SOCIAL EXCLUSION AND POVERTY IN THE EUROPEAN UNION AND CANDIDATE COUNTRIES

Tatiana Gutium*,

gutium.tatiana1@gmail.com

Elmira Gojaeva,**

gocayeva.e@gmail.com

Shahla Huseynova***

shahla_huseynova@unec.edu.az

***Abstract**: Social exclusion and poverty are the research subject, and the main goal is to develop recommendations and solutions for social inclusion. Without assessing the risk of poverty and social exclusion in the member states of the European Union and the candidate countries and identifying the causes of poverty and social exclusion, it is impossible to develop solutions to reduce poverty, ensure social inclusion, and strengthen the targeted social policy. The analysis of the components of the AROPE indicator showed that the highest risk is monetary poverty, and the poverty rate directly depends on the level of economic development. The Granger causality test showed that in two candidate countries (Moldova and Montenegro) inequality leads to poverty with the probability of 5% and 10%. At the end of the study, recommendations are presented to combat poverty and ensure social inclusion.*

***Keywords**: social exclusion, social inclusion, poverty, risk of poverty or social exclusion (AROPE), deprivation, low work intensity.*

Introduction

Poverty and social exclusion represent the vices of society. There is a significant gap in the provision of resources for different population groups. The number of socially excluded vulnerable groups differs from country to country and at various stages of state development. Even in countries with

* **PhD., Leading Scientific Researcher, National Institute for Economic Research, Chisinau, Republic of Moldova.**

** **PhD., Associate Professor, Azerbaijan State University of Economics, Baku, Republic of Azerbaijan.**

*** **PhD., Associate Professor, Azerbaijan State University of Economics, Baku, Republic of Azerbaijan.**

advanced economies, there are vulnerable groups, which are not only poor but also marginalized in society, that is, socially excluded. The research and assessment of poverty and social exclusion are relevant because they allow the monitoring of government programs and strategies to reduce poverty and ensure the social inclusion of the population.

Social exclusion represents a relatively new paradigm. It has a link not only with poverty but also with depression, stigmatization, and discrimination. Assessing the socialization of an individual or social group is very difficult, theoretically and empirically. In world practice, there are a few indicators of social exclusion, and the set of indicators differs from country to country. The research subject of the study is the assessment of poverty and social exclusion in European Union (EU) member countries and candidate countries, taking into account the availability of statistical data. The main goal is to identify gaps and develop recommendations to combat poverty and social exclusion. This study's relevance is indisputable since the policies of the candidate countries must conform to the European one and achieve one of the objectives: strengthening the inclusion and unity of society and giving all people equal access to opportunities and resources.

The evolution of the concept of social exclusion

There is no general view on the definition and estimation of social exclusion. Sociologists began using this term in the 1960s. The founders of this concept are French sociologists. One of the first studies in this area was carried out by Jules Klanfer, and the results were published in 1965 in the book "L'Exclusion sociale: étude de la marginalité dans les sociétés occidentales."[1] But most of the academic community believes that the term "social exclusion" was first used by René Lenoir in 1974[2] in "Les exclus: un Français sur dix."[3] It is due to the fact that in the first works on this topic, the emphasis is on poverty and not social exclusion. The French sociologist Lenoir believes that the main criterion for the social exclusion of a part of the population is their lack of social insurance.

The concept of social exclusion is closely related to other concepts such as poverty, deprivation, and isolation. The opinions of sociologists are very different, but still, three approaches can be distinguished. Some researchers believe that social exclusion and poverty are not identical, although these terms have similar features, and poverty is the principal cause of exclusion. The British sociologist Peter Townsend considers that poverty should not be

[1] Jules Klanfer, *L'Exclusion Sociale: Etude de la Marginalité dans les Sociétés Occidentales*, Paris, Bureau de Recherches Sociales Rouen, 1965.

[2] Hilary Silver, Social Exclusion and Social Solidarity: Three Paradigms, *International Labour Review*, 1994, 133(5-6), p. 532.

[3] René Lenoir, *Les Exclus: Un Français sur Dix*, Paris, Edition du Seuil, 1974.

seen as a lack of money for subsistence because "The 'subsistence' approach ignores major spheres of life in which deprivation can arise."[4] Poverty is the result of inequality and deprivation; it leads to the exclusion of the individual from the life of society. The authors share this view. The same methods are used in calculating social exclusion as in assessing deprivation. It is the proof of the correctness of the opinion above.

Duncan Gallie, Serge Paugam & Sheila Jacobs denote that unemployment "leads to poverty and social isolation, as a result, it contributes to a vicious circle of exclusion."[5] But it is necessary to note that even the employed can be socially excluded, as low wages, against the background of high inflation and reduced solvency, may prevent access to resources such as education, housing, healthcare. In the current period of economic recession and global energy crisis, the process of social exclusion will expand.

Professor of sociology and social policy Mary Daly argues that social exclusion is more than poverty and allows for the conceptualization of deprivation, which is horizontal. Exclusion is multidimensional, distinct from inequality, and is more of a social term than an economic one. Social exclusion is composed of situations originating from an interaction of economic, social, and political conditions[6].

The second approach to the causal relationship between social exclusion and poverty is opposed to the first. Proponents of this approach argue that exclusion leads directly to poverty. Carrying out cause-effect analysis is relevant because it determines the content of state policies and the actions taken by public institutions to combat poverty and social exclusion. Amartya Kumar Sen states that "social exclusion may be directly a part of capability poverty."[7] The Indian economist compares the situation of exploited and socially excluded indigenous peoples to a poverty trap.

According to the third approach, it is a mistake to think that social exclusion is a component of poverty or that poverty is a component of exclusion because they are two different terms; poverty is an economic term, while exclusion is a sociological term. This view is shared by Jonathan Bradshaw, Christina Pantazis, Llúcia González, Marisa Estarlich, and others. Representatives of this approach argue that poverty is the lack of sufficient resources for a decent life, and social exclusion blocks the path

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[4] Peter Townsend, *Poverty in the United Kingdom. A Survey of Household Resources and Standards of Living*, London, Allen Lane and Penguin Books, 1979, p. 915.

[5] Duncan Gallie, Serge Paugam & Sheila Jacobs, Unemployment, Poverty and Social Isolation: Is There a Vicious Circle of Social Exclusion?, *European Societies*, 2003, 5(1), p. 1.

[6] Mary Daly, Social Exclusion as Concept and Policy Template in the European Union, *Center for European Studies Working Paper Series*, 2006, 135, p. 4.

[7] Amartya Sen, *Social Exclusion: Concept, Application, and Scrutiny*, Mandaluyong, Asian Development Bank, 2000, p. 4.

to governance and is "impeding access to higher education, employment opportunities, and a regular income."[8] D. Gordon doesn't explore these two terms separately; he introduces a new one that combines both concepts. "The Poverty and Social Exclusion Survey distinguishes four dimensions of exclusion."[9] The first dimension refers to poverty (impoverishment), and the next three refer to social exclusion (exclusion from the labor market, service, and social relations).

The authors are adherents of the first approach. Social exclusion is a broader term than poverty, as it reflects not only the material and financial aspects but also others social, political and cultural ones.

Depending on the types of approach and applied research methods, scientists developed different definitions of the term social exclusion. The authors believe that from the series of conceptual delimitations of this term proposed by foreign and local scholars, there are three main ideas:

- Social exclusion includes groups of people at risk of exclusion[10];
- Social exclusion represents a set of processes and factors that lead to the emergence of marginalized groups[11];
- Social exclusion is the inability of the individual and groups of individuals to participate fully in society and the reasons why they are denied access to resources[12].

Although Irish scientists, Patrick O'Donnell et al., do not deny that social exclusion has close links with the concept of poverty, however, adhere to the opinion that "Social exclusion is the inability to use available opportunities that prevent full participation in society."[13] They elaborated a new model of social exclusion containing "three elements:

- Opportunities (employment, finances, health care, education, housing);
- Influencing factors (intergenerationally, life experience, agency, identity);
- Social outcomes (social acceptance, social participation)."[14]

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[8] Llúcia González, et al., Risk of Child Poverty and Social Exclusion in Two Spanish Regions: Social and Family Determinants, *Gaceta Sanitaria*, 2021, 35(3), p. 217.

[9] David Gordon, et al., *Poverty and Social Exclusion in Britain*, York, Joseph Rowntree Foundation, 2000, p. 69.

[10] René Lenoir, *op. cit.*

[11] Ruth Levitas, et al., *The Multi-Dimensional Analysis of Social Exclusion*, Bristol, University of Bristol, 2007.

[12] Patrick O'Donnell, et al., Developing a Tool for the Measurement of Social Exclusion in Healthcare Settings, *International Journal for Equity in Health*, 2022, 21(1).

[13] Ibidem, p. 3.

[14] Patrick O'Donnell, et al., 'There is people like us and there is people like them, and we are not like them.' Understating Social Exclusion – a Qualitative Study, *PLoS ONE*, 2021, 16(6), p. 14.

For more than half a century, the concept of social exclusion has been developed in sociological science. Initially, European sociologists viewed social exclusion as a problem of an individual, not as a systemic problem. The main reasons for exclusion were considered that a person was insufficient motivation, its weakness of character, and inability to independently secure means of existence. René Lenoir was the first who changed the focus from the problem of the individual to the problem of society, in which a part of the population encounters obstacles in accessing medical services, education, and others.

The crisis in the labor market at the end of the 20th century led to a new round of development of the concept of social exclusion. Sociologists have begun to consider this concept considering the risks to which members of society are exposed, especially in times of crisis. Martina Although et al. suggested that even a successful person can be subject to social exclusion because he lost his job and found himself in a difficult life situation[15].

The loss of a source of income leads to the situation that many benefits are no longer available, and ultimately there is marginalization and isolation. The authors share this point of view. Indeed, the availability of financial savings for citizens who have lost their jobs will allow them to survive for some time. But in the end, if they do not find a new source of income, they will move into the category of socially isolated citizens, especially in the condition of inflation increase, recession, and economic and political instability in the country.

The concept of social exclusion has moved to a new stage of development against the background of digitalization. Scientific and technological progress leads to a change in the criteria for assessing social exclusion. In addition, various perturbations in society and the economy will also lead to modification of the evaluation criteria of exclusion. For example, the COVID-19 pandemic, especially during the lockdown, showed how important it is for every citizen to have the Internet. COVID has not gone away, other pandemics cannot be excluded, and making an appointment with a doctor over the Internet is much easier and faster than by phone. So, the presence of the Internet becomes vital. Javier Barbero and Ernesto Rodríguez-Crespo conducted research and demonstrated that there is a negative relationship between regional social exclusion and the share of the information and communication technologies sector in the economy, so one of the tools to reduce the risk of social exclusion is access

[15] Martina Althoff, et al., *Integration und Ausschließung. Kriminalpolitik und Kriminalität in Zeiten Gesellschaftlicher Transformation*, Baden-Baden, Nomos-Verl.-Ges., 2001, p. 29.

to the Internet[16]. Thus, it is necessary to include this criterion in the algorithm for calculating the index of social exclusion.

Methodology for assessing social exclusion and poverty

One of the universal methods for assessing poverty and social exclusion is monetary. In the current period, many countries are moving to more sophisticated methods, including non-monetary assessment of poverty and social exclusion. One of these indicators is the AROPE (At Risk of Poverty or Social Exclusion). The EPSCO (Employment, Social Policy, Health, and Consumer Affairs) Council has elaborated the AROPE indicator, which is used to monitor the promotion of the policy to reduce poverty and social exclusion in line with the targets of the Europe 2020 Strategy[17].

Components of the AROPE indicator:

- AROP - monetary poverty (persons with disposable income below 60% of the national median);
- Material deprivation (persons who experience at least 4 out of the nine deprivations listed below; persons which not being able to pay on time utility bills, rent payments, and loan payments, not deal with unexpected expenses, not eat at least once every two days food containing protein, not afford one week's annual holiday, not keep the house adequately warm, not buy a phone, a TV, a washing machine, a car);
- Severe low work intensity (persons (age 0-59) who live in households where working-age members (age 18–59, excluding students aged 18-24) worked less than 20% of the full-time).

The current period is the period of digitization, and access to the Internet has become a vital necessity not only in advanced economies but also in emerging economies. This feature was taken into account when modifying the calculation methodology of the AROPE indicator, and new deprivations were included, such as the lack of internet connection. During the COVID-19 pandemic, the number of people using the net to register with a doctor, make necessary purchases, and pay for services has increased. For example, in Moldova, "the proportion of people surveyed who had never bought food online decreased by 5 percentage points in 2020 compared to 2019[18]."

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[16] Javier Barbero & Ernesto Rodríguez-Crespo, Technological, Institutional, and Geographical Peripheries: Regional Development and Risk of Poverty in the European Regions, *The Annals of Regional Science*, 2022, p. 18.

[17] United Nations Economic Commission for Europe (UNECE), The measurement of poverty and social inclusion in the EU: achievements and further improvements, *Working paper* 25, 2013, p. 3.

[18] Gutium, T., Ciobanu, M., *The new paradigm of consumer behavior during the Covid-19 pandemic, (Noua paradigmă a comportamentului consumatorilor în perioada pandemiei COVID-19)*, Economica, 2021, 2(116), p. 43.

In the previous year (2021), the AROPE indicator has been adapted to the objectives of the Europe 2030 Strategy. Under this strategy, the number of people at risk of poverty or social exclusion has to be reduced by at least 15 million by 2030, of which 10 million are adults and 5 million are children. The AROPE indicator, adapted to the new strategy, differs from the previous version. The sub-indicators "Material deprivation" and "Low labor intensity" have changed. These modifications are presented in Table 1.

Table 1: The differences in the calculation methodology of the AROPE indicator according to the Europe 2020 Strategy and the Europe 2030 Strategy

Sub-indicators	**Europe 2020 Strategy**	**Europe 2030 Strategy**
Material (and social) deprivation	People who face at least 4 out of 9 material deprivations.	People who face at least *7* out of *13* material and social deprivations *(7 related to the household and 6 - the individual).* *Seven new deprivations were included ("don't have the financial possibility to replace worn-out furniture", "don't have two pairs of shoes", "cannot spend a small amount of money each week on him/herself", "unable to replace worn-out clothes by new ones", "don't have internet connection", "don't have regular leisure activities", "unable to get together with friends/family to drink/eat at least once a month"), three were excluded, and the deprivation* "inability to keep the house adequately warm" was replaced by another *"inability to maintain the home adequately."*
Severe low work intensity	Persons (age 0–59) living in households where adults aged 18–59 (except students aged 18–24 years), worked less than 20% of the full-time.	Persons (age 0–*64*) living in households where adults aged 18–*64* (except students aged 18–24 years, *persons receiving various pensions (excluding survivors pension), inactive persons aged 60–64, who live in households where the base source of income is the pension)* worked less than 20% of the full-time.

Replacing the deprivation "inability to keep the house adequately warm" with "inability to maintain the home adequately" is logical. Due to the energy crisis, new stricter energy-saving rules have been introduced in

some (but not all) European countries. According to these rules, the maximum temperature for room heating is 19°C (Germany, Hungary, Italy, etc.).

At the national level, the rate of risk of poverty or social exclusion is calculated according to the formula:

$$AROPE = \frac{\sum_{i}^{N}(MON\_POV_i=1) \; o \qquad r}{100\%} \qquad (1)$$

where: MON_POV_i –the risk of monetary poverty of a person i;

$DEPR_i$ – significant material and social deprivations of a person i;

LWI_i – exclusion of a person i from the labor market (severely low work intensity);

N – number of country's population.

The EU-SILC (European Union Statistics on Income and Living Conditions) database is used to calculate the AROPE indicator. As mentioned by the authors above, the EU Member States have moved to calculate the AROPE indicator adjusted for the new Europe 2030 Strategy. As the candidate countries have not yet switched, the statistical institutions of these countries have not calculated the risk of poverty or social exclusion for the year 2021. For this reason, the analysis of poverty and social inclusion for the EU countries is carried out for 2015-2021 and the candidate countries - for the period 2015-2020. It should be noted that statistics on candidate countries are not available for all analyzed years.

In the candidate country Moldova, the analysis of poverty is carried out based on the "poverty rate" indicator, which represents the proportion of people whose consumption expenses are below an established poverty threshold (absolute (2016) and extreme (2006)). The National Bureau of Statistics (NBS) of Moldova plans to change the poverty calculation methodology, to switch to assessing the Multidimensional Poverty Index (MSI) based on the Alkire-Foster methodology. In Ukraine, the poverty level is calculated according to different definition criteria (75% of average expenses, subsistence minimum, below $5.05, others).

The authors believe that in the case of the candidate countries it is necessary to use the AROPE indicator and to expand the number of deprivations at the household level by one (don't have access to drinking water from safe sources and sanitation) and at the individual level by three (cannot buy a computer; cannot buy a mobile phone with internet connection; cannot buy a washing machine). For countries with frosty winters, such as the Republic of Moldova, it is recommended the deprivation "don't have two pairs of shoes" be replaced by "don't have three of shoes" since summer shoes and spring/autumn shoes cannot be

used in winter. The authors suggest that materially deprived people are persons face at least 9 out of 17 deprivations (8 related to the household and 9 - the individual).

The risk of poverty or social exclusion in the European Union and some candidate countries

The European Union includes 27 member states. In the current year (2022), Moldova and Ukraine joined the group of countries with candidate status, among Albania, Montenegro, North Macedonia, Serbia, and Türkiye. According to the 2021 EU-SILC survey, one in five EU citizens is at risk of poverty or social exclusion (21.7%). In 2021, the highest levels of poverty or social exclusion (a third of the population) were recorded in two EU countries: Romania (34.4%) and Bulgaria (31.7%). Among the countries with the lowest level of the AROPE indicator were the Czechia (every tenth citizen), Slovenia, Finland, and Slovakia (every seventh citizen) (Figure 1).

In the period 2015-2021, the most significant decrease in the AROPE indicator was recorded by Bulgaria (by 11.6 percentage points), Hungary (by 11.2 percentage points), and Romania (by 10.1 percentage points). The reductions recorded by Romania and Bulgaria did not allow them to change their placement in the rating of European countries according to the risk of poverty or social exclusion. On the other hand, the results achieved by Hungary in combating poverty and social exclusion allowed it to place in the ranking among the countries with a lower level than the average in the European Union.

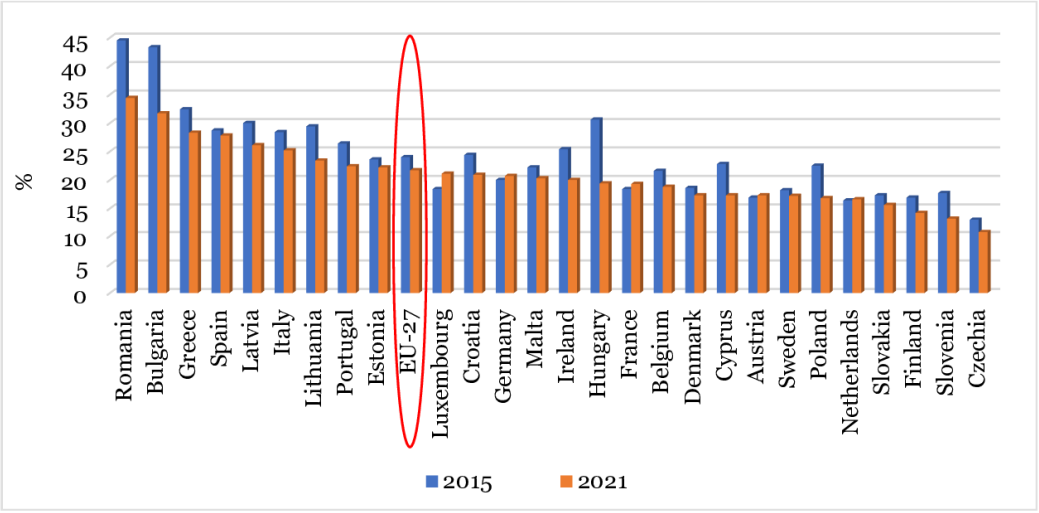

Figure 1. The risk of poverty or social exclusion (AROPE) in the EU countries

From 2015 to 2021, the situation worsened in 5 EU countries. The risk of poverty or social exclusion increased significantly in Luxembourg (by 2.7 percentage points), rises in this indicator were recorded in France (by 0.9 percentage points), Germany (by 0.7 p.p.), Austria (by 0.4 p.p.), the Netherlands (by 0.2 p.p.).

Figure 2 shows the dynamics of the risk of poverty and social inclusion in some countries which have the status of membership candidates.

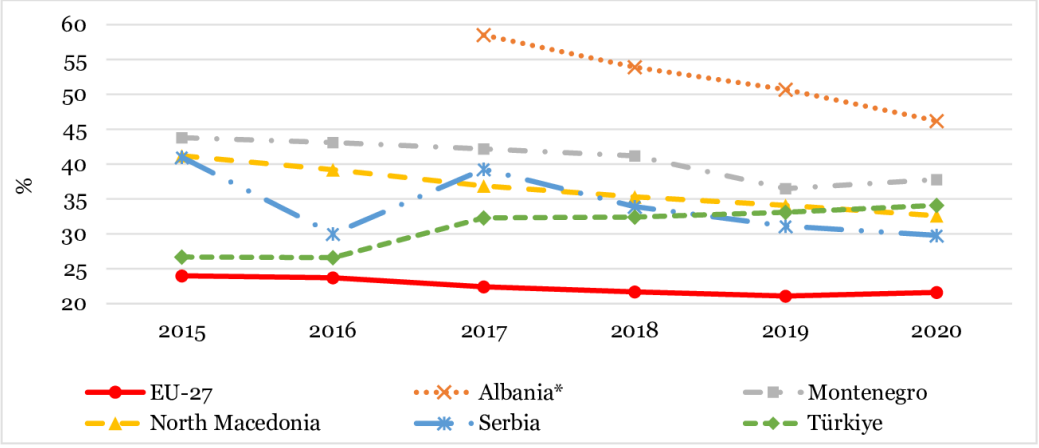

Figure 2. The risk of poverty or social exclusion (AROPE) in candidate countries

Note: *) Missing data for Albania 2015-2016.

The analysis of the evolution of the AROPE indicator for all candidate countries is not possible, because the Republic of Moldova and Ukraine recently obtained this status, and the methodology for calculating the mentioned indicator is not applied by the statistical institutions of these countries.

Although the risk of poverty or social exclusion has decreased in most candidate countries (except for Türkiye) over the analyzed period, the recorded level of the AROPE indicator is still higher than the average level in the EU. For a deeper analysis, the dynamics of sub-indicators will be studied: the rate of relative poverty (AROP), the level of severe material and social deprivation due to lack of resources (SMSD), the share of people living in households with very low work intensity (VLWI). This analysis is relevant to identify the EU countries that have promoted effective policies to combat poverty and social exclusion, the implementation of which resulted in tangible results.

The study of the components of the AROPE indicator showed that 16.8% of the population of European countries was affected by the risk of monetary poverty (Figure 3), 11.9% - by severe material and social

deprivation, and 8.9% lived in households with low work intensity in 2021. Analysis of the risk of monetary poverty breakdown by EU countries shows that the highest at-risk-of-poverty rate in 2021 was in Latvia (23.4%) and Romania (22.6%), while the lowest rate was recorded in the Czechia (8.6%) and Finland (10.8%)[19].

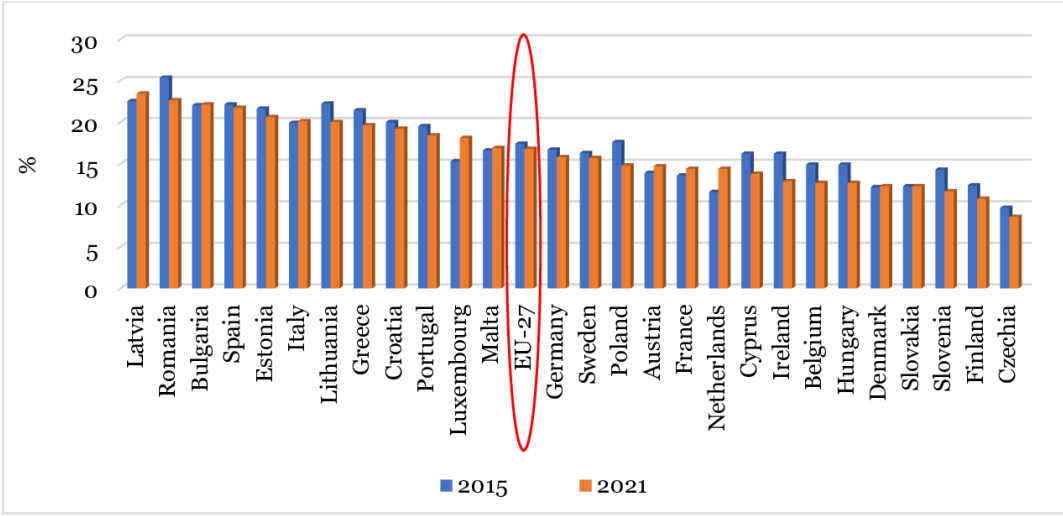

Figure 3. The risk of monetary poverty (AROP) in the EU countries

The anti-poverty policy implemented in the European Union has results. The risk of poverty decreased in 2021 compared to 2015 in Ireland by 3.3 percentage points, in Romania and Poland - by 2.8 p.p., in Slovenia - by 2.6 p.p., and in Cyprus - by 2.4 p.p. However, the goal of significantly reducing the at-risk-of-poverty rate has not been achieved in several countries. The AROP indicator increased in Luxembourg (by 2.8 p.p.), in the Netherlands (by 2.8 p.p.), in Latvia (by 0.9 p.p.), and in Austria and France (by 0.8 p.p.).

The analysis of the correlation between the promoted policy and the results obtained showed the following:

- EU countries that establish a high share of social spending make significant allocations in the social insurance of the population and finally register comparatively low at-risk-of-poverty rates (Finland, Denmark, Belgium, Netherlands, France, Austria, Sweden, and Germany);
- Economies with a sustainable growth rate also register comparatively low risk of monetary poverty (Slovenia, Slovakia);

[19] Eurostat, *People at risk of poverty or social exclusion*, 2021, https://ec.europa.eu/eurostat/web/main/data/database.

➢ The countries that managed to conclude contact with the natural gas supplier at a lower price than other EU states[20] recorded a decrease in the risk of poverty (member state Hungary, candidate country Serbia);

➢ In some states from the north of Europe (Czechia, Slovenia, Slovakia), the most equitable income distribution was recorded compared to the Baltic countries and most of the countries from the south (Romania, Bulgaria, Spain, Italy, Greece, Portugal).

At-risk-of-poverty rates in the candidate countries are relatively higher compared to the average level in the EU (Figure 4).

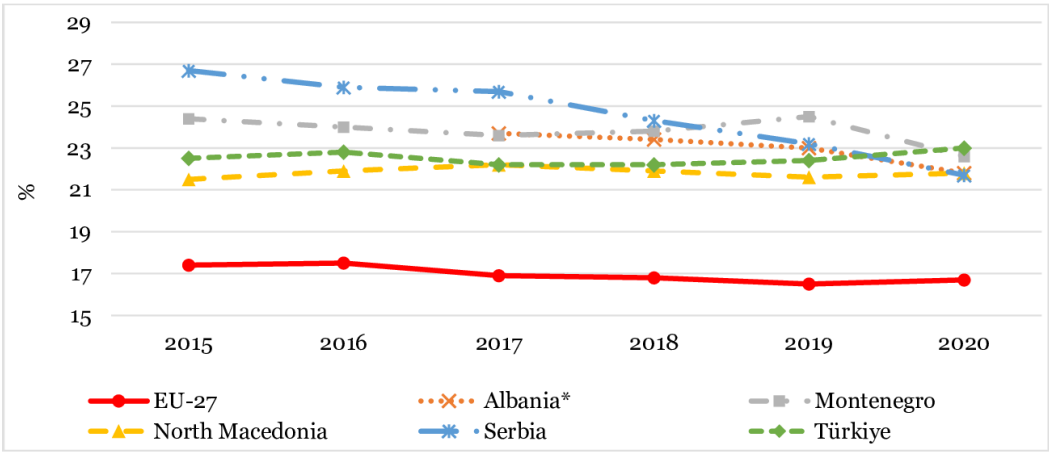

Figure 4. The risk of monetary poverty (AROP) in candidate countries

Note: *) Missing data for Albania 2015-2016.

According to data from the National Bureau of Statistics, in Moldova, the absolute poverty rate was 24.5% in 2021 and decreased compared to 2015 (Figure 5). The rural population is exposed to a comparatively higher risk of poverty than the urban population. The risk of poverty rate continues to prevail in rural areas, although the absolute poverty rate increased in 2015-2021 by 0.7 p.p. in urban areas and decreased by 2.8 p.p. in rural areas; in 2021, it was almost three times higher than the level in urban areas.

An analysis of the absolute poverty rate by region showed that the population of the municipality of Chisinau has the lowest risk of poverty (8.6% in 2021). In 2015, the population of the Center region was exposed

[20] Gutium, T., *Gas Pricing Mechanisms: Overview, Comparative Analysis and Recommendations*. 2021 International Conference on Electromechanical and Energy Systems (SIELMEN), 2021, 45-50, https://doi.org/10.1109/SIELMEN53755.2021.9600393.

to a higher risk of poverty (35.6%) than other regions, and in 2021 the situation changed and the highest absolute poverty rate was recorded in the South region (39.6%). Poverty remains an alarming problem for the population of Moldova. *Poverty reduction should become one of the priorities of the national policy of this state.*

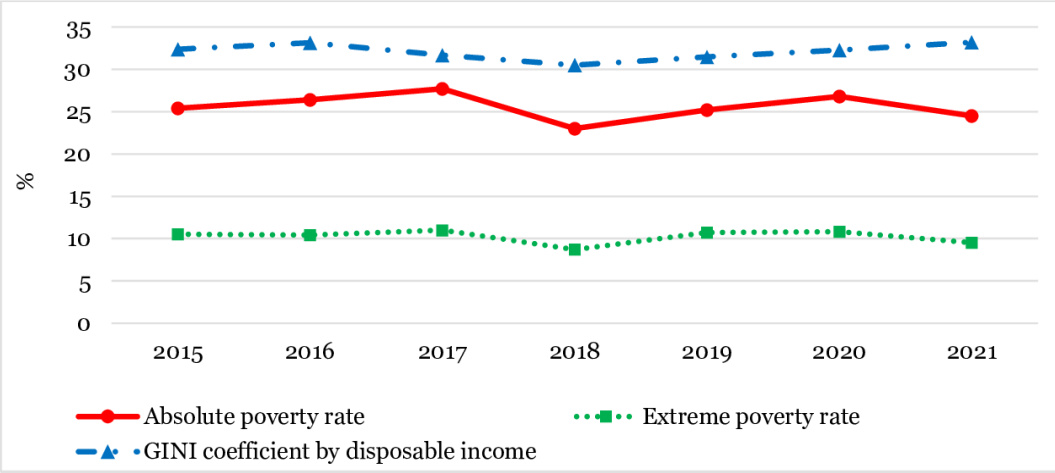

Figure 5. The evolution of poverty indicators and the GINI coefficient in Moldova

In Moldova, the Gini coefficient increased from 31.48% to 32.26%, and the absolute poverty rate rose from 25.2% to 26.8% during 2019-2020. "The evolution of the absolute poverty rate, calculated using the new poverty threshold established for 2016, is identical to the dynamics of the Gini coefficient on disposable income, except for 2017 when the poverty rate in rural areas increased by 1.7 percentage points."[21] The Granger test was applied to verify the hypothesis that there is a correlation between inequality and poverty and to detect the causal link. The results obtained using software EViews for the available statistical data series (2012-2021) are presented in Table 2.

Table 2: Results of the Granger test for causation

Null hypothesis:	**F-Statistic**	**Probability**
AROP_EU-27 does not Granger Cause ***GINI_EU-27***	0,1679	0,8529

[21] Gutium, T., *Improving social support for people with disabilities in the Republic of Moldova, Sustainable economic-social development of Euroregions and cross-border areas (Îmbunătățirea sprijinului social pentru persoanele cu dizabilități în Republica Moldova, Dezvoltarea economico-socială durabilă a Euroregiunilor şi a zonelor transfrontaliere)*, Iași, Performantica, (2021), 39, p. 60.

GINI_ EU-27 does not Granger Cause ***AROP_EU-27***	1,8231	0,3033
AROP_Macedonia does not Granger Cause ***GINI_ Macedonia***	0,4654	0,6824
GINI_ Macedonia does not Granger Cause ***AROP_Macedonia***	0,7495	0,5716
AROP_Montenegro does not Granger Cause ***GINI_Montenegro***	56,4878	0,0937
GINI_Montenegro does not Granger Cause ***AROP_Montenegro***	0,4028	0,7442
AROP_ Serbia does not Granger Cause ***GINI_ Serbia***	20,5443	0,1541
GINI_ Serbia does not Granger Cause ***AROP_ Serbia***	14,0222	0,1856
AROP_ Turkiye does not Granger Cause ***GINI_ Turkiye***	0,8888	0,5294
GINI_ Turkiye does not Granger Cause ***AROP_ Turkiye***	0,8976	0,5270
POVERTY_Moldova does not Granger Cause ***GINI_Moldova***	98,9624	0,0447
GINI_Moldova does not Granger Cause ***POVERTY_Moldova***	4,5913	0,3134

The test result showed a one-way causality between the risk of monetary poverty and the Gini coefficient in Moldova and Montenegro. The authors use lag = 2 for the Granger causality test. At a standard error of 5%, the inequality affects absolute poverty rate in Moldova. At a standard error of 10% (probability of 90%), the Gini coefficient affects the at-risk-of-poverty rate in Montenegro. Therefore, in these countries, efforts to combat inequality will also lead to a reduction in rate of poverty. In 2021, the income inequality of the population of Moldova was higher than in most countries EU (22 countries) and by 3.1 p.p. higher than the average level in the EU-27. Furthermore, the Gini coefficient on disposable income in Moldova is equal to Spain and Portugal. Bulgaria recorded the highest level of income inequality among EU countries[22] (Figure 6).

[22] Ibidem, p. 60.

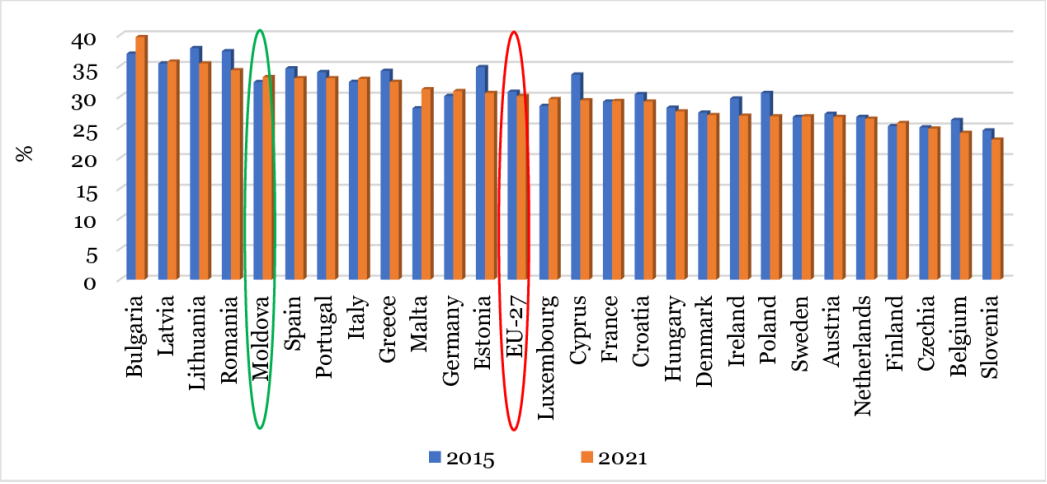

Figure 6. GINI coefficient in the EU countries and in Moldova

In Ukraine, the poverty rate assessed according to two criteria (the second and the third criteria in Figure 7) decreased from 2015 to 2018. The rate of people with incomes below the actual subsistence minimum increased in 2020-2021, and the rate of people with average expenses below 75% of the median national consumption rose in 2021. The poverty rate calculated according to the UN international criterion (spending below $5.05) did not record significant changes in 2019-2021.

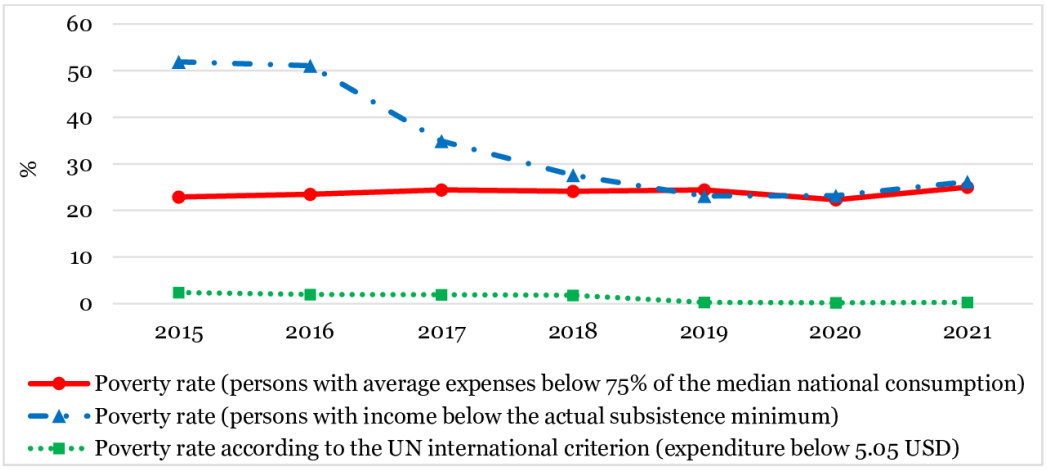

Figure 7. The evolution of poverty indicators in Ukraine

The second component of the AROPE indicator is material and social deprivation, which most affected the population of Romania (34.5%), Bulgaria (30.4%), and Greece (29.2%) in 2021 (Figure 8). At the same time, less than 4% of the population of Sweden and Finland experienced

severe material and social deprivation. In 2015-2021, the material and social deprivation rate decreased in most EU countries (25 out of 27). The most significant decreases were recorded in Bulgaria (by 20.8 p.p.), Hungary (by 19.7 p.p.), Latvia (by 17.8 p.p.), Romania (by 15.8 p.p.), and Lithuania (by 14.9 p.p.).

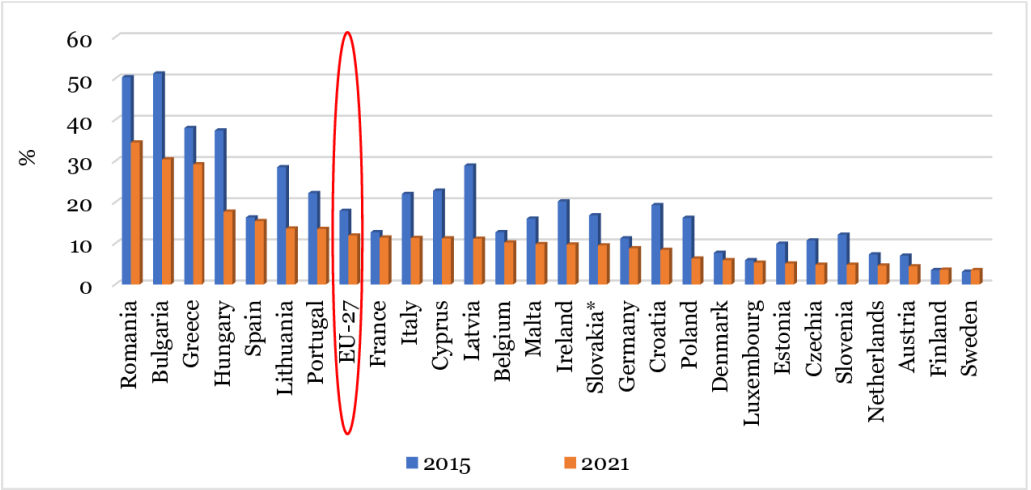

Figure 8. Material and social deprivation in the EU countries

The population of candidate countries faces significant material deprivation. In 2020, every second citizen in Albania experienced material and social deprivation, and in North Macedonia and Montenegro - every third citizen (Figure 9). In 2015-2020 the deprivation rates decreased in all candidate countries.

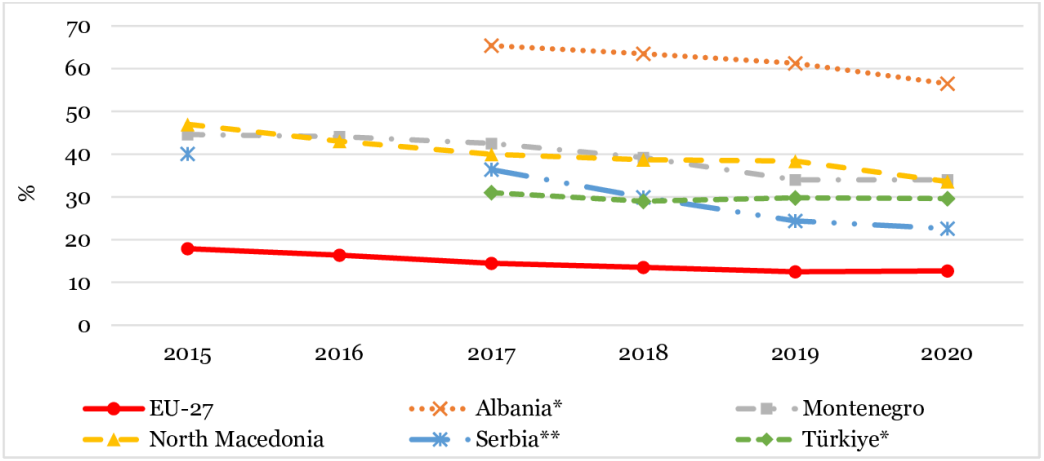

Figure 9. Material and social deprivation in candidate countries

Note: *) Missing data for Albania and Türkiye 2015-2016.
**) Missing data for Serbia 2016.

The analysis of the third sub-indicator of the AROPE index showed that in 2021 one in eleven EU citizens (8.9%) lived in a household with reduced work activity. The highest share of people living in households with very low work intensity was in Ireland (13.0%), Greece (12.1%), Belgium (11.9%), and Spain (11.6%). On the contrary, the lowest rate of exclusion from the labor market was in Romania (3.5%), Slovenia (3.6%), Poland (4.2%), and Slovakia (5.0%) (Figure 10). In 2015-2021 the "low labor intensity" indicator decreased in 23 of the 27 EU countries. The leaders in reducing the exclusion from the labor market are Ireland (by 5.8 p.p.), Portugal (by 4.9 p.p.), and Croatia (by 4.8 p.p.).

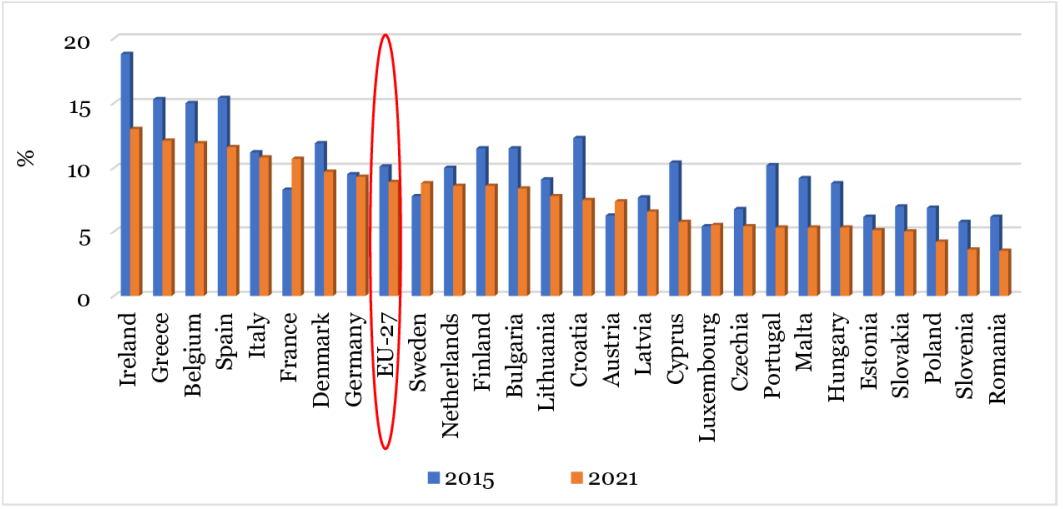

Figure 10. Severe low work intensity in the EU countries

In 2015-2020 the share of people living in households with very low work intensity decreased in Montenegro (by 8.2 p.p.), Serbia (by 4,9 p.p.), and North Macedonia (by 2,8 p.p.) (Figure 11). In Türkiye employment deprivation decreased in 2015-2018 and increased in 2019-2020.

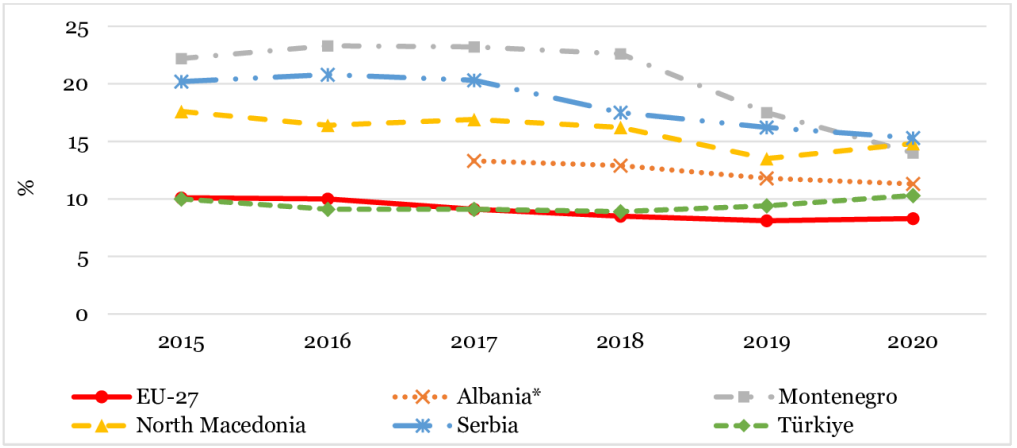

Figure 11. Severe low work intensity in candidate countries
Note: *) Missing data for Albania 2015-2016.

The analysis of the AROPE rate by age group showed that in EU countries, people aged 16 to 24 are most at risk of poverty or social exclusion. Greece, Romania, Luxembourg, Bulgaria, Spain, Denmark, and Germany recorded the highest rate of poverty or social exclusion of young people (16-24 years old) - one in three. The next category at risk is children aged 0-16 years. The problem of child poverty and social exclusion is most acute in Romania, Bulgaria, Spain, and Greece, where approximately one-third of children aged 0-16 are at risk of poverty or social exclusion. The same situation is in candidate countries Türkiye, Albania, and North Macedonia. In these countries, almost every second child and every second young people are at risk. The lowest levels of poverty or social exclusion are seen in Slovenia and Denmark. By gender, women are more at risk of poverty or social exclusion than men. Therefore, when developing a policy to combat poverty and social exclusion, it is necessary to consider these particularities.

The main instruments that EU member countries have applied to combat poverty and social exclusion are increasing employment by creating new jobs and streamlining the social insurance system. European researchers have demonstrated the relevance of the second policy instrument. Studies have shown that spending on social protection of the population represents almost a third of the EU GDP (Gross Domestic Product), and each additional percentage point of GDP spent on social security reduces the risk of poverty by 6%[23]. If social transfers had not been made, the poverty rate would be much higher than it is today.

[23] European Commission, *Employment and Social Situation Quarterly Review: The number of jobless rises and social concerns persist*, 2012, https://ec.europa.eu/commission/presscorner/detail/en/MEMO_12_230.

Conclusion and recommendations

The AROPE indicator is an effective methodological tool in the research of poverty, which allows the identification of the most vulnerable categories of the population and makes it possible to carry out a comprehensive study of social exclusion. Socially excluded groups feel the lack of resources they are limited in rights, which leads to a reduction in quality of life and affects society as a whole. The application of the multidimensional index allows for an in-depth investigation of the causes of poverty. It is impossible to develop solutions and strengthen the targeted social policy without identifying the causes of poverty or social exclusion, and population categories in difficulty.

An analysis of multidimensional poverty showed that the risk of poverty or social exclusion in the EU is high - one in five citizens, and in the candidate countries, it is even higher - almost one in three, except for Albania, where one in two citizens is multidimensionally poor. A study of the components of the AROPE index in the EU showed that monetary poverty is the highest - one in six citizens of the EU and every fifth citizen of candidate countries is at risk of poverty. The 'low labor intensity' component of the AROPE indicator recorded the lowest values in EU member states and candidate countries. The use of additional non-monetary criteria in determining the level of poverty and social exclusion makes it possible to increase the accuracy of determining the categories of citizens experiencing life difficulties and in need of social protection.

The authors recommend using the AROPE index to assess poverty or social exclusion in Moldova. In addition, they have suggested studying the level of energy poverty. For example, in Moldova in 2022, according to preliminary data, 60% of the population live in energy poverty. The Multidimensional Poverty Index could be used to monitor policies to combat poverty and social exclusion. In the case of candidate countries, the authors recommend using the AROPE indicator and increasing the number of deprivations studied at the household level by one deprivation and at the individual level by three deprivations.

An increase in funding for programs to combat poverty is possible only through the development of the national economy because, with the growth of the economy and entrepreneurship, the number of jobs rises, and deductions to the state budget increase too. As a result, the opportunities for increasing social assistance for people exposed to the risk of poverty or social exclusion growth.

The general recommendations for combating poverty and ensuring social inclusion are:

- To reduce the risk of poverty and social exclusion, first of all, it is necessary to solve the problems of employment, especially for young people and women;

- It is necessary to solve the problem of long-term unemployment;
- Countries have to estimate energy poverty. The results of the calculations can be used to decide the amount or share by which the real wage should be increased in the context of combating poverty caused by the energy crisis;
- Countries have to develop and promote programs or strategies aimed at reducing the number of young people who are not employed or in the educational process;
- The polarization of the wage system in some areas is excessively high, so it is necessary to reduce the polarization of wages and segmentation of the labor market;
- It is necessary to find financial resources to increase the salary of people who work in the fields with the lowest wage level (for example, agricultural workers, social workers);
- It is necessary to perfect the existing social protection system to strengthen the targeting of social payments. This system should protect people at risk of poverty and social exclusion: young people, families with three or more children, the unemployed, and migrants.

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