9.18	−0.38	26.71	168.12	9.73
2008	−10.50	−18.70	−13.73	−15.20	−9.16	−0.42	15.20	176.31	9.38
2009	−11.69	−19.02	−13.72	−13.98	−9.88	−0.52	13.98	165.45	10.28
2010	−10.46	−19.55	−15.30	−15.63	−9.32	−0.53	15.63	165.42	9.46

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2011	−9.51	−18.97	−12.08	−10.39	−8.73	−0.46	10.39	174.28	8.77
2012	−10.49	−17.72	−13.24	−16.29	−8.92	−0.44	16.29	177.11	8.88
2013	−10.76	−19.06	−14.22	−21.52	−9.55	−0.46	21.52	183.89	9.31
2014	−10.52	−20.60	−14.18	−15.85	−9.86	−0.45	15.85	189.28	9.45
2015	−9.84	−20.96	−13.88	−20.34	−9.62	−0.47	20.34	187.58	9.18
2016	−10.71	−18.54	−13.60	−14.53	−10.05	−0.47	14.53	184.36	9.64
2017	−10.70	−19.37	−13.80	−14.10	−10.39	−0.49	14.10	188.34	9.80
Italy									
2006	−3.71	−2.06	−2.52	−0.58	−1.59	−0.16	0.58	80.00	4.65
2007	−4.07	−1.13	−2.72	−0.76	−1.58	−0.14	0.76	68.76	5.31
2008	−4.38	−1.67	−2.66	−0.40	−1.88	−0.18	0.40	72.61	5.10
2009	−4.36	−2.02	−3.51	−0.48	−2.07	−0.18	0.48	81.22	5.51
2010	−4.39	−2.05	−3.88	−0.60	−1.79	−0.18	0.60	82.36	5.52
2011	−4.37	−2.67	−3.89	−4.21	−1.95	−0.20	4.21	86.48	5.35
2012	−5.24	−1.89	−4.31	−6.68	−2.16	−0.21	6.68	84.54	5.49
2013	−4.80	−1.94	−4.84	−0.70	−1.84	−0.22	0.70	86.42	5.80
2014	−4.72	−3.16	−5.48	−2.82	−2.17	−0.20	2.82	81.81	6.22
2015	−4.50	−1.74	−4.43	−0.77	−1.58	−0.21	0.77	85.00	5.87
2016	−4.16	−2.25	−4.85	−0.64	−1.55	−0.21	0.64	76.86	5.94
2017	−4.89	−2.11	−4.92	−0.66	−1.89	−0.20	0.66	81.98	6.13
Cyprus									
2006	−4.94	−8.62	−2.47	−14.70	−3.52	−0.17	14.70	79.55	6.37
2007	−6.86	−10.50	−3.32	−4.67	−4.76	−0.28	4.67	93.99	6.86
2008	−7.08	−9.34	−3.96	−3.46	−4.67	−0.27	3.46	81.05	6.98
2009	−7.49	−10.10	−4.34	−4.96	−5.24	−0.33	4.96	89.71	7.44
2010	−7.78	−10.51	−3.84	−5.40	−5.58	−0.28	5.40	76.60	8.17
2011	−8.14	−10.57	−4.63	−3.77	−5.23	−0.34	3.77	76.27	8.64
2012	−8.85	−12.48	−6.01	−22.24	−5.54	−0.32	22.24	84.21	9.23
2013	−10.54	−11.65	−8.43	−4.52	−5.07	−0.35	4.52	71.49	11.36
2014	−9.18	−11.34	−8.24	−5.02	−5.91	−0.34	5.02	82.05	9.75
2015	−8.47	−15.12	−9.06	−6.81	−7.28	−0.33	6.81	106.17	9.41
2016	−8.40	−15.98	−7.25	−7.01	−6.96	−0.34	7.01	92.46	9.42
2017	−8.80	−17.91	−8.17	−13.55	−8.46	−0.31	13.55	142.32	8.15
Latvia									
2006	−3.71	−5.66	−5.92	−3.97	−2.99	−0.34	3.97	75.27	6.75
2007	−4.28	−5.00	−5.71	−2.35	−2.60	−0.20	2.35	71.80	6.53
2008	−4.95	−4.03	−4.75	−1.73	−2.27	−0.21	1.73	61.83	7.64
2009	−6.43	−7.01	−9.41	−3.04	−3.88	−0.38	3.04	67.30	11.36
2010	−6.59	−6.85	−10.09	−15.64	−4.52	−0.44	15.64	75.54	10.71
2011	−5.00	−6.25	−7.99	−3.79	−4.26	−0.30	3.79	94.11	8.24
2012	−4.64	−6.41	−8.15	−2.98	−4.23	−0.25	2.98	90.20	7.56
2013	−5.25	−6.23	−7.46	−2.71	−3.80	−0.21	2.71	88.43	7.74

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2014	−4.93	−5.73	−6.49	−4.26	−3.39	−0.14	4.26	80.04	7.37
2015	−6.04	−5.56	−5.70	−1.88	−3.31	−0.25	1.88	64.12	8.23
2016	−6.06	−5.87	−5.46	−1.75	−3.34	−0.23	1.75	63.45	8.73
2017	−5.43	−6.48	−6.09	−1.96	−3.38	−0.25	1.96	66.39	8.25
Lithuania									
2006	−4.47	−6.06	−6.80	−2.99	−3.83	−0.25	2.99	96.82	7.14
2007	−5.07	−6.72	−5.67	−3.19	−3.52	−0.27	3.19	83.92	7.58
2008	−8.14	−8.00	−8.20	−8.55	−4.28	−0.34	8.55	72.30	10.17
2009	−9.27	−9.10	−13.00	−4.41	−5.45	−0.87	4.41	47.29	13.15
2010	−8.87	−10.30	−13.84	−5.71	−7.53	−0.80	5.71	81.37	13.57
2011	−9.44	−9.83	−15.37	−5.43	−7.46	−0.43	5.43	95.83	11.95
2012	−7.98	−10.66	−14.03	−5.59	−6.81	−0.53	5.59	100.11	10.81
2013	−8.03	−8.65	−10.99	−11.79	−5.66	−0.49	11.79	91.22	9.51
2014	−6.15	−8.77	−9.09	−4.82	−4.64	−0.45	4.82	88.37	8.87
2015	−6.12	−8.81	−9.28	−3.55	−4.72	−0.35	3.55	101.55	8.93
2016	−5.70	−8.73	−6.98	−3.29	−4.05	−0.32	3.29	89.70	8.45
2017	−6.18	−8.19	−7.78	−2.90	−3.87	−0.22	2.90	82.82	8.78
Luxembourg									
2006	−9.29	−18.86	−9.32	−7.99	−8.64	−0.37	7.99	152.92	9.51
2007	−10.11	−17.46	−9.43	−7.65	−8.38	−0.38	7.65	142.61	9.72
2008	−11.90	−18.40	−12.10	−8.18	−9.47	−0.49	8.18	134.64	10.70
2009	−13.98	−18.11	−12.15	−20.41	−10.57	−0.65	20.41	144.74	11.46
2010	−15.19	−15.55	−13.00	−32.21	−10.60	−0.55	32.21	139.02	11.40
2011	−13.74	−20.22	−13.90	−9.99	−11.02	−0.63	9.99	151.76	11.40
2012	−13.69	−21.56	−13.92	−10.39	−10.87	−0.85	10.39	147.83	11.40
2013	−11.80	−19.31	−13.43	−9.45	−10.10	−0.69	9.45	147.04	10.93
2014	−12.45	−16.19	−11.49	−10.04	−9.18	−0.47	10.04	134.62	10.35
2015	−10.36	−14.36	−9.68	−9.22	−7.87	−0.66	9.22	119.49	9.57
2016	−10.26	−14.00	−7.54	−6.69	−7.70	−0.61	6.69	105.92	9.89
2017	−8.86	−12.02	−4.91	−22.34	−6.48	−0.57	22.34	114.85	8.26
Hungary									
2006	−16.76	−21.99	−13.82	−10.11	−13.81	−0.82	10.11	137.92	15.55
2007	−17.77	−23.93	−14.90	−27.90	−14.83	−0.84	27.90	138.62	16.25
2008	−16.14	−26.10	−13.50	−11.83	−14.25	−0.81	11.83	151.61	15.04
2009	−15.63	−24.44	−15.99	−17.03	−14.58	−0.81	17.03	163.11	14.75
2010	−14.98	−24.44	−17.55	−15.02	−13.72	−0.89	15.02	164.06	13.95
2011	−12.88	−22.65	−16.21	−13.96	−12.33	−0.73	13.96	159.42	12.97
2012	−11.99	−17.13	−16.19	−9.29	−10.84	−0.67	9.29	161.41	11.75
2013	−11.14	−17.21	−16.11	−20.13	−10.69	−0.60	20.13	174.20	10.82
2014	−10.07	−14.75	−12.44	−7.60	−8.81	−0.53	7.60	159.82	10.40
2015	−10.56	−15.84	−14.23	−24.73	−9.01	−0.57	24.73	137.16	10.31
2016	−11.62	−11.71	−11.37	−15.73	−8.05	−0.48	15.73	134.04	9.82

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2017	−12.18	−10.05	−9.85	−26.56	−8.03	−0.43	26.56	129.52	9.22
Malta									
2006	−5.54	−10.83	−16.52	−6.39	−7.91	−0.25	6.39	218.44	6.52
2007	−5.18	−11.90	−16.03	−10.49	−7.10	−0.33	10.49	191.99	6.00
2008	−6.37	−12.21	−15.73	−8.59	−7.57	−0.27	8.59	190.19	6.54
2009	−7.13	−11.02	−20.63	−7.11	−7.35	−0.33	7.11	183.20	6.72
2010	−7.34	−11.60	−23.90	−7.14	−7.76	−0.32	7.14	185.37	6.97
2011	−6.49	−14.59	−27.84	−8.76	−8.42	−0.38	8.76	200.33	7.08
2012	−6.92	−14.07	−22.27	−8.87	−8.50	−0.35	8.87	201.91	7.03
2013	−7.74	−15.18	−20.24	−8.54	−8.56	−0.39	8.54	208.01	6.96
2014	−6.89	−16.13	−20.72	−9.24	−8.09	−0.32	9.24	203.94	6.49
2015	−6.82	−14.65	−20.84	−26.43	−7.44	−0.28	26.43	200.92	6.17
2016	−7.21	−13.01	−14.42	−14.48	−6.73	−0.28	14.48	198.98	5.61
2017	−7.39	−11.13	−12.19	−6.78	−5.96	−0.30	6.78	177.74	5.46
Netherlands									
2006	−10.15	−16.42	−12.85	−9.36	−9.41	−0.33	9.36	173.89	8.42
2007	−9.42	−15.79	−13.49	−19.04	−8.87	−0.32	19.04	184.74	7.73
2008	−9.19	−18.09	−14.29	−13.63	−9.53	−0.35	13.63	184.39	8.12
2009	−11.19	−17.73	−14.49	−12.07	−10.46	−0.38	12.07	188.10	8.74
2010	−10.72	−17.49	−16.26	−38.64	−10.91	−0.37	38.64	192.84	9.01
2011	−10.34	−21.77	−16.31	−19.96	−11.34	−0.37	19.96	193.12	9.22
2012	−9.34	−21.34	−17.06	−17.46	−10.95	−0.37	17.46	175.64	8.76
2013	−9.99	−16.97	−15.26	−26.58	−9.93	−0.39	26.58	182.42	8.50
2014	−9.41	−20.21	−15.33	−34.43	−10.15	−0.40	34.43	175.67	8.62
2015	−9.07	−19.74	−14.68	−11.96	−9.56	−0.35	11.96	183.14	8.10
2016	−8.79	−19.13	−13.86	−21.70	−9.01	−0.34	21.70	183.73	7.70
2017	−8.51	−18.47	−12.72	−32.15	−8.74	−0.34	32.15	188.70	7.41
Austria									
2006	−13.08	−14.00	−11.73	−17.41	−10.21	−0.53	17.41	121.78	10.82
2007	−11.52	−12.04	−13.52	−9.32	−8.69	−0.52	9.32	111.64	10.22
2008	−10.44	−13.67	−13.31	−6.55	−8.69	−0.54	6.55	105.58	10.53
2009	−11.38	−13.73	−15.38	−13.45	−9.09	−0.51	13.45	115.21	10.79
2010	−12.67	−14.81	−13.81	−12.02	−9.72	−0.59	12.02	116.71	11.45
2011	−11.36	−13.24	−13.24	−13.28	−9.01	−0.52	13.28	110.61	10.47
2012	−12.38	−11.75	−14.18	−6.02	−9.43	−0.54	6.02	103.79	10.80
2013	−11.22	−15.67	−13.34	−7.59	−9.58	−0.51	7.59	124.36	10.61
2014	−11.62	−15.48	−13.47	−7.80	−9.79	−0.58	7.80	127.75	10.41
2015	−11.29	−14.14	−12.31	−8.89	−9.05	−0.55	8.89	120.92	10.42
2016	−10.16	−13.50	−11.30	−20.55	−8.52	−0.50	20.55	131.63	9.96
2017	−10.86	−15.55	−14.05	−7.57	−9.61	−0.47	7.57	145.70	10.05
Poland									
2006	−6.60	−9.58	−13.27	−6.03	−7.23	−0.52	6.03	131.45	7.71

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2007	−6.87	−9.43	−9.53	−6.15	−6.19	−0.48	6.15	139.43	6.44
2008	−6.73	−9.73	−7.79	−6.92	−5.78	−0.34	6.92	150.61	5.69
2009	−5.30	−8.14	−8.70	−4.75	−5.52	−0.34	4.75	144.94	5.55
2010	−5.31	−9.06	−7.58	−4.86	−5.33	−0.32	4.86	149.96	5.33
2011	−5.23	−8.07	−7.26	−13.04	−5.11	−0.34	13.04	155.33	4.91
2012	−4.58	−8.47	−7.24	−4.69	−5.13	−0.33	4.69	155.53	4.87
2013	−5.19	−8.18	−7.09	−15.78	−5.02	−0.33	15.78	152.24	4.90
2014	−4.90	−8.76	−6.68	−7.31	−5.08	−0.31	7.31	151.50	5.00
2015	−5.35	−8.44	−5.79	−12.13	−5.01	−0.25	12.13	144.62	5.18
2016	−8.77	−10.26	−8.17	−5.28	−6.76	−0.41	5.28	125.37	7.63
2017	−9.88	−10.28	−8.03	−5.05	−7.32	−0.48	5.05	119.11	8.29
Portugal									
2006	−6.55	−9.35	−5.49	−4.05	−4.99	−0.38	4.05	103.23	6.05
2007	−6.25	−9.68	−4.52	−4.06	−4.68	−0.30	4.06	99.08	6.05
2008	−7.18	−9.07	−4.92	−14.66	−5.22	−0.35	14.66	119.12	5.75
2009	−8.45	−12.55	−5.08	−5.66	−6.76	−0.50	5.66	121.73	6.85
2010	−7.29	−12.26	−4.68	−6.19	−6.26	−0.37	6.19	124.24	6.75
2011	−7.52	−10.91	−5.49	−15.97	−6.03	−0.41	15.97	114.94	6.56
2012	−6.91	−10.51	−4.31	−5.08	−6.02	−0.49	5.08	130.67	6.42
2013	−6.94	−10.59	−5.05	−6.06	−5.80	−0.55	6.06	104.56	7.53
2014	−7.15	−9.15	−4.42	−4.25	−5.43	−0.50	4.25	104.51	6.84
2015	−6.50	−9.86	−3.82	−4.36	−5.30	−0.39	4.36	114.04	6.30
2016	−5.28	−11.25	−3.22	−30.09	−5.16	−0.33	30.09	121.76	5.83
2017	−5.41	−10.21	−2.75	−4.42	−4.89	−0.23	4.42	134.89	5.24
Romania									
2006	−6.08	−7.14	−8.86	−3.80	−5.31	−0.61	3.80	98.23	7.71
2007	−6.21	−8.03	−7.70	−4.20	−5.22	−0.48	4.20	96.32	7.32
2008	−7.02	−7.10	−7.15	−3.57	−5.21	−0.52	3.57	101.90	7.22
2009	−6.87	−6.68	−9.00	−3.72	−5.48	−0.41	3.72	104.39	7.31
2010	−6.45	−7.43	−9.33	−4.14	−5.57	−0.50	4.14	98.79	7.68
2011	−5.89	−5.33	−7.69	−2.97	−4.30	−0.39	2.97	88.07	7.35
2012	−4.40	−5.26	−8.01	−3.15	−4.43	−0.44	3.15	109.06	5.88
2013	−4.49	−4.71	−7.19	−2.89	−4.24	−0.46	2.89	123.81	5.41
2014	−4.20	−4.40	−10.45	−2.57	−3.78	−0.40	2.57	121.73	4.81
2015	−4.70	−5.95	−10.46	−3.16	−4.54	−0.46	3.16	115.91	6.12
2016	−4.98	−7.42	−9.36	−4.76	−4.75	−0.41	4.76	121.40	6.04
2017	−4.34	−6.90	−4.77	−2.91	−3.67	−0.28	2.91	135.47	5.01
Slovenia									
2006	−14.34	−14.17	−12.34	−26.29	−11.42	−0.54	26.29	113.31	12.79
2007	−12.79	−13.91	−9.82	−13.05	−10.42	−0.48	13.05	100.52	12.36
2008	−12.21	−13.94	−9.20	−21.80	−10.25	−0.41	21.80	102.14	11.94
2009	−13.24	−16.67	−10.91	−7.76	−11.46	−0.53	7.76	106.72	13.39

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2010	−12.74	−18.18	−12.03	−39.87	−11.91	−0.53	39.87	119.46	13.56
2011	−14.01	−17.37	−12.22	−40.39	−12.12	−0.59	40.39	111.24	13.65
2012	−13.30	−16.53	−12.91	−8.30	−11.91	−0.58	8.30	117.99	13.16
2013	−10.79	−14.99	−11.67	−7.76	−10.30	−0.46	7.76	140.27	10.83
2014	−11.00	−14.58	−9.91	−18.85	−10.16	−0.46	18.85	138.66	10.31
2015	−10.60	−14.90	−9.63	−12.76	−9.97	−0.44	12.76	136.49	10.37
2016	−11.03	−14.49	−8.88	−10.54	−9.93	−0.44	10.54	125.51	10.48
2017	−10.13	−16.34	−8.20	−7.90	−9.78	−0.41	7.90	139.88	10.02
Slovakia									
2006	−6.87	−7.19	−7.09	−4.90	−6.98	−0.22	4.90	164.43	7.51
2007	−7.40	−8.15	−5.99	−10.36	−6.54	−0.22	10.36	154.09	7.00
2008	−8.24	−7.20	−5.29	−4.01	−6.22	−0.17	4.01	157.05	6.75
2009	−7.79	−12.00	−6.44	−7.49	−7.27	−0.28	7.49	166.03	7.87
2010	−7.39	−11.91	−6.58	−11.14	−7.33	−0.28	11.14	169.77	7.65
2011	−6.61	−12.52	−4.66	−15.93	−6.85	−0.25	15.93	172.17	7.04
2012	−7.67	−11.03	−7.22	−5.43	−7.51	−0.29	5.43	160.80	8.18
2013	−7.98	−8.06	−3.94	−25.81	−6.69	−0.24	25.81	163.84	7.33
2014	−6.33	−8.55	−2.93	−16.26	−6.03	−0.21	16.26	169.93	7.21
2015	−6.50	−7.77	−3.04	−7.00	−5.93	−0.20	7.00	172.36	6.52
2016	−4.67	−2.57	−2.34	−0.84	−3.27	−0.14	0.84	176.64	6.14
2017	−5.43	−10.34	−2.18	−5.54	−6.47	−0.21	5.54	169.60	6.78
Finland									
2006	−15.27	−24.57	−22.95	−41.73	−14.52	−0.71	41.73	141.94	13.88
2007	−13.64	−25.33	−21.15	−12.36	−13.59	−0.56	12.36	147.91	13.19
2008	−12.72	−25.11	−19.47	−12.35	−13.13	−0.50	12.35	154.82	12.53
2009	−14.03	−26.72	−22.37	−25.01	−14.13	−0.55	25.01	153.08	13.46
2010	−13.66	−27.55	−22.80	−31.31	−14.14	−0.61	31.31	155.47	13.39
2011	−13.67	−25.80	−20.75	−25.73	−13.61	−0.57	25.73	156.50	12.77
2012	−14.51	−23.83	−18.72	−26.43	−13.52	−0.58	26.43	157.26	12.58
2013	−14.60	−25.24	−15.85	−39.67	−13.97	−0.60	39.67	158.36	12.96
2014	−14.43	−26.52	−16.45	−20.24	−14.44	−0.58	20.24	163.65	13.18
2015	−15.24	−28.10	−19.26	−14.43	−15.03	−0.64	14.43	165.32	13.61
2016	−15.32	−27.41	−19.72	−40.16	−14.81	−0.63	40.16	167.94	13.31
2017	−13.87	−28.35	−20.35	−24.68	−14.12	−0.58	24.68	174.11	12.49
Sweden									
2006	−17.91	−16.41	−18.64	−9.32	−13.59	−0.65	9.32	100.36	15.47
2007	−16.40	−21.91	−17.12	−33.87	−14.35	−0.80	33.87	110.20	16.60
2008	−13.54	−21.94	−16.28	−18.68	−13.14	−0.77	18.68	111.71	15.12
2009	−13.58	−19.87	−19.39	−18.49	−13.78	−0.75	18.49	119.79	15.23
2010	−13.88	−22.51	−17.23	−26.93	−13.41	−0.78	26.93	119.08	16.46
2011	−13.34	−22.05	−13.92	−17.92	−12.50	−0.69	17.92	124.61	14.97
2012	−13.13	−23.93	−16.19	−10.46	−12.68	−0.71	10.46	127.03	14.76

Country and period	Changes in monetary poverty and income inequality ($t = 1 - t = 2$)						Social transfers		
							relative income	targeting	share
	$H^{mp} \cdot 100$	$I^{mp} \cdot 100$	$W^{mp} \cdot 100$	$I \cdot 100$	$Z \cdot 100$	S80/20	RICTT · 100	TAEI · 100	SSTI · 100
2013	−14.08	−22.83	−16.15	−9.63	−12.37	−0.81	9.63	123.36	15.42
2014	−13.40	−24.33	−14.29	−12.04	−12.62	−0.67	12.04	135.71	15.01
2015	−13.56	−22.19	−13.08	−9.72	−12.19	−0.71	9.72	131.96	14.66
2016	−13.56	−21.72	−13.72	−11.42	−11.85	−0.67	11.42	142.30	14.09
2017	−12.41	−24.17	−14.32	−24.30	−12.39	−0.63	24.30	157.34	13.71
United Kingdom									
2006	−11.58	−27.56	−7.74	−10.27	−10.38	−0.86	10.27	160.52	9.57
2007	−11.22	−24.99	−9.34	−19.52	−9.89	−0.81	19.52	160.17	9.17
2008	−12.12	−24.87	−11.42	−30.96	−11.99	−1.15	30.96	145.68	10.99
2009	−12.74	−25.59	−11.27	−12.45	−12.04	−1.23	12.45	129.64	10.95
2010	−13.43	−22.98	−11.29	−24.56	−11.73	−1.22	24.56	121.65	10.68
2011	−13.16	−27.37	−12.91	−26.21	−12.69	−1.15	26.21	134.28	11.54
2012	−12.99	−28.80	−13.23	−24.15	−13.67	−1.25	24.15	136.44	11.33
2013	−12.53	−26.19	−11.23	−22.58	−11.86	−1.03	22.58	141.06	10.36
2014	−12.66	−25.91	−10.79	−21.62	−11.75	−1.04	21.62	139.44	10.25
2015	−12.42	−22.21	−9.79	−18.58	−11.17	−0.94	18.58	139.30	9.91
2016	−12.27	−23.17	−11.59	−20.32	−10.62	−0.94	20.32	146.11	9.73
2017	−10.34	−20.12	−11.07	−16.39	−9.13	−0.99	16.39	134.71	8.90

Source: Authors' calculations based on data from Eurostat, EU Statistics on Income and Living Conditions (2007–2018). The responsibility for all conclusions drawn from the data lies entirely with the authors.

Table 8. Abbreviation of the EU-27 member states

Country	Abbreviation
EU (27 countries)	EU-27
Belgium	BE
Bulgaria	BG
Czechia	CZ
Denmark	DK
Germany	DE
Estonia	EE
Ireland	IE
Greece	EL
Spain	ES
France	FR
Italy	IT
Cyprus	CY
Latvia	LV
Lithuania	LT
Luxembourg	LU
Hungary	HU
Malta	MT

Country	Abbreviation
Netherlands	NL
Austria	AT
Poland	PL
Portugal	PT
Romania	RO
Slovenia	SI
Slovakia	SK
Finland	FI
Sweden	SE
United Kingdom	UK