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APPROACHES TO EMPIRICAL ANALYSIS OF SOCIAL EXCLUSION: INTERNATIONAL COMPARISON

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ABSTRACT. The paper presents the measuring schemes for components of the multidimensional structure of social exclusion concept and their application for the comparative analysis of Ukraine with the European countries. According to the approach of measuring social exclusion proposed by G. Jehoel-Gijsbers and C. Vrooman, the typical dimensions of the concept were defined: material deprivation and social isolation. The mentioned components of social exclusion were extracted in Hungary, Germany, Spain, Sweden, United Kingdom, and Ukraine by using the factor analysis on the basis of the results of European social survey (ESS). The possible approaches to exclusion analysis were demonstrated. It is found that a less affluent country, through its social security system, can create conditions under which the share of the excluded is smaller than that in a wealthy country. However, the results of analysis of the relational dimension of social exclusion, in the cases of Sweden and Spain, Ukraine and Hungary, show no direct relationship between the welfare models and social isolation.

JEL Classification: Z13, C38, C21, I32

Keywords: social exclusion, material deprivation, social isolation, factor analysis, one-way analysis of variance.

Introduction

Over the recent decades the instruments, developed for assessment of the situation of vulnerable groups and their identification in society, have undergone essential changes. Due to rethinking of the factors of human well-being, the concept of social exclusion (Silver, 1994) was formed in the European countries in the middle of the XX century, in connection with study of poorly protected categories of citizens. In terms of social exclusion, the causes and the consequences of decreasing the people living standards should be sought beyond poverty indicators. The use of the concept enables measuring multiple disadvantages, which are manifested in the shortage of economic and structural resources; and lack of sociocultural participation. Currently, the concept of social exclusion is one of the key instruments of social policy of the European Union (Atkinson, 2004), which in recent decades has been introduced into approaches to its planning and studying in Ukraine (Libanova, 2011).

The concept of social exclusion can be an effective research tool for comparing the different types of social policy efficacy as the main mechanism for preventing the emergence and spread of social exclusion. The concept's implementation in the political and scientific

discourses provides an opportunity for international comparisons aimed at finding common and different manifestations, of exclusion in countries with alternative approaches to social policy formation. However, a prerequisite of cross-cultural comparisons is the use of equivalent tools for data collection. Making such a comparison implies the structural similarity of the phenomenon that is studied in different societies.

Economic growth in a country does not automatically mean higher living standards of vulnerable groups, and its benefits do not always reach the poor (Muffels, 2001). Therefore, a countries high level of economic wealth does not necessarily imply reducing the share of those who can be considered as socially excluded. This suggests that there are differences in the level of social exclusion in different countries, regardless of their level of wealth.

Given the above, we can formulate the following research questions:

1) Is social exclusion in Ukraine structurally similar to that in the countries of Central and Eastern and Western Europe?

2) What are the differences in the manifestations of social exclusion, with reference to the countries' level of wealth and its type of social policy (welfare models)?

This paper aims to construct the tool for measuring social exclusion that allow comparison of this phenomenon in countries with different levels of socio-economic development and types of welfare models.

Living standards in a country are largely due to the distribution of governmental social support. Various welfare models envisage differences in levels of providing support to those who are its recipients; and are at risk of social exclusion. Costa Esping-Andersen has identified (Esping-Andersen, 1990), social-democratic (Nordic), conservative corporatist (Continental) and liberal (Anglo-Saxon) models of social welfare. Researchers at the Netherlands Institute for Social Research empirically verified enhanced typology, within which the countries with Mediterranean welfare regime (Ferrera, 1996) and a group of Eastern European countries (Kovács, 2002) were further singled out. The empirical typology of the countries was performed by cluster analysis in the space of two dimensions that characterize the pension and social security systems. Measurement of security level provided by both the systems was carried out using a scale that has the following gradations: low, medium and high.

Based on analysis results, the countries were distributed as follows: 1) *the social-democratic* welfare model is characterized by the high scope of general social security systems and the high extent of pension schemes (Sweden, Denmark and Finland); 2) *conservative-corporatist* welfare model is characterized by medium scope of general social security systems and the medium extent of pension schemes (Belgium, France, Germany, Luxembourg and Austria); 3) *liberal* model features medium scope of general social security systems and low extent of pension schemes (USA, Canada, Australia, UK and Ireland); 4) *Mediterranean* model is characterized by high extent of pensions schemes, but low scope of general social security systems (Italy, Portugal, Spain and Greece); 5) the *Group of Eastern European countries* features low extent of pensions schemes and low scope of general social security systems (Poland, Hungary, Czech Republic and Slovakia) (Soede, 2004). The countries with not fully formed systems of social policy, such as Ukraine and the Russian Federation (Kutsenko & Gorbachyk, 2015) can be identified separately.

Social exclusion is a complex multidimensional process of reducing individuals or groups social participation in activities typical for most people in the society studied. Multidimensionality of social exclusion implies the complexity of the concept structure, which consists of multiple components (dimensions) and requires the use of appropriate measuring schemes. In studies on measuring social exclusion, the scheme of its empirical identification has become widely accepted, which includes two types of dimensions: distributional and relational (Bohnke, 2001; Jehoel-Gijsbergs; Bhalla, 1997; Jehoel-Gijsbers,

2007). The proposed approach was used in comparative studies of social exclusion in European countries and of social inclusion of elderly people in Ukraine (Jehoel-Gijsbers, 2008; Grishina, 2014). Distributive dimensions include material deprivation, shortage of citizen rights protection, and relational ones are limited social participation (social isolation) and a dearth of normative integration.

Research experience suggests a lack of interconnection between the level of the country prosperity and the prevalence of different aspects of social exclusion as defined above. Countries with higher levels of national income (GNI) are not always characterized by a smaller proportion of socially excluded. For example, in countries with liberal welfare model, the proportion of those facing social exclusion is higher than in countries with Mediterrenean welfare model (Böhnke, 2008; GNI, Atlas method, 2016). In other cases, the results of analysis of structural and economic components of social exclusion, show that the difference of material deprivation average estimates is minimal in countries with essential differences in the level of national income such as the UK and Spain (Nolan & Whelan, 2010).

Prevalence of social exclusion relational aspects associated with involvement in social networks, varies in the European countries, regardless of their material wealth. In wealthy countries, mainly Scandinavian ones, the relationship between social isolation and material deprivation is stronger. In richer countries, poor people are more likely to be socially isolated. This is mainly due to the stigmatization of the needy by the society because of the fact that poverty is interpreted as a personal failure. Social networks in these countries are less family-oriented and are formed on the basis of contacts outside the family (Van Oorschot *et al.*, 2006) this increases the risk of social exclusion. However, social security system functioning in Scandinavia increases individuals involvement in social networks, thus compensating for the possible loss of access to resources. At the same time, in less affluent countries, where family contacts are the main source of support, there is no connection between social isolation and material deprivation. These are the countries of Southern (Richter, 2012) or Eastern Europe, a characteristic feature of which is providing help within the family (Böhnke, 2008).

The presented theoretical model allows formulation of following research hypotheses: a) structure of distributional and relational components of social exclusion in countries with different levels of socio-economic development and welfare regimes is similar; b) in countries with universal social security system, the level of social exclusion is smaller compared with countries where such a system is more limited, regardless of national wealth; c) in countries with low or middle income and rudimentary social and pension security systems, the level of social exclusion, related to involvement in social networks, is the same, as in wealthy countries.

It can be assumed that within the countries, the proportion of those, who can be considered socially excluded among recipients of general or pension security systems, is different, depending on the type of welfare model. Given that the beneficiaries of general social or pension security systems are mostly excluded from the labour market, the following hypotheses can be formulated: d) there are no difference in level of material deprivation among the unemployed, pensioners, compared to those who are employed in countries with high or medium extent of pensions security system and scope of general social security system; e) in Eastern Europe and former Soviet countries, pensioners and those in receipt of social assistance (unemployed) are characterized by higher level of social exclusion, compared to those who are in work (pension and allowance does not compensate for the loss of access to labor market resources); f) but in East European and former Soviet countries, there is no difference in the social isolation level of retirees and recipients of the general security system, in comparison with the employed.

1. Measurement of social exclusion

The results of the 5th Round of the European Social Survey (ESS) were used to test the research hypotheses and design the tool for social exclusion measurement. Analysis was performed by using SPSS software. The data were weight taking into account the design effect of the sample.

In order to test the research hypothesis six countries that represent different welfare models were selected for analysis (n = 12 328), namely: Sweden, which belongs to the social-democratic welfare model (n = 1497); Germany, which represents corporatist welfare model (n = 3032); Great Britain, which is characterized by liberal welfare model (n = 2422); Spain, which features Mediterranean welfare model (n = 1885); Hungary, which is in the group of Eastern European countries (n = 1561); and Ukraine, which is defined as a country with rudimentary system of social policy (n = 1931).

To examine the structure similarity of social exclusion dimensions in different countries, the exploratory factor analysis (EFA, principal component analysis with varimax rotation) was performed. Two dimensions of the concept were extracted: material deprivation and social isolation. The selection of social exclusion components were determined by the fact that each of them represent different aspects of concept (distributional or relational). Variables for measurement of social exclusion components were recorded in the way that lowest values received by those who were less materially deprived and socially isolated. For the purpose of components' structure comparison, EFA was performed on the data for each country separately and on the integrated data of six countries simultaneously.

In order to measure the component of material deprivation, the indicators that characterize forced reduction of consumption goods and activities were chosen. The results of applied EFA have shown that extracted factors, (in terms of factor loading and proportion of explained variance), are structurally similar in all the compared countries (see *Table 1*).

Table 1. Structure of material (consumer) deprivation factor

Directly measured indicators	Fator loading						
	Ukraine	Spain	Hungary	Germany	Sweden	GreatBritainя	*All countries*
G10 I have had to cut back on holidays or new household equipment: Not at all 0 1 2 3 4 5 6 A great deal	0.846	0.878	0.874	0.852	0.853	0.872	0.870
G9 I have had to draw on my savings or get into debt to cover ordinary living expenses: Not at all 0 1 2 3 4 5 6 A great deal	0.840	0.885	0.843	0.882	0.861	0.851	0.878
G8 I have had to manage on a lower household income: Not at all 0 1 2 3 4 5 6 A great deal	0.876	0.853	0.824	0.899	0.888	0.875	0.877
Proportion of explained variance	*72%*	*76%*	*72%*	*77%*	*75%*	*75%*	*76%*

Source: European Social Survey (2010), author's calculation.

The indicators that characterize interpersonal communication, its frequency and availability of close person with whom one can share personal problems, were selected to

measure the component of social isolation. EFA results showed that extracted factors of social isolation as well are similar in all the compared countries (see *Table 2*).

Table 2. Structure of social isolation factor

Directly measured indicators	Factor loading						
	Ukraine	Spain	Hungary	Germany	Sweden	Great Britain	*All countries*
C2. How often do you meet socially with friends, relatives or work colleagues?: *0 – Every day; 1 – Several times a week; 2 – Once a week; 3 – Several times a month; 4 – Once a month; 5 – Less than once a month; 6 – Never.*	0.792	0.775	0.871	0.781	0.723	0.804	0.793
C3. Do you have anyone with whom you can discuss intimate and personal matters?*: 0 Yes; 1 No*.	0.568	0.508	0.351	0.453	0.559	0.444	0.465
C4. Compared to other people of your age,how often would you say you take part in social activities?: *0 – Much more than most; 1 – More than most; 2 – About the same; 3 – Less than most; 4 –* Much less than most.	0.789	0.738	0.866	0.791	0.769	0.804	0.801

The next stage of the analysis aims to find the differences in the level of material deprivation and social isolation amongst countries with different welfare models. To simplify the interpretation of results of analysis, the material deprivation and social isolation additive indices were calculated. Each additive index computed as the mean value of the indicators used in EFA. Pearson's correlation coefficient was used to verify the validity of computed indices. The results of Pearson coefficient calculation showed a strong positive correlation between additive indices and identified factors; so it assumes that the calculated additive indices can be considered equivalent tools for measuring social exclusion (*Table 3*, *Table 4*).

Table 3. Correlation between additive index and factor of material deprivation

		Factor by country						
		Ukraine	Hungary	Germany	Spain	Sweden	United Kingdom	All
Additive index by country	Ukraine	1.00*						1.00*
	Hungary		1.00*					1.00*
	Germany			1.00*				1.00*
	Spain				1.00*			1.00*
	Sweden					1.00*		1.00*
	United Kingdom						1.00*	1.00*

** Coefficient is significant at the level of p <0 .01*

Source: European Social Survey (2010), author's calculation.

Table 4. Correlation between additive index and factor of social isolation

		Factor by country						
		Ukraine	Hungary	Germany	Spain	Sweden	United Kingdom	All
Additive index by country	Ukraine	0.98*						0.98*
	Hungary		0.99*					0.99*
	Germany			0. 98*				0.98*
	Spain				0.97*			0.97*
	Sweden					0. 98*		0.98*
	United Kingdom						0.98*	0.98*

** Coefficient is significant at the level of p <0 .01*

Source: European Social Survey (2010), author's calculation.

For testing the research hypotheses about the differences in social exclusion within countries the variable of pension and social security system recipients identification was computed. The variable of recipients' status is based on the indicator: "which of these descriptions applies to what you have been doing for the last 7 days?" Computed variable includes following categories: 1) paid work; 2) unemployed, but actively looking for work (unemployed – recipients of general security system); 3) unemployed, willing to work, but not actively looking for work (economically inactive – recipients of general security system); 4) retired (pensioners – recipients of pension security system).

One-way analysis of variance (One-way ANOVA) for multiple comparison of group means, was applied (*Table 5*) to search for differences in the level of social exclusion in countries with different welfare models (Park, 2003). In the first stage of analysis, comparison of social exclusion additive indices mean values was performed amongst the countries, which represent different welfare models, and in the second stage it was done within the countries.

Table 5. Profiles of social exclusion by country: material deprivation and social isolation mean values

	Dimension	1)Sweden	2) United Kingdom	3) Germany	4) Spain	5) Hungary	6) Ukraine
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
Compared mean among counties	Material deprivation	**1.39*** [2.3.4.5.6]	**2.41*** [1,3,5,6]	**1.73*** [1,2,4,5,6]	**2.50*** [1,3,5,6]	**2.73*** [1,2,3,4,6]	**3.33*** [1,2,3,4,5]
		2.31 – among countries					
	Social isolation	**1.28*** [2.3.4.5.6]	**1.46*** [1,4,5,6]	**1.46*** [1,4,5,6]	**1.38*** [1,2,3,5,6]	**2.01*** [1,2,3,4,6]	**1.60*** [1,2,3,4,5]
		1.52 – among countries					
1) Paid work	Material deprivation	1.30* [2.3.4]	2.43* [2,4]	1.73* [2,3,4]	2.44* [2,4]	2.92* [2,4]	3.30* [2]
	Social isolation	1.25* [4]	1.45	1.45* [2,4]	1.36	1.96* [4]	1.56* [4]
2) Unemp-loyed, looking for job	Material deprivation	3.48* [1.4]	3.63* [1,4]	3.59* [1,4]	4.29* [1,3,4]	3.61* [1,4]	3.85* [1]
	Social isolation	1.49	1.58	1.70* [1]	1.39	1.86* [4]	1.43* [4]
3) Unemp-loye, not looking for job	Material deprivation	2.86* [1.4]	3.21* [4]	3.74* [1,4]	3.00* [2,4]	3.72* [4]	3.99
	Social isolation	1.48	1.73	1.71	1.46	1.72* [4]	1.78

1	*2*	*3*	*4*	*5*	*6*	*7*	*8*
4) Retired	Material deprivation	0.87* [1.2.3]	1.82* [1,2,3]	1.35* [1,2,3]	1.94* [1,2,3]	2.38* [1,2,3]	3.40
	Social isolation	1.53* [1]	1.47	1.64* [1]	1.45	2.26* [1,2,3]	1.91* [1,2]
Mean within country among groups	Material deprivation	1.27	2.33	1.71	2.59	2.77	3.39
	Social isolation	*1.34*	*1.47*	*1.52*	*1.39*	*2.06*	*1.68*
Pension security systems**		+	–	+/–	+	–	
Social security systems		+	+/–	+/–	–	–	

** Difference between the means is significant at the level of 0.01 (numbers in brackets indicate group number, with which statistically significant differences are found (Scheffe test).*
*** The level of expenditure amounts and scope of social services is given on a scale that has the following values: "+"High; "+/-"Medium; "-" Low.*

Source: European Social Survey (2010), author's calculation.

2. Results and discussion

The results of EFA revealed that structures of the material deprivation and social isolation factors are similar in six countries. Therefore, according to previously formulated hypotheses, it can be considered that the structures of distributional and relational components of social exclusion are similar in countries with different levels of socio-economic development and welfare models.

The lowest average values of material deprivation indices were found in Sweden and Germany, which are characterized by high or medium scope of general social security systems and extent of pension schemes. Next, come the UK and Spain, for which the difference of mean values of material deprivation indices is not statistically significant. Both countries are characterized by low levels of at least one of social security system, and there is a difference in the level of wealth (GNI, 2016). On the one hand, no difference between mean values of material deprivation indices is associated with low extent schemes of pensions in countries with liberal welfare model, and on the other hand, with high extent schemes of pensions in countries with Mediterranean welfare model (Soede, 2004). Thus, the less affluent country (Spain), owing to its pension system, creates conditions, under which the number of excluded is smaller, than in a wealth country (UK). Countries with low scope of general social security systems and low extent of pension schemes or those with rudimentary social support system, namely Hungary and Ukraine, are on the next level of material deprivation (*Table 5*).

It is found that the difference in mean values of social isolation indices is statistically significant between most of the countries. Its level is the lowest in Sweden and Spain. In Sweden, the low value of social isolation indices may be due to universality of social security system, which creates conditions for involvement in social networks. The low value of the index in Spain may represent the presence of a strong social network, based on family ties. Next come Germany and the UK, between which no statistically significant difference in the level of social isolation was found. It should be noted that in the above-listed countries, the mean values of social isolation indices are not higher than the mean calculated for all countries. So, the assumption is that in countries, where the scope of general social security systems and extent of pension schemes are medium or high, the conditions for involvement in social networks are more favourable (*Table 5*).

At the same time, both in Hungary and Ukraine mean values of social isolation indices are higher, compared to other countries. Despite the fact that Ukraine is characterized by an underdeveloped social security system and low wealth, the mean value of social isolation index in it is lower than in Hungary. Moreover, in Hungary the mean value of social isolation index is higher by almost a quarter, compared to other countries (*Table 5*).

Further analysis was aimed at finding differences in social exclusion level within the countries, among the general social or pension security systems beneficiaries and the employed. The lowest mean values of material deprivation indices among pensioners are observed in all countries, except Ukraine. Therefore, in countries where the level of pension schemes is, at least, low, the system creates favourable conditions for reducing the economic and structural manifestations of social exclusion of this group. This is regardless of the country's wealth. Meanwhile, in Ukraine pensions do not replace access to resources, which is lost at the retirement age. On the contrary, material well-being of this group in Ukraine only deteriorates.

Unemployed in all the countries are characterized by the highest level of material deprivation, regardless of welfare models, implemented in the country. However, no difference was found between the mean values of material deprivation indices, calculated for economically inactive and employed in Great Britain, Spain, Hungary and Ukraine. The favourable average estimate of material deprivation among this group may explain the lack of desire to seek work.

In all the six countries surveyed, the group that suffers most from social isolation is the retired. Indeed, in terms of involvement in social networks, age is an important risk factor of social exclusion. Research results show that the proportion of those characterized by social isolation, increases with age (Jehoel-Gijsbers & Vrooman, 2008). In Hungary, however, the difference of mean values of social isolation index for pensioners is statistically significant not only compared to those in work, but also in all the groups, which were compared. The revealed tendency may be explained by the fact that it is in this country that employment is the main channel of social networks involvement. Now, the being out of the labour market, associated with retirement, can lead to gradual loss of support network (Cartwright, 2008). Among the unemployed, statistically significant difference between means was found only in Germany.

Conclusions

The analysis involved empirical identification of two social exclusion structural components: material deprivation and social isolation. The structural similarity of obtained factors indicates the existence of respective social exclusion dimensions in countries selected for analysis. Accordingly, the selected variables for indices construction are quite relevant to empirical identification of social exclusion in different societies; and suitable for social exclusion cross-country comparison in Ukraine and countries of Central and Eastern and Western Europe.

The high level of economic country wealth does not imply reducing of the share of those who can be considered socially excluded. It is found that a less affluent country, through its social security system, can create conditions under which the share of the excluded is smaller than that in a wealthy country. However, the results of analysis of the relational dimension of social exclusion, in the cases of Sweden and Spain, Ukraine and Hungary, show no direct relationship between the welfare models and social isolation.

Further analysis may be aimed at finding the strength and direction of the relationship between indicators of socio-economic development of the countries, social welfare models and personal socio-demographic characteristics of individuals. The search for such

relationships requires application of methods that enable allowing for the interaction of social exclusion and its determinants, measured at the macro and micro levels.

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