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#### Measuring poverty

## Measuring poverty in the European Union

### Note by Eurostat

#### *Summary*

This document gives an overview of the tools used and the ongoing developments in poverty statistics as regards the EU Statistics on Income and Living Conditions (EU-SILC), the reference source for comparative statistics on income distribution and social inclusion implemented by the European Statistical System (ESS). After a description of the current poverty measures in the European Union (EU), their strengths and limitations, the document presents developments in four areas: measures of poverty anchored in time, new material deprivation items, the measurement of housing difficulties and ways of improving timeliness.

The document is presented to the Conference of European Statisticians' seminar on "Measuring poverty" for discussion.

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## I. Introduction

1. Poverty monitoring is essential for various EU policies, the ‘Europe 2020 Strategy for smart, sustainable and inclusive growth’ being the main current one. The European Council adopted in 2010 a EU2020 social inclusion target, namely lifting 20 million people from the risk of poverty and exclusion by 2020. To monitor progress towards this target, a multidimensional ‘at-risk-of poverty or social exclusion’ (AROPE) indicator sourced from the EU-SILC was agreed. It defines the share / number of people who are: at risk-of-poverty and/or severely materially deprived and/or living in households with very low work intensity.

2. Moreover, the latest financial and economic crisis has generated challenges for official statistics and more in particular for social statistics. Policy makers have turned to them to have a better description of the socio-economic situation and patterns in order to take informed, timely and effective policy measures. Hence, EU-SILC is required to ensure a high quality monitoring of the evolution of social exclusion and to help achieving the European Commission target to raise social indicators on a par with macroeconomic indicators. However, resources of statistical authorities are under pressure and the modernisation of social statistics was launched by the ESS as a way to meet growing needs by better integration and standardisation of data collection tools and improved statistical processes. The revision of EU-SILC is part of it.

## II. Current main poverty and social exclusion indicators in the EU

3. The broad AROPE indicator is relevant in capturing several dimensions as it consists of three sub-indicators:

- A relative component: the at-risk-of poverty rate / monetary poverty (AROP). It measures the share of people living in households that have an equivalised disposable income below the at-risk-of-poverty threshold, set at 60 % of the national median equivalised disposable income (after social transfers). It uses the so-called “modified the Organisation for Economic Co-operation and Development (OECD) equivalence scale”;
- A ‘kind of’ absolute component: the severe material deprivation (MD) rate. It is the share of people whose living conditions are severely constrained by a lack of resources and experience at least 4 out of the 9 following deprivations items: they cannot afford (i) to pay rent or utility bills; (ii) to keep home adequately warm; (iii) to face unexpected expenses; (iv) to eat meat, fish or a vegetarian equivalent every second day; (v) a week holiday away from home; (vi) a car; (vii) a washing machine; (viii) a colour television; (ix) a telephone;
- An exclusion of labour market component: the severe low work intensity rate. It is the share of people aged 0-59 living in households where adults 18-59 (students excluded) worked together less than 20% of their total work potential during the past year.

### A. The relative component: the at-risk-of poverty rate / monetary poverty

4. Historically, the at-risk-of poverty rate (AROP) has been used as the main indicator to monitor progress towards the eradication of poverty in the EU until the adoption of

Europe 2020. It has high policy relevance since the household income is a key determinant of individuals' material situation. It is a relative component as it refers to the national income distribution, i.e. it reflects the fact that in a country with a high development level, the lowest incomes, although high compared to those in some other countries, do not allow affording the necessities of life in this country. However, there are also some limitations such as:

- The AROP measures income inequalities rather than poverty. Other elements such as the available wealth influence the vulnerability and living standards of a given household;
- The poverty threshold varies greatly between Member States but also over time and has fallen over the period 2008-2015 in Greece and Cyprus or stayed nearly stable in Spain, Italy and Portugal due to the economic crisis. This can be tackled using a complementary indicator (AROP anchored in time, see below III.1);
- The use of a standard equivalised income scale across the EU is a normative approach which does not always reflect the actual 'cost' of children; Also, in EU-SILC income does not include imputed rent nor the value of self-produced goods for own consumption;
- The reference period for income is in general that of the year previous to the reference year of the survey (interviews) involving extra timeliness difficulties.
- The focus on the monetary side also excludes benefits in kind (education, health, childcare, etc.) which influence the disposable income (Social Transfers in Kind). Eurostat does consider Social Transfers in Kind (STiK) as a very important subject in terms of income distribution and reduction of inequalities. However, Eurostat doesn't recommend using STiK for monetary poverty as they would exclude from poverty people that remain in strong difficulties to afford the necessities of life. For example, those also suffering severe MD remain in this situation despite STiK as in general the latter only allow such households accessing services they would not be able to afford at market price.

## **B. A more absolute measure of social exclusion: (severe) MD**

5. By providing the proportion of people whose living conditions are affected by enforced MD, related indicators complement the picture of social exclusion. Moreover, as they refer to a same set of items for all EU Member States, they provide a means for more absolute analysis.

6. Despite the fact that the MD indicators are very useful in complementing the income-based indicators, some of the original items, namely having a washing machine, a colour TV or a telephone, proved not to be anymore items people cannot afford in the EU Member States – they relate to durables that are “saturated” - although in some specific regions or situations it can still be the case (e.g., homeless). This situation also limits the robustness of the current measure based in practice only on a short list of 6 items. It then appeared necessary to adopt new items that reflect better current living standards in the EU nowadays, in particular personal and not only households aspects. This revision of MD items and indicators took place in the context of the mid-term revision of the EU-2020 strategy (see below III.2).

### **C. Exclusion from the labour market as an essential cause for social exclusion: (quasi-) jobless households**

7. Another essential cause of social exclusion is related to the exclusion of many citizens from the labour market. Households concerned can still be in a relatively good financial situation if, e.g., they get unemployment benefits or have wealth that reduces their vulnerability. However, they are exposed to the risk of a quick worsening of their situation and long-term consequences. Indeed, besides being dependent on social benefits, their contact with the labour market is often further reduced and access to health, culture and leisure is hampered. That is why the third component of the EU2020 social inclusion headline indicator has been defined as the share of people living in households with very low work intensity (LWI). However, some issues related to the indicator were identified<sup>1</sup>, concretely:

- Inconsistency with other AROPE sub-indicators regarding the target population as it doesn't refer to the whole population; there is also a problematic definition of work potential as the age group defined to be of working age is currently 18-59 while the increase of the retirement age might lead to a change to, e.g., 18-64;
- The threshold defined as denoting low work intensity (20%) could also be revised;
- Lack of timeliness of the indicator as the working reference period is the same as the income one; Labour Force Survey data are timelier but cannot be used in this context.

## **III. Further improvements and possible other indicators for poverty measures**

### **A. A complementary indicator to the AROP: AROP anchored in time**

8. The recent economic crisis put emphasis on drawbacks of the relative monetary approach of the AROP that may show somehow misleading results in periods of rapid economic changes.

9. In particular, different sources of income are not all hit at the same time during such a crisis. Work incomes (i.e. wages and salaries) are the first to decrease as the situation on the labour market deteriorates, while pensions and social benefits incomes do not adjust immediately. As first consequence there is a distortion in the income distribution while the median income and the poverty threshold fall. Hence, people with an income that was previously slightly below the poverty line may now move above the line, even though their actual situation has not changed or has even worsened but less than others (e.g. pensioners). Hence, the AROP may remain stable or even decrease although the median income decreases.

10. The At-risk-of-poverty anchored in time could complement the information given by the AROP as the effects of a moving poverty threshold are controlled for in this additional indicator. For a given year, the indicator At-risk-of-poverty anchored at a point in time is defined as the percentage of persons in the total population who are at-risk-of-poverty on the basis of the at-risk-of-poverty threshold for a base year (the point in time) adjusted for

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<sup>1</sup> The work on these issues is on-going but no concrete proposals have been investigated so far.

inflation only in subsequent years. The adjustment is based on the annual harmonised index of consumer prices (HICP) and it results in the 'real' value of the threshold.

11. The remaining difference between the 'inflation adjusted' threshold of the base year and the threshold of the current year used in the usual AROP reflects evolutions in living standards measured by the median disposable income. A decrease of the anchored poverty risk over time would indicate that the living standards for low-income groups improve compared to the base year. If a decrease of the anchored rate coincides with an increase of the unanchored rate, this could suggest that living standards for low income groups improve more slowly than for the higher-income groups. On the other side, an increase in the anchored rate while the normal rate is decreasing may also be a signal of a strong deterioration of the living standards of the lowest income groups.

12. Finally, the anchored poverty risk rate is calculated by Eurostat using so far 2008 as base year. However, in order for the indicator to be informative, the anchoring year should be changed regularly. After several years, especially if the income situation has greatly improved, a too old threshold could be too far from current households' living standards.

## **B. The mid-term revision of the EU-2020 strategy: revision of MD indicators**

13. Current MD indicators have limitations such as the small number of items (9) on which they rely and the saturation of some of them. Hence, they need to be updated.

14. An ad hoc module on MD with new items was included in the 2009 edition of EU-SILC and collected again in 2013, 2014 and 2015. After a thorough study of validity, suitability and additivity of the new items collected (Guio et al 2012-2016), in the yearly EU-SILC survey from 2016 onwards, 3 "old" deprivation items were dropped (washing machine, colour TV and telephone) while 7 new items were added of which 6 items collected at personal level. In total the new set contains 13 (9-3+7) MD items. The new deprivation items are:

15. At personal level: the person cannot afford (but would like to have, i.e. it is an 'enforced lack' and not simply a choice): to replace worn-out clothes by some new (not second-hand); two pairs of properly fitting shoes, including a pair of all-weather shoes; to spend a small amount of money each week on oneself without having to consult anyone; to get together with friends/family for a drink/meal at least monthly; to have regular leisure activities; internet access. At household level: the household cannot afford to replace worn-out furniture.

16. After solving methodological problems (missing data, imputation, questionnaire and intra-household variations) the standard MD indicator has been adapted to the new items (the "severe" MD indicator for AROPE will be revised only after the end of the EU2020 strategy and is still based on the 9 "old" items, the 3 dropped durables being either collected or imputed nationally).

17. All new deprivation items except "furniture" are measured at personal level. In EU-SILC the personal questionnaire is submitted only to people being 16 years or older therefore excluding children. Furthermore, most of the items are not adequate for children and for them specific items are foreseen in an additional dedicated children deprivation module which will not be carried out every year. Consequently, in order to calculate a deprivation indicator for the whole population, it is necessary to impute the adult items to children. The rule chosen considers children deprived of a certain item if at least half the number of adults in the household lacks that item. This rule is based on the assumption that children living with one or more deprived adults are more likely to suffer from economic

stress and tend to experiment a restriction of their own needs, in line with the conclusions of qualitative studies. However, adults deprivation of personal items may tend to affect less children (it can even be a consequence of giving priority to children needs) than deprivation of households items.

18. Hence, for the purpose of the new MD indicator, adults are considered deprived if they cannot afford at least 5 items while children are deprived if they lack at least the same number of items, according to the calculation rule above, and among them also miss at least three household deprivation items (out of the seven household items). This offers the advantage to use the same set of 13 items and the same threshold for both children and adults, while giving a lower weight to personal adult items when computing children deprivation.

### **C. Leaving no one behind: housing difficulties**

19. EU-SILC being a household survey cannot cover homeless people. However, poverty measurement cannot exclude the poorest. In this context and with the support of FEANTSA<sup>2</sup>, Eurostat developed a module on past housing difficulties. It covers the experiences of such difficulties in the past, the duration of the most recent experience, the main reasons for it and the way to exit from it. Scrutinised experiences are: leaving with friends or relatives temporarily; staying in emergency or temporary accommodation; staying in a non-permanent home; ‘sleeping rough’ or sleeping in a public space. The reasons and the way to exit which are collected for these experiences refer to: relationship or family situations; health; employment; rental contract; uninhabitable accommodation vs access to social or subsidised private housing; leaving an institution after a long stay and other financial and income issues. The module will be implemented on an optional basis in the 2018 EU-SILC ad hoc module<sup>3</sup>.

### **D. Timeliness: early MD and other variables at the end of the year of data collection**

20. The consequences of the economic and financial crisis have given increased importance to data on income and social situation. The lack of timely data on the extent of poverty and social exclusion has become a burning problem especially for countries where the crisis has hit hardest and in the context of the European Semester political process.

21. Hence, steps are implemented to improve drastically the timeliness of poverty data from EU-SILC. Eurostat is undertaking two main streams of activity to tackle it: first the ongoing re-design of EU-SILC and related shortening of data production, and second the use of microsimulation modelling to develop early estimates of relevant social indicators as it is already the case in the area of national accounts and price statistics.

22. Firstly, for the first stream, the initial target was that MD data (and all other non-income data, if possible) are submitted at the end of the reference period N (or very beginning of N+1). Elements that would be useful to estimate the evolutions of income distribution (e.g., current income) might also be included. The collection of early MD data has already been implemented and more and more Member States participate in it. These data are published in April N+1 in the Statistics Explained article “MD statistics - early

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<sup>2</sup> FEANTSA is the European Federation of National Organisations Working with the Homeless

<sup>3</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0310&from=EN>

results”<sup>4</sup>. The first experience gained so far shows that the provisional data are very similar to the final ones.

23. Secondly, as part of the re-design of EU-SILC, Eurostat promotes national action plans implemented by the National Statistical Offices (NSIs) to introduce efficiency gains, which can already shorten the global availability of EU-SILC data of year N compared to the current legal deadline of end November N+1 with publication in December N+1. Already close to 20 countries provided EU-SILC 2015 (N) data by end June 2016 (N+1) and the whole EU28 data 2015 but one country was available by end September and published in October 2016. The final goal is that the NSIs are able to transmit SILC data in December N.

24. To reach this goal, NSIs are implementing an integrated approach, carrying out field work as early as possible in the year, using registers and/or multi-mode data collection, e.g., allowing whenever possible interview time compatible with CATI (telephone interview), collecting income data from registers when available and authorised, and/or using CAWI (web interview). This integrated approach should however take into account comparability issues related to multi-mode data collection and own timeliness issues of registers.

25. Thirdly, for the second stream a project on producing flash estimates of current income related indicators based on microsimulation is ongoing, using the Euromod model<sup>5</sup>. It concerns namely estimates of income distribution and poverty rates. Preliminary results are planned to be published in 2017 as "experimental statistics". More generally, instead of costly new data collections, modelling seems to be a promising approach that may also apply for reconciling multisource data, e.g., new sources (big data) complementing traditional sources.

#### IV. Conclusions and recommendations

26. In addition to the elements already tackled, new phenomena and needs such as measuring high income, effects of migration, joint distributions of income, consumption and wealth or the need for reliable indicators at regional level pose new challenges to poverty measurement. Eurostat and the ESS are continuously working in order to adapt their tools, e.g. by including regionalisation in the EU-SILC national action plans or by exploring proactively new areas.

27. However, EU stakeholders and policies' requirements will remain the main drivers for all Eurostat and ESS developments. In particular the measurement of relative poverty will most probably remain a structural need in the European Union, including in the post EU2020 strategy context, because of the very different living standards level among its Member States. The EU measurement nevertheless requires updating some time to time as it was the case in 2016 for MD.

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<sup>4</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Material\\_deprivation\\_statistics\\_-\\_early\\_results](http://ec.europa.eu/eurostat/statistics-explained/index.php/Material_deprivation_statistics_-_early_results)

<sup>5</sup> [https://circabc.europa.eu/sd/a/129d3d8e-5d7b-4811-9028-d7379b869c76/4.1.%20Flash%20estimates%2020122016\\_WGSILC.pdf](https://circabc.europa.eu/sd/a/129d3d8e-5d7b-4811-9028-d7379b869c76/4.1.%20Flash%20estimates%2020122016_WGSILC.pdf)