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Multidimensional poverty and social isolation in Poland

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Statistical data on poverty and social exclusion have for years been the subject of special interest, both among decision-makers, authors of social programmes, and the general public. Wishing to meet the growing needs of the recipients of statistical information, the CSO has been improving and successively broadening research and analyses in this field. In 2011, a new, cyclic household survey entitled '*Social cohesion survey*' was introduced to the Polish official statistics system. One of its main objectives was to provide opportunities for the conducting of in-depth analyses on poverty and social exclusion. Based on the survey results, an attempt was made to determine the range and social diversity of particular forms of poverty, including its multidimensional nature, and also to assess the extent to which poverty and social isolation co-occur. This paper contains the basic information on the adopted methodological solutions and the results of the analysis. Details on the topic can be found in the publication "Jakość życia, kapitał społeczny, ubóstwo i wykluczenie społeczne w Polsce" ("The quality of life, social capital, poverty, and social exclusion in Poland"²).

The concept adopted in the analysis of poverty³

As opposed to the traditional, one-dimensional, approach, whereby the range of poverty is usually established on the basis of households' income or expenditures, here three complementary dimensions were taken into account: income poverty, living conditions poverty, and the poverty in terms of the lack of budget balance.

Income poverty

In terms of income, households classified as poor were those in which monthly disposable monetary income (within the last 12 months preceding the survey) was lower than the assumed poverty threshold. While defining income poverty, along with its threshold, a reference was made to the so-called equivalent income, i.e. the income which was made comparable between households of various demographic characteristics⁴. The poverty threshold was assumed

² A. Bieńkuńska, T. Piasecki, D. Verger, A. Lebrère (2013), Ubóstwo, izolacja i wykluczenie społeczne, in: Jakość życia, kapitał społeczny, ubóstwo i wykluczenie społeczne w Polsce, CSO, Warsaw 2013; available on CSO website: <http://www.stat.gov.pl> => Warunki życia. English version will be available by the end of 2013.

³ The unit of analysis of poverty is a household.

⁴ The so-called OECD-modified equivalence scale was adopted. This scale assigns the following values of equivalent units to household members: a value of 1 to the first adult; of 0.5 to each additional adult member aged at least 14; and of 0.3 to each child aged below 14. The CSO uses the OECD-modified scale mainly to conduct comparative analyses within EU Member States. For the purposes of national analyses, the original OECD scale is often used (cf. the commentary).

at 60% of the median⁵ equivalent income for the whole country. The social cohesion survey has revealed that income below such a poverty threshold concerned approx. 15% of households

Living conditions poverty

The level of living conditions poverty was assessed on the basis of the aggregate indicator of poor living conditions. While constructing the indicator, a general assumption was made that it should reflect the non-satisfaction of various types of needs, both material and non-material, which are common in the society and perceived by most of its members as indispensable. The aggregate indicator consists of thirty partial indicators which may be treated as non-satisfaction symptoms, concerning widely-understood living conditions (including the dwelling quality, the provision of durable goods, and other types of consumer needs). There was used a simple formula of adding up the partial indicators which stand for the negative symptoms. The households in which at least 10 symptoms of poor living conditions were observed, were considered at risk of poverty. This condition was met by 13.5% of households.

Poverty in terms of the lack of budget balance

A starting point for the analysis of the poverty in terms of the lack of budget balance was an aggregate indicator which comprised both households' subjective opinions on their financial standing and facts referring to their budgetary difficulties (including any arrears). A household was considered poor in terms of "budget balance problems", if at least 4 out of 7 reference symptoms occurred. This was the case in ca. 16% of households.

⁵ Median income. The income of one half of household members is lower and of the other half higher than this value.

Table 1. **Multidimensional poverty in 2011**

Forms of poverty	The adopted criteria and the poverty threshold	% of poor households in 2011
Income poverty	Households' equivalised monetary income; Poverty threshold – household's income is equal or below 60% median equivalised households' income in Poland (i.e. the monthly amount for a one-person household: PLN 887; for a household with 2 adults and 2 children below 14 years of age: PLN 1863).	15.1
Living conditions poverty	Aggregate indicator considering dwelling conditions, durables, material and non-material deprivation Maximum value of the indicator– 30 Poverty threshold –indicator's value equal or below 10	13.5
Poverty in terms of the lack of budget balance	Aggregate indicator considering subjective households' opinions about their material status, durables and budgetary difficulties (including arrears) Maximum value of the indicator – 7 Poverty threshold –indicator's value equal or above 4	15.9
Multidimensional poverty	The co-occurrence of three forms of poverty.	4.6

The co-occurrence of all forms of poverty

Households with relatively lowest income are not always those which have the worst living conditions or the biggest difficulties with balancing their budgets. According to the adopted criteria, over a quarter of the households (ca. 28%) experienced at least one poverty form. The majority of this group (15.5%) were families affected by one form of poverty. Two co-occurring forms were observed in ca. 8% of households. Finally, all three dimensions of poverty accumulated in approximately every twentieth household (4.6%). Thus, this group of households can be viewed as affected by multidimensional poverty.

Table 2. Coexistence of various poverty forms (in % of households)

HOUSEHOLDS	% OF HOUSEHOLDS
Not affected by any poverty form	72,3
Affected by at least one poverty form	27,7
Of which:	
Affected by one poverty form^a	15,5
Of which:	
• Income poverty	6,0
• Living conditions poverty	3,9
• Poverty in terms of the lack of budget balance	5,6
Affected by two poverty forms^b	7,6
Of which	
• Living conditions and income poverty	1,9
• Living conditions and budget balance poverty	3,1
• Budget balance and income poverty	2,6
Affected by three poverty forms	4,6

a This item concerns the occurrence of one poverty form, so it does not refer to households in which two or three forms occurred at once.

b This item concerns the occurrence of two poverty forms, so it does not refer to households in which three forms occurred at once

The degree of mutual correlation between various aspects of the material situation and related poverty forms can also be inferred from the relevant correlation coefficients.

One can generally speak of moderate correlation between various poverty forms. The most significant correlation was observed for the living conditions poverty and the poverty in terms of the lack of budget balance (a correlation coefficient of 0.45). The fact that poor living conditions are often combined with the inability to balance the household budget is confirmed by a high positive value of the correlation coefficient of the aggregate indicator of poor living conditions and the indicator of budget difficulties (0.67). Weaker correlations between income poverty and its other forms indicate that a difficult financial situation, assessed on the basis of monetary income, may not automatically translate itself into the occurrence of other poverty forms. The causes for this may be of a two-fold nature - the measurement inaccuracies and the differences in the nature of the analysed phenomena.

Table 3. Correlations between various poverty forms - Pearson's correlation coefficient

Specification (indicators pair)	Pearson's correlation coefficient
Assessment of the correlation between base indicators	
Aggregate indicator of poor living conditions - level of household income	-0,41
Aggregate indicator of poverty in terms of the lack of budget balance – level of household income	-0,45
Aggregate indicator of poor living conditions - aggregated indicator of the lack of budget balance	0,67
Assessment of the correlation between poverty indicators	
Living conditions - Income	0,37
Living conditions - The lack of budget balance	0,45
Income - The lack of budget balance	0,36

Is poverty related to social isolation?

The multifaceted nature of the social cohesion survey made it possible to analyse correlations between the various aspects of the quality of life, including correlations between poverty and social isolation. The assumption was that the co-occurrence of poverty and social isolation constituted an important aspect of social exclusion.

Social isolation⁶

It was assumed that a person is socially isolated if he or she does not maintain (sufficiently frequent) contacts with the surrounding social environment external to his or her household. To assess this phenomenon, there has been developed an aggregate indicator of social contacts. The value of this indicator reflects the occurrence of particular types of external relations that can be regularly maintained by a given person. The following factors were taken into consideration: contacts with immediate and distant family members, friends, acquaintances and neighbours, relationships connected with one's religious life, and an active involvement in the activities of associations, parties, clubs, and community organisations. As regards the variables illustrating contacts with various groups of persons in the respondent's surrounding, contacting at least one of the persons belonging to a given group, either personally at least several times in a year, or by mail/phone/the Internet at least once a month, was treated as an indication of an existing relation.

⁶ The unit of analysis of social isolation and social exclusion is a person aged 16 and more.

The value of the aggregate indicator of social contacts ranged from 0 (a person “highly socially isolated”) to 10 (a person “highly socially integrated”).

Persons at risk of social isolation were those for whom the indicator of social contacts was lower than or equal to 3. In line with the adopted criteria, ca. 9% of the respondents aged 16 or more were considered at the risk of social isolation.

Coexistence of poverty and social isolation

Based on the assumptions made, persons at the risk of at least one of three forms of poverty (income poverty, living conditions poverty, and poverty in terms of the lack of budget balance) or social isolation comprised nearly one third of those aged 16 or more (over 32%), of which ca. 9% were socially isolated. The majority of socially isolated persons (5%) were not affected by any poverty form, as this group also included persons who were in a very good material situation. At the same time, social isolation combined with at least one poverty form was experienced by every twenty-fifth person (4%) who was considered at risk of social exclusion. Slightly less than a half of those persons were affected by one poverty form. Furthermore, a simultaneous occurrence of multidimensional poverty (understood as the accumulation of all three types of poverty) and social isolation was recorded for every hundredth inhabitant of Poland aged 16 years or more. Being so sparse, this group cannot be accurately described (based on the results of the representative social cohesion survey) in terms of its socio-demographic features. The logistic regression model explaining the phenomenon in question, has revealed that these are mainly persons without education and work (unemployed persons), as well as disabled persons. Therefore, we deal with the accumulation of both economic and non-economic factors having a potentially excluding effect, which can lead, with a high likelihood, to social marginalisation.

Table 4. Coexistence of poverty and social isolation in % of persons aged 16 years and more

	% of persons
No symptoms of either poverty or social isolation	67,8
Only social isolation (without poverty)	4,9
Poverty (at least one form) without social isolation	23,3
Simultaneous occurrence of poverty (at least one form) and social isolation => social exclusion:	4,0
• social isolation and one poverty form^a	1,8
• social isolation and two poverty forms^b	1,2
• social isolation and three poverty forms	1,0

a This item concerns the occurrence of one poverty form, so it does not refer to households in which two or three forms occurred at once.

b This item concerns the occurrence of two poverty forms, so it does not refer to households in which three forms occurred at once

SUMMARY

Regarding to the poverty, the analysis covered three complementary dimensions: income poverty, living conditions poverty and poverty in terms of the lack of budget balance. Expanding the analysis to include non-income aspects provided a more complete picture of this phenomenon. The applied methodological solutions made it possible to assess the range and co-occurrence of various forms of poverty. Moreover, the analysis revealed a group of households whose current income considerably exceeds the income poverty threshold, but which nevertheless face a number of difficulties with balancing their budget, or which live in poor conditions. This refers, in particular, to the households of older persons, who in Poland, belong to the group with relatively the lowest income poverty rate. In view of the needs of social policy, it seems equally important to not only acquire data on the extent of the living conditions poverty and the poverty in terms of the lack of budget balance, estimated on the basis of aggregate indices, but also to obtain information on the particular symptoms of poverty.

In the examination of poverty determinants, logistic regression models were applied. The crucial factors increasing the risk of all of three poverty forms, included poor education, as well as, low occupational status of the household's head, unemployment, and disability.

All the three analysed forms of poverty accumulated in every twentieth household (ca. 5%). The co-occurrence of these three forms could be observed mostly in households of persons with poor education, unqualified workers, unemployed persons, pensioners, single-parent and multi-children families, and single men. In these groups, the three forms of poverty co-occurred at least twice as often than average.

The weakening of social bonds and interpersonal relationships is nowadays regarded as one of the major factors contributing to social exclusion. Many people have perceived social isolation as "the essence of social exclusion"⁷. The groups in Poland which are especially affected by limited social contacts are the elderly and the disabled persons. However, the survey results indicate the lack of strong correlations between material poverty and social isolation. Therefore, we feel that with respect to decision-makers and social security systems, attention should be directed towards persons affected jointly by poverty and the lack (or a very limited level) of social relations.

Social isolation was connected with at least one of the three forms of poverty in the case of ca. 4% persons aged 16 or more. This group has been classified as being at the risk of social exclusion. The co-occurrence of multidimensional poverty (the three forms of poverty) and social isolation was observed among every hundredth person. The main determinants of the social exclusion were poor education, unemployment, and disability.

⁷ R. Lister (2007), *Bieda (Poverty)*, Sic! Publishing House, Warsaw, p.107.

BOX 1. COMPONENTS OF INDICATORS OF POOR LIVING CONDITIONS AND THE LACK OF BUDGET BALANCE

Table 5. List of intermediate variables (partial indicators) included in the aggregate indicator of poor living conditions, including information on the frequency of occurrence of a given symptom

Components of the indicator of poor living conditions (intermediate variables)	% of households representing a given symptom (the intermediate variable value =1)
1. Poor condition or no electrical system available	8.1%
2. No central heating or a fuel-fired (coal, wood, sawdust) furnace	15.7%
3. Poor sanitary conditions (no running water, including hot water, no bathroom or toilet)	23.4%
4. Dark and damp dwelling	17.1%
5. Dwelling located in a noisy neighbourhood or in a region with contaminated natural environment (dust, smoke, other contaminants)	18.0%
6. Too small dwelling (as for the household needs) or not every adult person has a separate room or a separate space in a dwelling to rest, study and work	26.2%
7. Inability to maintain an adequate temperature in a dwelling (not warm enough in the winter, and not cool enough in the summer)	35.8%
8. Poor dwelling conditions — general (subjective) assessment	5.1%
9. No washing machine	9.3%
10. No fridge or freezer	1.0%
11. No microwave or multifunction robot	20.1%
12. No vacuum cleaner	2.1%
13. No radio or TV set	3.1%
14. No CD, DVD or MP3 player, no cable or satellite TV	5.7%
15. No (landline or mobile) phone	1.6%
16. No computer	9.3%
17. No access to the Internet for financial reasons	11.4%
18. Poor provision of durable goods in the household — general (subjective) assessment	4.9%
19. No car for financial reasons	12.4%
20. No money for entertainment (tickets to cinema, theatre, concerts, visits in restaurants, etc.)	37.1%
21. No money for at least one week of holiday once a year	42.9%
22. Household cannot afford to invite their family or friends to dinner, supper or other meal once a year	14.4%
23. Household cannot afford to buy presents for their nuclear family (parents, siblings or adult children) once a year	11.7%
24. No money to buy books or press items	17.9%
25. No money to buy pharmaceuticals	14.5%
26. No money to visit specialist doctors or dentists	26.2%
27. No money to buy footwear, clothing and bedclothes	13.4%
28. No money to replace worn-off furniture	30.3%
29. No money to buy food (resigning from meat, fresh fruit and vegetables)	9.3%
30. The need to resign from any of the basic meals (breakfast, dinner or supper) for financial reasons	2.1%

Table 6. List of intermediate variables (partial indicators) included in the aggregate indicator of the lack of budget balance, including information on the frequency of occurrence of a given symptom

Components of the indicator of the lack of budget balance (intermediate variables)	% of households representing a given symptom (the intermediate variable value =1)
1. Arrears in rent, electricity or gas payments (at least two months in arrears), and in mortgage repayment (at least one month in arrears)	4.2%
2. Subjective household's opinion on the inability to "make ends meet" (it is difficult or extremely difficult for the household to "make ends meet")	30.7%
3. The household has to save money on a daily basis, or there is not enough money in the household to satisfy even the most basic needs (self-assessment)	36.8%
4. Declared household's income is lower than the necessary (minimum) level of income that would allow to "make ends meet"	26.8%
5. Loan or credit was contracted to cover the current consumer expenses (on food, clothing, footwear, regular payments)	7.2%
6. Household's perception of considerable difficulties in making current expenses, due to loan/credit repayment	11.8%
7. Household's declaration indicating the lack of any financial leeway (inability to cover an unexpected expense of PLN 400-500)	42.0%

BOX 2. DETERMINANTS OF POVERTY AND POVERTY RATES BY DIFFERENT SOCIO DEMOGRAPHIC CHARACTERISTICS

Table 7. Poverty rates by age of the household's head *in % of households*

	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance
Total	15,1	13,5	15,9
16-24 years	18,4	9,7*	11,7*
25-34 years	11,5	7,9	11,5
35-44 years	15,0	9,2	13,4
45-54 years	18,9	13,8	17,9
55-64 years	16,2	15,9	19,0
65-74 years	13,7	18,0	18,3
75 and more years	10,8	17,5	13,0

Table 8. Poverty rates by type of locality *in % of households*

	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance
Urban areas - total	10,7	11,5	15,7
inhabitants:			
500 thous. and more	5,2	9,3	12,9
100 - 500 thous.	9,8	10,8	15,2
20 - 100 thous.	11,9	12,1	17,5
up to 20 thous.	16,8	14,0	16,7
Rural areas	23,7	17,7	16,4

Table 9. Poverty rates by principal source of household's income *in % of households*

	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance
Hired work	10,5	9,1	12,7
Own account work outside agriculture	6,2	2,7*	6,4
Own account work in agriculture	31,9	11,7	11,7
Retirement pay	11,4	15,7	15,8
Pension	37,6	30,2	34,4
Other social benefits	71,3	57,7	57,6
Other income	35,6	25,4	27,3

Table 10. Poverty rates by household type in % of households

	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance
Single woman	14,0	18,6	21,1
Single man	21,3	23,4	22,1
Mother or father with children	27,5	24,5	34,3
Mother or father with children and other persons	29,0	25,3	28,0
Couples:			
without children and other persons	5,2	7,2	9,3
with 1 child	9,8	6,9	11,0
with 1 child and other persons	17,3	10,4	13,3
with 2 children	14,8	7,2	12,6
with 2 children and other persons	19,2	12,6*	15,1
with 3 and more children	39,0	20,7	23,3
with 3 and more children and other persons	43,3	12,5*	22,8*
and other persons	10,0	9,3	11,3
Other households comprising 2 persons	21,0	25,9	24,1
Other households comprising 3 and more persons	20,7	21,0	14,6

Table 11. Determinants of poverty - Assessment of the contributory significance of various factors

Explanatory variables	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance	Multidimensional poverty
	<i>Wald statistics</i>			
Equivalent income (decile)	x	1022.4 ***	1311.7 ***	x
Principal source of household's income	520.5 ***	x	x	261.5 ***
Household size	143.2 ***	136.5 ***	119.5 ***	45.5 ***
Age of the household head	136.0 ***	13.4 **	106.4 ***	65.9 ***
Educational level of the household head	151.9 ***	101.8 ***	54.7 ***	93.8 ***
Occupation of the household head	155.2 ***	41.4 ***	48.2 ***	60.6 ***
A disabled person in the household	8.2 ***	57.6 ***	43.5 ***	29.9 ***
An unemployed person in the household	360.9 ***	75.1 ***	53.8 ***	165.1 ***
Type of locality	39.9 ***	19.1 ***	101.7 ***	5.7 n.s.
Voivodship	55.5 ***	73.4 ***	107.1 ***	25.1 **

X – variable not included in the model

The statistical significance of various parameters and values included in the model:

*** significant at the level of 1%

** significant at the level of 5%

* significant at the level of 10%

n.s. – not significant (lower than 10%)

BOX 3. AGGREGATE INDICATOR OF SOCIAL CONTACTS

Table 12. Distribution of intermediate variables (partial indicators) included in the aggregate indicator of social contacts – in % of persons aged 16 years or more

Type of relation/contact (intermediate value)	Share of persons maintaining a given type of relations (the variable equals "1")
Contacts with parents and children living outside the respondent's household	65.8
Contacts with brothers and sisters living outside the respondent's household	67.8
Contacts with parents-in-law (great-) grandparents (great-) granddaughters and (great-) grandsons	73.3
Contacts with other relatives	82.7
Contacts with friends and colleagues	75.6
Having friends	77.7
Relations with neighbours	57.1
Relations arising from religious life	50.1
Active involvement in associations, parties, clubs and social organisations: intensive – the variable equals to "2" less intensive – the variable equals to "1"	14.7 14.2

BOX 4. DETERMINANTS AND RATES OF SOCIAL ISOLATION

Table 13. Determinants of social isolation and social exclusion

Factor	Assessment of the contributory significance of various factors	
	Social isolation	Total social exclusion
	<i>Wald statistics</i>	
Sex	14.4 ***	0.1 n.s.
Age	98.8 ***	33.6 ***
Having a partner	38.6 ***	2.6 n.s.
Educational level	15.5 ***	24.5 ***
Occupation	12.0 n.s.	14.4 n.s.
Disability	34.0 ***	41.9 ***
Unemployment	2.8 *	38.7 ***
Household type	91.1 ***	40.6 ***
Equivalent income (decile)	83.2 ***	14.3 ***
Type of locality	62.2 ***	18.6 n.s.
Voivodship	50.7 ***	x

X – variable not included in the model

The statistical significance of various parameters and values included in the model:

*** significant at the level of 1%

** significant at the level of 5%

* significant at the level of 10%

n.s. – not significant (lower than 10%)

Table 14. Social isolation rates by sex, age and type of locality
in % of households

Total	8,9
By sex:	
men	9,8
women	8,1
By age:	
16-24 years	7,0
25-34 years	7,3
35-44 years	6,1
45-54 years	7,9
55-64 years	8,8
65-74 years	11,1
75 and more years	22,6
By type of locality:	
Urban areas - total	10,0
inhabitians:	
500 thous. and more	9,2
100 - 500 thous.	10,8
20 - 100 thous.	10,6
up to 20 thous.	8,6
Rural areas	7,1