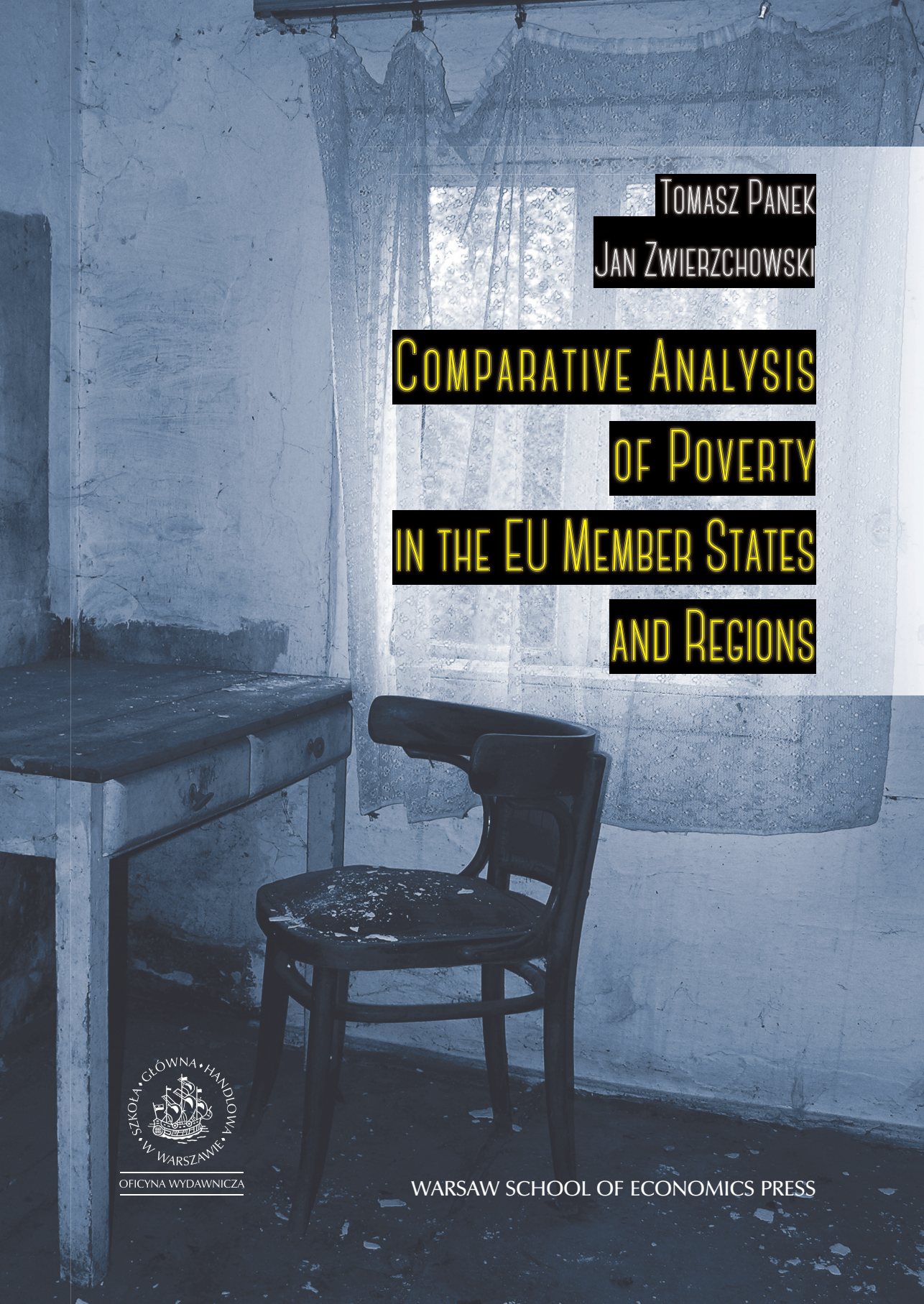

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1. Introduction

Combating poverty and social exclusion is one of the main targets of social policy conducted by the EU and its Member States (Maastricht Treaty). Reduction of poverty and social exclusion along with sustainable economic growth and increasing employment are considered as main areas of interest of European Commission and are fundamental parts of the Lisbon Strategy. Likewise, in a revised version of the Lisbon Strategy the social inclusion is still considered as a strategic area for the EU. In 2010 the Council of Europe enacted five major goals of the Europe 2020 Strategy. One of the five goals is to promote social inclusion, in particular, by reducing poverty by lifting at least 20 million individuals out of the poverty by 2020 (Copeland and Daly, 2012).

Coordination of the process of social integration within the EU and combating social exclusion and poverty have been conducted from 2000 onward with the so-called Open Method of Coordination (OMC). This method assumes that EU Member States should have substantial autonomy when choosing means used to address poverty and social exclusion and priorities of their social policy. At the same time, EU Member States share their experience on coordinating the process of social integration, which includes combating poverty and social exclusion and monitoring effectiveness of social policies. Thanks to a decentralized nature of the OMC, it can be successfully conducted in all EU Member States, despite large disparities in the level of economic development or cultural and social differences (M. Buchs, 2007; Frazer et al., 2010).

In spite of leaving large autonomy in the ways of combating poverty and social exclusion to EU Member States, the European Commission stresses the necessity of obtaining internationally comparable results of the undertaken social policies in this area in each country. 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). The list is constantly modified and complemented[1]. It contains both indicators based on households' incomes (monetary indicators) and indicators based on non-monetary symptoms of poverty (non-monetary indicators). At the same

[1] This list is developed by the Indicators Sub-Group of the Social Protection Committee (SPC). An updated list of indicators adopted in September 2009 by the SPC is on the Commission's website: http://ec.europa.eu/social/main.jsp? catId=756&langId=en.

time the European Commission decided to launch a new survey aimed at measuring incomes and living conditions in the EU Member States (EU Statistics on Income and Living Conditions – EU-SILC). The EU-SILC was meant to be coordinated by the Eurostat and provide internationally comparable results (Wolff, Montaigne and Gonzáles, 2010). The EU-SILC is used to calculate basic indicators of poverty and social exclusion. These results are used to monitor the process of social inclusion in the EU and to perform international comparative analysis of poverty and social exclusion for the EU Member States. The scope and methods of this analysis are constantly modified, resulting in better tools tailored to measure the phenomena of poverty and social exclusion.

Goals formulated in the EU and national social policies distinctly indicate the need of analyzing poverty at regional and local levels. Regional differences and marginalization of certain EU regions have recently become one of the main areas of interest of the EU integration policies. Constant monitoring of poverty at a regional level is needed in order to adequately allocate EU funds aimed at combating poverty and social exclusion and assess the effectiveness of their spending.

In this paper a modification of the EU recommended approach to measuring poverty is presented. The proposed approach guarantees obtaining results which are comparable between countries and their regions. Within the approach a new method of measuring the risk of poverty is proposed. In the empirical part of the paper a comparative analysis of EU countries and regions is conducted, where the incidence, depth, intensity and severity of poverty are assessed for 2010. The empirical analysis conducted in the paper enables one to point out the regions and countries which should be granted with monetary transfers in order to obtain one of the Europe 2020 Strategy goals, that is to lift 20 million of the most severely impoverished from poverty. The monetary cost of these transfers was estimated.

For the purpose of analysis of different aspects of poverty both the unidimensional and multidimensional approach to poverty were adopted. The unidimensional approach is based only on monetary indicators, while the multidimensional approach takes into account also non-monetary indicators of poverty (material deprivation). Moreover, the analysis of co-incidence of monetary poverty and material deprivation was conducted, as the accumulation of the two aspects of impoverishment leads to a significant deterioration of living conditions. In conducted comparative analyses particular attention was given to the influence of changing the assumptions on the obtained results, with a particular mention for Poland and its regions.

1.1. Nomenclature of Statistical Territorial Units in the EU

National administrative structures of EU Member States are strongly heterogeneous as a result of different political systems, tradition and historical background. The regional aspect of structural policy of the EU and its financial tools demand gathering coherent and comparative statistical data by its Member States on the regional level. In order to achieve this, in the early 1970s Eurostat introduced the NUTS (Nomenclature of Statistical Territorial Units) classification as a single, coherent system for dividing up the EU territory for statistical purposes.

The NUTS classification is a hierarchical system. Each member state has its NUTS 0 level number assigned, which reflects the administrative borders of the country. Moreover, within each country a hierarchy of three NUTS levels is established by the Eurostat. Each level corresponds to the units' population: NUTS 1 are major socio-economic regions containing between 3 and 7 million inhabitants, NUTS 2 are basic regions for the purposes of the regional policy and in general contain between 800 000 and 3 million people and NUTS 3 are small regions for specific diagnoses which comprise usually between 150 000 and 800 000 people. If the total population of a given country is lower than the NUTS level low-bottom limit, then the country will be considered to be this level. Later the two local levels (formerly known as NUTS 4 and NUTS 5) were defined within the NUTS classification whereas only the latter, equivalent of a basic unit of territorial autonomy, was determined for all member states[2].

In Poland there were 6 regions established on the NUTS 1 level, 16 voivodeships on the NUTS 2 level and 45 subregions on the NUTS 3 level. Only NUTS 2 level units correspond to the units of the Polish administrative division (voivodeships). Therefore, from this point of view, it would be most convenient to conduct a comparative analysis of EU regions at the NUTS 2 level. Unfortunately the interregional comparisons within the EU based on the results of EU-SILC study come by many practical obstacles. The EU-SILC data concerning some member states available for scientific research does not allow one to identify the region in which the studied households reside[3]. Furthermore, the countries that have available data enabling one to identify the households by region, often provide region codes on different regional levels. As a result, due to the inaccessibility of data, the interregional comparisons

[2] The NUTS classification is available at: http://www.europa.euint/corom/eurostat/ramon/nuts/splash_ regions.html.

[3] This applies to the Netherlands, Germany and Great Britain.

carried out in the study do not include all member states. In order to unify regional level of classification of territorial units in all the countries that are included in the interregional comparisons, they were performed mostly on the NUTS 1 level[4].

[4] The classification of territorial units at the regional level NUTS-1 and NUTS-2 regions, for which data are available for countries covered by the regional comparisons, is in Appendix.

2. Poverty. Dilemmas of Measurement

The very first step to measure poverty should be providing a definition of the phenomenon in question. The choice of the specific definition of poverty directly influences outcomes of the measurement (Hagenaars, 1986). Depending on the chosen definition of poverty different social groups or various regions in regional analysis may be seen as poverty-stricken. At the same time the way of defining poverty affects the allocation of EU regional policy funds as well as the way of creating social policy programs aimed at curbing poverty.

The discrepancies in the outcomes of poverty analysis and resulting concepts of social policies aimed at combating poverty are a direct consequence of a lack of a precise and widely accepted definition of the phenomenon. Moreover, the notion of poverty evolves with time and differs between geographical areas. Households seen as poor today would not be considered poverty-stricken several dozen years ago. Moreover, people considered as poor in the countries of Western Europe have repeatedly better material status then the average material status of inhabitant of India.

All definitions of poverty in the literature are focused on the inability to meet basic needs at a satisfactory level (Drewnowski, 1997). At the same time, the existing definitions of poverty are very general and as such widely accepted, as they do not explicitly state basic human needs nor the extent to which they should be met.

Until the end of 1960s the basic needs approach was a leading approach used in the poverty analysis. Ensuring their satisfaction was basically synonym with providing of survival. These basic needs comprised mainly food, clothing and shelter. Booth (1892) and Rowntree (1901) were the precursors of this approach. Poverty was seen as a situation in which incomes are lower than the ones required meeting the basic needs. This approach to measuring poverty based on monetary indicators, whose foundation was set forth by the School of Welfare Economics (Jevons, 1871; Marshall, 1920), dominated in nearly all research into this phenomenon up to 1970s. Therefore the concept of poverty based on the level of income required for the meeting of basic needs is referred to as a monetary poverty or income poverty.

Gradually, the range of basic needs covered by poverty category broadened. Along with the broadening of the basic needs scope, the viewpoint that the identification of impoverished persons exclusively on the basis of monetary categories is sufficient, began to meet with considerable criticism (Townsed and Abel-Smith, 1965). It was accompanied at the same time by moving from the concept to understand poverty as

a lack of financial resources to satisfy basic needs (basic needs approach) towards the inability to perform the functions of life, resulting not only from the lack of financial resources but also social and personal determinants that influence the conduction of valuable life (capabilities approach).

The capability approach to poverty measurement was created by Sen (1980 and 1985). In his approach Sen is focused on what people are able to do. Sen argues that the attention should be shifted from the means of living to the actual opportunities a person has, namely their functionings and capabilities (Sen, 1985). Functionings are defined as both elementary needs, such as proper nutrition or being healthy and more complex states, such as possibility to participate in the life of society or maintaining one's dignity.

Combinations of different functionings available to a person compose capabilities sets from which one can chose. The capability approach argues that both societies and individuals are strongly heterogeneous and everyone may need different levels of material resources in order to achieve the same capabilities and quality of life. The differences in the way that individuals transform resources into capabilities are called 'conversion factors'.

According to Sen, poverty should be seen as a deprivation of basic capabilities. Money is seen only as a mean to achieve requested capabilities. Thus, the poverty can be caused not only by the lack of money, but also by the inability to transform money into valuable functionings which allow a person to have a desired lifestyle. The inability to achieve preferred functionings may be caused by both the lack of material resources and other constraints, such as lack of qualifications, negative discrimination or infrastructural barriers. Moreover, Sen identifies poverty not only with the lack of access to desired goods and services but also with the lack of opportunities to participate in the decision making process and in the civic, cultural and social life.

The operational definition of poverty enacted by the EEC in 1975 can be seen as a good example of evolution in defining the phenomenon. The operational definition states that poverty affects individuals, families and groups in the population who lack the resources necessary to obtain the quality of life accepted in the societies to which they belong. (Council for the European Communities, 1975). The resources were identified with material assets only, such as monetary income, material goods or services acquired both from public and private sources. The notion of resources was later widened so that it contains now also non-material values, such as cultural and social (Council for the European Communities, 1985). As a result, poverty is often confused with social exclusion.

The social exclusion term was coined by the French secretary of State for Social Welfare R. Lenoir (1974). In the official document of European Commission it

appeared for the first time in 1990 (Commission of the European Communities, 1990).

Social exclusion is generally defined as a process in which individuals or social groups are restrained from full participation in substantial areas of social, cultural, economic and political life of the society in which they live (Silver, 1994). The dimensions of social exclusion often reinforce one another, and consequently, lead to even deeper marginalization of individuals.

The notion of social exclusion is not restricted only to the lack of material resources. It also refers to other constrains that block individuals (families, households, social groups) from living in the way which is accepted in the country in which they live. Identifying poverty with social exclusion results in examining this phenomenon in terms of the inability to access something not only for financial reasons, not limited exclusively to the availability of goods and services meeting basic needs. Category of social exclusion is therefore similar to the concept of poverty by Sen.

Despite poverty and social exclusion being often treated as synonyms, some researchers attempted to explicitly distinguish between the two categories. The most notorious work was endeavored by Abrahamson (2001, see Table 1.1).

Table 1.1. The Differences between Poverty and Social Exclusion

Dimension	Poverty	Social exclusion
Disciplinary approach	Economics	Sociology
Type of inadequacy	Lack of sufficient material resources	Denial of exercising rights
Cause	Needs frustration	Discrimination from institutions of integration
Type of social stratification	Vertical (lower vs. upper classes)	Horizontal (insiders vs. outsiders)
Possible remedy	Social transfers (guaranteed minimum income)	Social services (activation measures)
Time perspective	Static (a condition)	Dynamic (a process)

Source: Created by the authors, based on (Abrahamson, 2001).

Social exclusion should not be considered as a synonym to poverty. The inability to meet basic needs may be identified as poverty only if it is caused by the lack of adequate material resources. Moreover, social exclusion is not always caused by poverty. Thus, poverty may be regarded as a financial dimension of social exclusion.

In this paper an economic definition of poverty is used. Poverty would imply a situation where an individual (a person, a family, a household) does not have sufficient financial resources (both cash in the form of current income, income from previous periods and accumulated non-cash assets) to satisfy its basic needs on an acceptable level.

2.1. Ways of Understanding and Measuring Poverty

Defining the threshold level of fulfillment of needs, or the way of understanding poverty, is the most controversial issue associated to the poverty measurement. Poverty may be treated in either absolute or relative manner. The notion of poverty within the absolute approach is based on a concept of basic needs, explicitly defined in quantitative and value categories. Individuals (persons, families, households) are considered to be impoverished when their basic needs are not met on an acceptable level (Drewnowski, 1997). The level of fulfillment of needs is not therefore compared to level of other members of the society needs fulfillment[5]. According to the proponents of the absolute approach, the problem of poverty can be addressed by providing everybody with a guaranteed minimum income that would be higher than the absolute poverty threshold. Therefore, the poverty in absolute meaning may be completely eliminated by economy grows. However, it is worth noting that even the absolute concept of poverty is more or less relative, as defining the set of basic needs and the level of their fulfillment, which would be considered as a poverty line, is an arbitrary decision and always depends on the level of socio-economic development of the analyzed country.

Orshansky (1965), Mishan (1986) and Sen (1983) are the most prominent proponents of the absolute approach to poverty. The absolute approach was used by the World Bank (Haughton and Khandker, 2009) and UNDP (2010). In Poland absolute poverty was usually defined by a poverty line called the minimum of existence (level of income required to meet physical necessities) estimated yearly by the Institute of Labour and Social Studies and measured regularly by the Central Statistical Office (Szukiełojć-Bieńkuńska, 2008) and by the Council for Social Monitoring (Panek, 2014b).

The category of poverty in absolute approach is based on comparing individual (persons, families, households) needs fulfillment level to the same needs fulfillment level of other members of the society. Poverty is identified as an excessive level of needs fulfillment inequality among members of the society. Therefore, relative poverty may not be entirely eliminated. However, the incidence of relative poverty can be diminished by reducing inequalities in the level of needs fulfillment. The relative view of poverty is advocated by Townsend (1979), Rein (1970) and Lansley (1980). The relative approach is preferred by the European Union. In Poland it is used by the Central Statistical Office (Szukiełojć-Bieńkuńska, 2008).

[5] See Seidl (1988).

Both ways of understanding poverty have their advantages and shortcomings (Foster, 1998: Subramanian, 2004). Authors, who criticize the relative approach, point out that it does not allow setting a constant benchmark of poverty which would enable comparisons of poverty across time and space. Therefore, the relative approach hampers assessment of the efficiency of social policies aimed at combating poverty. The decrease of relative poverty does not necessarily mean that the fulfillment of needs increased. It may be a result not so much of a factual rise in needs fulfillment as a fall in the needs fulfillment level inequality in the analyzed society. On the other hand, the absolute approach is cumbersome when it comes to defining the set of basic needs, the threshold level of their fulfillment and the amount of money required to achieve that threshold. Moreover, the definition of poverty depends on the distinctive properties of the society in question. Factors such as social structure, climate, culture and level of economic development affect the perception of poverty and, thus, the estimated poverty threshold. Moreover, these factors evolve with time changing the threshold of poverty.

The measured incidence and structure of poverty are always significantly affected by the way of understanding poverty. As a good example one may cite the paper authored by Hagenaars, De Vos and Zaidi (1987). Authors estimated the incidence of poverty in the Netherlands using four distinct definitions of poverty line, three of which were based on the relative approach and one on the absolute approach. The estimated fraction of impoverished varied between 5.7% and 33.5%, depending on the utilized definition of poverty tine.

Apart from deciding between relative and absolute approach to poverty, one must define criteria of poverty. This is another difficult and controversial decision. Until the 1970s the majority of researchers used the conventional, unidimensional approach to measuring poverty, which was based exclusively on monetary indicators. According to the unidimensional approach the assessment of fulfillment of basic needs accounts exclusively on current incomes or expenditures of individuals expressed in monetary terms. However, gradually the view gained ground that identification of impoverished, focused only on monetary indicators, is incomplete and inadequate. This was not only about the fact of underestimation of income declared by persons. Much more significant was the belief that poverty is a multidimensional phenomenon and any analysis should also consider factors other than just monetary when identifying the impoverished. Furthermore, as the unidimensional approach to poverty is focused exclusively on current monetary income when assessing the financial assets of individuals, it overlooks any accumulated assets.

Many researchers have postulated the necessity of treating poverty as a multidimensional phenomenon. Townsend was one of the first researchers to single out the

imperfection inherent in identifying poverty exclusively on the basis of the current income criterion. He proposed for poverty analyses to incorporate dwelling conditions, affluence, education, as well as professional and financial resources (Abel-Smith and Townsend, 1965; Townsend, 1979). A broader look at the problem of poverty than just through the prism of income (expenditures) was also presented, among others, by 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), Alkire and Foster (2007). The authors of a report containing recommendations for the European Union on indicators of poverty and social exclusion also point to the multidimensional nature of the concept of poverty (Atkinson et al., 2002).

3. Identification of the Impoverished

3.1. Unidimensional Approach to Identifying the Impoverished

The unidimensional approach to identifying impoverished is based on a certain critical level of income or expenditure of individuals which is called poverty line. A household is treated as poor whenever its level of income or expenditure falls below the defined poverty line. Both measures of household wealth have their advantages and shortcomings.

Different approaches are adopted in the analysis of poverty conducted by international organizations. For instance the World Bank prefers estimating the absolute poverty line based on the level of consumption (Coudouel et al., 2002, Haughton and Khandker, 2009), while the European Union estimates the poverty line based on the incomes of households (European Commission, 2010). The latter approach is used in the presented analysis of poverty, as it is focused on EU Member States.

According to the unidimensional approach there are three ways of setting poverty lines – in absolute, relative or subjective way. Moreover, many countries adopt "official" governmental lines of poverty, which are arbitrary set by the authorities and used as one of criteria for being granted social benefits.

The absolute poverty line corresponds to the amount of money required to achieve by individuals (persons or households) minimal accepted level of quality of life accepted in the societies to which they belong. The cost of basic needs method is the oldest and most popular method of estimating the absolute poverty threshold (Rowntree, 1901; Orschansky, 1965). According to the method, one has to define an explicit bundle of food and nonfood goods, required to sustain basic needs of individuals on minimum accepted level. The defined bundle of goods is explicitly valued resulting in an estimated absolute poverty line. In Poland, the cost of basic needs method has been used for a long time when estimating the minimum of existence and the social minimum poverty lines. This method is also employed in other EU Member States. The biggest advantage of the method is its clarity, as it is easily understandable for everybody. The most important disadvantage of the method is the necessity to arbitrary define the bundle of basic goods and the minimal level of their consumption considered as acceptable. The composition of the bundle of

goods is usually affected by the actual level of wealth and lifestyle of a given society. Therefore, the composition of bundle of goods evolves with time. Usually, as the society becomes more affluent, the bundle expands and contains more and more of both categories and quantities of goods. That is to say, the cost of basic needs method, which is considered to lie within the absolute view on poverty, still contains an element of relative approach. However, in the dynamic analysis of poverty, necessary when assessing the efficiency of social policies aimed at combating poverty, the absolute poverty line should be changed only in response to the change of the purchasing power of household incomes.

Usually, every country adopts its own absolute poverty line, which is a function of its wealth and consumption habits. The international comparative analysis of poverty requires using a common poverty line in all analyzed countries. The World Bank utilizes a constant line of $1.25 per person per day in comparative analysis (Haughton and Khandker, 2009). Similarly, the European Commission applies an absolute poverty line equal to €10 per person per day[6], when analyzing the poverty in EU Member States (European Commission, 2008).

The relative poverty lines are defined in relation to the overall distribution of income or expenditure in the population under study. Usually, the relative poverty line is defined as a constant fraction of a median or mean income. According to this approach a household would be treated as impoverished, when its income (expenditure) is lower than a fixed fraction of median or mean of the distribution of incomes (expenditure) in a given population.

Within the method of constant fraction of median (mean) income, poverty is considered to be utterly relative. The poverty line is increased 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. That may lead to disturbing results. For instance, if the incomes of all households grow, but the equality of incomes also mounts up, the rate of incidence of poverty will increase. Some researchers even decline that the fraction of median (mean) income should be seen as a poverty line. It should be rather considered as a benchmark for measuring income inequality (Veitt-Wilson, 1996).

In spite of its shortcomings, using a fraction of median (mean) income is recommended by the Eurostat for the analysis of poverty (Atkinson et al., 2002). Eurostat proposes a level of income set at 60% of the median household equivalent income to be considered as the poverty line.

In the subjective methods of determining the poverty line one uses the assessments of household income formulated by the households themselves. (Van Praag

[6] It was adjusted to each country using indicators of purchasing power of their currencies.

et al., 1982). The two best known methods of estimating subjective poverty lines are the Leiden method (Van Praag et al., 1982) and the method of the subjective poverty line (Goedhart et al., 1997). Both methods of estimating poverty lines use self-assessments of households' incomes (Van Praag et al., 1982). The Leiden method is based on the individual's (households) perception of incomes, which corresponds to the six potential states of affluence, lined-up from the worst to the most favorable. Whereas, in order to adopt the subjective poverty line method, every individual (household) should express its perception of the lowest income required to 'make ends meet'. This question is contained by the EU-SILC survey. The perception of the required income depends first of all on the household's size and the current income of the household. Based on these three values one builds a regression model, in which the minimal income required to make ends meet is a dependent variable and the two latter values are taken as independent variables. This model forms the basis for determining the subjective poverty lines.

3.2. Multidimensional Approach to Identification of Impoverished

The multidimensional approach to poverty is focused not only on the current households income but also on the inability to fulfill certain needs, which is caused by the inadequacy in the current income as well as the past incomes and accumulated assets measured in non-monetary terms (such as durable goods, apartment etc.).

Within the multidimensional approach one can distinguish, considering many poverty dimensions at once, four distinct methods of identifying the impoverished (Alkire and Foster, 2007). In the first method, the indicators of poverty estimated for each of its dimensions are aggregated into one composite indicator. However, the information on assessment of the poverty in its various dimensions is lost in the aggregation process. Therefore, the values of aggregated index of poverty should always be analyzed through the view of the poverty indicators for each of poverty dimensions. According to the second method, known as the union approach, an individual is considered impoverished whenever he can be recognized as impoverished at least in one of the analyzed dimensions. This method may easily lead to overestimation of the incidence of poverty. The third method, called intersection approach, requires an individual to be recognized as impoverished in all analyzed dimensions in order to consider him impoverished. By contrast, this method will usually lead to underestimation of the poverty incidence. The last method combines two previous methods. It takes into account both the number of dimensions in which an individual

can be considered as impoverished and the individual degree of poverty in analyzed dimensions.

Another method of identifying impoverished is based on the theory of fuzzy sets. This method was utilized in the empirical part of this paper. Thanks to the fuzzy sets theory the dichotomous distinction between poverty-stricken and non-poor individuals can be avoided. Poverty is not defined in terms of presence or absence in the subset of poor individuals but as a matter of degree of belonging to this sub-set[7].

[7] See section 5.5.

4. Equivalence Scales

The income ensuring that the needs are satisfied at the same level does not grow proportionally to the growing number of persons in the household. For instance, ensuring the satisfaction of a four-person household needs at the same level as a one-person household does not require four times higher expenditure (income). The phenomenon of the decrease of household unit costs together with the growth in the number of household members is called economy of scale. Therefore, in order to be able to compare the level of fulfillment of needs, the income has to be adjusted so that it reflects the differences in households' size and composition. The most popular and justified way of adjusting monetary incomes is using the equivalence scales. Equivalence scales are parameters with which it is possible to measure the impact of the households' size and demographic characteristics on the level of their needs and, thus, on the differences in the amount of income (expenditure) necessary to achieve the same level of satisfying needs. The equivalence scales for a household of a given type indicate how many times its income should be diminished or increased in order to reach the same level of satisfying needs with a standard household being the reference point for comparison. Most often such a standard household, with the equivalence scale of 1, is a one-person household.

The estimation of equivalence scales can be based on a variety of their characteristics. The most important is the household's size. Other variables often used, such as age and sex of the households' members, place of living etc. enable more precise estimation of equivalence scales, which take into consideration the heterogeneity of needs of different households; however, the estimation process may become cumbersome.

The equivalence scales may be generally defined as a ratio of cost (expenditure) function of a given household to the cost function of a benchmark household (Deaton and Muellbauer, 1980)[8]:

$$m_i = \frac{C(P, u, X_i)}{C(P, u, X_{i'})}, \tag{4.1}$$

[8] Estimates of these scales depend on the level of utility at which we carry out the comparison. Thus, the equation (4.1) defines entire class of equivalence scales which 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 and Pendakur (1999).

where:

$C(\cdot)$ – neoclassical cost function,

P – vector of prices,

u – level of utility that corresponds to expenditure (income) needed for attaining required level of fulfillment of needs,

X_i, $X_{i'}$ – vectors of characteristics of the i-th and the i-th households, where the i'-th households constitutes a benchmark (usually one-person) household.

The choice of the type of equivalence scale significantly affects the outcomes of any poverty and inequality analysis (Lanjouw et al., 2009). There is no one widely accepted method of estimating equivalence scale (Deaton, 1997). We can distinguish two fundamental approaches to determining the equivalence scales, namely objective and subjective. Within the framework of the objective method of determining equivalence scales can be divided into normative and empirical.

Within the objective approach the equivalence scales are estimated without using households' self-assessment of their incomes. In normative methods the value of equivalence scales is set by the experts, whereas in empirical methods the scales are determined by the households' consumer behavior (their actual expenses) using econometric models. The subjective approach to estimating equivalence scales is focused on the self-assessment of incomes conducted by the surveyed households. All of these methods have their advantages and shortcomings.

Usually, in the comparative analysis of poverty of the EU-Member States the normative modified OECD equivalence scales are used (Barniaux et al., 1998; Panek, 2011). The modified OECD scales assign a value of 1 to the first household member, 0.5 to every additional household adult member and 0.3 to each child. The main advantage of the normative scales is their simplicity and the fact that they are easily adaptable for the purpose of international comparisons. They define the change of income necessary to satisfy household needs while increasing number of household members and changing their demographic characteristics. The drawback of this type of scales is the fact that they lack theoretical grounds.

In the more general case of the OECD scales, the parameters assigned to individuals may vary. The OECD equivalence scale may be written down as:

$$m^{OECD} = 1 + \alpha(L^A - 1) + \beta \cdot L^C, \tag{4.2}$$

where:

L^A, L^C – are a number of adults and children in a household,

α, β – are the parameters assigned to adults and children, which are arbitrally determined.

5. Measurement of Poverty

5.1. Measurement of Poverty in the EU

Since the launch of the social OMC at-risk-of-poverty rates (headcount monetary poverty ratios[9]) has been the most common EU poverty indicator. It is calculated as a fraction of individuals living in households with equivalent income lower than 60% of the national median equivalent income for each country. Moreover, in the analysis of poverty other measures are frequently used, such as:

- at-risk-of-poverty gap (income poverty gap) for the 60% threshold,
- at-risk-of-poverty rate (headcount monetary poverty ratio for 60% threshold) "anchored" at a fixed moment in time – the proportion of persons in a country whose equalized household income in a given year *t* is below threshold for the earlier year *t*-3 and then up rated for inflation,
- persistent at-risk-of-poverty rate – the proportion of persons in a country who are currently income poor and who were income poor in at least two of the preceding three years.

The first of the three listed indices measures the depth of poverty[10], whereas the two latter describe the dynamics of the phenomenon.

Application of national monetary poverty lines is fully acceptable when an analysis at national levels is performed. However, using this technique for an international comparison is incorrect, as a different reference points (poverty thresholds) are used for every country. Using this approach to international analysis in the EU leads to results, where the most poverty-stricken regions are those with the highest incidence of poverty at national level, which does not correspond to the really highest incidence of poverty at the EU level. As a result, allocation of funds aimed at combating poverty may be inadequate. In order to avoid that, it is necessary to apply in comparative analysis of poverty in the EU a common poverty threshold for all analyzed territorial units, whether the analysis is conducted at an international or interregional level. For the purpose of poverty analysis the EU-Member States should be considered as parts of one structure.

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[9] See section 5.3.
[10] See section 5.3.

In practice the EU has gone beyond a purely monetary (income) poverty measures. Another indicator of poverty named in 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 following nine symptoms of material deprivation (non-monetary poverty):

- being unable to face unexpected financial expenses,
- lack of capacity to afford for one annual week holiday away of home for all household's members,
- having arrears on mortgage, rent payments or utilities bills,
- being unable to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day,
- being unable to adequately heat the household's dwelling,
- lack of washing machine due to financial reasons,
- lack of color TV due to financial reasons,
- lack of telephone due to financial reasons,
- lack of car due to financial reasons.

A person, whose household has at least three of the listed symptoms, is considered to be materially deprived.

In 2010 the Indicators sub-group (ISG) of the EU Social Protection Committee (SPC) has proposed measures aimed at monitoring progress of social integration within the EU. Finally, in June 2010 the Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) has accepted the proposal of the SPC to adopt three measures as benchmarks for the assessment of the process of realization of the 'Europe 2020' strategy in the fields of social inclusion. These measures are:

- incidence of monetary poverty,
- incidence of material deprivation (at least 4 out of 9 listed symptoms),
- incidence of households without an employed person.

Any individual is considered impoverished if he shows **at least one** of the two first symptoms listed above. The last of the three proposed symptoms should be considered as an indicator of social exclusion in the dimension of employment and not be used in the poverty analysis.

The proposed system of indicators marks a significant step toward a comprehensive assessment of poverty as it incorporates both monetary and non-monetary (material deprivation) indicators of poverty. The EPSCO proposal indicates the necessity of taking into account both current monetary incomes and past incomes (in the form of accumulated assets) when analyzing the ability to meet one's ends. However, the proposed system does not correspond to the economic definition of poverty proposed in this paper, according to which any individual should be

considered poverty-stricken if he is **both** monetary impoverished and materially deprived. Moreover, the system proposed by EPSCO is not coherent, as the incidence of monetary poverty is measured within the relative approach to poverty, while material deprivation is measured from the absolute point of view. Furthermore, the way of definition of each indicator has significant drawbacks.

The inclusion of only one monetary indicator of poverty (incidence of poverty) leaves aside other important aspects of monetary poverty, such as its depth[11], intensity and severity (see section 5.3). Moreover, as the relative approach to estimating the monetary poverty threshold within the EU-Member States is adopted, the poverty incidence indicator becomes a measure of income inequality within the countries instead of a poverty incidence measure. What is more, adoption of different monetary poverty lines in member states (national monetary poverty lines) makes the resulting estimates of poverty incomparable between countries and regions.

Bradshaw and Mayhem (2011, pp. 6) criticize the proposed system of indicators giving an example of an analysis from 2008. According to the cited analysis the incidence of poverty in Estonia and Great Britain equaled 19%. However, the threshold of monetary poverty for the two countries differed significantly as it equaled 9770 of standard purchasing power parity units (PPS) for Estonia and 24380 PPS for Great Britain for a couple with two children. The monetary poverty threshold estimated for Romania equaled 1.71 PPS per person per day, which is less than usually applied poverty lines in the analyses of poverty for the least developed countries in the world. At the same time, in the wealthier EU Member States, many households with incomes below poverty lines answered that they do not have difficulties with meeting ends (to satisfy their basic needs at minimum acceptable level).

For the Polish society it may seem shocking and unbelievable that the estimated incidence of poverty was lower in Poland (17%) than in Great Britain (19%), especially in the light of massive emigration of people from Poland to Great Britain and higher quality of life in Great Britain than in Poland.

According to the EPSCO recommendation, the measurement of material deprivation (non-monetary poverty) incidence should be done within the absolute approach, as opposed to the measurement of the incidence of monetary poverty. The material deprivation of households is not to be compared with that of others, but with an absolute threshold. In spite of having an element of relativity, as the absolute threshold of material deprivation is set on the basis of level of actual socio-economic

[11] Within the latest list of monitoring indicators of poverty and social exclusion is the income gap ratio which measures the depth of poverty.

development, this approach ensures the comparability of results across EU Member States.

5.2. Measurement of Extreme Poverty

An interesting approach, developing the official EU approach to the measurement of poverty, was proposed by Bradshaw and Mayhew (2010 and 2011). Moreover, it is free from the EPSCO approach's major shortcomings. The authors propose to focus namely in the analysis of poverty in the EU on the extreme poverty. This approach is characterized by two basic assumptions. Firstly, any household considered impoverished should be unable to purchase a basic basket of goods, which is necessary for acquiring a minimal accepted standard of living[12]. The basket of basic goods is proposed to be common for EU Member States and to be constructed on the basis of similar minimal standard baskets of goods needed to meet ends used in the analysis of poverty in welfare EU countries, i.e. Great Britain, the Netherlands and Ireland. The monetary value of that basket is used to estimate the absolute threshold of monetary poverty (see, section 6.3). The second qualification for impoverishment of households is material deprivation characterized by certain symptoms.

This approach eliminates two major drawbacks of the EPSCO proposition. As a common threshold of monetary poverty is used for all EU Member States (which accounts for differences in purchasing power parity in countries resulting from differences between the prices of consumer goods and services in these countries), the analysis are comparable between countries and regions of EU. Moreover, the monetary poverty threshold is absolute, so that the measures of poverty estimated on the basis of that threshold are no longer de facto measures of income inequality and become what they should be, that is indicators of monetary poverty.

Bradshaw and Mayhew also propose an absolute approach to measuring material deprivation. They adopted the list of symptoms of material deprivation proposed by the EPSCO and added three additional symptoms describing conditions of living:

- household does not have an indoor flushing toilet in a dwelling for the sole use,
- household does not have a bath or a shower in a dwelling,
- household's dwelling had a leaking roof, damp walls/floors/foundation, or rot in window frames or floor.

[12] Standard minimum household budgets, and on their basis poverty lines, are determined in most EU countries. The standard minimal budget in Poland is a budget ensuring a household the existence minimum, the value of which is identified as extreme monetary poverty line.

Similarly to the EPSCO approach, any household would be considered materially deprived when it has at least four symptoms of material deprivation. However, as the list of possible symptoms is longer, the estimated incidence of material deprivation would be higher.

The most important difference in the Bradshaw and Mayhew proposition, as compared to the EPSCO approach, is defining an impoverished household as a household, which is both – monetary impoverished and materially deprived.

5.3. Measuring Supplementary Aspects of Poverty

The most popular aggregate measures of poverty are aggregate poverty indices. These indices aggregate individual measures of poverty over a given population, enabling the researcher to conduct an analysis for a given territory or a chosen class of individuals. As none of the aggregate poverty measures are universal and do not provide information on all aspects of monetary poverty, a researcher should always consider using more than a single aggregate measure in a poverty analysis.

The poverty indices concentrate on four basic poverty aspects, e.g. on its incidence depth, intensity and severity. However, both the EPSCO and Bradshaw and Mayhew propositions of poverty measurement are focused only on the incidence of poverty.

As this paper covers both the analysis of monetary poverty and non-monetary poverty (material deprivation), in order to avoid confusion, all the indices measuring monetary poverty will be explicitly called monetary poverty indices. The most popular measure of monetary poverty, recommended also by the EPSCO, is a *headcount monetary poverty ratio*, which is a share of individuals (persons, households) with incomes falling below the poverty line[13]:

$$H^{mp} = \frac{n_{mp}}{n}, \tag{5.1}$$

where:

n – number of individuals in the analyzed population,

n_{mp} – number of monetary impoverished individuals in the analyzed population.

This measure equals 0, when all individuals have incomes above the poverty line and is equal to 1 when all individuals are monetary impoverished.

[13] We recall that in the case of analysis of poverty recommended by the ESCO the surveyed entity is a person. A person is considered monetary poor if it is a member of a monetary poor household.

The headcount ratio does not inform about other aspects of poverty. In particular, it does not inform on the depth of the poverty, as it equals the same value, no matter whether the impoverished household's incomes are near the poverty line or fall deeply below the threshold. Therefore, other types of indices will be calculated in this paper, in order to assess other aspects of poverty.

The basic index measuring monetary poverty depth is the *monetary poverty gap index*[14]:

$$I^{mp} = \frac{1}{n_{mp}} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right), \tag{5.2}$$

where:

y^* – monetary poverty line,

y_i^e – equivalent income of the i-th individual.

The monetary poverty gap index is equal to the average, unweighted individual gaps of poverty in the analyzed population. This means that all individuals have the same weight. It measures the average distance between monetary poor individual's equivalent incomes and the monetary poverty line, and thus indicates how poor monetary impoverished individuals are. The index equals 0 when there are no impoverished individuals within the analyzed population and equals 1, when all individuals' incomes are equal to 0.

Another aspect of monetary poverty is its intensity. The most widely used measure of monetary poverty intensity is the *income gap index*:

$$IT^{mp} = \frac{1}{n} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right). \tag{5.3}$$

The income gap index can be transformed, so that it is a multiplication of the headcount monetary poverty ratio and the monetary poverty gap index:

$$IT^{mp} = H^{mp} \cdot I^{mp}. \tag{5.4}$$

This measure differs from the monetary poverty gap index as it describes the whole population and not only the impoverished sub-population. The sum of monetary poverty gaps is divided by the number of all individuals in the analyzed population (the poverty gap for non-impoverished individuals equals 0). The income gap index

[14] The poverty gap index is one of the indicators included in the list of indicators of poverty and social exclusion of the EU. It is defined as $I^{mp} = \frac{y^* - M(y^{emp})}{y^*}$, where $M(y_i^{emp})$ is the poor person's equivalent median income.

measures the cost of elimination of monetary poverty to the society. It equals the amount of equivalent income (measured as a percentage of the poverty line) that is needed to be transferred to each of the poor in order to eradicate monetary poverty. This measure ranges from 0 to 1. It is equal to 0, when all individuals' incomes are higher than the poverty threshold and is equal to 1 if all individuals have incomes equal to 0.

Another important aspect of poverty is its severity. The indices of monetary poverty severity are designed not only to measure the monetary poverty incidence and monetary poverty depth but also the inequality of incomes among the monetary impoverished. The basic measure of monetary poverty severity most often applied in practice is the *squared income gap index*:

$$SE^{mp} = \frac{1}{n}\sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right)^2. \tag{5.5}$$

It can be decomposed in order to point out the exact impact of three mentioned aspects of poverty on the measure's value:

$$SE^{mp} = H\left(\frac{y^* - \overline{y_i^{emp}}}{y^*} \right)^2 + \frac{S^2(y_i^{emp})}{(y^*)^2}, \tag{5.6}$$

where:

$\overline{y^{epm}}$ – mean equivalent income of the monetary impoverished,

$S^2(y_i^{epm})$ – variance of equivalent income of the monetary impoverished.

The monetary poverty severity among the monetary poor, and the value of this index, rise when the mean distance between the poverty line and impoverished households' equivalent income increase. The squared income gap index can also be interpreted as a weighted income gap index, which gives higher weights to monetary impoverished individuals with lower equivalent incomes. The weights are proportional to the distance between the household's income and the monetary poverty line.

The values of this measure range between 0 and 1. It is equal 0 if and only if all individuals have incomes higher than the poverty line. The value of the index increases together with the number of monetary poor, their income gap rise and the increase of the income inequalities between them. Its maximal value is attainable only in population in which everybody has incomes equal to zero.

All the measures of monetary poverty listed above can be adopted for the purpose of analyzing material deprivation (non-monetary poverty) and joint analysis of material deprivation and monetary poverty (see section 5.4).

We assume that the risk of material deprivation grows if the number of reported symptoms of deprivation increases[15]. 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, for each dimension of deprivation, 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 *headcount material deprivation ratio*. It is the percentage of materially deprived individuals (with four or more material deprivation symptoms according to EU recommendation[16]):

$$H^{md} = \frac{n_{md}}{n}, \tag{5.7}$$

where:

n_{md} – number of individuals materially deprived.

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

$$I^{md} = \frac{1}{n_{md}} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right), \tag{5.8}$$

where:

z_i – value of the z-th variable for the i-th individual,

z^* – material deprivation line corresponding to maximum number of material deprivation symptoms at which the individual is not to be considered as a materially deprived.

The intensity of material deprivation will be measured with the *material deprivation gap index*:

$$IT^{md} = \frac{1}{n} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right). \tag{5.9}$$

Similarly, the material deprivation severity is proposed to be measured with the *squared material deprivation gap index*:

$$SE^{md} = \frac{1}{n} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right)^2. \tag{5.10}$$

[15] In case of the EPSCO proposition k equals 9.

[16] As already mentioned, according to the EPSCO recommendation a person is materially deprived due to a given deprivation symptom if it is a member of a household that is characterized by this symptom.

5.4. Measuring of Co-incidence of Monetary Poverty and Material Deprivation

The assessment co-incidence of monetary poverty and non-monetary poverty (material deprivation) is an important aspect of multidimensional poverty analysis. The co-incidence of monetary poverty and material deprivation accounts for more severe poverty. If an individual is monetary impoverished and materially deprived it not only does not have an acceptable level of current incomes, but also does not possess accumulated assets (income from previous periods and non-cash assets). This leads to being unable to attain the level of fulfillment of basic needs on an acceptable level.

In this paper the co-incidence of monetary poverty and material deprivation will be labeled as *manifest poverty*[17]. In our opinion, the identification of the EU regions with the highest incidence of poverty should be conducted just using the notion of the manifest poverty.

A number of measures designed to assess different aspects of cumulative monetary poverty and non-monetary poverty (manifest poverty) can be defined. Measures proposed in the paper correspond to the indices defined for the purpose of measuring monetary poverty and material deprivation. First of all, the *manifest poverty headcount ratio* is a proportion of individuals which are both monetary impoverished and materially deprived and will be defined as follows:

$$H^{mfp} = \frac{\sum_{i=1}^{n_{mp}} n_i \left| x_i \in X^{md} \right.}{n}, \tag{5.11}$$

where:

X^{md} – set of materially deprived individuals,

$x_i \in X^{md}$ – the i-th individual, which belongs to the set of materially deprived individuals.

In order to measure the depth of manifest poverty we propose the *manifest poverty gap of manifestly poor index*:

[17] The adopted terminology refers to the terminology used for the assessment of co-existence of monetary and non-monetary poverty risk, see section 5.5.3.

$$I^{mfp} = \frac{1}{2n_{mp}} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right) \Big| x_i \in X^{md} + \frac{1}{2n_{md}} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right) \Big| x_i \in X^{mp}, \tag{5.12}$$

where:

X^{mp} – set of monetary impoverished individuals,

$x_i \in X^{md}$ – the i-th households, which belongs to the set of monetary impoverished individuals.

Similarly, the manifest poverty intensity will be measured with the *manifest poverty gap index*:

$$IT^{mfp} = \frac{1}{2n} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right) \Big| x_i \in X^{md} + \frac{1}{2n} \sum_{i=1}^{n_{dm}} \left(\frac{z^* - z_i}{z^*} \right) \Big| x_i \in X^{mp}. \tag{5.13}$$

For the measurement of the manifest poverty severity we propose the *squared manifest poverty gap index*:

$$SE^{mfp} = \frac{1}{2n} \sum_{i=1}^{n_{mp}} \left(\frac{y^* - y_i^e}{y^*} \right)^2 \Big| x_i \in X^{md} + \frac{1}{2n} \sum_{i=1}^{n_{md}} \left(\frac{z^* - z_i}{z^*} \right)^2 \Big| x_i \in X^{mp}. \tag{5.14}$$

5.5. Measuring the Poverty Risk

The multidimensional approach to measuring the risk of poverty is based on the fuzzy set approach introduced by Cerioli and Zani (1990) who drew inspiration from the theory of fuzzy sets initiated by Zadeh (1965), developed by Cheli and Lemmi (1995) and Dubois and Prade (1980) and further followed by a number of applications (Lemmi and Betti, 2006). This approach enables the researcher to avoid a simplifying division of population into groups of poor and non-poor defined in relation to some chosen threshold (poverty line) value. Poverty is not defined in terms of presence or absence in the subset of poor individuals but as a matter of degree of belonging to the sub-set of impoverished. Apart from poor and non-poor subpopulations one can identify a group of individuals threatened by the poverty, with a varying level of risk.

By a fuzzy subset A of a set X we understand an ordered pair $[x, \lambda_A(x)]$:

$$A = \{ x, \lambda_A(x) \}, \tag{5.15}$$

where $x \in X$, and λ_A is a function valued in the real unit interval [0,1].

The $\lambda_A(x)$ function is called a membership function (*m.f.*) of an element x to the fuzzy set A. It describes the degree to which x belongs to A. The value $\lambda_A(x) = 0$ means that an element x does not belong to the fuzzy set A. If $\lambda_A(x) = 1$ then x belongs completely to the fuzzy set A. When $0 < \lambda_A(x) < 1$ then x belongs to the set A partially. Its degree of membership of poverty set increases in proportion to the proximity of membership function to 1.

Within the conventional (unidimensional) approach to poverty the membership function can be defined as:

$$\lambda(y_i^e) = \begin{cases} 1, & \text{when} \quad y_i^e < y^*, \\ 0, & \text{when} \quad y_i^e \geq y^*. \end{cases} \tag{5.16}$$

Therefore, the fuzzy set approach can be considered as a generalization of the unidimensional approach. In the analysis of poverty within the fuzzy set approach similar statistics are used as within the unidimensional approach – the measurement of degree of poverty is focused on its incidence, depth, intensity and severity.

5.5.1. Risk of Monetary Poverty

The measure of incidence of monetary poverty risk (*Fuzzy Monetary Incidence* – FMI), which corresponds to the headcount monetary poverty ratio (5.1), is defined as an aggregation of values of individual membership functions over the analyzed population (Betti et al., 2005):

$$FMI = \frac{\sum_{i=1}^{n} \lambda_i(y^e) w_i}{\sum_{i=1}^{n} w_i}, \tag{5.17}$$

where:

$\lambda_i(y^e)$ – membership function describing the level of belonging of the i-th individual to the set of monetary impoverished,

w_i – weight of the i-th individual.

The membership function in (5.17) is defined as follows (Betti et al., 2005):

$$\lambda_i(y^e) = (1 - F_i^{MI})^{\alpha - 1}(1 - L_i^{MI}), \qquad i = 1,2,...,n, \tag{5.18}$$

where:

$$\lambda_i(y^e) = (1 - F_i^{MI})^{\alpha} = \left(\frac{\sum_{\gamma=i+1}^{n} w_\gamma}{\sum_{\gamma=1}^{n} w_\gamma} \right)^{\alpha}, \qquad i = 1,2,...,n, \tag{5.19}$$

and

$$\lambda_i(y^e) = (1 - L_i^{MI})^{\alpha} = \left(\frac{\sum_{\gamma=i+1}^{n} w_\gamma y_\gamma^e}{\sum_{\gamma=1}^{n} w_\gamma y_\gamma^e} \right)^{\alpha}, \qquad i = 1,2,...,n, \tag{5.20}$$

where:

F_i^{MI} – value of the equivalent income distribution function $F(y_i)$ for the i-th individual,

w_γ – weight of the i-th individual of rank γ (1 to n) in the ascending equivalent income distribution[18],

L_i^{MI} – value of the Lorenz curve of equivalent income $L(F(y_i)$ for the i-th individual,

y_γ^e – equivalent income of the i-th individual,

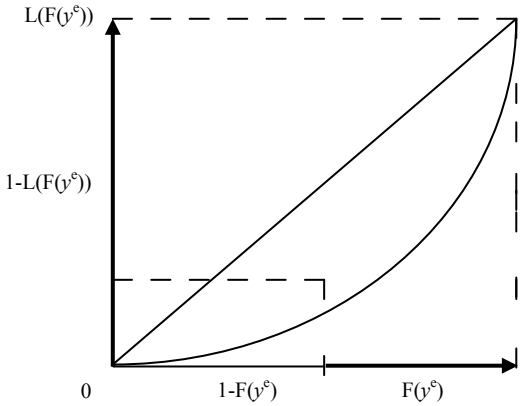
α – parameter.

The parameter α is estimated so that the value of the FMI indicator (the mean of *m.f.*) is equal to the monetary poverty head count ratio (5.1) computed for the adopted monetary poverty line. Value of the function (5.19) is the proportion of individuals who are less poor than the individual concerned (their degree of poverty risk is less marked than the concerned individual), that is a ratio of individuals with higher equivalent incomes. The membership function defined in (5.20) is the share of total equivalent income received by all individuals who are not as poor as the individual concerned. Therefore, the defined membership function is fully relative[19]. The relationship between the membership functions (5.19) and (5.20) is illustrated in the figure 5.1.

[18] When the survey covers all individuals in the population, weights of individuals are equal to 1.

[19] For measuring the degree of poverty risk it is also possible to use the quasi-relative membership functions (Panek, 2006).

Figure 5.1. Monetary Poverty Membership Functions



Source: Betti et al., 2005.

Panek expanded the approach proposed by Betti et al. (2005) by introducing other fuzzy monetary poverty indices, aimed at measuring monetary poverty depth, intensity and severity (Panek, 2010).

In order to define a fuzzy monetary depth indicator (*Fuzzy Monetary Depth* – FMD), corresponding to the monetary poverty gap index (5.2), an individual monetary poverty gap ratio for each individual is calculated:

$$v_i = \frac{y^* - y_i^e}{y^*}, \qquad i = 1,2,...n, \tag{5.21}$$

with the monetary non-poor individuals (for which $y_i^e \geq y^*$) v_i being assigned the value of zero.

In the next step, the degree of the lack of monetary poverty gap (monetary non-poverty gap score) is defined for each individual:

$$d_i = 1 - v_i, \qquad i = 1,2,...,n_{mp}. \tag{5.22}$$

The increase of d_i shows the decrease of monetary poverty gap,,that is the increase of income of the poor individual.

The FMD indicator is defined, similarly to the FMI indicator, as the linear combination of the $(1-F^{MD})$ function and the $(1-L^{MD})$ function. The $(1-F_i^{MD})$ for the i-th individual is the proportion of individuals whose monetary non-poverty gap score is higher (who are not as poor or better off) than the individual concerned within the population of impoverished:

$$\lambda_i(v) = FMD_i = (1 - F_i^{MD})^{\beta} = \left(\frac{\sum_{\gamma=i+1}^{n_{mp}} w_\gamma}{\sum_{\gamma=1}^{n_{mp}} w_\gamma} \right)^{\beta}, \qquad i = 1,2,...,n_{mp}, \tag{5.23}$$

where:

F_i^{MD} – value of the distribution function $F(d_i)$ of the monetary non-poverty gap score for the i-th individual,

w_γ – weight of the i-th individual of rank γ in ascending monetary non-poverty gap score distribution,

β – parameter.

The $(1 - L_i^{MD})$ is the share of the total monetary non-poverty gap score assigned to all individuals whose monetary non-poverty gap score is higher (who are not as poor or are better off) than the individual concerned within the population of impoverished:

$$\lambda_i(v) = FMD_i = (1 - L_i^{MD})^{\beta} = \left(\frac{\sum_{\gamma=i+1}^{n_{mp}} w_\gamma d_\gamma}{\sum_{\gamma=1}^{n_{mp}} w_\gamma d_\gamma} \right)^{\beta}, \qquad i = 1,2,...,n_{mp}, \tag{5.24}$$

where:

L_i^{MD} – value of the Lorenz curve of the monetary non-poverty gap score $L(F(d_i))$ for the i-th individual.

Finally, the membership function to the subset of monetary impoverished with regard to the monetary poverty gap, for the i-th individual, is defined as a combination of formulas (5.23) and (5.24):

$$\lambda_i(v) = FMD_i = (1 - F_i^{MD})^{\beta-1}(1 - L_i^{MD}), \qquad i = 1,2,...,n_{mp}. \tag{5.25}$$

The overall (for the population in question) *Fuzzy Monetary Depth* indicator, which corresponds to the monetary poverty gap index (5.2), is calculated as follows:

$$FMD = \frac{\sum_{i=1}^{n_{um}} \lambda_i(v) \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.26}$$

The parameter β in equation (5.25) is estimated so that the value of the FMD indicator (for the entire population) is equal to the monetary poverty gap index (5.2).

A measure aimed at assessing the intensity of poverty within the fuzzy sets approach will be defined similarly as measure of fuzzy monetary depth. The measure will be called a *Fuzzy Monetary Intensity* (FMIT) indicator, and it will correspond to the income gap index (5.3). First of all, for all individuals, an income gap should be calculated (Panek, 2010):

$$l_i = \frac{y^* - y_i^e}{y^*}, \qquad i = 1,2,...,n, \tag{5.27}$$

with the monetary non-poor individuals (for which $y_i^e \geq y^*$) l_i being assigned the value of zero.

In the next step, the degree of the lack of income gap (non-income gap score) is defined for each individual:

$$m_i = 1 - l_i, \qquad i = 1,2,...,n. \tag{5.28}$$

The increase in m_i signals the decrease in the income gap, meaning the increase of income of poor individual.

The FMIT measure is constructed similarly as the FMD. The FMIT is a combination of the two membership functions measuring the income gap risk to the individuals – $(1 - F_i^{MIT})$ and $(1 - L_i^{MIT})$. The $(1 - F_i^{MIT})$ function for the i-th individual is the proportion of individuals whose non-income gap score is higher (who are not as poor or better off) than the individual concerned within the whole population. Similarly, the $(1 - L_i^{MIT})$ function is the share of the total non-income gap score assigned to all individuals whose non-income gap score is higher (who are not as poor or are better off) than the individual concerned within the whole population. The combination of the two functions defines the membership function to the subset of impoverished with respect to the income gap:

$$\lambda_i(l) = (1 - F_i^{MIT})^{\eta - 1}(1 - L_i^{MIT}), \qquad i = 1,2,...,n. \tag{5.29}$$

The aggregation of the membership functions for the whole population is defined by the FMIT measure:

$$FMIT = \frac{\sum_{i=1}^{n} \lambda_i(l) w_i}{\sum_{i=1}^{n} w_i}. \tag{5.30}$$

The parameter η in (5.29) is estimated, so that the value of FMIT is equal to the income gap index given by (5.3).

The fuzzy monetary severity measure (*Fuzzy Monetary Severity* – FMS) is defined in a similar way as other fuzzy monetary measures. In the first step, a squared income gap is calculated for every individual:

$$a_i^2 = \left(\frac{y^* - y_i^e}{y^*} \right)^2, \qquad i = 1,2,...,n, \tag{5.31}$$

with the monetary non-poor individuals (for which $y_i^e \geq y^*$) a_i^2 being assigned the value of zero.

In the next step, the degree of the lack of the squared income gap (non-squared income gap score) is defined for each individual:

$$b_i = 1 - a_i^2, \qquad i = 1,2,...,n. \tag{5.32}$$

The increase in b_i signals decrease of the squared income gap and the increase of income of a given individual.

The membership function to the subset of impoverished with regard to the squared income gap for the i-th individual is constructed similarly as for the FMI index. It is defined as a combination of two functions. The first one $(1 - F_i^{MS})$ is based on the linear transformation of the distribution function of the given lack of squares income gap by (5.30), while the second $(1 - L_i^{MS})$ on the linear transformation of the Lorentz function of the distribution of the lack of squared income gap. The interpretation of the two functions is similar as for the FMIT. The combination of the two functions defines the membership function to the subset of impoverished with respect to the squared income gap:

$$\lambda_i(a^2) = (1 - F_i^{MS})^{\delta - 1}(1 - L_i^{MS}), \qquad i = 1,2,...,n. \tag{5.33}$$

The aggregation of the values of membership functions over the whole population defines the *Fuzzy Monetary Severity* (FMS) index:

$$FMS = \frac{\sum_{i=1}^{n} \lambda_i(a^2) w_i}{\sum_{i=1}^{n} w_i}. \tag{5.34}$$

The value of parameter δ in (5.33) is estimated so that the value of FMS equals the squared income gap index as given by (5.5).

5.5.2. Risk of Material Deprivation

In addition to the monetary (current income) variable, poverty in the multidimensional approach is also explained by non-monetary variables which represent accumulated assets (income from previous periods and non-cash assets). The starting point for including non-monetary variables in poverty analysis is the selection of variables that may be treated as material deprivation symptoms and grouping them into deprivation dimensions (Whelan et al., 2001). An alternative approach may be defining the dimensions of material deprivation in the first step and then choosing the appropriate material deprivation symptoms for each dimension. Material deprivation symptoms may take the form of dichotomous[20]or polychotomous variables[21]. The next step is to assign numerical values to each deprivation symptom ordered categories. Then it is necessary to weight the deprivation symptoms scores in order to construct composite indicators and to scale the measures. Since in the EU-SILC survey there has been data on material deprivation symptoms measured on dichotomous scale, the modified method of calculation of material deprivation indices proposed by Panek (2010) was employed.

The incidence of risk of material deprivation is measured in a similar way as the incidence of risk of monetary poverty. The index (FSI), which measures the incidence of risk of material deprivation, is defined similarly to the FMI (see (5.17)). We assume that the incidence of risk of material deprivation within a given dimension grows as the number of symptoms defined for that dimension increases. For each dimension of material deprivation we define a variable which assumes values equal the number of material deprivation symptoms within that dimension ($z_h = 0,1,...,k_h$). Then numerical values (ranks) are assigned to this variable ($c_h = 1,2,...,(k+1)_h$) after

[20] The absence of certain goods or facilities due to financial reasons for example a car or warm running water.

[21] For example, home mortgage loan defaults (from the absence of default, to default by one month to default of more than six months).

arranging the values of this variable from the most materially deprived ($c_h = 1$) to the least materially deprived ($c_h = k + 1$) situation. After that, the function c_h is normalized, so that it is valued in the real unit interval [0,1]. The normalization is done determining a non-material deprivation score (lack of material deprivation score) using the following formula:

$$e_{h,i} = 1 - \frac{1 - F(c_{h,i})}{1 - F(1)}, \qquad h = 1,2,...,m; \; i = 1,2,...,n, \tag{5.35}$$

where:

$c_{h,i}$ – rank of the z_h-th variable which describes the incidence of material deprivation in the h-th dimension for the i-th individual,

$F(c_{h,i})$ – value of the cumulative distribution function of the ranks c_h for the i-th individual,

$F(1)$ – value of the cumulative distribution function of the ranks c_h that equals 1 for the h-th dimension and the i-th individual (value of the function that indicates the highest material deprivation in the h-th dimension).

The non-material deprivation score given by (5.35) assesses the lack of risk of material deprivation for each of the defined dimensions. Since the variables are dichotomies ones the non-material deprivation scores are equal to 0 for the most materially deprived and equal to 1 for the least deprived. In the next step the non-material deprivation scores are aggregated over all defined dimensions for every individual:

$$e_i = \frac{\sum_{h=1}^{m} e_{h,i}}{m}, \qquad i = 1,2,...,n. \tag{5.36}$$

Having computed the composite indicator assessing the lack of material deprivation risk we may define the membership function of individuals, to the set of threatened by material deprivation. The membership function is a combination of two functions, similar to the membership function defined for the purpose of estimating the FMI:

$$\lambda_i(c) = (1 - F_i^{SI})^{\alpha' - 1}(1 - L_i^{SI}), \qquad i = 1,2,...,n. \tag{5.37}$$

where:

$$\lambda_i(c) = (1 - F_i^{SI})^{\alpha'} = \left(\frac{\sum_{\gamma=i+1}^{n} w_\gamma}{\sum_{\gamma=1}^{n} w_\gamma} \right)^{\alpha'}, \; i = 1,2,...,n, \tag{5.38}$$

and:

$$\lambda_i(c) = (1 - L_i^{SI})^{\alpha'} = \left(\frac{\sum_{\gamma=i+1}^{n} w_\gamma e_\gamma}{\sum_{\gamma=1}^{n} w_\gamma e_\gamma} \right)^{\alpha'}, \qquad i = 1,2,...,n, \tag{5.39}$$

where:

F_i^{SI} – value of the distribution function of the lack of material deprivation score $F(e_i)$ for the i-th individual,

L_i^{SI} – value of the Lorentz curve of the lack of material deprivation score $L(F(e_i))$ for the i-th individual,

w_γ – weight for the i-th individual with rank γ in ascending lack of material deprivation distribution score,

α' – parameter.

Value of the function for the i-th individual given by (5.36), is the proportion of the individuals who are less materially deprived than the individual concerned (their degree of material deprivation is lower than for individual concerned). The value of the second function given by (5.37) is the share of the total lack of material deprivation score assigned to all individuals less materially deprived than the individual concerned (their material deprivation is lower than for individual concerned).

The *Fuzzy Supplementary Incidence* index is defined as an aggregation of the membership functions given by (5.37) over the whole analyzed population:

$$FSI = \frac{\sum_{i=1}^{n} \lambda_i(c) \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.40}$$

The value of the parameter α' in (5.37) is estimated so that the final value of the FSI (for the mean of *m.f.*) is equal to the material deprivation head count ratio (5.7). The estimated value of the parameter α' is used to assess the risk of material deprivation incidence for the defined dimensions of material deprivation for every individual:

$$\lambda_i(c_h) = F_{h,i}^{SI} = (1 - F_{h,i}^{SI})^{\alpha^{'}-1}(1 - L_{h,i}^{SI}), \qquad h = 1,2,...,m;\ i = 1,2,...,n. \tag{5.41}$$

By aggregating the values of function given in (5.41) over the entire analyzed population we may define a *Fuzzy Supplementary Incidence* indices for each of the defined dimensions:

$$FSI_h = \frac{\sum_{i=1}^{n} \lambda_i(c_h) \cdot w_i}{\sum_{i=1}^{n} w_i}, \qquad h = 1,2,...,m. \tag{5.42}$$

A fuzzy measure of the material deprivation depth – *Fuzzy Supplementary Depth* (FSD) – will be defined in a similar step method as a fuzzy measure of the material deprivation incidence. The starting point for calculating the FSD indicator is the same set of material deprivation symptoms as it was established for the FSI indicator.

We assume that any individual is materially deprived within a given dimension of material deprivation if he shows at least one material deprivation symptom assigned to that dimension. Then the indicator of material deprivation gap for every materially deprived individual and dimension is defined as:

$$x_{h,i} = \frac{(c_h = (k+1)_h - 1) - (c_{h,i} - 1)}{c_h = (k+1)_h - 1}, \qquad h = 1,2,...,m;\ i = 1,2,...,n_{md}, \tag{5.43}$$

where:

$c_h = (k+1)_h$ – minimal rank assigned to the value of h-th variable, for which material deprivation in the h-th dimension is not found.

Next, we define for every materially deprived individual a variable measuring of a lack of material deprivation gap for each of the defined dimensions of material deprivation, using a following formula:

$$s_{h,i} = 1 - x_{h,i}, \qquad h = 1,2,...,m;\ i = ,2,...,n_{md}. \tag{5.44}$$

The increase in value of a measure given by (5.44) indicates an improvement of material situation of a given individual. Next, we determine the non-material deprivation gap score (lack of material deprivation gap score) for materially deprived individuals (assessment of the degree of material deprivation gap for materially deprived) for each material deprivation dimension:

$$g_{h,i} = 1 - \frac{1 - F(s_{h,i})}{1 - F(1)}, \qquad h = 1,2,...,m;\ i = 1,2,...,n_{md}, \tag{5.45}$$

where:

$s_{h,i}$ – value of the lack of material deprivation gap score for the h-th dimension and the i-th materially deprived individual,

$F(s_{h,i})$ – value of the cumulative distribution function of the lack of material deprivation gap sore, regarding the h-th deprivation dimension, for the i-th materially deprived individual,

$F(1)$ – value of the cumulative distribution function of the lack of material deprivation score that equals 1 for the h-th dimension and the i-th materially deprived individual (value of the function that indicates the highest material deprivation gap for materially deprived in the h-th dimension).

The non-material deprivation gap scores of the deprived individuals (5.45) will be aggregated over the defined dimensions in order to obtain the overall individual lack of material deprivation gap score for every materially deprived:

$$g_i = \frac{\sum_{h=1}^{m} g_{h,i}}{m}, \qquad i = 1,2,...,n_{md}. \tag{5.46}$$

Next, we can define a membership function to the set of materially deprived with respect to material deprivation gap for every materially deprived individual:

$$\lambda_i(x) = (1 - F_i^{SD})^{\beta'-1}(1 - L_i^{SD}), \qquad i = 1,2,...,n_{md}, \tag{5.47}$$

where:

$$\lambda_i(x) = (1 - F_i^{SD})^{\beta'} = \left(\frac{\sum_{\gamma=i+1}^{n_{md}} w_\gamma}{\sum_{\gamma=1}^{n_{md}} w_\gamma} \right)^{\beta'}, \qquad i = 1,2,...,n_{md}, \tag{5.48}$$

and:

$$\lambda_i(x) = (1 - L_i^{SD})^{\beta'} = \left(\frac{\sum_{\gamma=i+1}^{n_{md}} w_\gamma g_\gamma}{\sum_{\gamma=1}^{n_{md}} w_\gamma g_\gamma} \right)^{\beta'}, \qquad i = 1,2,...,n_{md}, \tag{5.49}$$

where:

F_i^{SD} – value of the distribution function of the lack of material deprivation gap score ($F(g_i)$) given in (5.45) for the i-th materially deprived individual,

L_i^{SD} – value of the Lorentz curve of the lack of material deprivation gap score ($L(F(g_i))$ for the i-th materially deprived individual.

The value of F_i^{SD} for the i-th materially deprived individual is a proportion of materially deprived individuals who have a higher lack of material deprivation gap score (who are less materially deprived) than the individual concerned. The value of L_i^{SD}, for the i-th materially deprived individual, is the share of the total lack of material deprivation gap score assigned to all materially deprived individuals with higher lack of material deprivation gap score than the materially deprived individuals concerned.

By aggregation of values of the membership function given in (5.47) we define a *Fuzzy Supplementary Depth* (FSD) index, which is a measure of the risk of material deprivation gap for materially deprived:

$$FSD = \frac{\sum_{i=1}^{n_{md}} \lambda_i(x) \cdot w_i}{\sum_{i=1}^{n_{md}} w_i}. \tag{5.50}$$

The value of the parameter β' in the formula (5.47) is estimated so that the value of the FSD is equal to the value of the material deprivation depth index given in (5.8). The estimated value of β' may then be used to calculate values of individual membership functions of all materially deprived individuals to the set of materially deprived with regard to material deprivation gap in all defined dimensions:

$$\lambda_i(x_h) = (1 - F_{h,i}^{SD})^{\beta'-1}(1 - L_{h,i}^{SD}), \qquad h = 1,2,...,m;\ i = 1,2,...,n. \tag{5.51}$$

The formula given in (5.51) is aggregated over the entire analyzed population resulting in *Fuzzy Supplementary Depth* indices for each of the defined dimensions of material deprivation:

$$FSD_h = \frac{\sum_{i=1}^{n_{md}} \lambda_i(x) \cdot w_i}{\sum_{i=1}^{n_{md}} w_i}, \qquad h = 1,2,...,m. \tag{5.52}$$

A fuzzy measure of the material deprivation intensity – *Fuzzy Supplementary Intensity* (FSIT) – will be defined in the same way as the FSI and FSD using the same set of material deprivation symptoms.

The indicator of material deprivation gap for every individual and dimension is defined as:

$$f_{h,i} = \frac{(c_h = (k+1)_h - 1) - (c_{h,i} - 1)}{c_h = (k+1)_h - 1}, \qquad h = 1,2,...,m;\ i = 1,2,...,n, \tag{5.53}$$

with individuals who are not materially deprived being assigned the value of 0.

Next, we define a variable measuring a lack of material deprivation gap for each of the defined dimensions of material deprivation using a following formula:

$$u_{h,i} = 1 - f_{h,i}, \qquad h = 1,2,...,m;\ i = 1,2,...,n, \tag{5.54}$$

In the next few steps, similarly as for the purpose of defining the FSD (5.45–5.49) we assess the degree of risk of material deprivation with regard to material deprivation gap and define a membership function with regard to material deprivation gap as:

$$\lambda_i(f) = (1 - F_i^{SIT})^{\eta'-1}(1 - L_i^{SIT}), \qquad i = 1,2,...,n. \tag{5.55}$$

where:

F_i^{SIT} – value of a distribution function of the lack of material deprivation gap score in all dimensions for the *i*-th individual,

L_i^{SIT} – value of the Lorentz curve of the lack of material deprivation gap score in all dimensions for the *i*-th individual.

By aggregation of values of the membership function given in (5.49) we define a *Fuzzy Supplementary Intensity* (FSIT) index, which is a measure of the material deprivation intensity:

$$FSIT = \frac{\sum_{i=1}^{n} \lambda_i(f) \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.56}$$

The value of the parameter η' in the formula (5.55) is estimated so that the value of the FSIT is equal to the value of the material deprivation gap index given in (5.9). The estimated value of η' is used to calculate values of individual membership

functions of all individuals with regard to material deprivation gap for every defined dimension:

$$\lambda_i(f_h) = (1 - F_{h,i}^{SIT})^{\eta'-1}(1 - L_{h,i}^{SIT}) \ , \qquad h = 1,2,...,m; \ i = 1,2,...,n. \tag{5.57}$$

The formula given in (5.57) is aggregated over the entire analyzed population resulting in *Fuzzy Supplementary Intensity* indices for each of the defined dimensions of material deprivation:

$$FSIT_h = \frac{\sum_{i=1}^{n} \lambda_i(f_h) \cdot w_i}{\sum_{i=1}^{n} w_i}, \qquad h = 1,2,...,m. \tag{5.58}$$

A fuzzy measure of the material deprivation severity – *Fuzzy Supplementary Severity* (FSS) will be defined similarly to the two last indices. The indicator of squared material deprivation gap for every individual and dimension is defined as:

$$f_{h,i}^2 = \left[\frac{\left(c_h = (k+1)_h - 1\right) - \left(c_{h,i} - 1\right)}{c_h = (k+1)_h - 1} \right]^2, \qquad h = 1,2,...,m; \ i = 1,2,...,n, \tag{5.59}$$

with individuals who are not materially deprived gap equals 0 being assigned the value of 0.

Next, we define a variable measuring a lack of squared material deprivation gap for each of the defined dimensions of material deprivation as follows:

$$\tau_{n,i} = 1 - f_{h,i}^2 . \tag{5.60}$$

In the next few steps, similarly as for the purpose of defining the FSD (5.45–5.49) we assess the degree of risk of material deprivation with regard to squared material deprivation gap and define an appropriate membership function with regard to squared material deprivation gap:

$$\lambda_i(f^2) = (1 - F_i^{SS})^{\sigma'-1}(1 - L_i^{SS}) , \qquad i = 1,2,...,n. \tag{5.61}$$

where:

F_i^{SS} – value of a distribution function of the lack of material deprivation squared gap score in all dimensions for the i-th individual,

L_i^{SS} – value of a Lorentz curve of the lack of material deprivation squared gap score in all dimensions for the *i*-th individual.

Next, by aggregation of values of the membership function given in (5.61), we define a *Fuzzy Supplementary Severity* (FSS) index, which is a measure of the material deprivation severity:

$$FSS = \frac{\sum_{i=1}^{n} \lambda_i(f^2) \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.62}$$

The value of the parameter δ' in the formula (5.62) is estimated so that the value of the FSS is equal to the value of the squared material deprivation gap index given in (5.10). The estimated value of δ' may then be used to calculate values of individual membership functions of all individuals with regard to squared material deprivation gap in all defined dimensions:

$$\lambda_i(f_h^2) = (1 - F_{h,i}^{SS})^{\delta'-1}(1 - L_{h,i}^{SS}), \qquad h = 1,2,...,m;\ i = 1,2,...,n. \tag{5.63}$$

The formula given in (5.63) is aggregated over the entire analyzed population resulting in *Fuzzy Supplementary Intensity* indices for each of the defined dimensions of material deprivation:

$$FSS_h = \frac{\sum_{i=1}^{n} \lambda_i(f_h^2) \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.64}$$

5.5.3. Co-incidence of Risks of Monetary Poverty and Material Deprivation

In order to jointly analyze the degree of risk of monetary poverty and material deprivation the two types of risk of poverty were defined. (Betti and Verma, 2004). The risk of poverty is more intense when it jointly applies to monetary poverty and material deprivation. Such a risk of poverty is defined as *manifest poverty risk*. The degree of manifest poverty risk incidence for the*i*-th individual is defined as

minimal value of two membership functions – a membership function to the set of monetary impoverished (5.18) and the membership function to the set of materially deprived (5.37):

$$m_i^I = \min(\lambda_i(y_i^e), \lambda_i(c)), \quad i = 1,2,...,n. \tag{5.65}$$

The degree of manifest poverty risk depth is defined similarly, as the minimal value of functions given in (5.23) and (5.47):

$$m_i^D = \min(\lambda_i(n), \lambda_i(x)), \quad i = 1,2,...,n. \tag{5.66}$$

The degree of manifest poverty risk intensity is defined as the minimal value of functions given in (5.29) and (5.57):

$$m^{IT} = \min(\lambda_i(l), \lambda_i(f)), \quad i = 1,2,...,n. \tag{5.67}$$

The degree of manifest poverty risk severity is defined as the minimal value of functions given in (5.31) and (5.59):

$$m_i^S = \min(\lambda_i(a^2), \lambda_i(f^2)), \quad i = 1,2,...,n. \tag{5.68}$$

The degree of manifest poverty risk is less intense when it applies only to one of the monetary poverty or material deprivation. It is defined than as a *latent poverty risk*. The degree of latent poverty risk incidence is defined as a maximal value of two membership functions – a membership function to the set of monetary impoverished (5.18) and the membership function to the set of materially deprived (5.37):

$$l_i^I = \max(\lambda_i(y_i^e), \lambda_i(c)), \quad i = 1,2,...,n. \tag{5.69}$$

The degree of latent poverty depth is defined similarly, as the maximal value of functions given in (5.23) and (5.47):

$$l_i^D = \max(\lambda_i(v), \lambda_i(x)), \quad i = 1,2,...,n. \tag{5.70}$$

The degree of latent poverty intensity is defined as the maximal value of functions given in (5.29) and (5.57):

$$l^{IT} = \max(\lambda_i(l), \lambda_i(f)), \qquad i = 1,2,...,n. \tag{5.71}$$

The degree of latent poverty severity is defined as the maximal value of functions given in (5.33) and (5.61):

$$l_i^S = \max(\lambda_i(a^2), \lambda_i(f^2)), \qquad i = 1,2,...,n. \tag{5.72}$$

By aggregating the formulas given in (5.65) and (5.69) we obtain the indices of manifest poverty risk and latent poverty risk for the entire analyzed population:

$$M^{IC} = \frac{\sum_{i=1}^{n} m_i^I \cdot w_i}{\sum_{i=1}^{n} w_i}, \tag{5.73}$$

and:

$$L^{IC} = \frac{\sum_{i=1}^{n} l_i^I \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.74}$$

Similarly, aggregating the formulas given in (5.66) and (5.70) we obtain the indices of depth of manifest poverty risk and depth of latent poverty risk for the entire analyzed population:

$$M^D = \frac{\sum_{i=1}^{n} m_i^D \cdot w_i}{\sum_{i=1}^{n} w_i} \tag{5.75}$$

and:

$$L^D = \frac{\sum_{i=1}^{n} l_i^D \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.76}$$

By analogy, aggregating the formulas given in (5.67) and (5.71) we obtain the indices of intensity of manifest poverty risk and intensity of latent poverty risk for the entire analyzed population:

$$M^{IT} = \frac{\sum_{i=1}^{n} m_i^{IT} \cdot w_i}{\sum_{i=1}^{n} w_i} \tag{5.77}$$

and:

$$L^{IT} = \frac{\sum_{i=1}^{n} l_i^{IT} \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.78}$$

Finally, by aggregating the formulas given in (5.68) and (5.72) we obtain the indices of severity of manifest poverty risk and severity of latent poverty for the entire analyzed population:

$$M^{S} = \frac{\sum_{i=1}^{n} m_i^{S} \cdot w_i}{\sum_{i=1}^{n} w_i} \tag{5.79}$$

and:

$$L^{S} = \frac{\sum_{i=1}^{n} l_i^{S} \cdot w_i}{\sum_{i=1}^{n} w_i}. \tag{5.80}$$

Empirical analysis show that the co-incidence of high degree of the monetary poverty risk and material deprivation risk is more often seen in the subpopulation of less affluent households (individuals) than in the subpopulation of more affluent households (individuals) (Betti et al., 2005).

6. Comparative Analysis of Poverty in the EU Member States in 2010

6.1. Data Source

The empirical analyses conducted in this paper are based on the data from the European Union Survey on Income and Living Conditions (EU-SILC) carried out in 2010. The main objective of EU-SILC is to supply EU comparable data on the income, poverty, social exclusion and living conditions of the population of the EU Members States. Although, the survey is conducted by national statistical offices, it contains core variables, on which information is collected in every EU Member State. These core variables describe:

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

The survey is based on representative random samples of households and individuals aged 16 and above, who are members of drawn households, for each EU Member State. It is an instrument aiming at collecting timely and comparable cross-sectional and longitudinal micro-data. In order to satisfy these needs EU-SILC is carried out with the use of the rotational panel method in the four-year cycle. In every country a drawn sample is divided into four sub-samples, which all have the same size and structure. Starting from the second year of the survey, one of the four sub-samples is removed from the sample and another is drawn, which have the same size and structure as all sub-samples. After three years from the beginning of the survey, each sub-sample is meant to stay in the survey for four years.

The survey results are weighted in order to represent the size and 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[22].

[22] The weights system in Poland takes into account selection probability for dwellings, survey completeness according to the place of residence class, consistency of the composition of the sample according

The sample size differs across countries as it can be equal to as low as 4 thousands households or as high as 20 thousands households. Missing data on incomes is imputed using various methods of data imputation in different countries (Atkinson and Marlier, 2010).

6.2. Basic Concepts and Definitions

6.2.1. Object of Interest

In the EU-SILC households and all households' members who were over 16 years old by December 31 of the year preceding the survey, are considered to be statistical objects of interest (CSO, 2012). 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 the presented paper an object of interest from the point of view of poverty analysis is defined as a person (not as a household). As a consequence, all measures and indicators are calculated for the population of persons. However, the identification of impoverished persons is conducted on the basis of identification of impoverished households, as all members of impoverished households are considered to be impoverished. This approach is adopted to analyze both the monetary poverty and non-monetary poverty (material deprivation). In the case of monetary poverty analysis, every person is assigned an equivalent disposable income of the household to which he belongs. It is also assumed that every member of a household is characterized by the same material deprivation symptoms as its household.

6.2.2. Household Incomes

Household income is defined as yearly household equivalent disposable income in the last calendar year preceding the survey[23]. The equivalent disposable incomes were calculated by dividing disposable household income by the OECD modified equivalence scales. The disposable income is defined as a sum of net monetary income

to age and gender with the census data and from current demographic estimates (CSO, 2012).

[23] With the exception of Great Britain (where yearly households' incomes were estimated on the basis of current monthly incomes) and Ireland (where yearly incomes are estimated as 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).

gained by all households' members[24]. The disposable income does not take into account any fringe benefits received by households' members (with exception for the use of the company car) and other non-monetary incomes. However, food produced by households living in rural areas often substantially increases their capability of meeting their basic needs. This leads to a distortion of estimates of disposable incomes of mainly farmers' households which are underestimated.

In order to guarantee a comparability of incomes for various EU countries and eliminate differences of price levels between countries, all monetary incomes expressed in national currencies were divided by Purchasing Power Parities (PPP) indicators. Thus, all monetary incomes are quoted in the Purchasing Power Standard (PPS) which is an agreed, artificial common reference currency used in the EU for international comparisons.

Table 6.1. Monetary Poverty Lines and Purchasing Power Parities for the EU Countries in 2010

Acronyms	Countries	PPPs	Relative monetary poverty lines (60% of median income)			Absolute monetary poverty lines	
			national (RMPL-N) in EUR	national (RMPL-N) in PPS	EU-27 (RMPL -EU) in EUR	GB standard minimal budget (AMPL-GB) in EUR	PL standard minimal budget (AMPL-PL) in EUR
EU	European Union	1, 000	8 571	8 571	8 571	7 163	2121
AT	Austria	1,080	12 366	11 446	9 260	7 738	2 291
BE	Belgium	1,123	11 662	10 383	9 627	8 045	2 382
BG	Bulgaria	0,513	1 795	3 498	4 398	3 675	1 088
CY	Cyprus	0,901	10 170	11 287	7 723	6 454	1 911
CZ	Czech Republic	0,731	4 232	5 790	6 266	5 236	1 550
DK	Denmark	1,438	15 126	10 522	12 322	10 297	3 049
EE	Estonia	0,765	3 433	4 489	6 560	5 481	1 623
FI	Finland	1,247	12 679	10 171	10 685	8 929	2 644
FR	France	1,124	12 037	10 713	9 631	8 048	2 383
GR	Greece	0,950	7 143	7 522	8 139	6 801	2 014
IE	Ireland	1,229	11 849	9 642	10 534	8 803	2 606
ES	Spain	0,978	7 799	7 975	8 382	7 005	2 074
NL	The Netherlands	1,078	12 159	11 278	9 241	7 722	2 286
LT	Lithuania	0,674	2 436	3 615	5 774	4 825	1 429
LU	Luxembourg	1,209	19 400	16 048	10 362	8 659	2 564
LV	Latvia	0,760	2 722	3 580	6 518	5 447	1 613

[24] In Poland net monetary income is reduced by property tax, inter household transfers paid and statements for the Treasury Office.

Acronyms	Countries	PPPs	Relative monetary poverty lines (60% of median income)			Absolute monetary poverty lines	
			national (RMPL-N) in EUR	national (RMPL-N) in PPS	EU-27 (RMPL -EU) in EUR	GB standard minimal budget (AMPL-GB) in EUR	PL standard minimal budget (AMPL-PL) in EUR
MT	Malta	0,784	6 253	7 979	6 717	5 613	1 662
DE	Germany	1,061	11 159	10 522	9 090	7 596	2 249
PL	Poland	0,582	2 643	4 540	4 991	4 170	1 235
PT	Portugal	0,892	5 165	5 791	7 645	6 388	1 892
RO	Romania	0,576	1 217	2 113	4 937	4 126	1 222
SE	Sweden	0,856	9 189	10 736	7 336	6 130	1 815
SI	Slovenia	0,736	6 054	8 221	6 312	5 275	1 562
SK	Slovakia	1,085	5 408	4 983	9 302	7 773	2 302
HU	Hungary	0,634	2 544	4 011	5 437	4 543	1 345
UK	Great Britain	1,002	10 213	10 190	8 590	7 179	2 126
IT	Italy	1,049	9 558	9 115	8 988	7 511	2 224

Source: Own research based on Eurostat Database and EU-SILC 2010 Survey 2010 data.

6.3. Scope and Assumptions of the Empirical Analysis

The empirical comparative analysis was conducted for the EU Member States and EU regions for 2010 in three distinct variants:

- the modified methodology proposed by the EPSCO within the realization of the Europe 2020 Strategy with regard to social integration, where impoverished are defined as individuals jointly monetary impoverished and materially deprived,
- the methodology proposed by Bradshaw and Mayhew (2010),
- the methodology proposed in this paper based on the fuzzy sets theory.

The first variant adopts national relative monetary poverty lines (RMPL-N) for all EU Member States as it is calculated by the Eurostat. The national poverty lines are computed as 60% of the national household equivalent median income quoted in PPS for each country separately (see Table 6.1). In the analysis of material deprivation indicators based on 9 symptoms of deprivation are adopted. It is worth pointing out a significant difference in national monetary poverty lines among EU Member States, even if the poverty lines are quoted in the PPS currency which takes into account differences in purchasing power parity. The highest monetary poverty lines in 2010 were observed in Luxembourg (16048 PPS), Austria (11446 PPS), Cyprus (11287 PPS) and the Netherlands (11278 PPS). At the same time the monetary poverty lines equaled

only 2113 PPS were in Romania and 3499 PPS in Bulgaria. The differences between national poverty lines quoted in euro are obviously even higher.

Moreover, within the first variant one adopts a common EU monetary poverty line instead of the national poverty lines[25] to all countries (RMPL-EU). This threshold for 2010 equaled 8571 PPS per year. Table 6.1 contains also a column with this threshold being quoted in euro, which illustrates the differences in purchasing power parity between countries. The values of the common poverty line quoted in euro show how much one must spend to purchase the same basket of goods and services living in different EU Member States.

The use of a common monetary poverty line for all EU countries provides, first of all, comparable results of analyzes of monetary poverty between EU Member States and their regions. EU Member States are treated as components of a larger structure like the EU. Conducting and monitoring of the coherent EU policy is necessary in order to combat poverty and adequately allocate financial resources to support these activities in the poorest regions of the community. Furthermore, a comparison of analysis results indicates the direction and the scale of the distortion of poverty monetary assessment among EU members while national monetary poverty was applied. It is clear, that the results obtained using the approach recommended by the EPSCO are distorted, as the incidence of monetary poverty is exaggerated among the rich EU Member States and underestimated in case of the poor countries. Indicator based on nine material deprivation symptoms recommended by the EU was used in the analysis of non-monetary poverty (material deprivation) (see section 5.1).

In the second variant of comparative analysis the two other monetary poverty lines, which have absolute nature, were used. One of them is defined by the minimum budget standard of one of the rich EU Member States, namely, on the basis of the value of a minimal standard basket of goods needed to meet ends in Great Britain (AMPL-GB). The considered basket contains only the most basic needs, including food, clothing and basic dwelling and heating costs. This line has been established at 7162,2 PPS per year for a one person household in a productive age by the English statistical office, which can be adopted as an absolute monetary poverty line for one person household. This monetary poverty line is lower than the relative monetary poverty line by more than 1400 PPS. The second absolute monetary poverty line (AMPL-PL) was adopted on the basis of the Polish minimal standard budget (minimum of existence) as estimated by the Polish Institute of Labor and Social Affairs.

[25] The EU common monetary poverty line is calculated as 60% of the median of joint household equivalent income distribution in all EU Member States. National household equivalent incomes are expressed in PPS.

The minimum of existence takes into account expenditures on food, clothes, shoes, health care and basic hygiene and children's education. The minimum of existence allows only for biological survival. The monetary poverty threshold based on the Polish minimum of existence equals 1787,2 PPS for 2010 and is lower by 6800 when compared with a relative poverty line. The two baskets of goods (Great Britain and Poland) used to define the absolute monetary poverty lines contain different goods in different quantities. However, we believe that in the context of combating extreme poverty one should focus on the lower monetary poverty line, as it marks households which are the most impoverished and should be granted social transfers in the first place. Table 6.1 contains two absolute monetary poverty lines quoted in euro, which illustrates the differences of purchasing power parity in the context of acquisition of a basket of basic goods. The analysis of material deprivation is based on 12 symptoms of material deprivation, as originally proposed by Bradshaw and Mayhew (2010).

An analysis of co-incidence of monetary poverty and material deprivation was conducted for the first two variants of poverty analysis. The analysis of monetary poverty, material deprivation and manifest poverty (co-incidence of monetary poverty and material deprivation) includes estimating incidence, depth, intensity and severity of the phenomena.

The proposed modifications not only allow to do a more comprehensive analysis of poverty, but also remove some deficiencies of the previously proposed methods of measurement. It is particularly important in the case of the method recommended by the EPSCO, which assumptions about the method of determining the monetary poverty line do not allow to conduct comparative analysis of the monetary poverty in the EU countries and their regions.

The third variant of the analysis is based on the theory of fuzzy sets. Within the fuzzy sets approach a calibration of poverty indicators is required (see section 5.5). In our analysis the parameters of the indicators were calculated so that the values of the poverty measures for the whole EU equal estimates calculated within the second variant, namely, the Bradshaw and Mayhew (2010) proposition. The analysis was conducted for monetary poverty, material deprivation and manifest poverty.

The proposed fuzzy sets approach to the poverty analysis allows for a construction of a coherent set of poverty measures, based on the same methodology for both monetary poverty and material deprivation. Moreover, the results obtained within this approach are fully comparable between EU Member States and regions.

In the performed comparative analyzes, particular attention was paid to the impact of changes in measurement assumptions on the results and exposed situation of Poland and its regions. Conducted comparative analysis allowed the identification of the poorest and most vulnerable regions of the compared countries. Only the

concentration of financial support on the poorest regions in the European Union makes it possible to achieve the basic objective of the EU 2020 strategy in the area of social integration, which is a significant reduction in poverty incidence within the EU.

6.4. Poverty in the EU Member States and Regions

Handling of various monetary and non-monetary (material deprivation) poverty lines is of course reflected in the assessments of the poverty incidence and its other characteristics (depth, intensity and severity) at both national and regional levels. The analyses focus primarily on poverty incidence by treating the other poverty characterization as complementary to basic analysis at the level of the EU member states and regions. The valuesof aggregate poverty indices evaluating all aspects of poverty on a national and regional level are in the tables in the Appendix.

6.4.1. Monetary Poverty

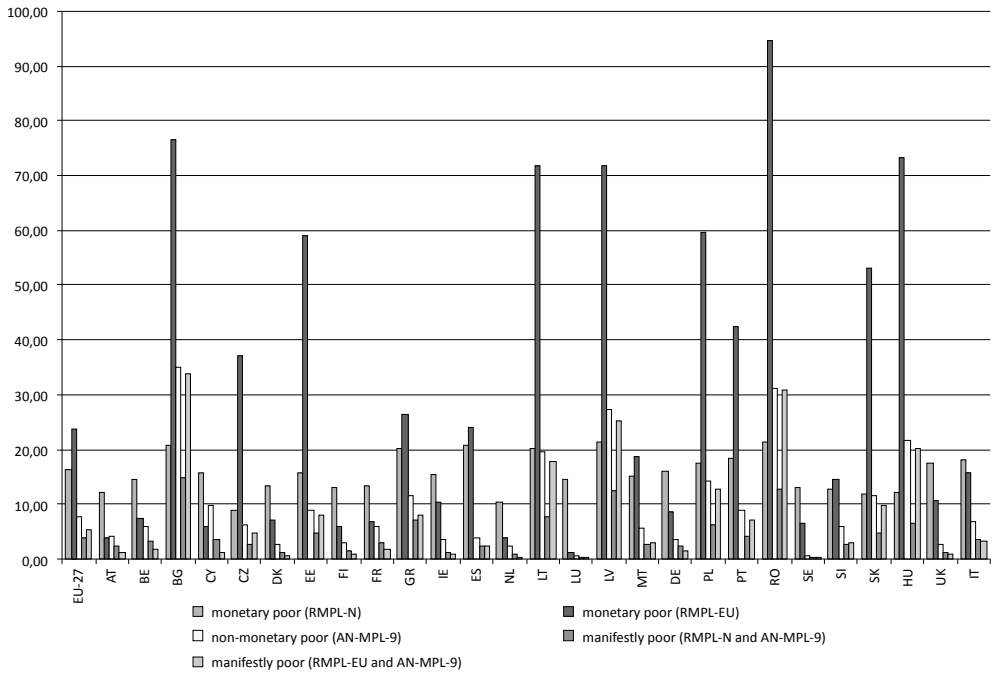
6.4.1.1. Relative Monetary Poverty

The incidence of monetary poverty, using the common EU monetary poverty line (RMPL-EU), equalled 23.6% for the whole EU in 2010 and was higher by 7.2 percentage points than the same measure calculated for national relative poverty lines (RMPL-N, see Table A.3 and Figure 6.1). There were 116.6 million people in the whole EU with equivalent incomes lower than the common EU poverty threshold (RMPL-EU) and 81.4 million people with equivalent incomes below national poverty lines (RMPL-N, see Table A.2). Other poverty characteristics are also higher in case of a common EU poverty line as compared to national poverty thresholds. The monetary poverty gap index equals 37.5%, the income gap index equals 8.9% and the squared income gap index equals 4.9% in case of the common EU relative poverty line. The same measures equal 28.7, 4.8% and 2.4% when the national relative poverty lines are adopted.

Distribution of poverty incidence within the EU by countries, applying different ways of definition of relative monetary line, differs in fundamental manner (Figure 6.1 and Table A.3). What is more, in the case of operating the national monetary poverty lines relationships between monetary poverty incidence (as well as the relationships between monetary poverty indices characterizing other aspects of monetary poverty) in the EU countries, they do not reflect the differences in poverty incidence but reflect

the differences in income inequality in these countries. When the national monetary poverty lines are adopted, the differences in the incidence of poverty are significantly lower as compared to the case when a common EU monetary poverty line is used. For instance, the difference in the incidence of monetary poverty between the poorest EU member Romania and the richest Luxembourg (see average equivalent disposable income in Table A.1) is only 7 percentage points when the national monetary poverty lines are adopted. However, when the common EU monetary poverty line is used, the difference is equal to 93 percentage points (see Table A.3). Figure 6.1 shows the differences in the incidence of monetary poverty when various poverty thresholds are used.

Figure 6.1. Incidence of Monetary Poverty, Material Deprivation and Manifest Poverty for the EU Member States in 2010.



Source: Own research based on EU-SILC 2010 Survey data.

The adoption of the EU's monetary poverty line RMP-EU not only allows to obtain correct hierarchy of countries due to the monetary poverty incidence, but also appropriate monetary poverty incidence relations between the Member States. If the national poverty lines are adopted, Romania (21.5%), Latvia (21.3%), Bulgaria (20.9%), Spain (20.8%), Greece (20.3%) and Lithuania (20.2%) are the most affected countries by the monetary poverty in 2010. In fact, these are the countries

with the highest degree of income inequality. The incidence of monetary poverty in Poland (17.6%) is almost equal to the mean incidence of poverty in the EU and is lower than in Italy (18.6%) as well as is only slightly higher than in Great Britain (17.4%). The lowest values of incidence of monetary poverty were in turn observed in Czech Republic (9%), the Netherlands (10.4%), Slovakia (12%), Austria (12.1%) and Hungary (12.3%). This may seem surprising, as among the least affected countries one may find some relatively poor new EU Member States like Hungary, Czech Republic or Slovakia, while other well developed and relatively rich countries like Germany or Luxembourg are missing. This result is caused by a difference in income inequalities between countries and should not be used to compare the incidence of monetary poverty between countries as well as to decide on the allocation of financial transfers aimed at combating poverty.

The adoption of the EU's monetary poverty line RMP-EU not only allows to obtain the correct hierarchy of countries due to the monetary poverty incidence but also appropriate monetary poverty incidence relations between the Member States. When the common poverty line is adopted, the incidence of poverty is highest in 2010 in the poorest EU Member States like Romania (94.5%), Bulgaria (76.6%), Hungary (73.3%), Lithuania and Latvia (both 71.8%). The incidence of monetary poverty in Poland equals 59.6% and is significantly higher than a mean for the whole EU. It is also much higher than the incidence of poverty in Italy (15.7%) or Great Britain (10.5%). The lowest incidence of poverty was observed in the richest EU Member States like Luxembourg (1.2%), Austria and the Netherlands (both 3.7%).

The adoption of various types of relative poverty lines affects the hierarchy of countries with regard to supplementary measurements of monetary poverty, with the exception of poverty incidence[26]. If the national poverty lines are adopted, Spain (39.6%), Lithuania (37.9%) and Latvia (35.3%) countries are the most affected by the monetary poverty gap in 2010. Whereas, in case of the common monetary poverty line, Romania (57.4%), Luxembourg (50%), Latvia (44.6%) and Lithuania (44.2%) were the most affected countries. The monetary poverty gap index for Poland was relatively low and equaled 27% for the national monetary poverty line and 35.1% for the common monetary poverty line.

The analysis of monetary poverty at the regional level cannot be conducted for the whole EU, as some countries do not grant access to the data at regional level. The data at regional level is not available for the Netherlands, Germany, Portugal and Great Britain. For the majority of remaining EU Member States only data at the

[26] See Table A.3 in Appendix.

NUTS 1 level is available[27]. Therefore, the analysis conducted at the regional level does not contain results for the whole EU. However, the data on the poorest regions of the EU is available.

When the national monetary poverty lines are adopted, at the NUTS 1 level, the poorest regions are (Table A.3) Italian Islands (32%), Southern Italy (30.2%), Canary Islands (30.6%), Southern Spain (29.9%), Bulgaria One (28.6%) and Brussels region in Belgium (28.3%). However, in order to identify the regions with the highest incidence of poverty in the EU the common monetary poverty line should be adopted. When the common poverty line is adopted, the regions with the highest incidence of poverty are: all regions of Romania (incidence ranges from 91% to 96.4%), all regions of Bulgaria (incidence ranges from 71.7% to 81.1%), Great Plain and North in Hungary (82%), Transdanubia in Hungary (75.5%), Lithuania and Latvia (both 71.8%) and East Poland (70.5%).

The comprehensive international comparison at the NUTS 2 level is not possible due to the lack of necessary data for the majority of countries. We believe that the majority of the NUTS 2 level regions in Romania and Bulgaria should be listed among those with the highest incidence of monetary poverty, however, the data for those two countries are available only at the NUTS 1 level and no statistical analysis is possible.

The results of the comparative analysis of the monetary poverty incidence between EU regions also depend significantly on the adopted type of poverty threshold (Table A.3). If the national monetary poverty lines are used, the most affected regions in 2010 are four regions of Spain, namely Extremadura (38.2%), Ciudad Autonomia de Ceuta (34.3%), Canarias (30.6%), Andalusia (30.1%) and Lubelskie voivodship in Poland (30.7%). If the common monetary poverty threshold is used, the most affected NUTS 2 regions in 2010 are Lithuania and Latvia (both 71.8%) and Podlaskie (71.2%) and Lubelskie (71%) voivodships in Poland.

6.4.1.2. Extreme Monetary Poverty

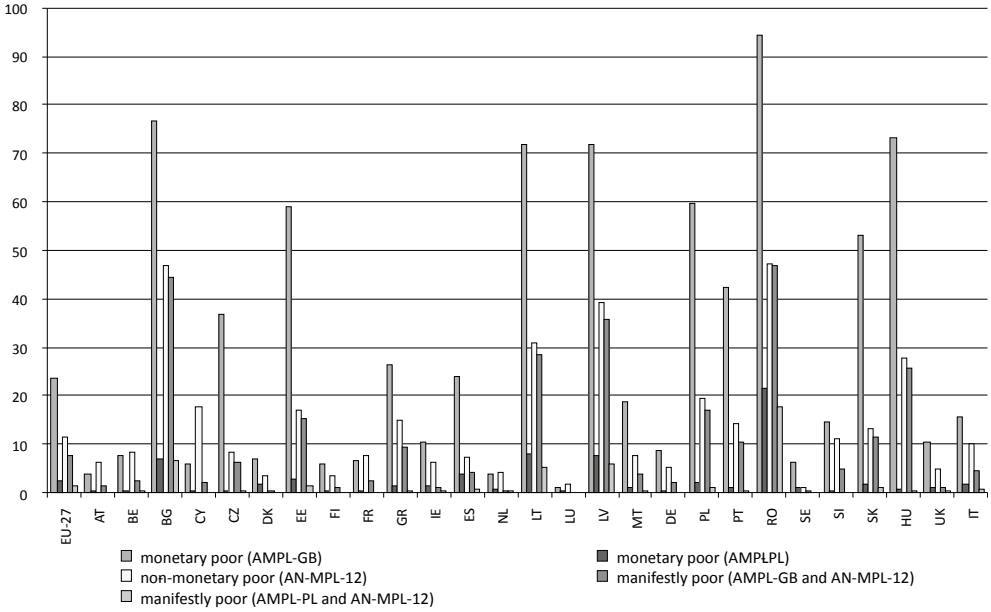
Two different absolute monetary poverty lines were used in order to estimate incidence of extreme monetary poverty. One was calculated on the basis of the basket of basic goods for Poland (AMPL-PL) and one for Great Britain (AMPL-GB). As the basic goods baskets differ between two countries, the British basket is a lot

[27] The data for Poland at the NUTS 2 level were obtained directly from the Polish Central Statistical Office.

more abundant, and thus, the absolute monetary poverty line calculated on its basis is higher.

The percentages of extreme monetary poverty were considerably lower in the EU countries and regions in 2010, when compared to the relative monetary poverty incidence as both absolute monetary poverty lines are lower than the common relative monetary threshold (see Figures 6.1, 6.2; Tables A.2 and A.4).

Figure 6.2. Incidence of Extreme Monetary Poverty, Material Deprivation and Manifest Poverty in the EU in 2010



Source: Own research based on EU-SILC 2010 Survey data.

When the absolute monetary threshold calculated on the basis of the British basket of basic goods was adopted, the percentage of monetary impoverished in EU in 2010 were higher by more than 15 percentage points in comparison with the threshold based on the Polish basket. If the first absolute monetary poverty line was adopted, the incidence of monetary poverty would equal 17.5% (about 88 million people), for the second variant the incidence would equal only 2.3% (about 12 million people[28]).

The supplementary measures of monetary poverty also differ significantly for the two monetary poverty lines (Table A.4). For the "British" absolute monetary

[28] See Tables A.4 and A.3 in Appendix.

poverty line the monetary poverty gap equals 37.6% and the income gap index 6.6% (Table A.4). For the second monetary poverty line these measures are lower and equal 22.8% and 1.1% respectively. In the case of the first monetary poverty line, potential eradication of monetary poverty in EU would require a mean monetary transfer of 347 euros to every monetary impoverished person (in fact to every monetary impoverished household). If the lower monetary poverty line is used, the amount required equals 188 euros. In the first variant, the total cost of poverty eradication would be equal to approximately 30 billion euros[29]. As the number of identified impoverished persons is a lot lower in the second variant, the total cost of monetary poverty eradication in EU would amount to 2,1 billion euros.

In 2010 (Table A.4) Romania (88.7%), Bulgaria (64.5%), Lithuania (62.6%), Latvia (61.2%) and Hungary (57%) were the countries with the highest incidence of extreme monetary poverty for the "British" absolute poverty line. As the absolute monetary poverty line is lower than the relative common monetary poverty line, the incidence of monetary poverty is lower in all analyzed countries when compared to relative monetary poverty incidence. Moreover, the hierarchy of countries with regard to the incidence of monetary poverty differs, as the Hungary moved from the third to the fifth place. The incidence of extreme monetary poverty equaled 45.7% in Poland and was one of the highest among the EU Member States. The lowest incidence of extreme monetary poverty was observed in the richest EU countries, namely Luxembourg (0.9%), Austria (1.9%) and the Netherlands (2.6%).

If the extreme monetary poverty is set at the value of the Polish minimum of existence, the obtained results will differ greatly. Both the absolute monetary poverty measures decreased and the hierarchy of impoverished countries changed. In this variant, the highest incidence of monetary poverty was observed in 2010 in (table A.4) Romania (21.5%), Lithuania (7.8%), Latvia (7.5%) and Bulgaria (7%). In Poland the incidence of extreme monetary poverty equaled 2.2% and was slightly lower than the one observed in Spain (3.8%) and Estonia (2.8%). Austria, Cyprus and Slovenia were the countries with the lowest incidence of monetary poverty in this variant (less than 0.2%).

For the higher absolute monetary poverty threshold the highest monetary poverty gap index was observed in 2010 in both affluent countries like Luxembourg (69.4%) and Denmark (49.4%) and relatively poor countries like Romania (52.1%). When the lower absolute monetary poverty threshold was adopted, Luxembourg (84.5%), Spain (72.8%) and Denmark (72.1%) were the most affected countries. High measure

[29] Assuming the population in the EU is 493.8 million people, resulting from the sum of the weights for the persons in the EU-SILC survey.

of monetary poverty gap index for the relatively rich countries is an effect of reporting negative or null incomes by many persons with incomes below the poverty line. These are often people who have accumulated significant assets in the past and do not need any current income to maintain a satisfactory quality of living. Thus, these persons should not be considered as poor according to the economic definition of poverty. In Poland the monetary poverty gap index equaled 33% and was relatively low.

All regions of Romania (the incidence ranging from 84.7% to 92.5%), all regions of Bulgaria (from 56.6% to 71.6%), Great Plain and North in Hungary (67.9%), Transdanubia in Hungary (57.6%), Lithuania (62.6%), Latvia (61.3%) and East Poland (58.2%) had the highest level of incidence of extreme monetary poverty in 2010 in terms of the "British" absolute poverty threshold regions at the NUTS 1 level. These are the same regions which were characterized by the highest incidence of relative monetary poverty when the common relative threshold was adopted, however, the percentages are a little lower, as the threshold is lower (see section 6.5.1).

When "Polish" absolute poverty line was used, the following regions had the highest incidence of monetary poverty at the NUTS 1 level: all regions of Romania (from 14.8% to 28.6%), North-Eastern Bulgaria (10.1%), Lithuania (7.8%), Latvia (7.5%) and South Spain (5.6%).

We have good reasons to believe, that for the AMPL-GB at the NUTS 2 level, all regions of Romania and Bulgaria would be the regions with the highest incidence of extreme monetary poverty, however, lack of data at this level hinders any regional analysis for these countries. Out of the regions with available data at the NUTS 2 level, the regions with the highest incidence of extreme monetary poverty were Lithuania (62.6%), Latvia (61.3%) and Lubelskie voivodship in Poland (60%). These are the same regions as those highlighted with the highest incidence of monetary poverty for the common relative poverty line.

If the AMPL-PL absolute poverty line is adopted, the regions with the highest extreme monetary poverty incidence at the NUTS 2 level are Lithuania (7.8%), Latvia (7.5%), Murcia (8.2%) and Melilla (6.7%) in Spain and Lubelskie, Malopolskie and Swietokrzyskie voivodships in Poland (all around 3%).

6.4.2. Material Deprivation

The incidence of material deprivation was calculated in two variants, on the basis of nine and twelve material deprivation symptoms (AN-MPL-9 and AN-MPL-12 material deprivation lines respectively). A person is identified as materially deprived if its household has at least four symptoms out of nine (twelve).

When nine symptoms of material deprivation are considered, the incidence of material deprivation in the whole EU in 2010 equaled 7.9% (39.7 million persons) and was three times lower than the incidence of monetary poverty calculated on the basis of the common relative poverty line (Figure 6.1 and Tables A.5 and A.6). However, if we adopted twelve symptoms of the material deprivation incidence, it would equal 11.4% (57.3 million persons). Contrary to material deprivation incidence, increase of the number of symptoms caused a decrease in depth, intensity and severity of poverty in the EU in 2010. In case of measuring the poverty depth, the index of material deprivation gap of persons being a subject to deprivation decreased from 57.6% to 25.4% (Table A.6).

Under the AN-MPL-9 variant, the following countries: Bulgaria (34.9%), Romania (31%), Latvia (27.4%) and Hungary (21.6%) estimated the highest incidence of materially deprived in 2010.. In Poland there were 5.3 million of materially deprived people (14.2%) which is one of the highest rates in the whole EU. The lowest values of the incidence of material deprivation were observed in Luxembourg (0.5%), Sweden (0.7%), the Netherlands (2.2%), Denmark (3%) and Finland (3%). If we switch to the AN-MPL-12 material deprivation line, the estimated incidence of material deprivation will be higher in all analyzed countries and the hierarchy of countries with the highest incidence will change (see Table A.6). The highest incidence of material deprivation under AN-MPL-12 material deprivation line was observed in Romania (47.2%), Bulgaria (46.7%) and Latvia (39.3%). In Poland the incidence of material deprivation equaled 19.3% and was relatively high when compared with other EU Member States. The lowest incidence of material deprivation was estimated for Sweden (1%), Luxembourg (1.7%), Denmark (4%) and Finland (4%).

The highest depth of material deprivation measured by the material deprivation gap of materially deprived index was observed in 2010 in (under the AN-MPL-9 material deprivation line): Romania (23.6%), Latvia (20.5%), Bulgaria (19.7%) and Lithuania (17.9%). Thus, these countries experience not only the highest levels of material deprivation incidence but also the highest levels of material deprivation depth. The same countries had the highest values of material deprivation depth measures estimated for the AN-MPL-12 variant, however, all measures were significantly higher (see Table A6). In Poland the material deprivation gap of materially deprived index is higher than in the majority of other EU Member States and is higher than in all EU-27 countries. In 2010 it amounted to 14.0% for the AN-MPL-9 threshold and 19.3% for the AN-MPL-12 threshold.

The analysis at the regional level is constricted to the countries for which required data was available. Both regions of Bulgaria (Northern and Eastern Bulgaria – 37.4%, Southern and Central Bulgaria – 32.2%), all regions of Romania (incidence ranges

from 20.8% to 39.5%), Latvia (27.4%), Great Plain and North in Hungary (25%), Central Hungary (20.7%) were in 2010 the regions with the highest incidence of material deprivation measured at the NUTS 1 level, for the AN-MPL-9 threshold. In Poland the highest incidence of material deprivation was observed in 2010 in the North-Western region (15.8%). For the AN-MPL-12 threshold the regions with the highest incidence of material deprivation were: both regions of Bulgaria (Northern and Eastern Bulgaria –51.1%, Southern and Central Bulgaria – 42%), all regions of Romania (incidence ranges from 33.2% to 58.9%), Latvia (39.3%), Great Plain and North in Hungary (32.4%), and Lithuania (31%). In Poland the highest incidence of material deprivation was observed in the South-Western region (22.9%).

At the NUTS 2 level, among regions for which data is available, the highest incidence of material deprivation was observed in 2010 in (for the AN-MPL-9 threshold): Latvia (27.4%), and Zachodniopomorskie (24.2%) and Lubelskie (26.9%) voivodships in Poland. For the AN-MPL-12 threshold the following regions were marked with the highest level of material deprivation incidence: Latvia (32.8%), Lithuania (31%) and Lubuskie (32.8%) and Lodzkie (25.4%) voivodships in Poland. Similarly, as for the monetary poverty analysis at the regional level, we have good reasons to believe, that the majority of regions in Romania and Bulgaria would be listed among those with the highest incidence of material deprivation, had the required data been available.

6.4.3. Manifest Poverty

The adoption/assumption that the poor are considered to the ones who are both monetary poor and materially deprived, naturally causes a reduction in poverty incidence in the EU. This applies to all used approaches to measuring poverty: both recommended by EPSCO and modified EPSCO approach as well as extreme poverty approach proposed by Bradshaw and Mayhew and modification of this approach.

6.4.3.1. The Modified EPSCO Approach

In the EPSCO approach (national relative monetary poverty lines and AN-MPL-9 material deprivation lines) the total incidence of manifest poverty equals 3.7% in 2010 for the whole EU (18.6 million people). However, when a modified EPSCO approach is adopted, that is a common relative monetary poverty line is used, the incidence of poverty rises to 5.3% (26.7 million people). All the supplementary manifest poverty measures are also higher when the modified EPSCO approach is adopted (see Tables A.7 and A.8). In particular, the manifest poverty gap index increases from 25.3% to 40.1%. Above all, this is due to the significant increase in the

poverty depth (from 25.3% to 40.1%), which is taken into account in the construction of income gap indices and the square of the income gap indices measuring intensity and severity of poverty.

Bulgaria (14.9%), Romania (12.9%), Latvia (12.3%) and Lithuania (7.7%) were in 2010 countries marked with the highest incidence of manifest poverty according to the EPSCO approach. The lowest incidence of manifest poverty was observed in Luxembourg, Sweden and the Netherlands (all below 1%). When the modified EPSCO approach is adopted, the same four countries have the highest incidence of manifest poverty estimated. Their hierarchy is the same, however, the values of measures are significantly higher, namely 33.7% in Bulgaria, 30.9% in Romania, 25.3% in Latvia and 17.9% in Lithuania. The lowest rates of manifest poverty were observed in the same three countries, however, for the richest countries the incidence of manifest poverty is lower when a modified EPSCO approach is adopted (all below 0.2%), as for these countries the common monetary poverty line is lower than the national thresholds.

For the EPSCO approach the highest depth of manifest poverty, similarly as the highest manifest poverty incidence, was observed in 2010 in Lithuania (35.2%), Romania (34.1%), Bulgaria (33.7%) and Latvia (33.1%). When the modified approach is adopted, the depth of manifest poverty in the relatively poor countries is higher, namely it is equal to 46.1% in Romania, 38.1% in Latvia, 36.1% in Bulgaria and 35.8% in Lithuania. These results show that, in average, the most severely manifestly impoverished people live in the countries with the highest incidence of manifest poverty.

In Poland the incidence of manifest poverty was in 2010 relatively high and equaled 6.1% or 12.7% depending on the approach adopted. However, the measure of the depth of manifest poverty was estimated at the relatively mean level that is 23.5% or 29.5% depending on a monetary poverty line applied.

At the NUTS 1 level the most poverty stricken regions, according to the EPSCO approach, were in 2010 (see Table A.8): North and East Bulgaria (19.3% manifestly poor), regions two and four in Romania (18.6% and 12.6% manifestly poor), Brussels Capital Region in Belgium (12.7% manifestly poor) and Latvia (12.3% manifestly poor). In Poland the East Region was the most stricken by the manifest poverty (7.7% manifestly poor). However, when the common monetary poverty line is adopted, the hierarchy of the poorest regions changes significantly. According to the modified EPSCO approach, regions with the highest incidence of manifest poverty were: both regions of Bulgaria (36.4% and 30.7%), regions two, three and four in Romania (from 27.9% to 39.3%) and Latvia (25%). In Poland the North-East region had the highest incidence of manifest poverty estimated (14.2%).

According to the EPSCO approach, at the NUTS 2 level, in 2010 following regions had the highest incidence of manifest poverty estimated (see Table A.8): Lubuskie voivodship in Poland (14%), Latvia (12.3%) and Podkarpackie, Zachodniopomorskie and Lubelskie voivodships in Poland (all above 8.4%). If the modified EPSCO approach is used, the most poverty stricken regions at the NUTS 2 level are: Latvia (25.13%), Lubuskie and Zachodniopomorskie voivodships in Poland (25% and 21.8%). However, we believe that the majority of NUTS 2 level regions in Bulgaria, Romania and some regions in Hungary would score even higher values of the manifest poverty incidence measure according to both approaches, had the required data been available.

6.4.3.2. Extreme Manifest Poverty

By extreme manifest poverty we define the concomitance of extreme monetary poverty and material deprivation. As we considered adoption of two distinct absolute monetary poverty lines, the extreme manifest poverty was calculated in two variants. Firstly, for the "British" absolute monetary poverty line (AMP-GB) the incidence of extreme manifest poverty equaled to 6.3% (over 31 million people) in the whole EU in 2010 (Tables A.7 and A.9). However, when we switch to the Polish monetary poverty line (AMP-PL), the incidence of manifest poverty amounts to 1.2% (6 million people). In the first variant the following countries had the highest incidence of extreme manifest poverty estimated: Romania (46.3%), Bulgaria (41.5%), Latvia (33.5%) and Lithuania (26.5%). When the AMP-PL absolute monetary poverty line was adopted, the incidence of extreme manifest poverty decreased and countries with the highest incidence of extreme manifest poverty were: Romania (17.7%), Bulgaria (6.6%), Latvia (6%) and Lithuania (5.1%). In Poland the incidence of extreme manifest poverty equaled to 15.3% (5.7 million people) or 1% (0.4 million people) depending on the chosen absolute monetary poverty line.

In the first variant, at the NUTS 1 level, regions with the highest incidence of extreme manifest poverty in 2010 were (Table A.9): all regions of Romania (incidence ranges from 32.9% to 57.8%), both regions of Bulgaria (35.9% and 46.8%), Latvia (33.5%), Great Plain and North in Hungary (28.5%) and Lithuania (26.5%). In the second variant the values of incidence of poverty were considerably lower for all analyzed regions. Also the hierarchy of the most poverty stricken regions changed, as the highest incidence of extreme manifest poverty was observed in: all regions of Romania (from 12.8% to 25.7%), North and East Bulgaria (9.5%), Latvia (6%) and Lithuania (5.1%). In Poland the highest incidence of extreme manifest poverty was

observed in the East (16.6%) and North-West (16.4%) regions in the first variant and East, South-West and North regions in the second variant.

In the first variant, at the NUTS 2 level the most poverty stricken regions in 2010 were (Table A.9): Latvia (33.5%), Lubuskie and Zachodniopomorskie voivodships in Poland (28.9% and 21.7%), and Lithuania (26.5%). According to the second variant, the following regions: Latvia (6%), Lithuania (5.1%), Murcia (4.1%) and Opolskie voivodship in Poland (2.1%) were the most poverty stricken.

6.5. Risk of Poverty in the EU Countries and Regions[30]

6.5.1. Risk of Monetary Poverty

Fuzzy monetary poverty incidence indicator assumes the value of 14.2% in the EU in 2010. (Table A.10). It is by definition equal to the headcount monetary poverty rate under the assumption that the monetary poverty line amounted to 6,354 euros a year. Adopted monetary poverty line was determined at such a level, so that for the adopted material deprivation threshold 20 million people in the EU would be in poverty, i.e. that they would be both monetary poor and materially deprived (see section 7).

For the EU Member States the highest values of the fuzzy monetary incidence index (FMI) were observed in 2010 in: Romania (66.7%), Bulgaria (45.3%), Latvia (43.6%), Lithuania (43.1%) and Hungary (37.4%) and Poland (32.2%). The monetary poverty risk in Poland was also relatively high. Value of the FMI was equal to 32.2%.

At the NUTS 1 level the following regions were marked with the highest values of the FMI in 2010 (Table A.10): all regions of Romania (values ranging from 61.3% to 70.7%), both regions of Bulgaria (50.5% and 39.6%), Latvia (43.6%), Lithuania (43.1%), Transdanubia (37.4%) and Great Plain and North (43.3%) in Hungary and East Region in Poland (39.2%). Among regions at the NUTS 2 level for which required data was available, the following were marked with the highest values of FMI in 2010 (Table A.10): Latvia (43.6%), Lithuania (43.1%), Lubelskie and Swietokrzyskie viovodships in Poland.

[30] The empirical analysis focuses on the poverty incidence risk only. The values of fuzzy poverty depth, intensity and severity indices in the countries and regions of the EU are presented in the Tables A.11, A.12 and A.13 in the Appendix.

6.5.2. Risk of Material Deprivation

For the purpose of the empirical analysis in this paper, the following dimensions and symptoms of poverty were defined[31]:

1. Equipment of households in durables – symptoms relate to the lack of possession of a widely – desired durables because of lack of resources:
   1.1. Lack of a telephone
   1.2. Lack of a color TV
   1.3. Lack of a computer
   1.4. Lack of a washing machine
   1.5. Lack of a car
2. Housing facilities and deterioration – symptoms relate to the absence of basic housing facilities and to serious problems with the dwelling:
   2.1. Leaky roof, damp walls/floors/foundation, or rot in window frames or floor
   2.2. A bath or shower in dwelling
   2.3. An indoor flushing toilet for sole use of a household
3. Basic life style – symptoms relate to the lack of ability to afford most basic requirements:
   3.1. Paying for one week annual holiday away home
   3.2. Eating meal with meat, chicken, fish (or vegetarian equivalent) every second day
   3.3. Keeping home adequately warm
   3.4. Ability to pay for unexpected expenses
   3.5. The household has been in arrears during the last 12 months due to rent for accommodation, mortgage repayments, utility bills or other loan payments.
4. Health Care – symptoms relate to the necessity of resigning from basic health care due to financial reasons
   4.1. During the last 12 months a member of the household resigned from visiting a physician due to financial reasons.
   4.2. During the last 12 months a member of the household resigned from visiting a dentist due to financial reasons.

The FSI index was calibrated so that it was equal to headcount material deprivation ratio, assuming material deprivation threshold AN-MPL-12, for the whole

[31] The scope of data in EU-SILC does not allow to distinguish the dimensions of material deprivation closely linked to the need groups of households.

EU (11.4%). Therefore, the FSI value is slightly lower than the FMI value for the whole EU (Table A.10).

The highest values of the FSI were observed in 2010 in the following countries (Table A.10): Romania (43.2), Bulgaria (37.1%), Latvia (36.6%) and Hungary (21.3%). The FSI in Poland was equal to 16.6% and was one of the highest among EU Member States. The lowest values of the fuzzy material deprivation incidence measure were observed in Sweden (3.1%), Luxembourg (3.4%), Finland (4.4%) and Denmark (4.4%).

At the NUTS 1 level the following regions were marked with the highest values of the FSI in 2010: all regions of Romania (from 33.1% to 53.8%), both regions of Bulgaria (from 33.5% to 40.4%), Latvia (36.6%), Great Plain and North in Hungary (24.4%). In Poland regional differences in the values of FSI were not significant. The highest value of the measure was observed in the South-West region.

At the NUTS 2 level, among regions for which the required information was available, the following were observed to have the highest values of the FSI in 2010: Latvia (36.6%), Lubuskie (26.6%), Zachodniopomorskie (22.8%) and Lodzkie (21.2%) voivodships in Poland. However, we have good reasons to believe, that the majority of regions at the NUTS 2 level in Romania, Bulgaria and some regions in Hungary would have been listed among those with the highest values of the FSI, had the required data been available.

The differences between the values of the FSI measure for the four defined material deprivation dimensions were not significant for the EU in 2010 (see Table A10). However, there were considerable differences of the measure in distinct dimensions for some of the EU countries and regions. The following countries were marked with the highest value of the risk of material deprivation incidence in the dimension of durable goods ($h = 1$): Romania (41%), Bulgaria (28.6%), Latvia (27.1%) and Hungary (19.7%). In Poland the value of the FSI for the dimension of durable goods was equal to 15% and was relatively high.

At the NUTS 1 level the following regions had the highest values of the risk of material deprivation index in 2010 in the dimension of durable goods: all regions of Romania (values from 33.8% to 46.7%), both regions of Bulgaria (27% and 29.9%), Latvia (27.1%), Brussels Capital Region in Belgium (24%) and Great Plain and North in Hungary (22.1%). In Poland the value of the measure was highest for the North-West (17.2%) and North (16.5%) regions. At the NUTS 2 level, among regions for which required information was available, the following were marked with the highest values of the measure: Latvia (27.1%), Zachodniopomorskie (23.4%), Lubuskie (22.8%) and Kujawsko-pomorskie (18.3%) voivodships in Poland Celta in Spain (17.7%), Lithuania (17.1%) and Slovakia (17.1).

In the dimension of housing facilities and deterioration ($h = 2$), the following countries were marked with the highest value of the risk of material deprivation incidence in 2010: Romania (39.3%), Bulgaria (31.7%), Latvia (26%) and Hungary (22.3%). In Poland the value of the FSI for the dimension of housing facilities and deterioration was equal to 12.6% and was slightly higher than the mean value for the whole EU.

At the NUTS 1 level the regions which had the highest values of the risk of material deprivation incidence index in the dimension of housing facilities and deterioration were (Table A.14) all regions of Romania (values from 28.9% to 49.1%), both regions of Bulgaria (27% and 35.9%), Latvia (26%) and Lithuania (22.3%). In Poland the value of the measure was highest for the North-West (16.5%) region. At the NUTS 2 level, among regions for which required information was available, the following were marked with the highest values of the measure: Latvia (26%), Zachodniopomorskie (22.3%), Estonia (18.9%), Estremadura in Spain (18.7%) and Dolnoslaskie voivodship in Poland (18.2%).

The following countries were marked with the highest value of the risk of material deprivation incidence in the dimension of basic lifestyle ($h = 3$) in 2010: Bulgaria (36.2%), Latvia (29.7%) and Hungary (27.6%), Romania (26.4%), Lithuania (25.4%), and Poland (20.4%). At the NUTS 1 level the regions which had the highest values of the risk of material deprivation index in the dimension of basic lifestyle were: both regions of Bulgaria (33.9% and 38.4%), all regions of Hungary (from 25.7% to 31.1%), regions Two (32%) and Three (28.1%) in Romania, Latvia (29.7%) and Lithuania (25.4%). In Poland the value of the measure was only slightly differentiated between regions at the NUTS 1 level and it was highest in the North-East and East regions (both above 21%). At the NUTS 2 level, among regions for which required information was available, the following were marked with the highest values of the measure: Lubuskie (30.4%), Zachodniopomorskie (27.6%) and Lodzkie (25%) viovodships in Poland, Latvia (29.7%) and Lithuania (25.3%).

The differences in the value of the risk of material deprivation incidence in the area of health ($h = 4$) were in 2010 significantly lower when compared to values of the measure for other dimensions of material deprivation. Latvia (30.7%), Romania (26%), Bulgaria (22.9%), Latvia (17.3%) Italy (above 15%) and Greece (above 15%) were countries with the highest value of the risk of material deprivation incidence in the dimension of health. The value of the measure was relatively high also in Poland (13.5%). At the NUTS 1 level the following regions had the highest values of the risk of material deprivation incidence index in the dimension of health: all regions of Romania (values from 17.5% to 33.7%), Latvia (30.7%), both regions of Bulgaria (22.3% and 23.9%) and Islands region in Italy (18.8%). At the NUTS 2 level, among

regions for which required information was available, the following were marked with the highest values of the measure: Latvia (30.7%), Lubelskie voivodship in Poland (20.4%) and Cyprus (17.3%).

6.5.3. Risk of Manifest Poverty

Romania (39.5%), Bulgaria (29.6%), Latvia (27.5%), Lithuania (16.9%) and Hungary (16.8%) were the EU countries with the highest risk of manifest poverty incidence (M^{IC}) in 2010.:. In Poland the risk of manifest poverty incidence was equal to 12.5%.

At the NUTS 1 level, regions with the highest rate of the risk of manifest poverty incidence were: all regions of Romania (from 30.8% to 49%), both regions of Bulgaria (from 33.4% to 25.5%), Latvia (27.5%), Great Plain and North in Hungary (20%) and Lithuania (16.9%). At the NUTS 2 level, among regions for which the required data was available, the following regions had the highest values of the M^{IC} measure: Latvia (27.5%), Lubuskie (20.7%) and Zachodniopomorskie (17.5%) voivodships in Poland and Lithuania (16.9%).

7. Which EU Countries and Regions Are the Most Impoverished

Different approaches to measuring poverty and material deprivation lead to various conclusion on the distribution of poverty within the EU. Depending on the adopted methodology of measurement, the hierarchy of the most impoverished countries varies. Without the adoption of consistent and internationally comparable rules for identification of the poor, including above all the way of determining both monetary poverty and non-monetary poverty lines, it will not be possible to compare poverty between countries and regions of the EU and to efficiently allocate social funds aimed at combating poverty.

According to the accepted economic definition of poverty the impoverished persons are those, who are jointly monetary impoverished (who live in households with equivalent income below the monetary poverty line) and materially deprived (who live in households with more material deprivation symptoms than the adopted threshold of material deprivation). We believe that both the monetary poverty line and the material deprivation threshold should be based on the same principles. Moreover, they must also be identical, and thus comparable, for all countries and regions in order to assure proper comparison of poverty within the EU. In case of the material deprivation threshold, the approach proposed by the EPSCO meets these expectations. In our opinion, adoption of the Bradshaw and Mayhew proposal to increase the number of deprivation syndromes considered to 12 would lead to excessively high weight assigned to material deprivation as compared to monetary poverty when identifying impoverished. In case of monetary poverty, the same absolute approach to determining poverty line should be adopted. As the relative poverty lines are applied, the poverty indicators become the measures of income inequalities rather than the poverty itself, so they are not appropriable in the process of identifying impoverished.

Defining a common absolute poverty line for the whole EU is a very difficult task. Our proposition is to link the definition of the absolute monetary poverty line with the Europe 2020 Strategy goal of lifting 20 million persons out of poverty. The monetary poverty line should be set at a level which would lead to identification of 20 million persons (citizens of the European Union) who are jointly the most monetary impoverished and materially deprived, that is are the most manifestly poor.

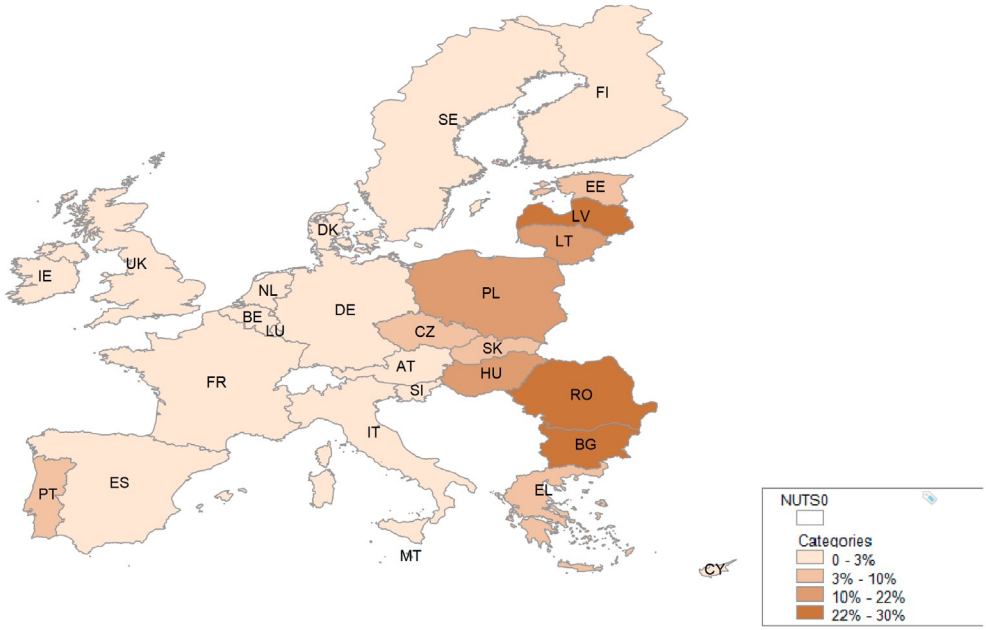
Then, in order to fulfill the Europe 2020 Strategy goal of lifting 20 million persons (which makes about 4% of EU population) out of poverty the social funds aimed at combating poverty should be channeled to those countries and regions of EU where the 20 million of the most impoverished persons live.

Adoption of the proposed method of identification of the most impoverished citizens of the EU allows for the assessment of the incidence of the severe poverty in the countries and regions of EU and estimation of financial costs of eradication of the manifest poverty by lifting these persons from monetary poverty. The monetary poverty threshold that meets these assumptions was equal to 6354 euros in 2010, which was 54% of the median equivalent income quoted in PPS. Taking into account the national differences in purchasing power parity, the total financial cost of lifting 20 million of the most severely impoverished individuals out of monetary poverty (therefore, out of manifest poverty) was equal to 38 billion euros in 2010.

The incidence of manifest poverty calculated with the adoption of the proposed methodology was the highest in the following EU Member States (Table A.14 and Map 7.1): Romania (29.9% of the national population or 6.413 million persons), Bulgaria (29.1% or 2.201 million), Latvia (22.3% or 0.495 million), Hungary (16.2% or 1.595 million) and Lithuania (15.4% or 0.51 million). The cost of lifting the most severely impoverished out of monetary poverty (therefore out of manifest poverty) in those countries would be equal to respectively 14 billion euros, over 3 billion euros, over 1 billion euros, over 2 billion euros and over 1 billion euros respectively. In Poland the incidence of manifest poverty was equal to 10.2%, which corresponds to 3.82 million persons. The financial cost of eradication of monetary poverty in Poland would be equal to 5 billion euros. In case of some countries the relatively low poverty incidence translates into relatively high cost of eradication of poverty due to high poverty depth or high number of inhabitants in these countries. Specifically, in Italy the cost would equal to 3.4 billion euros, in Spain to 2.1 billion euros and in Greece and Portugal to 1 billion euro.

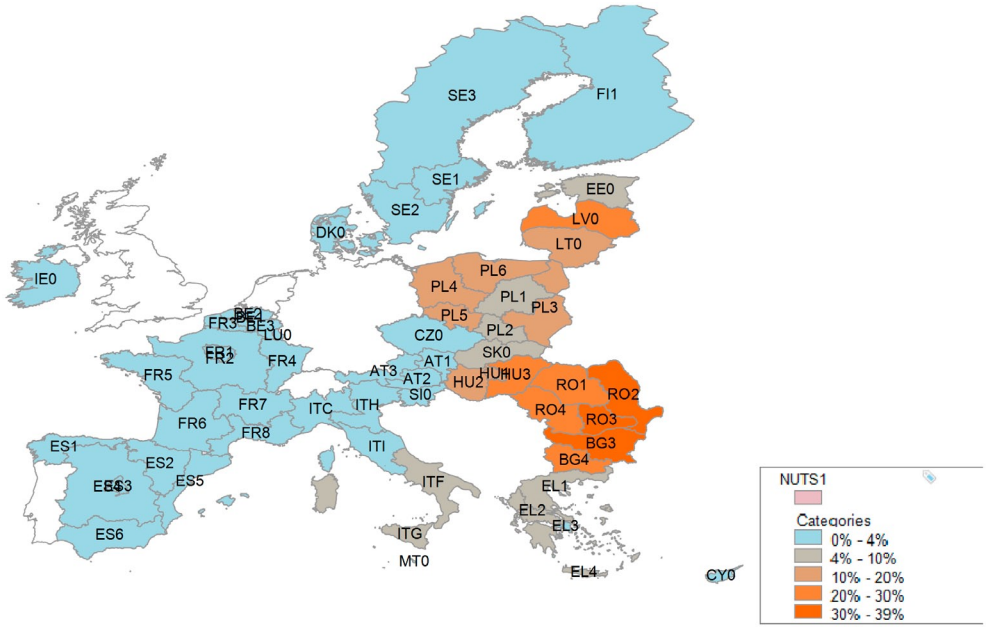
At the NUTS 1 level the most poverty stricken regions were (Table A.14 and Map 2): both regions of Bulgaria (32.7% and 25.3%), all regions of Romania (from 20.1% to 38.5%), Latvia (22.3%), Great Plain and North in Hungary (20.3%) and Lithuania (15.4%). Each of these regions requires financial transfers of over 1 billion euro in order to eradicate monetary poverty. In case of the South region in Italy and East region in Poland lower poverty incidence translated into similar costs of poverty eradication of over 1 billion euro due to higher poverty depth (in the case of Poland) or higher numbers of inhabitants.

Map 7.1. Poverty Incidence in the EU Countries in 2010



Source: Own elaboration based on © EuroGeographics

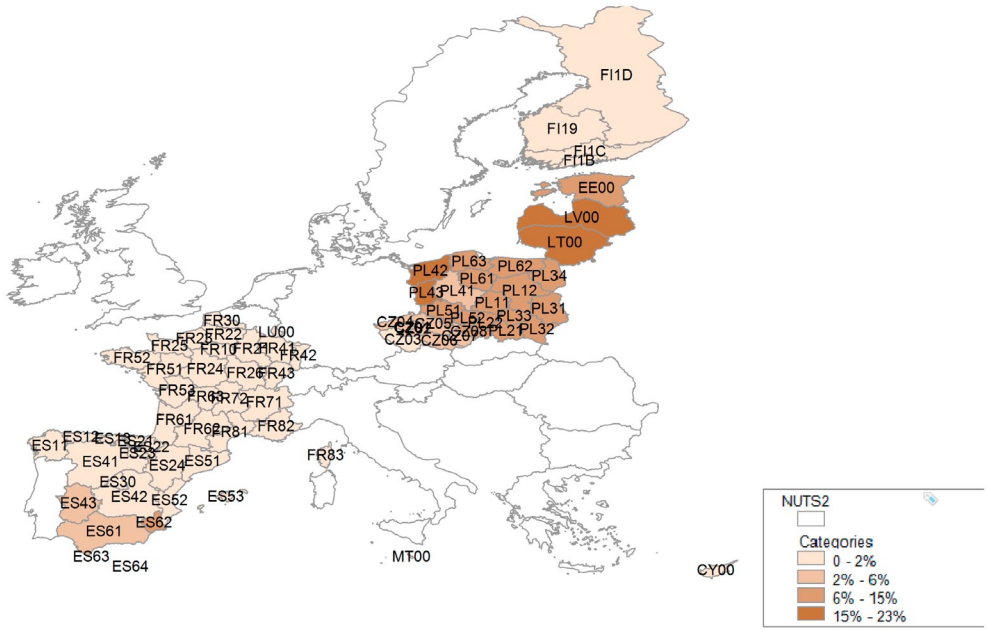
Map 7.2. Poverty Incidence in the EU Countries in 2010 at the NUTS 1 Level



Source: Own elaboration based on © EuroGeographics

Among regions at the NUTS 2 level for which the required data was available, the following were marked with the highest incidence of manifest poverty (Table A.11 and Map 2): Latvia (22.3%), Lubelskie (21.2%) and Zachodniopomorskie (18.1%) in Poland and Lithuania (15.4%). Higher incidence of manifest poverty would have been observed for the majority of regions of Romania and Bulgaria, had the required data been available.

Map 7.3. Poverty Incidence in the EU Countries in 2010 at the NUTS 2 Level



Source: Own elaboration based on © EuroGeographics

8. Summary and Recommendations

Our major goal was to propose a methodology of poverty measurement, which would allow for identification of those countries and regions within the EU, which require allocation of monetary transfers in order to fulfill one of the Europe 2020 goals to lift 20 million severely impoverished persons out of poverty. Poverty is defined as a state of lack of financial resources (current monetary income and accumulated assets) required meeting basic needs on an acceptable level.

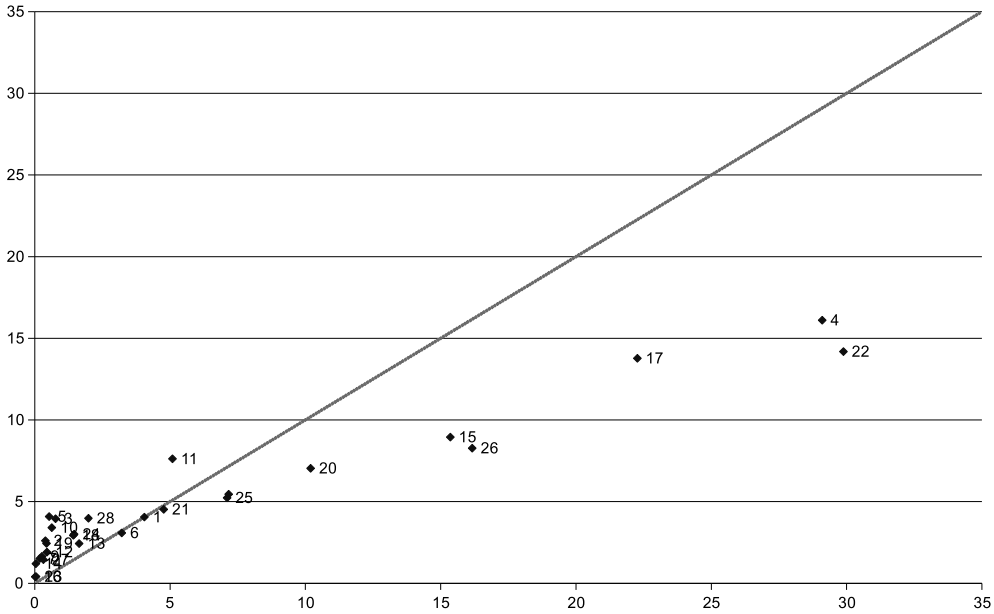
The EPSCO methodology proposal defines impoverished as persons who are monetary impoverished or materially deprived. That leads to a situation in which persons who are not materially deprived are identified as impoverished. Moreover, these persons often do not report to have difficulties meeting ends in the EU-SILC survey, therefore they do not consider themselves to be impoverished. Many of these persons live in relatively wealthy countries like e.g. Denmark.

We compare different methods of identifying impoverished persons, specifically different methods of defining thresholds of monetary poverty and material deprivation. The conducted empirical analysis shows how different assumptions affect results of international comparisons. The empirical part of the analysis was particularly focused on Poland and its regions.

The choice of the method of identification of impoverished will have certain consequences for the social policy of the EU. The method of identification of monetary impoverished recommended by EPSCO (poverty threshold defined as 60% of median national equivalent income) does not consider EU to be one state organism. This method assesses monetary poverty in each EU Member State separately. In effect, the use of identifying the monetary poor method recommended by the EPSCO causes overestimation of poverty incidence in affluent countries and regions (with high equivalent income) and its underestimation in the least affluent countries and regions. As a result the realization of the Europe 2020 strategy in reduction of poverty incidence will cause a reduction in income inequalities within countries of the EU and not the reduction of the poverty incidence by focusing on helping the poorest 20 million people in the EU treated as a whole. Adoption of the way of the poor identification recommended by EPSCO is not only inconsistent with the accepted in the study definition of economic poverty, but also would cause the need to minimize simultaneously the number of monetary poor and non-monetary poor, which at the independent distributions of variables describing the household income distribution

and the number of household deprivation symptoms distribution, is an unsolvable task. Therefore, modification of method of identifying the poor recommended by the EPSCO was proposed. An illustration of this problem constitutes the Figure 8.1.

Figure 8.1. Comparison of Poverty Incidence in the EU in 2010 under the Europe 2020 Target with the Adoption of Modified Approach Recommended by EPSCO as well as Author's Proposal



Source: Own research based on EU-SILC 2010 Survey data.

Coordinates of the points representing the EU countries are percentages of the poor obtained using the modified method of the impoverished identification recommended by the EPSCO (the poor are the monetary poor at the national monetary poverty lines RMPL-N determined by assuming fulfillment of the Europe 2020 target and at the same time subject to material deprivation at the material deprivation threshold AN-MPL-9) and the author's method (the poor are monetary poor at the joint EU countries monetary poverty line RMPL-EU and materially deprived at the material deprivation threshold AN-MPL-9).

If percentages of the poor in both approaches were identical, points representing individual countries would lie on the diagonal. Points lying below the diagonal represent countries in which the proportions of the poor, with the adoption of national monetary poverty thresholds, are lower than when the poor are identified using the joint EU countries monetary poverty line. Points lying above the diagonal represent

the countries in which the proportions of the poor at national monetary poverty lines are higher than when the joint EU monetary poverty line is used. For example, for Romania and Poland percentage of the poor is lower at RMPL-N respectively by over 15 percentage points and nearly 3 percentage points than applying the RMPL-EU. However, for Belgium it is more than 3 percentage points higher. Even greater underestimation and overestimation of the poverty incidence are observed at a regional level. Only the concentration of financial support just on the poorest regions of the European Union (treated as a whole), through the allocation of aid funds in them, can allow to achieve one of the basic EU 2020 target in the area of social integration, that is a significant reduction in poverty incidence within the EU.

Some distortion of poverty assessments is caused by the use of modified OECD equivalence scales for estimation of household equivalent incomes. Not only do they have a scientific basis, but also are inappropriate for the EU countries with lower levels of economic development. The structure of consumption in these countries, e.g. in Poland, is better reflected by the original OECD scales, which are used in the national analysis. A much better solution would be for the EU countries to apply scales that reflect differences in the actual structure of consumption of the poor households with different demographic characteristics. Examples of such scales are scales based on utility functions (Panek, 2014b).

A significant difficulty for researchers is the unavailability of data for a number of the EU countries by regions. The option to attach IDs of regions (NUTS 1 and NUTS 2) to the data sets of households should be considered. It does not certainly allow to identify households participating in the EU-SILC survey.

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Appendix

Table A.1. Equivalent Disposable Incomes in the EU Countries in 2010

Acronyms	Countries	Equalized disposable incomes	
		PPS	EUR
EU-27	European Union		
AT	Austria	21 412	23 133
BE	Belgium	18 851	21 173
BG	Bulgaria	6 782	3 479
CY	Cyprus	21 699	19 551
CZ	Czech Republic	10 904	7 971
DK	Denmark	18 971	27 272
EE	Estonia	8 861	6 781
FI	Finland	18 652	23 251
FR	France	20 945	23 533
GR	Greece	14 605	13 868
IE	Ireland	19 430	23 878
ES	Spain	15 096	14 762
NL	Netherlands	20 998	22 638
LT	Lithuania	7 448	5 017
LU	Luxembourg	30 152	36 450
LV	Latvia	7 257	5 518
MT	Malta	15 126	11 854
DE	Germany	20 062	21 276
PL	Poland	8 787	5 116
PT	Portugal	11 689	10 425
RO	Romania	4 098	2 361
SE	Sweden	18 971	16 237
SI	Slovenia	14 775	10 881
SK	Slovakia	9 211	9 995
HU	Hungary	7 298	4 629
UK	United Kingdom	20 372	20 417
IT	Italy	17 286	18 126

Table A.2. Number of Monetary Poor in the EU Countries in 2010

Acronyms	Countries	Number of monetary poor			
		relative poverty lines		absolute poverty lines	
		national (RMPL-N)	EU-27 (RMPL-EU)	GB standard minimal budget (AMPL-GB)	PL standard minimal budget (AMPL-PL)
EU-27	European Union	81 374 640	116 618 783	86 295 429	11 271 638
AT	Austria	1 002 490	310 008	160 122	8 960
BE	Belgium	1 554 470	802 442	490 468	45 986
BG	Bulgaria	1 577 360	5 794 231	4 876 307	532 466
CY	Cyprus	126 477	47 723	23 048	975
CZ	Czech Republic	937 059	3 840 336	2 007 545	30 736
DK	Denmark	728 188	386 005	274 449	99 033
EE	Estonia	209 504	783 964	621 733	36 584
FI	Finland	691 575	306 796	151 794	12 894
FR	France	8 113 610	4 076 441	2 354 826	189 167
GR	Greece	2 233 010	2 918 616	1 994 345	146 038
IE	Ireland	692 523	457 639	285 521	66 754
ES	Spain	9 543 795	11 047 455	7 756 780	1 758 042
NL	Netherlands	1 717 401	614 442	420 795	133 077
LT	Lithuania	671 628	2 382 307	2 077 503	259 325
LU	Luxembourg	70 849	5 969	4 287	1 618
LV	Latvia	474 131	1 595 388	1 361 909	166 781
MT	Malta	62 181	76 958	42 068	3 903
DE	Germany	12 842 074	7 074 034	3 749 157	322 047
PL	Poland	6 592 725	22 352 111	17 130 765	832 830
PT	Portugal	1 958 000	4 482 753	3 205 187	117 983
RO	Romania	4 620 378	20 321 174	19 281 312	4 630 031
SE	Sweden	1 230 652	606 902	350 488	87 559
SI	Slovenia	254 696	289 695	169 777	2 823
SK	Slovakia	650 732	2 878 812	1 922 523	95 342
HU	Hungary	1 211 410	7 234 948	5 618 186	74 508
UK	United Kingdom	10 450 864	6 467 532	3 872 889	525 467
IT	Italy	11 156 859	9 464 102	6 091 648	1 090 710

Table A.3. Relative Monetary Poverty in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
EU-27	**European Union**	16.395	28.67	4.839	2.418	23.61	37.5	8.855	4.891
AT	**Austria**	12.103	22.03	2.667	0.966	3.743	24.02	0.899	0.393
	NUTS-1:								
AT1	East Austria	13.659	22.06	3.013	1.053	4.225	22.8	0.963	0.388
AT2	South Austria	14.620	24.45	3.574	1.415	5.079	27.2	1.382	0.655
AT3	West Austria	8.910	19.79	1.763	0.615	2.443	22.79	0.557	0.253
BE	**Belgium**	14.528	24.57	3.57	1.534	7.499	27.18	2.038	0.959
	NUTS-1:								
BE1	Brussles	28.323	28.91	8.189	3.687	17.61	28.31	4.986	2.335
BE2	Flemish Region	10.326	22.58	2.331	1.001	4.737	27.57	1.306	0.638
BE3	Wallon Region	17.746	24.48	4.345	1.816	9.289	26.15	2.429	1.102
BG	**Bulgaria**	20.854	32.65	6.81	3.216	76.61	42.95	32.9	18.3
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	27.441	33.93	9.31	4.535	81.12	46.88	38.03	22.23
BG4	South-Western and South--Central Bulgaria	13.757	29.91	4.115	1.794	71.74	38.16	27.38	14.06
CY	**Cyprus**	15.854	21.8	3.457	1.199	5.982	19.92	1.191	0.428
	NUTS-1:								
CY0	Cyprus	15.854	21.8	3.457	1.199	5.982	19.92	1.191	0.428
CZ	**Czech Republic**	9.010	24.56	2.213	0.886	36.93	22.35	8.255	3.073
	NUTS-1:								
CZ0	Czech Republic	9.010	24.56	2.213	0.886	36.93	22.35	8.255	3.073
	NUTS-2:								
CZ01	Praha	4.081	14.66	0.598	0.152	18.62	18.82	3.504	1.093
CZ02	Stredni Cechy	7.425	28.21	2.094	0.908	32.76	22.36	7.327	2.809
CZ03	Jihozapad	6.967	21.01	1.464	0.477	36.3	19.16	6.955	2.28
CZ04	Severozapad	14.591	27.11	3.956	1.749	45.73	25.82	11.81	4.949
CZ05	Severovychod	7.831	23.27	1.822	0.676	37.61	21.18	7.968	2.752
CZ06	Jihovychod	9.593	20.67	1.983	0.75	38.22	22.05	8.426	2.98
CZ07	Stredni Morava	10.170	24.62	2.504	0.951	41.55	23.08	9.593	3.535
CZ08	Moravskoslezsko	11.915	29.99	3.573	1.576	44.87	23.96	10.75	4.43
DK	**Denmark**	13.269	33.26	4.413	2.692	7.034	43.17	3.037	2.132
	NUTS-1:								
DK0	Denmark	13.269	33.26	4.413	2.692	7.034	43.17	3.037	2.132
EE	**Estonia**	15.766	29.53	4.656	2.319	59	35.7	21.06	10.18
	NUTS-1:								

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
EE0	Estonia	15.766	29.53	4.656	2.319	59	35.7	21.06	10.18
FI	**Finland**	13.119	20.15	2.644	1.004	5.82	23.87	1.389	0.612
	NUTS-1:								
FI1	Mainland Finland	13.119	20.15	2.644	1.004	5.82	23.87	1.389	0.612
	NUTS-2:								
FI13	Ita-Suomi	16.665	23.66	3.942	1.525	8.531	25.09	2.14	0.92
FI18	Etela-Suomi	11.716	18.92	2.217	0.836	4.875	23.63	1.152	0.513
FI19	Lansi-Suomi	13.530	20.8	2.814	1.079	6.544	22.54	1.475	0.663
FR	**France**	13.301	24.84	3.304	1.39	6.683	25.45	1.701	0.786
	NUTS-1:								
FR1	Ile-de-France	10.741	27.64	2.969	1.317	6.028	27.35	1.649	0.774
FR2	Paris basin	13.844	23.86	3.303	1.468	6.313	27.24	1.72	0.912
FR3	Nord-Pas-de-Calais	18.516	24.63	4.561	1.966	9.3	25.5	2.371	1.152
FR4	East	14.762	24.81	3.662	1.404	8.449	20.92	1.768	0.677
FR5	West	11.589	22.77	2.639	1.095	5.012	26.91	1.349	0.615
FR6	South West	13.943	26.5	3.694	1.582	7.631	25.7	1.961	0.897
FR7	Centre East	10.306	20.61	2.124	0.764	3.903	22.55	0.88	0.378
FR8	Mediterranean	16.117	26.45	4.263	1.758	8.864	24.87	2.204	0.944
	NUTS-2:								
FR10	Ile-de-France	10.741	27.64	2.969	1.317	6.028	27.35	1.649	0.774
FR21	Champagne-Ardennes	14.467	22.97	3.323	1.101	7.19	20.28	1.459	0.408
FR22	Picardie	19.833	23.33	4.626	1.637	11.17	19.33	2.159	0.657
FR23	Haute-Normandie	13.393	17.46	2.339	0.763	4.173	18.08	0.754	0.359
FR24	Centre	10.844	26.59	2.884	1.55	5.026	35.59	1.789	1.143
FR25	Basse-Normandie	8.933	17.67	1.579	0.647	2.583	24.92	0.644	0.431
FR26	Burgogne	13.465	33.11	4.459	2.915	5.682	56.13	3.19	2.447
FR30	Nord-Pas-de-Calais	18.516	24.63	4.561	1.966	9.3	25.5	2.371	1.152
FR41	Lorraine	16.769	19.88	3.334	1.04	7.72	15.37	1.187	0.386
FR42	Alsace	12.384	30.81	3.816	1.77	8.888	25.99	2.31	1.039
FR43	Franche-Comte	13.488	30.6	4.127	1.707	9.374	24.49	2.296	0.844
FR51	Pays-de-la-Loire	8.950	24.34	2.179	0.896	4.424	25.47	1.127	0.488
FR52	Brittany	13.332	23.59	3.145	1.384	5.866	29.54	1.733	0.818
FR53	Poitou-Chatentes	14.191	19.31	2.74	1.016	4.783	24.13	1.154	0.533
FR61	Aquitaine	12.678	27.17	3.445	1.613	6.711	29.94	2.009	1.011
FR62	Midi-Pyrenees	14.547	25.23	3.671	1.466	7.734	21.92	1.695	0.794
FR63	Limousin	17.636	27.83	4.908	1.833	11.46	23.05	2.642	0.727
FR71	Rhone-Alpes	9.410	22.12	2.082	0.81	3.735	25.15	0.939	0.439

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
FR72	Auvergne	13.586	16.76	2.277	0.595	4.518	14.67	0.663	0.155
FR81	Languedoc-Roussillon	18.315	28.57	5.232	2.445	9.946	29.28	2.912	1.55
FR82	Provence-Alpes-Cote d'Azur	14.411	24.32	3.505	1.229	7.991	20.36	1.627	0.487
FR83	Corse	25.269	33.36	8.431	4.515	14.2	41.1	5.835	3.13
GR	**Greece**	20.300	29.56	6.002	2.975	26.53	30.56	8.108	3.912
	NUTS-1:								
GR1	Voreia Ellada	24.201	29.56	7.153	3.338	31.53	30.74	9.694	4.505
GR2	Kentriki Ellada	24.175	29.89	7.225	3.391	33.26	29.55	9.83	4.567
GR3	Attica	16.466	29.83	4.912	2.668	20.12	32.27	6.493	3.368
GR4	Nisia Aigaiou, Kriti	16.086	27.59	4.438	2.273	23.74	26.72	6.343	2.986
IE	**Ireland**	15.522	29.31	4.55	2.571	10.26	34.28	3.517	2.19
	NUTS-1:								
IE0	Ireland	15.522	29.31	4.55	2.571	10.26	34.28	3.517	2.19
ES	**Spain**	20.838	39.57	8.245	5.283	24.12	38.31	9.24	5.747
	NUTS-1:								
ES1	North West	15.858	36.64	5.811	3.559	19.38	34.24	6.634	3.916
ES2	North East	12.378	42.22	5.226	3.62	14.57	39.87	5.807	3.874
ES3	Community of Madrid	13.529	42.68	5.774	3.98	16.01	40.06	6.413	4.263
ES4	Centre	27.124	37.21	10.09	6.185	30.66	37.18	11.4	6.797
ES5	East	17.811	39.74	7.079	4.702	21.22	37.45	7.949	5.079
ES6	South	29.943	40.94	12.26	7.814	33.66	40.45	13.62	8.502
ES7	Canary Islands	30.596	34.92	10.68	5.662	34.56	35.4	12.23	6.441
	NUTS-2:								
ES11	Galicia	16.931	35.86	6.071	3.708	21	33.24	6.981	4.085
ES12	Principado de Asturias	12.440	38.55	4.796	2.857	14.69	36.69	5.389	3.156
ES13	Cantabria	16.990	37.81	6.424	4.134	20.22	35.9	7.26	4.497
ES21	Pais Vasco	11.990	44.18	5.297	3.747	13.75	42.55	5.85	3.993
ES22	Comunidad Foral de Navarra	7.291	43.13	3.145	2.127	8.211	41.96	3.445	2.284
ES23	La Rioja	20.549	40.4	8.301	5.705	23.38	39.57	9.251	6.117
ES24	Aragon	13.482	39.81	5.368	3.625	16.82	35.92	6.041	3.904
ES30	Comunidad de Madrid	13.529	42.68	5.774	3.98	16.01	40.06	6.413	4.263
ES41	Castilla y Leon	21.088	39.82	8.397	5.657	24.17	38.86	9.395	6.091
ES42	Castilla-La Mancha	28.574	36.64	10.47	6.299	32.04	36.94	11.84	6.951
ES43	Extremadura	38.146	34.73	13.25	7.173	42.81	35.36	15.14	8.116
ES51	Cataluna	15.252	39.94	6.092	4.053	18.61	36.77	6.843	4.376
ES52	Comunidad Valenciana	20.950	38.48	8.061	5.324	24.65	36.92	9.101	5.761
ES53	Illes Balears	20.592	44.78	9.221	6.224	23.03	43.9	10.11	6.686

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
ES61	Andalusia	30.051	39.7	11.93	7.472	33.86	39.33	13.32	8.164
ES62	Murcia	29.206	47.57	13.89	9.585	32.55	46.38	15.1	10.24
ES63	Ciudad Autonoma de Ceuta	34.318	42.31	14.52	8.81	35	45.49	15.92	9.673
ES64	Ciudad Autonoma de Melilla	28.116	48.05	13.51	9.248	32.9	44.71	14.71	9.899
ES70	Canarias	30.596	34.92	10.68	5.662	34.56	35.4	12.23	6.441
NL	**Netherlands**	10.408	26.18	2.725	1.483	3.724	41.37	1.541	1.061
LT	**Lithuania**	20.230	37.88	7.664	4.419	71.76	44.19	31.71	17.99
	NUTS-1:								
LT0	Lithuania	20.230	37.88	7.664	4.419	71.76	44.19	31.71	17.99
LU	**Luxembourg**	14.513	22.1	3.208	1.27	1.223	49.93	0.61	0.457
	NUTS-1:								
LU0	Luxembourg	14.513	22.1	3.208	1.27	1.223	49.93	0.61	0.457
LV	**Latvia**	21.322	35.33	7.533	4.214	71.75	44.63	32.02	18.33
	NUTS-1:								
LV0	Latvia	21.322	35.33	7.533	4.214	71.75	44.63	32.02	18.33
MT	**Malta**	15.166	23.77	3.605	1.649	18.77	24.08	4.52	1.97
	NUTS-1:								
MT0	Malta	15.166	23.77	3.605	1.649	18.77	24.08	4.52	1.97
DE	**Germany**	15.874	25.18	3.997	1.649	8.744	24.31	2.126	0.947
PL	**Poland**	17.581	27.01	4.749	2.064	59.61	35.07	20.9	10.03
	NUTS-1:								
PL1	Central Poland	15.895	26.43	4.201	1.801	54.52	34.98	19.07	9.069
PL2	South Poland	14.569	28.69	4.18	1.958	56.71	32.36	18.35	8.638
PL3	East Poland	24.270	26.28	6.377	2.605	70.53	38.02	26.82	13.23
PL4	Northwest Poland	18.497	26.71	4.941	2.03	61.5	35.25	21.68	10.43
PL5	Southwest Poland	15.613	28.34	4.425	2.014	54.05	35.03	18.93	9.13
PL6	North Poland	16.563	26.49	4.388	2.003	59.43	34.47	20.49	9.67
	NUTS-2:								
PL11	Łódzkie	17.762	27.3	4.848	2.105	60.19	35.2	21.19	10.16
PL12	Mazowieckie	14.987	25.93	3.887	1.654	51.77	34.86	18.05	8.54
PL21	Małopolskie	17.711	29.97	5.308	2.457	62.63	33.4	20.92	10.13
PL22	Śląskie	12.402	27.44	3.403	1.614	52.63	31.51	16.58	7.611
PL31	Lubelskie	30.688	28.48	8.74	3.596	71	41.71	29.62	15.65
PL32	Podkarpackie	24.117	24.2	5.835	2.233	67	38.29	25.66	12.58
PL33	Świętokrzyskie	23.202	29.62	6.871	3.25	75	36.85	27.64	13.82
PL34	Podlaskie	13.368	16.9	2.259	0.645	71.16	31.83	22.65	9.075
PL41	Wielkopolskie	17.633	26.14	4.609	1.943	58.29	35.18	20.5	9.774

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
PL42	Zachodnio-Pomorskie	17.435	25.86	4.509	1.864	65.63	35.13	23.06	10.86
PL43	Lubuskie	23.264	29.28	6.811	2.609	65.83	35.68	23.49	12.01
PL51	Dolnośląskie	15.910	28.27	4.498	2.07	53.7	35.23	18.92	9.171
PL52	Opolskie	14.724	28.58	4.208	1.848	55.1	34.44	18.97	9.006
PL61	Kujawsko-Pomorskie	19.197	23.75	4.558	1.868	64.61	34.47	22.27	10.41
PL62	Warmińsko-Mazurskie	15.067	21.54	3.245	1.17	62.74	33.91	21.27	9.426
PL63	Pomorskie	15.103	32.88	4.965	2.661	52.54	34.91	18.34	9.146
PT	**Portugal**	18.472	28.24	5.217	2.262	42.29	31.52	13.33	6.072
RO	**Romania**	21.490	33.91	7.288	3.568	94.52	57.4	54.25	35.6
	NUTS-1:								
RO1	One	18.060	32.88	5.939	2.742	95.75	54.86	52.53	33.17
RO2	Two	28.597	35.01	10.01	4.924	95.67	61.37	58.71	40.32
RO3	Three	14.723	30.03	4.421	2.159	91	53.49	48.67	30.4
RO4	Four	24.478	36.36	8.901	4.554	96.35	59.8	57.62	38.88
SE	**Sweden**	13.051	27.61	3.603	1.861	6.436	33.19	2.136	1.312
	NUTS-1:								
SE1	East Sweden	11.752	27.97	3.287	1.684	5.868	33.41	1.96	1.168
SE2	South Sweden	13.869	26.61	3.691	1.889	6.508	33.06	2.152	1.336
SE3	North Sweden	13.731	29.4	4.037	2.153	7.425	33.1	2.458	1.547
SI	**Slovenia**	12.732	23.08	2.939	1.075	14.48	23.32	3.377	1.241
	NUTS-1:								
SI0	Slovenia	12.732	23.08	2.939	1.075	14.48	23.32	3.377	1.241
SK	**Slovakia**	11.995	30.36	3.642	1.775	53.07	28.54	15.15	6.565
	NUTS-1:								
SK0	Slovakia	11.995	30.36	3.642	1.775	53.07	28.54	15.15	6.565
HU	**Hungary**	12.280	19.76	2.426	0.784	73.34	33.04	24.23	10.61
	NUTS-1:								
HU1	Central Hungary	6.495	22.25	1.445	0.543	59.23	28.7	17	6.921
HU2	Transdanubia	11.415	19.28	2.201	0.685	75.54	31.65	23.91	10.12
HU3	Great Plain and North	17.141	19.31	3.311	1.033	81.95	36.29	29.74	13.65
UK	United Kingdom	17.360	28.04	4.867	2.378	10.53	30.27	3.188	1.706
IT	**Italy**	18.171	32.57	5.918	3.269	15.72	33.19	5.218	2.969
	NUTS-1:								
ITC	North West	11.050	30.85	3.41	1.97	9.261	32.11	2.974	1.811
ITD	North East	9.555	28.9	2.761	1.509	8.135	29.16	2.372	1.371
ITE	Centre	13.608	30.37	4.133	2.264	11.03	32.83	3.622	2.054
ITF	South	30.176	33.5	10.11	5.507	26.64	33.61	8.953	4.981

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		national poverty lines (RMPL-N)				EU-27 poverty lines (RMPL-EU)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
ITG	Islands	32.624	35.6	11.61	6.433	29.36	35.34	10.37	5.836

Table A.4. Extreme Monetary Poverty in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
EU-27	**European Union**	17.46	37.61	6.57	3.67	2.28	22.76	1.11	0.79
AT	**Austria**	1.93	28.23	0.55	0.26	0.11	46.54	0.05	0.03
	NUTS-1:								
AT1	East Austria	2.13	26.33	0.56	0.23	0.08	57.34	0.04	0.03
AT2	South Austria	2.88	31.19	0.90	0.45	0.17	26.60	0.05	0.02
AT3	West Austria	1.18	28.16	0.33	0.17	0.11	55.66	0.06	0.04
BE	**Belgium**	4.58	27.83	1.28	0.66	0.43	61.00	0.26	0.21
	NUTS-1:								
BE1	Brussles	11.28	28.12	3.17	1.59	0.84	58.34	0.49	0.39
BE2	Flemish Region	2.73	30.78	0.84	0.45	0.26	69.94	0.18	0.16
BE3	Wallon Region	5.81	25.16	1.46	0.74	0.60	55.11	0.33	0.26
BG	**Bulgaria**	64.47	39.50	25.46	13.52	7.04	30.51	2.15	1.03
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	71.61	42.45	30.40	16.96	10.09	31.24	3.15	1.54
BG4	South-Western and South-Central Bulgaria	56.78	35.49	20.15	9.82	3.76	28.38	1.07	0.49
CY	**Cyprus**	2.89	19.93	0.58	0.24	0.12	58.25	0.07	0.06
	NUTS-1:								
CY0	Cyprus	2.89	19.93	0.58	0.24	0.12	58.25	0.07	0.06
CZ	**Czech Republic**	19.30	22.88	4.42	1.70	0.30	31.75	0.09	0.05
	NUTS-1:								
CZ0	Czech Republic	19.30	22.88	4.42	1.70	0.30	31.75	0.09	0.05
	NUTS-2:								
CZ01	Praha	8.70	19.07	1.66	0.48	0.00	0.00	0.00	0.00
CZ02	Stredni Cechy	17.12	23.16	3.97	1.62	0.33	8.81	0.03	0.00
CZ03	Jihozapad	15.80	20.68	3.27	1.11	0.00	0.00	0.00	0.00
CZ04	Severozapad	26.34	26.93	7.09	3.04	0.70	27.53	0.19	0.12
CZ05	Severovychod	19.21	20.57	3.95	1.41	0.22	20.58	0.05	0.01
CZ06	Jihovychod	20.44	21.02	4.30	1.55	0.24	53.17	0.13	0.11

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
CZ07	Stredni Morava	23.39	22.07	5.16	1.92	0.28	48.18	0.13	0.08
CZ08	Moravskoslezsko	23.64	26.61	6.29	2.72	0.66	34.65	0.23	0.10
DK	**Denmark**	5.00	49.40	2.47	1.86	1.80	72.07	1.30	1.11
	NUTS-1:								
DK0	Denmark	5.00	49.40	2.47	1.86	1.80	72.07	1.30	1.11
EE	**Estonia**	46.79	31.58	14.78	6.79	2.75	42.15	1.16	0.76
	NUTS-1:								
EE0	Estonia	46.79	31.58	14.78	6.79	2.75	42.15	1.16	0.76
FI	**Finland**	2.88	28.64	0.82	0.41	0.24	51.29	0.13	0.10
	NUTS-1:								
FI1	Mainland Finland	2.88	28.64	0.82	0.41	0.24	51.29	0.13	0.10
	NUTS-2:								
FI13	Ita-Suomi	4.28	29.24	1.25	0.59	0.18	64.27	0.12	0.10
FI18	Etela-Suomi	2.49	27.49	0.69	0.34	0.22	65.00	0.14	0.13
FI19	Lansi-Suomi	2.87	30.67	0.88	0.45	0.33	35.89	0.12	0.07
FR	**France**	3.86	26.93	1.04	0.54	0.31	56.45	0.18	0.13
	NUTS-1:								
FR1	Ile-de-France	3.67	29.56	1.08	0.52	0.35	44.32	0.16	0.09
FR2	Paris basin	3.77	29.09	1.10	0.70	0.41	79.93	0.33	0.29
FR3	Nord-Pas-de-Calais	5.41	27.10	1.47	0.83	0.60	40.39	0.24	0.14
FR4	East	4.26	22.73	0.97	0.39	0.07	33.42	0.02	0.01
FR5	West	3.33	24.82	0.83	0.41	0.15	55.56	0.08	0.05
FR6	South West	4.51	26.84	1.21	0.60	0.46	31.31	0.14	0.06
FR7	Centre East	1.62	29.47	0.48	0.26	0.11	100.00	0.11	0.11
FR8	Mediterranean	5.05	25.43	1.29	0.61	0.33	77.99	0.26	0.22
	NUTS-2:								
FR10	Ile-de-France	3.67	29.56	1.08	0.52	0.35	44.32	0.16	0.09
FR21	Champagne-Ardennes	4.75	12.09	0.57	0.15	0.00	0.00	0.00	0.00
FR22	Picardie	7.29	11.42	0.83	0.30	0.14	70.62	0.10	0.07
FR23	Haute-Normandie	0.82	52.36	0.43	0.27	0.00	0.00	0.00	0.00
FR24	Centre	2.54	56.22	1.43	0.95	0.40	45.91	0.18	0.09
FR25	Basse-Normandie	0.95	53.30	0.50	0.38	0.28	86.99	0.24	0.21
FR26	Burgogne	4.91	55.80	2.74	2.22	1.77	90.39	1.60	1.50
FR30	Nord-Pas-de-Calais	5.41	27.10	1.47	0.83	0.60	40.39	0.24	0.14
FR41	Lorraine	2.63	21.29	0.56	0.19	0.00	0.00	0.00	0.00
FR42	Alsace	4.46	33.03	1.47	0.68	0.00	0.00	0.00	0.00
FR43	Franche-Comte	7.20	16.76	1.21	0.45	0.29	33.42	0.10	0.03

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
FR51	Pays-de-la-Loire	3.08	19.97	0.61	0.32	0.20	45.99	0.09	0.06
FR52	Brittany	4.10	27.24	1.12	0.56	0.16	70.63	0.11	0.08
FR53	Poitou-Chatentes	2.52	30.60	0.77	0.35	0.00	0.00	0.00	0.00
FR61	Aquitaine	4.37	31.21	1.36	0.72	0.59	31.93	0.19	0.09
FR62	Midi-Pyrenees	3.38	31.82	1.08	0.55	0.43	30.16	0.13	0.04
FR63	Limousin	8.96	10.80	0.97	0.24	0.00	0.00	0.00	0.00
FR71	Rhone-Alpes	1.81	30.77	0.56	0.31	0.14	100.00	0.14	0.14
FR72	Auvergne	0.92	20.13	0.19	0.06	0.00	0.00	0.00	0.00
FR81	Languedoc-Roussillon	5.24	37.58	1.97	1.18	0.76	79.79	0.61	0.53
FR82	Provence-Alpes-Cote d'Azur	4.56	16.48	0.75	0.19	0.00	0.00	0.00	0.00
FR83	Corse	14.20	29.52	4.19	2.28	1.96	67.83	1.33	0.90
GR	**Greece**	18.13	29.44	5.34	2.70	1.33	70.15	0.93	0.85
	NUTS-1:								
GR1	Voreia Ellada	21.83	29.12	6.36	2.99	1.05	74.63	0.78	0.68
GR2	Kentriki Ellada	21.69	29.72	6.45	3.04	1.65	36.60	0.60	0.44
GR3	Attica	14.41	30.37	4.38	2.47	1.44	82.24	1.19	1.16
GR4	Nisia Aigaiou, Kriti	14.68	26.45	3.88	2.08	1.10	89.98	0.99	0.98
IE	**Ireland**	6.40	42.05	2.69	1.80	1.50	60.36	0.90	0.77
	NUTS-1:								
IE0	Ireland	6.40	42.05	2.69	1.80	1.50	60.36	0.90	0.77
ES	**Spain**	16.94	41.53	7.03	4.72	3.84	72.75	2.79	2.45
	NUTS-1:								
ES1	North West	12.37	39.45	4.88	3.13	2.38	69.50	1.66	1.46
ES2	North East	10.03	45.36	4.55	3.32	3.24	68.45	2.22	1.98
ES3	Community of Madrid	11.41	44.00	5.02	3.64	3.23	76.82	2.48	2.20
ES4	Centre	21.99	38.42	8.45	5.45	4.23	73.61	3.11	2.75
ES5	East	14.27	42.35	6.04	4.26	3.54	75.95	2.69	2.40
ES6	South	24.65	42.82	10.55	6.95	5.60	70.30	3.94	3.34
ES7	Canary Islands	24.77	35.31	8.75	4.69	2.53	68.07	1.72	1.50
	NUTS-2:								
ES11	Galicia	12.99	39.00	5.07	3.26	2.62	64.26	1.68	1.41
ES12	Principado de Asturias	10.31	39.49	4.07	2.48	1.56	78.82	1.23	1.17
ES13	Cantabria	13.20	41.52	5.48	3.70	2.75	83.60	2.30	2.23
ES21	Pais Vasco	9.50	48.98	4.65	3.46	3.40	67.53	2.30	1.98
ES22	Comunidad Foral de Navarra	6.19	43.99	2.72	1.93	1.80	66.75	1.20	1.03
ES23	La Rioja	17.02	42.04	7.16	5.22	4.85	81.30	3.95	3.68
ES24	Aragon	11.06	41.87	4.63	3.30	3.27	65.90	2.15	2.01

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
ES30	Comunidad de Madrid	11.41	44.00	5.02	3.64	3.23	76.82	2.48	2.20
ES41	Castilla y Leon	16.48	43.98	7.25	5.14	4.41	73.37	3.24	2.84
ES42	Castilla-La Mancha	23.19	37.37	8.67	5.52	4.14	75.99	3.14	2.78
ES43	Extremadura	32.26	33.38	10.77	6.01	3.97	69.62	2.76	2.50
ES51	Cataluna	12.64	41.11	5.19	3.67	3.37	68.32	2.31	1.98
ES52	Comunidad Valenciana	16.26	42.00	6.83	4.82	3.78	84.84	3.20	2.95
ES53	Illes Balears	16.08	50.75	8.16	5.63	3.54	81.25	2.88	2.72
ES61	Andalusia	24.37	41.89	10.21	6.61	5.17	71.02	3.67	3.17
ES62	Murcia	26.04	47.22	12.30	8.74	8.16	67.69	5.52	4.41
ES63	Ciudad Autonoma de Ceuta	28.58	44.58	12.74	7.65	1.69	82.36	1.39	1.20
ES64	Ciudad Autonoma de Melilla	24.07	49.95	12.02	8.40	6.68	68.66	4.59	3.80
ES70	Canarias	24.77	35.31	8.75	4.69	2.53	68.07	1.72	1.50
NL	**Netherlands**	2.55	48.54	1.24	0.92	0.81	86.04	0.69	0.64
LT	**Lithuania**	62.58	39.44	24.68	13.49	7.81	44.16	3.45	2.24
	NUTS-1:								
LT0	Lithuania	62.58	39.44	24.68	13.49	7.81	44.16	3.45	2.24
LU	**Luxembourg**	0.88	60.43	0.53	0.41	0.33	84.45	0.28	0.26
	NUTS-1:								
LU0	Luxembourg	0.88	60.43	0.53	0.41	0.33	84.45	0.28	0.26
LV	**Latvia**	61.25	41.03	25.13	13.84	7.50	43.76	3.28	2.10
	NUTS-1:								
LV0	Latvia	61.25	41.03	25.13	13.84	7.50	43.76	3.28	2.10
MT	**Malta**	10.26	25.06	2.57	1.31	0.95	58.18	0.55	0.42
	NUTS-1:								
MT0	Malta	10.26	25.06	2.57	1.31	0.95	58.18	0.55	0.42
DE	**Germany**	4.63	26.77	1.24	0.64	0.40	63.97	0.25	0.21
PL	**Poland**	45.68	32.03	14.63	6.65	2.22	32.98	0.73	0.38
	NUTS-1:								
PL1	Central Poland	41.94	31.61	13.26	5.97	1.96	31.02	0.61	0.29
PL2	South Poland	39.90	31.11	12.41	5.72	2.67	28.48	0.76	0.39
PL3	East Poland	58.24	33.48	19.50	8.88	2.52	31.10	0.78	0.36
PL4	Northwest Poland	47.05	32.41	15.25	6.93	1.72	39.07	0.67	0.35
PL5	Southwest Poland	41.82	31.69	13.25	6.10	2.38	35.29	0.84	0.42
PL6	North Poland	45.23	31.29	14.15	6.33	2.04	39.15	0.80	0.51
	NUTS-2:								
PL11	Łódzkie	46.27	31.84	14.73	6.74	2.24	27.64	0.62	0.29
PL12	Mazowieckie	39.82	31.49	12.54	5.59	1.82	33.03	0.60	0.29

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
PL21	Małopolskie	44.09	32.62	14.38	6.87	3.68	21.29	0.78	0.32
PL22	Śląskie	37.00	29.88	11.06	4.92	1.97	37.74	0.74	0.45
PL31	Lubelskie	60.43	37.39	22.60	11.06	3.07	29.50	0.91	0.35
PL32	Podkarpackie	54.61	34.30	18.73	8.38	2.08	28.06	0.58	0.25
PL33	Świętokrzyskie	58.82	34.08	20.05	9.45	3.83	38.91	1.49	0.84
PL34	Podlaskie	60.29	23.75	14.32	4.92	0.78	13.99	0.11	0.03
PL41	Wielkopolskie	45.80	31.06	14.23	6.45	2.03	39.08	0.79	0.40
PL42	Zachodnio-Pomorskie	50.57	32.19	16.28	7.02	1.23	41.84	0.51	0.32
PL43	Lubuskie	45.54	37.55	17.10	8.42	1.47	35.14	0.51	0.21
PL51	Dolnośląskie	41.78	31.74	13.26	6.15	2.22	40.40	0.90	0.49
PL52	Opolskie	41.95	31.53	13.23	5.93	2.84	23.32	0.66	0.21
PL61	Kujawsko-Pomorskie	48.99	31.40	15.38	6.74	1.62	36.18	0.58	0.33
PL62	Warmińsko-Mazurskie	48.07	30.20	14.52	5.74	1.45	13.26	0.19	0.07
PL63	Pomorskie	39.96	32.01	12.79	6.34	2.81	49.32	1.38	0.95
PT	**Portugal**	30.24	29.13	8.81	3.90	1.11	34.26	0.38	0.21
RO	**Romania**	89.68	52.12	46.74	29.05	21.54	34.10	7.34	3.60
	NUTS-1:								
RO1	One	90.54	49.12	44.48	26.42	18.10	33.07	5.99	2.77
RO2	Two	91.89	56.36	51.79	33.76	28.60	35.26	10.08	4.96
RO3	Three	84.68	48.22	40.83	24.10	14.78	30.18	4.46	2.18
RO4	Four	92.52	54.40	50.32	32.25	24.58	36.46	8.96	4.59
SE	**Sweden**	3.72	42.42	1.58	1.08	0.93	69.57	0.65	0.54
	NUTS-1:								
SE1	East Sweden	3.42	41.72	1.43	0.95	0.78	63.42	0.49	0.39
SE2	South Sweden	3.67	43.56	1.60	1.11	0.91	74.29	0.68	0.58
SE3	North Sweden	4.43	41.25	1.83	1.30	1.27	69.09	0.88	0.74
SI	**Slovenia**	8.49	21.65	1.84	0.66	0.14	32.41	0.05	0.03
	NUTS-1:								
SI0	Slovenia	8.49	21.65	1.84	0.66	0.14	32.41	0.05	0.03
SK	**Slovakia**	35.44	26.42	9.36	4.11	1.76	36.26	0.64	0.37
	NUTS-1:								
SK0	Slovakia	35.44	26.42	9.36	4.11	1.76	36.26	0.64	0.37
HU	**Hungary**	56.95	28.22	16.07	6.43	0.76	25.95	0.20	0.09
	NUTS-1:								
HU1	Central Hungary	41.26	25.28	10.43	3.98	0.65	27.72	0.18	0.11
HU2	Transdanubia	57.57	26.65	15.34	5.96	0.55	26.42	0.14	0.07
HU3	Great Plain and North	67.90	30.51	20.72	8.57	0.99	24.91	0.25	0.10

Acronyms	Countries and regions	Monetary poverty indicies * 100							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		H^{um}	I^{um}	IT^{um}	SE^{um}	H^{um}	I^{um}	IT^{um}	SE^{um}
UK	**United Kingdom**	6.43	33.97	2.19	1.29	0.86	79.87	0.68	0.62
IT	**Italy**	9.92	37.66	3.74	2.33	1.81	67.23	1.22	1.01
	NUTS-1:								
ITC	North West	5.07	43.05	2.18	1.49	1.26	71.67	0.90	0.77
ITD	North East	4.01	41.13	1.65	1.11	0.95	70.62	0.67	0.56
ITE	Centre	6.95	37.14	2.58	1.61	1.30	69.03	0.90	0.76
ITF	South	17.48	36.52	6.38	3.83	2.91	59.98	1.75	1.38
ITG	Islands	20.91	35.70	7.47	4.50	3.17	74.04	2.35	2.01

Table A.5. Number of Materially Deprived in the EU Countries in 2010

Acronyms	Countries	Number of materially deprived	
		absolute non-monetary poverty line (AN-MPL-12)	absolute non-monetary poverty line (AN-MPL-9)
EU-27	European Union	54 985 998	37 688 056
AT	Austria	533 860	355 760
BE	Belgium	894 339	626 687
BG	Bulgaria	3 532 482	2 638 569
CY	Cyprus	142 105	78 334
CZ	Czech Republic	861 500	643 420
DK	Denmark	178 912	145 473
EE	Estonia	224 333	119 348
FI	Finland	191 776	149 685
FR	France	4 725 316	3 531 009
GR	Greece	1 635 723	1 274 569
IE	Ireland	275 119	159 207
ES	Spain	3 366 103	1 815 507
NL	Netherlands	653 187	366 995
LT	Lithuania	1 028 316	648 433
LU	Luxembourg	8 295	2 596
LV	Latvia	873 927	608 903
MT	Malta	31 290	23 467
DE	Germany	4 202 553	2 819 219
PL	Poland	7 233 634	5 335 455
PT	Portugal	1 495 328	954 253
RO	Romania	10 151 064	6 674 806
SE	Sweden	94 458	63 450

Acronyms	Countries	Number of materially deprived	
		absolute non-monetary poverty line (AN-MPL-12)	absolute non-monetary poverty line (AN-MPL-9)
SI	Slovenia	224 744	118 643
SK	Slovakia	713 773	621 129
HU	Hungary	2 742 962	2 129 042
UK	United Kingdom	2 929 118	1 626 756
IT	Italy	6 041 780	4 157 340

Table A.6. Material Deprivation in the EU Countries and Regions in 2010

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
EU-27	**European Union**	7.85	14.39	1.13	2.01	11.41	25.35	2.89	2.04
AT	**Austria**	4.29	13.32	0.57	0.86	6.45	17.07	1.10	0.57
	NUTS-1:								
AT1	East Austria	6.44	16.00	1.03	1.62	9.42	20.38	1.92	1.01
AT2	South Austria	3.83	12.12	0.46	0.60	6.42	14.92	0.96	0.49
AT3	West Austria	2.09	5.05	0.11	0.13	3.03	7.81	0.24	0.10
BE	**Belgium**	5.86	13.28	0.78	1.40	8.36	18.66	1.56	0.84
	NUTS-1:								
BE1	Brussles	21.66	19.72	4.27	8.20	24.29	28.31	6.88	4.19
BE2	Flemish Region	1.57	6.59	0.10	0.17	3.73	8.95	0.33	0.13
BE3	Wallon Region	8.59	10.39	0.89	1.47	11.68	17.94	2.10	1.05
BG	**Bulgaria**	34.88	19.07	6.65	13.62	46.70	40.17	18.76	15.38
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	37.37	20.60	7.70	16.14	51.05	44.07	22.49	19.42
BG4	South-Western and South-Central Bulgaria	32.21	17.15	5.53	10.90	42.02	35.07	14.74	11.03
CY	**Cyprus**	9.82	5.55	0.55	0.65	17.81	11.50	2.05	0.84
	NUTS-1:								
CY0	Cyprus	9.82	5.55	0.55	0.65	17.81	11.50	2.05	0.84
CZ	**Czech Republic**	6.19	12.74	0.79	1.30	8.28	16.61	1.38	0.75
	NUTS-1:								
CZ0	Czech Republic	6.19	12.74	0.79	1.30	8.28	16.61	1.38	0.75
	NUTS-2:								
CZ01	Praha	4.23	6.31	0.27	0.40	5.73	10.86	0.62	0.28
CZ02	Stredni Cechy	4.88	10.61	0.52	0.96	7.34	12.59	0.92	0.49
CZ03	Jihozapad	7.24	11.51	0.83	1.17	8.97	14.72	1.32	0.72

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
CZ04	Severozapad	9.27	14.69	1.36	2.02	11.57	16.76	1.94	0.92
CZ05	Severovychod	3.81	11.15	0.42	0.60	5.83	14.49	0.85	0.43
CZ06	Jihovychod	4.99	11.69	0.58	0.76	7.39	15.67	1.16	0.54
CZ07	Stredni Morava	6.06	13.63	0.83	1.57	8.69	18.68	1.62	0.96
CZ08	Moravskoslezsko	10.22	16.53	1.69	3.37	11.87	23.66	2.81	1.81
DK	**Denmark**	2.65	7.20	0.19	0.30	3.26	10.42	0.34	0.13
	NUTS-1:								
DK0	Denmark	2.65	7.20	0.19	0.30	3.26	10.42	0.34	0.13
EE	**Estonia**	8.98	12.67	1.14	2.15	16.88	22.52	3.80	2.42
	NUTS-1:								
EE0	Estonia	8.98	12.67	1.14	2.15	16.88	22.52	3.80	2.42
FI	**Finland**	2.84	10.58	0.30	0.44	3.64	14.38	0.52	0.25
	NUTS-1:								
FI1	Mainland Finland	2.84	10.58	0.30	0.44	3.64	14.38	0.52	0.25
	NUTS-2:								
FI13	Ita-Suomi	2.53	8.80	0.22	0.22	3.47	10.01	0.35	0.13
FI18	Etela-Suomi	2.98	11.77	0.35	0.53	3.68	14.93	0.55	0.25
FI19	Lansi-Suomi	2.18	12.04	0.26	0.47	3.35	16.37	0.55	0.35
FR	**France**	5.79	9.37	0.54	0.73	7.75	14.14	1.10	0.45
	NUTS-1:								
FR1	Ile-de-France	6.59	11.16	0.74	0.99	7.82	15.37	1.20	0.51
FR2	Paris basin	4.37	9.09	0.40	0.45	6.82	12.08	0.82	0.29
FR3	Nord-Pas-de-Calais	8.31	8.52	0.71	0.82	11.69	15.52	1.81	0.66
FR4	East	4.66	13.92	0.65	1.01	6.02	16.91	1.02	0.50
FR5	West	4.45	8.49	0.38	0.62	6.11	13.79	0.84	0.38
FR6	South West	6.39	7.40	0.47	0.59	9.47	11.03	1.04	0.40
FR7	Centre East	3.87	8.71	0.34	0.61	5.42	10.90	0.59	0.29
FR8	Mediterranean	8.92	8.36	0.75	0.88	10.42	17.16	1.79	0.75
	NUTS-2:								
FR10	Ile-de-France	6.59	11.16	0.74	0.99	7.82	15.37	1.20	0.51
FR21	Champagne-Ardennes	5.86	9.82	0.58	0.58	8.08	8.44	0.68	0.17
FR22	Picardie	4.32	8.78	0.38	0.44	8.80	11.25	0.99	0.42
FR23	Haute-Normandie	4.39	5.21	0.23	0.38	7.91	7.78	0.62	0.21
FR24	Centre	5.21	12.47	0.65	0.65	7.17	18.68	1.34	0.46
FR25	Basse-Normandie	4.24	7.81	0.33	0.46	4.83	13.19	0.64	0.19
FR26	Burgogne	2.03	7.25	0.15	0.15	2.94	13.55	0.40	0.13
FR30	Nord-Pas-de-Calais	8.31	8.52	0.71	0.82	11.69	15.52	1.81	0.66

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
FR41	Lorraine	5.05	12.68	0.64	1.12	6.23	16.71	1.04	0.53
FR42	Alsace	7.07	15.85	1.12	1.61	9.34	17.55	1.64	0.78
FR43	Franche-Comte	1.27	11.74	0.15	0.15	1.99	14.93	0.30	0.15
FR51	Pays-de-la-Loire	3.40	5.93	0.20	0.30	4.10	14.56	0.60	0.24
FR52	Brittany	4.18	17.29	0.72	1.22	6.59	17.57	1.16	0.56
FR53	Poitou-Chatentes	7.18	2.17	0.16	0.27	9.55	8.55	0.82	0.37
FR61	Aquitaine	5.03	7.62	0.38	0.43	8.34	11.80	0.98	0.40
FR62	Midi-Pyrenees	7.89	8.55	0.67	0.87	10.15	10.10	1.03	0.34
FR63	Limousin	7.45	2.63	0.20	0.39	12.26	11.30	1.39	0.63
FR71	Rhone-Alpes	4.07	9.02	0.37	0.71	5.51	12.21	0.67	0.34
FR72	Auvergne	3.12	7.22	0.23	0.23	5.08	5.68	0.29	0.07
FR81	Languedoc-Roussillon	11.34	8.27	0.94	0.94	13.39	14.15	1.89	0.64
FR82	Provence-Alpes-Cote d'Azur	7.43	8.91	0.66	0.88	8.65	20.55	1.78	0.85
FR83	Corse	9.89	0.00	0.00	0.00	9.89	4.97	0.49	0.12
GR	**Greece**	11.59	11.50	1.33	1.86	14.87	16.44	2.44	1.14
	NUTS-1:								
GR1	Voreia Ellada	13.08	8.61	1.13	1.67	16.55	15.46	2.56	1.29
GR2	Kentriki Ellada	13.75	12.25	1.68	2.20	17.46	14.63	2.56	1.04
GR3	Attica	9.52	13.38	1.27	1.74	11.53	17.86	2.06	0.89
GR4	Nisia Aigaiou. Kriti	11.07	13.84	1.53	2.31	18.05	18.96	3.42	1.86
IE	**Ireland**	3.57	8.31	0.30	0.36	6.17	11.47	0.71	0.31
	NUTS-1:								
IE0	Ireland	3.57	8.31	0.30	0.36	6.17	11.47	0.71	0.31
ES	**Spain**	3.96	7.63	0.30	0.42	7.35	8.84	0.65	0.25
	NUTS-1:								
ES1	North West	2.89	2.56	0.07	0.13	5.84	5.49	0.32	0.11
ES2	North East	2.04	5.03	0.10	0.10	3.08	7.71	0.24	0.06
ES3	Community of Madrid	4.46	6.07	0.27	0.39	6.53	5.67	0.37	0.15
ES4	Centre	2.89	8.01	0.23	0.31	5.87	10.03	0.59	0.23
ES5	East	3.58	11.88	0.43	0.64	6.08	10.98	0.67	0.29
ES6	South	6.34	6.01	0.38	0.45	13.16	8.59	1.13	0.39
ES7	Canary Islands	2.83	11.49	0.33	0.65	6.57	12.72	0.84	0.43
	NUTS-2:								
ES11	Galicia	4.07	2.48	0.10	0.17	7.74	5.81	0.45	0.16
ES12	Principado de Asturias	0.77	5.72	0.04	0.10	2.23	3.82	0.09	0.03
ES13	Cantabria	1.13	0.00	0.00	0.00	3.38	4.08	0.14	0.03
ES21	Pais Vasco	2.07	2.52	0.05	0.05	3.30	6.90	0.23	0.06

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
ES22	Comunidad Foral de Navarra	1.72	0.00	0.00	0.00	4.02	5.06	0.20	0.05
ES23	La Rioja	2.70	13.94	0.38	0.38	4.33	8.70	0.38	0.09
ES24	Aragon	1.98	8.50	0.17	0.17	1.98	11.99	0.24	0.07
ES30	Comunidad de Madrid	4.46	6.07	0.27	0.39	6.53	5.67	0.37	0.15
ES41	Castilla y Leon	2.25	16.51	0.37	0.49	3.18	18.71	0.59	0.29
ES42	Castilla-La Mancha	2.54	3.69	0.09	0.14	6.93	6.22	0.43	0.13
ES43	Extremadura	4.99	3.39	0.17	0.20	10.03	8.65	0.87	0.29
ES51	Cataluna	3.75	11.91	0.45	0.73	6.01	11.80	0.71	0.32
ES52	Comunidad Valenciana	3.14	10.06	0.32	0.34	5.72	8.89	0.51	0.20
ES53	Illes Balears	4.56	17.60	0.80	1.47	8.20	13.74	1.13	0.53
ES61	Andalusia	5.23	3.11	0.16	0.19	12.18	6.89	0.84	0.28
ES62	Murcia	12.60	12.73	1.60	1.89	18.65	14.54	2.71	1.02
ES63	Ciudad Autonoma de Ceuta	3.14	0.00	0.00	0.00	11.81	6.64	0.78	0.20
ES64	Ciudad Autonoma de Melilla	6.79	6.71	0.46	0.46	13.05	15.86	2.07	0.75
ES70	Canarias	2.83	11.49	0.33	0.65	6.57	12.72	0.84	0.43
NL	**Netherlands**	2.22	7.07	0.16	0.24	3.96	12.00	0.47	0.18
LT	**Lithuania**	19.53	17.91	3.50	7.06	30.97	30.79	9.54	7.37
	NUTS-1:								
LT0	Lithuania	19.53	17.91	3.50	7.06	30.97	30.79	9.54	7.37
LU	**Luxembourg**	0.53	6.78	0.04	0.04	1.70	3.97	0.07	0.02
	NUTS-1:								
LU0	Luxembourg	0.53	6.78	0.04	0.04	1.70	3.97	0.07	0.02
LV	**Latvia**	27.38	20.54	5.63	11.12	39.30	34.68	13.63	10.44
	NUTS-1:								
LV0	Latvia	27.38	20.54	5.63	11.12	39.30	34.68	13.63	10.44
MT	**Malta**	5.72	8.26	0.47	0.92	7.63	11.41	0.87	0.45
	NUTS-1:								
MT0	Malta	5.72	8.26	0.47	0.92	7.63	11.41	0.87	0.45
DE	**Germany**	3.48	6.38	0.22	0.29	5.19	10.07	0.52	0.19
PL	**Poland**	14.23	13.98	1.99	3.16	19.29	25.53	4.93	3.21
	NUTS-1:								
PL1	Central Poland	12.81	13.59	1.74	2.71	18.44	28.79	5.31	3.82
PL2	South Poland	14.16	13.36	1.89	3.31	18.05	23.75	4.29	2.82
PL3	East Poland	13.75	12.14	1.67	2.43	19.07	23.99	4.58	2.93
PL4	Northwest Poland	15.78	14.45	2.28	3.50	19.80	24.55	4.86	2.94
PL5	Southwest Poland	14.93	14.31	2.14	3.56	22.89	24.57	5.62	3.66
PL6	North Poland	14.68	16.50	2.42	3.77	19.47	27.22	5.30	3.24

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
	NUTS-2:								
PL11	Łódzkie	19.01	13.64	2.59	4.05	25.44	33.16	8.44	6.47
PL12	Mazowieckie	9.79	13.54	1.33	2.06	15.04	25.20	3.79	2.53
PL21	Małopolskie	13.11	12.48	1.64	2.89	16.82	21.60	3.63	2.39
PL22	Śląskie	14.89	13.89	2.07	3.60	18.90	25.06	4.74	3.11
PL31	Lubelskie	14.52	13.62	1.98	2.82	21.56	27.61	5.95	4.08
PL32	Podkarpackie	14.70	10.90	1.60	2.41	18.63	19.92	3.71	2.22
PL33	Świętokrzyskie	15.43	14.20	2.19	3.23	20.98	31.66	6.64	4.19
PL34	Podlaskie	8.49	6.99	0.59	0.76	12.87	8.96	1.15	0.60
PL41	Wielkopolskie	8.58	11.01	0.94	1.43	12.42	20.46	2.54	1.48
PL42	Zachodnio-Pomorskie	24.23	14.62	3.54	5.95	27.45	24.52	6.73	4.31
PL43	Lubuskie	26.86	18.02	4.84	6.67	32.83	29.98	9.84	5.72
PL51	Dolnośląskie	14.43	15.41	2.22	3.72	23.54	26.06	6.13	4.08
PL52	Opolskie	16.44	11.41	1.88	3.07	20.95	19.53	4.09	2.39
PL61	Kujawsko-Pomorskie	13.41	12.92	1.73	2.56	18.96	22.88	4.34	2.31
PL62	Warmińsko-Mazurskie	15.73	19.66	3.09	4.84	21.51	33.70	7.25	4.93
PL63	Pomorskie	15.17	17.30	2.62	4.19	18.62	26.46	4.93	3.01
PT	**Portugal**	9.00	11.65	1.05	1.62	14.11	20.28	2.86	1.61
RO	**Romania**	31.05	23.66	7.35	15.48	47.21	48.90	23.09	20.38
	NUTS-1:								
RO1	One	20.75	22.53	4.68	10.24	33.19	42.96	14.26	12.31
RO2	Two	39.51	24.08	9.52	18.61	58.88	51.98	30.61	27.05
RO3	Three	32.70	23.77	7.77	17.02	48.12	50.08	24.10	21.38
RO4	Four	27.88	23.56	6.57	14.81	44.79	45.94	20.57	18.31
SE	**Sweden**	0.67	4.18	0.03	0.03	1.00	4.14	0.04	0.01
	NUTS-1:								
SE1	East Sweden	0.83	2.97	0.02	0.02	1.27	3.52	0.04	0.01
SE2	South Sweden	0.70	5.25	0.04	0.05	0.97	5.13	0.05	0.02
SE3	North Sweden	0.28	5.11	0.01	0.01	0.52	2.70	0.01	0.00
SI	**Slovenia**	5.93	9.61	0.57	0.84	11.23	16.29	1.83	0.94
	NUTS-1:								
SI0	Slovenia	5.93	9.61	0.57	0.84	11.23	16.29	1.83	0.94
SK	**Slovakia**	11.45	14.43	1.65	2.94	13.16	20.41	2.69	1.76
	NUTS-1:								
SK0	Slovakia	11.45	14.43	1.65	2.94	13.16	20.41	2.69	1.76
HU	**Hungary**	21.58	15.41	3.32	5.40	27.81	29.68	8.25	5.53
	NUTS-1:								

Acronyms	Countries and Regions	Material depirvation indicies * 100							
		absolute non-monetary poverty line (AN-MPL-9)				absolute non-monetary poverty line (AN-MPL-12)			
		H^{dm}	I^{dm}	IT^{dm}	SE^{dm}	H^{dm}	I^{dm}	IT^{dm}	SE^{dm}
HU1	Central Hungary	20.70	15.33	3.17	5.25	25.21	29.22	7.37	4.76
HU2	Transdanubia	17.92	13.05	2.34	3.33	24.20	28.27	6.84	4.41
HU3	Great Plain and North	24.98	16.72	4.18	7.07	32.41	30.72	9.96	6.93
UK	**United Kingdom**	2.65	6.18	0.16	0.27	4.77	7.69	0.37	0.14
IT	**Italy**	6.91	13.73	0.95	1.58	10.04	18.30	1.84	0.91
	NUTS-1:								
ITC	North West	3.68	13.48	0.50	0.79	5.49	19.69	1.08	0.51
ITD	North East	3.57	11.45	0.41	0.79	6.38	13.53	0.86	0.43
ITE	Centre	5.41	12.01	0.65	1.09	8.75	15.77	1.38	0.69
ITF	South	11.11	14.58	1.62	2.47	15.15	18.85	2.86	1.35
ITG	Islands	14.07	14.62	2.06	3.78	18.59	21.26	3.95	2.15

Table A.7. Number of Manifestly Poor in the EU Countries in 2010

Acronyms	Countries	Number of manifestly poor			
		relative monetary poverty lines		absolute monetary poverty lines	
		national (RMPL-N)	EU-27 (RMPL-EU)	GB standard minimal budget (AMPL-GB)	PL standard minimal budget (AMPL-PL)
		absolute non-monetary poverty line (AN-MPL-9)		absolute non-monetary poverty line (AN-MPL-12)	
EU-27	European Union	17 784 799	26 246 057	31 460 990	6 001 683
AT	Austria	197 254	93 927	54 592	1 476
BE	Belgium	358 484	201 048	163 599	11 235
BG	Bulgaria	1 123 289	2 545 792	3 139 120	502 475
CY	Cyprus	27 901	9 700	9 864	187
CZ	Czech Republic	281 728	500 210	503 072	18 860
DK	Denmark	66 016	27 428	13 413	1 868
EE	Estonia	63 280	108 212	180 124	19 210
FI	Finland	76 925	44 363	24 849	1 750
FR	France	1 810 242	1 071 910	831 534	26 547
GR	Greece	783 862	876 031	846 955	46 077
IE	Ireland	53 938	39 661	43 059	10 047
ES	Spain	1 063 247	1 115 285	1 451 173	272 542
NL	Netherlands	141 022	27 416	30 297	8 613
LT	Lithuania	256 993	594 802	879 193	167 738
LU	Luxembourg	1 755	104	139	10

Acronyms	Countries	Number of manifestly poor			
		relative monetary poverty lines		absolute monetary poverty lines	
		national (RMPL-N)	EU-27 (RMPL-EU)	GB standard minimal budget (AMPL-GB)	PL standard minimal budget (AMPL-PL)
		absolute non-monetary poverty line (AN-MPL-9)		absolute non-monetary poverty line (AN-MPL-12)	
LV	Latvia	273 900	558 898	744 762	132 216
MT	Malta	10 612	12 040	9 964	1 614
DE	Germany	1 802 743	1 196 123	784 317	30 087
PL	Poland	2 302 448	4 752 420	5 718 555	356 614
PT	Portugal	430 676	748 468	910 808	49 484
RO	Romania	2 766 637	6 635 551	9 955 713	3 814 519
SE	Sweden	36 012	11 331	10 566	3 502
SI	Slovenia	51 973	56 974	62 159	635
SK	Slovakia	250 588	532 475	510 174	65 560
HU	Hungary	652 549	1 989 392	2 281 128	53 075
UK	United Kingdom	696 773	511 959	455 005	60 798
IT	Italy	2 203 952	1 984 535	1 846 858	366 154

Table A.8. Manifest Poverty in the EU Countries and Regions 2010. EPSCO Approach

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
EU-27	**European Union**	3.71	25.28	0.94	0.46	5.31	40.14	2.47	4.36
AT	**Austria**	2.38	21.89	0.52	0.21	1.13	18.11	0.42	0.49
	NUTS-1:								
AT1	East Austria	3.62	21.81	0.79	0.30	1.71	16.96	0.67	0.86
AT2	South Austria	2.66	25.40	0.67	0.32	1.40	24.98	0.50	0.46
AT3	West Austria	0.80	15.85	0.13	0.04	0.33	11.17	0.08	0.07
BE	**Belgium**	3.35	20.80	0.70	0.31	1.88	20.10	0.64	0.81
	NUTS-1:								
BE1	Brussles	12.72	26.44	3.36	1.65	8.02	25.22	3.37	4.67
BE2	Flemish Region	0.63	18.10	0.11	0.04	0.28	17.37	0.09	0.10
BE3	Wallon Region	5.30	17.15	0.91	0.36	2.83	16.86	0.78	0.87
BG	**Bulgaria**	14.85	31.23	4.64	2.46	33.66	36.16	12.29	12.40
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	19.27	32.19	6.20	3.37	36.44	38.91	14.27	14.90

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
BG4	South-Western and South--Central Bulgaria	10.09	29.26	2.95	1.49	30.67	32.65	10.15	9.70
CY	**Cyprus**	3.50	14.70	0.51	0.18	1.22	15.27	0.42	0.38
	NUTS-1:								
CY0	Cyprus	3.50	14.70	0.51	0.18	1.22	15.27	0.42	0.38
CZ	**Czech Republic**	2.71	23.86	0.65	0.30	4.81	25.27	1.30	1.11
	NUTS-1:								
CZ0	Czech Republic	2.71	23.86	0.65	0.30	4.81	25.27	1.30	1.11
	NUTS-2:								
CZ01	Praha	2.07	10.24	0.21	0.07	3.03	20.46	0.66	0.41
CZ02	Stredni Cechy	1.87	28.49	0.53	0.27	3.42	25.84	0.96	0.88
CZ03	Jihozapad	1.80	18.05	0.32	0.14	4.34	19.43	1.01	0.84
CZ04	Severozapad	5.12	27.88	1.43	0.67	8.35	28.70	2.47	2.03
CZ05	Severovychod	2.00	19.79	0.40	0.14	2.98	25.90	0.82	0.59
CZ06	Jihovychod	1.82	14.85	0.27	0.09	4.03	20.77	0.89	0.63
CZ07	Stredni Morava	2.59	26.30	0.68	0.32	4.85	25.81	1.34	1.25
CZ08	Moravskoslezsko	5.02	31.14	1.56	0.80	8.42	29.33	2.62	2.63
DK	**Denmark**	1.20	14.88	0.18	0.07	0.50	15.40	0.15	0.18
	NUTS-1:								
DK0	Denmark	1.20	14.88	0.18	0.07	0.50	15.40	0.15	0.18
EE	**Estonia**	4.76	26.29	1.25	0.66	8.14	32.12	2.67	2.35
	NUTS-1:								
EE0	Estonia	4.76	26.29	1.25	0.66	8.14	32.12	2.67	2.35
FI	**Finland**	1.46	18.23	0.27	0.10	0.84	15.79	0.24	0.26
	NUTS-1:								
FI1	Mainland Finland	1.46	18.23	0.27	0.10	0.84	15.79	0.24	0.26
	NUTS-2:								
FI13	Ita-Suomi	1.63	15.58	0.25	0.08	0.84	14.88	0.20	0.14
FI18	Etela-Suomi	1.35	21.48	0.29	0.11	0.82	16.75	0.26	0.30
FI19	Lansi-Suomi	1.22	17.38	0.21	0.09	0.84	15.05	0.21	0.27
FR	**France**	2.97	19.15	0.57	0.22	1.76	16.26	0.47	0.45
	NUTS-1:								
FR1	Ile-de-France	3.27	21.05	0.69	0.27	2.11	16.30	0.59	0.58
FR2	Paris basin	2.37	19.80	0.47	0.21	1.11	23.13	0.40	0.34
FR3	Nord-Pas-de-Calais	5.03	19.70	0.99	0.40	3.54	16.62	0.79	0.61
FR4	East	2.69	20.41	0.55	0.21	1.43	17.02	0.47	0.56

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
FR5	West	2.32	18.91	0.44	0.18	1.40	17.10	0.37	0.38
FR6	South West	2.46	18.08	0.45	0.16	1.70	14.26	0.42	0.35
FR7	Centre East	1.38	19.63	0.27	0.12	0.81	14.38	0.25	0.33
FR8	Mediterranean	5.11	16.37	0.84	0.25	2.69	12.44	0.60	0.51
	NUTS-2:								
FR10	Ile-de-France	3.27	21.05	0.69	0.27	2.11	16.30	0.59	0.58
FR21	Champagne-Ardennes	2.35	22.83	0.54	0.14	0.91	13.96	0.37	0.31
FR22	Picardie	3.00	17.19	0.52	0.19	2.08	15.57	0.42	0.30
FR23	Haute-Normandie	3.45	12.43	0.43	0.25	1.00	28.85	0.38	0.36
FR24	Centre	3.26	26.45	0.86	0.46	1.36	40.74	0.79	0.65
FR25	Basse-Normandie	0.44	21.49	0.09	0.04	0.00	0.00	0.00	0.00
FR26	Burgogne	0.92	20.32	0.19	0.06	0.65	12.34	0.13	0.08
FR30	Nord-Pas-de-Calais	5.03	19.70	0.99	0.40	3.54	16.62	0.79	0.61
FR41	Lorraine	3.73	19.17	0.72	0.28	1.61	18.57	0.52	0.65
FR42	Alsace	2.69	21.80	0.59	0.21	1.83	15.26	0.69	0.83
FR43	Franche-Comte	0.67	27.63	0.18	0.06	0.67	14.03	0.13	0.10
FR51	Pays-de-la-Loire	2.06	20.47	0.42	0.16	1.93	13.05	0.30	0.20
FR52	Brittany	2.36	22.74	0.54	0.24	1.23	23.97	0.55	0.70
FR53	Poitou-Chatentes	2.82	10.92	0.31	0.14	0.57	24.61	0.21	0.21
FR61	Aquitaine	1.51	17.56	0.27	0.09	0.73	13.40	0.26	0.23
FR62	Midi-Pyrenees	3.83	18.57	0.71	0.27	2.89	15.61	0.66	0.55
FR63	Limousin	2.14	16.77	0.36	0.12	2.14	9.80	0.28	0.23
FR71	Rhone-Alpes	1.44	21.42	0.31	0.14	0.97	15.12	0.29	0.39
FR72	Auvergne	1.17	11.55	0.14	0.03	0.25	5.33	0.12	0.11
FR81	Languedoc-Roussillon	6.98	15.58	1.09	0.27	2.24	10.17	0.60	0.51
FR82	Provence-Alpes-Cote d'Azur	3.98	17.07	0.68	0.24	2.85	13.55	0.59	0.52
FR83	Corse	5.37	18.89	1.01	0.38	5.37	11.13	0.60	0.13
GR	**Greece**	7.13	22.46	1.60	0.71	7.96	24.09	2.13	1.65
	NUTS-1:								
GR1	Voreia Ellada	8.49	23.06	1.96	0.98	9.60	24.26	2.48	1.86
GR2	Kentriki Ellada	7.51	24.17	1.81	0.80	8.73	25.07	2.50	1.93
GR3	Attica	6.08	20.47	1.24	0.47	6.52	22.98	1.70	1.32
GR4	Nisia Aigaiou. Kriti	6.34	23.62	1.50	0.67	7.17	24.61	2.03	1.77
IE	**Ireland**	1.21	24.39	0.29	0.16	0.89	24.82	0.33	0.31
	NUTS-1:								
IE0	Ireland	1.21	24.39	0.29	0.16	0.89	24.82	0.33	0.31

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
ES	**Spain**	2.32	26.43	0.61	0.35	2.44	26.21	0.70	0.55
	NUTS-1:								
ES1	North West	1.91	25.09	0.48	0.32	2.12	24.07	0.52	0.39
ES2	North East	1.06	22.91	0.24	0.14	1.13	23.90	0.29	0.19
ES3	Community of Madrid	1.68	24.96	0.42	0.25	1.71	24.17	0.50	0.43
ES4	Centre	2.07	31.17	0.65	0.40	2.19	30.81	0.70	0.55
ES5	East	2.15	27.74	0.60	0.32	2.19	27.82	0.69	0.61
ES6	South	4.01	25.16	1.01	0.56	4.28	25.00	1.13	0.79
ES7	Canary Islands	1.56	26.58	0.41	0.22	1.56	26.06	0.48	0.50
	NUTS-2:								
ES11	Galicia	2.60	25.36	0.66	0.44	2.93	23.91	0.71	0.53
ES12	Principado de Asturias	0.52	30.67	0.16	0.11	0.55	30.81	0.18	0.15
ES13	Cantabria	1.13	17.36	0.20	0.11	1.13	19.63	0.22	0.12
ES21	Pais Vasco	0.95	18.95	0.18	0.10	1.07	20.23	0.23	0.13
ES22	Comunidad Foral de Navarra	1.15	28.00	0.32	0.23	1.15	29.53	0.34	0.24
ES23	La Rioja	1.49	27.79	0.41	0.26	1.59	31.57	0.58	0.46
ES24	Aragon	1.09	24.37	0.27	0.13	1.09	24.31	0.30	0.21
ES30	Comunidad de Madrid	1.68	24.96	0.42	0.25	1.71	24.17	0.50	0.43
ES41	Castilla y Leon	1.69	37.17	0.63	0.37	1.69	38.09	0.69	0.59
ES42	Castilla-La Mancha	1.51	31.33	0.47	0.35	1.79	27.37	0.50	0.42
ES43	Extremadura	3.98	25.27	1.01	0.57	4.06	26.67	1.10	0.71
ES51	Cataluna	2.19	27.17	0.60	0.32	2.21	28.10	0.71	0.66
ES52	Comunidad Valenciana	1.94	27.36	0.53	0.29	1.95	27.17	0.59	0.44
ES53	Illes Balears	2.85	31.95	0.91	0.50	3.15	28.59	1.02	1.10
ES61	Andalusia	3.35	18.36	0.61	0.28	3.50	19.64	0.71	0.41
ES62	Murcia	7.82	41.13	3.22	2.13	8.67	37.20	3.48	2.97
ES63	Ciudad Autonoma de Ceuta	1.96	30.47	0.60	0.36	1.96	31.83	0.62	0.40
ES64	Ciudad Autonoma de Melilla	2.58	28.59	0.74	0.33	4.74	16.43	0.85	0.54
ES70	Canarias	1.56	26.58	0.41	0.22	1.56	26.06	0.48	0.50
NL	**Netherlands**	0.85	11.88	0.10	0.04	0.17	17.71	0.10	0.14
LT	**Lithuania**	7.74	35.23	2.73	1.67	17.92	35.79	6.56	6.65
	NUTS-1:								
LT0	Lithuania	7.74	35.23	2.73	1.67	17.92	35.79	6.56	6.65
LU	**Luxembourg**	0.36	18.42	0.07	0.02	0.02	35.95	0.02	0.02
	NUTS-1:								
LU0	Luxembourg	0.36	18.42	0.07	0.02	0.02	35.95	0.02	0.02

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
LV	**Latvia**	12.32	33.05	4.07	2.30	25.13	38.08	9.80	10.08
	NUTS-1:								
LV0	Latvia	12.32	33.05	4.07	2.30	25.13	38.08	9.80	10.08
MT	**Malta**	2.59	20.19	0.52	0.28	2.94	20.58	0.72	0.72
	NUTS-1:								
MT0	Malta	2.59	20.19	0.52	0.28	2.94	20.58	0.72	0.72
DE	**Germany**	2.23	17.12	0.38	0.14	1.48	14.01	0.27	0.21
PL	**Poland**	6.14	23.50	1.44	0.62	12.67	29.52	3.85	3.13
	NUTS-1:								
PL1	Central Poland	5.51	24.67	1.36	0.56	11.22	29.56	3.43	2.74
PL2	South Poland	4.73	22.51	1.07	0.50	11.40	27.59	3.33	2.92
PL3	East Poland	7.69	21.42	1.65	0.69	13.13	30.73	4.07	3.04
PL4	Northwest Poland	6.77	23.34	1.58	0.64	14.20	29.67	4.33	3.45
PL5	Southwest Poland	6.01	25.42	1.53	0.66	13.81	28.72	4.05	3.36
PL6	North Poland	6.54	25.01	1.64	0.71	13.51	30.76	4.25	3.54
	NUTS-2:								
PL11	Łódzkie	7.48	26.22	1.96	0.85	16.81	28.49	4.94	3.98
PL12	Mazowieckie	4.56	23.43	1.07	0.42	8.50	30.59	2.69	2.14
PL21	Małopolskie	4.57	21.88	1.00	0.47	10.04	28.00	3.00	2.65
PL22	Śląskie	4.85	22.92	1.11	0.53	12.33	27.38	3.55	3.11
PL31	Lubelskie	8.44	24.59	2.08	0.87	13.76	32.81	4.57	3.52
PL32	Podkarpackie	8.99	19.10	1.72	0.70	14.17	29.82	4.25	3.12
PL33	Świętokrzyskie	7.93	23.87	1.89	0.87	14.53	31.84	4.69	3.70
PL34	Podlaskie	3.48	11.44	0.40	0.11	8.29	24.59	2.04	1.19
PL41	Wielkopolskie	3.69	16.82	0.62	0.20	7.45	26.09	2.01	1.48
PL42	Zachodnio-Pomorskie	8.85	24.27	2.15	0.98	21.81	29.43	6.59	5.51
PL43	Lubuskie	14.03	28.34	3.98	1.62	25.04	33.87	8.65	6.90
PL51	Dolnośląskie	5.78	26.60	1.54	0.66	13.05	28.82	3.87	3.31
PL52	Opolskie	6.72	22.36	1.50	0.66	16.07	28.35	4.58	3.54
PL61	Kujawsko-Pomorskie	6.91	21.80	1.51	0.59	12.80	29.54	3.82	2.91
PL62	Warmińsko-Mazurskie	6.46	24.24	1.57	0.61	14.85	31.11	4.71	4.02
PL63	Pomorskie	6.25	28.79	1.80	0.88	13.30	31.55	4.36	3.81
PT	**Portugal**	4.06	25.73	1.05	0.48	7.06	25.97	1.95	1.56
RO	**Romania**	12.87	34.11	4.39	2.42	30.86	46.13	14.26	15.50
	NUTS-1:								
RO1	One	9.40	32.87	3.09	1.66	20.75	45.73	9.49	10.40

Acronyms	Countries and regions	Manifest poverty indicies * 100							
		realative monetary poverty lines							
		national (RMPL-N)				EU-27 (RMPL-EU)			
		Absolute non-monetary poverty line (AN-MPL-9)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
RO2	Two	18.63	33.21	6.19	3.20	39.31	47.24	18.59	19.62
RO3	Three	9.71	33.19	3.22	1.94	32.28	44.25	14.34	15.79
RO4	Four	12.62	38.70	4.88	2.85	27.87	47.21	13.16	14.86
SE	**Sweden**	0.38	14.51	0.06	0.03	0.12	23.57	0.04	0.04
	NUTS-1:								
SE1	East Sweden	0.47	14.77	0.07	0.03	0.22	16.09	0.04	0.03
SE2	South Sweden	0.41	11.84	0.05	0.02	0.06	32.99	0.04	0.04
SE3	North Sweden	0.12	34.01	0.04	0.04	0.07	52.54	0.04	0.04
SI	**Slovenia**	2.60	19.47	0.51	0.20	2.85	18.29	0.67	0.57
	NUTS-1:								
SI0	Slovenia	2.60	19.47	0.51	0.20	2.85	18.29	0.67	0.57
SK	**Slovakia**	4.62	29.86	1.38	0.73	9.82	28.57	2.92	2.66
	NUTS-1:								
SK0	Slovakia	4.62	29.86	1.38	0.73	9.82	28.57	2.92	2.66
HU	**Hungary**	6.61	20.78	1.37	0.54	20.17	29.26	6.01	4.92
	NUTS-1:								
HU1	Central Hungary	3.73	23.84	0.89	0.43	18.40	26.77	5.10	4.30
HU2	Transdanubia	6.36	18.37	1.17	0.40	16.87	28.54	4.88	3.60
HU3	Great Plain and North	8.91	21.15	1.88	0.72	23.94	31.05	7.52	6.37
UK	**United Kingdom**	1.13	18.37	0.21	0.10	0.83	16.95	0.21	0.21
IT	**Italy**	3.66	28.39	1.04	0.57	3.30	26.97	1.14	1.19
	NUTS-1:								
ITC	North West	1.41	24.85	0.35	0.18	1.28	21.69	0.44	0.51
ITD	North East	1.51	22.92	0.35	0.17	1.31	21.19	0.41	0.49
ITE	Centre	2.15	27.72	0.59	0.32	1.80	27.51	0.71	0.77
ITF	South	6.51	30.36	1.98	1.11	5.94	29.57	2.13	2.06
ITG	Islands	9.38	28.54	2.68	1.50	8.56	26.79	2.70	2.89

Table A.9. Manifest Poverty in the EU Countries and Regions in 2010. Absolute Approach

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
EU-27	**European Union**	6.37	40.07	2.55	4.28	1.22	49.82	0.61	1.60
AT	**Austria**	0.66	26.71	0.18	0.25	0.02	48.77	0.01	0.03
	NUTS-1:								
AT1	East Austria	0.74	25.48	0.19	0.29	0.01	40.10	0.01	0.00
AT2	South Austria	1.37	29.40	0.40	0.52	0.06	52.86	0.03	0.12
AT3	West Austria	0.17	20.69	0.03	0.05	0.00	0.00	0.00	0.00
BE	**Belgium**	1.53	24.65	0.38	0.62	0.11	48.09	0.05	0.11
	NUTS-1:								
BE1	Brussles	6.15	31.90	1.96	3.51	0.52	64.89	0.33	0.95
BE2	Flemish Region	0.31	18.30	0.06	0.05	0.00	0.00	0.00	0.00
BE3	Wallon Region	2.28	20.05	0.46	0.72	0.16	31.62	0.05	0.06
BG	**Bulgaria**	41.50	44.51	18.47	35.36	6.64	53.95	3.58	11.32
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	46.75	47.92	22.40	44.96	9.53	55.29	5.27	16.97
BG4	South-Western and South--Central Bulgaria	35.85	39.72	14.24	25.03	3.53	50.06	1.77	5.24
CY	**Cyprus**	1.24	22.29	0.28	0.38	0.02	50.00	0.01	0.01
	NUTS-1:								
CY0	Cyprus	1.24	22.29	0.28	0.38	0.02	50.00	0.01	0.01
CZ	**Czech Republic**	4.84	26.63	1.29	1.51	0.18	30.85	0.06	0.15
	NUTS-1:								
CZ0	Czech Republic	4.84	26.63	1.29	1.51	0.18	30.85	0.06	0.15
	NUTS-2:								
CZ01	Praha	3.06	20.40	0.62	0.62	0.00	0.00	0.00	0.00
CZ02	Stredni Cechy	4.11	25.72	1.06	1.09	0.28	13.58	0.04	0.17
CZ03	Jihozapad	3.35	21.90	0.73	0.76	0.00	0.00	0.00	0.00
CZ04	Severozapad	7.96	27.57	2.20	2.19	0.54	15.70	0.09	0.25
CZ05	Severovychod	3.81	23.56	0.90	0.93	0.00	0.00	0.00	0.00
CZ06	Jihovychod	3.98	21.98	0.87	0.86	0.00	0.00	0.00	0.00
CZ07	Stredni Morava	5.26	30.14	1.58	1.96	0.23	25.75	0.06	0.05
CZ08	Moravskoslezsko	7.90	33.23	2.62	4.05	0.52	56.60	0.30	0.84
DK	**Denmark**	0.24	24.09	0.06	0.09	0.03	82.74	0.03	0.06
	NUTS-1:								

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
DK0	Denmark	0.24	24.09	0.06	0.09	0.03	82.74	0.03	0.06
EE	**Estonia**	13.55	33.56	4.55	6.08	1.45	46.31	0.67	1.35
	NUTS-1:								
EE0	Estonia	13.55	33.56	4.55	6.08	1.45	46.31	0.67	1.35
FI	**Finland**	0.47	22.22	0.10	0.14	0.03	35.53	0.01	0.02
	NUTS-1:								
FI1	Mainland Finland	0.47	22.22	0.10	0.14	0.03	35.53	0.01	0.02
	NUTS-2:								
FI13	Ita-Suomi	0.69	20.39	0.14	0.17	0.00	13.38	0.00	0.00
FI18	Etela-Suomi	0.39	23.63	0.09	0.11	0.04	34.57	0.01	0.02
FI19	Lansi-Suomi	0.46	26.92	0.12	0.22	0.06	36.87	0.02	0.04
FR	**France**	1.36	18.58	0.25	0.25	0.04	20.99	0.01	0.01
	NUTS-1:								
FR1	Ile-de-France	1.28	21.48	0.27	0.28	0.05	12.21	0.01	0.00
FR2	Paris basin	1.33	21.32	0.28	0.18	0.00	0.00	0.00	0.00
FR3	Nord-Pas-de-Calais	2.54	20.66	0.53	0.39	0.42	21.07	0.09	0.05
FR4	East	0.52	29.60	0.15	0.22	0.00	0.00	0.00	0.00
FR5	West	1.39	16.03	0.22	0.29	0.00	0.00	0.00	0.00
FR6	South West	2.00	13.31	0.27	0.18	0.02	50.00	0.01	0.01
FR7	Centre East	0.55	21.66	0.12	0.18	0.00	0.00	0.00	0.00
FR8	Mediterranean	1.52	14.59	0.22	0.31	0.00	0.00	0.00	0.00
	NUTS-2:								
FR10	Ile-de-France	1.28	21.48	0.27	0.28	0.05	12.21	0.01	0.00
FR21	Champagne-Ardennes	1.67	10.29	0.17	0.08	0.00	0.00	0.00	0.00
FR22	Picardie	2.16	10.52	0.23	0.11	0.00	0.00	0.00	0.00
FR23	Haute-Normandie	0.82	29.80	0.25	0.17	0.00	0.00	0.00	0.00
FR24	Centre	1.36	43.96	0.60	0.44	0.00	0.00	0.00	0.00
FR25	Basse-Normandie	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR26	Burgogne	1.46	23.25	0.34	0.23	0.00	0.00	0.00	0.00
FR30	Nord-Pas-de-Calais	2.54	20.66	0.53	0.39	0.42	21.07	0.09	0.05
FR41	Lorraine	0.60	36.09	0.22	0.22	0.00	0.00	0.00	0.00
FR42	Alsace	0.79	20.53	0.16	0.41	0.00	0.00	0.00	0.00
FR43	Franche-Comte	0.07	34.09	0.03	0.02	0.00	0.00	0.00	0.00
FR51	Pays-de-la-Loire	1.71	9.82	0.17	0.14	0.00	0.00	0.00	0.00
FR52	Brittany	1.47	19.60	0.29	0.34	0.00	0.00	0.00	0.00

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
FR53	Poitou-Chatentes	0.57	39.57	0.23	0.50	0.00	0.00	0.00	0.00
FR61	Aquitaine	1.12	23.07	0.26	0.23	0.05	50.00	0.02	0.02
FR62	Midi-Pyrenees	2.01	13.76	0.28	0.14	0.00	0.00	0.00	0.00
FR63	Limousin	5.95	4.46	0.27	0.04	0.00	0.00	0.00	0.00
FR71	Rhone-Alpes	0.70	21.66	0.15	0.23	0.00	0.00	0.00	0.00
FR72	Auvergne	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FR81	Languedoc-Roussillon	0.96	12.15	0.12	0.05	0.00	0.00	0.00	0.00
FR82	Provence-Alpes-Cote d'Azur	1.69	16.89	0.29	0.49	0.00	0.00	0.00	0.00
FR83	Corse	5.37	3.49	0.19	0.01	0.00	0.00	0.00	0.00
GR	**Greece**	7.70	25.34	1.95	2.11	0.42	40.95	0.17	0.22
	NUTS-1:								
GR1	Voreia Ellada	9.18	26.92	2.47	2.76	0.73	42.51	0.31	0.41
GR2	Kentriki Ellada	8.75	24.44	2.14	2.01	0.47	34.66	0.16	0.23
GR3	Attica	6.10	23.08	1.41	1.40	0.14	41.76	0.06	0.07
GR4	Nisia Aigaiou. Kriti	7.49	28.70	2.15	3.15	0.49	44.42	0.22	0.22
IE	**Ireland**	0.97	26.73	0.26	0.24	0.23	50.82	0.11	0.12
	NUTS-1:								
IE0	Ireland	0.97	26.73	0.26	0.24	0.23	50.82	0.11	0.12
ES	**Spain**	3.17	26.78	0.85	0.73	0.60	40.37	0.24	0.26
	NUTS-1:								
ES1	North West	2.49	25.69	0.64	0.52	0.68	25.20	0.17	0.12
ES2	North East	1.22	23.12	0.28	0.19	0.15	36.01	0.05	0.04
ES3	Community of Madrid	1.38	27.10	0.37	0.31	0.44	29.71	0.13	0.14
ES4	Centre	2.98	27.21	0.81	0.69	0.51	39.75	0.20	0.21
ES5	East	2.49	30.11	0.75	0.73	0.42	55.43	0.24	0.28
ES6	South	6.48	25.47	1.65	1.31	1.16	38.75	0.45	0.46
ES7	Canary Islands	3.23	26.10	0.84	0.96	0.47	53.55	0.25	0.49
	NUTS-2:								
ES11	Galicia	3.13	27.02	0.85	0.72	0.99	25.18	0.25	0.17
ES12	Principado de Asturias	0.95	21.95	0.21	0.15	0.10	59.09	0.06	0.08
ES13	Cantabria	2.26	19.82	0.45	0.24	0.26	0.70	0.00	0.00
ES21	Pais Vasco	0.95	21.77	0.21	0.14	0.04	50.00	0.02	0.02
ES22	Comunidad Foral de Navarra	2.05	26.25	0.54	0.34	0.22	40.11	0.09	0.08
ES23	La Rioja	1.94	21.99	0.43	0.30	0.40	62.50	0.25	0.25
ES24	Aragon	1.09	22.75	0.25	0.19	0.24	20.15	0.05	0.02

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
ES30	Comunidad de Madrid	1.38	27.10	0.37	0.31	0.44	29.71	0.13	0.14
ES41	Castilla y Leon	1.74	38.99	0.68	0.70	0.52	28.71	0.15	0.17
ES42	Castilla-La Mancha	3.38	22.35	0.76	0.57	0.64	48.90	0.32	0.31
ES43	Extremadura	5.06	24.00	1.21	0.90	0.22	49.22	0.11	0.12
ES51	Cataluna	2.40	30.63	0.74	0.74	0.43	49.89	0.21	0.22
ES52	Comunidad Valenciana	2.49	28.66	0.71	0.62	0.40	64.84	0.26	0.32
ES53	Illes Balears	3.08	32.88	1.01	1.21	0.48	52.33	0.25	0.40
ES61	Andalusia	5.84	21.85	1.28	0.89	0.65	37.63	0.24	0.27
ES62	Murcia	10.15	36.83	3.74	3.64	4.11	39.61	1.63	1.54
ES63	Ciudad Autonoma de Ceuta	3.97	35.11	1.40	0.91	0.00	0.00	0.00	0.00
ES64	Ciudad Autonoma de Melilla	6.82	23.69	1.61	1.56	0.30	75.00	0.22	0.30
ES70	Canarias	3.23	26.10	0.84	0.96	0.47	53.55	0.25	0.49
NL	**Netherlands**	0.18	25.72	0.05	0.03	0.05	34.72	0.02	0.01
LT	**Lithuania**	26.48	39.32	10.41	17.53	5.05	48.59	2.45	5.52
	NUTS-1:								
LT0	Lithuania	26.48	39.32	10.41	17.53	5.05	48.59	2.45	5.52
LU	**Luxembourg**	0.03	37.98	0.01	0.01	0.00	33.77	0.00	0.00
	NUTS-1:								
LU0	Luxembourg	0.03	37.98	0.01	0.01	0.00	33.77	0.00	0.00
LV	**Latvia**	33.49	42.88	14.36	24.63	5.95	53.34	3.17	8.53
	NUTS-1:								
LV0	Latvia	33.49	42.88	14.36	24.63	5.95	53.34	3.17	8.53
MT	**Malta**	2.43	21.54	0.52	0.47	0.39	33.34	0.13	0.14
	NUTS-1:								
MT0	Malta	2.43	21.54	0.52	0.47	0.39	33.34	0.13	0.14
DE	**Germany**	0.97	18.30	0.18	0.15	0.04	24.85	0.01	0.01
PL	**Poland**	15.25	32.99	5.03	7.15	0.95	41.14	0.39	0.94
	NUTS-1:								
PL1	Central Poland	14.30	34.46	4.93	8.02	0.84	45.71	0.38	1.08
PL2	South Poland	12.16	32.46	3.95	5.71	0.83	39.54	0.33	0.74
PL3	East Poland	16.60	33.51	5.56	7.41	1.22	46.65	0.57	1.46
PL4	Northwest Poland	16.39	32.00	5.25	6.80	0.61	44.74	0.27	0.78
PL5	Southwest Poland	18.48	31.21	5.77	8.24	1.20	32.59	0.39	0.57
PL6	North Poland	15.88	33.60	5.33	7.29	1.15	35.33	0.41	0.82
	NUTS-2:								

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
PL11	Łódzkie	19.21	36.91	7.09	12.98	1.26	56.22	0.71	2.16
PL12	Mazowieckie	11.91	32.53	3.87	5.61	0.64	35.59	0.23	0.56
PL21	Małopolskie	10.73	32.83	3.52	5.06	0.76	30.53	0.23	0.27
PL22	Śląskie	13.15	32.25	4.24	6.15	0.88	44.90	0.39	1.06
PL31	Lubelskie	19.67	35.95	7.07	10.22	1.43	53.06	0.76	2.17
PL32	Podkarpackie	16.25	31.57	5.13	5.96	1.24	31.45	0.39	0.87
PL33	Świętokrzyskie	16.63	38.96	6.48	9.82	1.62	59.19	0.96	2.33
PL34	Podlaskie	11.29	21.29	2.40	1.92	0.29	28.40	0.08	0.22
PL41	Wielkopolskie	10.28	27.47	2.82	3.25	0.13	50.27	0.07	0.20
PL42	Zachodnio-Pomorskie	21.71	32.85	7.13	9.85	1.11	52.54	0.59	2.18
PL43	Lubuskie	28.86	36.54	10.54	14.12	1.47	33.19	0.49	0.50
PL51	Dolnośląskie	18.83	31.49	5.93	8.87	0.90	30.31	0.27	0.37
PL52	Opolskie	17.42	30.33	5.28	6.33	2.11	35.50	0.75	1.18
PL61	Kujawsko-Pomorskie	15.01	33.15	4.98	5.68	0.90	35.33	0.32	0.61
PL62	Warmińsko-Mazurskie	18.19	35.37	6.43	9.93	1.29	23.20	0.30	0.66
PL63	Pomorskie	15.18	32.63	4.95	7.07	1.30	43.09	0.56	1.13
PT	**Portugal**	8.59	28.89	2.48	3.13	0.47	34.33	0.16	0.23
RO	**Romania**	46.31	55.91	25.89	50.47	17.74	52.54	9.32	26.78
	NUTS-1:								
RO1	One	32.89	52.64	17.32	31.60	12.82	49.58	6.35	17.41
RO2	Two	57.76	58.62	33.86	67.06	25.66	53.15	13.64	37.73
RO3	Three	46.75	54.41	25.43	51.08	12.79	54.96	7.03	23.34
RO4	Four	44.14	55.61	24.55	46.62	18.54	51.26	9.51	26.07
SE	**Sweden**	0.11	21.49	0.02	0.02	0.04	54.22	0.02	0.02
	NUTS-1:								
SE1	East Sweden	0.16	16.31	0.03	0.02	0.03	50.00	0.02	0.02
SE2	South Sweden	0.09	20.35	0.02	0.02	0.03	62.50	0.02	0.02
SE3	North Sweden	0.07	49.98	0.03	0.03	0.07	49.95	0.03	0.03
SI	**Slovenia**	3.11	23.50	0.73	1.15	0.03	43.21	0.01	0.02
	NUTS-1:								
SI0	Slovenia	3.11	23.50	0.73	1.15	0.03	43.21	0.01	0.02
SK	**Slovakia**	9.40	30.94	2.91	4.07	1.21	42.14	0.51	1.20
	NUTS-1:								
SK0	Slovakia	9.40	30.94	2.91	4.07	1.21	42.14	0.51	1.20
HU	**Hungary**	23.12	33.99	7.86	12.32	0.54	40.72	0.22	0.60

Acronyms	Countries and regions	Manifest poverty indices * 100							
		absolute monetary poverty lines							
		GB standard minimal budget (AMPL-GB)				PL standard minimal budget (AMPL-PL)			
		Absolute non-monetary poverty line (AN-MPL-12)							
		H^{uo}	I^{uo}	IT^{uo}	SE^{uo}	H^{uo}	I^{uo}	IT^{uo}	SE^{uo}
	NUTS-1:								
HU1	Central Hungary	18.78	32.58	6.12	9.96	0.57	42.35	0.24	0.62
HU2	Transdanubia	20.20	33.39	6.74	10.04	0.39	50.52	0.20	0.67
HU3	Great Plain and North	28.49	34.99	9.97	15.76	0.63	35.03	0.22	0.54
UK	**United Kingdom**	0.74	21.48	0.16	0.16	0.10	41.62	0.04	0.04
IT	**Italy**	3.07	32.52	1.00	1.18	0.61	43.07	0.26	0.32
	NUTS-1:								
ITC	North West	1.05	33.05	0.35	0.39	0.22	43.39	0.09	0.11
ITD	North East	1.14	25.54	0.29	0.26	0.20	41.12	0.08	0.08
ITE	Centre	1.87	35.05	0.66	0.81	0.40	41.66	0.17	0.19
ITF	South	5.88	32.51	1.91	2.03	1.21	40.40	0.49	0.57
ITG	Islands	7.35	33.08	2.43	3.51	1.34	49.28	0.66	0.92

Table A.10. Poverty Incidence Risk in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
EU-27	**European Union**	6.25	19.38	14.23	11.41	11.58	11.71	11.82	11.43
AT	**Austria**	1.45	8.18	2.95	6.68	8.88	9.36	7.67	7.12
	NUTS-1:								
AT1	East Austria	1.85	10.32	3.23	8.94	11.29	10.88	9.12	7.25
AT2	South Austria	2.00	8.75	3.84	6.91	8.43	8.44	8.51	8.27
AT3	West Austria	0.69	5.40	2.13	3.96	6.49	7.58	5.26	6.39
BE	**Belgium**	2.32	10.70	5.12	7.90	10.01	11.29	8.32	7.38
	NUTS-1:								
BE1	Brussles	6.54	21.94	10.34	18.15	23.97	14.00	18.47	8.94
BE2	Flemish Region	1.18	7.19	3.67	4.69	6.80	9.75	4.34	6.76
BE3	Wallon Region	3.04	13.50	6.09	10.44	11.60	12.39	12.12	8.14
BG	**Bulgaria**	29.60	52.78	45.30	37.08	28.90	31.62	36.03	22.96
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	33.41	57.56	50.60	40.38	30.15	36.09	38.67	23.69
BG4	South-Western and South--Central Bulgaria	25.49	47.63	39.60	33.52	27.23	27.24	34.15	22.17
CY	**Cyprus**	2.35	17.89	3.78	16.47	7.39	15.92	19.97	16.79

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
	NUTS-1:								
CY0	Cyprus	2.35	17.90	3.78	16.48	7.39	15.76	19.77	16.71
CZ	**Czech Republic**	5.63	20.83	18.31	8.14	13.09	8.77	10.44	8.28
	NUTS-1:								
CZ0	Czech Republic	5.61	20.82	18.31	8.13	12.91	8.87	10.65	8.08
	NUTS-2:								
CZ01	Praha	3.19	12.90	10.08	6.01	11.75	7.23	6.52	7.21
CZ02	Stredni Cechy	4.65	17.91	16.05	6.51	10.07	8.87	9.60	7.57
CZ03	Jihozapad	4.78	20.94	17.40	8.31	12.30	7.51	11.76	9.15
CZ04	Severozapad	8.22	25.79	23.05	10.96	15.82	8.28	14.85	9.98
CZ05	Severovychod	5.20	20.87	18.60	7.46	11.66	10.09	9.28	8.19
CZ06	Jihovychod	5.01	20.95	18.80	7.15	10.85	8.93	9.25	8.49
CZ07	Stredni Morava	6.26	22.69	20.48	8.47	13.44	9.64	10.70	8.04
CZ08	Moravskoslezsko	8.22	24.98	22.19	11.01	18.25	9.49	13.66	8.10
DK	**Denmark**	1.14	8.76	5.49	4.42	8.71	5.65	4.08	7.35
	NUTS-1:								
DK0	Denmark	1.15	8.76	5.49	4.42	8.61	5.61	4.07	7.16
EE	**Estonia**	13.04	35.60	32.05	16.59	16.64	18.90	13.28	12.67
	NUTS-1:								
EE0	Estonia	13.04	35.61	32.05	16.60	16.43	19.16	13.39	12.64
FI	**Finland**	1.58	7.25	4.44	4.39	10.01	5.97	5.40	5.98
	NUTS-1:								
FI1	Mainland Finland	1.58	7.25	4.44	4.39	10.01	5.97	5.40	5.98
	NUTS-2:								
FI13	Ita-Suomi	1.90	8.17	6.06	4.02	9.19	7.01	5.64	6.34
FI18	Etela-Suomi	1.52	7.19	3.82	4.89	11.28	5.55	5.10	6.19
FI19	Lansi-Suomi	1.58	7.11	4.71	3.98	9.00	6.47	5.25	6.03
FR	**France**	2.00	10.72	4.36	8.36	8.19	9.08	9.97	10.80
	NUTS-1:								
FR1	Ile-de-France	1.99	11.20	3.74	9.45	9.77	8.26	9.78	12.37
FR2	Paris basin	1.98	10.49	4.45	8.02	7.93	8.87	9.53	9.98
FR3	Nord-Pas-de-Calais	2.82	13.98	5.94	10.86	9.53	11.49	12.49	9.80
FR4	East	2.37	11.05	4.73	8.69	8.26	8.28	10.32	12.32
FR5	West	1.63	8.57	3.73	6.47	7.46	8.21	7.59	9.25
FR6	South West	2.09	11.33	4.85	8.57	7.44	9.88	10.95	10.61
FR7	Centre East	1.29	7.74	3.08	5.95	7.36	7.07	7.51	9.63
FR8	Mediterranean	2.26	12.86	5.33	9.79	7.97	10.29	12.70	12.60
	NUTS-2:								
FR10	Ile-de-France	1.99	11.20	3.74	9.45	9.86	8.21	9.73	11.99

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
FR21	Champagne-Ardennes	1.98	8.88	3.99	6.87	8.59	8.03	8.83	8.98
FR22	Picardie	2.97	13.25	5.87	10.35	7.72	11.55	11.87	11.18
FR23	Haute-Normandie	1.89	11.03	3.59	9.33	9.39	9.33	10.14	10.64
FR24	Centre	1.98	11.82	4.19	9.60	7.71	8.71	10.38	11.84
FR25	Basse-Normandie	1.00	6.79	2.71	5.08	7.20	6.14	9.01	7.65
FR26	Burgogne	1.54	8.93	5.58	4.89	6.38	7.81	6.19	7.54
FR30	Nord-Pas-de-Calais	2.83	13.98	5.94	10.87	9.67	11.43	12.79	10.42
FR41	Lorraine	2.61	10.95	4.47	9.10	7.69	9.18	10.92	13.34
FR42	Alsace	2.06	12.07	4.82	9.32	7.71	8.28	12.76	12.40
FR43	Franche-Comte	2.28	10.10	5.16	7.21	8.81	7.14	6.59	11.53
FR51	Pays-de-la-Loire	1.34	7.48	3.17	5.65	7.46	7.38	5.89	9.60
FR52	Brittany	1.90	10.08	4.34	7.65	7.93	9.77	8.41	9.53
FR53	Poitou-Chatentes	1.79	8.25	3.87	6.17	6.77	8.51	10.66	8.31
FR61	Aquitaine	1.69	11.42	4.65	8.46	6.73	9.53	10.50	11.29
FR62	Midi-Pyrenees	2.43	10.93	4.81	8.55	8.43	9.78	10.62	10.31
FR63	Limousin	2.78	12.34	5.88	9.24	7.92	10.90	12.26	8.74
FR71	Rhone-Alpes	1.16	7.87	3.00	6.04	6.95	7.32	7.49	9.55
FR72	Auvergne	1.70	7.23	3.39	5.53	7.38	6.87	7.51	7.97
FR81	Languedoc-Roussillon	2.46	14.07	6.35	10.18	6.92	8.22	14.87	14.57
FR82	Provence-Alpes-Cote d'Azur	2.15	12.08	4.53	9.70	8.57	11.16	11.66	10.62
FR83	Corse	1.98	12.68	9.77	4.89	9.08	3.97	14.08	9.19
GR	**Greece**	7.40	21.89	14.50	14.79	13.21	10.56	16.87	15.38
	NUTS-1:								
GR1	Voreia Ellada	8.51	23.84	17.06	15.29	14.30	10.56	18.23	14.22
GR2	Kentriki Ellada	9.04	26.26	17.81	17.48	15.71	12.80	19.70	15.61
GR3	Attica	5.72	18.27	11.46	12.53	11.28	7.92	14.18	15.37
GR4	Nisia Aigaiou. Kriti	7.48	22.02	12.32	17.18	10.61	16.24	18.60	16.20
IE	**Ireland**	2.63	14.48	7.38	9.72	11.64	8.73	9.38	11.53
	NUTS-1:								
IE0	Ireland	2.62	14.48	7.38	9.71	11.86	8.87	9.29	11.77
ES	**Spain**	4.73	20.33	14.87	10.19	9.92	11.55	10.31	11.04
	NUTS-1:								
ES1	North West	4.38	17.65	12.04	9.99	9.31	12.12	8.80	11.22
ES2	North East	2.09	12.41	9.41	5.10	8.20	6.97	4.70	8.22
ES3	Community of Madrid	3.13	16.44	10.38	9.18	10.01	7.55	9.18	12.44
ES4	Centre	5.31	22.27	17.96	9.61	10.10	13.69	9.03	9.34
ES5	East	3.78	18.20	13.18	8.80	9.85	9.17	9.38	10.79
ES6	South	7.68	28.45	20.94	15.19	11.63	16.67	15.74	12.12

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
ES7	Canary Islands	6.12	24.39	19.59	10.92	9.04	16.18	11.69	10.05
	NUTS-2:								
ES11	Galicia	5.35	19.17	12.65	11.87	10.65	13.48	10.78	12.30
ES12	Principado de Asturias	2.09	13.95	10.16	5.88	7.50	9.00	4.77	9.55
ES13	Cantabria	4.10	17.11	12.56	8.65	9.62	11.27	7.89	10.05
ES21	Pais Vasco	1.99	12.43	9.25	5.17	7.85	7.86	4.46	7.84
ES22	Comunidad Foral de Navarra	2.67	9.45	5.85	6.28	6.76	7.97	5.01	9.04
ES23	La Rioja	3.36	17.57	14.21	6.72	10.53	6.47	6.47	9.57
ES24	Aragon	1.73	12.56	10.21	4.09	7.46	5.01	4.35	8.05
ES30	Comunidad de Madrid	3.12	16.44	10.38	9.18	9.54	7.51	9.09	12.29
ES41	Castilla y Leon	3.70	17.93	14.87	6.76	9.06	10.93	6.66	8.89
ES42	Castilla-La Mancha	5.25	23.70	18.74	10.22	10.08	15.05	9.90	10.00
ES43	Extremadura	9.15	29.44	23.56	15.04	12.43	18.98	12.68	10.03
ES51	Cataluna	3.19	16.43	11.59	8.03	10.00	8.97	8.07	10.47
ES52	Comunidad Valenciana	4.39	19.75	15.06	9.08	9.20	8.97	11.19	11.79
ES53	Illes Balears	5.18	22.89	15.31	12.76	12.90	12.10	11.66	11.80
ES61	Andalusia	7.45	28.23	20.76	14.91	10.77	17.34	14.73	12.14
ES62	Murcia	9.12	29.64	21.88	16.89	14.36	13.18	20.63	12.56
ES63	Ciudad Autonoma de Ceuta	8.80	28.60	22.71	14.69	17.55	16.56	15.72	6.12
ES64	Ciudad Autonoma de Melilla	7.43	27.37	20.38	14.42	14.03	15.55	10.77	11.44
ES70	Canarias	6.15	24.37	19.59	10.92	9.25	15.42	11.99	9.93
NL	**Netherlands**	0.93	7.05	3.31	4.67	7.20	9.67	4.75	5.96
LT	**Lithuania**	16.86	46.24	43.14	19.96	17.18	22.20	25.38	9.49
	NUTS-1:								
LT0	Lithuania	16.86	46.24	43.14	19.96	16.98	22.32	25.61	9.65
LU	**Luxembourg**	0.35	4.25	1.25	3.36	5.28	9.40	3.42	5.94
	NUTS-1:								
LU0	Luxembourg	0.35	4.24	1.25	3.35	5.47	9.14	3.33	5.76
LV	**Latvia**	27.52	52.76	43.63	36.65	27.43	25.87	29.71	30.74
	NUTS-1:								
LV0	Latvia	27.51	52.76	43.63	36.64	27.19	26.21	29.75	30.74
MT	**Malta**	2.80	13.84	10.23	6.41	6.45	7.84	12.47	8.86
	NUTS-1:								
MT0	Malta	2.79	13.84	10.23	6.40	6.63	7.82	12.36	8.79
DE	**Germany**	2.03	9.37	5.24	6.17	8.00	8.03	7.14	8.59
PL	**Poland**	12.51	36.37	32.30	16.58	15.30	12.64	20.34	13.95

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
	NUTS-1:								
PL1	Central Poland	12.23	34.51	29.58	17.15	15.58	13.88	18.90	14.85
PL2	South Poland	10.65	33.98	29.74	14.89	14.04	11.54	20.16	12.91
PL3	East Poland	13.35	41.67	39.16	15.87	13.57	12.30	21.30	14.79
PL4	Northwest Poland	13.53	37.49	33.42	17.59	17.52	11.75	21.54	14.56
PL5	Southwest Poland	13.03	34.83	29.68	18.18	14.52	16.58	20.66	13.09
PL6	North Poland	13.07	35.87	32.07	16.87	16.48	12.75	20.49	12.51
	NUTS-2:								
PL11	Łódzkie	15.13	38.84	32.80	21.17	17.38	17.05	24.93	15.88
PL12	Mazowieckie	10.82	32.39	28.02	15.20	14.70	12.28	15.98	14.51
PL21	Małopolskie	11.16	37.66	32.78	16.04	14.93	10.63	20.15	15.62
PL22	Śląskie	10.31	31.42	27.64	14.09	13.68	12.52	20.09	10.82
PL31	Lubelskie	14.99	44.59	41.73	17.84	14.72	15.45	21.28	15.15
PL32	Podkarpackie	13.40	40.00	38.13	15.26	12.35	10.26	23.49	16.54
PL33	Świętokrzyskie	13.72	43.95	40.28	17.40	14.37	14.35	23.00	12.77
PL34	Podlaskie	9.59	36.56	34.84	11.31	12.73	6.85	13.94	12.99
PL41	Wielkopolskie	9.56	34.85	31.92	12.48	12.60	10.29	15.76	11.86
PL42	Zachodnio-Pomorskie	17.47	40.38	35.07	22.79	23.63	12.05	27.00	15.79
PL43	Lubuskie	20.73	41.86	35.92	26.67	23.98	16.22	30.45	20.18
PL51	Dolnośląskie	13.49	35.28	29.57	19.19	14.93	18.25	20.56	13.69
PL52	Opolskie	11.66	33.45	30.00	15.11	13.81	11.65	20.74	10.01
PL61	Kujawsko-Pomorskie	13.79	37.51	34.66	16.64	18.10	12.54	19.09	10.40
PL62	Warmińsko-Mazurskie	14.88	37.85	33.56	19.18	17.04	13.89	22.54	14.77
PL63	Pomorskie	11.29	33.09	28.74	15.64	14.82	12.07	20.56	13.18
PT	**Portugal**	10.80	30.53	22.44	18.89	15.13	13.24	14.98	20.28
RO	**Romania**	39.49	70.39	66.72	43.17	41.25	39.16	26.46	25.76
	NUTS-1:								
RO1	One	30.75	67.71	65.39	33.07	33.18	28.92	20.06	22.16
RO2	Two	48.99	75.56	70.76	53.79	46.36	49.07	32.04	33.84
RO3	Three	38.55	65.96	61.34	43.17	40.82	39.01	28.18	25.87
RO4	Four	36.51	72.06	69.98	38.59	41.06	38.46	22.85	17.07
SE	**Sweden**	0.90	6.86	4.65	3.12	6.30	5.70	2.06	8.73
	NUTS-1:								
SE1	East Sweden	0.91	6.69	4.26	3.34	6.72	5.20	2.19	8.91
SE2	South Sweden	0.87	7.06	4.76	3.17	6.15	6.12	1.99	8.73
SE3	North Sweden	0.95	6.76	5.18	2.54	5.59	5.39	2.12	7.89
SI	**Slovenia**	3.91	14.48	8.46	9.94	8.37	17.05	12.52	6.40
	NUTS-1:								
SI0	Slovenia	3.91	14.49	8.46	9.94	8.18	16.94	12.47	6.53

Acronyms	Countries and regions	Fuzzy poverty incidence indicators * 100							
		M^{IC}	L^{IC}	FMI	FSI	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
SK	**Slovakia**	8.77	29.31	26.46	11.62	17.60	6.83	15.93	9.64
	NUTS-1:								
SK0	Slovakia	8.77	29.32	26.46	11.62	17.70	7.02	16.06	9.70
HU	**Hungary**	16.75	41.93	37.36	21.32	19.84	16.07	27.52	11.59
	NUTS-1:								
HU1	Central Hungary	13.71	34.90	29.23	19.38	19.02	15.19	25.53	11.51
HU2	Transdanubia	15.40	41.12	37.36	19.15	17.58	15.64	25.54	10.89
HU3	Great Plain and North	19.98	47.68	43.29	24.37	22.22	17.99	31.12	12.05
UK	**United Kingdom**	1.81	10.86	6.73	5.94	8.98	8.93	7.12	6.41
IT	**Italy**	3.88	17.41	9.69	11.60	7.90	11.28	12.76	15.18
	NUTS-1:								
ITC	North West	2.12	12.71	6.12	8.71	6.86	10.32	7.83	14.12
ITD	North East	2.17	12.72	5.37	9.51	6.49	12.82	8.26	13.50
ITE	Centre	3.00	15.14	7.38	10.76	7.08	11.05	11.13	15.03
ITF	South	6.13	23.95	15.58	14.49	9.50	10.66	18.52	16.85
ITG	Islands	7.79	26.93	17.27	17.46	10.10	12.82	22.36	18.92

Table A.11. Poverty Depth Risk in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{IO}	L^{IO}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
EU-27	**European Union**	20.30	45.21	40.15	25.35	25.47	26.15	27.39	24.91
AT	**Austria**	11.31	29.23	22.36	18.18	21.87	22.99	19.54	19.55
	NUTS-1:								
AT1	East Austria	13.23	31.10	22.77	21.56	24.84	25.34	21.53	19.66
AT2	South Austria	11.76	30.87	24.79	17.84	21.17	21.24	21.31	20.49
AT3	West Austria	8.61	26.16	20.53	14.24	18.39	20.85	15.95	18.30
BE	**Belgium**	14.14	34.18	28.23	20.09	22.72	26.27	20.30	20.10
	NUTS-1:								
BE1	Brussles	26.12	46.88	37.95	35.05	37.65	30.49	34.22	21.67
BE2	Flemish Region	9.87	29.43	24.75	14.55	19.28	23.91	13.98	19.50
BE3	Wallon Region	17.83	38.72	31.44	25.11	24.79	27.46	27.55	21.24
BG	**Bulgaria**	55.16	80.58	78.08	57.66	44.35	46.70	59.37	37.41
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	58.21	83.53	81.43	60.30	45.87	51.55	61.73	38.49
BG4	South-Western and South--Central Bulgaria	51.80	77.42	74.46	54.75	42.89	41.85	56.48	36.73
CY	**Cyprus**	17.69	41.74	24.12	35.31	20.47	32.45	39.42	29.44
	NUTS-1:								

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{I0}	L^{I0}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
CY0	Cyprus	17.67	41.74	24.12	35.28	20.05	32.29	39.44	29.24
CZ	**Czech Republic**	20.76	59.32	58.06	22.02	28.82	24.26	27.41	23.89
	NUTS-1:								
CZ0	Czech Republic	20.92	59.32	58.06	22.17	28.76	24.17	27.46	23.77
	NUTS-2:								
CZ01	Praha	15.40	46.24	44.30	17.34	26.66	21.07	19.26	23.52
CZ02	Stredni Cechy	17.98	54.83	53.64	19.17	24.53	23.65	24.24	23.53
CZ03	Jihozapad	20.65	60.54	58.80	22.39	28.81	22.64	28.92	24.26
CZ04	Severozapad	25.99	64.27	63.33	26.94	32.51	24.66	33.19	25.91
CZ05	Severovychod	20.90	61.31	60.15	22.05	28.58	25.94	26.89	24.56
CZ06	Jihovychod	19.31	60.26	59.26	20.30	26.99	24.43	25.13	23.90
CZ07	Stredni Morava	22.38	62.54	61.52	23.40	30.11	24.56	28.34	23.69
CZ08	Moravskoslezsko	26.08	64.39	63.18	27.29	34.58	25.85	31.51	23.58
DK	**Denmark**	9.74	30.74	26.97	13.51	22.03	18.20	14.45	19.52
	NUTS-1:								
DK0	Denmark	9.68	30.74	26.97	13.45	21.65	17.99	14.38	19.40
EE	**Estonia**	33.29	69.29	67.83	34.75	32.55	34.46	32.76	28.21
	NUTS-1:								
EE0	Estonia	33.39	69.28	67.83	34.85	32.69	34.61	32.59	27.85
FI	**Finland**	11.46	31.64	28.37	14.73	23.21	17.74	17.35	18.76
	NUTS-1:								
FI1	Mainland Finland	11.46	31.64	28.37	14.73	23.21	17.74	17.35	18.76
	NUTS-2:								
FI13	Ita-Suomi	12.28	35.36	33.04	14.61	22.43	19.62	17.59	19.85
FI18	Etela-Suomi	11.41	29.80	25.72	15.50	24.35	17.66	16.92	18.99
FI19	Lansi-Suomi	11.24	32.77	30.01	14.00	21.93	18.26	17.21	19.56
FR	**France**	13.82	33.13	25.99	20.96	21.10	22.55	23.66	23.43
	NUTS-1:								
FR1	Ile-de-France	12.37	29.87	20.88	21.36	22.49	21.73	22.21	24.16
FR2	Paris basin	14.06	33.91	27.42	20.55	20.59	22.61	24.31	22.78
FR3	Nord-Pas-de-Calais	17.47	38.81	31.64	24.64	22.86	25.88	28.77	22.38
FR4	East	14.87	34.80	27.61	22.06	21.55	21.77	24.71	24.87
FR5	West	12.17	30.80	25.35	17.61	20.51	21.83	19.62	21.65
FR6	South West	14.18	34.87	27.46	21.60	20.65	24.37	24.85	22.68
FR7	Centre East	11.52	29.54	23.69	17.37	19.44	19.86	21.11	22.15
FR8	Mediterranean	15.61	36.61	28.07	24.15	21.45	24.26	27.60	25.20
	NUTS-2:								
FR10	Ile-de-France	12.35	29.80	20.88	21.26	22.12	20.89	22.60	24.97
FR21	Champagne-Ardennes	12.89	30.49	25.22	18.15	20.00	21.56	21.14	20.65

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{I0}	L^{I0}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
FR22	Picardie	18.42	38.99	32.10	25.31	21.25	25.86	29.31	24.98
FR23	Haute-Normandie	13.71	35.86	27.73	21.83	21.49	23.54	25.16	24.40
FR24	Centre	13.71	33.71	26.02	21.39	21.09	22.30	23.99	24.83
FR25	Basse-Normandie	12.00	30.56	25.16	17.39	20.20	17.83	24.60	19.89
FR26	Burgogne	12.01	30.69	26.25	16.45	19.05	21.88	21.27	20.00
FR30	Nord-Pas-de-Calais	17.47	38.80	31.64	24.63	22.94	26.23	28.88	23.95
FR41	Lorraine	16.23	35.33	28.19	23.37	22.62	22.28	25.60	25.86
FR42	Alsace	14.42	33.91	25.73	22.60	19.84	21.40	27.41	22.00
FR43	Franche-Comte	12.79	34.44	28.56	18.67	22.02	19.77	19.93	23.90
FR51	Pays-de-la-Loire	10.80	29.48	24.12	16.16	19.85	20.78	17.96	22.17
FR52	Brittany	13.13	32.22	26.41	18.94	20.29	22.99	20.27	21.93
FR53	Poitou-Chatentes	13.60	30.90	26.16	18.35	20.07	20.92	24.09	19.99
FR61	Aquitaine	13.58	34.55	26.74	21.40	19.42	23.88	25.12	24.45
FR62	Midi-Pyrenees	14.57	34.46	27.51	21.52	21.68	23.39	24.92	23.44
FR63	Limousin	15.85	37.63	30.56	22.92	20.83	24.67	26.12	23.64
FR71	Rhone-Alpes	11.08	29.34	23.06	17.36	20.18	19.68	20.86	22.59
FR72	Auvergne	13.09	30.11	26.02	17.19	21.84	18.66	21.99	20.75
FR81	Languedoc-Roussillon	16.19	37.88	29.73	24.34	20.41	21.41	29.49	28.23
FR82	Provence-Alpes-Cote d'Azur	15.21	35.59	26.77	24.03	21.39	26.09	26.37	23.77
FR83	Corse	14.10	38.22	35.17	17.15	23.33	19.69	26.82	16.58
GR	**Greece**	26.20	50.32	45.15	31.36	27.94	25.52	33.91	28.77
	NUTS-1:								
GR1	Voreia Ellada	28.26	54.19	50.20	32.26	29.47	25.62	35.79	28.48
GR2	Kentriki Ellada	31.09	57.43	51.88	36.63	31.53	28.72	39.53	29.29
GR3	Attica	21.53	43.88	38.32	27.09	26.33	22.05	28.77	28.42
GR4	Nisia Aigaiou. Kriti	28.87	50.61	43.92	35.56	25.72	32.34	37.02	28.34
IE	**Ireland**	17.16	39.93	31.78	25.31	25.96	22.48	27.94	24.41
	NUTS-1:								
IE0	Ireland	17.18	39.93	31.78	25.33	25.52	23.12	27.87	24.66
ES	**Spain**	20.21	48.10	42.87	25.44	24.27	27.64	26.99	25.30
	NUTS-1:								
ES1	North West	19.80	46.73	41.36	25.17	24.47	28.97	25.30	25.83
ES2	North East	10.98	36.02	32.44	14.57	21.80	20.09	15.17	21.28
ES3	Community of Madrid	16.01	40.61	34.48	22.14	23.32	21.49	24.06	26.62
ES4	Centre	21.21	51.93	47.39	25.75	24.21	30.94	25.15	24.08
ES5	East	17.99	45.79	40.71	23.08	23.66	23.89	25.42	24.71
ES6	South	28.58	58.20	52.12	34.67	26.82	35.21	36.42	26.94
ES7	Canary Islands	25.86	55.69	51.36	30.19	23.60	34.29	32.70	24.32
	NUTS-2:								

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{I0}	L^{I0}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
ES11	Galicia	22.58	48.62	42.59	28.61	24.78	30.56	28.51	26.60
ES12	Principado de Asturias	13.25	42.37	38.40	17.23	22.15	24.33	17.03	24.00
ES13	Cantabria	19.19	45.49	40.89	23.79	23.64	26.84	26.33	24.06
ES21	Pais Vasco	10.72	35.02	30.94	14.80	21.14	21.00	14.57	20.82
ES22	Comunidad Foral de Navarra	10.73	28.96	24.86	14.83	20.10	21.18	14.60	22.66
ES23	La Rioja	14.15	45.00	41.21	17.94	23.88	20.79	19.49	23.79
ES24	Aragon	10.73	38.90	36.40	13.24	21.56	18.35	15.04	22.37
ES30	Comunidad de Madrid	16.11	40.59	34.48	22.22	23.39	21.61	23.90	26.26
ES41	Castilla y Leon	16.52	46.09	42.01	20.60	23.25	26.21	20.73	23.76
ES42	Castilla-La Mancha	22.27	54.34	49.07	27.53	24.18	32.43	26.44	24.84
ES43	Extremadura	29.64	60.76	56.51	33.90	28.09	37.72	31.08	24.48
ES51	Cataluna	15.90	43.11	37.78	21.23	24.29	23.77	22.82	24.32
ES52	Comunidad Valenciana	20.50	48.88	44.72	24.65	23.77	24.09	29.24	26.22
ES53	Illes Balears	20.87	49.31	41.87	28.31	27.89	29.24	27.92	26.09
ES61	Andalusia	28.51	58.19	52.17	34.53	26.46	36.44	35.90	26.86
ES62	Murcia	29.44	58.46	52.32	35.58	30.25	30.35	40.81	27.23
ES63	Ciudad Autonoma de Ceuta	28.03	57.34	48.87	36.50	29.66	36.55	40.22	19.37
ES64	Ciudad Autonoma de Melilla	23.98	51.84	45.17	30.66	26.49	32.48	30.61	25.73
ES70	Canarias	25.97	55.67	51.36	30.28	23.92	34.11	32.80	24.94
NL	**Netherlands**	9.66	27.88	22.58	14.96	19.92	23.09	14.94	18.25
LT	**Lithuania**	38.56	76.35	74.98	39.93	32.72	36.87	47.08	23.95
	NUTS-1:								
LT0	Lithuania	38.60	76.36	74.98	39.98	32.44	37.10	46.88	24.31
LU	**Luxembourg**	6.01	18.94	11.34	13.60	16.87	23.02	13.75	17.01
	NUTS-1:								
LU0	Luxembourg	5.89	18.89	11.34	13.44	16.50	23.09	13.82	17.73
LV	**Latvia**	52.22	79.14	75.50	55.86	43.97	41.76	52.77	44.85
	NUTS-1:								
LV0	Latvia	52.22	79.14	75.50	55.85	44.08	41.75	52.78	44.50
MT	**Malta**	17.83	44.79	41.13	21.48	20.47	22.05	31.41	22.90
	NUTS-1:								
MT0	Malta	17.85	44.79	41.13	21.50	20.17	21.88	31.57	22.97
DE	**Germany**	13.04	32.57	27.61	18.00	20.86	21.54	20.49	21.44
PL	**Poland**	32.33	70.41	68.64	34.11	31.39	28.08	40.55	28.96
	NUTS-1:								
PL1	Central Poland	31.66	66.93	64.41	34.19	31.70	28.14	38.14	30.13
PL2	South Poland	30.62	69.49	67.52	32.59	30.47	26.92	39.90	28.18
PL3	East Poland	33.23	75.47	74.72	33.98	29.57	26.65	42.51	29.12
PL4	Northwest Poland	33.82	71.80	70.16	35.46	33.98	26.96	42.01	29.78

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{I0}	L^{I0}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
PL5	Southwest Poland	32.82	68.29	65.89	35.22	29.76	33.47	39.73	28.81
PL6	North Poland	33.08	70.43	69.05	34.46	32.51	28.26	40.84	27.68
	NUTS-2:								
PL11	Łódzkie	36.81	71.79	69.57	39.02	32.73	31.60	44.82	31.69
PL12	Mazowieckie	29.24	64.55	61.90	31.90	30.34	26.76	34.31	29.16
PL21	Małopolskie	32.40	72.31	70.15	34.56	31.49	26.35	40.66	31.15
PL22	Śląskie	29.43	67.55	65.70	31.29	29.96	27.91	38.85	25.82
PL31	Lubelskie	35.01	76.25	75.25	36.01	30.51	30.13	42.06	30.10
PL32	Podkarpackie	33.84	74.94	74.56	34.22	28.85	24.71	44.24	31.51
PL33	Świętokrzyskie	34.32	77.24	75.98	35.58	30.93	28.00	44.76	29.39
PL34	Podlaskie	27.51	72.91	72.52	27.90	29.05	20.78	34.45	27.76
PL41	Wielkopolskie	28.08	69.98	68.75	29.30	28.54	25.14	35.76	27.24
PL42	Zachodnio-Pomorskie	39.89	73.83	71.60	42.12	41.83	27.85	48.69	30.86
PL43	Lubuskie	43.74	74.80	72.66	45.88	40.29	31.54	49.92	37.42
PL51	Dolnośląskie	33.81	68.15	65.62	36.34	29.92	34.76	39.48	28.98
PL52	Opolskie	29.74	68.68	66.71	31.70	29.22	28.77	39.26	24.59
PL61	Kujawsko-Pomorskie	34.04	73.14	72.35	34.83	35.65	28.72	40.17	25.75
PL62	Warmińsko-Mazurskie	35.92	72.80	71.60	37.12	33.91	28.92	43.28	30.27
PL63	Pomorskie	30.58	66.43	64.38	32.62	30.22	27.97	38.92	28.02
PT	**Portugal**	31.73	61.56	56.93	36.36	30.72	29.64	35.81	35.56
RO	**Romania**	60.45	90.62	89.83	61.25	57.27	52.30	48.65	39.70
	NUTS-1:								
RO1	One	51.92	90.37	89.92	52.36	51.29	42.49	41.07	37.18
RO2	Two	69.43	92.29	91.27	70.46	62.56	60.91	55.69	47.63
RO3	Three	59.89	88.30	87.17	61.02	56.88	51.84	49.15	40.46
RO4	Four	57.65	91.75	91.38	58.02	57.71	51.62	45.39	31.96
SE	**Sweden**	7.91	29.38	26.41	10.87	18.78	18.19	10.32	21.28
	NUTS-1:								
SE1	East Sweden	7.53	27.64	24.27	10.91	19.28	17.24	10.29	21.02
SE2	South Sweden	8.12	30.07	27.11	11.08	18.61	18.69	10.29	21.50
SE3	North Sweden	7.85	31.15	29.11	9.88	17.81	18.01	10.55	20.13
SI	**Slovenia**	21.32	45.37	39.81	26.88	22.34	34.40	29.64	20.35
	NUTS-1:								
SI0	Slovenia	21.30	45.38	39.81	26.87	22.33	34.50	29.79	19.87
SK	**Slovakia**	26.77	67.08	65.92	27.94	34.07	21.20	35.87	25.58
	NUTS-1:								
SK0	Slovakia	26.89	67.08	65.92	28.06	33.68	21.34	35.66	25.23
HU	**Hungary**	40.49	77.08	75.67	41.89	36.50	33.34	50.82	27.38
	NUTS-1:								

Acronyms	Countries and regions	Fuzzy poverty depth indicators * 100							
		M^{I0}	L^{I0}	FMD	FSD	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
HU1	Central Hungary	37.14	71.47	69.30	39.30	35.90	32.45	47.02	27.46
HU2	Transdanubia	38.39	77.39	76.40	39.39	34.18	32.26	49.24	26.39
HU3	Great Plain and North	44.65	80.93	79.76	45.82	38.89	34.63	54.72	27.27
UK	**United Kingdom**	12.61	35.32	29.69	18.24	22.30	23.13	21.30	19.46
IT	**Italy**	18.08	43.54	35.63	25.99	21.35	26.48	28.01	28.54
	NUTS-1:								
ITC	North West	13.03	36.36	28.38	21.01	19.77	25.06	20.08	27.26
ITD	North East	14.34	37.24	28.25	23.33	19.10	28.49	21.62	27.26
ITE	Centre	16.24	40.44	32.07	24.60	19.91	25.80	26.39	28.03
ITF	South	23.82	53.47	46.74	30.54	24.32	26.50	36.84	30.88
ITG	Islands	27.60	56.16	48.38	35.38	24.49	29.97	42.26	32.68

Table A.12. Poverty Intensity Risk in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
EU-27	**European Union**	0.05	8.56	5.71	2.89	2.87	2.95	2.87	2.76
AT	**Austria**	0.01	4.05	0.42	3.63	2.64	2.74	3.85	2.63
	NUTS-1:								
AT1	East Austria	0.02	3.89	0.39	3.52	2.87	2.53	3.62	2.50
AT2	South Austria	0.01	4.35	0.77	3.60	3.03	2.73	3.23	2.60
AT3	West Austria	0.01	3.99	0.27	3.73	3.23	2.68	3.94	2.69
BE	**Belgium**	0.02	4.59	0.98	3.63	2.59	2.65	3.70	2.40
	NUTS-1:								
BE1	Brussles	0.04	4.54	2.54	2.04	2.13	2.47	2.48	2.57
BE2	Flemish Region	0.07	4.61	0.67	4.01	3.29	2.67	3.96	2.45
BE3	Wallon Region	0.04	3.64	1.06	2.63	3.08	2.64	2.78	2.66
BG	**Bulgaria**	0.02	22.79	22.51	0.30	2.62	3.05	0.51	3.00
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	0.05	27.96	27.75	0.26	1.72	2.84	0.39	3.49
BG4	South-Western and South--Central Bulgaria	0.03	17.22	16.85	0.40	1.79	3.62	0.77	2.87
CY	**Cyprus**	0.00	2.03	0.38	1.65	2.80	2.23	1.67	2.37
	NUTS-1:								
CY0	Cyprus	0.01	2.11	0.38	1.74	2.95	2.24	1.93	2.53
CZ	**Czech Republic**	0.04	5.45	2.98	2.50	2.63	3.46	2.50	2.66
	NUTS-1:								
CZ0	Czech Republic	0.10	5.58	2.98	2.70	3.14	3.40	2.56	2.68
	NUTS-2:								

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
CZ01	Praha	0.00	5.14	0.89	4.25	2.43	2.92	4.40	2.77
CZ02	Stredni Cechy	0.04	6.72	2.82	3.95	2.45	2.68	3.88	2.95
CZ03	Jihozapad	0.01	4.84	2.01	2.84	2.63	2.76	3.44	2.35
CZ04	Severozapad	0.09	8.32	5.26	3.15	2.57	2.97	3.17	2.90
CZ05	Severovychod	0.03	5.89	2.49	3.43	2.53	2.84	3.88	2.51
CZ06	Jihovychod	0.01	5.86	2.70	3.17	2.48	2.90	3.68	2.57
CZ07	Stredni Morava	0.02	6.32	3.37	2.97	2.01	3.12	3.61	3.18
CZ08	Moravskoslezsko	0.02	7.63	4.71	2.94	2.41	2.94	3.13	3.20
DK	**Denmark**	0.09	6.82	2.32	4.59	2.90	2.81	4.05	2.59
	NUTS-1:								
DK0	Denmark	0.23	6.18	2.32	4.09	2.77	2.87	3.96	2.65
EE	**Estonia**	0.10	13.25	11.44	1.90	2.67	3.33	1.91	2.98
	NUTS-1:								
EE0	Estonia	0.21	13.28	11.44	2.04	2.51	3.29	2.31	3.35
FI	**Finland**	0.01	4.60	0.63	3.98	2.54	2.76	4.02	2.58
	NUTS-1:								
FI1	Mainland Finland	0.01	4.60	0.63	3.98	2.54	2.76	4.02	2.58
	NUTS-2:								
FI13	Ita-Suomi	0.01	4.63	0.97	3.67	2.41	3.00	4.53	2.73
FI18	Etela-Suomi	0.02	4.34	0.51	3.85	2.54	2.90	3.81	2.46
FI19	Lansi-Suomi	0.01	4.70	0.72	3.99	2.71	2.84	3.58	2.49
FR	**France**	0.02	4.16	0.82	3.36	2.80	2.79	3.28	2.54
	NUTS-1:								
FR1	Ile-de-France	0.07	4.29	0.82	3.53	2.60	2.89	3.37	2.17
FR2	Paris basin	0.06	4.09	0.97	3.19	3.10	2.58	2.84	2.78
FR3	Nord-Pas-de-Calais	0.04	3.48	1.26	2.27	3.52	2.46	2.70	2.18
FR4	East	0.00	4.11	0.67	3.44	3.27	2.83	3.40	2.09
FR5	West	0.07	4.24	0.68	3.63	3.14	3.06	3.17	2.90
FR6	South West	0.04	3.79	0.95	2.88	3.40	2.95	2.93	2.42
FR7	Centre East	0.02	4.07	0.36	3.73	3.22	3.02	3.24	2.74
FR8	Mediterranean	0.09	3.43	0.89	2.63	2.81	2.59	3.24	2.55
	NUTS-2:								
FR10	Ile-de-France	0.02	3.45	0.82	2.65	2.31	3.11	3.59	2.55
FR21	Champagne-Ardennes	0.00	4.65	0.23	4.42	3.72	3.19	3.19	2.38
FR22	Picardie	0.00	2.59	0.43	2.16	2.63	3.13	2.21	1.94
FR23	Haute-Normandie	0.00	3.61	0.45	3.16	2.98	2.29	2.93	2.93
FR24	Centre	0.00	4.51	1.50	3.01	2.69	3.11	2.70	2.18
FR25	Basse-Normandie	0.00	3.74	0.48	3.25	2.33	2.52	2.90	2.35
FR26	Burgogne	0.00	5.62	2.69	2.93	3.79	2.75	3.18	2.73

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
FR30	Nord-Pas-de-Calais	0.00	3.98	1.26	2.72	3.03	2.53	2.78	2.22
FR41	Lorraine	0.00	3.46	0.32	3.14	2.49	3.29	3.42	2.10
FR42	Alsace	0.06	4.66	1.25	3.47	2.69	3.07	2.44	1.70
FR43	Franche-Comte	0.09	4.96	0.72	4.34	2.22	2.68	3.32	1.85
FR51	Pays-de-la-Loire	0.03	4.00	0.51	3.51	2.34	3.25	4.19	1.97
FR52	Brittany	0.00	4.78	0.93	3.85	3.10	2.73	3.46	2.47
FR53	Poitou-Chatentes	0.00	4.31	0.61	3.70	3.49	2.89	3.09	2.25
FR61	Aquitaine	0.03	4.67	1.13	3.57	2.22	3.43	2.81	3.21
FR62	Midi-Pyrenees	0.01	3.52	0.89	2.63	2.43	2.44	3.28	3.12
FR63	Limousin	0.00	2.81	0.33	2.48	2.84	3.22	3.85	1.99
FR71	Rhone-Alpes	0.02	3.79	0.43	3.38	2.55	3.19	3.35	2.58
FR72	Auvergne	0.00	3.21	0.10	3.11	2.26	2.90	3.00	4.44
FR81	Languedoc-Roussillon	0.01	4.35	1.68	2.67	3.40	2.72	2.37	2.70
FR82	Provence-Alpes-Cote d'Azur	0.03	3.02	0.32	2.73	2.61	2.75	2.73	2.39
FR83	Corse	0.26	9.24	3.20	6.31	3.61	1.11	4.02	2.62
GR	**Greece**	0.04	6.45	4.13	2.37	2.81	3.02	2.61	2.33
	NUTS-1:								
GR1	Voreia Ellada	0.10	6.93	4.80	2.23	2.56	3.30	2.83	2.87
GR2	Kentriki Ellada	0.04	6.34	5.00	1.38	2.60	2.94	1.70	2.28
GR3	Attica	0.04	6.57	3.48	3.13	2.67	2.71	2.95	2.43
GR4	Nisia Aigaiou. Kriti	0.00	5.62	2.96	2.66	3.58	2.87	2.09	2.76
IE	**Ireland**	0.09	4.97	2.50	2.57	2.64	2.64	2.43	2.51
	NUTS-1:								
IE0	Ireland	0.27	4.65	2.50	2.42	3.28	2.85	2.75	2.83
ES	**Spain**	0.08	9.00	6.29	2.80	3.13	2.89	2.74	2.95
	NUTS-1:								
ES1	North West	0.27	6.66	4.31	2.62	3.17	3.05	2.82	2.66
ES2	North East	0.42	7.79	4.19	4.02	2.58	3.25	3.96	2.96
ES3	Community of Madrid	0.19	7.79	4.57	3.42	3.26	3.23	3.44	2.74
ES4	Centre	0.34	9.88	7.36	2.86	2.88	2.78	3.03	2.91
ES5	East	0.37	8.22	5.52	3.07	2.71	2.92	2.74	3.21
ES6	South	0.39	10.89	9.45	1.83	2.95	2.44	2.26	3.01
ES7	Canary Islands	0.18	8.93	7.12	1.99	3.10	3.50	1.81	2.50
	NUTS-2:								
ES11	Galicia	0.07	6.91	4.50	2.47	2.77	2.35	2.40	2.37
ES12	Principado de Asturias	0.09	7.55	3.51	4.13	3.07	2.92	4.63	2.42
ES13	Cantabria	0.02	7.51	4.83	2.69	2.47	2.68	2.64	2.27
ES21	Pais Vasco	0.09	8.74	4.37	4.46	3.51	3.56	3.77	2.30
ES22	Comunidad Foral de Navarra	0.02	7.80	2.56	5.26	2.54	3.09	3.79	2.83

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
ES23	La Rioja	0.11	10.24	6.25	4.10	3.95	4.28	3.38	3.21
ES24	Aragon	0.12	8.61	4.17	4.56	2.81	3.74	4.24	3.51
ES30	Comunidad de Madrid	0.05	7.68	4.57	3.17	3.58	3.16	2.89	2.95
ES41	Castilla y Leon	0.08	9.19	6.67	2.60	3.09	2.88	3.99	2.98
ES42	Castilla-La Mancha	0.06	9.57	7.45	2.17	3.22	2.87	2.85	3.10
ES43	Extremadura	0.10	10.20	8.73	1.57	3.40	2.44	2.27	2.82
ES51	Cataluna	0.12	8.00	4.76	3.36	3.07	3.57	3.39	3.49
ES52	Comunidad Valenciana	0.16	8.42	6.16	2.42	3.46	3.45	2.49	2.95
ES53	Illes Balears	0.11	10.22	7.71	2.62	3.51	2.60	3.77	3.46
ES61	Andalusia	0.08	10.51	9.05	1.54	3.24	2.80	2.34	3.35
ES62	Murcia	0.03	12.96	11.44	1.54	3.42	3.26	1.57	3.35
ES63	Ciudad Autonoma de Ceuta	0.00	14.80	12.23	2.57	4.01	2.88	1.61	3.13
ES64	Ciudad Autonoma de Melilla	0.07	12.99	11.42	1.64	3.53	2.03	3.69	2.59
ES70	Canarias	0.12	8.32	7.12	1.32	3.42	2.28	1.62	2.88
NL	**Netherlands**	0.03	5.33	1.12	4.24	2.78	2.71	4.41	2.77
LT	**Lithuania**	0.15	22.76	21.59	1.32	3.55	3.64	1.16	4.68
	NUTS-1:								
LT0	Lithuania	0.40	22.70	21.59	1.51	2.31	3.52	1.68	4.32
LU	**Luxembourg**	0.01	3.92	0.51	3.41	3.13	2.54	3.34	3.04
	NUTS-1:								
LU0	Luxembourg	0.06	4.96	0.51	4.51	2.96	2.43	3.81	2.98
LV	**Latvia**	0.06	23.10	22.38	0.78	2.65	3.07	0.82	2.59
	NUTS-1:								
LV0	Latvia	0.15	23.13	22.38	0.90	1.99	3.07	1.01	2.73
MT	**Malta**	0.04	3.99	1.91	2.12	2.92	3.15	1.99	2.61
	NUTS-1:								
MT0	Malta	0.06	3.95	1.91	2.10	3.24	3.07	1.71	2.54
DE	**Germany**	0.02	4.46	0.95	3.53	2.94	2.87	3.51	2.51
PL	**Poland**	0.12	13.09	11.53	1.69	2.96	3.78	1.61	3.08
	NUTS-1:								
PL1	Central Poland	0.21	12.17	10.40	1.97	2.83	3.67	1.80	2.73
PL2	South Poland	0.22	11.24	9.72	1.74	2.82	3.51	1.63	2.84
PL3	East Poland	0.31	17.16	15.57	1.90	2.36	4.82	1.60	3.13
PL4	Northwest Poland	0.27	13.75	12.12	1.90	2.42	3.82	1.98	2.96
PL5	Southwest Poland	0.22	12.17	10.45	1.94	3.06	3.13	2.16	2.64
PL6	North Poland	0.25	12.43	10.91	1.77	2.31	3.97	2.22	3.34
	NUTS-2:								
PL11	Łódzkie	0.06	13.54	11.72	1.88	2.65	2.59	2.39	2.79
PL12	Mazowieckie	0.09	12.04	9.76	2.38	2.75	3.16	2.49	2.59

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
PL21	Małopolskie	0.07	13.34	11.67	1.74	3.58	3.49	2.00	2.53
PL22	Śląskie	0.11	10.89	8.38	2.63	2.60	3.14	2.24	2.99
PL31	Lubelskie	0.20	20.71	19.31	1.60	3.52	3.12	1.79	3.05
PL32	Podkarpackie	0.10	16.75	14.89	1.96	3.19	3.70	1.97	3.33
PL33	Świętokrzyskie	0.14	17.22	16.11	1.25	3.43	3.65	1.67	2.53
PL34	Podlaskie	0.03	10.97	8.98	2.03	2.72	3.48	2.27	2.43
PL41	Wielkopolskie	0.06	13.70	11.17	2.59	3.33	3.89	2.81	2.92
PL42	Zachodnio-Pomorskie	0.02	13.79	12.45	1.36	2.71	4.49	1.32	3.17
PL43	Lubuskie	0.01	15.98	14.87	1.12	2.40	3.71	2.56	2.58
PL51	Dolnośląskie	0.09	12.60	10.50	2.19	3.06	2.76	2.21	2.87
PL52	Opolskie	0.03	12.43	10.31	2.15	3.02	2.07	2.08	3.31
PL61	Kujawsko-Pomorskie	0.05	13.62	11.86	1.81	2.72	3.46	1.75	3.49
PL62	Warmińsko-Mazurskie	0.10	12.23	10.46	1.86	2.74	3.07	2.05	3.24
PL63	Pomorskie	0.07	12.35	10.32	2.11	3.18	3.19	2.01	3.26
PT	**Portugal**	0.05	8.43	6.76	1.72	2.80	3.21	1.78	2.35
RO	**Romania**	0.23	46.51	45.92	0.82	2.69	2.83	0.84	4.58
	NUTS-1:								
RO1	One	0.72	43.25	42.54	1.43	1.58	3.33	2.03	4.52
RO2	Two	0.25	52.61	52.14	0.72	0.96	2.29	1.06	4.04
RO3	Three	0.31	39.93	39.24	1.00	1.17	2.88	1.47	4.31
RO4	Four	0.67	50.80	50.23	1.24	0.92	2.77	2.15	6.37
SE	**Sweden**	0.06	6.24	1.44	4.86	2.81	2.95	4.85	2.63
	NUTS-1:								
SE1	East Sweden	0.17	5.74	1.31	4.60	2.83	3.03	4.36	2.69
SE2	South Sweden	0.16	5.63	1.46	4.33	3.33	2.96	4.59	2.74
SE3	North Sweden	0.11	6.04	1.64	4.51	2.99	2.87	4.20	2.64
SI	**Slovenia**	0.02	3.50	1.15	2.37	2.60	2.35	2.64	2.52
	NUTS-1:								
SI0	Slovenia	0.05	3.23	1.15	2.13	3.42	2.46	2.16	2.59
SK	**Slovakia**	0.13	8.66	6.86	1.93	2.40	4.27	1.93	2.74
	NUTS-1:								
SK0	Slovakia								
HU	**Hungary**	0.06	12.54	11.67	0.94	2.74	3.96	0.86	3.02
	NUTS-1:								
HU1	Central Hungary	0.06	8.31	7.13	1.24	2.35	3.83	1.25	2.72
HU2	Transdanubia	0.08	11.88	10.80	1.16	2.34	4.37	1.13	2.82
HU3	Great Plain and North	0.12	16.24	15.62	0.75	1.90	3.99	0.87	3.23
UK	**United Kingdom**	0.08	5.05	1.79	3.34	2.86	2.77	3.29	2.81
IT	**Italy**	0.05	6.03	3.23	2.85	3.01	2.73	2.84	2.44

Acronyms	Countries and regions	Fuzzy poverty intensity indicators * 100							
		M^{IT}	L^{IT}	FMIT	FSIT	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
	NUTS-1:								
ITC	North West	0.14	5.37	1.98	3.53	3.00	2.45	3.68	2.54
ITD	North East	0.02	4.32	1.47	2.87	3.20	2.62	3.18	2.29
ITE	Centre	0.15	5.04	2.19	3.00	3.27	2.50	2.75	2.46
ITF	South	0.18	7.50	5.48	2.20	3.21	3.04	2.03	2.77
ITG	Islands	0.12	8.00	6.28	1.84	2.86	3.00	1.75	2.71

Table A.13. Poverty Severity Risk in the EU Countries and Regions in 2010

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
EU-27	**European Union**	0.12	8.15	6.23	2.04	2.03	2.07	2.03	1.98
AT	**Austria**	0.00	3.28	0.44	2.85	1.98	1.93	2.65	1.75
	NUTS-1:								
AT1	East Austria	0.03	2.34	0.38	1.99	1.81	1.76	2.46	1.94
AT2	South Austria	0.00	3.21	0.81	2.41	2.27	1.87	2.40	1.77
AT3	West Austria	0.00	3.00	0.29	2.72	2.15	1.85	2.74	2.03
BE	**Belgium**	0.00	3.72	1.06	2.67	1.84	1.76	2.51	1.88
	NUTS-1:								
BE1	Brussles	0.00	4.45	2.64	1.81	1.52	1.92	1.94	1.99
BE2	Flemish Region	0.04	3.42	0.73	2.72	1.90	1.94	3.01	1.89
BE3	Wallon Region	0.00	3.12	1.16	1.96	1.94	1.67	1.85	2.02
BG	**Bulgaria**	0.01	24.25	24.05	0.20	1.87	2.01	0.29	2.16
	NUTS-1:								
BG3	Northern and Eastern Bulgaria	0.00	30.47	30.22	0.25	2.11	1.59	0.29	2.18
BG4	South-Western and South--Central Bulgaria	0.01	17.78	17.40	0.39	1.68	1.72	0.40	1.81
CY	**Cyprus**	0.01	1.47	0.38	1.10	1.88	1.69	1.22	1.60
	NUTS-1:								
CY0	Cyprus	0.00	1.49	0.38	1.11	2.08	1.59	1.27	1.65
CZ	**Czech Republic**	0.02	4.63	2.88	1.77	1.96	2.47	1.87	1.84
	NUTS-1:								
CZ0	Czech Republic	0.03	5.52	2.88	2.67	1.76	2.03	1.79	1.88
	NUTS-2:								
CZ01	Praha	0.00	3.18	0.74	2.45	2.13	2.12	2.64	2.05
CZ02	Stredni Cechy	0.04	5.13	2.82	2.35	2.16	1.92	1.99	1.78
CZ03	Jihozapad	0.05	3.40	1.83	1.61	2.04	1.91	1.84	1.61
CZ04	Severozapad	0.10	6.89	5.28	1.71	1.86	2.15	1.69	2.20
CZ05	Severovychod	0.06	4.08	2.35	1.79	2.05	2.02	1.90	1.95

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
CZ06	Jihovychod	0.07	4.43	2.53	1.96	1.75	2.05	1.92	1.68
CZ07	Stredni Morava	0.07	5.05	3.18	1.93	1.87	2.55	1.59	1.91
CZ08	Moravskoslezsko	0.03	6.10	4.73	1.39	1.90	2.34	1.31	2.28
DK	**Denmark**	0.12	6.10	2.82	3.40	2.29	1.99	3.04	1.95
	NUTS-1:								
DK0	Denmark	0.06	5.64	2.82	2.88	1.99	2.06	2.86	1.91
EE	**Estonia**	0.05	12.78	11.54	1.29	2.14	2.37	1.51	2.09
	NUTS-1:								
EE0	Estonia	0.07	13.00	11.54	1.53	2.07	1.84	1.59	2.08
FI	**Finland**	0.01	3.65	0.67	2.99	1.95	2.17	2.92	1.77
	NUTS-1:								
FI1	Mainland Finland	0.01	3.65	0.67	2.99	1.95	2.17	2.92	1.77
	NUTS-2:								
FI13	Ita-Suomi	0.07	3.59	1.00	2.65	2.13	1.93	2.52	1.79
FI18	Etela-Suomi	0.02	3.14	0.54	2.62	1.78	2.00	2.47	1.83
FI19	Lansi-Suomi	0.05	3.46	0.77	2.74	1.86	2.34	2.46	1.58
FR	**France**	0.01	3.20	0.89	2.32	2.05	1.94	2.37	1.81
	NUTS-1:								
FR1	Ile-de-France	0.00	3.02	0.87	2.15	2.13	2.16	2.13	1.76
FR2	Paris basin	0.06	3.30	1.15	2.21	1.88	1.88	1.76	1.63
FR3	Nord-Pas-de-Calais	0.00	2.97	1.44	1.53	2.41	1.80	1.51	1.59
FR4	East	0.05	2.47	0.66	1.86	2.12	1.79	2.13	1.81
FR5	West	0.00	3.18	0.72	2.47	1.98	2.13	2.62	1.91
FR6	South West	0.00	3.73	1.03	2.70	2.00	1.96	1.95	1.96
FR7	Centre East	0.04	2.46	0.40	2.10	2.22	1.74	2.64	1.88
FR8	Mediterranean	0.04	2.76	0.92	1.89	1.85	2.00	1.99	1.68
	NUTS-2:								
FR10	Ile-de-France	0.07	3.62	0.87	2.82	1.90	1.71	2.68	1.94
FR21	Champagne-Ardennes	0.02	3.56	0.21	3.37	1.12	2.01	2.01	1.61
FR22	Picardie	0.09	2.04	0.45	1.67	2.38	1.56	1.93	1.67
FR23	Haute-Normandie	0.00	2.48	0.52	1.96	1.94	2.02	1.85	1.77
FR24	Centre	0.15	3.49	1.75	1.88	1.39	2.19	2.18	2.78
FR25	Basse-Normandie	0.00	2.74	0.58	2.15	2.13	2.03	2.16	1.80
FR26	Burgogne	0.43	5.78	3.38	2.83	1.88	2.29	2.40	1.66
FR30	Nord-Pas-de-Calais	0.01	3.51	1.44	2.08	2.00	1.94	1.65	1.51
FR41	Lorraine	0.00	2.60	0.30	2.29	2.16	2.00	2.58	1.56
FR42	Alsace	0.11	2.81	1.23	1.69	2.16	1.83	1.57	1.77
FR43	Franche-Comte	0.07	2.83	0.72	2.18	2.00	1.51	2.09	1.64
FR51	Pays-de-la-Loire	0.02	3.89	0.55	3.36	1.92	2.26	2.99	1.66

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
FR52	Brittany	0.00	3.32	0.96	2.36	2.22	2.30	2.57	2.17
FR53	Poitou-Chatentes	0.00	3.24	0.63	2.61	1.96	2.78	2.59	1.97
FR61	Aquitaine	0.04	3.40	1.24	2.20	2.31	2.59	1.91	1.87
FR62	Midi-Pyrenees	0.01	2.56	0.95	1.62	2.18	2.01	1.89	2.12
FR63	Limousin	0.13	1.59	0.33	1.39	1.70	1.57	2.04	1.21
FR71	Rhone-Alpes	0.02	3.10	0.48	2.64	1.77	2.59	2.27	1.65
FR72	Auvergne	0.00	2.86	0.09	2.77	2.04	1.89	2.34	1.60
FR81	Languedoc-Roussillon	0.03	3.31	1.82	1.52	1.48	2.31	1.56	1.70
FR82	Provence-Alpes-Cote d'Azur	0.02	2.41	0.27	2.16	1.66	1.72	1.83	1.45
FR83	Corse	0.86	4.20	3.52	1.54	1.91	2.49	0.98	1.26
GR	**Greece**	0.01	6.06	4.35	1.72	1.88	2.35	1.70	1.74
	NUTS-1:								
GR1	Voreia Ellada	0.01	6.34	4.91	1.44	1.62	2.12	1.52	1.81
GR2	Kentriki Ellada	0.00	6.18	5.13	1.05	1.55	1.94	1.34	1.72
GR3	Attica	0.04	5.83	3.83	2.04	1.99	2.20	2.00	1.95
GR4	Nisia Aigaiou. Kriti	0.00	4.09	3.21	0.88	2.89	1.76	1.83	1.72
IE	**Ireland**	0.10	4.67	2.90	1.86	1.98	2.07	1.74	1.98
	NUTS-1:								
IE0	Ireland	0.03	4.56	2.90	1.68	1.89	1.98	1.88	1.79
ES	**Spain**	0.04	9.22	7.34	1.92	2.20	1.94	2.12	2.02
	NUTS-1:								
ES1	North West	0.06	7.13	4.96	2.23	2.16	1.86	2.14	1.90
ES2	North East	0.13	7.85	5.06	2.92	2.12	2.34	3.02	1.89
ES3	Community of Madrid	0.03	7.74	5.52	2.25	2.26	2.24	2.26	2.17
ES4	Centre	0.08	10.18	8.48	1.79	2.44	2.13	2.35	2.33
ES5	East	0.04	8.79	6.56	2.27	2.32	2.40	2.16	2.36
ES6	South	0.04	12.16	10.94	1.26	2.60	2.05	1.74	2.70
ES7	Canary Islands	0.06	9.09	7.62	1.54	2.29	1.32	1.68	2.02
	NUTS-2:								
ES11	Galicia	0.17	6.62	5.22	1.56	2.49	2.06	1.77	2.22
ES12	Principado de Asturias	0.16	5.93	3.91	2.18	1.94	1.98	2.07	2.12
ES13	Cantabria	0.06	7.47	5.63	1.90	2.11	2.42	1.87	1.93
ES21	Pais Vasco	0.21	7.76	5.31	2.66	1.95	2.43	2.96	2.68
ES22	Comunidad Foral de Navarra	0.03	5.35	3.02	2.36	1.90	1.56	2.95	1.59
ES23	La Rioja	0.36	10.29	7.62	3.03	1.91	3.09	2.35	3.41
ES24	Aragon	0.52	7.92	5.01	3.43	1.58	2.65	2.65	1.97
ES30	Comunidad de Madrid	0.19	7.77	5.52	2.44	2.18	2.28	2.24	1.60
ES41	Castilla y Leon	0.27	9.88	7.96	2.19	2.43	2.26	2.20	1.97
ES42	Castilla-La Mancha	0.63	10.12	8.57	2.18	2.00	2.07	2.57	1.81

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
ES43	Extremadura	0.43	10.92	9.47	1.88	1.59	2.13	1.83	2.14
ES51	Cataluna	0.30	7.84	5.70	2.44	2.39	2.31	2.25	2.39
ES52	Comunidad Valenciana	0.29	9.10	7.30	2.09	2.36	1.99	1.86	2.27
ES53	Illes Balears	0.20	10.41	9.01	1.60	1.46	2.32	2.23	2.29
ES61	Andalusia	0.31	11.45	10.39	1.37	2.07	1.86	1.49	2.40
ES62	Murcia	0.16	14.65	13.67	1.14	1.73	2.13	1.10	2.33
ES63	Ciudad Autonoma de Ceuta	0.00	14.83	13.67	1.17	2.37	2.88	1.67	2.51
ES64	Ciudad Autonoma de Melilla	0.19	14.60	13.51	1.28	2.30	1.55	1.11	1.98
ES70	Canarias	0.24	8.57	7.62	1.20	2.42	1.67	1.59	1.70
NL	**Netherlands**	0.02	4.36	1.35	3.03	2.04	1.82	3.01	1.92
LT	**Lithuania**	0.11	24.03	23.28	0.86	2.47	2.44	0.79	2.86
	NUTS-1:								
LT0	Lithuania	0.08	24.33	23.28	1.13	2.51	2.50	1.01	3.13
LU	**Luxembourg**	0.00	3.42	0.62	2.80	2.41	1.83	2.73	2.18
	NUTS-1:								
LU0	Luxembourg	0.01	2.95	0.62	2.35	2.25	2.02	2.94	2.18
LV	**Latvia**	0.02	24.60	24.09	0.53	1.94	2.23	0.58	1.87
	NUTS-1:								
LV0	Latvia	0.04	24.68	24.09	0.62	1.76	2.04	0.62	1.90
MT	**Malta**	0.01	3.69	2.07	1.63	2.00	2.25	1.41	1.74
	NUTS-1:								
MT0	Malta	0.01	3.63	2.07	1.58	2.07	1.83	1.28	1.72
DE	**Germany**	0.01	3.52	1.01	2.52	2.04	1.99	2.38	1.81
PL	**Poland**	0.06	12.65	11.56	1.14	2.04	2.70	1.11	2.08
	NUTS-1:								
PL1	Central Poland	0.05	11.98	10.39	1.64	1.96	2.19	1.29	1.88
PL2	South Poland	0.05	11.31	9.89	1.48	2.16	2.30	1.16	1.96
PL3	East Poland	0.06	16.99	15.57	1.47	2.26	2.61	1.13	2.26
PL4	Northwest Poland	0.06	13.68	12.12	1.63	1.87	2.38	1.14	2.02
PL5	Southwest Poland	0.08	12.22	10.56	1.74	1.80	1.82	1.17	2.28
PL6	North Poland	0.04	12.49	10.87	1.65	2.00	2.30	1.38	1.95
	NUTS-2:								
PL11	Łódzkie	0.05	12.68	11.82	0.91	2.24	1.86	1.30	1.60
PL12	Mazowieckie	0.25	11.03	9.70	1.58	2.15	2.18	1.44	1.88
PL21	Małopolskie	0.09	12.97	12.08	0.99	2.50	2.13	0.99	1.91
PL22	Śląskie	0.27	9.71	8.37	1.61	2.52	1.93	1.36	1.91
PL31	Lubelskie	0.41	20.55	19.87	1.10	2.94	3.09	1.27	2.58
PL32	Podkarpackie	0.13	15.49	14.70	0.92	3.01	2.47	1.16	2.11
PL33	Świętokrzyskie	0.15	17.06	16.33	0.87	2.65	1.91	0.86	1.94

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
PL34	Podlaskie	0.09	9.77	8.04	1.83	2.79	2.36	1.31	2.14
PL41	Wielkopolskie	0.25	12.50	11.19	1.56	2.77	2.51	2.04	1.99
PL42	Zachodnio-Pomorskie	0.10	13.19	12.16	1.13	1.73	2.75	0.68	1.78
PL43	Lubuskie	0.05	15.88	15.25	0.68	1.78	2.92	0.97	2.06
PL51	Dolnośląskie	0.25	12.04	10.64	1.65	2.59	1.90	1.30	2.04
PL52	Opolskie	0.06	11.55	10.30	1.31	2.26	2.60	1.31	1.50
PL61	Kujawsko-Pomorskie	0.26	12.94	11.68	1.52	2.54	1.88	1.15	1.93
PL62	Warmińsko-Mazurskie	0.07	10.77	9.80	1.03	2.63	1.86	1.33	1.67
PL63	Pomorskie	0.09	12.34	10.82	1.61	2.86	1.88	1.55	1.94
PT	**Portugal**	0.04	8.00	6.77	1.27	1.95	2.34	1.18	1.67
RO	**Romania**	0.11	52.22	51.90	0.44	1.88	1.78	0.65	3.46
	NUTS-1:								
RO1	One	0.14	47.73	47.19	0.68	2.14	2.62	1.21	3.02
RO2	Two	0.03	60.42	60.00	0.46	1.62	2.17	0.81	3.04
RO3	Three	0.10	44.25	43.49	0.85	1.56	1.76	0.87	2.94
RO4	Four	0.19	57.89	57.44	0.64	1.89	2.67	1.43	4.21
SE	**Sweden**	0.03	5.24	1.70	3.57	2.13	2.11	3.55	1.86
	NUTS-1:								
SE1	East Sweden	0.03	4.79	1.53	3.29	1.90	2.26	3.06	1.72
SE2	South Sweden	0.03	4.75	1.73	3.06	1.83	2.00	2.99	1.92
SE3	North Sweden	0.05	5.65	1.97	3.73	2.05	2.44	2.66	1.82
SI	**Slovenia**	0.01	2.96	1.08	1.88	1.82	1.62	2.02	1.98
	NUTS-1:								
SI0	Slovenia	0.01	2.84	1.08	1.77	1.86	1.53	1.62	1.75
SK	**Slovakia**	0.04	8.26	6.96	1.34	1.75	3.10	1.21	1.89
	NUTS-1:								
SK0	Slovakia	0.06	8.81	6.96	1.91	1.66	2.45	1.33	1.90
HU	**Hungary**	0.02	11.61	11.08	0.55	1.84	2.80	0.54	1.98
	NUTS-1:								
HU1	Central Hungary	0.01	7.66	6.70	0.97	1.77	1.54	0.73	1.96
HU2	Transdanubia	0.03	10.90	10.20	0.73	1.81	2.04	0.57	1.98
HU3	Great Plain and North	0.03	15.51	14.93	0.60	1.78	2.04	0.51	2.14
UK	**United Kingdom**	0.03	4.31	2.00	2.34	1.99	1.96	2.27	2.07
IT	**Italy**	0.02	5.68	3.69	2.02	2.09	1.98	2.05	1.80
	NUTS-1:								
ITC	North West	0.03	4.66	2.32	2.37	2.00	2.13	2.49	1.72
ITD	North East	0.02	3.88	1.73	2.17	2.04	1.83	2.30	1.58
ITE	Centre	0.03	4.63	2.50	2.15	2.19	1.98	1.87	1.89
ITF	South	0.02	7.74	6.20	1.56	2.38	2.06	1.67	1.86

Acronyms	Countries and regions	Fuzzy poverty severity indicators * 100							
		M^{IS}	L^{IS}	FMS	FSS	$FSI_{h=1}$	$FSI_{h=2}$	$FSI_{h=3}$	$FSI_{h=4}$
ITG	Islands	0.05	8.23	7.07	1.20	1.91	1.92	1.58	1.57

Table A.14. Poverty in the EU Countries and Regions According to Europe 2020 Strategy in 2010w

Acronyms	Countries and regions	Number of poor	Poverty incidence	Elimination of poverty cost	
				in PPS	in EUR
EU-27	**European Union**	20 003 880	4.05	57 130 933 203	38 003 236 050
AT	**Austria**	32 632	0.39	66 148 442	71 464 792
	NUTS-1:				
AT1	East Austria	17 211	0.49	23 013 461	24 863 053
AT2	South Austria	13 348	0.78	41 583 090	44 925 123
AT3	West Austria	2 072	0.07	1 549 968	1 674 539
BE	**Belgium**	82 763	0.77	147 461 002	165 625 248
	NUTS-1:				
BE1	Brussels	43 103	3.98	83 102 684	93 339 272
BE2	Flemish Region	10 107	0.16	12 758 815	14 330 446
BE3	Wallon Region	29 553	0.86	51 599 630	57 955 672
BG	**Bulgaria**	2 200 740	29.10	6 269 486 750	3 216 582 120
	NUTS-1:				
BG3	Northern and Eastern Bulgaria	1 281 323	32.66	3 966 730 707	2 035 145 073
BG4	South-Western and South-Central Bulgaria	919 417	25.25	2 302 756 582	1 181 437 324
CY	**Cyprus**	4 264	0.53	6 471 476	5 831 000
	NUTS-1:				
CY0	Cyprus	4 264	0.53	6 471 476	5 831 000
CZ	**Czech Republic**	334 435	3.21	694 410 197	507 627 325
	NUTS-1:				
CZ0	Czech Republic	334 435	3.21	694 410 197	507 627 325
	NUTS-2:				
CZ01	Praha	28 323	2.29	36 980 170	27 033 222
CZ02	Stredni Cechy	28 705	2.33	72 401 037	52 926 563
CZ03	Jihozapad	22 779	1.90	42 475 402	31 050 343
CZ04	Severozapad	64 809	5.74	169 497 190	123 905 734
CZ05	Severovychod	32 407	2.17	63 945 451	46 745 365
CZ06	Jihovychod	37 819	2.29	54 373 577	39 748 140
CZ07	Stredni Morava	41 088	3.37	83 659 630	61 156 813
CZ08	Moravskoslezsko	78 505	6.35	171 077 819	125 061 205
DK	**Denmark**	10 258	0.19	20 429 223	29 368 336

Acronyms	Countries and regions	Number of poor	Poverty incidence	Elimination of poverty cost	
				in PPS	in EUR
	NUTS-1:				
DK0	Denmark	10 258	0.19	20 429 223	29 368 336
EE	**Estonia**	95 259	7.17	252 606 236	193 314 753
	NUTS-1:				
EE0	Estonia	95 259	7.17	252 606 236	193 314 753
FI	**Finland**	14 153	0.27	22 218 275	27 696 858
	NUTS-1:				
FI1	Mainland Finland	14 153	0.27	22 218 275	27 696 858
	NUTS-2:				
FI13	Ita-Suomi	1 686	0.26	1 949 410	2 430 095
FI18	Etela-Suomi	7 195	0.27	12 328 350	15 368 275
FI19	Lansi-Suomi	3 070	0.23	5 495 704	6 850 834
FR	**France**	386 296	0.63	607 577 141	682 667 600
	NUTS-1:				
FR1	Ile-de-France	86 952	0.81	115 300 565	129 550 562
FR2	Paris basin	74 109	0.69	170 652 043	191 742 929
FR3	Nord-Pas-de-Calais	60 519	1.30	106 788 621	119 986 627
FR4	East	19 865	0.35	38 552 691	43 317 418
FR5	West	40 718	0.45	75 731 027	85 090 625
FR6	South West	37 314	0.53	45 607 078	51 243 656
FR7	Centre East	19 959	0.31	13 290 346	14 932 900
FR8	Mediterranean	46 860	0.69	41 655 571	46 803 783
	NUTS-2:				
FR10	Ile-de-France	86 952	0.81	115 300 565	129 550 562
FR21	Champagne-Ardennes	7 727	0.51	832 784	935 708
FR22	Picardie	23 599	1.01	21 760 033	24 449 355
FR23	Haute-Normandie	13 399	0.82	39 415 671	44 287 053
FR24	Centre	29 384	1.36	108 643 797	122 071 084
FR25	Basse-Normandie	0	0.00	0	0
FR26	Burgogne	0	0.00	0	0
FR30	Nord-Pas-de-Calais	60 519	1.30	106 788 621	119 986 627
FR41	Lorraine	13 220	0.48	33 031 956	37 114 375
FR42	Alsace	5 600	0.36	1 262 151	1 418 141
FR43	Franche-Comte	1 045	0.07	4 258 677	4 785 006
FR51	Pays-de-la-Loire	14 719	0.37	15 199 384	17 077 876
FR52	Brittany	15 355	0.48	41 209 520	46 302 605
FR53	Poitou-Chatentes	10 644	0.57	19 322 294	21 710 336
FR61	Aquitaine	11 191	0.31	7 919 457	8 898 223
FR62	Midi-Pyrenees	26 122	0.98	37 686 567	42 344 250

Acronyms	Countries and regions	Number of poor	Poverty incidence	Elimination of poverty cost	
				in PPS	in EUR
FR63	Limousin	0	0.00	0	0
FR71	Rhone-Alpes	19 959	0.40	13 290 346	14 932 900
FR72	Auvergne	0	0.00	0	0
FR81	Languedoc-Roussillon	7 636	0.31	12 976 196	14 579 924
FR82	Provence-Alpes-Cote d'Azur	39 224	0.95	28 679 430	32 223 921
FR83	Corse	0	0.00	0	0
GR	**Greece**	557 511	5.09	1 087 279 334	1 032 431 528
	NUTS-1:				
GR1	Voreia Ellada	227 268	6.69	489 174 040	464 497 655
GR2	Kentriki Ellada	124 775	5.96	247 777 641	235 278 498
GR3	Attica	161 759	3.70	258 995 315	245 930 296
GR4	Nisia Aigaiou. Kriti	43 709	3.99	91 332 317	86 725 058
IE	**Ireland**	20 143	0.45	73 759 381	90 645 853
	NUTS-1:				
IE0	Ireland	20 143	0.45	73 759 381	90 645 853
ES	**Spain**	750 430	1.64	2 161 275 153	2 113 584 456
	NUTS-1:				
ES1	North West	59 521	1.37	196 307 130	191 975 416
ES2	North East	32 541	0.75	83 793 351	81 944 367
ES3	Community of Madrid	62 206	0.98	205 581 206	201 044 851
ES4	Centre	92 142	1.65	315 070 292	308 117 951
ES5	East	196 148	1.48	518 009 153	506 578 763
ES6	South	286 838	2.92	795 140 593	777 595 021
ES7	Canary Islands	21 034	1.01	47 373 854	46 328 503
	NUTS-2:				
ES11	Galicia	49 834	1.82	170 304 982	166 547 032
ES12	Principado de Asturias	4 984	0.48	15 812 542	15 463 623
ES13	Cantabria	4 703	0.82	10 189 082	9 964 250
ES21	Pais Vasco	14 009	0.66	32 236 766	31 525 430
ES22	Comunidad Foral de Navarra	5 421	0.88	21 543 294	21 067 920
ES23	La Rioja	4 627	1.49	10 560 842	10 327 807
ES24	Aragon	8 485	0.65	19 454 737	19 025 449
ES30	Comunidad de Madrid	62 206	0.98	205 581 206	201 044 851
ES41	Castilla y Leon	31 986	1.29	124 641 068	121 890 738
ES42	Castilla-La Mancha	24 908	1.24	91 077 266	89 067 555
ES43	Extremadura	35 248	3.23	99 351 954	97 159 654
ES51	Cataluna	108 233	1.50	282 714 674	276 476 292
ES52	Comunidad Valenciana	68 451	1.38	181 805 098	177 793 386
ES53	Illes Balears	19 463	1.85	53 486 748	52 306 510

Acronyms	Countries and regions	Number of poor	Poverty incidence	Elimination of poverty cost	
				in PPS	in EUR
ES61	Andalusia	174 272	2.13	363 332 817	355 315 516
ES62	Murcia	109 809	7.40	424 147 380	414 788 144
ES63	Ciudad Autonoma de Ceuta	1 511	1.96	4 893 130	4 785 158
ES64	Ciudad Autonoma de Melilla	1 246	1.82	2 766 591	2 705 543
ES70	Canarias	21 034	1.01	47 373 854	46 328 503
NL	**Netherlands**	7 388	0.04	42 069 904	45 355 563
LT	**Lithuania**	509 779	15.35	1 492 184 492	1 005 227 840
	NUTS-1:				
LT0	Lithuania	509 779	15.35	1 492 184 492	1 005 227 840
LU	**Luxembourg**	104	0.02	349 780	422 835
	NUTS-1:				
LU0	Luxembourg	104	0.02	349 780	422 835
LV	**Latvia**	495 157	22.27	1 483 395 454	1 128 097 470
	NUTS-1:				
LV0	Latvia	495 157	22.27	1 483 395 454	1 128 097 470
MT	**Malta**	5 865	1.43	13 785 726	10 803 777
	NUTS-1:				
MT0	Malta	5 865	1.43	13 785 726	10 803 777
DE	**Germany**	352 814	0.44	579 870 258	614 969 805
PL	**Poland**	3 820 269	10.20	8 618 495 306	5 018 109 412
	NUTS-1:				
PL1	Central Poland	698 394	9.12	1 582 360 295	921 327 541
PL2	South Poland	661 562	8.46	1 444 091 774	840 820 847
PL3	East Poland	785 603	11.92	1 811 215 522	1 054 578 245
PL4	Northwest Poland	689 693	11.50	1 532 168 367	892 103 346
PL5	Southwest Poland	382 364	10.18	875 822 217	509 946 522
PL6	North Poland	602 652	10.68	1 372 834 557	799 331 411
	NUTS-2:				
PL11	Łódzkie	314 323	12.53	725 052 853	422 161 226
PL12	Mazowieckie	384 071	7.45	857 307 543	499 166 374
PL21	Małopolskie	232 809	7.29	560 019 983	326 071 019
PL22	Śląskie	428 754	9.26	884 073 831	514 751 015
PL31	Lubelskie	269 150	12.67	677 006 220	394 186 127
PL32	Podkarpackie	268 135	12.79	605 368 116	352 474 919
PL33	Świętokrzyskie	160 911	12.61	399 535 762	232 629 258
PL34	Podlaskie	87 407	7.98	129 305 636	75 288 064
PL41	Wielkopolskie	189 863	5.58	384 536 231	223 895 798
PL42	Zachodnio-Pomorskie	292 384	18.05	618 590 738	360 173 777
PL43	Lubuskie	207 447	21.23	529 043 823	308 035 184

Acronyms	Countries and regions	Number of poor	Poverty incidence	Elimination of poverty cost	
				in PPS	in EUR
PL51	Dolnośląskie	263 981	9.37	595 879 774	346 950 343
PL52	Opolskie	118 383	12.60	279 942 505	162 996 216
PL61	Kujawsko-Pomorskie	220 993	10.92	497 627 168	289 742 871
PL62	Warmińsko-Mazurskie	164 333	11.61	331 327 242	192 914 922
PL63	Pomorskie	217 326	9.87	543 880 005	316 673 535
PT	**Portugal**	506 980	4.77	1 141 138 031	1 017 745 634
RO	**Romania**	6 413 294	29.88	24 411 949 458	14 062 132 424
	NUTS-1:				
RO1	One	1 032 822	20.04	3 969 640 755	2 286 651 218
RO2	Two	2 516 134	38.52	9 841 854 288	5 669 250 566
RO3	Three	1 830 705	30.81	6 452 919 393	3 717 106 132
RO4	Four	1 033 633	26.94	4 147 534 568	2 389 124 245
SE	**Sweden**	4 664	0.05	22 738 080	19 460 681
	NUTS-1:				
SE1	East Sweden	2 319	0.07	7 841 229	6 711 018
SE2	South Sweden	1 188	0.03	7 548 196	6 460 221
SE3	North Sweden	1 157	0.07	7 348 726	6 289 502
SI	**Slovenia**	29 157	1.46	36 217 208	26 671 294
	NUTS-1:				
SI0	Slovenia	29 157	1.46	36 217 208	26 671 294
SK	**Slovakia**	385 552	7.11	920 329 998	998 729 229
	NUTS-1:				
SK0	Slovakia	385 552	7.11	920 329 998	998 729 229
HU	**Hungary**	1 594 817	16.17	3 283 948 653	2 083 005 018
	NUTS-1:				
HU1	Central Hungary	381 058	13.17	704 900 342	447 117 512
HU2	Transdanubia	408 342	13.63	869 864 883	551 754 338
HU3	Great Plain and North	805 417	20.26	1 709 184 292	1 084 133 716
UK	**United Kingdom**	194 755	0.32	394 927 134	395 799 923
IT	**Italy**	1 194 401	1.98	3 280 404 798	3 439 865 275
	NUTS-1:				
ITC	North West	83 549	0.52	248 978 275	261 081 109
ITD	North East	62 142	0.54	156 835 058	164 458 810
ITE	Centre	142 880	1.21	378 386 334	396 779 694
ITF	South	570 532	4.03	1 605 593 615	1 683 641 521
ITG	Islands	335 297	4.99	890 608 816	933 901 311