Statistics in focus

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Material deprivation in the EU

Summary

At EU level, the most frequently used common indicators in the field of poverty and social exclusion are based on a *monetary* approach to poverty which is *relative* (i.e. based on a threshold defined in relation to the distribution of income within each country). The approach proposed in this paper aims at complementing the information summarised in these indicators, by looking at more "absolute" material deprivation measures, based on different dimensions ('economic strain', enforced lack of durables and problems with housing). The overlap between relative monetary poverty and material deprivation is also examined, as well as the risk factors of being deprived in the different dimensions. A weighted version of the indicators is also proposed, in order to give a less "absolute" view of the material deprivation, more relative to each national context.

What can be learned from material deprivation measures?

In the current list of common (EU) indicators of poverty and social exclusion to be used in the context of the Open Method of Coordination on social inclusion, there is a primary focus on indicators of relative income poverty, defined in relation to the distribution of income within each country. "An absolute notion is considered as less relevant for the EU for two basic reasons. First, the key challenge for Europe is to make the whole population share the benefits of high average prosperity, and not to reach basic standards of living, as in less developed parts of the world. Secondly, what is regarded as minimal acceptable living standards depends largely on the general level of social and economic development, which tends to vary considerably across countries" [1].

Nonetheless, questions are raised concerning the ability of the existing portfolio of indicators to satisfactorily reflect the situation in New Member States, Acceding and Candidate countries, as well as differences between them and the 'old' Member states. When comparing national situations in an enlarged Union, the performance in terms of exposure to relative monetary poverty is very similar between old and new Member States even though standards of living are extremely different, as can be seen for example from a comparison of the levels of the national at-risk-of poverty threshold values (see Tables A and B in the statistical appendix). An illustration of this diversity of living conditions can also be given by some partial evidence available about material deprivation in the New Member States and the Acceding and Candidate Countries. As shown in Table B of the statistical appendix, around 30% of people would like to have a car but cannot afford it (referred below as 'enforced lack') in most of the New Member States and Acceding and Candidate Countries, except in the Czech Republic (19%) and Cyprus, Malta, Slovenia that are close to the EU15 average (5%). The diversity of deprivation across the EU25 is even more striking in the access to basic necessities, as the proportion of people that cannot afford a meal with meat, chicken or fish every second day (if they so wished) is close or above 30% in five out of the ten New Member States and is even more widespread in the Acceding and Candidate Countries (the EU15 average being 4%). The proportion of people lacking an indoor flushing toilet is around 20% in Baltic Countries, i.e. more than 3 times the most deprived EU15 country (Portugal). These figures highlight the need to complement the information provided by indicators of relative monetary poverty, in order to give a more complete picture of the living conditions of people in different national contexts.

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[1] European Commission (2004).

It could be argued that figures concerning material living conditions solely reflect differential access to resources and/or subjective consumer tastes and preferences – and that monetary income measures are consequently a better proxy for measuring living standards, while being easier to collect. However, income and resources, whilst clearly linked, are not the same thing: other individual resources matter in addition to income (eg. assets/debts, previous labour positions or non-cash transfers). In addition, it is not always possible to measure income accurately, especially for some groups of the population like the self-employed or for people working in the grey economy. In this case, the joint analysis of relative income poverty measures and material deprivation indicators can be useful. Furthermore, in the (current) absence of longitudinal data on income, lack of essential durables or difficulties in payments provides a good proxy of persistent poverty since they reflect absence of sufficient (permanent) resources rather than of adequate current income.

Among the items proposed in this paper, some capture aspects of poverty and social exclusion that are not (well) covered in the current portfolio of indicators, notably poor housing, which was recognized at the Laeken European Council of December 2001 as an important dimension of poverty and social exclusion which ought to be monitored.

The development and use of material deprivation indicators is currently being discussed by the Indicators Sub-Group of the Social Protection Committee, with a view to further refining and consolidating the original list of common indicators adopted at Laeken. No clear agreement has yet been reached on them although a lot of progress has been made. This Statistics in Focus discusses the methodological options for the construction of this type of indicators, drawing from the existing literature, and presents some results based on the available data. In anticipation of the availability of harmonised micro data for the 25 Member States collected under the new EU-SILC statistical instrument (see page 11), the calculation of material deprivation indicators has been investigated on the basis of the ECHP for the EU15 Member States, supplemented by available new evidence from EU-SILC for the 6 EU15 Member States that launched the new instrument already in 2003. We focus on items available in both sources; even though additional information will eventually be available in EU-SILC for the whole EU.

How to define material deprivation?

In this paper, material deprivation is defined as the enforced lack of a combination of items depicting material living conditions, such as housing conditions, possession of durables, and capacity to afford basic requirements. It is worth highlighting that the proposed indicators are not indices of social exclusion that take account of all the dimensions of the phenomenon (i.e., access to the labour market, health, education, social participation, etc). They are simply intended to offer synthetic information on *material* living conditions in an enlarged Union.

To be chosen as a 'lifestyle deprivation' item in this paper, an item has to meet the following requirements[2]: (1) it reflects the lack of an ordinary living pattern common to a majority or large part of the population in the European Union and most of its Member States; (2) it allows international comparisons (i.e., it should have the same information value in the various countries, and not relate specifically to a 'national' context); (3) it allows comparisons over time and (4) it is responsive to changes in the level of living of people. Obviously, the availability and quality of the data is another important constraint that needs to be taken into account.

The first criterion relates to the degree of penetration of the item in the society. Ideally, information on social perceptions about which items are considered as essential by the majority of the population should guide our choice. In the absence of such information, frequency controls on existing data that inform us about the degree of penetration of the items within a given country are taken as an indication of that country's preferences and social values.

The second criterion relating to comparability between countries is key to our methodological choices, as it can be applied more or less stringently. It can be argued that comparison of deprivation between countries does not require that each item has the same social value in each country. We could even imagine that different items are chosen in each country, as far as the information value contained globally in the basket of retained items measures the same thing, as is done in temporal consumer price indices. However, the use of a harmonised database with a limited set of variables prevents the feasibility of this approach. A country-specific weighting applied to the same set of items allows to take into account specific national hierarchy between items and specific behaviours or situations (see below).

The question of the temporal adequacy of the choices of the items is an essential one and can be linked to the fourth criterion as well. It is important to have in mind that the list of material deprivation items will need to be assessed regularly in order to ensure that they are representative of up-to-date consumption patterns in all Member States. On the occasion of the next revision of the EU-SILC regulation, there will be an

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[2] These criteria are a revised version of those proposed in Eurostat (2000).

opportunity to review some of the target variables and thus to adjust the list of deprivation items.

Once the list of items is chosen, a detailed presentation of deprivation shares for each single item can be interesting (see statistical appendix) but remains too detailed, making it hard to draw a comprehensive picture of deprivation in each country. To simplify the interpretation of the information available in the list of items and also to highlight any different patterns of deprivation determinants in different countries, it is useful to cluster the items in a limited number of dimensions of lifestyle deprivation. The logic of this approach is that the items should be used as indicative of their underlying dimension, more than measures of themselves. The information will therefore be aggregated by dimension, but the aggregation process will be stopped at the dimension level, as the construction of one single composite multidimensional indicator would lack transparency and homogeneity.

Following the dimension structure highlighted through factor analysis[3] (see methodological notes), the items have been grouped in three dimensions, relating to 'economic strain', enforced lack of durables and housing, as presented in Figure 1. Information on economic strain and durables could also be combined with little loss of information and gain in simplicity[4]. This solution can be accepted by the data

analysis and offers the advantage in an EU context of presenting only two aggregations, one based on a larger set of commodities and activities whose access is linked to the financial strain encountered by the household, the other depicting the housing conditions (housing comfort and housing facilities). The two- and three-factor solutions are alternatively used in this article (see Figure 1).

For durables, the surveys permit to distinguish between lack of items (due to choice) or *enforced* lack of items (people would like to possess the items but cannot afford them). Only this latter group was considered as reflecting "deprivation", in order to exclude lifestyle preferences from the concept of deprivation (see methodological notes). The economic strain dimension focuses also mainly on affordability of some aspects of living standards (meal, home warm and holidays). Note specifically that the item related to holidays is highly correlated with the other constitutive items of the 'economic strain' dimension and appears as a good proxy of financial constraints.

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[3] The approach adopted here builds upon earlier work, see for example Callan, Nolan, Whelan (1993); Whelan, Layte, Maitre (2001); Eurostat (2003).
[4] As proposed in Atkinson, Cantillon, Marlier, Nolan (2005).
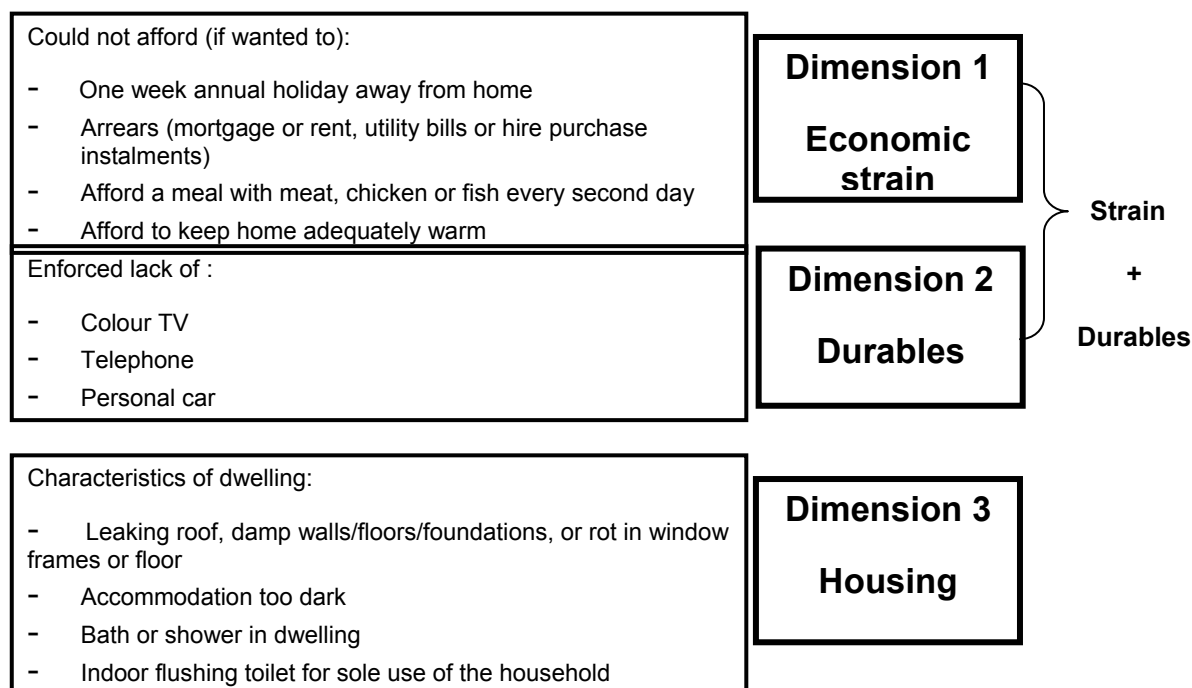
Figure 1: Dimension structure

Could not afford (if wanted to):

- One week annual holiday away from home
- Arrears (mortgage or rent, utility bills or hire purchase instalments)
- Afford a meal with meat, chicken or fish every second day
- Afford to keep home adequately warm

Dimension 1

Economic strain

Enforced lack of :

- Colour TV
- Telephone
- Personal car

Dimension 2

Durables

Strain

+

Durables

Characteristics of dwelling:

- Leaking roof, damp walls/floors/foundations, or rot in window frames or floor
- Accommodation too dark
- Bath or shower in dwelling
- Indoor flushing toilet for sole use of the household

Dimension 3

Housing

Table 1: Share of people affected by material deprivation in each dimension

% of people	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Source	SILC	SILC	ECHP	SILC	ECHP	ECHP	SILC	ECHP	SILC	ECHP	SILC	ECHP	ECHP	ECHP	ECHP
Economic strain															
NOT DEPRIVED	68	77	:	38	51	74	71	60	84	86	73	30	:	:	:
Deprived in 1 ITEM	22	18	:	26	19	19	20	22	11	10	18	21	:	:	:
Deprived in 2 ITEMS	8	4	:	21	25	5	6	12	4	3	6	43	:	:	:
Deprived in 3 ITEMS	2	1	:	9	4	1	2	5	1	1	2	6	:	:	:
Deprived in ALL 4	0	0	:	7	1	0	1	1	0	0	0	1	:	:	:
Durables															
NOT DEPRIVED	94	91	94	87	93	96	87	96	98	97	95	81	96	:	:
Deprived in 1 ITEM	6	8	6	12	6	4	13	3	1	3	5	17	4	:	:
Deprived in 2 ITEMS	0	0	1	1	1	0	1	0	0	0	0	2	0	:	:
Deprived in ALL 3	0	0	0	0	0	0	0	0	0	0	0	0	0	:	:
Economic strain + durables															
NOT DEPRIVED	66	73	:	36	51	73	66	59	84	84	71	29	:	:	:
Deprived in 1 ITEM	21	19	:	25	18	18	20	22	11	11	18	19	:	:	:
Deprived in 2 ITEMS	9	6	:	20	23	6	9	12	4	3	7	32	:	:	:
Deprived in 3 ITEMS	3	2	:	10	7	2	3	5	1	1	3	14	:	:	:
Deprived in 4 ITEMS	1	0	:	7	2	1	2	1	0	0	1	3	:	:	:
Deprived in 5, 6 or 7 ITEMS	0	0	:	2	0	0	0	0	0	0	0	2	:	:	:
Housing conditions															
NOT DEPRIVED	77	88	:	73	75	74	83	80	76	79	86	60	91	:	80
Deprived in 1 ITEM	19	10	:	20	21	21	13	16	20	19	11	25	8	:	17
Deprived in 2 ITEMS	4	2	:	5	4	5	4	4	3	2	3	9	1	:	2
Deprived in 3 ITEMS	0	0	:	1	0	0	0	0	0	0	0	3	0	:	0
Deprived in ALL 4	0	0	:	0	0	0	0	0	0	0	0	2	0	:	0

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003. Reference population: people aged 0+. Data partially missing for DE, FI, SE and UK, see methodological notes.

Table 1 presents the distribution of the individual deprivations by dimension. The figures show large variations across countries in terms of the share of people affected by problems of material deprivation. In the Netherlands and in Luxembourg, around 15% of the population suffer from (at least one problem of) economic strain, whereas the share is much higher – over 60% - in Portugal or Greece. The enforced lack of at least one durable affects a smaller proportion of the population - less than 10% except in Greece, Ireland and Portugal where this proportion is higher. The deprivation in the durable dimension is mainly influenced by the enforced lack of a car (see Table A). In terms of housing deprivation, Portugal appears as the country facing the highest risk of deprivation, far from the rest of the Member States, with 40% of the population having at least one problem of housing comfort.

On the basis of deprivation proportions, we can fix a threshold by considering a person as deprived in each dimension if he/she lacks at least two items in the strain/durables dimension, for example. Although arbitrary, this approach permits the computation of deprivation rates in each dimension. Figure 2 presents the proportion of people deprived in the combined strain/durables dimension, compared with the monetary poverty risk. Two at risk-of-poverty rates are used: the first one is the common indicator based on a national threshold (60% of the national median income); the

second one is the at-risk of poverty rate based on an EU15 threshold (i.e. 60% of the European median income).

As shown in Figure 2, countries with the highest proportions of people suffering from strain/durables deprivation also face high monetary poverty risk. Among the countries with the highest (national based) poverty risk rates (EL, IE, PT, ES, IT), the deprivation level is high, except in Ireland where the deprivation level is lower than could be expected on the basis on the poverty risk rate. This would tend to confirm that the economic situation in Ireland impacts positively on the material living conditions of people, even if, in relative terms, the income situation of some individuals has not kept up with the overall rapid growth in the country and is still below the at-risk of poverty threshold.

In the least deprived countries (NL, LU, DK, FR), the deprivation rate is far lower than the (national based) poverty risk rate and conversely, the most deprived countries (PT, GR, ES) face deprivation rates far higher than their (national based) poverty risk levels, with intermediate countries facing similar risks on both criteria. This would mean that measuring poverty and social exclusion through material deprivation indicators based on a common set of items independently of their distribution across the population (contrarily to a relative measure) shows a greater diversity of national

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situations than would be inferred on the basis of the relative (national based) poverty risk indicator.

This diversity of national situations can also be captured by the use of a poverty rate based on a European-wide threshold. The 60%-EU15-median based monetary poverty rate is close to the deprivation level in the most deprived countries (PT, EL, ES), whose median income is far lower than the European median income and whose deprivation level is higher. However, at the other extreme, in countries with the highest median income (LU, DK, AT, BE), the (EU based) poverty rate is lower than the deprivation level. This highlights the fact that the EU based monetary rate can underestimate the deprivation situation in countries whose level of median income is higher than the EU level but where a non negligible part of the population can still face deprivation. Countries whose national median income is close to the EU15 level (FR, NL, IE)

show, by definition, similar performance on both monetary rates, but perform better according to the deprivation criteria.

Such results highlight the fact that the monetary EU-based and the deprivation approaches do not necessarily offer similar diagnosis. However, both approaches highlight the extent of the diversity of the national situations in the EU, not satisfactorily reflected by the relative (national) approach.

Preliminary and not fully comparable data on deprivation in the EU10 confirm that these conclusions also hold when examining all EU25 countries (see Table 2 in annex) thereby confirming that material deprivation indicators usefully complement the information given by the current relative monetary indicators in the context of the enlarged union.
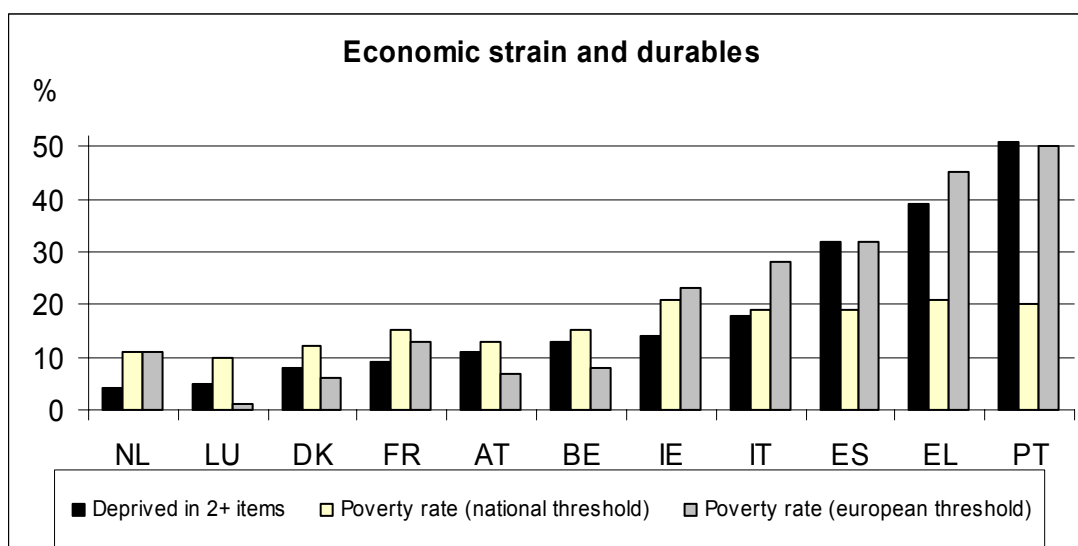

Economic strain and durables

Legend: ■ Deprived in 2+ items ▢ Poverty rate (national threshold) ▨ Poverty rate (european threshold)

Figure 2: % of people lacking at least two items in the economic strain/durables dimension, compared to the proportion of people at risk of poverty

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003. National and EU thresholds are defined as 60% of the national/EU median income. Countries are ranked according to their deprivation level.

The situation regarding the housing dimension is illustrated in Figure 3 where the proportion of people facing at least one problem is presented and compared to the proportion of the people at risk of poverty. The link between income poverty and housing deprivation is less obvious. The poor conditions in Portugal appear clearly from the Figure,

with almost 40% of the population facing at least one problem of housing comfort. The specific situation of Luxemburg should also be emphasised, where a low national poverty risk rate and an EU-based poverty risk rate close to zero co-exist with an above-average proportion of people declaring housing problems.
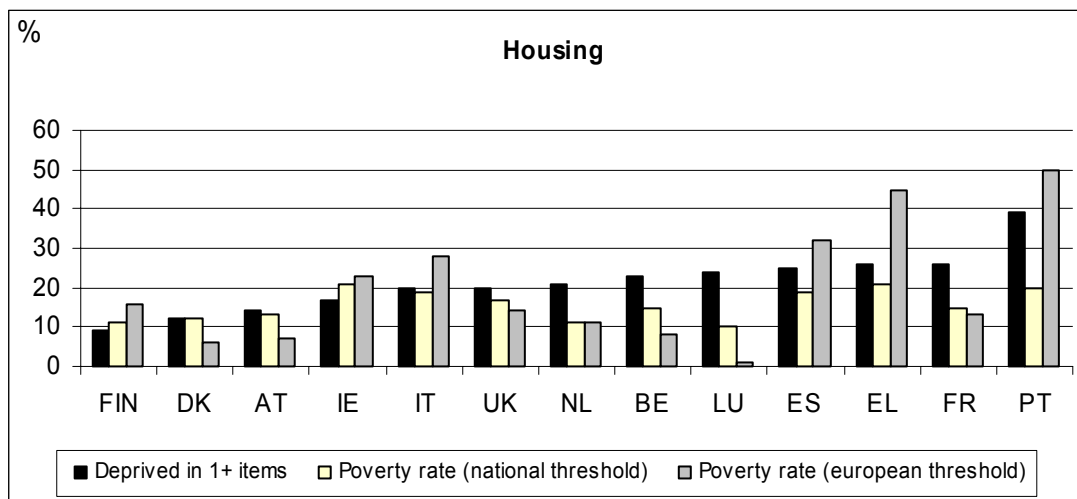
Figure 3: % of people lacking at least one item in the housing dimension, compared to the proportion of people at risk of poverty

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, GR, IE, LU, AT: EU-SILC survey year 2003. National and EU thresholds are defined as 60% of the national/EU15 median equivalised income.

Does each deprivation item have the same importance?

The above figures result from a simple count of the items of deprivation over the population. The main advantage of this approach is to facilitate the interpretation of the results and to avoid having to make decisions about which items are more relevant for measuring individuals' material deprivation. However, this makes the implicit assumption that each item has the same importance in terms of deprivation. This can be questioned, which is why the use of weights could be considered. One simple way to do so is to weight each item by a function of the proportion of persons who do possess the item in the country[5]. The idea is that the higher the proportion of people who have the item, the more likely a person not being able to afford the item (but wanting it) will feel deprived.

Like for the indicator of relative monetary poverty, one important question is related to the choice of the reference population. We made the hypothesis that, in evaluating their material situation, respondents are influenced most by their perceptions of how they are doing compared to others in their own country, even if it might be argued that, in the European Union, comparisons would extend beyond national border lines.

The question of the weights can also receive a different answer depending on whether we only focus on basic needs or on a larger set of items. It can be easily argued that access to some items has the same normative value, whatever the country and whatever the proportion of 'haves' in the country, if these items are considered as essential. For such items, the unweighted approach could be preferable. It could be argued, for example, that (most of) the items in the housing dimension are in this case[6].

Figure 4 presents the mean indices by country, either weighted or unweighted, for the economic strain/durables dimension. Each mean index is constructed as a (simple/weighted) average of the deprivation shares in the dimension, normalised by one. The mean score can be interpreted as the mean percentage of deprivation suffered by people. The nearer the index is to 0, the less deprived people are (on average). The figures can be read as follows: in Greece, on average, people miss almost 20 percent of the 7 items of the strain/durables dimension (i.e. about 1.3 out of the 7 constitutive items). When we take into account the weights, the average weighted score indicates that people miss 15 percent of the weighted sum of items in the dimension.

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[5] See for a similar approach: Tsakloglou and Papadapoulos (2001); Whelan *et al.* (2002); D'Ambrosio, Gradin (2003); Muffels, Fouarge (2004); Förster (2005).
[6] As suggested for instance by Atkinson, Cantillon, Marlier, Nolan (2005).
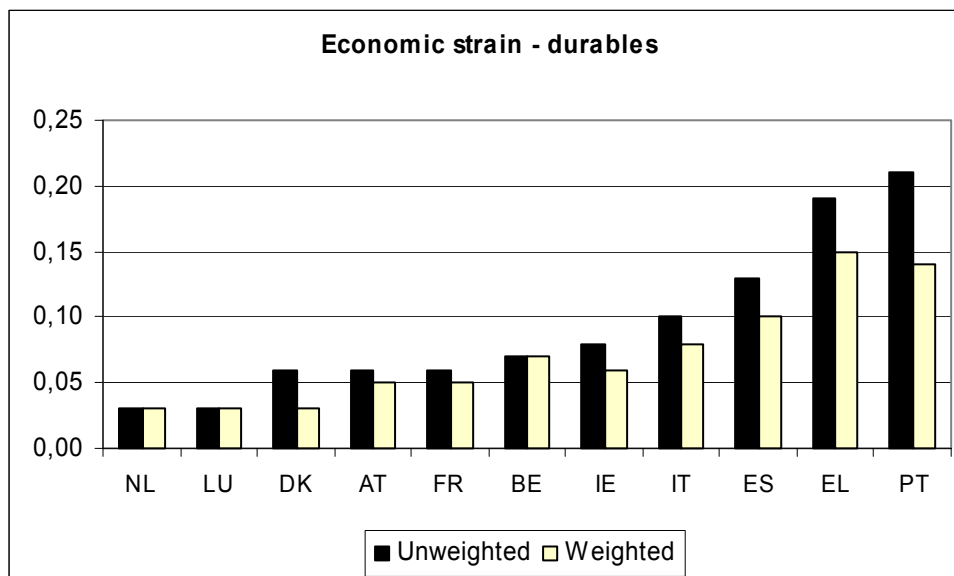
Economic strain - durables

Figure 4: Mean weighted/unweighted composite index of the economic strain/durable dimension

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003. Reference population: people aged 0+.

The introduction of weights decreases the national values of the aggregated index for the most deprived countries. This is due to the fact that weights give less importance to the most frequently deprived items. The biggest difference concerns Portugal, where the importance of the less possessed items (not having a week holiday or not keeping the home adequately warm) is decreased a lot in the weighted approach, as a majority of people lack these items. In Greece, deprivation touches more evenly the set of items and to a lesser extent than in Portugal, therefore the weights still give a medium importance to the majority of items and the mean weighted score remains quite high.

If we accept the assumption that expectations about how much an item constitutes a (social/national) "necessity" depends on the extent to which the item is possessed in the country, a weighted approach is the right way to take into account national differences in the hierarchy of items in the enlarged union. This attenuates the "absolute" aspect of the measures of deprivation used so far, by taking into account the national differences in the relative importance of items. It is however less transparent, more difficult to interpret than an 'absolute' unweighted measure. Both measures could therefore be used jointly and offer useful information on both aspects (absolute and relative) of deprivation.

The risk factors of being deprived

Different socio-economic determinants can be at work in determining deprivation in the different dimensions. Figure 5 examines, at the average level, the deprivation *risk* in each dimension by subgroups, defined as the mean deprivation index of each group

expressed in percentage of the mean deprivation index for the total population. We present these figures for the three dimensions separately, in order to highlight potential different risks of some particular groups in the different dimensions.
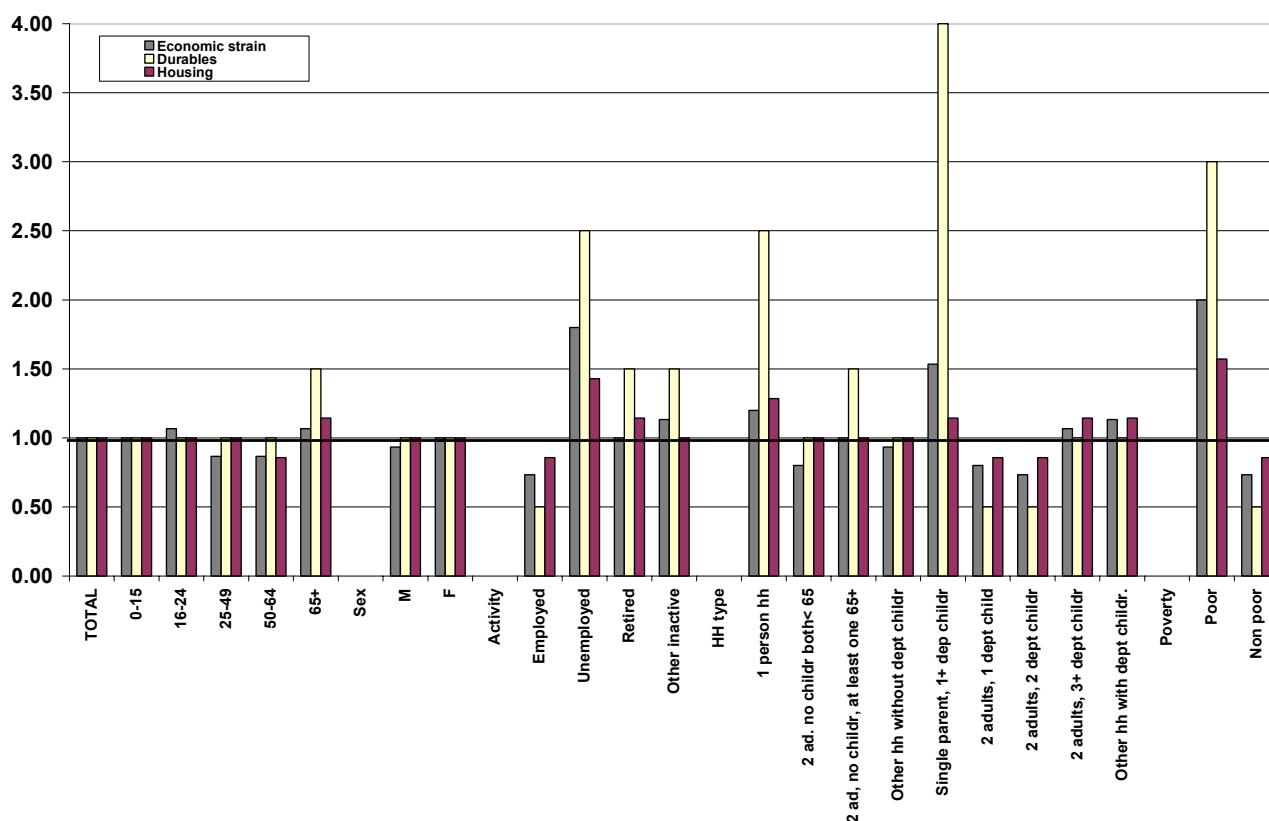
Figure 5: Risk factors of deprivation in economic strain, durables and housing dimensions, average*

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003. The risk is expressed by the mean deprivation (unweighted) index of each group divided by the mean deprivation index for the total population.

*Calculated as population-weighted average of national values available (see Table 1).

Single parents face most risk of deprivation, in all the dimensions. This risk is four times more important in the durables dimension and 1.5 times more prevalent in the economic strain dimension. It should however be kept in mind that the deprivation in the durables dimension is globally low for the total population (at the EU level, the average of the deprivation rates is 2%), contrarily to the economic strain dimension (15%). The unemployed face also higher deprivation risk than the rest of the population, in all the

dimensions. Single households and elderly persons face more problems than the other age groups, especially in the lack of durables.

This confirms that different socio-economic factors can be at work in the different dimensions and that describing deprivation with a composite multidimensional index would fail to capture this heterogeneity.

Are the 'deprived' also financially disadvantaged?

Figure 5 also clearly shows that being "relative poor" (i.e. living in households where equivalised income is below the threshold of 60% of the national equivalised median income) increases the deprivation risk by 3 for the lack of durables, by 2 for the economic strain, and by more than 1.5 for the housing dimension. The position in the income distribution clearly goes hand in hand with the deprivation situation, even if the degree of overlap between monetary poverty and deprivation is far from perfect[7]. This evidence raises also the question whether if to consider people as "poor", we have to follow the *union* or the *intersection* approach. Restricting the analysis to people facing deprivation and relative income poverty (intersection approach)

could help to exclude from the "poor" population those people for whom there are deprivation or income mis-measurements, people receiving low income but avoiding deprivation (eg. due to transfers in kind, assets or other resources not taken into account in the income definition) or people facing deprivation but receiving income above the threshold.

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[7] This is confirmed by other studies. See for example Whelan *et al.* (2001); Layte *et al.* (2001); Muffels and Fouarge (2001); Dekkers (2003).

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An example of this approach is provided by the *consistent poverty* measure, which is used as an important target in the Irish National Anti-Poverty Strategy and which thus combines measure of low-income and lifestyle deprivation. Even though Ireland has played a pioneering role in implementing this approach (in order to cope with the specific Irish situation briefly described above), comparable measures are also used in other countries such as Austria.

Table 2: Proportion of people facing deprivation, monetary poverty or consistent poverty

% of people	NL	LU	DK	FR	AT	BE	IE	IT	ES	EL	PT
Economic strain + durables											
Deprived in 2+ items	4	5	8	9	11	13	14	18	32	39	51
Poor	11	10	12	15	13	15	21	19	19	21	20
Consistently poor	2	2	3	4	4	5	8	9	12	14	16
Deprived but not poor	2	3	5	5	7	9	6	9	20	25	35
Poor but not deprived	9	8	9	11	9	11	13	10	7	7	4
Nor deprived neither poor	87	87	83	80	80	77	73	72	61	54	45

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003.

Deprived: lacking at least two of the 7 items in the combined economic strain/durables dimension; Poor: having an equivalised income below 60% of the national median equivalised income; Consistently poor: being deprived *and* poor. Countries are ranked according to their deprivation level.

To illustrate this *intersection* approach, Table 2 presents the proportion of people facing relative monetary poverty, deprivation (in the combined economic strain/ durables dimension) or cumulating both types of problems (consistent poverty). By definition, the consistent poverty rate is a subset of the poverty and the deprivation rates. This indicator ranges from 2% (NL, LU) to 16% (PT). The ranking order of the countries according to the deprivation rate and the consistent poverty rate are similar but not necessarily coherent with the ranking order based on the monetary poverty criterion (see the case of IE in particular).

The proportion of people that are 'income poor' but not 'deprived' is lowest in countries with the highest deprivation rates (4% in PT, 7% in EL and ES). Indeed, in Portugal, 80% (60% in EL and ES) of the people facing (monetary) poverty are also deprived, as opposed to about 20% in Holland, Luxembourg or Denmark[8].

Even if in the Southern Countries, the majority of the 'poor' are also 'deprived', the opposite is far from being true. A non negligible proportion of the total population (more than 20%) is not 'consistently poor', although being 'deprived'.

In the New Member States, one can expect that the consistent poverty approach would also focus on only a limited subset of the population facing deprivation, as the level of relative monetary poverty is close to the EU average in these countries. However, in the enlarged Union, the evidence shows that the deprivation level is far from being comparable between countries, with even the 'poorest' in 'rich' countries facing a lower deprivation level than the 'richest' in 'poor' countries [9]. Therefore, restricting the use of a deprivation measure by combining it with a monetary relative criterion risks to hide the diversity of social and economic development levels among EU25 Countries. It seems therefore preferable, at this stage, to present the monetary and non-monetary measures separately, with each containing information crucial to enhance our understanding of poverty and social exclusion, as highlighted in the previous sections.

[8] See Förster (2005) for similar results.

[9] This is confirmed by data presented in European Foundation for the Improvement of Living and Working Conditions (2004).

Statistical annex

Table A: proportion of people deprived, for each item, and poverty risk (EU15 Member States)

Percentage of individuals deprived	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK
Economic strain + durables															
WHO CANNOT THE HOUSEHOLD AFFORD:															
PAYING FOR A WEEK'S ANNUAL HOLIDAY AWAY FROM HOME?	27	13	20	52	38	22	26	36	13	12	24	61	25	:	22
KEEPING ITS HOME ADEQUATELY WARM?	6	10	:	19	40	3	3	18	1	3	3	58	6	:	1
EATING MEAT, CHICKEN OR FISH EVERY SECOND DAY, IF WANTED?	5	2	2	13	2	2	3	5	3	2	9	3	3	:	8
HAS THE HOUSEHOLD BEEN UNABLE :															
TO PAY SCHEDULED RENT, UTILITY BILLS OR HIRE PURCHASE INSTALMENTS?	7	4	:	37	5	8	10	6	6	3	3	5	:	:	:
COLOUR TV	1	1	0	1	0	0	1	1	0	0	0	1	0	0	:
A TELEPHONE	1	0	1	1	1	1	1	1	0	0	0	4	0	:	:
A CAR OR VAN (FOR PRIVATE USE)	6	8	6	12	6	3	12	3	1	3	5	17	3	0	:
Housing conditions															
DOES THE DWELLING HAVE PROBLEMS OF :															
LEAKY ROOF, ROT IN WINDOW FRAMES, DAMP WALLS, ETC. ?	14	8	:	22	17	20	12	12	19	17	10	37	4	:	15
ACCOMODATION TOO DARK	11	4	:	7	12	9	7	11	8	5	5	14	5	:	5
INDOOR FLUSHING TOILET ?	1	1	1	4	0	1	0	1	0	0	2	6	1	:	0
BATH OR SHOWER ?	2	1	1	2	0	1	1	1	0	0	1	6	1	1	1
At risk of poverty rate	15	12	11	21	19	15	21	19	10	11	13	20	11	9	17
At risk of poverty threshold (2 adults and 2 chidren, PPS)	19076	19440	19933	12117	13706	18407	18029	14792	30024	17449	18806	10431	16128	17854	18866

Source: Eurostat ECHP UDB version December 2003, survey year 2001. For BE, DK, EL, IE, LU, AT: EU-SILC survey year 2003.

Table B: proportion of people deprived, for each item, and poverty risk (New Member States, Acceding/Candidate Countries)

	CZ	EE	CY	LV	LT	HU	MT	PL	SL	SK	BG	HR	RO	TR
% households who can't afford														
PAYING FOR A WEEK'S ANNUAL HOLIDAY AWAY FROM HOME	34	65	33	73	70	63	41	68	24	64	85	:	74	66
KEEPING ITS HOME ADEQUATELY WARM	8	32	11	25	56	11	21	30	3	17	55	:	51	45
EATING MEAT, CHICKEN OR FISH EVERY SECOND DAY, IF WANTED?	19	28	4	36	35	34	4	17	6	33	57	:	40	53
ARREARS IN UTILITY BILLS	7	21	11	25	22	18	8	28	8	15	5	:	30	26
A CAR	19	35	3	39	31	27	5	30	7	29	39	:	49	62
% households that declared problems with accomodation														
ROT IN WINDOWS, DOORS, FLOORS	6	40	15	32	35	24	21	28	14	41	19	:	30	31
DAMP AND LEAKS	13	31	20	29	19	15	31	21	13	13	25	:	29	31
LACK OF INDOOR FLUSHING TOILET	5	17	4	20	25	8	1	11	5	7	30	:	39	11
At risk of poverty rate	8	18	15	16	17	10	15	17	10	21	13	18	18	25
At risk of poverty threshold (2 adults and 2 chidren, PPS)	9204	5017	16876	4433	4570	7489	14236	5594	12745	7291	3870	8675	2262	3904

Source: Deprivation : European Quality of Life Survey, 2003 (European Foundation for the improvement of living and working conditions). Poverty: Eurostat 'free data' website, theme 'Population and social conditions', group 'Living conditions and welfare', domain 'Income and living conditions', collection 'Main indicators'.

References

Atkinson A.B., Cantillon B., Marlier E., Nolan B. (2005),*Taking forward the EU Social Inclusion Process*, Final report, August 2005, http://www.ceps.lu/eu2005_lu/inclusion.

Callan T., Nolan B., Whelan C. (1993), "Resources, deprivation and the measurement of poverty", *Journal Soc. Pol*., 22, 2.

D'Ambrosio C., Gradin C (2003). "Income Distribution and social exclusion of chidren. Evidence from Italy and Spain in the 1990s", Journal of comparative family studies, special issue Family and Children inequalities.

Dekkers G. (2003) "Financial and multidimensional poverty in European Countries: Can the former be used as a proxy of the latter?" CEPS/INSTEAD IRISS Working paper series, N° 2003-13.

European Commission (2004), *Joint Report on Social inclusion*, Office for Official Publications of the European Communities, Luxembourg.

European Foundation for the Improvement of Living and Working Conditions (2004), *Low income and deprivation in an enlarged Europe.*

Eurostat (2000), *European Social Statistics: Income Poverty & Social Exclusion (1st Report),* KS-29-00-181-EN-C.

Eurostat (2003), *European Social Statistics: Income Poverty & Social Exclusion* (2nd Report), KS-BP-02-008-EN-C.

Förster M. (2005), "The European union social space Revisited. Comparing poverty in the enlarged European union", *Journal of Comparative Policy Analysis*, Vol 7, N°1.

Layte R., Nolan B., Whelan C.T. (2001), "Reassessing Income and Deprivation Approaches to the measurement of poverty in the Republic of Ireland", *The Economic and Social research Institute*, Vol 32, N°3.

Muffels, R.J.A., Fouarge, D.J.A.G. (2004). "The role of European welfare states in explaining resources deprivation". Social Indicators Research, 68(3).

Tsakloglou, P. and Papadapoulos, F. (2001), "Identifying population groups at high risk of social exclusion: evidence from the ECHP" in Muffels and Tsakloglou *Social exclusion in European Welfare states: an empirical study of labour market integration and social exclusion in panel perspective,* Edward Edgar, Cheltenham

Whelan C.T., Layte, R., Maître, B., Nolan, N. (2001*),* "Income, deprivation and economic strain: an analysis of the European Community Panel", *European Sociological review*, 17(4).

Whelan C.T., Layte R, Maître B. (2002), "Multiple deprivation and persistent poverty in the European Union", *Journal of European Social Policy*, Vol.12, N°2.

➤ *ESSENTIAL INFORMATION – METHODOLOGICAL NOTES*

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The results presented in this Statistics in focus come from the European Community Household Panel (ECHP) and from its successor EU-SILC (Community Statistics on Income and living Conditions).

During the period 1994-2001 the European Community Household Panel (ECHP) has traditionally been the primary source of data used for the calculation of these indicators in the field of Income, Poverty and Social Exclusion. The ECHP was a *panel* survey based on a standardised questionnaire that involved annual interviewing of a representative panel of households and individuals, covering a wide range of topics: income (including the various social benefits), health, education, housing, demographics and employment characteristics. It was developed by Eurostat (the statistical office of the European Communities) in association with Member States. For Germany, Luxemburg, Sweden and the United Kingdom, data from the national surveys were transformed into the ECHP format. Some non-monetary items were not surveyed in these national surveys and are therefore missing in the ECHP database. Furthermore, for one item related to the arrears, Finland had a very high proportion of missing values. Further information on the characteristics of the survey and availability of data issued from it can be found at the following address:

http://forum.europa.eu.int/irc/dsis/echpanel/info/data/information.html

The ECHP is being replaced by the EU Statistics on Income and living conditions (EU-SILC), which is to become the reference source for statistics on income and living conditions, and common indicators for social inclusion. While the ECHP was launched on the basis of a gentleman's agreement, EU-SILC is organised under a Framework Regulation of the European Parliament and the Council (N°1177/2003). Technical aspects of the instrument are defined by five Commission Implementation Regulations ('Sampling and tracing rules'; 'Definitions'; 'List of primary variables'; 'Fieldwork aspect and imputation procedures'; and 'Intermediate and final quality reports').

The EU-SILC project was launched in 2003 on the basis of a 'gentleman's agreement' in six Member States (Belgium, Denmark, Greece, Ireland, Luxembourg, and Austria) as well as in Norway. The starting date for the EU-SILC instrument under the aforementioned Framework Regulation was 2004 for the EU-15 (with the exception of Germany, Netherlands and the UK who have derogations until 2005) as well as for Estonia, Norway and Iceland. The New Member States with the exception of Estonia have started in 2005. Timetables for implementation in Acceding and Candidate Countries (Bulgaria, Croatia, Romania and Turkey) and in Switzerland are being discussed.

Similar items are not fully identical between the ECHP and EU-SILC. For example, the housing conditions items (Leaking roof or damp walls/floors/foundations or rot in window frames or floor) initially surveyed in three separate questions in the ECHP are now surveyed in a single question. The questions on difficulties of payments are surveyed in 3 questions in EU-SILC instead of 4 in the ECHP. The enforced lack of a telephone takes into account the mobile phone in EU-SILC.

For durables, both EU-SILC and ECHP permit to differentiate 'simple' lack of goods (reflecting choices) or 'enforced' lack of goods. Only this last group was considered as 'deprived', in order to exclude lifestyle preferences from the concept of deprivation. In doing so, we focus on items whose absence is attributed to limited resources rather than differences in taste and constraints such as ill health, location etc. It must however be kept in mind that individuals' expectations as to their material well-being tend to increase with income and to decrease with long term poverty (the so-called "adaptive preferences") and as a consequence poor people may declare not to need the goods they lack more often than wealthier individuals. Furthermore, people may not want to admit not being able to afford buying certain items. Therefore, it cannot be excluded that psychological phenomena or measurement issues introduce 'noise' in the measure of enforced lack of item. However, restricting our analysis to the enforced lack of items is crucial to focus on material deprivation.

To identify the dimension structure, an exploratory factor analysis, with oblique rotation, on pooled EU countries was initially performed on the

ECHP data. This factor analysis showed consistency over time, as the same dimension structure was highlighted on different waves. A confirmatory factor analysis was then performed on available EU-SILC data and showed the consistency of the dimension structure highlighted on the ECHP. The oblique rotation implies that the dimensions are correlated, i.e. that being deprived in one dimension is positively correlated with deprivation in other dimensions. The optimal solution provides a three factors solution (housing, economic strain and durables), even though the two-factor solution presented in some sections of this paper is also statistically suitable.

Note also that factor analysis is usually based on Pearson correlations. However, there may be problems with using the Pearson correlations, for these assume that the variables are continuous and normally distributed. If the variables are discrete and even dichotomous, important categorization errors can result. Tetrachoric correlations could be more adapted to the binary nature of data used. To evaluate the sensitivity of our results to the correlations used, we followed Dekkers (2003) and used tetrachorical correlations as a basis for the factor analysis. Results appeared to be robust.

Some items available in the surveys are based on subjective information of the respondent. On the one hand, subjective questions can be culturally influenced and require caution in international comparison; and the aforementioned "adaptive preferences" also need to be kept in mind. On the other hand, social exclusion influences and is influenced by the perceptions of people, not only by "objective" rules or external judgement on a person's situation. Dropping the subjective items, as a choice of principle, might lead to a measure disconnected with the reality as lived and perceived by people. This could especially be the case if the list of "concrete" items that we think people should be able to afford is not well adapted to the social preferences of the society and their evolution.

The potential criticisms of including subjective items holds true, to a certain extent, for the majority of deprivation items presented in this paper, but the subjective element is probably predominant in some variable like the subjective assessment of the people own economic situation (as the item related to the ability "to make ends meet"). It was therefore decided to exclude such item. It is however foreseen, when the data will be available for all countries, to test the inclusion of the new EU-SILC variable on the "Capacity to face unexpected required expenses" in the economic strain dimension. We think that will provide useful complementary information. Indeed, the information collected through this variable does not depend on the consumption goals, even in case of adaptive preferences, and is only weakly influenced by the psychological state and the cultural background of individuals.

Among deprivation items available in the database, environmental information (like reports of vandalism, crime or pollution) could have been integrated in the analysis. The factor analysis showed clearly that these items are grouped together in one separate dimension, not mixed with the housing one. However, data analysis revealed no systematic relationship between poverty and these items, as such problems can reflect urban social problems that can affect the whole society rather than just the poorest groups.

The weighted individual deprivation scores are computed as the weighted average of the scores for the constituent items. Each weight is the ratio between the proportion of people having the item over the whole population and the sum of the proportion of "haves" for all items in the dimension, in order to normalise the weights by one.

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Databases: EUROSTAT Website/Home page/Data

- **Population and social conditions**
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  - Health
  - Education and training
  - Labour market
  - *Living conditions and welfare*
    - Household Budget Survey
    - *Income and living conditions*
      - Main indicators
      - Monetary (income) poverty
      - Non-monetary poverty and social exclusion

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