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What can be learned from the new EU-SILC 2004 data?

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Summary

European Union (EU) Heads of State and Government endorsed common statistical indicators of social exclusion, that are an essential element in the Open Method of Co-ordination to monitor progress of Member States in the fight against poverty and social exclusion. This list of common indicators has a primary focus on indicators of relative income poverty and the specific situation of the children is captured through detailed breakdowns of the indicators (by age, by household type), whenever relevant and meaningful.

This paper aims to compare the childhood poverty picture that can be drawn on the basis on this relative monetary approach, with an alternative view based on material deprivation measures, more "absolute" and multidimensional. Material deprivation is defined as the enforced lack of a combination of items depicting material living conditions, such as housing conditions, possession of durables, 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. health, education, social participation, etc). They are simply intended to offer synthetic information on material living conditions in an enlarged Union. The use of such complementary measures is indeed particularly meaningful in the context of the enlarged union as questions are raised concerning the ability of the existing portfolio of common 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. Furthermore, the results based on monetary measures (especially for children and contrarily to material deprivation measure) depend to a certain extent on the choice of an adequate equivalence scale, which is so far agreed at the EU level and common for all countries.

The database that will be used for this exercise is the new statistical instrument EU-SILC, for the reference year 2004. The information available in the survey on material deprivation will be aggregated by dimension according a dimension structure highlighted through factor analysis. The overlap between relative monetary poverty and material deprivation for children will then be examined, as well as the risk factors of being deprived in the different dimensions. A weighted (nationally defined) version of these indicators is also proposed, in order to give a less "absolute" view of the material deprivation, more relative to each national context.

A new Source on Income, Poverty & Social Exclusion…

During the reference period 1994-2001 the European Community Household Panel (ECHP)[3] has traditionally been the primary source of data used for the calculation of these indicators in the field of Income, Poverty & Social Exclusion. Given the need to update the content of the ECHP in order to satisfy new political demands, to reflect evolving best practice and to improve operational quality, i.e. mainly the timely publication of the data which is produced, it was decided to replace the ECHP and to introduce a legal act for its replacement, the EU-SILC (Community Statistics on Income and living Conditions, see annex 1). The EU-SILC project was launched in 2003 on the basis of a 'gentleman's

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[2] Eurostat.

[3] See annex A1.

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 Framework Regulation of the European Parliament and of the Council 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. The New Member States with the exception of Estonia are allowed to start in 2005[4].

This means that, for the first time, SILC-2004 is available on a larger basis (13 Member States + Norway) and makes it possible to test whether the results on poverty and deprivation that were previously highlighted on the ECHP data are confirmed by the new instrument. Furthermore, for the first time, comparable and harmonised data are available for one of the new Members States (Estonia) and will permit to study and compare living conditions information with the information usually presented for EU15 Member States.

What can be learned from material deprivation measures?

At the Laeken European Council in December 2001, European Union (EU) Heads of State and Government endorsed a first set of 18 common statistical indicators of social exclusion and poverty that were later refined by the Indicators Sub-Group of the Social Protection Committee. These indicators are an essential element in the Open Method of Co-ordination to monitor progress of Member States in the fight against poverty and social exclusion.

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” [5].

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. 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[6]. 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 4 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, but this is not the only reason. Even at national level, it is now well recognized that different approaches to poverty measurement, including the material deprivation one, are useful to take into account the different aspects of poverty.

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[4] The implications of this means that the first set of micro data and cross-sectional indicators from EU-SILC which covers all the EU25 Member States will only be available in December 2006.

[5] European Commission (2004).

[6] Data from European Quality of Life Survey, 2003 (European Foundation for the improvement of living and working conditions.

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 for example 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 (due to the launch of a new survey), 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.

For the specific group of children, the use of deprivation indicators is exploratory and will permit to confront monetary results usually used to assess children specific risk with alternative indicators.

One more reason can be advanced to use jointly monetary measures and material deprivation indicators for the children group. Indeed, it is well known that the equivalence scale used to compare income of different household types is not neutral in terms of composition of the poor population and of relative risk of families versus other households. The use of deprivation measures independent on any equivalence scale could give a different view of child poverty.

However, both measures can not tackle the issues associated with the hypothesis of equal intrahousehold sharing of resources. Both income and deprivation items are based on household variables which are assigned to each household member. Unfortunately, specific items for children are not included in the EU-SILC variables.

This paper discusses the methodological options for the construction of this type of indicators, drawing from the existing literature, and presents some results for children, on the basis on the new harmonised micro data EU-SILC.

The development and use of material deprivation indicators (for the whole population) 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.

In parallel, income poverty among children is considered as a matter of serious and specific concern at the EU level, as it is generally recognized that it can affect their development and future opportunities[7]. The Indicators Sub-Group of the Social Protection Committee has reiterated his interest on child poverty mainstreaming and an ad-hoc group is currently working on the topic.

[7] *See Joint Report on Social Protection and Social Inclusion (2006), technical annex, p.6.*

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[8]:

(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

(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. Townsend (1979) defined deprivation as the lack of socially-perceived necessities. 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[9]. 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 opportunity to review some of the target variables and thus to adjust the list of deprivation items.

As already explained in introduction, the set of items chosen in this paper and available in EU-SILC refers to living conditions of the *total* population, not specifically to children living conditions. However, even if not children specific, most of the items are relevant for the children group, as they can be considered as social necessities, in terms of access to adequate eating, comfortable housing, customary durables etc. .

Once the list of items is chosen, a detailed presentation of deprivation shares for each single item can be interesting (see in statistical appendix Table A for the whole population and Table B for Children) 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

[8] These criteria are a revised version of those proposed in Eurostat (2000). Some of them show clear filiations with the seminal work on material deprivation of Townsend (1979) and Mack and Lansley (1985).
[9] This approach is for example followed in INSEE (2005).

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.

To do so, some technical choices have to be made. We can group items together according to the 'meaning' of their underlying characteristics on the basis of subjective criteria (for example all housing items together) or empirically through data analysis. Factor analysis is one technique that can be used to regroup a wide range of variables into a smaller number of dimensions. However, this technique is sometimes criticised (see for example McKay and Collard, 2003) as there is a certain degree of arbitrariness in the choice of items and the number of factors. Furthermore, as it is data driven, different solutions can be obtained from different samples or from the same sample over time. Despite such limitations, factor analysis remains a useful tool for exploring the underlying structure of data and is widely used.

A first advantage of having access to the results of the new survey (EU-SILC) for 12 EU-15 Member States (plus Estonia and Norway) is to check the consistency of the results obtained through factor analysis between the new survey and the old one (ECHP). This can be done through confirmatory factor analysis (CFA) on the SILC-2004 data.

In an exploratory factor analysis (EFA), the structure of the latent factor model or the underlying theory is not specified a priori; rather data are used to reveal the structure of the factors. This technique was used to explore ECHP data and to highlight the dimension structure used in different ECHP publications[10]. In CFA, on the other hand, the precise structure of the factor model is assumed and tested. At this stage, the confirmatory approach is far more powerful than the exploratory one, as it allows for hypothesis testing of the factor structure adequacy that is planned to be used in the deprivation domain at the EU-level. A confirmatory factor analysis was then performed on available EU-SILC data and showed the consistency of the dimension structure highlighted on the ECHP. Following the dimension structure highlighted through factor analysis, the items are grouped in three dimensions, relating to 'economic strain', enforced lack of durables and housing, as presented in Figure 1.

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 (see Dekkers (2003), page 6). 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 the matrix of tetrachoric correlations as the input for the CFA[11]. Results appeared to be robust. Table A2, in annex, presents the fit statistics of the CFA, which are reasonably high and confirm that a structure in 3 dimensions can be accepted by the data, either when the CFA is performed country by country or on the pooled data. Oblique rotation was applied, implying the hypothesis that the dimensions are correlated. Table A3, in annex, presents the covariance between dimensions, showing that being deprived in one dimension is positively correlated with deprivation in other dimensions. The highest correlation is between the economic strain and durables dimensions (0,8)[12].

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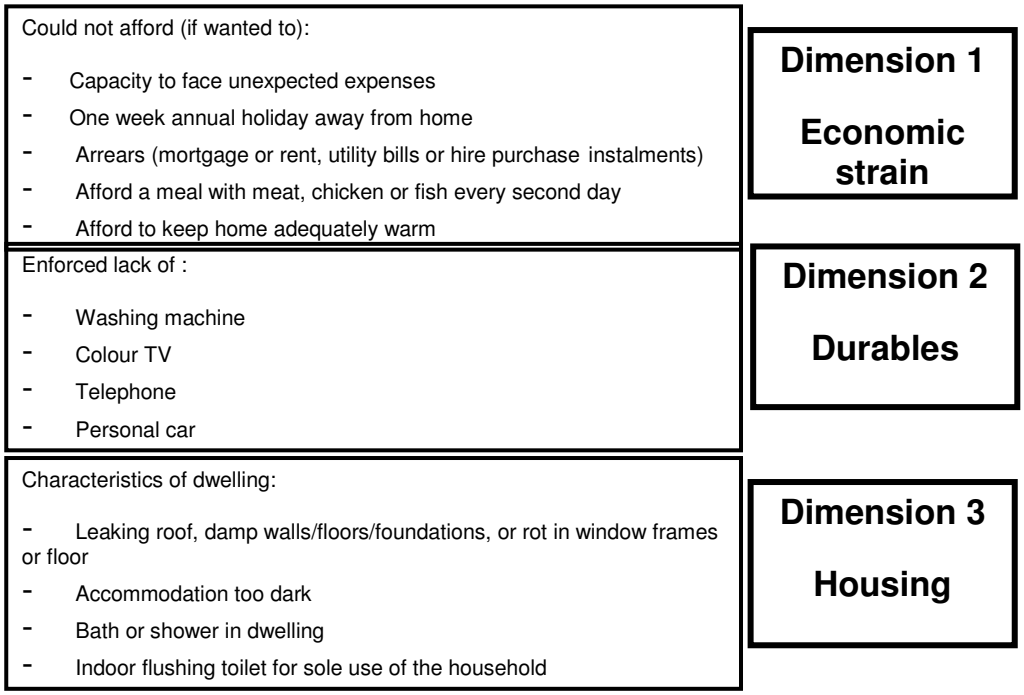
[10] The approach adopted here builds upon earlier work; see for example Callan, Nolan, Whelan (1993); Whelan, Layte, Maitre (2001); Eurostat (2003).

[11] It has to be noted that estimators will be consistent, although the standard errors as well as the chi-square tests will be inconsistent.

[12] In other papers, it was chosen to regroup information on economic strain and durables, as these two dimensions can also be combined with little loss of information and gain in simplicity. This solution can not be rejected 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). In the present analysis, the three dimensions structure was preferred in order to eventually highlight different age patterns in the durables and strain dimensions.

Figure 1: Dimension structure



The *economic strain dimension* focuses mainly on affordability of some aspects of living standards (meal, home warm and holidays). Note specifically that, even if it can be discussed whether the enforced lack of holidays has to be considered as a social necessity in Europe, this item is highly correlated with the other constitutive items of the 'economic strain' dimension and appears as a good proxy of financial constraints.

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. 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, when possible, restricting our analysis to the enforced lack of items appeared crucial to focus on material deprivation. These questions are related to the more general question of choices and preferences. It cannot be excluded that people might choose in priority a pattern of consumption not considered as essential by the analysis and can not afford the list of items retained[13].

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

[13] See for example INSEE (2005) and Willitts M. (2006).

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 not to use such item, but to test the inclusion of a new EU-SILC variable on the “Capacity of the household to face unexpected required expenses” (as 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).

A shortage of space item was constructed on the basis of the ratio between the number of people in the household and the number of rooms in the dwelling. As in the ECHP, the factor analysis shows that this item is poorly correlated with the other items in the list (and tends to be weakly loaded to the economic strain dimension). This item is therefore not included in the set of housing items discussed in this paper.

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 or between other dimensions and the environmental one, as such problems can reflect urban social problems that can affect the whole society rather than just the poorest groups.

Monetary poverty: are children more at-risk?

As already mentioned in introduction, the list of common indicators used at the EU level has a primary focus on indicators of relative income poverty and the specific situation of the children is captured through age breakdowns of the indicators, whenever relevant and meaningful. Concretely, this means that the poverty risk, the poverty gap, the persistent poverty risk and the poverty incidence before and after transfers are computed for 0-15 age group. The poverty risk is also broken down by household type. In the list, other indicators focusing on educational attainment or reading performances of pupils are also included.

As a reference and before going further in the deprivation analysis, Figure 2 presents the child poverty rates and the total poverty rates prevailing in countries under study. These indicators refer to individuals living in households where equivalised income is below the threshold of 60% of the national equivalised median income[14]. Given the conventional nature of the retained threshold, and the fact that having an income below this threshold is neither a necessary nor a sufficient condition of being in a state of poverty, this indicator is referred to as a measure of *poverty risk*.

Child poverty is the lowest in Nordic countries (10% or less) and the highest in Italy, Spain, Portugal, Ireland, Greece and Estonia (20% or more), i.e. a variation by a factor of 3. Children are less likely to be poor than the total population in Norway, Denmark and Finland. The gap between children and general population poverty incidence is higher in Italy and Luxembourg (7%) or in Spain (4%) and close to 2% in Austria, Belgium, Estonia and Portugal. In Greece, France, Ireland, Sweden, the difference is not significant[15].

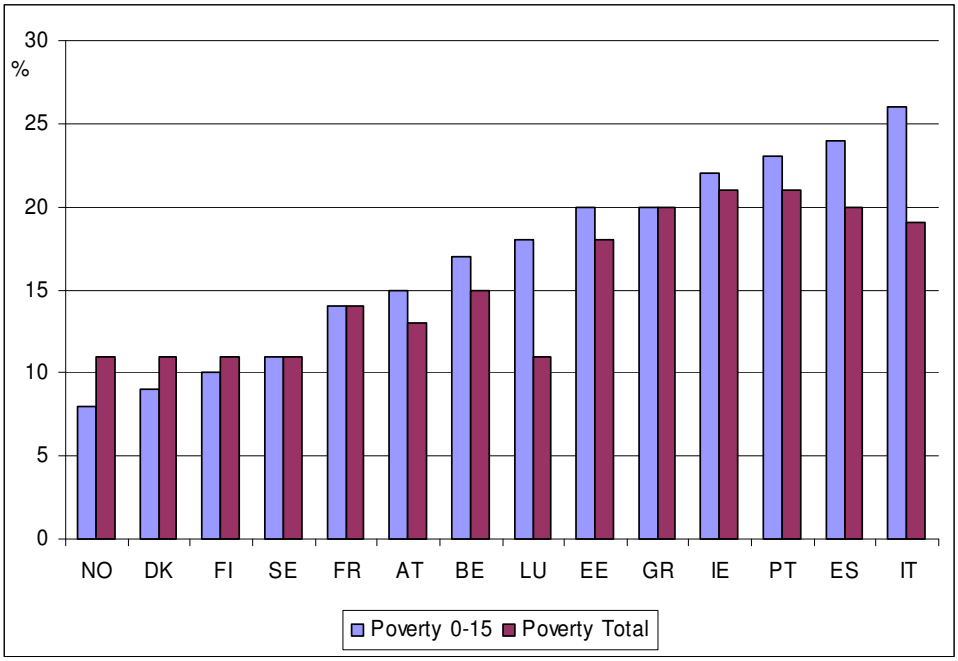


Figure 2: At-risk-of-poverty rate, total population and children

Source: Eurostat, EU-SILC survey year 2004. Reference population: people aged 0+ or 0-15. Countries are ranked according to their children poverty rate.

[14] Equivalised income is defined as the household's total income divided by its "equivalent size", to take account of the size and composition of the household, and is attributed to each household member (the total household income is divided by its equivalent size using the so-called "modified OECD" equivalence scale. This scale gives a weight of 1.0 to the first adult, 0.5 to any other household member aged 14 and over and 0.3 to each child.).

[15] Standard errors and confidence intervals are available on demand.

These figures are based on the notion of relative income poverty, defined in relation to the distribution of income within each country. In the enlarged EU, the large variations of national threshold between countries[16] reflect different material standard of living, which can influence the more "absolute" living conditions of children in each country. The next sections explore the impact of analysing children situation through a common set of deprivations at the EU level.

Deprivation: are children more at-risk?

Table 1 presents the distribution of the number of deprivations by dimension, for the total population and for children. On the basis of these proportions, we can also fix a threshold by considering a person as deprived in each dimension if he/she lacks at least two items in the strain dimension, for example, or at least one item in the other dimensions. Although arbitrary, this approach permits the computation of deprivation rates in each dimension. Significant difference between children and the total population are coloured (confidence intervals were computed by linearization of the difference between the deprivation/poverty rates by age). The darker colour highlights differences at the children advantage.

Table 1: Share of people affected by material deprivation in each dimension, total population and children

Number of deprivations	AT		BE		DK		EE		ES		FI		FR		GR		IE		IT		LU		NO		PT		SE	
	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15	ALL	0-15
Economic strain																												
0	64	60	59	52	72	68	26	25	46	48	64	56	46	43	39	46	67	60	52	50	80	73	70	67	31	32	75	69
1	20	23	19	19	17	19	46	43	22	22	17	20	22	20	21	21	17	18	21	22	12	14	20	20	25	24	13	15
2	9	10	14	17	7	9	18	22	21	19	11	13	16	17	17	14	9	10	14	14	6	10	6	7	27	26	7	9
3	5	6	7	10	3	3	7	6	9	9	6	9	10	11	11	11	5	7	8	8	2	2	3	4	13	13	3	4
4	1	2	2	3	1	2	2	2	2	2	1	2	5	6	5	4	2	3	4	4	0	1	1	2	4	5	1	2
5	0	0	0	1	0	0	1	1	0	0	0	0	1	2	5	4	1	2	2	3	0	0	0	0	0	1	0	0
2+	15	17	23	29	11	13	28	31	32	30	18	24	32	37	38	33	17	22	28	28	8	13	10	13	44	44	11	15
Durables																												
0	94	94	91	90	90	91	66	69	93	93	90	94	89	87	87	91	89	88	95	95	99	99	94	95	84	83	94	93
1	5	5	7	9	9	8	27	27	6	6	9	5	9	11	12	8	11	11	4	4	1	1	6	5	12	13	5	5
2	1	0	1	0	1	1	5	3	1	1	1	0	2	2	1	1	1	1	1	1	0	0	0	0	2	2	1	2
3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
4	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1+	6	6	9	10	10	9	34	31	7	7	10	6	11	13	13	9	12	12	5	5	1	1	6	5	16	17	6	7
Housing																												
0	85	86	77	77	88	87	53	52	71	72	91	91	78	78	76	80	83	83	73	73	79	77	88	87	61	63	89	91
1	11	11	18	19	10	11	25	28	24	24	7	7	18	18	18	16	13	13	21	21	16	19	10	11	28	28	8	9
2	3	2	4	4	2	1	14	13	5	4	1	1	4	4	5	4	4	4	6	6	3	4	1	1	8	7	0	0
3	0	0	0	0	0	0	6	6	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	1	0	0
4	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
1+	14	14	23	23	12	13	47	48	29	28	9	9	22	22	24	20	17	17	27	27	20	23	11	13	39	37	9	9
Poverty																												
	13	15	15	17	11	9	18	20	20	24	11	10	14	14	20	20	21	22	19	26	11	18	11	8	21	23	11	11

Source: Eurostat, EU-SILC survey year 2004. Reference population: people aged 0+ or 0-15. Figures are rounded.

Significant difference between children and the total population are coloured. The darker colour highlights differences at the children advantage.

Notes: In France, the variable measuring the affordability to keep the home adequately warm is not comparable with the variable in other EU countries as it focus on the capacity (instead on the affordability) to keep the house warm (this overestimates the deprivation rate in France). In Estonia, the variable about the capacity to face unexpected expenses could not be surveyed in 2004 according to the harmonised definition (defining the amount of the unexpected expense as the monthly poverty threshold). A lower amount (1000 instead of 1600 kroons) was chosen as a reference, this underestimates the proportion of people deprived.

At the level of the total population, the figures show large variations across countries in terms of the share of people affected by problems of material deprivation.

[16] See for example Guio AC (2005a).

In Denmark, Luxembourg, Norway and Sweden, around 10% of the population suffer from at least two problems of economic strain, whereas the share is much higher – around 40% - in Portugal or Greece[17].

Figure 3 compares the proportion of people deprived in the strain dimension, with the monetary poverty risk, for the whole population. In the least deprived countries (LU, NO, DK, SE, AT), the deprivation rate is comparable to the poverty risk rate and conversely, the most deprived countries (PT, GR, ES, FR, EE, IT[18]) face deprivation far higher than their poverty risk levels. 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 situations than would be inferred on the basis of the relative poverty risk indicator. In the last section of the paper, these results will be compared with a weighted (nationally defined) version of these indicators, in order to give a less "absolute" view of the material deprivation, more relative to each national context.

In Figure 3, note also the case of Ireland where the deprivation level (this is true for all the dimensions, see Table 1) 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.

The countries ranking according to the two approaches also differ for Estonia, France, Finland and Belgium (better ranked according to monetary poverty than to deprivation in economic strain).

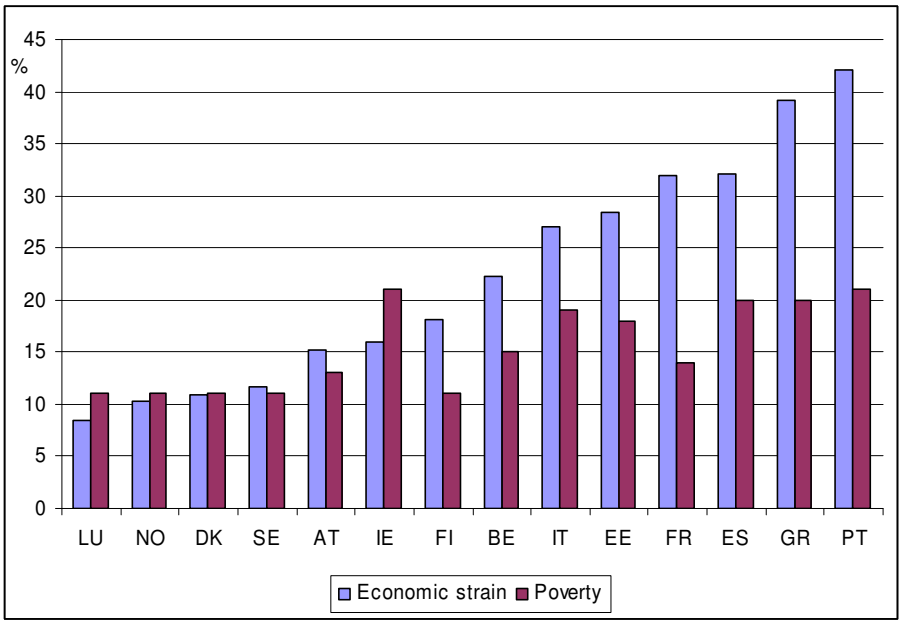


Figure 3: % of people lacking at least two items in the economic strain dimension, compared to the proportion of people at risk of poverty

Source: Eurostat, EU-SILC survey year 2004. Reference population: people aged 0+.

[17] Note that these figures are not directly comparable to the one presented in Guio (2005b), due to the inclusion of the two new EU-SILC variables (Capacity to face unexpected expenses and washing machine).

[18] For EE and FR, see notes below Table 1.

Table 1 also shows that the enforced lack of at least one durable affects a smaller proportion of the population (generally lower than the poverty rate) - around 10% or less, except in Estonia (34%) and Portugal (16%). The deprivation in the durables dimension is mainly influenced by the enforced lack of a car (see Table A in the Statistical appendix). In terms of housing deprivation, in most of the countries, the proportion of people facing housing problems is higher than the poverty rate, especially in Estonia and Portugal where around 40% (47% in Estonia) of the population face at least one housing problem. In Nordic countries and Austria on one hand and in Italy and Greece on the other hand, the monetary and housing approaches give similar results. Ireland appears again as an exception, as the deprivation rate in the housing dimension is lower than the poverty rate.

By using figures presented in Table 1, it can also be evaluated whether deprivation and monetary relative poverty offer a similar diagnostic on the relative position of children. On the basis, it can be advanced that the different approaches may offer a different diagnostic on children relative risk, depending on the country and the dimension.

In the strain dimension, children are generally more at risk than the total population (except in Greece and Spain), indicating that the presence of children in the household can increase financial constraints. Not only have children higher probability of deprivation, by they often also have higher probability of cumulating these deprivations[19]. This is however not the case for all household types (as will be shown in the next charts). In the durables dimension, children tend to be equally or even less deprived (EE, FI, GR) than the total population. In the housing dimension, differences are rarely significant, except in Greece and Portugal (where children face less deprivation than the total population) and in Luxembourg (and to a lesser extent in Denmark and Norway where the reverse situation is true). This would mean that, despite potentially higher financial difficulties, households with children try to guard their family against housing discomfort and enforced lack of durables.

Figure 4 compares the deprivation rate for children and for the total population, in the economic strain dimension (to be compared with Figure 2 - monetary poverty).

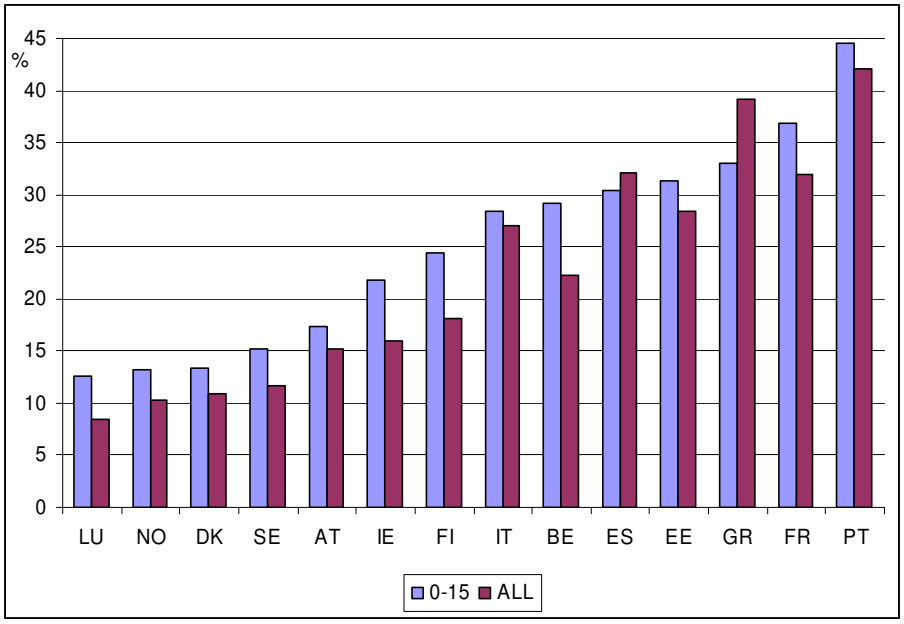


Figure 4: % of people lacking at least two items in the economic strain dimension, children and total population

Source: Eurostat, EU-SILC survey year 2004. Reference population: people aged 0+ and 0-15. The difference between the deprivation rate computed for children and for the population as a whole is significant in each member state (see Table 1). Standard errors and confidence intervals are available on demand.

[19] See for similar conclusions Hussain M.A. (2002).

In general, the countries ranking is very similar to the ranking based on deprivation figures computed for the total population, except in countries where the gap between children and the rest of the population is larger (France, Belgium, Ireland and Finland).

At one extreme, countries with the lowest deprivation rate for children are Luxembourg, Norway, Denmark, Sweden and Austria. Finland and France, where children were well ranked according the monetary criterion, occupy a less enviable position in the deprivation space. On the contrary, Ireland sees the position of its children improved by the deprivation approach (this was already noticed for the population as a whole, see Figure 3). In terms of gap between children and the rest of the population, in Denmark, Finland, Ireland, Sweden and Norway the children are more deprived than the whole population although they were considered as less or identically poor. In these countries, the deprivation approach therefore highlights children relative risks, which were not apparent in the relative monetary poverty approach. In Luxembourg, the higher risk faced by children is confirmed by both the monetary poverty and economic strain approaches.

At the other extreme of Figure 4, countries with the highest deprivation rate for children are Portugal, France, Greece, Estonia, Spain, Belgium and Italy. In terms of gap between children and the rest of the population: in Portugal, children face almost the same risk as the whole population, whatever the approach. In Spain, although children have more probability of being monetarily poor than the whole population, they have slightly less risk of deprivation than the total population. In Italy, Belgium, Austria, the gap between children and the rest of the population is significant in the deprivation dimension and in the monetary approach, it is however wider in Belgium. In Greece, children face less deprivation risk than the whole population, although there are considered as equally poor. Note however that, even if Greek children face less risk than the whole population, one third of them live in family with at least two economic strain difficulties, against 13% in Denmark, Luxembourg or Norway.

Risk factors of being deprived, for children

It is largely recognized that the children group is heterogeneous and their poverty risk depends merely on their family structure and the work attachment of the household where they live in. Furthermore, public policies and government priorities vary from country to country at the EU level and have clearly a direct and indirect impact on children situation (see for example Hoelsher P. (2004), Wen-Hao C. and Corak M. (2005)).

Table A4 in annex presents the mean deprivation index for different household types (each mean index is constructed by averaging the deprivation shares in each dimension and is normalised to 1). The higher vulnerability of single parents, already well documented in terms of monetary poverty, is clearly confirmed by these deprivation figures. Single parents display higher deprivation incidence, in comparison with other household types with children who face generally lower risk of deprivation, at least if the number of children is lower than three or the household is not complex. In the housing dimension, the pattern seems quite different. Single parents can be less deprived than the total population, depending on the country. This is however not the case in Ireland, Belgium, Estonia, Spain or Norway. In some countries (Portugal, Estonia), large families face also higher risk of housing problems.

Figure 5 illustrates the mean deprivation index in the economic strain dimension, and shows clearly that the gap between single parents and other family types depends on the country. In Ireland, single parents face more than three times more deprivation risk than the whole population. It exceeds two in other countries, except in Estonia, Spain, Greece, Italy and Portugal where the ratio of risk attains less than 1,5. This means that, despite the different deprivation levels in the countries, single parents can be more deprived in less deprived countries than their counterparts in more deprived countries. For example, Irish and Greek single parents have a similar deprivation index, despite very different deprivation level for the total population. Similarly, Belgian single parents are more deprived than single parents living among the more deprived countries, like Estonia, Portugal, Italy or Spain.

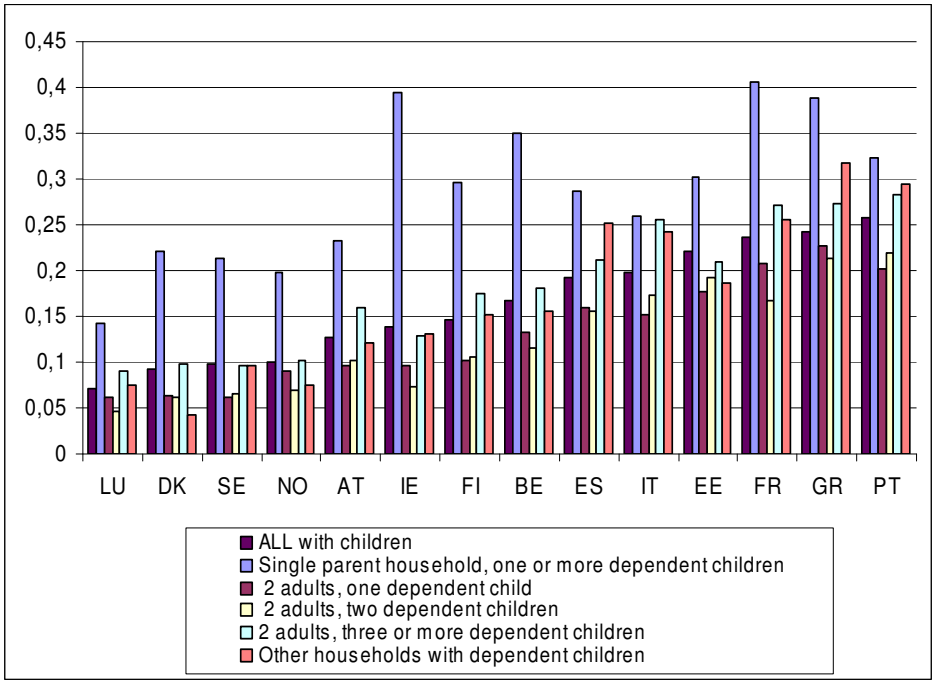


Figure 5: mean index of economic strain deprivation by household type

Source: Eurostat, EU-SILC survey year 2004. Countries are ranked according to the deprivation level of total households with children.

These results indicate that the relative performance of single parents is not linearly dependant on the general deprivation level in the country and that public policies or labour market specificities can significantly influence single parent households' living conditions.

In terms of involvement in the labour market, figures depicting deprivation according to the work intensity[20]of households with children show that the higher the work intensity of the household the less likely children will live in deprivation (see Table A5 in annex)[21].

Not only incidence of deprivation but also proportion of persons living in the different household configurations (household types, work intensity) are crucial to explain the relative risk of children in each country. The distribution figures are presented at the bottom of each table in annex A4 and A5. These figures show that, in Europe, there are large variations in the share of people living in lone parent family. This share ranges from 1-3% in the South of Europe to 8% in Sweden, and is cat least of 5% in other Nordic countries, Estonia France, Ireland and Belgium.

The distribution of joblessness depends also on the country: people living in jobless households (WI = 0) and having children attains around 6% of the population in Belgium and Ireland (10% of the total population with children), although it attains 2-3% in most of the countries.

If we focus on the work intensity of lone parents: figures show that the work intensity is maximal (=1) for only 37% of people living in lone parent household in Ireland and 48% in Belgium, although it is close to 70% in Sweden, Norway, Denmark, Estonia, Greece, Portugal and Italy, and attains 80% in Luxembourg. At the other extreme, the proportion of people living jobless in lone parent household ranges from 15% in Sweden to 52% in Ireland. It is however difficult to explain the lone parents deprivation rate only by their work intensity, even it is clear that children living in other households are more likely to live with at least one working parent. Additional information on wage level, working time and job quality are necessary to fulfil such comparisons by country, as well as information on specific public policy.

[20] The work intensity (W) is calculated by taking the number of months spent in the household by working age members (for which they provide information on their activity status during the calendar year) at the denominator; and the number of months actually worked at the nominator. W=0 corresponds to the notion of jobless households; W=1 corresponds to full-year work for all working age adults in the household; 0<W<1 corresponds to either less than full-year work for all members of the household or only some of the adults in the household being at work.

[21] See for example Bardone, L. & Guio, AC (2005).

Are poor children also deprived?

Table 3 presents the mean index of children deprivation for the three separated dimensions, broken down by income quintiles and (monetary) poverty status.

Table 3: mean deprivation index for children, according to income quintiles and poverty risk

	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic Strain														
Q1	0,25	0,36	0,23	0,34	0,32	0,29	0,46	0,45	0,36	0,39	0,20	0,23	0,41	0,24
Q2	0,15	0,29	0,16	0,28	0,25	0,25	0,33	0,31	0,22	0,21	0,09	0,12	0,35	0,15
Q3	0,09	0,14	0,07	0,26	0,19	0,14	0,20	0,24	0,09	0,14	0,05	0,08	0,29	0,08
Q4	0,07	0,07	0,04	0,18	0,11	0,06	0,11	0,15	0,04	0,09	0,01	0,07	0,19	0,04
Q5	0,04	0,02	0,02	0,10	0,05	0,03	0,07	0,05	0,03	0,05	0,01	0,05	0,07	0,01
poor	0,28	0,36	0,22	0,34	0,33	0,31	0,50	0,45	0,36	0,40	0,24	0,26	0,41	0,23
non poor	0,11	0,15	0,09	0,21	0,15	0,15	0,21	0,18	0,10	0,14	0,05	0,10	0,23	0,09
Durables														
Q1	0,03	0,08	0,10	0,15	0,05	0,03	0,09	0,06	0,09	0,04	0,01	0,04	0,12	0,05
Q2	0,02	0,03	0,04	0,12	0,02	0,03	0,04	0,05	0,04	0,01	0,00	0,01	0,07	0,04
Q3	0,01	0,01	0,01	0,09	0,02	0,01	0,02	0,01	0,02	0,00	0,00	0,01	0,04	0,01
Q4	0,00	0,00	0,00	0,04	0,00	0,00	0,01	0,01	0,01	0,00	0,00	0,00	0,01	0,00
Q5	0,00	0,00	0,00	0,01	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,01	0,00
poor	0,04	0,08	0,10	0,15	0,05	0,03	0,11	0,06	0,09	0,05	0,01	0,05	0,12	0,04
non poor	0,01	0,01	0,02	0,07	0,01	0,02	0,03	0,02	0,02	0,00	0,00	0,01	0,03	0,02
Housing														
Q1	0,08	0,10	0,05	0,24	0,10	0,04	0,10	0,11	0,10	0,13	0,08	0,04	0,18	0,04
Q2	0,04	0,07	0,05	0,25	0,09	0,03	0,07	0,08	0,06	0,09	0,08	0,04	0,13	0,03
Q3	0,03	0,07	0,04	0,20	0,08	0,02	0,05	0,07	0,03	0,08	0,06	0,03	0,11	0,02
Q4	0,02	0,05	0,03	0,17	0,06	0,02	0,04	0,04	0,03	0,06	0,05	0,03	0,08	0,02
Q5	0,03	0,04	0,02	0,08	0,07	0,01	0,04	0,02	0,04	0,05	0,05	0,03	0,10	0,02
poor	0,09	0,11	0,04	0,24	0,10	0,04	0,11	0,11	0,10	0,13	0,08	0,05	0,18	0,04
non poor	0,04	0,06	0,04	0,18	0,08	0,02	0,06	0,05	0,04	0,07	0,06	0,03	0,11	0,02

Source: Eurostat, EU-SILC survey year 2004

These figures clearly show 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 in all dimensions and countries. The level of deprivation in the strain dimension for 'poor' children is between 2 and 3 times higher than the deprivation level for people whose income is above the poverty line. This ratio is higher than 5 in the durables dimension and less than 2 in the housing domain. The figures broken down by quintiles also show that children with higher income experience less deprivation, even if the deprivation level is not always inexistent among richer people. This means that 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[22] and tends to show that deprivation is not only determined by current income but also by savings/debts, assets, social capital, type of networks and previous labour positions and non-cash transfers[23]. In terms of policy implications, it means also that impact on monetary children poverty does not necessarily imply equivalent impact on children deprivation level and vice-versa.

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 or people facing deprivation but receiving income above the threshold.

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[24] at the whole population level and which

[22] This is confirmed by other studies. See for example Whelan et al. (2001); Layte et al. (2001); Muffels and Fouarge (2001); Dekkers (2003). Some authors have shown that the relationship between persistent income poverty and deprivation is stronger than between current income poverty and deprivation and that the overlap between both forms of persistence is more important, even if it remains far from perfect.

[23] This can also relate to mis-measurement of income.

[24] Consistent poverty is based on a combined measure of low-income and lifestyle deprivation. To be qualified as 'poor', the household income has to be below a specified relative income poverty threshold and the household has to be deprived in

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 and United Kingdom (where there is a special focus on child poverty[25]).

Table 4: proportion of the population 'poor', lacking at least 2 items in the strain dimension, and suffering from both problem, total population and children

	AT		BE		DK		EE		ES		FI		FR		GR		IE		IT		LU		NO		PT		SE	
	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15	All	0-15
Poverty	13	15	15	17	11	9	18	20	20	24	11	10	14	14	20	20	21	22	19	26	11	18	11	8	21	23	11	11
Strain (2+)	15	17	22	29	11	13	28	31	32	30	18	24	32	37	39	33	16	22	27	28	9	13	10	13	42	44	12	15
Both	5	7	7	10	2	3	10	12	11	13	5	4	9	11	13	13	7	11	11	15	4	7	3	3	14	16	3	3

Source: Eurostat, EU-SILC survey year 2004

Deprived: lacking at least two of the 5 items in the economic strain 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 consistent poverty level.

To illustrate this *intersection* approach, Table 4 presents the proportion of people facing relative monetary poverty, deprivation (in the economic strain dimension[26]) or cumulating both types of problems (consistent poverty). By definition, the consistent poverty rate is a subset of the poverty and the deprivation rates. For the children population, this indicator ranges from 3% (DK, SE, NO) to 16% (PT).

The consistent poverty share (consistent poverty in proportion of poverty rate) varies between 30% (in DK, SE, NO) to more than 60% (PT, EE, GR, IT, FR, BE). This means that in the most deprived countries, the majority of the 'poor' are also 'deprived'. However, the opposite is far from being true. A non negligible proportion of the population deprived is not 'consistently poor'. Indeed, in proportion of the deprivation rate, the consistent poverty share attains less than 30%, except in Ireland and Luxembourg (50%). 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 figures show 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[27]. 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.

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respect of one or more of the items included in a eight-items summary index of basic deprivation (New not second-hand clothes; Meat/fish/chicken every second day; Warm waterproof overcoat; Two pairs of strong shoes; A roast or its equivalent once a week; No substantial meal in past two weeks; Not having to go without heating during last year through lack of money; Experienced debt problems arising from ordinary living expenses or availed of charity).

[25] In UK, children deprivation is measured through items referring the specific situation of children (in terms of social activities and leisure or housing comfort).

[26] We focus on the economic strain dimension only, as it is the closest to the set of items chosen to construct consistent poverty measures in Ireland.

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

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.

These weights could be established on the basis of social views on what is more desirable or even necessary, i.e. goods considered as necessary by a larger proportion of the population should receive greater weights. However such information is not easy to collect and is not always available in surveys.

An alternative method for constructing weights is to weight each item by a function of the proportion of persons who do possess the item in the country[28]. 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.

This prevalence weighting approach can be summarized as follows: in each dimension, the deprivation score (u_j) for each individual (j) in the sample equals the sum over the items (X_{ij}) weighted with w_i, i.e. the ratio between the proportion of people having the item i (h_i) over the whole population and the sum of the proportion of "haves" for all items in the dimension (see formula 1).

Formula 1:

$$u_j = \sum_{i=1}^{I} w_i X_{ij}$$

$$where \quad w_i = \frac{h_i}{\sum_{i=1}^{I} h_i}$$

$$and \quad \sum_{i=1}^{I} w_i = 1$$

Different functions of weights were tested. First, weights were based on a linear function of the proportion of 'haves' (see formula 1) and secondly we tried to use a weighting structure which still varies positively with the proportion of "haves" as desired, but which gives higher weights to items with higher proportions of 'haves' and introduce higher variability between items (the weights are based on the coefficient of variation of each deprivation item)[29]. However, as both types of weights gave similar results, we preferred to use the simplest (non linear) form of weights, which give results more easily understandable.

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[30]. The set of different weights is common to all individuals in the country (see annex A6). An alternative would be to compute weights by household type (household with or

[28] See for a similar approach: Tsakloglou and Papadapoulos (2001); Whelan et al. (2002); D'Ambrosio, Gradin (2003); Muffels, Fouarge (2004); Förster (2005).

[29] For proportion, the coefficient of variation is the square root of the ratio of proportion of "haves" and the proportion of "haves not". See Eurostat (2003) for a similar proposal

[30] Whelan C, Layte R, Maitre B, Nolan B (2001).

without children), in order to take into account eventual different pattern of consumption. This would be based on the hypothesis that children compare their own situation with the other children in the country. However, this way of weighting was not retained as, by proceeding in this way, we could risk to consider as a 'children norm' the relative disadvantage that family with children could suffer.

The question of weighting or not 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[31].

Figure 9 presents the mean indices by country, for children, either weighted or unweighted, for the economic strain 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 Portugal on average, children miss almost 28 percent of the 5 items of the strain dimension. When we take into account the weights, the average weighted score indicates that people miss 22 percent of the weighted sum of items in the dimension.

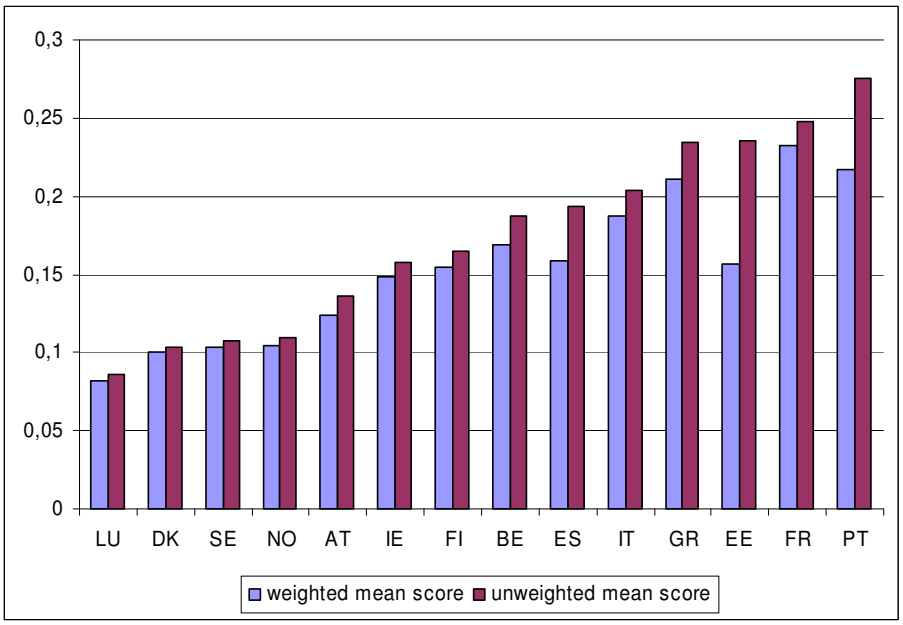

Figure 9: Mean weighted/unweighted composite index of the economic strain dimension, children

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 highest difference concerns Estonia and 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. The weighted approach can therefore modify the ranking order of the countries.

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.

[31] As suggested for instance by Atkinson, Cantillon, Marlier, Nolan (2005).

Conclusions

The list of common indicators used at the EU level has a primary focus on indicators of relative income poverty and the specific situation of the children is captured through detailed breakdowns of the indicators (by age, by household type), whenever relevant and meaningful.

This paper aimed to compare the childhood poverty picture that can be drawn on the basis on this relative monetary approach, with an alternative view based on material deprivation measures, more "absolute" and multidimensional. Material deprivation is defined as the enforced lack of a combination of items depicting material living conditions and structured in three dimensions: "economic strain", possession of durables and housing conditions.

According the monetary analysis, child poverty is the lowest in Nordic countries and the highest in Italy, Spain, Portugal, Ireland, Greece and Estonia. Children are less likely to be poor than the total population in Norway, Denmark and Finland and more likely to be poor in other countries. The gap between children and general population poverty incidence is higher in Italy and Luxembourg or in Spain and don't differ significantly from 0 in Greece, France, Ireland, Sweden.

The deprivation analysis leads to the following conclusions:

At the level of the *total population*, the deprivation approach shows that the most deprived countries (PT, GR, ES, FR, EE, IT) face deprivation far higher than their poverty risk levels, although the least deprived countries (LU, NO, DK, SE, AT) have similar poverty and deprivations rates. Taking the deprivation situation of the countries into account allows a better view of the dispersion of living conditions in the EU. The ranking of countries is mainly modified by a shift of France, Finland, Estonia and Belgium (more deprived than poor) and of Ireland (less deprived than poor).

The relative position of children depends on the dimension. In the strain dimension, children are generally more at risk than the total population, indicating that the presence of children in the household can increase financial difficulties.

The deprivation approach highlights countries where the relative position of children differs from what was assessed in the monetary approach. Furthermore, even if, in general, countries' ranking for children is very similar to the ranking based on deprivation figures computed for the total population, in some countries, the gap between children and the rest of the population is larger and shifts in the rankings can occur.

In the durables and housing dimensions, children tend to be equally or even less deprived than the total population. This would mean that, despite potentially higher financial difficulties, households with children try to guard their family against housing discomfort and enforced lack of durables.

Children living in lone parent family or/and in households with low work attachment are particularly at risk of deprivation, at least in the strain and durables dimensions. Their performance in the housing dimension depends on the country. The analysis also showed the high EU diversity of incidence of lone parenthood and joblessness, which can impact on the total child poverty/deprivation rate. However, additional and multivariate analysis would be necessary to better understand the risk factors of children deprivation and their mutual interactions.

A weighted version of the index was also constructed. It appeared that 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 weighted approach can therefore modify the ranking order of the countries. Both measures could be used jointly and offer useful information on both aspects ("absolute" and relative) of deprivation.

Finally, it should be kept in mind that the two measures (monetary poverty and deprivation) rely on the hypothesis of equal intrahousehold access and sharing of resources. Both the income and deprivation items are based on household variables which are assigned to each household member. Data quality could be improved by collecting children specific items, or even by asking directly children to asses their own situation.

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.

Bardone, L. & Guio, AC (2005), In-Work Poverty. New commonly agreed. Indicators at the EU level, Eurostat, Statistics in Focus, 5/2005.

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 children. 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.

Guio AC. (2005a), "Income poverty and social exclusion in the EU25", Eurostat, Statistics in Focus.

Guio A-C (2005b) "Material deprivation in the EU", Eurostat Statistics in Focus, 21/05.

Hoelsher P. (2004), "A thematic study using transnational comparisons to analyse and identify what combination of policy responses are most successful in preventing and reducing high levels of child poverty", European Commission, DG Employment and Social affairs.

Hussain M.A. (2002), "Child deprivation in the European Union", EPAG Working Paper N° 38.

INSEE (2005), "Les approches de la pauvreté à l'épreuve des comparaisons internationales", *Economie et Statistique*, N°383-384-385.

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.

Mac J. and Lansley S. (1985). *Poor Britain*. Allen and Unwin.

McKay and Collard (2003), "Developing deprivation questions for the family resources survey", Working paper N°13, December.

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).

Townsend P. (1979), *Poverty in United Kingdom*.

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.

Wen-Hao C. and Corak M. (2005), "Child poverty and changes in child poverty in rich countries since 1990), Innocenti Working paper 2005-02, Unicef Innocenti research Centre.

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.

Willitts M. (2006) “Measuring child poverty using material deprivation : Possible approaches”, Depatment for Work and Pensions, London, Working paper, n° 28, February, 70 p.

Statistical annex

Table A: proportion of people deprived, for each item, total population

Percentage of individuals deprived	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic strain														
HAS THE HOUSEHOLD BEEN UNABLE :														
TO PAY SCHEDULED RENT, UTILITY BILLS OR HIRE PURCHASE INSTALMENTS?	3%	7%	5%	15%	7%	12%	13%	30%	9%	13%	5%	12%	8%	10%
WHO CANNOT THE HOUSEHOLD AFFORD:														
PAYING FOR A WEEK'S ANNUAL HOLIDAY AWAY FROM HOME?	25%	29%	9%	71%	44%	20%	33%	47%	23%	39%	12%	9%	61%	14%
KEEPING ITS HOME ADEQUATELY WARM?	2%	6%	10%	5%	9%	3%	24%	17%	3%	11%	1%	2%	41%	1%
EATING MEAT, CHICKEN OR FISH EVERY SECOND DAY, IF WANTED?	9%	4%	2%	16%	2%	4%	8%	8%	4%	7%	2%	3%	4%	3%
CAPACITY TO FACE UNEXPECTED EXPENSES	20%	28%	18%	8%	38%	25%	34%	35%	21%	27%	13%	21%	20%	13%
Durables														
ENFORCD LACK OF:														
COLOUR TV	0%	1%	1%	2%	0%	1%	0%	1%	0%	0%	0%	1%	1%	0%
A TELEPHONE	1%	1%	0%	4%	1%	0%	1%	1%	1%	2%	0%	0%	4%	0%
A CAR OR VAN (FOR PRIVATE USE)	5%	7%	9%	31%	6%	9%	4%	12%	11%	3%	1%	5%	12%	5%
WASHING MACHINE	1%	2%	2%	7%	0%	2%	8%	2%	1%	1%	0%	0%	4%	2%
Housing conditions														
DOES THE DWELLING HAVE PROBLEMS OF :														
INDOOR FLUSHING TOILET ?	2%	1%	1%	19%	0%	1%	1%	4%	1%	0%	0%	1%	4%	0%
BATH OR SHOWER ?	1%	1%	1%	21%	0%	1%	1%	2%	1%	1%	1%	0%	4%	0%
ACCOMODATION TOO DARK	6%	11%	4%	9%	13%	3%	9%	7%	6%	10%	6%	4%	22%	3%
LEAKY ROOF, ROT IN WINDOW FRAMES, DAMP WALLS, ETC. ?	10%	14%	8%	29%	20%	5%	15%	20%	14%	23%	16%	8%	23%	5%

Source: Eurostat, EU-SILC survey year 2004

Table B: proportion of people deprived, for each item, 0-15

Percentage of children deprived	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic strain														
HAS THE HOUSEHOLD BEEN UNABLE :														
TO PAY SCHEDULED RENT, UTILITY BILLS OR HIRE PURCHASE INSTALMENTS?	5%	11%	7%	20%	10%	20%	18%	31%	15%	18%	5%	17%	13%	14%
WHO CANNOT THE HOUSEHOLD AFFORD:														
PAYING FOR A WEEK'S ANNUAL HOLIDAY AWAY FROM HOME?	30%	34%	10%	71%	41%	26%	36%	39%	29%	38%	17%	12%	60%	18%
KEEPING ITS HOME ADEQUATELY WARM?	1%	7%	12%	4%	7%	3%	23%	12%	4%	11%	1%	2%	38%	2%
EATING MEAT, CHICKEN OR FISH EVERY SECOND DAY, IF WANTED?	9%	5%	2%	16%	2%	4%	8%	5%	5%	7%	3%	4%	4%	3%
CAPACITY TO FACE UNEXPECTED EXPENSES	22%	36%	21%	6%	36%	29%	39%	30%	26%	27%	17%	20%	22%	16%
Durables														
ENFORCD LACK OF:														
COLOUR TV	0%	0%	1%	1%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%
A TELEPHONE	1%	0%	0%	1%	1%	0%	1%	0%	1%	2%	0%	0%	4%	0%
A CAR OR VAN (FOR PRIVATE USE)	5%	8%	9%	29%	6%	5%	4%	9%	11%	3%	1%	4%	14%	5%
WASHING MACHINE	0%	1%	2%	4%	0%	1%	10%	1%	0%	0%	0%	0%	2%	3%
Housing conditions														
DOES THE DWELLING HAVE PROBLEMS OF :														
INDOOR FLUSHING TOILET ?	2%	1%	0%	17%	0%	0%	1%	2%	0%	0%	0%	0%	3%	0%
BATH OR SHOWER ?	1%	0%	0%	19%	0%	1%	0%	1%	0%	0%	0%	0%	3%	0%
ACCOMODATION TOO DARK	5%	12%	4%	8%	13%	3%	9%	7%	7%	10%	8%	4%	21%	3%
LEAKY ROOF, ROT IN WINDOW FRAMES, DAMP WALLS, ETC. ?	10%	16%	10%	31%	20%	6%	16%	16%	13%	23%	19%	10%	22%	6%

Source: Eurostat, EU-SILC survey year 2004

Notes: In France, the variable measuring the affordability to keep the home adequately warm is not comparable with the other EU countries as it focus on the capacity to keep the house warm instead on the affordability (this overestimates the deprivation rate in France). In Estonia, the variable about the capacity to face unexpected expenses could not be surveyed in 2004 according to the harmonised definition (defining the amount of the unexpected expense as the monthly poverty threshold). A lower amount (1000 instead of 1600 kroons) was chosen as a reference, this underestimates the proportion of people deprived.

ANNEX A1: Database

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.

ANNEX A2: fit of the confirmatory factor analysis, pooled data[32]

Goodness of Fit Index (GFI)	0.9787
GFI Adjusted for Degrees of Freedom (AGFI)	0.9688
Root Mean Square Residual (RMRS)	0.0669
Parsimonious GFI (Mulaik, 1989)	0.7780

GFI, goodness of fit index, represents the amount of variances and covariances in the sample covariance matrix that are predicted by the model. Theoretically, its maximal value is 1. However, as GFI is affected by the sample size and the number of indicators, its upper bound can be lower than one, even in the case of perfect fit. One rule of thumb is that the GFI for good fitting model should be greater than 0.9.

AGFI, adjusted goodness of fit index, is the GFI adjusted for degrees of freedom. A value superior of 0.8 is more often used as a cut-off value to consider the model as good fitting.

RMSR, root mean square residual, is the square root of the average of the square of the residuals between the sample and modelised covariance matrix. The less is the fit between the model and the data, the larger the RMSR.

PGFI, Parsimonious goodness of fit index, is a modification of the GFI that takes the parsimony of the model into account.

ANNEX A3: Covariance between factors, pooled data

	Economic strain	Durables	Housing
Economic strain	1	0,82	0,51
Durables	0,82	1	0,68
Housing	0,51	0,68	1

[32] Following Knol and Berger (1991) quoted by Dekkers (2003), the optimisation process suggested in the case of tetratchoric correlations is the unweighted least square (ULS). The Fit of the confirmatory analysis performed country by country is available on demand.

ANNEX A4: mean deprivation index, by household type

	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic strain														
Households without children	0,11	0,14	0,08	0,25	0,20	0,11	0,21	0,33	0,10	0,19	0,05	0,09	0,29	0,07
One person household, total	0,16	0,21	0,11	0,29	0,24	0,16	0,27	0,38	0,13	0,22	0,07	0,13	0,35	0,12
2 adults, no dependent children, both adults under 65 years	0,09	0,11	0,06	0,21	0,16	0,09	0,17	0,27	0,09	0,14	0,05	0,06	0,24	0,05
2 adults, no dependent children, at least one adult 65 years or more	0,08	0,10	0,06	0,25	0,23	0,06	0,17	0,35	0,07	0,19	0,03	0,05	0,30	0,03
Other households without dependent children	0,12	0,09	0,08	0,21	0,21	0,09	0,23	0,28	0,09	0,18	0,07	0,06	0,27	0,06
Households with children														
Single parent household, one or more dependent children	0,24	0,35	0,23	0,32	0,29	0,30	0,42	0,39	0,40	0,26	0,14	0,20	0,34	0,22
2 adults, one dependent child	0,10	0,13	0,07	0,20	0,16	0,10	0,21	0,23	0,10	0,15	0,06	0,09	0,21	0,06
2 adults, two dependent children	0,10	0,12	0,06	0,21	0,16	0,11	0,17	0,21	0,07	0,17	0,05	0,07	0,23	0,07
2 adults, three or more dependent children	0,16	0,18	0,10	0,24	0,21	0,18	0,28	0,27	0,13	0,26	0,09	0,10	0,29	0,10
Other households with dependent children	0,13	0,16	0,04	0,21	0,26	0,15	0,26	0,32	0,13	0,24	0,08	0,08	0,30	0,10
Total	0,12	0,15	0,09	0,23	0,21	0,13	0,22	0,28	0,12	0,19	0,06	0,09	0,27	0,08
Durables														
Households without children	0,03	0,04	0,03	0,16	0,02	0,05	0,03	0,06	0,04	0,02	0,02	0,02	0,08	0,02
One person household, total	0,05	0,07	0,05	0,21	0,03	0,10	0,05	0,09	0,06	0,04	0,04	0,04	0,12	0,04
2 adults, no dependent children, both adults under 65 years	0,02	0,03	0,02	0,10	0,02	0,02	0,03	0,05	0,04	0,01	0,01	0,01	0,05	0,01
2 adults, no dependent children, at least one adult 65 years or more	0,01	0,01	0,01	0,14	0,02	0,01	0,02	0,06	0,03	0,02	0,02	0,00	0,09	0,00
Other households without dependent children	0,01	0,01	0,02	0,10	0,02	0,01	0,04	0,03	0,03	0,01	0,01	0,00	0,04	0,00
Households with children														
Single parent household, one or more dependent children	0,05	0,08	0,09	0,21	0,07	0,09	0,09	0,09	0,13	0,03	0,03	0,03	0,08	0,06
2 adults, one dependent child	0,01	0,02	0,01	0,08	0,01	0,01	0,03	0,03	0,02	0,01	0,01	0,01	0,04	0,01
2 adults, two dependent children	0,01	0,01	0,01	0,05	0,01	0,00	0,02	0,02	0,01	0,01	0,01	0,00	0,03	0,01
2 adults, three or more dependent children	0,02	0,02	0,03	0,06	0,03	0,01	0,04	0,02	0,02	0,02	0,02	0,01	0,06	0,01
Other households with dependent children	0,01	0,02	0,02	0,09	0,02	0,01	0,04	0,03	0,02	0,01	0,01	0,00	0,04	0,01
Total	0,02	0,03	0,03	0,11	0,02	0,03	0,03	0,04	0,03	0,02	0,02	0,02	0,05	0,02
Housing														
Households without children	0,05	0,07	0,03	0,22	0,09	0,03	0,07	0,10	0,06	0,09	0,05	0,03	0,17	0,02
One person household, total	0,07	0,09	0,04	0,25	0,11	0,03	0,08	0,12	0,09	0,10	0,07	0,04	0,22	0,03
2 adults, no dependent children, both adults under 65 years	0,04	0,06	0,03	0,16	0,09	0,02	0,06	0,07	0,05	0,08	0,05	0,03	0,12	0,02
2 adults, no dependent children, at least one adult 65 years or more	0,04	0,05	0,02	0,26	0,09	0,02	0,06	0,12	0,05	0,09	0,04	0,02	0,18	0,01
Other households without dependent children	0,05	0,05	0,05	0,20	0,08	0,02	0,07	0,09	0,04	0,09	0,07	0,02	0,14	0,02
Households with children														
Single parent household, one or more dependent children	0,04	0,11	0,05	0,22	0,11	0,03	0,09	0,07	0,11	0,09	0,07	0,05	0,15	0,03
2 adults, one dependent child	0,04	0,07	0,03	0,15	0,08	0,02	0,06	0,06	0,06	0,07	0,06	0,03	0,10	0,02
2 adults, two dependent children	0,04	0,06	0,03	0,15	0,07	0,02	0,05	0,05	0,04	0,08	0,04	0,03	0,10	0,02
2 adults, three or more dependent children	0,06	0,06	0,04	0,22	0,08	0,02	0,06	0,08	0,04	0,10	0,07	0,03	0,16	0,02
Other households with dependent children	0,04	0,07	0,02	0,20	0,09	0,04	0,07	0,10	0,06	0,09	0,06	0,03	0,14	0,03
Total	0,05	0,07	0,03	0,19	0,08	0,03	0,07	0,08	0,05	0,09	0,06	0,03	0,13	0,02
Distribution of the total population														
Households without children	50%	48%	51%	44%	44%	52%	46%	50%	38%	50%	42%	47%	43%	48%
One person household, total	14%	14%	21%	13%	5%	17%	14%	7%	7%	11%	11%	19%	6%	18%
2 adults, no dependent children, both adults under 65 years	14%	14%	18%	11%	9%	21%	15%	9%	10%	9%	13%	16%	9%	18%
2 adults, no dependent children, at least one adult 65 years or more	8%	10%	9%	9%	9%	9%	11%	12%	7%	11%	8%	8%	10%	11%
Other households without dependent children	13%	10%	3%	11%	21%	4%	6%	22%	14%	18%	10%	3%	19%	2%
Households with children	50%	52%	49%	56%	56%	48%	54%	50%	62%	50%	58%	53%	57%	52%
Single parent household, one or more dependent children	4%	6%	6%	6%	1%	5%	5%	2%	6%	3%	4%	7%	3%	8%
2 adults, one dependent child	12%	11%	11%	15%	11%	12%	13%	11%	9%	13%	12%	11%	16%	11%
2 adults, two dependent children	15%	16%	19%	14%	17%	16%	20%	27%	15%	17%	19%	19%	16%	20%
2 adults, three or more dependent children	7%	11%	9%	6%	3%	12%	10%	1%	14%	5%	12%	13%	4%	10%
Other households with dependent children	12%	8%	3%	13%	22%	3%	5%	9%	17%	12%	11%	4%	18%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Each mean index is constructed by averaging the deprivation shares in each dimension and is normalised to 1. This gives an idea of the proportion of items lacked in the dimension.

ANNEX A5: mean deprivation index, by work intensity of the household

		AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic strain															
Without children	**WI=0**	0,12	0,21	0,14	0,37	0,27	0,19	0,26	0,34	0,20	0,24	0,07	0,17	0,32	0,19
	0<WI<1	0,13	0,12	0,09	0,25	0,22	0,13	0,23	0,29	0,09	0,18	0,07	0,10	0,28	0,09
	WI=1	0,09	0,09	0,05	0,16	0,14	0,06	0,16	0,24	0,04	0,12	0,05	0,07	0,22	0,04
With children	**WI=0**	0,29	0,42	0,31	0,41	0,35	0,39	0,56	0,33	0,45	0,41	0,18	0,37	0,44	0,43
	0<WI<0,5	0,27	0,27	0,21	0,29	0,35	0,31	0,40	0,38	0,27	0,34	0,15	0,22	0,35	0,31
	0,5<WI<1	0,13	0,17	0,12	0,23	0,20	0,17	0,27	0,29	0,12	0,21	0,08	0,11	0,31	0,10
	WI=1	0,09	0,09	0,07	0,19	0,12	0,10	0,16	0,16	0,07	0,10	0,04	0,07	0,20	0,06
Durables															
Without children	**WI=0**	0,03	0,08	0,06	0,29	0,04	0,08	0,06	0,06	0,09	0,03	0,02	0,05	0,10	0,07
	0<WI<1	0,02	0,02	0,04	0,10	0,02	0,04	0,04	0,04	0,04	0,01	0,01	0,02	0,05	0,03
	WI=1	0,02	0,02	0,02	0,09	0,02	0,02	0,02	0,05	0,02	0,01	0,00	0,01	0,04	0,01
With children	**WI=0**	0,07	0,12	0,19	0,22	0,06	0,10	0,13	0,05	0,14	0,06	0,04	0,08	0,13	0,20
	0<WI<0,5	0,03	0,03	0,04	0,11	0,04	0,03	0,09	0,05	0,06	0,02	0,00	0,02	0,09	0,07
	0,5<WI<1	0,01	0,01	0,02	0,09	0,01	0,01	0,03	0,03	0,01	0,01	0,00	0,01	0,05	0,01
	WI=1	0,01	0,01	0,01	0,07	0,01	0,01	0,02	0,02	0,01	0,00	0,00	0,01	0,02	0,01
Housing															
Without children	**WI=0**	0,05	0,08	0,05	0,36	0,10	0,04	0,08	0,10	0,08	0,10	0,06	0,04	0,17	0,02
	0<WI<1	0,06	0,06	0,05	0,19	0,08	0,02	0,07	0,07	0,05	0,09	0,06	0,03	0,14	0,03
	WI=1	0,05	0,07	0,03	0,16	0,08	0,03	0,07	0,10	0,05	0,08	0,06	0,03	0,11	0,02
With children	**WI=0**	0,08	0,11	0,08	0,33	0,11	0,04	0,13	0,07	0,12	0,11	0,09	0,05	0,27	0,03
	0<WI<0,5	0,05	0,09	0,02	0,22	0,11	0,04	0,09	0,11	0,06	0,12	0,07	0,06	0,14	0,03
	0,5<WI<1	0,04	0,07	0,04	0,20	0,07	0,03	0,07	0,07	0,05	0,09	0,06	0,03	0,13	0,03
	WI=1	0,04	0,06	0,03	0,15	0,07	0,02	0,05	0,05	0,03	0,06	0,05	0,03	0,09	0,02
Distribution in the total population															
Without children	**WI=0**	8%	11%	9%	8%	6%	8%	9%	8%	6%	11%	7%	6%	6%	5%
	0<WI<1	17%	15%	11%	13%	20%	17%	12%	23%	15%	19%	12%	10%	18%	13%
	WI=1	18%	15%	23%	17%	13%	19%	16%	13%	12%	14%	17%	23%	13%	22%
With children	**WI=0**	2%	6%	3%	3%	2%	2%	4%	2%	7%	4%	2%	3%	2%	2%
	0<WI<0,5	4%	4%	1%	3%	5%	3%	4%	3%	4%	7%	4%	2%	4%	3%
	0,5<WI<1	25%	20%	13%	23%	33%	22%	21%	26%	31%	26%	30%	16%	24%	15%
	WI=1	26%	30%	40%	32%	20%	29%	34%	25%	26%	21%	28%	40%	33%	41%
	Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Notes: The "work intensity" of the household is defined as the overall degree of work attachment of working-age members in a household; it is calculated by dividing the sum of all the months actually worked by the working age members of the household by the sum of the workable months in the household – i.e., the number of months spent in any activity status by working age members of the household (see methodological appendix). Households are classified by their composition (presence of dependant children or not) as well as by their work intensity (WI). For households with dependent children, four categories of WI are defined, whereas only three are used for households with no dependent children. WI=0 corresponds to jobless households; WI=1 to full-year work for all working age adults in the household; and 0<WI<1 corresponds to either less than full-year work for some or all members of the household or only some of the adults in the household being at work.

ANNEX A6: value of the weights, by dimension and by country

	Unweighted	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	NO	PT	SE
Economic strain															
SCHEDULED RENT, UTILITY BILLS OR HIRE PURCHASE INSTALMENTS	0,200	0,220	0,218	0,208	0,222	0,232	0,201	0,225	0,193	0,206	0,216	0,203	0,194	0,251	0,197
PAYING FOR A WEEK'S ANNUAL HOLIDAY AWAY FROM HOME?	0,200	0,170	0,168	0,200	0,074	0,141	0,184	0,172	0,146	0,176	0,152	0,189	0,200	0,106	0,187
KEEPING ITS HOME ADEQUATELY WARM?	0,200	0,223	0,220	0,197	0,247	0,227	0,222	0,197	0,230	0,220	0,221	0,212	0,217	0,162	0,215
EATING MEAT, CHICKEN OR FISH EVERY SECOND DAY, IF WANTED?	0,200	0,206	0,225	0,215	0,217	0,245	0,221	0,237	0,253	0,219	0,230	0,209	0,214	0,261	0,211
CAPACITY TO FACE UNEXPECTED EXPENSES	0,200	0,181	0,168	0,180	0,240	0,155	0,173	0,169	0,178	0,179	0,182	0,187	0,175	0,219	0,189
Durables															
COLOUR TV	0,250	0,257	0,262	0,271	0,292	0,263	0,258	0,290	0,267	0,261	0,260	0,255	0,257	0,271	0,273
A TELEPHONE	0,250	0,261	0,264	0,278	0,280	0,257	0,265	0,293	0,266	0,262	0,249	0,256	0,262	0,258	0,276
A CAR OR VAN (FOR PRIVATE USE)	0,250	0,226	0,224	0,219	0,166	0,218	0,224	0,261	0,209	0,221	0,230	0,238	0,224	0,212	0,236
WASHING MACHINE	0,250	0,256	0,250	0,233	0,262	0,262	0,254	0,156	0,259	0,256	0,261	0,251	0,256	0,259	0,214
Housing															
INDOOR FLUSHING TOILET ?	0,250	0,257	0,265	0,257	0,252	0,272	0,255	0,265	0,262	0,262	0,272	0,265	0,257	0,277	0,256
BATH OR SHOWER ?	0,250	0,259	0,265	0,256	0,246	0,272	0,253	0,265	0,266	0,261	0,271	0,264	0,258	0,276	0,255
ACCOMODATION TOO DARK	0,250	0,248	0,238	0,250	0,283	0,237	0,248	0,243	0,253	0,248	0,247	0,248	0,248	0,226	0,248
LEAKY ROOF, ROT IN WINDOW FRAMES, DAMP WALLS, ETC. ?	0,250	0,236	0,232	0,237	0,219	0,219	0,245	0,227	0,218	0,228	0,210	0,224	0,238	0,221	0,242

Note: The weights are normalised to 1 over items in each dimension.

Source: Eurostat, EU-SILC survey year 2004