REVISION OF THE CONCEPT OF MEASURING MATERIAL DEPRIVATION IN THE EU

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Abstract

In June 2010, the European Council (EC) adopted a social inclusion target as part of the Europe 2020 Strategy: to lift at least 20 million people in the EU from the risk of poverty and exclusion by 2020. To monitor progress towards this target EC agreed on an 'at risk of poverty or social exclusion' indicator. This indicator consists of three sub-indicators: 1) at-risk-of-poverty; 2) severe material deprivation; and 3) living in very low work intensity households. The Council also decided that the mid-term review of the EU target in 2015 would include a review of its three sub-indicators. Additionally, it stated that the mid-term review of the EU target should step up work on improved measures of material deprivation (MD).

The aim of this article is to compare the old and the new concept of measuring material deprivation based on EU SILC data for the Slovak Republic.

Key words: Material Deprivation, Indicators, EU SILC Database, the Slovak Republic

JEL Code: O15, C46, I32

Introduction

In the field of income inequality, poverty, social exclusion and living conditions, the EU Statistics on Income and Living Conditions (EU-SILC) is the main harmonised source for statistical data at European and - in Slovak condition - national level. Over the last years, important progress has been achieved in EU-SILC as a result of the coordinated work of Eurostat and the NSIs.

In June 2010 The 'Lisbon Strategy', launched by EU Heads of State and Government in March 2000 as a framework for EU socio-economic policy coordination was replaced by the new 'Europe 2020 Strategy' on smart, sustainable and inclusive growth with five 'headline targets' to be achieved by 2020. With respect to the target of social inclusion, which is to lift at least 20 million people in the EU from the risk of poverty and exclusion by 2020, and with

respect to the multidimensional concept of poverty and social exclusion, the importance of indicators of material deprivation has significantly increased. (Eurostat, 2012)

1   Theoretical and methodological bases

To monitor progress towards this target, the 'Employment, Social Policy, Health and Consumer Affairs' (EPSCO) EU Council of Ministers agreed on an 'at risk of poverty or social exclusion' indicator. Indicator consists of three sub-indicators: i) at-risk-of-poverty (i.e. low income); ii) severe material deprivation; and iii) living in very low work intensity households. The number of persons who are at-risk-of-poverty and social exclusion is defined according to these three indicators:

- the standard EU 'at-risk-of-poverty' indicator (people 'at risk of poverty' are people living in a household whose total equivalised income is below 60% of the median national equivalised household income (the equivalence scale is the so-called OECD modified scale));

- an indicator of 'severe material deprivation' (a variation on the EU MD indicator presented below, in which the threshold has been raised from three to four out of the same nine items); and

- a measure of 'very low household work intensity' (people in very low household work intensity are those aged 0-59 living in households where, on average, adult members aged 18-59 have worked less than 20% of their total work potential during the income reference period (i.e. year prior to the survey)).

The concept of material deprivation itself is based on the affordability of a selection of items (goods or services) that are considered to be necessary or desirable for people to have an 'acceptable' standard of living in the country where they live. Severely materially deprived households are defined as those deprived for at least three/four of nine items which are included in EU SILC. In cross-sectional databases EU SILC nine items are currently used to measure severe material deprivation (the official codes of EU SILC variables are in brackets):

- avoiding arrears (in mortgage or rent, utility bills or hire purchase instalments) (HS011, HS021, HS031);

- one week annual holiday away from home (HS040);

- a meal with meat, chicken, fish or vegetarian equivalent every second day (HS050);

- coping with unexpected expenses (HS060);
- a telephone (HS070);
- a colour TV (HS080);
- a washing machine (HS100);
- a personal car (HS110)
- keeping the home adequately warm (HH050);

The definition of each variable is included in the metadata of user databases. The issues of material deprivation and its variables in the EU SILC in the Slovak Republic were addressed by Ivančíková and Vlačuha (2007, 2011).

In the beginning, the *material deprivation rate* was considered the major indicator of material deprivation and it was defined as the proportion of the population facing a forced shortage for at least three of the nine items listed above. As a result of a change of the indicator from three into at least four items, the proportion of materially deprived persons decreased by around a half and this indicator became known as the *severe material deprivation*. If the new indicator was used, the deprivation rate decreased from 17% to 8.3% according to EU SILC 2008. The difference of deprivation rates between the ´best´ and the ´worst´ countries decreased as well. While the deprivation rate varied from 3.5% to 51% for the indicator with three items, it varied from 1% to 33% for the severe material deprivation. So the methodological change resulted in a significant decrease of the officially reported rates of material deprivation of EU countries.

In 2000 the Council also decided that the mid-term review of the EU target in 2015 would include a review of its three sub-indicators and the mid-term review of the EU target should step up work on improved measures of material deprivation. As it was mentioned in Eurostat working paper the main limitations of the current EU MD indicators are the small number (nine) items on which they rely and the weak reliability of some of these items and weak reliability of some of the core items they are based on (Eurostat, 2012). A small number of items mean that there is a risk of unreliable measurement of material deprivation in some EU Member States. In order to help prepare the required revision of the material deprivation variables by 2015 an academic assessment of data was carried out by the Second Network for the Analysis of EU-SILC (Net-SILC2).

Results based on collecting of regularly annually variables of material deprivations and ad hoc module of material deprivation which was collected in the 2009 wave were base for peer review of specific the Eurostat Task-Force on Material Deprivation. Totally together

50 variables with 17 of them focusing on child deprivation were analyzed. Task Force proposed list of seven new material deprivations variables for the whole population (the seven 'NEW' items are from the 2009 MD module and are not currently included in the core questionnaire of EU-SILC) plus using six of the current nine EU-SILC items to measure material deprivation for the whole EU population[1]. The enforced lack of a washing machine, a TV, and a telephone failed in tests of experts and has no impact on the proportion of people deprived in most EU Member States (Nolan and Whelan, 2011, pp. 83-86).

The final list of items retained for the material deprivation indicator related to the whole population (0+) consists the following 5 'personal' and 8 'household' items (the official codes of EU SILC variables are in brackets):

a) *Personal items:* The person cannot afford (but would like to have):

1. To replace worn-out clothes by some new (not second-hand) ones (PD020)
2. Two pairs of properly fitting shoes, including a pair of all-weather shoes (PD030)
3. To spend a small amount of money each week on oneself without having to consult anyone (PD070)
4. To have regular leisure activities (PD060)
5. To get together with friends/family for a drink/meal at least monthly (PD050)

b) *Household items*, i.e. items collected at household level and the household cannot afford:

6. To replace worn-out furniture (HD080)
7. A meal with meat, chicken, fish or vegetarian equivalent every second day (HS050)
8. To face unexpected expenses (HS060)
9. One week annual holiday away from home (HS040)
10. To avoid arrears (mortgage or rent, utility bills or hire purchase instalments) (HS011, HS021, HS031)
11. A computer and an Internet connection (enforced lack, i.e. cannot afford but would like to have) (HD090)
12. To keep home adequately warm (enforced lack) (HH050)
13. A car/van for private use (enforced lack) (HS110)

According to the results of detailed testing by Eurostat, if we set the threshold at 5+ lacked items (out of 13), the proportion of materially deprived people in the EU as a whole is 17.7% in 2009, a percentage that is close to the current EU indicator of 'standard' material

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1 and child specific indicators of material deprivation are proposed

deprivation (3+ lacked items out of nine) which is 17.1%. A threshold of 7+ items lacked (out of 13) leads to a material deprivation rate for the EU as a whole that is slightly higher than the current EU indicator of 'severe' material deprivation (4+ lacked items out of nine): 9.2% as opposed to 8.1%. (Eurostat, 2012)

The clear conclusion of Eurostat testing is that the current 9-item material deprivation indicator has a low reliability in almost all EU Member States and also for the pooled EU-27 data. The proposed 13-item indicator of material deprivation is highly reliable for the EU as a whole and in all EU countries and measures deprivation with much greater precision than the current indicator.

In order to include adult items into a MD indicator defined for the whole population, the MD adult information was assigned to all household members, by using all the available adult information in the household. Adults and children are considered deprived if at least half the adults (for which the information is available) are deprived. In terms of household items, if the household said that they were deprived, this information was assigned to all household members. In terms of the new indicator of material deprivation, the person is considered deprived if he/she is deprived for at least 7 of 13 items.

The paper aims to compare the old and the new concept of measuring material deprivation based on the EU SILC data for the Slovak Republic[2]. We will analyse the impact of these concepts on one of the main indicators for Europe 2020 Strategy in the field of social inclusion - 'at risk of poverty or social exclusion' indicator. We will also analyse the importance of each item of material deprivation in the Slovak Republic.

2   RESULTS

On the basis of the EU SILC 2009 data, we compared individual items of the current severe MD (SMD) indicator and the new proposed MD indicator (MD 7+). Both indicators are identical for 6 items overall. Of these, the following items are most affecting deprivation: HS040 - One week annual holiday away from home (53.5% deprived), HS060 - To face unexpected expenses (36.0% deprived) and HS050 - A meal with meat, chicken, fish or vegetarian equivalent every second day (23.8% deprived). Three items (HS070 - and telephone, HS080 - a color TV, HS100 - and washing machine), which are included in the SMD indicator and are not included in the proposed new indicator MD 7+, had almost no

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[2] Several studies on deprivation and associated phenomena have been published by the Czech and Slovak scientists recently (see e.g. Bartošová and Želinský, 2013; Bílková, 2009; Marek, 2013; Pivoňka and Loster, 2013).

impact on the indicator of material deprivation. The rate of deprived persons in the Slovak Republic did not exceed one percent in these items. The item HD080 - To replace worn-out furniture (40.9% deprived) had clearly the greatest impact on the level of material deprivation of the newly proposed items of the indicator MD 7+.

According to the EU SILC 2009 data, the Slovak Republic had the SMD rate of 11.1%, representing approximately 600,770 persons deprived. If the new indicator (MD 7+) was used, the material deprivation rate was 9.5%, representing approximately 512,570 persons. So we can say that the new concept of material deprivation proved positive in the Slovak Republic and the number of materially deprived persons decreased by more than 88,000 people.

Tab. 1: Percentage of deprived persons for MD 7+ and SMD indicators and theirs items

EU SILC 2009 variables	MD 7+	SMD
PD020	9.7	--
PD030	3.0	--
PD070	19.1	--
PD060	11.4	--
PD050	8.8	--
HD080	40.9	--
HS050	23.8	
HS060	36.0	
HS040	53.5	
HS011, HS021, HS031	13.4	
HD090	12.9	--
HH050	3.6	
HS110	18.7	
HS070	--	1.0
HS080	--	0.3
HS100	--	0.6
Indicator	**9.5**	**11.1**

Source: Own calculations based on Slovak EU SILC 2009 microdata.

Now we will analyse impacts of material deprivation indicators on the indicator of 'At risk of poverty or social exclusion (AROPE)', which is used to assess one of the five headline targets of Europe 2020 Strategy.

At the European level (EU 27 countries), the calculation of AROPE based on the new indicator MD 7+ showed an increase of 0.6 percentage points (p.p.) as compared to the previous SMD concept. However, the difference is not dramatic.

The AROPE indicator consists of three sub-indicators and Tab. 2 shows the percentage of persons at risk by intersections of the indicators. The highest share (9.9%, or 9.7%) is for persons who are only at risk of poverty (the column (1)). The difference (0.6 p.p.) between the MD concepts is most evident in persons who are only materially deprived (the

column (2)). The most vulnerable group of persons is the intersection of all the three indicators (column (7)), representing 1.4%, or 1.5% at the European level.

Tab. 2: Intersections of the Europe 2020 'At risk of poverty or social exclusion (AROPE)' target, using either the current EU severe MD indicator (SMD) or proposed MD indicator (MD 7+) – EU 27 level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Total
Income poverty	✕			✕	✕		✕	
SMD/MD 7+		✕		✕		✕	✕	
Very Low work intensity			✕		✕	✕	✕	
AROPE (using SMD)	9.9	3.8	2.6	2.4	2.6	0.5	1.4	**23.1**
AROPE (using MD 7+)	9.7	4.4	2.5	2.6	2.4	0.5	1.5	**23.7**

Source: Eurostat calculations based on EU SILC 2009 microdata.

On the contrary, the trend in the Slovak Republic is opposite to the European level. The calculation of the AROPE indicator based on the new MD 7+ indicator shows a decrease by 1.1 p.p. as compared to the previous SMD concept. If the SMD indicator was used, there was 19.6% of the total population (ca. 1,060,770 persons) at risk of poverty or social exclusion in the Slovak Republic in 2009. If the new concept of material deprivation (MD 7+) was used, the number of population at risk decreased by more than 60,000 persons and reached around 1 million people.

Tab. 3 shows the percentage of persons at risk by intersections of the indicators. If the old concept of material deprivation (SMD) was used, the share of persons in the Slovak Republic who were only at risk of material deprivation (column (2)) exceeded the share of persons who were only at risk of poverty (column (1)). On the contrary, if the new concept of deprivation (MD 7+) was used, the share of persons who were only at risk of poverty (column (1)) exceeded the share of persons who were only at risk of material deprivation (column (2)). The change of the material deprivation concept was not much evident in the most vulnerable group of persons (column (7)), representing 1.9%, or 1.8%.

Tab. 3: Intersections of the Europe 2020 'At risk of poverty or social exclusion (AROPE)' target, using either the current EU severe MD indicator (SMD) or proposed MD indicator (MD 7+) – Slovakia level

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Total
Income poverty	✕			✕	✕		✕	
SMD/MD 7+		✕		✕		✕	✕	
Very Low work intensity			✕		✕	✕	✕	
AROPE (using SMD)	6.2	6.8	1.5	2.1	0.7	0.3	1.9	**19.6**
AROPE (using MD 7+)	6.5	5.6	1.6	1.8	0.8	0.2	1.8	**18.5**

Source: Own calculations based on Slovak EU SILC 2009 microdata.

Conclusion

The paper aimed at the description of the theoretical and methodological issues of measuring material deprivation at the European level. We described in detail the current severe MD (SMD) indicator and the proposed new MD indicator (MD 7+). The main aim of the paper was to compare the old and the new concept of measuring material deprivation based on the EU SILC data for the Slovak Republic.

At the European level, one of the five targets of the Europe 2020 Strategy is to lift at least 20 million people in the EU from the risk of poverty and exclusion by 2020. For the Slovak Republic, the national target is the reduction of around 170,000 people. The analysis of the EU SILC 2009 data showed that the methodological change in the calculation of material deprivation resulted in an increased number of vulnerable people at the European level, while in a decreased number of vulnerable people in the Slovak Republic. However, it should be noted that we analysed the data from the only one so far available EU SILC (2009) where the necessary items of material deprivation were available. From 2014, the EU SILC will regularly collect all the items of material deprivation needed to calculate the new concept. So it will be interesting to trace the development of the AROPE indicator in the next years.

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