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# APPROACHES REGARDING A CONSTRUCTION OF A METHODOLOGY FOR POVERTY / IN WORK POVERTY RESEARCH IN ROMANIA

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***Abstract:** The current article describes the development of a methodology to collect field data in order to measure poverty and in work poverty at local level and it is part of a set of methodologies developed in order to map existing / necessary social services and infrastructure, poverty and in work poverty in Romania, for The Romanian Ministry of Labour and Social Justice. The article highlights the sources of data for this demarche and it also explains step by step the design, the used indicators and the research tools for field data collection. The proposed model will use locally collected data for all localities in Romania and therefore provides the premises for in-depth analyses at regional, county, but also local level, with various analysis objectives.*

***Keywords:** poverty, in work poverty, research, methodology, indicators, data collect*

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## Context

The study is being developed in the framework of the project "Implementation of a policy-making system for social inclusion at the level of MMJS (The Ministry of Labour and Social Justice)", SIPOCA 4 code, co-financed by the European Union (EU), the European Social Fund (ESF), in the Operational Capacity Administrative Program

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(POCA) 2014-2020.<sup>1</sup> Final aim in the mentioned project is to create a set of strategic planning tools (maps on existing social services / infrastructure, on needs regarding social infrastructure / social services and regarding poverty and in work poverty), in order to support citizens and decision-making in public policies. In order to create these maps, a set of indicators were chosen, and a set of data would be collected at local level. The steps in elaborating mentioned methodologies included their presentation in order to be validated in several workshops attended by representatives of the involved institutions, as part of the project.

The construction of the research methodology comprised several stages: 1. documentation on poverty in Romania and other European countries; used methodologies of poverty analysis; 2. listing relevant statistical indicators for research and preliminary secondary data analysis; 3. translating the concepts of poverty, vulnerable groups in measurable indicators; 4. strengthening the methodological approach including study visits abroad and workshops; 5. testing / piloting the methodological approach and data collection tools; 6. designing a consolidated methodology and proposing final data collection tools.

The methodological approach was grounded on a preliminary analysis of the situation of poverty research in Romania and on translating the concepts into indicators. Firstly, a full screening of all available data sources was needed to avoid redundancy in data collection and to identify missing or fragmented information, but also to identify the level of aggregation at which data are available (at national, regional, county or local level). The preliminary steps that were needed to substantiate the methodological approach concerned the documentation and secondary data analysis. A first step was the analysis of ESSPROS, INS-TEMPO data (data from National Institute of Statistics) and those provided by the MMJS (The Ministry of Labour and Social Justice) and its subordinated institutions: ANPDCA (The National Authority for the Protection of Children's Rights and Adoption), ANPD (The National Authority for People with Disabilities), ANPIS (National Authority for Payments and Social Inspection). The legislative analysis was also supplemented by that of the reports of public institutions with a role in the social protection. Such sources of data were The Strategy on Social Inclusion and Poverty Eradication 2015-2020 or The County and Local Development Strategies of Social Services.

## The study of poverty in Romania

The concept of poverty is multi-paradigmatic and multi-dimensional. Poverty can be approached from several perspectives: absolute poverty – a normative / minimum threshold approach that ensures subsistence living; relative poverty - measured by reference to a poverty line that represents 60% of the median income per adult equivalent; subjective poverty – that represents “*a way of conceptualization and*

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<sup>1</sup> The elaboration of research methodologies on poverty and in work poverty was the subject of numerous debates during the project meetings. Flavius Mihalache, Simona Stanescu, Ionuț Anghel, Alina Dinu and Daniela Dandara have also contributed with ideas to the construction of methodologies.

*operationalization starting from the representations upon the poverty and welfare of the individuals that are part of a society*” (Mărginean, Vasile, 2015, p. 208).

Townsend refers to the social definition of poverty as “*individuals, families and groups in a population can be categorized as being in poverty when they lack the resources needed to get types of diet, participate in activities and have living conditions that are commonplace, or at least widespread or encouraged in the societies to which they belong*” (Townsend, 1979, p. 281). Regarding the static - dynamic perspective of poverty, the following can be noticed: the static perspective, which defines the current state of poverty is complemented by the dynamic perspective, on vulnerability to poverty risk. The poverty gap measures the distance to the poverty threshold; in Romania this indicator has the highest value recorded in EU countries (35%).

According to the Quality of Life Dictionary, the precarious prosperity defines “*a socio-economic situation of a population that is between poverty and sure prosperity that is characterized by a low standard of living, close to the poverty, material deprivation, insecurity of living conditions, vulnerability*” (Mărginean, Vasile, 2015, p. 92). Those in such a situation find themselves in the first 3 quintiles of income above the poverty threshold and have revenues ranging between 60-80% of the median equivalent income.

The study of poverty in Romania has a staging, depending on the type of used measurement indicators. In the period 2001-2006, the method of absolute poverty promoted by the World Bank was predominantly used, a method that went through a series of methodological adjustments agreed by several institutions involved in the process: The Anti-Poverty and Social Inclusion Commission (CASPI), The Research Institute for Quality of Life (ICCV) and the National Institute of Statistics (INS).

The absolute poverty rate remains the main instrument to monitor the phenomenon over the period 2001-2006. The advantage of the method is that it better captures the difficulties of a society that is heavily affected by structural problems, with a large proportion of the population unable to meet the basic needs.

The main deficit of the indicator that measures relative poverty is that it measures inequality rather than poverty. An important advantage of the absolute poverty method is the use of consumption as a welfare indicator instead of incomes. Consumption spending is considered to be an appropriate choice to build a welfare indicator in a country with a broad informal sector and a high share of self-consumption in total population resources. In this perspective, the National Plan elaborated in 2002 by CASPI has marginally used the relative poverty rate.

One of the most important studies conducted during this period is the absolute poverty map at the local level, carried out by The World Bank in 2003, using distinct poverty thresholds for urban and rural areas. (Pop, 2003). Another important study of this period (Stănculescu, Berevoescu, 2004) has a different approach, analyzing the phenomenon of multidimensional poverty and concentrated in poverty pockets.

Between 2006 and 2014, official alignment with the relative poverty method is taking place, a social development-oriented approach with the study of extreme poverty and poverty at the territorial and community level. In this period, the EUROSTAT relative

poverty rate, measured against a poverty threshold corresponding to 60% of the median income per equivalent adult, is used in country reports, as the main monitoring tool.

Relatively recently, a more complex indicator has been developed at European level. This is the risk of poverty or social exclusion. It is a multi-dimensional indicator that measures the proportion of the population at risk of relative poverty or with a very low work intensity or severe material deprivation. Its name is AROPE (at risk of poverty or social exclusion) and it is used to monitor the Europe 2020 headline target for poverty and social exclusion. The risk of poverty and social exclusion (AROPE) identifies people at risk of poverty or social exclusion, these are people in at least one of the following three situations: 1. poverty risk (AROP indicator); 2. belong to households where the intensity of work is very low; 3. are exposed to severe material shortages.

In Romania, 37.3% of the population (EUROSTAT, 2016) are at risk of poverty or social exclusion. Almost one third of the population suffers from severe material deprivation and cannot afford the goods and services they deem necessary to have a proper lifestyle. Approximately 7% live in households with very low work intensity. People at risk of relative poverty are those with an annual disposable income (including social transfers) less than 60% of the median income per equivalent adult. Available revenue is the sum of all earned incomes (including those related to social protection: social security or social assistance benefits), less taxes (income or property) and paid social contributions.

The methodology used to identify severe material deprivation measures the percentage of the population that meets at least four of the following nine criteria: (1) do not afford to pay their rent, mortgage or utility bills; (2) do not allow themselves to properly heat their home; (3) cannot cope with their own expenditures with unforeseen expenditure (1/12 of the annual national poverty threshold) (4) do not allow themselves to consume periodically meat or other sources of protein, (at least every 2 days); (5) do not allow themselves to go on vacation; (6) do not allow a television; (7) do not allow a washing machine; (8) do not allow a car and (9) do not have a phone. The indicator used in these studies makes a difference between people who do not allow a particular good or service and those who do not have that good or service for various other reasons, for example because they do not want it.

Low-intensity work households are those in which adults aged between 18 and 59 have worked less than 20 percent of their maximum work potential in the year before the survey. Households made up of children, students aged less than 25 years old and / or persons over 60 years old are excluded from the calculation of this indicator.

In Romania, as a result of the large informal market and massive emigration, the relative poverty indicator was preferred, given that the indicator on low labour intensity inside AROPE is of limited relevance in Romania. The Ministry of Labour and Social Justice annually reports since 2006 the most recent indicators of social inclusion and poverty indicators. However, these annual reports are used to a lesser extent to substantiate policies.

Two relevant studies of the last period are Teşliuc et al. (2016) *The Marginalized Rural Areas Atlas and Local Human Development in Romania* and respectively, *The Marginalized Urban Areas Atlas* (2014). Within the Atlases of marginalized areas are presented: (1) the methodology for defining the different types of marginalized rural areas, based on a set of key criteria and indicators; (2) detailed maps showing the spatial distribution of marginalized rural communities by counties; (3) the methodology for defining local human development levels, from a reduced development to a comprehensive one, for small rural and urban localities; (4) maps on local human development detailed at county level. The geographical distribution tool for marginalized rural areas in 2016 is based on a methodology, similar to that used in the *Atlas of Marginalized Urban Areas* since 2014. The Local Human Development Index (LHDI) was originally developed at the administrative unit level in one study of the World Bank in 2013. In the 2016 Atlas, the LHDI index was extended and developed to a greater degree of granularity.

The mentioned methodology measures marginalization and local human development at community level, and marginalization is not defined only in terms of income poverty, but also in terms of human capital (education and health) and living conditions. Marginalized areas (whether rural or urban, Roma or non-Roma communities) are concentrations of low-income households and people with low level of education and skills relevant to the labour market, living in areas exposed to different dangers and where public services are of poor quality or are not at all. Therefore, the atlases can be used to inform or evaluate programs related to education, health, infrastructure and social housing, such as early school leaving, primary health care services, family planning, parenting, domestic violence and other risks/vulnerabilities that are spread in marginalized communities.

The results presented in the two atlases are important milestones in selecting localities for piloting this project's methodology and pretesting of data collection tools. Marginalization on certain dimensions, such as employment, is one of the selection criteria that will be crossed with other criteria, used to cover a comprehensive typology of localities to be selected in the first phase for field data collection in proposed methodology.

As shown in the World Bank study (2014) that substantiate Strategy on Social Inclusion and Poverty Control 2015-2020, decision-makers are interested in areas with high poverty, but also in areas with most of the people being poor. These two do not necessarily coincide, very poor areas can have a low population density, while large cities tend to have low poverty rates but a large number of poor people. At regional level, there are differences in the distribution of poverty in Romania; while some regions, such as the North East region, are rather homogeneous in terms of high poverty rates, others such as the South region are heterogeneous, including counties with very high poverty rates such as Călărași and Teleorman, as well as counties with relatively low rates, such as Prahova. Also, although Cluj County records the second lowest poverty rate after Bucharest, the counties neighbouring Cluj in the north-west (Bistrița-Năsăud, Maramureș, Sălaj and Satu Mare) have a higher poverty level than the national average.

At regional and county level, there are already several maps of poverty, made from different methodological and theoretical perspectives, maps that will be a good starting point in our research. The European Commission and the World Bank, in collaboration with a number of EU Member States, have developed a set of poverty maps combining information from the 2011 population censuses with EU-SILC data. The result is the estimation of the county monetary poverty rates.

A starting point based on an updated situation may be the county distribution of the share of VMG (guaranteed minimum income) beneficiaries. A pragmatic approach to the spatialisation of poverty starts from the premise that where there are more beneficiaries of social aid, the proportion of poverty, both relative and absolute, is higher. Data show that distribution of VMG beneficiaries is consistent with that of poverty, at the county level; the poorest counties, such as Vaslui, Teleorman, Mehedinti, have the largest share of VMG beneficiaries, while the low-poverty counties, such as Cluj, Ilfov, Timiș, register more than 5 times lower rates than those mentioned above, while for Bucharest the share is 20 times lower (MMJS, 2017). Therefore, we stand that the number of VMG beneficiaries can be a component of the methodology for estimating poverty.

**Table no. 1. VMG (guaranteed minimum income) thresholds and relative poverty threshold**

<b>VMG thresholds</b>	<b>Relative poverty threshold*</b>
1 person 142 lei	560 lei
2 persons 255 lei	840 lei
3 persons 357 lei	1092 lei
4 persons 442 lei	1420 lei
5 persons 527 lei	1846 lei

\* Calculated per equivalent adult (upgraded OECD scale) and assuming that people from the third person in the household up are children under the age of 14 - the threshold level thus calculated is the minimum) – INS (The National Institute of Statistics) thresholds, 2015

Source: MMJS

However, the low level of the eligibility threshold for obtaining VMG related to the poverty rate necessitates a refinement of the approach by including another indicator in the analysis, i.e. the number of beneficiaries of heating aids. A specification regarding the design of the local poverty map in qualitative terms is also needed. It is important to understand the causes of poverty. Reasons may vary from one area to another and even from one location to another, and interventions should be targeted not only to the magnitude of poverty but also to the causes that generate and reproduce it. In addition to structural causes, inefficiency of public intervention can also be a cause, and social infrastructure and social services maps will provide relevant information from this perspective.

## Methodology design

The stages of research include analysis of social documents, administrative data, statistical data analysis, primary data collection. The methodological approach is a mixed one, a quantitative-qualitative approach and it is based on the collection of data at county and local level. The data at the county level serve to configuring the context and cross validation between the local and the county level.

Data will be collected from a multidimensional approach: 1. socio-demographic dimension; the share of the active age population; the share of pensioners, the structure of households; 2. economic dimension: employers in the locality / in the area, offer and structure of the job offer; 3. social inclusion: access to health services, education, employment; beneficiaries of social benefits - indicators at county level: number / share of families receiving VMG - absolute poverty indicator; number / share of families receiving heat aid - absolute / relative poverty indicator.

In addition to factual data, statistical indicators and administrative data, the qualitative approach aims to complement the county picture of poverty and social exclusion in terms of the dynamics of socio-economic processes and the mechanisms which shape this picture. Starting from the hypothesis that employment is one of the key variables of social inclusion, the qualitative approach at the county level will focus on interviewing representatives of AJOFMs from all counties of the country. The collection of qualitative data will be complementary to the collection of data through the datasheets applied to all these AJOFMs.

At the local level, the quantitative-qualitative approach will be translated into indicators using two main data collection tools: a questionnaire applied to the institutional representatives of the city halls, the SPASs (Public Social Assistance Services), respectively the DGASPCs (General Directorate for Social Assistance and Child Protection) for the 6 sectors of Bucharest; a semi-structured interview guide that will be applied to institutional representatives from the aforementioned institutions.

The questionnaire, which integrates the themes of all 4 methodologies corresponding to the four maps, comprises two parts: a) a part devoted to factual data and estimates made by institutional representatives according to their area of competence (the effort to complete the data is collective); b) a part devoted to opinions and assessments on the relevant issues that define the local picture from the perspective of local opportunities and constraints, income sources, vulnerable groups, poverty, in work poverty, and social benefits and services addressed to vulnerable people. Opinions will be expressed individually; this part of the questionnaire being addressed to the institutional representatives identified as being most relevant to the issues mentioned.

Attachment to this questionnaire will be a centralized data sheet for VMG beneficiaries, respectively, heat aids beneficiaries (referred below as Annex1). This instrument will allow the positioning of these beneficiaries related to the relative poverty and, by crossing with the occupation criterion, the position in the category of in work poverty. The instrument is a difficult to apply one and it is subject to certain methodological precautions, in particular from the practical point of view of how to apply it. The main problem is related to the need to translate the members of the family members with

equal shares into family income, in the equivalent adult position by applying the modified OECD equivalence scale. The need for this transformation is related to the reporting of an official poverty threshold, calculated on an equivalent adult and not on a family member.

Taking these aspects into account, the relevance of these has been strengthened by confronting the results of pre-testing of data collection tools, an alternative approach has been developed for the practical impossibility of centralizing all data on details such as the number of children under 14, respectively, over 14 years of each family receiving heat aid. Problems of this type can occur in families with more than 2 children, where the data density increases exponentially, and the solution is a statistical calibration of the income tranche intervals, the margins of which will be translated accordingly to the scale 1: 1, to the amended OECD one.

The transformation formula can only be drawn from the average structure of the families receiving heat aids, on each type of family with at least 2 children, depending on the age of the children. For example, for a family of 2 adults and two children, both under the age of 14, those placed in the heat aid in the synoptic table used by each SPAS / social welfare department, the income range of 310-355 lei will become, translated per adult equivalent, income range 615-700 lei. Intuitively, we can assume that a reasonable solution would be to centralize the benefits of heating aid only up to the middle range corresponding to the income instalments eligible for this aid. Calibration will, however, be done on a case-by-case basis, starting from the distribution of children in these families with children around the age of 14 (in modelling the equivalence scale).

The quantitative data obtained through the data sheet will be completed and validated with qualitative data, obtained through interviews with institutional representatives of APL (Public Local Authority) / SPAS (Public Social Assistance Services) / DGASPC (General Directorate for Social Assistance and Child Protection).

The qualitative approach, complementary to the quantitative approach has a multiple role: 1. in-depth description of the socio-economic situation of the county / locality: historic background, specificity of the county/locality, favourable / unfavourable premises for development; description of several mechanisms for social exclusion and vulnerability of some social categories; 2. validation of the quantitative approach: a) validation of data obtained through data sheets; b) estimating the level of exclusion / exclusion errors of VMG and heat aids beneficiaries.

These objectives will be achieved through interviews with institutional representatives of AJOFMs (County Agencies for Employment), respectively, of SPASs (Public Social Assistance Services), of the social assistance department within the City Hall or DGASPC (General Directorate for Social Assistance and Child Protection) in the case of the Bucharest.

Interviews will perceive the institutional representatives' perception of issues at local level in relation to: the most vulnerable groups from a socio-economic point of view in the locality; the main sources of income in the locality; subsistence agriculture: share in the income sources; coverage of food consumption needs; share of VMG beneficiaries



and heat aids beneficiaries practicing subsistence agriculture; low-income earners in precarious situations; the vulnerability of families where income earners are under-employed, precarious / under-employed in seasonal activities, daily work, work on black market; perceptions of the degree of coverage of those who should or should not benefit from social benefits: inclusion errors, exclusion errors, sub-addressed / over-addressed categories, ways to control errors; perceptions about the need for social services and the degree of coverage of these needs in the locality. Another source of qualitative data will be represented by vulnerable persons - beneficiaries / potential beneficiaries of social services. The data collection tool is common to the theme of social services, namely poverty and in work poverty, the share and focus on certain factual, perceptual and evaluative aspects, being differentiated in relation to the topic addressed.

The way of collecting data at the local level is designed in three stages: 1. direct data collection with field operator in at least 10% of the localities of each county, selected to cover a structured typology based on 3 criteria: a. type of locality- city, small town, rural localities, at least one locality in each category; b. coverage of social services (from the Social Services Register); c. the economic criterion, operationalized by the employment marginalization indicator (from the Rural Marginalization Atlas, respectively, Urban one); 2. collecting data by applying local questionnaires, respectively, those addressed to providers of social services. Of interest will be the completion of heat aid centralizers; 3. data collection with field operator in the localities where the answers received through the data tools applied by self-completion will be considered unsatisfactory from the perspective of the completeness and correctness of the data.

Qualitative data collection will be made to all county AJOFMs and all DGASPCs (data sheets will be applied to both institutions) and, at local level, with a scenario following the criterion of informational saturation of qualitative data obtained. A minimum limit is to be achieved: at least an interview with social service providers, rural and urban ones from each county; an interview with representatives of SPAS / Social Assistance Department in rural and urban localities, from each county, one interview at each DGASPC in the sectors of Bucharest; interviews with social services beneficiaries; a focus group with specialists from the social protection system of each county.

Data collection tools includes: 1. Data sheets at county level: Territorial statistics – DJSS (Country Directorate of Statistics), AJOFMs, AJPIs, DGASPCs (focusing on social services) and local level: SPASs / APLs / DGASPCs for the 6 sectors in Bucharest); 2. Semi-structured interview guides for institutional representatives - AJOFM,s SPASs / APLs / DGASPCs for the 6 sectors in Bucharest); 3. Interview guide for vulnerable people: beneficiaries and non beneficiaries of social services

Testing the methodology and data collection tools will allow an analysis of the risks and weaknesses of the methodological approach, analysis based on which possible alternatives and ways to minimize risks will be proposed. The data will be validated through a qualitative study that will cover a comprehensive typology of local contexts favouring a certain rate of work poverty, the share of subsistence agriculture, daily or seasonal activities, or related low-skilled jobs. This typology will be intersected with that

of the disadvantaged areas from the employment perspective, resulting from the Atlas of Marginalized Urban Areas, respectively from the Atlas of Marginated Rural Areas.

The results of the first phase of the methodological approach are prerequisites that underlie the analysis of the risks and vulnerabilities of the methodological approach, the theoretical construction confronted with its application in practice. Starting from this analysis, we have identified ways to minimize the risks that have been integrated into this consolidated methodology. The quantitative data obtained through the data sheet will be completed and validated with qualitative data obtained through interviews with institutional representatives of APLs / SPAs / DGASPCs. They will record the perception of the institutional representatives interviewed on local issues: the most vulnerable groups from a socio-economic point of view in the locality; the main sources of income in the locality; subsistence agriculture: share in the income sources economy; coverage of food consumption needs; share of VMG beneficiaries and heat aids practicing in subsistence agriculture; low-income earners in precarious situations; the vulnerability of families where income earners are under-employed, precarious / under-occupied in seasonal activities, daily work, perceptions of the degree of coverage of those who should or should not benefit from social benefits: inclusion errors, exclusion errors; sub-addressed / over-addressed categories; ways to control errors; perceptions about the need for social services and the degree of coverage of these needs in the locality.

## **In work poverty in Romania**

Eurostat defines in work poverty as the share of the employed population with income below the threshold of less than 60% of the median incomes available for equivalent adult. The population categories included in work poverty reports refer to employed persons, people employed on their own, as well as to unpaid family workers. An adequate concept for the analysis of in work poverty is also the poor prosperity. According to the Quality of Life Dictionary (Mărginean, Vasile, 2015), precarious prosperity defines *“a socio-economic situation of a population that is between poverty and secured prosperity that is characterized by a low standard of living, close to poverty, material deprivation, insecurity of living conditions, vulnerability”* (p. 92).

Those in such a situation find themselves in the first 3 quintiles of income above the poverty line and have incomes ranging between 60-80% of the median equivalent income. The proportion of the population at risk of poverty is influenced by the level of economic development of the states; the occupational structure of the population; economic inequality of the societies (Maitre et al., 2012).

States with strong redistributive social policies have significantly lower levels of low-income earners compared to those with a dominant liberal economic policy (Hallerod, 2015). EU-SILC statistics show that the share of poorly remunerated people does not necessarily differ from the level of economic development of the states but shows a heterogeneity that rather reflects the level of social inequality. Thus, countries with strong redistributive social policies (France, Belgium, Denmark, Finland, Sweden, the Netherlands, Norway) have significantly lower values in terms of the share of the low-income population compared to states with a more liberal economic policy (Table 2).

At the same time, the analyses have highlighted the fact that the share of low-income employees is higher among women and people under the age of 30, regardless of the country we are reporting (Maitre et al., 2012).

**Table no. 2. Share of employed population paid by less than two-thirds of the median of income per adult equivalent, in 2015. Data for one-person households, data marked with (\*) indicate reported percentages for 2014)**

	Percent		Percent
Austria	10,4%	Latvia	13,8%
Belgium	6,6%	Lithuania	10,2%
Bulgary	7,5%	Luxembourg	12,7%*
Cyprus	12,4%	Netherlands	6,8%
Czech Republic	6,9%	Malta	4,4%
Germany	16,4%	Poland	11,6%
Greece	11,9%	Portugal	10,00%
Denmark	9,9%	Romania	21,1%
Estonia	15,00%	Spain	14,2%
Finland	4,5%	Sweden	15,1%
France	11,4%	Slovakia	8,2%
Italy	14,00%*	Slovenia	15,5%
Ireland	9%*	Hungary	15,5%
UK	13,00%		

Source: Eurostat, EU-SILC, <http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/database>

With all the favourable developments in employment in recent years (especially by reducing employment in traditional farming and increasing the number of employees and the minimum wage level), in work poverty continues to be very high in Romania in the European context (more than 20% of the total occupied population is in this situation in Romania in 2015).

A category of employed people whose incomes are mainly found in the first decades of income are farmers, nearly three-quarters of them being placed in decile 1 and 2, while less than 7% of them found in 6-10 deciles (INS, 2014). On the other hand, the accelerated increase of the minimum wage in the last 2 years led to a flattening on the left side of the salary curve, due to the proximity of the median wage distribution, to the minimum wage threshold. Among the causes of the high labour poverty rate in Romania are structural problems, such as the very large share of self-employment,

especially in agriculture and construction (which is vulnerable by the low level of labour productivity and the seasonality of the activity done by large categories of population). Another reason is the low level of wages and the high share of labour contracts paid with the minimum wage or close values. Analysis of statistical data shows that the risk of poverty among the employed population is closely correlated with the type of labour contract and the level of education.

**Table no 3. Poverty in the EU and in Romania (the indicator is calculated for one-person households)**

	2007	2010	2013	2014
EU 27	10,3%	10,8%	13,1%	13,6%
EU 15	9,9%	10,4%	13,3%	14,00%
New member states	13,4%	13,9%	11,7%	10,7%
Romania	27,5%	27,3%	22,1%	20,5%

Source: Eurostat, EU-SILC <http://ec.europa.eu/eurostat/web/income-and-living-conditions/data/database>

The concept of in work poverty describes the population categories with a precarious level of incomes, whether from wages or self-employment, which place individuals in a situation of economic and social vulnerability. Poor employment is the common dimension in the characterization of these population categories, which are placed around the poverty line and which, although not the poorest segments of the population, experience poverty and material deprivation as constant threats (Preoteasa, 2014).

Poor work is associated with manual, temporary, poorly qualified, poorly paid activities. It is predominantly specific to employment of the vulnerable population. Kalleberg (2009) defines precarious work as being heavily affected by job insecurity and labour seasonality. Uncertainty is given both by the temporary nature of the activity performed (inconsistent work throughout the year with long periods of inactivity) and by the low level of remuneration received by the persons for the work. At the individual level, work poverty is understood as a consequence of the individual's placement on the labour market. On a wider scale, considering the socio-economic coordinates of the community / country in which the individual lives, work poverty can be conceptualized as a result of the level of economic development of society (Maitre et al., 2012).

The period of long-lasting economic transition in Romania has led, among other things, to the wide spread of the self-employment, especially in the area of agricultural activities, construction and small craft activities. Rural areas have experienced a real explosion in population employed in subsistence farming since the early 1990s, a situation that has persisted to these days, despite the gradual decline in employment in the agricultural sector.

For Romania, three categories of employed population are the most affected by work poverty (Table no. 4). The most consistent category of this type is the population employed in agriculture. INS data for 2015 show that 2 million people in rural areas are active in agriculture, while less than 200,000 of them are employed in agriculture or are owners of farms (INS, TEMPO database). The self-employed population in the secondary and tertiary sector, which includes especially seasonal workers and seasonal workers in non-agricultural activities, also contributes significantly to the portrayal of work poverty. The field of construction provides the largest number of population included in this category. A third category is low-wage earners. The risk of poverty increases according to the number of dependents of the employee.

**Table no. 4. Employed population categories affected by poverty**

Self-employed population in traditional farming
Self-employed population in the secondary and tertiary sectors
Low-income earners, close to the minimum wage threshold

Source: own categorization

It is relevant that while the rate of poverty and material deprivation at people outside the labour market does not differ significantly in Romania compared to the EU average, the differences regarding the employed people are important. Very large differences are recorded in Romania, in the EU context, related to the material deprivation of part-time employees compared to full-time employees. (Graph no 1).

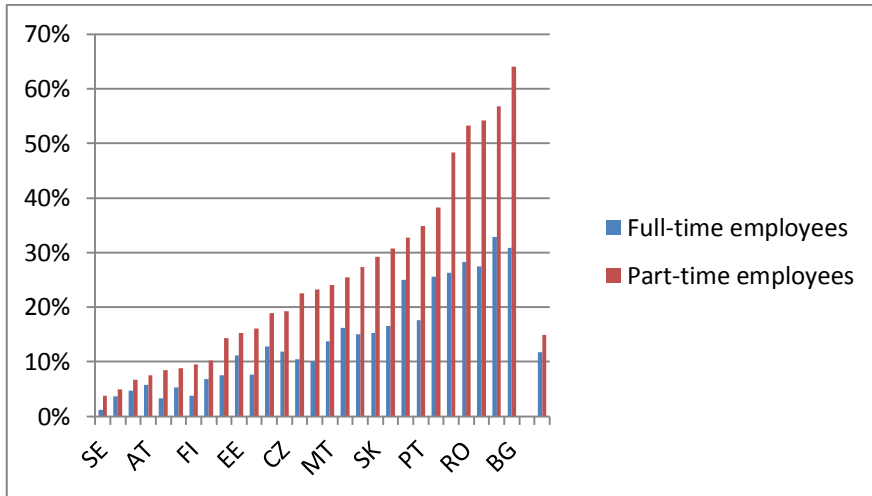
**Table no 5. Poverty rate and material deprivation rate employed-outside labour force**

Category	Estimated % of people below poverty line		Estimated % of people that experience material deprivation	
	Employed	Outside labour force	Employed	Outside labour force
Romania	19.7%	32.7%	35.5%	49%
EU (28)	9.6%	30.5%	12.8%	29%

Source: EUROFUND, 2017-EU-SILC 2014

In work poverty represents a particular case of the poverty, people and families in this situation being the poor people who have the status of employed person (i.e. poor families where one or more people have this status). Addressing the themes of poverty and in-work poverty will therefore have a common trunk and particular development, and in work poverty is a particular case.

*Graph no 1. Share of part-time and full-time employees experiencing deprivation*



Source: EUROFOUND, 2017

Collecting data on the share of the employed population who earns income within ranges corresponding to the levels of the relative poverty line. From the intersection of the number of those identified to be in poverty with employed persons in each locality, results the category of those in work poverty (according to the classification in the same income instalments). Employed persons will be identified as employees, self-employed in non-agricultural activities, self-employed or unpaid family workers in subsistence agriculture.<sup>1</sup> Therefore, detailing the number and structure of beneficiaries on income tranches will allow reporting flexibility: relative to different poverty thresholds; relative to poverty and in work poverty (by crossing with the employed person criterion).

The methodological approach is a mixed, quantitative-qualitative one and it is based on the collection of data at county and local level. The data at county level serve to configuring the context and cross validation between the local and the county level. The qualitative approach complementary to the quantitative approach has a multiple role: definition of the socio-economic situation of the county/ locality: history, specificity of the county/ localities, favourable/ unfavourable premises for development; description of mechanisms for social exclusion and vulnerability of social categories; validation of the quantitative approach.

<sup>1</sup> Only those who produce in subsistence farming a significant proportion of the products consumed by their family (minimum 50%) or part of the production is intended for sale will be included in this category)

**Table no 6. Available county / regional indicators**

INDICATORS	UTILITY
	County context
Active population	Population structure - labour resources
The average number of pensioners and the average monthly pension of state social insurance	The structure of the population; poverty
Average number of employees by activities of the national economy	Employment
Local units active in industry, construction, commerce and other services, by activities of the national economy and total size classes, of which by number of employees: 0-9, 10-49, 50-249, 250 and more	Offer of the employers
The structure of the employed population by sex and environment sectors (development regions)	Regional context
Registered unemployed and unemployment rate	Poverty
Monthly gross nominal earnings per month by activities of the national economy	In work poverty
Nominal average monthly earnings per month by activities of the national economy	In work poverty
Social benefits to ensure minimum guaranteed income the average monthly number of families or single beneficiaries	Absolute poverty
Execution of local budgets (revenues, expenditures, surplus / deficit)	Community poverty

Source: Territorial statistics

The proposed outlook for defining in work poverty is more comprehensive than in the case of poverty, addressing not only those below the poverty line but also those close to it - this approach is underpinned by the theoretical perspective of so-called precarious prosperity. Therefore, the methodology for achieving the work poverty map will also target the spatial distribution of the vulnerability of people at risk of poverty.

The measurement model is therefore based, primarily on the data collected in the field research carried out under the project, through two main instruments: UATs addressed questionnaire and Annex 1, with data on income, demographic and occupational structure of families receiving heating aid at local level. As complementary data sources, we use the results of the qualitative research, as well as filled in data sheets to AJOFMs from all the counties of the country. Among external sources of completeness and validation and data we use INS data collected in ABF, EUSILC, Labour Force Balance, AMIGO, and data for the period 2016-2017. We also use ANPIS data, as well as data from the MMJS Official Reports and the INCSMPS Report 2017, for MMJS, on the impact of raising the minimum wage in terms of the situation of employees and their families as well as employers' perspective.

According to MMJS data, less than one third of the total number of the poor is addressed through the two types of aid based on testing the means considered in the poverty and work poverty model proposed in this project. To identify the others over two-thirds of the poor, we used complementary data sources that we used in an integrated analysis model, based on the data from the questionnaire, Annex 1, INS data, respectively official reports of MMJS.

Validation items for poverty and in work poverty rates at national level are: poverty rate, in work poverty rate EUSILC 2016, poverty rate ABF 2016 and for regional level, we used poverty rate by development zones, ABF, 2016 and poverty rate by development zones EUSILC 2016. National and regional differences between the measurement results according to the two methodologies are mainly due to the inclusion of non-inclusion of the self-consumption in the measurement model. Our methodology is hybrid from this point of view<sup>1</sup> and the measurement result is expected to be somewhere between the two benchmarks at both national and regional levels.

**Table no 7. Indicators used to estimate the poverty and in work-poverty rate at UAT level**

Label for the indicator*	Indicator	Source of data	Formula	Explanations
C1	Population	INS	C1	
C2	Number of households	Questionnaire	C2	
C3	No. of total employees	Questionnaire +INS	C3	Lack of data from the questionnaire = INS data
C4	No. of persons occupied in agriculture	Questionnaire	C4	
C5	No. of VMG beneficiaries	Questionnaire validation with ANPIS data	C5	Lack of data from the questionnaire =ANPIS data
C6	No. of heat aid beneficiaries	Questionnaire validation with ANPIS data	C6	Lack of data from the questionnaire = ANPIS data
C7	Medium size of households	Questionnaire +INS	$C7=C1/C2$	
C8	No. of self employed in non-agriculture activities	INS	$C8 = 30\%$ of rural population $35\%$ of urban population	Category significantly underestimated in Annex 1. Missing questionnaire

<sup>1</sup> Relative poverty threshold is that with self-consumption (ABF), incomes in the Annex are calculated to some extent related to self-consumption, but the exclusion-inclusion criteria are some administrative-bureaucratic ones, and there is also the self-exclusion from accessing these benefits. On the other hand, estimates made at the UAT level used in our measurement model refer to occupational categories non-rigid defined in relation to the INS definitions. In calculating the percentage of poor employees we calibrated the percentages of EUSILC and ABF etc.



Label for the indicator*	Indicator	Source of data	Formula	Explanations
			(% INS self-employed population/total employed population, weighted)	data for that category.
C9	No. of persons in subsistence agriculture that are poor	Questionnaire +Annex1	$C9 = \% \text{ households in subsistence agriculture} * C7$	Category significantly underestimated in Annex 1. Use of questionnaire data. Weighted average household size for moving from the working poors to the poors in these families.
C9bis	No. of persons in subsistence agriculture that are work poor	Questionnaire +Anexa1+INS	$C9 \text{ bis} = \% \text{ households in subsistence agriculture} * C4$	Weighting by estimated number in a questionnaire of family members working in agriculture, starting from % poor in self-employment agriculture activities, calibrated with the share of subsistence agriculture at local level-additional explanations below
C10	No. of poor's from families with employees	Questionnaire +INS+Anexa 1	$C10 = C10 \text{ bis} * \text{calibrated medium size dimension of family of employees weighted with that identified in Annex 1}$	Category significantly underestimated in Annex 1. Differential calibration % poor employees INS Weighted with calibrated average size of the family of employees
C10 bis	No. of employees that are poor	Questionnaire +INS+Anexa 1	$C10 \text{ bis} = 4 \% * / \text{total employees UAT}$	Category significantly underestimated in Annex 1. Calibration 4% poor employees out of all employees in questionnaire.
C11	No. of persons from households that are employed in non-agricultural	INS+Anexa 1	$C11 = C11 \text{ bis} * C7$	Category significantly underestimated in Annex 1. Weighted with average size of the households at local level

Label for the indicator*	Indicator	Source of data	Formula	Explanations
	activities that are poor			
C11 bis	No. of employed persons in non-agricultural activities that are poor	INS+Anexa 1	$C11bis=37\% * C8$	Sub-evaluated in Annex 1
C12	No. of VMG beneficiaries (weighted)	Questionnaire +INS	$C12=VMG-VMG$ beneficiaries of heat aid (questionnaire data)	The categories of VMG beneficiaries and heating aids beneficiaries are not clearly delineated and it was necessary to identify and delimit the intersection area.
C13	No. of poors	Questionnaire +INS+Anexa 1	$C13=C6+C9+C10+C11+C12=C13$	
C14	Employed population	Questionnaire +INS+Anexa1	$C14=C3+C4+C8=C14$	
C15	No. of working poors	Questionnaire +INS+ Anexa1	$C15=C9bis+C10bis+C11 bis$	
C16	Rate of relative poverty	Questionnaire +INS+ Anexa1	$C16=C13*100/C1$	
C17	Rate of in work poverty	Questionnaire +INS+ Anexa1	$C17=C15*100/C14$	

\* Labels are a convention and have a role to play only in the explanation of the model of measurement, with no reference to the number assigned to the columns corresponding to the indicators in the database.

Therefore, stages of estimating the poverty and in work poverty rates include the following steps:

Step 1 - Data analysis of Annex 1. The shift from income per person to income per adult equivalent. Report to the ABF adult poverty threshold of 725 lei: number of poors beneficiaries of heating aid; number of poors / working poors, families of employees, families employed in subsistence farming, families occupied in non-agricultural activities. In order to avoid overlapping with categories already identified as poor in Annex 1, it is about people employed and the shift from a poor employed person to number of poor people in those families, we estimated 30% of the beneficiaries of poor heating aids in families of employed persons and we decreased, for each UAT, the respective percentage related to the number of heating aid beneficiaries out of the total number of poor identified by the methodology described above.

The percentage is one identified at the theoretical level, the one identified in the data in Annex 1 regarding that employed persons receiving heating aid are greatly undervalued,

especially in the category of poor families in agriculture, respectively, those poors from families in self-employed non-agricultural activities. Although they were identified as such only in a significantly underestimated proportion, we assumed that these are found in the above-mentioned proportion among the beneficiaries of heating aids. As an alternative to the difficulty in reasonably estimating the inclusion / exclusion / self-exclusion errors on each of the three categories of persons employed, we proposed a theoretical model for identifying the total share of persons in families that have employed persons among the beneficiaries of heating aids.

Step 2 - Validation with data from the questionnaire and ANPIS data: number of beneficiaries of heating aids and VMG beneficiaries, number of non-beneficiaries of VMG; delimitation of beneficiaries of VMG and non-beneficiaries of heating aid by weighting with data of the questionnaire. Based on the data from the questionnaire we weighted the number of VMG beneficiaries to avoid overlaps and to delimit the VMG beneficiaries who are not beneficiaries of heating aids. Where, according to the questionnaire, more than 80% of the VMG beneficiaries are beneficiaries of heating aid, there we delimited 10% beneficiaries of VMG and non-beneficiaries of heating aids.

Step 3 - Identify the variables in the questionnaire and missing cases and fill in data from complementary and alternative sources as explained above;

Step 4 - Run the measurement model explained above.

Step 5 - Validate data and locally correction<sup>1</sup>.

## Conclusions

Administrative data remain an alternative solution for measuring the poverty rate at county and local level, within the context of lack of statistically representativeness on local and county level of the data collected in EU-SILC and ABF Surveys. Such an alternative is developed within the project “Implementation of a system for the development of public policies on social inclusion at the Romanian Ministry of Labour and Social Justice, SIPOCA 4” (2016-2018). One of the goals of this undergoing project is developing a set of tools for measuring poverty and in work poverty in Romania at the level of each locality.

The measurement model used in this project is based on data collected in a field research through two main tools: questionnaire addressed to UATs; Annex 1, with data on income, demographic and occupational structure of families receiving heating aid at local level. As complementary data sources, we use the results of the qualitative

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<sup>1</sup> Example of correction- an UATs where a large percentage of households involved in subsistence agriculture were identified in the questionnaire but at the same time the questionnaire identified the situation where a significant share of the production of these households is for sale. Another element taken into account in the refining of the measurement model is the existence of rural tourism, eg the Aries Valley, in Alba County, where a recalibration of the level of income was necessary by adding a percentage of production revenues from own farm, for sale, either by sale or by rural tourism.

research, as well as filled in to AJOFMs data sheets for all the counties of the country. Among external sources of completeness and validation of data we use INS data collected in ABF, EUSILC, Labour Force Balance, AMIGO (data for 2016-2017). We also use ANPIS data, as well as data from the MMJS Official Reports and the INCSMPS Report 2017, (MMJS as beneficiary), an analysis of the impact of raising the minimum wage in terms of the situation of employees and their families as well as employers' perspective.

Such indirect method of measurement of the poverty rate is based on the data extracted from the heating aids beneficiaries list. The beneficiaries are grouped in nine income tranches, covering the accepted minimum and maximum for granting the respective benefit. Except for the last income tranche, all other beneficiaries are, even in the case that it is calculated the income per person and not per adult equivalent, under the relative poverty limit, officially established by the National Institute of Statistic. Based on the number of benefiting families on each income tranche and on the number of members of each family, one can estimate the poverty rate on adult equivalent in the respective locality. It is necessary, although, a transformation of the income per person, as it is in the administrative centralized lists, in incomes on adult equivalent, according to modified OECD scale.

The data referring to the occupation status of the family can be accessed for estimating the poverty rate on local level. The poverty rate will be calculated based on the number of persons. The in-work poverty will be measured by interesting the number of those in poverty with the number of employed persons. The lists with beneficiaries of minimum guaranteed income will be also considered in estimating poverty, respectively- in work poverty on local level. A large part of these are also heating aids beneficiaries (those who are not excluded based on legal barriers, like the absence of papers for ownership or renting for the respective house). On the other side, the limit of maximum income for minimum guarantee income (VMG) is much lower than the limit for relative poverty (and even under the limit for absolute poverty), hence, it is necessary to have data on a higher number of families and persons susceptible to be on poverty risk.

According to the MMJS data, less than one third of the total number of the poor is addressed by the two types of aids based on testing the means taken into account the poverty and in work poverty model proposed in this project<sup>1</sup>. To identify the others over two-thirds of the poor's, we used complementary data sources in an integrated analysis model, based on the data from the questionnaire, Annex 1, INS data, respectively data from the research reports and official reports of MMJS.

As an alternative to the difficulty of reasonably estimating inclusion / exclusion / self-exclusion errors on each of the three occupied categories, we developed and applied a theoretical model for identifying the total weight of persons in families comprising employed persons among the beneficiaries of heating aid.

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<sup>1</sup> VMG, respectively heating aid

Despite the methodological difficulties mentioned above, the fact that the proposed measurement model in this project uses locally collected data for all localities in Romania provides the premises for in-depth analyses at a regional, county or cluster of localities from perspectives correlated with various analysis objectives. Also, the estimates obtained from the institutional representatives, through the questionnaires applied at the level of each locality, complement the picture set up by the statistical data with relevant local information, which adds value to the complex approach of mapping poverty and in work poverty in Romania.

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