Income and non-income poverty in Europe:

What is the minimum acceptable standard in an enlarged European Union?

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Abstract

EU-wide comparative poverty reporting has made considerable progress during the past years but is still largely confined to measures of country-specific income shortages within Member countries. Conventional approaches are thus *relative* (country-specific) and *one-dimensional* (monetary-based). Both theoretical considerations and the upcoming enlargement of the EU put serious limits to this approach. This paper discusses how alternative measures for poverty in an enlarged European Union could take into account both income and non-income aspects and how such a comparative measure of consistent poverty may reflect country-specific ("relative") or European-wide ("absolute") thresholds. Four alternative measures of consistent poverty are constructed, based on an "extended conventional", a "relativist", an "absolutist" and an "innovative" approach. These measures were implemented with survey data from the 15 EU and three accession countries. For this purpose, micro data from the Czech Republic, Hungary and Slovenia have been standardised to be comparable with data from the European Community Household Panel for the present Member states, for the benchmark year 1999.

Against a set of several principles and aims of poverty measurement, it appears that no single approach can be identified as superior for all purposes. The use of the "innovative" approach yields relatively high poverty rates for the future EU countries and it may be viewed as an upper poverty benchmark, while the "extended conventional" approach may be taken as a lower benchmark for consistent poverty. The socio-demographic poverty profiles in accession countries are similar to those of present EU-Member states, with the exception of a relatively lower relative poverty risk for youth in the future EU countries. The empirical findings indicate important methodological and data requirements and may hence provide a starting point for refining the conventional conceptual and methodological framework for poverty in an enlarged European Union.

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1. INTRODUCTION[1]

This paper discusses conceptual extensions of the definition of poverty which would be valid, meaningful and policy relevant for EU Member *and* EU accession countries, and applies the corresponding measures to the 15 EU countries and three selected Central Eastern European candidate countries: the Czech Republic, Hungary and Slovenia. For this purpose, the latest micro data available from national as well as international data sources were standardised, combined and analysed.

Conventional reporting on poverty in the European Union is based on relative and Member State specific aspects. The EU income poverty line, for instance, is set at 60% of median equivalised income per person in each Member State. In such, it reflects the experience of income deprivation within European countries and leaves aside income gaps *between* those countries. As a consequence, the real value of the reported poverty line for Luxembourg is three times higher than the one for Portugal. 17% of EU citizens fall below their nationally defined poverty threshold, and this proportion ranges from 12-13 % in Austria, Denmark, Luxembourg and the Netherlands to 21-22% in Greece and Portugal (EUROSTAT 2001, p. 59). About the same total number of Europeans would fall below a uniform EU poverty line. The distribution of poverty across Europe, however, would change dramatically, ranging from a 2% poverty rate in Luxembourg to a 47% rate in Portugal (EUROSTAT 2001, p. 60). This raises the issue of the adequate reference society for poverty comparisons. Taking the Member State as reference society reflects the fact that social policies are decided on the country level while on-going European integration builds an argument for using "Europe" as the reference society. A combination of national and common minimum standards is therefore favourable.

The issue gains further importance in view of the pending EU enlargement, especially with regard to the ten Central and Eastern European among the 12 candidate countries. Those countries account for one fourth of the total EU population but their combined GDP is only one tenth the EU's. Using an EU income poverty threshold, the large majority of the population in these countries is counted as poor, e.g. between 80 and 95% in the Baltic states and Slovakia, on the basis of half the EU average income (Piachaud 2000). On the other hand, country-specific relative income poverty is fairly low in some of these countries, e.g. less than 8% in Slovakia (LIS 2002). Both such estimates, i.e. 80% and 8%, are probably not appropriate to guide any successful anti-poverty policy, be it on a national or European level.

To overcome this apparent drawback, the present paper complements the conventional income poverty concept with non-monetary indicators of deprivation and exclusion. An extended poverty concept then is achieved by combining income poverty and non-monetary deprivation into composite indices, as has been done in the recent past in some countries' national poverty reporting (e.g. Ireland, Austria). The propensity to be deprived with a low income will be very different, depending on the culture and social infrastructure of a society.

For a cross-national view, poverty is thus measured as being below a monetary threshold <u>and</u> being deprived from specific items in several dimensions/domains of life. In that, both European-wide and national-specific minimum standards are taken into account: poverty then is defined as being below an EU-standardised monetary threshold and a national-specific deprivation threshold and, alternatively, being below a national-specific monetary threshold and an EU-wide deprivation threshold. This allows to include both EU and country-specific aspects in a straightforward European poverty definition.

The paper discusses the conceptual issues related to this extended poverty definition, including the issues of income concepts and equivalence scales and empirically applies those methods presenting measures of poverty for selected EU and accession countries, for the latest date available (1998). In addition, differences in poverty estimates obtained applying the extended as well as the conventional standard methodology will be highlighted. It should be emphasised that our paper does not attempt to propose one single and "ultimate" measure for poverty in Europe. Rather, the empirical results presented in the paper shall primarily serve as a starting point for extensive theoretical reflection and emphasise policy implications of income and non-income poverty indicators.

2. INCOME AND NON-INCOME POVERTY: REFINING THE CONVENTIONAL APPROACH

This chapter discusses the conceptual approaches followed for the analysis of income poverty, multiple deprivation and consistent poverty in an enlarged Europe carried out below. The final section describes data, time and country coverage and discusses methodological choices. In determining the conceptual and methodological framework, our aim was to remain as close as possible to the recommendations and practices of the European and international organisations (e.g. CPS 1998; EUROSTAT 2001, 2002; OECD 2001), as well as recently developed additions and operationalisations of those concepts (Atkinson et al. 2002).

2.1 Poverty: more or less relative

Basically, poverty can be described in "absolute", "subjective" or "relative" terms or, as Hagenaars/de Vos (1987) put it, *"having less than an objectively defined absolute minimum"* (absolute approach); *"feeling you do not have enough to get along"* (subjective approach); and *"having less than others"* (relative approach). The <u>absolute approach</u> typically defines a subsistence minimum in terms of basic needs (for food, clothing, housing etc.)[2]. The aggregate cost of these goods and services then constitutes the poverty threshold. The most critical feature of the absolute approach is undoubtedly the arbitrary nature of the choice as to what constitute basic needs. If this holds true at a national level, the disadvantages of the absolute approach are even more striking when comparing across countries. In any event,

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[2]   While "absolute poverty" in the sense of insufficient food supply is widely regarded to be overcome in Europe since the post war period, such measures are still used for developing countries. The World Bank poverty line for the poorest regions, for instance, is set at 1 US $ per day, in purchasing power parities, and sometimes regarded as a measure of "extreme poverty" (Bourguignon 2002). For transitional economies, the absolute WB poverty line is 4,3 US $ per day. But also the official US-poverty line represents a budget standard which was set according to the share of expenditure on food. Approaches of this kind are often referred to as Engel-methods. (see e.g. Deaton 1997). A renewed interest in the concept of absolute poverty can be observed also in Europe (Bradshaw 2000).

subsistence minimum levels have to be adjusted over time and are determined on the level of a given society. In that sense, "*there is no such thing as absolute poverty*", as Bradshaw (2001, p.5) put it.

Subjective measures of poverty, on the other hand, are based on public opinion on income levels considered to be "just sufficient", derived from household surveys. Such measures thus avoid the problem of the arbitrary choice of basic needs made by experts, as the poverty threshold is defined by the concerned population itself. However, it has been demonstrated that subjective standards vary considerably across time and, moreover, across countries (De Vos and Garner 1989, Strengmann and Kuhn 2000, Tentschert et al. 2000). They are also heavily influenced by immaterial values such as satisfaction/dissatisfaction[3].

The relative approach attempts to overcome both those difficulties in that poverty is understood as a phenomenon of relative deprivation, which is related to a societal context and the degree of participation in it. It takes into account that human needs are socially created and the product of historical and economic development and thus subject to change over time. Relative measures also allow one to compare income situations across countries, because they are independent of a specific country's definition of basic needs.

The most common relative approach is the "economic distance concept" which defines poverty as having resources (e.g. incomes or consumption) below a fraction of mean or median income. There is no specific argument to opt for one percentage level rather than another (say, 60% of the median rather than 50%). But the presentation of various percentage levels may serve as benchmarks for policy making. OECD generally uses 50% of the median as a yardstick. EUROSTAT uses since recently 60% of the median after having made use of 50% of the mean for many years[4]. The newly proposed European level-1 indicator for financial poverty is defined as "50% and 60% of national median equivalised income" (Atkinson et al. 2002, p.196).

In our paper, we apply a reference distance of 60 % of the median as poverty threshold, following recent EUROSTAT guidelines (SPC 98/31/2). The median is preferred to the mean as it is not influenced by a few very high incomes and reflects more accurately the mostly shared standard of living. In chapter 3 below, we use low disposable income as an indicator for poverty, rather than consumption, because it focuses on the capacities of individuals and families to participate in the mainstream of their society rather than on their actual spending behaviour.

The relative poverty concept implies that poverty can have a different meaning in different societies. This will also be found when the same society is compared for different points in time[5]. Similarly, one should be aware that the living conditions of people who are

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[3]   As an example, the level of subjective poverty in the Ukraine increased significantly during a few years in the mid-1990s while both absolute and relative indicators suggested no considerable change (Kharchenko and Paniotto 2000). It has been argued that this, amongst other reasons, had to do with the increased availability of Western, in particular German, TV progammes, hence a subjective change in the reference society.

[4]   Note that in most countries, poverty levels for those two latter thresholds are very similar.

[5]   Steiner and Wolf (1996) found that the absolute standard of living for poor people in Austria some 15 years ago was significantly lower than today, although the extent of relative poverty may have remained unchanged

relatively poor in France are probably more favourable than for the poor in Portugal and less favourable than for the poor in Luxembourg. This issue gains particular relevance when including the future EU countries in Central and Eastern Europe in an European poverty analysis. Figure 1 shows two hypothetical distributions and resulting poverty rates. Using a threshold of half the median, 30% of the population would be considered poor in distribution Y. For distribution Y' it is assumed that the real value of both low and high incomes remain the same, while the real incomes of the middle classes decrease. A situation which is sometimes attributed to some of the Central European countries (e.g. Hungary) during the recession in the early- to mid-1990s. Applying a purely national-specific relative poverty threshold could lead to a (statistical) decrease in the poverty rate from 30% to 20%, although the real income situation of the poor did not change at all[6]. Indeed, some of the results of relative poverty analysis in Hungary point to similar trends (Förster and Tóth 1996).

Figure 1. Relative poverty rates under two hypothetical distributions
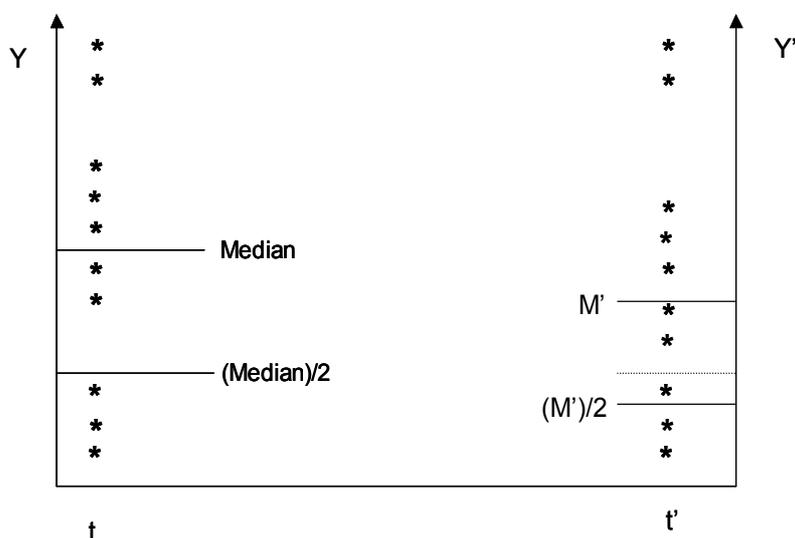
Source: Förster (1997)

One alternative consists in applying straightforward "absolute" poverty thresholds, as is being made use, for instance, by the World Bank. On the basis of a monetary threshold of US $ 4,30 per day, WB (2002, p. 13) estimates poverty rates of below 0.7 % for the Czech Republic and Slovenia, 15% for Hungary and 18% for Bulgaria and Poland. It is, however, questionable, why to use precisely US$ 4,30 as a threshold rather than US$ 2 or US $ 8, for instance.

A more meaningful way to make the poverty threshold less relative is to broaden the reference society. In this study, we have applied a European-wide poverty threshold, calculated on the basis of a European-wide income distribution, including three accession countries: the Czech Republic, Hungary and Slovenia (EU18). Differences in price levels are corrected for by the use of purchasing power parities (WIIW 2002). The straightforward argument for using such a threshold is the ongoing European integration and the aim for an

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[6]   It can, however, be argued that the poor are poor "here and now", in the context of their and not another, hypothetical, society and that they position themselves with regard to the (new and lower) reference classes.

enlarged "social Europe". At the same time, this measure remains "relative" as it refers to a 60% of the median threshold. We use this measure alongside poverty estimates derived from the purely country-specific relative thresholds as social policies are ultimately still designed and reformed on a national basis. In addition, official poverty definitions by the European Union are still specified on the level of the respective Member states (see next section).

Interestingly, the question of the relevant reference society for poverty measurement has received less attention in international debate than other conceptual and methodological issues (minimum criteria, equivalence scales etc.). The few contributions to this debate (e.g. de Vos and Zaidi 1998) rather call for the use of country-specific poverty lines. We do think, however, that the current and imminent future developments (less autonomy for national policies due to European integration and globalisation[7]; free access to residence and labour market within EU; increased sensibility of people's perception as to what constitute the "average living standard") build a strong argument for complementing traditional country-specific poverty estimates with estimates which treat the whole (enlarged) EU as one society.

2.2   A minimum acceptable standard of what? Going beyond the monetary yardstick

The 1984 European Council Decision states: „the poor shall be taken to mean persons, families and groups of persons where resources (material, cultural and social) are so limited as to exclude them from a minimum acceptable way of life in the Member States in which they live". (European Commission 1985, see Mejer 1999)

This definition is influenced by two complementary approaches to poverty which focus at either welfare inputs or outputs. The latter refers to the functionings (minimum acceptable way of life) that are achieved while the former refers to the available resources which may be converted into various alternative functionings. Such a distinction traces back already to the study of Rowntree (1901) who had identified primary poverty as an income which would not allow to buy bare minimum required calories while secondary poverty referred to observed poverty above this income threshold. With the later Rowntree did explicitly take into consideration that actual consumption behaviour can depart from an optimum which guaranties physical subsistence, as examples for such suboptimal behaviour he mentioned alcohol or gambling. Hence resources may be limited a priori or they may not allow a minimum acceptable way of life under the given living circumstances.

Today it has become a standard in the comparative analysis of poverty to analyse relative income or, less frequently, consumption poverty[8]. Such investigations (e.g. Atkinson, *et al.* 1995, Hagenaars *et al.* 1994) generally equate a certain degree of income inequality with poverty rather than assuming an absolute minimum level. Income and its distribution is an important indicator of a particular social condition yet it seems for various reasons not exhaustive.

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[7]   Leibfried an Pierson (2000), for instance, argue that "the process of European integration has eroded both the sovereignty (by which we mean legal authority) and autonomy (by which we mean de facto regulatory capacity) of member states in the realm of social policy."

[8]   The latter has been the case for most EU and EUROSTAT publications on poverty during the 1980s until the mid-1990s.

Townsend (1979) was among the first to address this problem. He did, however, not attempt to abandon low income as a measure of poverty, rather he tried to identify an income threshold which corresponds to a meaningful deprivation level. In a sense Townsend projected extreme inequalities in the functioning space into the income space. The latter is generally understood at least as less complex, if not unidimensional. Further the use of an income measure suggests some similarity to the level of minimum social transfers. The availability of harmonised data sources for household incomes (e.g. Luxembourg Income Study; European Community Household Panel) seems to have facilitated comparative analysis of income poverty.

Notwithstanding the convenience of using income to measure poverty it seems still debatable whether it can be regarded as theoretically exhaustive. Sen (1992) defines poverty as limited basic capabilities. Generally the capability approach identifies a hypothetical space of functionings which may me achieved by an individual. Sen admits that this space is difficult to assess empirically and most of his own work refers to functionings, as proxy of the full range of possible opportunities. Is it however possible to make a judgement on capabilities only on the basis of income information? Clearly not. Two fundamental arguments may be brought to caution against income as the sole determinant of poverty. First, income is a flow of resources, it is related but not identical to the corresponding stock of monetary and non-monetary capital which in itself determines capabilities. The latter holds particularly in the case of negative capital (debts) which drastically reduce the achievable range of functionings. Longitudinal observation of income flows may help to improve this shortcoming of present social reporting, however it still ignores quantities of the stock which were accumulated (or inherited) outside the reference period. Thus a consistent definition of the economically disadvantaged would require the inclusion of broader measures of wealth. Second, income can represent only the demand side, a whole range of assumptions need to be made on how a given amount of income can be converted into comparable functionings, particularly in international comparison. Present reporting on income inequalities and poverty usually refers to household income adjusted for household size (see section 2.5). Though resources within households are usually shared among it's members the degree of this sharing is not known. Also the extent of intra household transfers may be subject to cultural differences. Findings on subjective elasticities clearly show that also the convertability of household income into household welfare is not the same in different countries of the EU (Strengmann and Kuhn 2000, Tentschert et al. 2000).

Klasen (2000) highlights the conceptual and theoretical problems associated with the sole use of monetary poverty measures in three fields: the problem of appropriateness and interpretation of utility as welfare measure as well as the question of translating incomes into utilities; the problem of inter-personal comparisons of utility under the restrictive assumptions about cardinal utility functions; and the (unrealistic) underlying assumption of complete markets.

Despite such shortcomings it is, however, not advisable to disregard income from the comparative analysis of poverty. Indeed resources relate to opportunities and a lack of functionings which may be considered as basic may as well be a result free choice or cultural preferences. In this paper, we will argue for a combination of income and non-income approaches, as has been done in the recent past in some countries' national poverty reporting, for instance in Ireland (Layte et al. 2000) or Austria (Förster et al. 2001). One of the background arguments for using such a combined poverty measure is its policy relevance. Indeed, many EU member countries governments were reluctant to use a pure financial

benchmark as quantitative target for anti-poverty policies. In addition, the current EU practice employs a rather high benchmark of 60% of the national median. Therefore, since recently, this benchmark is commonly labelled "risk of financial poverty" rather than "poverty rate" (see Atkinson et al. 2002). Therefore, governments tend to interpret this benchmark more as an indicator for income distribution, to be tackled by rather general re-distributive policies. With the inclusion of non-monetary aspects in the poverty definition, such a benchmark gets closer to the notion of "core poverty" towards which governments need to develop precise policy strategies. As an example, the "Anti-poverty strategy" of Irish government specifies to halve the consistent poverty rate in the five years between 1999 and 2004.

2.3   The use of income and non-income measures in poverty research: between theory and pragmatism?

Both income and non-income measures are used in most poverty research since Rowntrees pioneering study. Both kinds of measures and the justification for their selection have changed considerably over time. In 1901 Rowntree has used a vary basic questionnaire, which did not record any detailed income information. At those days income was fairly easy to impute, given the occupational status, while the surveys used for the international comparison of poverty today necessitate a huge effort in collecting and processing such information. It seems, with time income has become a less reliable predictor of economic position.

The selection of non-income indicators has changed even more drastically. In Rowntrees study they were guided only by one primary objective: the assessment of physical efficiency of manufactory workers, which meant particularly nutrition, health and housing. The sets of variables in use today have a substantially different purpose and are influenced by Peter Townsend's study of poverty in Britain in the late 1970s. He was among the first to leave the until then conventional absolute notion of poverty and set poverty in relation to a societies prosperity. His definition of poverty required two separate surveys, one in which a set of nonincome indicators was identified which are commonly regarded as characteristic for poverty and a second in which he related this set of indicators to his respondents income. Poverty was then identified at that income level at which a dramatic increase of the number of so called "deprivation items" could be empirically observed (Townsend 1979).

The original Townsend approach has triggered intensive intellectual discussions (see Piachaud 1981, Sen 1992) and has been revisited several times since it was first introduced. (particularly in the United Kingdom e.g. by Mack and Lansley 1984, or most recent Gordon et al. 2000; for Austria Schneidewind 1985; for a comprehensive review see Lipsmeier 2000, Andreß and Lipsmeier 2000). Despite widespread use of deprivation indicators in empirical poverty research, the theoretical importance of non-income poverty is today often reduced to pragmatical concerns.

Beyond the repeated interest to take into account different dimensions of the standard of living, there is also a traditional debate on how subjective information may be taken into account to reach an empirically justifiable definition of poverty (cf. van Praag & Flick 1991, Strengmann-Kuhn 2000, Tentschert et al. 2000). The so-called subjective poverty lines in some sense parallel Townsends approach to reach a consensual definition of poverty. Both approaches originally attempt to establish an empirically justified threshold of subjective disadvantage or deprivation in the income space and differ from the conventional income

poverty lines only in the complexity in which the income threshold has been derived. Otherwise the same limitations of measures of income poverty are applicable.

If taken as direct measures it seems debatable whether information on satisfaction can be interpreted as "happiness" as is done for example in the work of Oswald (1997). Nevertheless, empirical evidence on the macro level is striking in that income and satisfaction represent distinct dimensions which do not necessarily overlap and are if only modestly correlated (ibid.). In so far as the association with income is concerned, it has recently been shown with ECHP micro-data that the standard of living outweighs in all Member States the importance of income for satisfaction with income (Christoph 2001) – in other words subjective "purchasing power" depends on the goods purchased rather than the money value of the goods that may be purchased. From this evidence one may also conclude that confidence does indeed represent the achieved standard of living, at least to a substantial degree.

Subjective information is however not merely a summary proxy for the standard of living which may not always be possible to observe directly. More importantly it allows to approach well-being as a combination of favourable living conditions and confidence as was proposed in the theoretical framework of Zapf (1984). Similarly, deprivation is then recognised only in the combination of unfavourable living conditions which are also perceived as dissatisfying. While there are numerous theoretical and even more pragmatic arguments for taking into account subjective information for constructing welfare measures, it may seem critical when applied to poverty. Leaving aside problems of measurement, particularly in comparative studies, it appears most crucial to neglect adaptation, which is achieved when poverty is dealt with in a psychological coping strategy.

The non-monetary items which have been included in the European Community Household Panel Survey are inspired by the original set of Townsend's deprivation items and are today considered as basic elements of the "European" approach towards social exclusion. Annex 1 lists those items available in ECHP.

In the methodological framework of EUROSTAT (Mejer 1999) the 37 non-monetary indicators available in ECHP are categorised into 8 different domains (in parentheses the number of indicators per domain): basic needs and consumption (11), housing (9), education (1), labour market (4), health (4), family ties and social relations (2), social participation (2) and finally indicators of the household financial situation (4).

EUROSTAT's approach also recognises that welfare can not be assessed on the basis of the objectively measurable means alone. The available indicators thus represent quite different perspectives on any objectively given situation and three types of deprivation items were distinguished, namely available means, people's perception and confidence in life. 17 items refer to objectively measurable means which do not in themselves involve any value judgement, while 16 indicators rather reflect any perceived restrictions, which involve a subjective judgement on a specific objectively given situation. These items are complemented by four questions on the respondents personal confidence in different life domains, measured in a 6-stage scale of satisfaction.

When these indicators were for the first time used in a European social report on poverty (EUROSTAT 2001) some problems with the cross-national comparability of these indicators were encountered. Hence all indicators were tested and only those which fulfilled

the minimum criteria regarding reliability and cross-national comparability were selected for further investigation. The following requirements had to be met for selection: "[...]the indicator should reflect a negative aspect of life pattern common to the majority or a great part of the population[...] it should have the same information value in the various countries [...] it should measure changes in a given aspect of deprivation and social exclusion over the years [...] and a consistent, relatively stable and explainable link needed to exist between a non-monetary indicator and income poverty" (EUROSTAT 2001, p 51). Following this procedure the original catalogue of variables was refined and a selection of 15 indicators was made. This list was subsequently reduced to three dimensions; namely, financial difficulties, basic needs and housing conditions since the same results were obtained with this minimum list as with the more extended list.

The criteria for the selection of domains is not fully explained by EUROSTAT (2001) and seems to represent a rather arbitrary choice forced by data availability and quality. Giorgi (1997, 1998) who arrived at a similar domain structure (and prioritisation) on the basis of the analysis of the ECHP data for Austria (first and second wave) notes that these indicators display the highest discriminatory power and also the highest sensitivity with regard to the comparison of the income poor with the non-poor or with the reference population as a whole. As such these indicators are better thought as refining our understanding of relative income poverty in that they provide information on the limitations imposed by the latter in terms of capabilities (Sen 1992).

For the second European social report on "incomes, poverty and social exclusion" (EUROSTAT 2002, forthcoming), this approach has been developed and refined further. On the basis of factor analyses, 24 items regarded and proved as reliable and sound have been classified into the following five domains:

- Basic lifestyle deprivation
- Secondary lifestyle deprivation
- Housing facilities
- Housing deterioration
- Environmental problems

Interestingly it was found that above dimensions represent distinct aspects of welfare which are more or less the same across EU Member States. It was also found empirically that social disadvantage is most closely related to the basic and secondary dimensions which have also been referred to as indicators of Current Lifestyle Deprivation (CLSD) by Whelan et al. (2001) who also emphasise the particular importance of these items for economic strain. Basic lifestyle items comprise indicators on perceived deprivation from basic necessities such as heating, holidays, food, furniture, clothes and the ability to pay scheduled payments while secondary deprivation is composed of items which represent the enforced lack of consumer durables which are assumed to be customary. These indicators showed relatively little overlap with restrictions from basic housing amenities such as shower, toilet and running water, which again were not necessarily implying also a high degree of housing deterioration in the form of dampness, rot or leaky roof. Environmental problems, such as shortage of space, noise, pollution, darkness and crime were the weakest indicators of social exclusion and possibly influenced by a number of structural factors which are by themselves not necessarily reflecting disadvantage such as urbanisation, gender, and age.

2.4 Searching for the common denominator – indicators of deprivation in accession countries

The selection of domains and indictors of non-income poverty which is made in the present paper are based to a large extent on the domain structure which was established by EUROSTAT (2001) and which was later refined by Whelan et al. (2001) and EUROSTAT (2002). On the basis of ECHP and national micro data, we analysed the variety of deprivation items referred to above. 18 of those items were also available for at least one of the accession countries, and 12 were available for all countries studied. On the basis of statistical analysis, we grouped the 18 items into four domains. The items are described in Annex 2 (consolidated ECV data base description). For the final analyses of non-monetary deprivation, ten items have been retained (two have been excluded because they were shared by a majority of people, hence not a significant indicator for deprivation, the others because not available for all countries).

The available data for accession countries allow good representation of the dimensions basic and secondary deprivation as specified by Whelan et al (2001) and EUROSTAT (2002). The items used in the secondary dimension are different from those from Whelan et al. in that the latter have assumed deprivation only in the case of an enforced lack of any customary consumer durable, i.e. only if the respondent did not have but would want to have an item. In the present study these indicators refer only to the availability of an item, regardless of preferences.

The other dimensions of deprivation which refer to housing and environmental problems and were used recently by EUROSTAT (2002) could not be measured on a similarc comparative basis. Since the importance of housing is usually much emphasised in its role for social cohesion (cf. Giorgi et al. 2001) it seemed however reasonable to include at least size of dwelling as the only available indicator on deprivation in this domain.

²While the set of comparable items on the more or less objectively defined standard of living is already exhausted with the above list, most survey programmes collect also complementary information on what was referred to in EUROSTAT's methodological framework as subjective confidence. The question wording is almost identical, whereby in most countries the question was for the satisfaction with income. In the Czech Republic the respondents were explicitly asked to rank themselves between rich and poor and in Hungary a relative assessment of the own income situation compared to others was requested. Given the restricted choice of objective items we decided to make use of this information. Although it would be advisable to be extremely cautious against the theoretical and measurement problems attached to such subjective measures, satisfaction is a theoretically important element of the concepts of social exclusion and deprivation. Apart from their theoretical relevance the satisfaction variables used in this study are to be taken as reasonable, yet imperfect summary indicators of the standard of living. The 10 items included in the four domains are as follows:

1. Basic deprivation

- i) food
- ii) clothes
- iii) housing costs
- iv) holidays

2. Secondary deprivation (durables)

- v) colour TV
- vi) microwave
- vii) video recorder
- viii) car

3. Accomodation/housing

- ix) lack of space

4. Subjective deprivation

- x) satisfaction with income

The concept of deprivation displays its greatest illustrative power only when the dimensions are considered separately but it will also be attempted to report on some summary measure. For all countries, the level of basic or secondary deprivation at which we identified a minimum acceptable standard within each of these domains was chosen when at least two items indicated a disadvantageous standard of living. Further, when in the following reference is made to <u>multiple deprivation</u> this refers to individuals who are considered to be deprived in at least two of the above four dimensions.

2.5   Consistent poverty

To define a single composite indicator of poverty which combines monetary and non-monetary dimensions, we use the concept of consistent poverty. It is defined as falling below the monetary poverty threshold (60% of median income) <u>and</u> being deprived in multiple dimensions.

The concept of consistent poverty does not claim to be able to include all people who should possibly be regarded as poor. In particular, it does not consider people who may be highly deprived but who are above the income threshold. What the concept can provide is to emphasise a group of people with not only low incomes but who are highly restricted with central and basic goods and amenities.

It should be made clear that the point is not to replace the approach of income poverty by some measure of deprivation but to combine those two into a concept of consistent poverty. Neither is our intention to replace a relative poverty concept by some absolute concept but to be able to look at poverty also in a "*less relative way*" as has been put by Bradshaw (2001).

The interrelationship between income poverty, deprivation and social exclusion can best be conceptualised along the lines of static versus dynamic outcomes on the one hand, and on versus multiple dimensions on the other. This interrelationship may be described by the matrix in table 1. In this paper, our aim is to develop a measure of <u>consistent poverty</u> applicable to enlarged Europe.

Table 1. Relation between poverty, deprivation and social exclusion

	Static outcome	*Dynamic process*
Income based	Income poverty	Impoverishment (persistent poverty)
Multi-dimensional	Deprivation	Social exclusion

} Consistent poverty

Source: based on Berghman (1995)

2.6 Scales of elasticity – a crucial choice for accession countries?

As noted above, disposable income is our key indicator for defining relative poverty. The definition widely follows the concepts of the Canberra Group on Income Statistics (DICAH 1998). Disposable income includes all net monetary and non-monetary incomes of the household. Apart from incomes in kind and operating surplus of owner occupied dwellings, all required income components are included in the ECHP as well as the three micro data sets from accession countries. Disposable income is generally understood in terms of annual income[9].

This definition refers to total household income, i.e. it includes all income sources of all members of a household. In a next step, the reference income measure is adjusted for household size. One can assume that, due to economies of scale, the needs of a household for resources grow with each additional member, but not in a proportional way. With the help of equivalence scales, each household type in the population is assigned a value in proportion to its needs. Literature and national experience know numerous different equivalence scales but, most commonly, a value of 1 is assigned to the first household member, a value between 0 and 1 to additional members, and differentiation is made between adults and children. The choice for a particular scale in poverty research depends on technical assumptions on economies of scale in consumption as well as value judgements about the priority assigned to the needs of different groups such as children or the elderly (Jarvis and Micklewright 1995). The poverty share of the elderly will be lower and that of children will be higher when using scales that give higher weights to additional household members.

Buhmann *et al.* (1988) and Atkinson *et al.* (1995) reviewed a large inventory of over 50 equivalence scales being in use in national and international poverty analysis. They conclude that different scales are sensitive to the absolute poverty levels found but generally not to the rank order of countries. Table 2 shows examples for the two scales mostly used in international research, including the two extreme cases of household and per-capita income as well as two scales derived from social programmes in Hungary and Romania.

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[9] Annual income estimates have been provided in the original surveys of all countries covered in this study except for the Czech Republic where monthly income during a three-months period is recorded. For this country yearly income was estimated by multiplying monthly net income by 12.

Table 2. Different equivalence scales

| Household size	Assumed economic need					
	Household income	Old EU EQ scale ("Oxford")	OECD-modified EQ scale	per-capita income	Hungary subsistance minimum	Romania income support
1 adult	1	1	1	1	1	1
2 adults	1	1.7	1.5	2	1.7	1.8
2 adults, 1 child	1	2.2	1.8	3	2.3	2.5
2 adults, 2 children	1	2.7	2.1	4	2.8	3.2
2 adults, 3 children	1	3.2	2.4	5	3.2	3.8

Source: Förster and Tóth (1998)

For many years, European poverty statistics were based on the old EU scale ("Oxford scale"). This scale was also mentioned by OECD (1982) for *possible* use in "*countries which have not established their own equivalence scale*" which is the reason for this scale sometimes having been (and still being) labelled "OECD scale". However, all OECD publications containing poverty comparisons since micro data became widely available (i.e. since the early 1990s) made use of a scale which uses the square root of the household size as equivalence factor (Förster 1994; Atkinson *et al.* 1995; OECD 1999, 2000; Oxley *et al.* 2001; Förster and Pellizzari 2000)[10]. Later on – and probably influenced by OECD practice – EUROSTAT took into account criticisms that the scale in use ("Oxford scale") would put too much emphasis on the cost of children in highly industrialised countries and in the later 1990s adapted the so-called "OECD-modified scale" (Haagenars *et al.*1994) which indeed gives similar weights to additional household members as the square root scale described above.

Table 2 also describes two scales from Central and Eastern Europe, inherent in social assistance programmes. Those give higher weights to additional household members than both the old and the new EU scale. We therefore carried out a number of sensitivity analyses to test the robustness of results when moving from the "old" to the "new" EU-scale.

As figure 2 shows, poverty rates tend to display a "u-shaped" function when moving from low to high equivalence weights, a feature which has been described by Jenkins (1991) for the UK and has also been found for a sub-sample of OECD countries (Förster 1994). This shape may be explained with the complex link between household size, poverty risks and the demographic composition of the population. Both small households (single elderly) and large households (families with many children) tend to have above-average poverty risks. Including the two extreme cases (full and no economies of scale), the latter thus tend to result in higher overall poverty estimates than "intermediate" equivalence scales.

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[10] As a matter of fact, already a very early OECD study included income comparisons on the basis of a scale very close to the OECD-modified scale (OECD 1976).

Figure 2. Relative income poverty rates in EU15 and accession countries, 1998, for different equivalence scales
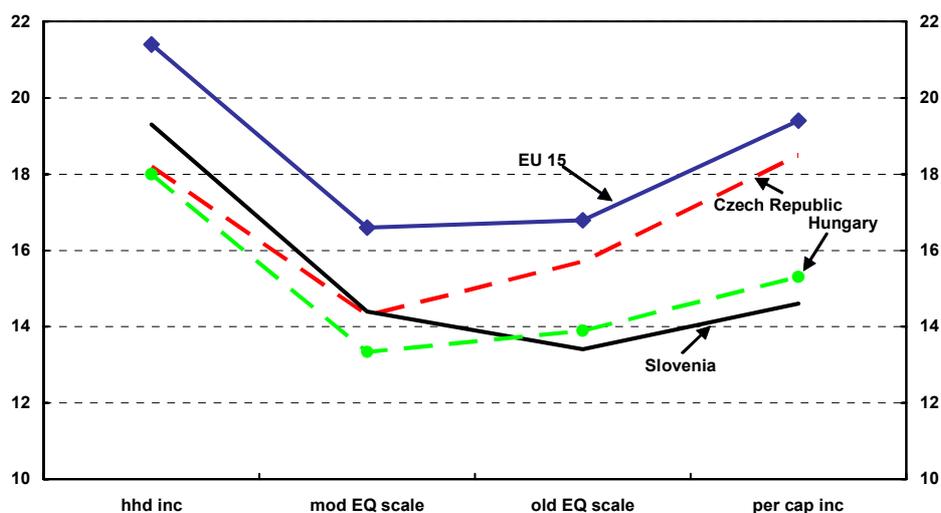
Source: own calculations from ECHP and ECV consolidated data base
Notes: Poverty rate: percentage of persons in households below 60% of national adjusted median income.

The rank order changes between the Czech Republic and Hungary on the one hand, and Slovenia on the other, when moving from the "old" to the "new" EU scale. This has to be taken into account when interpreting results from the following chapter. The different behaviour of the line for Slovenia is linked to the higher average household size in this country (3.3 versus 2.6 in Hungary and 2.7 in the Czech Republic). The EU18 average household size is 2.8 and, apart from Slovenia, also the South European countries and Ireland have household sizes larger then 3.

Differences in overall poverty rates when moving from the "old" to the "new" equivalence scale are nevertheless within a 2 percentage point range. Differences get larger, however, when considering sub-groups of the population such as particular age groups. Tables A.1 and A.2 in Annex 3 compare results for income poverty for different sub-groups obtained on the basis of the "new" OECD-modified scale (table A.1) and the "old" EU scale (table A.2). For the analysis in chapter 3 we use the OECD-modified scale, for reasons of consistency and the reasons pointed out above.

Another methodological issue concerns the choice of the reference unit. This refers to the decision which weight each household should receive in calculating the poverty indicators, i.e. should poverty among households be considered, or poverty among individuals who make up those households. Following the argument according to which each individual in society should be treated as "equal citizen" in the distribution (Jarvis and Micklewright 1995), we look at poverty among individuals. This also corresponds to recommendation 9 in Atkinson et al. (2002). Technically, this means to weight each household by its household size.

2.7 Data and methodological specifications

Greatest efforts have been made and great care has been taken to standardise the information available from micro data from EU countries with those from accession countries. For EU Member countries, we analysed the latest available data from the *European*

Community Household Panel, carried out in 1999 (ECHP UDB 6th wave). The ECHP is a survey based on a standardised questionnaire that involves annual interviewing of a representative panel of households and individuals in each European Union Member state, covering a wide range of topics such as income (including social transfers) health, education, housing, demographic and employment characteristics, but also objective and subjective deprivation questions. The first wave of the ECHP was conducted in 1994 in the twelve Member States of the European Union at that time. The survey was based on a sample of some 60.500 households (about 170.000 individuals). Since then, Austria (in 1995), Finland (in 1996) and Sweden (in 1998) have joined the project.

Our target was to make use of similar surveys in accession countries with the target date 1998. Those surveys should be representative and include information on income and non-monetary deprivation items as well as sufficient demographic and socio-economic background information. Our first step was to conduct a *data requirement survey* (DRS) in accession countries, contacting poverty and data experts in the research community as well as national administrations (CSO, governments) in view of availability and contents of surveys used for national poverty reporting in those countries. The results of this data requirement survey are summarised in Annex 1.

On the basis of the DRS, we chose three adapted surveys for three accession countries: the "ten years of social transformation survey" 1999 for the Czech Republic; the "household monitor" 1998 for Hungary; and the "household budget survey" 1998 for Slovenia. The main characteristics of these surveys are described in Annex 1.

In a next step, we constructed a *consolidated micro data base for EU18*, including ECHP data for EU 15 and the above three surveys, as well as additional information on purchasing power parities (PPPs) and wage and consumer price indices. A detailed description of the variables included is given in Annex 2. This database (ECV consolidated database) built the basis of the analysis in the chapters below.

The weights which are applied in the analysis refer to individuals as reference units and are adjusted to reflect different population size. Hence any aggregated figures for the pooled EU18 data set, or any subset thereof relate to a weighted country average.[11]

A number of methodological decisions had to be taken in achieving the best comparability regarding the core indicators of income and non-income poverty. Those are summarised below.

2.7.1 Comparability of income information across time and countries

For the ECHP, the most recent survey wave for which data is publicly available was conducted in 1999.[12] Since annual incomes are recorded, the reference year for the income information relates to 1998 (January to December). For the Hungarian data, the reference

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[11] This is not precisely true in the case of the common EU-poverty line which will be established in the following. For deriving a universal benchmark of relative income poverty in the enlarged Union we took the median of the hypothetical EU-income distribution as a whole, rather than weighting national medians proportional to population size.

[12] We are using the most recent UDB version (6th wave) which was released by EUROSTAT on 6th December 2002.

period for income expands between April 1998 and March 1999. Given the fact that most months fall in the year 1998 and any adjustment for inflation showed only marginal influence, this information was in the following taken to represent annual income of the year 1998 without any further adjustments. Likewise, the data for Slovenia relate to annual income of the year 1998.

For the Czech Republic the information was collected on current monthly income between September and December 1999. In consultation with the Czech data analysts we decided to multiply these monthly figures by 12 to obtain estimates of the yearly income in 1999. This decision is not without consequence on the results on poverty. In particular, persons in seasonal employment or otherwise irregular income are likely to be over-represented among the poor. Currently no systematic empirical comparison of the effect of using income amounts reported monthly rather than yearly is known, although it can be expected that the fluctuation among monthly incomes is higher which would lead to an over-estimation of income inequality, hence income poverty[13]. This decision will also have consequences for the comparability of absolute income levels for this country, since questions on monthly incomes are likely to underestimate any lump-sum or extra payments which are recorded in great detail for example in the ECHP[14].

We chose 1999 as benchmark year. To approximate comparable real incomes in 1999, we therefore adjusted the recorded income values for all countries except for Slovenia. For this purpose it is possible to use either a consumer price index or an index which reflects wage growths. Particularly in accession countries, the latter can be seen to reflect better the dynamics of living conditions of the socially disadvantaged, than the overall price level. Since our paper studies poverty we decided to use indices of wage growth rather than prices indices.

To achieve comparable real income levels across countries we applied purchasing power parities for final consumption expenditures, as most recently published and provided by the WIIW (2002). There are some serious limitations to the use of PPPs, in particular if applied together with measures of inflation over time (cf. Förster 1994 and Rao 2001). As with any statistical benchmark of general purpose it remains debatable whether PPPs are relevant to the situation of the poor. They assume, for instance, the same consumption basket for all households in the population. They also do not take into account strong regional disparities such as typically observed e.g. between North and South Italy which are also highly related to unemployment and poverty. Nevertheless, PPPs are commonly used in policy debate to compare the overall wealth between nations. Since one aim of our paper is to take into account these differences between EU and accession countries and in lack of any better alternative we therefore rely on PPPs whilst being aware of their shortcomings.

Income statistics are prone to suffer strongly from negative or non-reported incomes which may be due to errors, misunderstandings, refusals and other forms of non-response, which can distort results quite heavily (cf. Till 2001). However, it was not possible to deal with such problems explicitly in this study, and records without positive incomes were

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[13]   Some evidence exists for China: Gibson *et al.* (2001) analyse 1992 micro data for the two urban areas in Hebei and Sichuan to demonstrate that the percentile ratio would be 1.17 times higher, and the Gini coefficient 1.23 times higher when measured for a shorter reference period (monthly, rather than annual).

[14]   However, the Czech data analysts suggested that irregular payments such as bonuses or premia are very rare in the Czech Republic.

excluded from the analysis. Since the producers of our data sources had already invested efforts to provide a 'clean' data set, the remaining numbers of cases to be excluded from the analysis was small and below any order of magnitude which could have any significant effect on the results reported here. Similarly was dealt with missing information on any of the deprivation items required by focusing only on complete records for the analysis on deprivation and consistent poverty.

2.7.2 Definitions and comparability of indicators of non-income poverty

Sweden had to be excluded from the analysis of deprivation and consistent poverty as it is the only EU country not providing the required information on non-income poverty in the ECHP survey. All remaining EU countries use an almost identical question wording for the basic and secondary deprivation items. For Germany and Luxembourg, information on deprivation items was only available from the survey year 1996 (ECHP 3rd wave)[15].

For Hungary and Czech Republic the questions have a more or less equivalent meaning (for details see Annex2). For Slovenia the items on basic deprivation do not relate to questions where the respondent was asked about a perceived situation but rather were constructed on the basis of actual expenditures on these items. After having tested 50%, 60% and 70% thresholds for (equivalised) expenditure on food and clothes we decided to approximate deprivation when the expenditure fell below 60% of the median expenditure for food and clothes. The item on deprivation with holidays is generally based on the subjective affordability of holidays. For Slovenia the equivalent situation was assumed if expenditure on package holidays and accommodation was 0. The decision of how to estimate an equivalent to arrears with regular payments for housing was perhaps the most critical. After a number of correlation and regression analyses in countries which include both types of data (notably Hungary) to proxy a relationship between income, expenditure on housing and existence of arrears, a working definition could be reached by assuming arrears for low-income households (below the median) where housing costs are above 20% of their disposable income. It is clear that such approximation would require further in depth investigation.

To establish a measure of deprivation in the housing domain we generally considered a maximum occupancy of one adult per room. For families with children the minimum size is increased by half a room per child. For Greece, The Netherlands and Austria the exact number of rooms is not available and housing deprivation was approximated by a question on whether shortage of space was subjectively perceived.

Finally, the subjective dimension takes the format of a 6-stage scale in all countries except in the Czech Republic and Hungary where the number of possible categories was 5. However, the "median" satisfaction is described with the value 3 in the 5-stage scales and by the values 3 and 4 in the 6-stage scales. The two values that represented the lowest satisfaction were therefore taken to be below the acceptable minimum.

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[15] This means that we also used income data referring to the year 1995 and uprated to 1999 for these three countries for this part of the analysis. Income poverty rates therefore slightly differ between chapter 3 and chapters 4 and 5 for these countries.

3. INCOME POVERTY IN EU AND EU ACCESSION COUNTRIES

3.1 Overall income poverty

This chapter considers income poverty in the 15 EU Member states and three accession countries: the Czech Republic, Hungary and Slovenia. In that, it looks at poverty indicators relative to both country-specific and European-wide yardsticks: 60% of the national median income and 60% of the EU18 median income.

The national income poverty line levels vary between 3,200€ (Hungary) and 12,600€ (Luxembourg). A European-wide (EU18) poverty line is situated at 7,300 € (for comparison, the EU15 poverty line is 7,600 €). Under the assumption of national-specific poverty lines, there are 60 million income poor persons in EU18, and two thirds of them live in the four large member countries: Germany, France, Italy and the United Kingdom. Just 5% of the income poor live in the three accession countries included in our study. Table 3 shows that numbers of poor would vary significantly under use of the European-wide poverty line: there would be 14 million more poor Europeans. Now, just about half of the European poor would live in the four large member countries, but 18% in the three accession countries. The distribution of poverty changes dramatically. Numbers of poor would, by definition, increase in the poorer South European and Central European countries but decrease in Continental and Northern Europe when moving from national-specific to an EU18 standard. The degree varies, however. In Slovenia, such as in the South European countries, the number of poor would double. In the Czech Republic and, in particular, in Hungary, they would multiply by much more, increasing from around 1.4 million people in each of those two countries to 5 million in the Czech Republic and almost 8 million in Hungary.

Table 3. Income poverty thresholds in € (PPPs), 1999

	National poverty line	Number of poor persons (in 1000s)	EU18 poverty line	Number of poor persons (in 1000s)
Hungary	3,200	1,346	7,400	7,882
Czech Republic	4,500	1,474	7,400	5,055
Portugal	4,700	2,045	7,400	4,500
Greece	5,200	2,134	7,400	3,991
Spain	5,700	7,363	7,400	13,008
Slovenia	5,900	285	7,400	514
Italy	6,500	10,377	7,400	13,772
Ireland	7,000	691	7,400	792
Sweden	7,000	816	7,400	982
Finland	7,200	548	7,400	593
France	8,200	8,693	7,400	6,291
United Kingdom	8,200	11,272	7,400	8,283
Belgium	8,400	1,309	7,400	854
Germany	8,400	8,762	7,400	5,713
Netherlands	8,500	1,642	7,400	1,076
Austria	8,700	957	7,400	538
Denmark	10,000	580	7,400	169
Luxembourg	12,600	53	7,400	7
EU 15	7,600	57,243	7,400	60,570
EU 18	7,300	60,349	7,400	74,021

Source: own calculations from ECHP and ECV consolidated data base

Notes: Countries are presented in ascending order of national poverty thresholds. Thresholds refer to single person households and are rounded to 100's. National poverty line: 60% of national equivalised median income. EU18 poverty line: 60% of European-wide equivalised median income (for 15 member countries and 3 accession countries). EU 15 and EU 18 averages are population weighted.

Figure 3 looks at two additional indicators for income poverty: poverty rates (on the left-hand scale) and median poverty gap ratios (on the right-hand scale). The median poverty gap is preferred to the mean poverty gap as it is less sensitive to few very low incomes. It is also the indicator proposed in Atkinson et al (2002, p.115-117). Panel A considers country-specific income poverty. Nordic countries, together with the Netherlands and Germany have lower poverty indicators, whereas the Anglo-Saxon and Southern European countries have higher ones. The highest poverty rates (around 20%) are observed in Greece and Portugal. The three new member countries have slightly below-average poverty rates, between 13% and 14% of the population and about average gaps, between 21% to 23%. Poverty gaps tend to be higher in high-poverty countries, but not as a rule. Especially Ireland is a notable exception: this country has already been described in many studies as combining above-average poverty incidence with lowest values for poverty intensity (e.g. EUROSTAT 2002; Förster and Pellizzari 2000). The highest gaps are recorded in Italy, Spain and Greece.

Turning to panel B which is based on the EU18 poverty line, the picture changes dramatically for Hungary: this country displays by far the highest poverty rate but also the highest poverty gap. Also the Czech Republic and Slovenia now have above-average poverty rates. For the remaining European countries, the overall ranking picture is not that much different, with low poverty in North and Continental Europe and high poverty in South and

Central Europe[16]. The absolute differential between countries would, however, increase significantly. Slovenian poverty now is close to the Italian level (some 30%) and Czech poverty is close to that of Portugal (some 50%), but both Central European countries display a comparatively lower poverty gap.

Figure 3 Income poverty rates and median poverty gaps in EU15 and 3 accession countries, 1999

Panel A: Country-specific thresholds

Panel B: EU18-wide thresholds
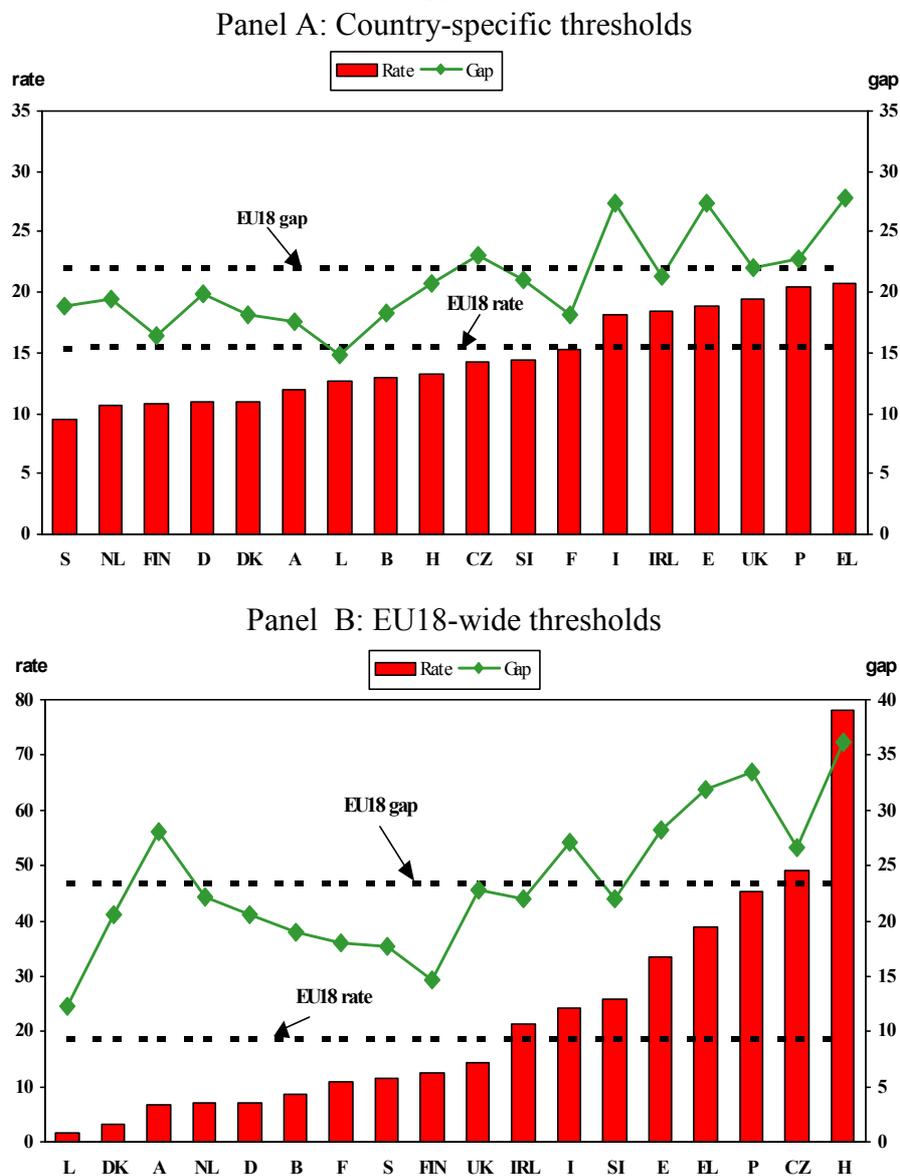
Source: own calculations from ECHP and ECV consolidated data base
Note: Country-specific (relative) income poverty rate is the number of persons below 60% of the national adjusted median income, in percent of the total population. EU18 income poverty rate is the number of persons below 60% of the European-wide median income, in percent of the total population. Poverty gap is the difference between the median income of the poor and the European-wide poverty threshold, in percent of that threshold. EU18 averages are weighted

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[16]   Only the UK poverty rate is now comparatively lower.

4.   INDICATORS OF DEPRIVATION IN EU AND ACCESSION COUNTRIES

This chapter considers the extent of non-monetary deprivation across EU and the three EU accession countries. In that, we follow the conceptual approach laid out in section 2.3 which specifies the ten deprivation items clustered in four domains of life used. No information on deprivation items is available for Sweden. Therefore, the analysis on EU member countries is restricted to EU14.

4.1   The occurrence of multiple deprivation across Europe

Table 4 shows deprivation scores for the EU-14 average and the three accession countries in four domains of life (dimensions), i.e. percentages of the population having problems with or lacking particular items. Details on the other EU member countries as well as other deprivation items are given in Annex table A.3. At first glance, it turns out that deprivation scores are much higher in accession countries than on EU14 average in the first and third dimension, i.e. basic deprivation and accommodation (lack of space). They are higher, but to a lesser extent, in the second dimension: durables. And they are not that much different in the fourth dimension: subjective well-being (Slovenia excepted). Across the three accession countries, Hungary generally displays higher deprivation scores for the particular items than the other two countries.

The EU14 average, however, hides significant country differences. This is particularly the case for deprivation items. Especially Greece and Portugal score similarly higher on some of the deprivation items than the three CEE countries. The following tables therefore show, in addition to the EU average, results for Greece and Denmark: those two countries can be regarded as cases for the two "extremes" within EU: Greece (together with Portugal) often displays the highest monetary as well as non-monetary poverty indicators, while Denmark (together with Finland) displays the lowest ones.

Table 4. Deprivation scores for EU14 and three accession countries: Percentage of persons living in households lacking various items in four deprivation dimensions, 1999

	Czech Republic	Hungary	Slovenia	Greece	Denmark	EU 14
1. Basic deprivation						
Food	17	14	21	29	1	5
Clothes	43	70	26	22	4	10
housing costs	34	17	18	22	4	5
Holiday	47	60	73	46	11	27
Not deprived	30	15	19	40	85	67
1+ item deprived	70	85	81	60	15	33
2+ items deprived	41	53	37	36	3	11
3+ items deprived	22	17	9	18	1	3
All 4 items deprived	9	7	1	5	0	1
2. Secondary Deprivation						
colour TV	4	11	5	2	1	2
Microwave	49	57	91	83	46	42
video recorder	46	47	50	44	15	23
Car	33	55	13	27	19	16
Not deprived	29	22	11	14	45	47
1+ item deprived	71	78	89	86	55	53
2+ items deprived	41	53	51	48	20	22
3+ items deprived	17	31	13	20	5	7
All 4 items deprived	3	10	2	1	0	1
3. Accommodation, environment not enough space in flat	34	52	45	26	3	13
4. Subjective dis- satisfaction with income situation	22	25	37	25	7	16

Source: own calculations from ECHP and ECV consolidated data base
Note: EU14 refers to the weighted average (EU15 except Sweden)

In order to get a better overall picture, table 4 (and table A.4 in the annex for further details) also displays cumulative deprivation scores for each of the domains (for domains 3 and 4 there is only one item). Severe deprivation in the first two domains, i.e. being deprived from more than three items, occurs much more frequently in the three accession countries than on EU14 average. In the domain of basic necessities, severe deprivation is encountered by 9% of the population in Slovenia and around 20% in the Czech Republic and Hungary, as compared to 3% in EU14. Only Greece has an equally high percentage within the EU members (18%). In the domain of secondary deprivation (durables), severe deprivation is highest in Hungary (31%). The Czech Republic (17%) and Slovenia (13%) face above-average severe deprivation in this dimension, but below those for Greece (20%) and Portugal (18%).

Multiple deprivation then is calculated over the four domains. The percentage of persons *not* being deprived in any of these domains is higher in the Czech Republic (27%) than in the two other accession countries (13% and 17%), as table 5 (and Annex table A.5 for further countries) shows. On EU14 average, more than half the population (58%) is not

deprived in any non-monetary domain. The percentage of people not deprived at all is above 70% only in Belgium and Denmark. The estimate for "multiple deprivation" (last row in table 5) is defined as follows: to be deprived in at least two out of the four domains, where deprivation in domains 1 and 2 is defined as being deprived in at least two out of four items in the respective domain[17]. On this definition, multiple deprivation concerns roughly between one sixth and one seventh of the population on EU14 average but more than half the population in Hungary and Slovenia. The multiple-deprivation rate is also very high in the Czech Republic (40%), in Greece (41%), and in Portugal (43%).

Table 5. Multiple deprivation in EU14 and three accession countries, 1999

	Czech Republic	Hungary	Slovenia	Greece	Denmark	EU 14
Not deprived in any dimension	27	13	17	29	72	58
Deprived in basic needs (at least)	41	53	37	34	3	11
Deprived in secondary needs (at least)	41	53	51	48	20	22
Deprived in accommodation standards (at least)	34	52	45	26	3	13
Deprived in subjective income satisfaction (at least)	22	26	37	25	7	16
Deprived in at least two dimensions	**40**	**56**	**54**	**41**	**5**	**14**

Source: own calculations from ECHP and ECV consolidated data base
Note: Deprivation in domains 1 and 2: being deprived from at least two of four items in each domain (items defined in the text). Domains 3 and 4 include one item only. EU14 refers to the weighted average (EU15 except Sweden)

4.2 Taking into account country differences: "relative" multiple deprivation

The results presented in the preceding section assigned the same weight to items in all EU and accession countries. They therefore employ European-wide or, in a way, "absolute"[18] thresholds. This procedure often followed in non-monetary poverty analysis is, however, debatable. The lack of or problems with a particular item means a very different degree of deprivation in a society where the huge majority is in possession or has no problems with this item than in a society where this concerns fewer people. If, for instance, possession of colour TV is very common in a country (e.g. 99% of households in Luxembourg), then lacking this item should weigh higher than if possession is less wide-spread (e.g. 86% in Hungary). In order to include these country-specific aspects and differences in our indicator of deprivation, we therefore constructed a weighted overall deprivation index on the basis of all ten above defined deprivation items, weighting each item with the percentage of the population not lacking or not having problems with the particular item. If, for instance, the lack of a specific

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[17]   It should be noted that this approach is only seemingly without weighting. In fact, by counting the number of dimensions, each of them is assigned equal weight. This is both technically and conceptually debatable. The basic and secondary dimension is composed of 4 items which means that each individual item can contribute 0 or 50% to deprivation within that dimension and hence 0 or 25% to multiple deprivation. In contrast, the single indicators on housing and satisfaction contribute each 0 or 100% to their dimension and 0 or 50% to multiple deprivation.

[18]   The concept of European-wide thresholds remains, of course, relative. In the following, "absolute" under quotes is used in this sense.

item is very rare in a country, the person who lives in a household lacking this item is assigned a higher weight, namely a weight equal to the share of persons in households which are not lacking this item. This allows to take into account differences between countries regarding average levels of deprivation. In constructing this indicator, we followed the method developed and proposed by Tsakloglou and Papadopoulos (2000, pp. 10-17)[19].

Table 6 provides such country-specific deprivation scores, derived from summing up the weighted item scores, standardised to the mean in each country and classified into seven categories from "very low" to "very high" deprivation. It turns out that the share of persons facing no or few problems with deprivation is still higher in EU 14 than in the accession countries, namely between 23% (Slovenia) and 25% (Hungary) in the accession countries compared to 39% on EU14 average. Also the South European countries have a higher proportion of persons not (or very lowly) deprived.

On the other hand, the proportion of persons with high or very high relative deprivation scores is not that different between EU member and accession countries, and among all European countries as a whole. A few EU member countries even have a higher proportion of persons with high deprivation scores than the three accession countries[20].

Table 6. "Relative" country-specific deprivation in EU14 and accession countries, 1999

	Czech Republic	Hungary	Slovenia	Greece	Denmark	EU 14
<50% of mean (very low deprivation)	25	25	23	34	39	39
50-75% of mean (low deprivation)	17	15	18	9	21	13
75-95% of mean (moderately low deprivation)	15	14	10	14	0	9
95-105% of mean (close to national average)	1	5	8	1	3	4
105-125% of mean (moderately high deprivation)	10	11	8	11	8	5
125-150% of mean (high deprivation)	7	11	12	3	0	5
>150% of mean (very high deprivation)	25	19	21	29	25	25

Source: own calculations from ECHP and ECV consolidated data base
Note: EU14 refers to the weighted average (EU15 except Sweden). "Relative deprivation": Deprivation items are weighted by the occurrence in the respective country and standardised by the country-specific mean.

Generally, weighted composite indices of deprivation loose some of their illustrative power which is associated with deprivation from necessities that are known from everyday experience. In this light, it has sometimes been argued that the introduction of country-specific aspects in non-monetary poverty indicators is redundant for the analysis of population

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[19]   Layte *et al.* (2001) also applied this weighting procedure to construct a relative summary deprivation index. Another method of constructing an aggregate index of non-monetary deprivation has been described and applied to Belgian micro data by Delhausse *et al.* (1993).

[20]   This stems from the fact that in some EU member countries the average level regarding some items is that high that lacking a few (or just a single) items weighs very high and persons who would not be deprived according to the "absolute" indicator (lacking two items out of four; deprived in two domains out of four) can be deprived according to the "relative" indicator.

groups at risk as the persons being deprived according to the "absolute" (European-wide) deprivation index are very likely to be the same than those being deprived according to the "relative" (country-specific) measure. Indeed, table A.7 in the annex shows that there exists an almost perfect overlap of the two population groups in most EU countries. In the nine "richer" EU countries -- Belgium, Denmark, Germany, France, Luxembourg, the Netherlands, Austria, Finland and the United Kingdom – between 95 and 100% of persons being deprived as defined in the previous section are deprived according to the country-specific measure (i.e. above 125% of the national mean), and in Ireland, Italy and Spain this percentage is close to or over 90%. However, in the "poorer" EU countries as well as in the accession countries, the overlap is significantly lower, namely between 60% and 70% in Greece, Portugal and the Czech Republic, and between 35% and 39% in Slovenia and Hungary.

These differences are rooted in the different overall shares of persons who are identified as deprived between the "absolute" and "relative" deprivation measures. The general pattern reveals that poorer countries tend to have higher absolute levels of deprivation than when related to the average in a country. For example, the share of highly deprived in Hungary is 19% while the absolute indicator of multiple deprivation yields a percentage of more than 56%. By summing over all items across dimensions, the relative approach weights dimensions in proportion to the number of items within that dimension and hence puts less emphasis on the (somewhat weaker) housing and satisfaction items, which puts this approach even more in contrast with the absolute approach.

5. CONSISTENT POVERTY IN EU AND ACCESSION COUNTRIES

In a final step, the above two aspects are combined to assess the extent and profile of consistent poverty in an enlarged Europe. As described above in section 2.5, consistent poverty is defined as the percentage of persons in households which fall below a monetary poverty threshold and are deprived in non-monetary dimensions. For both, monetary and non-monetary thresholds, there are EU-wide ("absolute") and country-specific ("relative") benchmarks. This results in a set of possible alternative consistent poverty rates which can be classified into four groups and tentatively labelled as follows:

A.1   "*(extended) conventional*" ("relative/absolute"): using country-specific income thresholds and a European-wide deprivation threshold;

A.2   "*relativist*" ("relative/relative"): using country-specific income and country-specific deprivation thresholds;

B.1   "*absolutist*" ("absolute/absolute"): using a European-wide income and deprivation threshold

B.2   "*weakly absolute*" ("absolute/relative"): using a European-wide income threshold and country-specific deprivation thresholds;

The criteria to judge on the relevance of the four different possible approaches are related to a number of aims, or principles, of the construction of poverty indicators *per se*. In particular, they are related to i) the degree to which available data can be regarded as comparable between countries (particularly information on income and deprivation items); ii) the theoretical and methodological assumptions necessary to be made to construct and apply minimum thresholds; iii) the degree to which results can be interpreted straightforwardly and

hence their illustrative power[21]; iv) the policy responsiveness of the indicator[22]; and v) finally the degree to which it represents an academic challenge which would deserve further elaboration. Against these principles it appears that, a priori, no single approach can be identified as superior on all dimensions. This is illustrated in summary table 7. Reports of high policy relevance are most likely to remain with the "conventional" approach as it seems pragmatically the most feasible and also the most illustrative. For specific policy questions, the "absolutist" approach might be called upon, given the apparent simplicity of a universal pan-European threshold and an agreed set of basic requirements for all European citizens. However, data situation and methodological progress do at present not fully allow for such ambitious concepts. In addition, the idea of a pan-European monetary threshold on a micro (household) level does today not seem to be accepted by most EU member countries' governments (although the use of macro-economic pan-European indicators such as GDP/capita is widely accepted). The "relativist" approach requires the least harmonisation efforts and results in the least heterogeneity between EU countries, yet it scores very low on illustrativeness. Similarly, the "weakly absolute" approach seems to entail problems because of low illustrative power and policy relevance, although it has somewhat higher credential (and need) for conceptual development.

Table 7. Characteristics of four alternative approaches to identify an acceptable minimum standard in an enlarged European Union

	Harmonis-ation requi-rements	Assump-tions	Hetero-geneity	Illustrative power	Policy respon-siveness	Academic potential
"Conventional" (A.1)	Low	**Lowest**	Low	High	**Highest**	Lowest
"Relativist" (A.2)	**Lowest**	Low	**Lowest**	Low	Lowest	High
"Absolutist" (B.1)	Highest	High	Highest	**Highest**	High	High
"Weakly absolute" (B.2)	High	Highest	High	Lowest	Low	**Highest**

Table 8 shows various alternative poverty rates for the three CEE countries and the weighted EU14 average. Consistent poverty rates are lower than pure income poverty rates as, by definition, the pool of consistent poor is a subset of the income poor. But the subset (i.e. the proportion) is considerably higher for the three CEE countries when applying an "absolute" deprivation threshold (panels A.1 and B.1). About half of the income poor are consistently poor in EU14, but between two thirds and 90% in the three CEE countries (as well as in some southern European countries). There is not such a large difference when applying a "relative" deprivation threshold (panels A.2 and B.2), the subset of consistent poor being between app. 40% and 70% of the income poor in "old" EU member as well as the CEE countries.

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[21]   This refers to the first of the nine principles for the construction of social inclusion indicators in EU, described by Atkinson *et al.* (2002), namely "an indicator should identify the essence of a problem and have a clear and accepted normative interpretation".

[22]   The third of the principles for the construction of social inclusion indicators in EU, described by Atkinson *et al.* (2002), namely "an indicator should be responsive to effective policy interventions but not subject to manipulation".

The overall levels of consistent poverty (four lines in bold in table 8) do not differ dramatically for the EU14 average: they are lower under use of a European deprivation standard (8% and 7%, respectively) and higher under use of a country-specific deprivation standard (11% and 10%, respectively). Differences are much greater for the three CEE countries. In these countries consistent poverty rates are lowest (and around or below European average) under use of country-specific thresholds, and highest under use of European-wide thresholds for both income and deprivation.

The most striking difference for the three CEE countries emerges when moving from country-specific to European-wide income thresholds which almost doubles poverty estimates in Slovenia, triples them in the Czech Republic and more than quadruples them in Hungary. This reflects the considerable distance in overall wealth to most "older" EU societies. By contrast, consistent poverty is not significantly different in CEE countries from "older" EU countries under country-specific income thresholds. This reflects, to a large extent, the fact that income inequality in these countries is still at or below EU levels in the late 1990s. It should not be forgotten that, due to socialist legacy, these societies started transition with very low inequality levels[23]. There has been an up-swing of income inequality, especially in the early and mid-1990s but preliminary evidence points to a stabilisation in the late 1990s (e.g. Szivós and Tóth 2001; Tóth 2002). This relatively low inequality also seems to hold for non-monetary items, i.e. deprivation from those.

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[23] Former Czechoslovakia, for instance, was the country with the lowest recorded level of income inequality throughout the world.

Table 8. Alternative consistent poverty rates in EU and EU accession countries, 1999

	Czech Republic	Hungary	Slovenia	Greece	Denmark	EU 14
A. Country-specific income thresholds						
Income poverty rate	14	12	14	21	11	16
A.1 Using European-wide deprivation standard						
below poverty threshold and:						
Deprived in basic needs	10	9	11	13	1	6
Deprived in secondary needs	8	9	10	16	6	7
Deprived in housing standards	6	7	7	6	0	5
Subjective income deprivation	6	7	10	11	1	7
Deprived in at least two dimensions	**10**	**9**	**13**	**15**	**1**	**8**
A.2 Using country-specific deprivation standards						
below poverty threshold and:						
Relative deprivation score very high	6	7	9	12	4	10
Relative deprivation score high	**8**	**9**	**11**	**13**	**6**	**11**
B. European-wide income threshold						
Income poverty rate	50	77	26	40	3	17
B.1 Using European-wide deprivation standard						
Below poverty threshold and:						
Deprived in basic needs	29	47	17	23	0	5
Deprived in secondary needs	27	47	18	27	2	7
Deprived in housing standards	19	42	14	12	0	5
Subjective income deprivation	17	24	17	18	1	7
Deprived in at least two dimensions	**29**	**51**	**22**	**26**	**1**	**7**
B.2 Using country-specific deprivation standards						
Below poverty threshold and:						
Relative deprivation score very high	19	20	14	21	2	9
Relative deprivation score high	**29**	**25**	**18**	**22**	**2**	**10**

Source: own calculations from ECHP and ECV consolidated data base
Notes: Consistent poverty: falling below monetary and non-monetary threshold. National relative income poverty threshold: 60% of the national adjusted median income. EU18 income poverty threshold: 60% of the European-wide median income. National deprivation threshold: above 125% of country-specific mean deprivation. EU-wide deprivation threshold: being deprived in 2 out of 4 domains (2 out of 4 items per domain). Income data adjusted by OECD-modified equivalence scale: 1 - 0.5 - 0.3. EU averages are weighted.

If the aim is to combine monetary and non-monetary aspects of poverty for poverty analysis in an enlarged EU, such indicators of consistent poverty prove useful. They, however, leave us with four alternative measures, depending to which extent country-specific ("relative") or European-wide ("absolute") thresholds are applied. A starting point, and probably the most promising approach for poverty reporting in Europe would certainly be the (extended) "conventional" approach (A.1), which uses country-specific income and European-wide deprivation standards. This measure can also serve as a "lower benchmark" of poverty as it disregards overall income differences between countries. It might therefore be illustrative to complement the "conventional" consistent poverty measure with an "upper benchmark", derived from a combination of a European-wide income and country-specific deprivation thresholds. ("weaker absolute" measure, B.2). To the difference of the "relativist"

and "absolutist" approach, both measures combine European-wide *and* country-specific aspects of poverty.

Figure 4 shows these two rates for all 17 European countries considered. The weighted EU-17 average rate is 7% for the "conventional" consistent poverty rate and 11% for the "weaker absolute" consistent poverty rate. The rank order of countries does not change much for the continental European and Nordic countries which, under both scenarios, have significantly below-average consistent poverty. The rank order changes, however, for central and southern European countries. Under the "conventional" poverty measure, the highest poverty rates are recorded by Slovenia, Greece and Portugal (13% - 16%), followed by Hungary, the Czech Republic and Italy (9% - 10%). Under the "weaker absolute" poverty measure the Czech Republic, Portugal and Hungary would have the highest consistent poverty rates (24%-29%), followed by Greece and Spain (20% – 22%). Regarding the three CEE countries, the biggest difference between the lower and upper benchmark for consistent poverty is observed for Hungary (from 9 to 30%), the smallest one for Slovenia (from 12 to 18%).

Figure 4. Consistent poverty rates in EU and EU accession countries, 1998
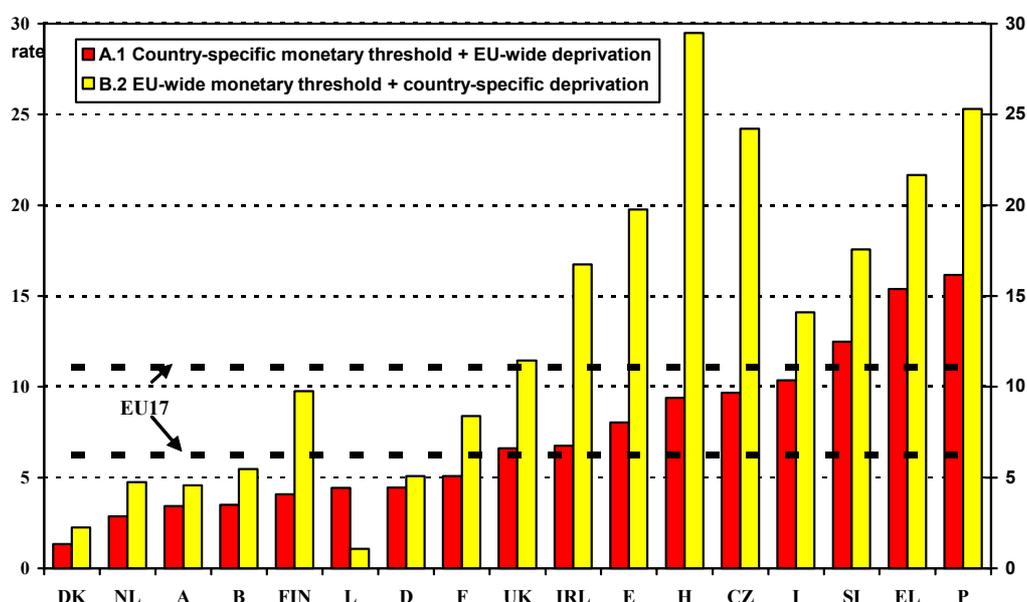
Source: own calculations from ECHP and ECV consolidated data base

Notes: Consistent poverty: falling below monetary and non-monetary threshold. National relative income poverty threshold: 60% of the national adjusted median income. EU18 income poverty threshold: 60% of the European-wide median income. National deprivation threshold: above 125% of country-specific mean deprivation. EU-wide deprivation threshold: being deprived in 2 out of 4 domains (2 out of 4 items per domain). Income data adjusted by OECD-modified equivalence scale: 1 - 0.5 - 0.3. EU averages are weighted.

6. POVERTY PROFILES IN AN ENLARGED UNION

To what extent do the profiles of income poverty differ between accession and EU countries? Are there particular population groups at risk in the Central Eastern European countries which are distinctive from those in the EU member countries, e.g. with regard to age, education or labour market attachment? This chapter analyses poverty profiles using bi-vatiate (sections 6.1 and 6.2) and multi-variate (section 6.3) approaches.

6.1 Income poverty

Annex tables A.1 and A.2 provide detailed income poverty rates for characteristics of the head of household for all 18 countries, under both poverty line assumptions and for two equivalence scales.

A few key findings emerge: first, the gender differential is less marked in the Czech Republic and, particularly, Slovenia than in EU15. The age profile of poverty is basically u-shaped. Nevertheless, it seems that the younger generations have comparatively lower income poverty risks in the accession countries than in EU15. Higher education is a better shelter against income poverty in Hungary and Slovenia than in the Czech Republic. Unemployment creates the highest income poverty risk throughout Europe, but even more so in the accession countries. Using national-specific thresholds, income poverty rates for the unemployed are three to four times higher than on national average. When in work, income poverty rates are considerably below the national rate, and half that rate in Hungary.

6.2 Consistent poverty

When turning to consistent poverty the results become more accentuated. The profile of consistent poverty is analysed in figures 5 and 6, for the three accession countries and the weighted EU14 average, using the relative poverty risk index: this index divides the group-specific income poverty rate by the overall income poverty rate of the population and shows the relative poverty risk of specific population groups. A value of 2 therefore indicates that the income poverty rate of a population group is twice the overall rate in that country[24]. The index is presented for key demographic and socio-economic household characteristics[25]. More details for all countries are given in Annex table A.9.

The gender differential[26] of consistent poverty is less marked in the Czech Republic and Slovenia than in the other European countries. This holds true for Hungary also, but only under the "weaker absolute" measure. The age profile of consistent poverty is generally u-shaped, but there are some exceptions. For instance, the age group 55-65 (near retirement) has a higher relative risk of consistent poverty on EU14 average (and Hungary) than the group of the elderly (65+), under the "conventional" measure. This somewhat contradicts findings based on income poverty measures according to which the group of near-retirement is better off than the elderly (Förster and Pellizzari 2000). Since the difference in the two measures is the inclusion of non-income items in consistent poverty, this indicates that this group has greater problems with regard to deprivation. There are some other exceptions to the u-shaped form, especially with regard to prime-age adults. Still, the youngest generation (below 26)

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[24] This is the same as saying that the poverty share of a population group is twice its population share; the group is therefore "represented" twice as often in the poor population than in the total population. For that reason the relative risk index is sometimes labelled "poverty representation index".

[25] For interpretation, it should be noted that household characteristics are defined in this section with regard to the head of household, rather than individual characteristics as in the preceding sections. Poverty rates and relative risk indices nevertheless refer to persons.

[26] This refers to the differential between persons living in households headed by men and women, respectively. This differential is greater than the one between men and women, on a person basis, mainly because female-headed households are in a greater proportion made up by single adult households.

appears to be relatively better off in the CEE countries, especially in Slovenia where they have below- national average consistent poverty risks under both benchmark assumptions. Among EU member countries, a lower income poverty risk for the young can be found only in Greece and Ireland (data not shown). On the other hand, the elderly in Slovenia have higher consistent poverty risks than on European average. This contrasts with the situation in Hungary, where elderly have the lowest relative consistent poverty risk throughout Europe, together with the Netherlands and Luxembourg.

Lower education leads to increased risk of consistent poverty: one and half to two times higher than on national average. The difference in consistent poverty risk between lower and higher educated people is higher in Hungary and Slovenia than on EU14 average. Apart from Slovenia, consistent poverty rates exceed twice the national rate in case of low education also in Austria (under both measures). As is the case for income poverty, unemployment of the head of household increases the risk for consistent poverty to four times the national average. However, in the case of consistent poverty, the accession countries have a slightly lower relative risk for this group than EU average. The same holds for "other inactive persons" in the case of the "weaker absolute" measure. Again, this may be related to the inclusion of non-monetary deprivation thresholds in the definition of consistent poverty. On the other hand, the retired seem to have a slightly higher consistent poverty risk in the accession countries than the EU14 average.

In sum, there seems to be no consistent poverty profile "common" to the three CEE countries and distinctive from the EU average but rather as diverse as within EU, with the exception, perhaps, of a relatively lower relative poverty risk for youth in the new EU countries.

Figure 5. Consistent poverty by demographic characteristics (total population=1), 1999

Panel A: "conventional" measure (country-specific income threshold, European-wide deprivation threshold)
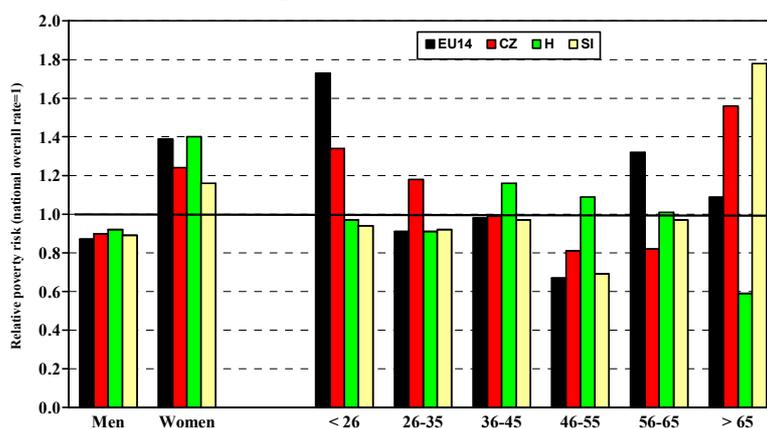
Panel B: "weaker absolute" measure (European-wide income threshold, country-specific deprivation threshold)
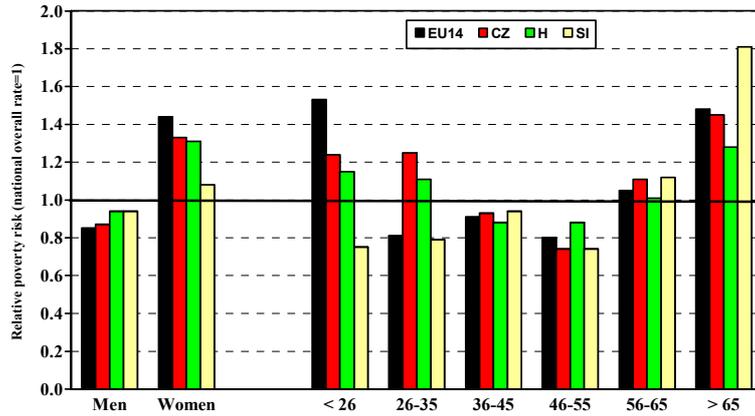

Source: own calculations from ECHP and ECV consolidated data base
Note: Group-specific consistent poverty rates divided by national consistent poverty rate for the total population.

Figure 6. Consistent poverty by socio-economic characteristics (total population=1), 1999

Panel A: "conventional" measure (country-specific income threshold, European-wide deprivation threshold)
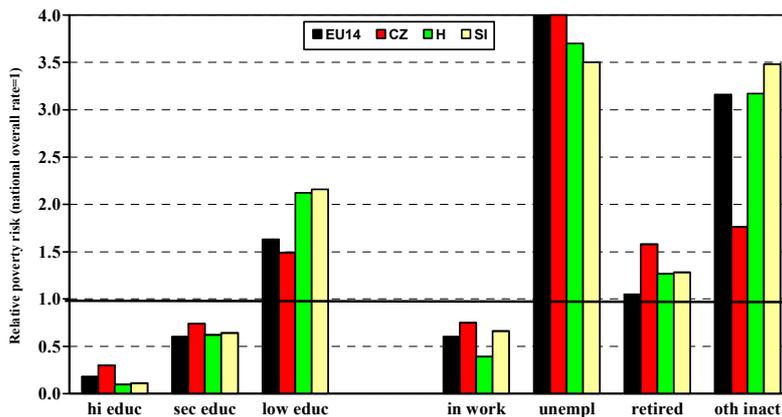
Panel B: "weaker absolute" measure (European-wide income threshold, country-specific deprivation threshold)
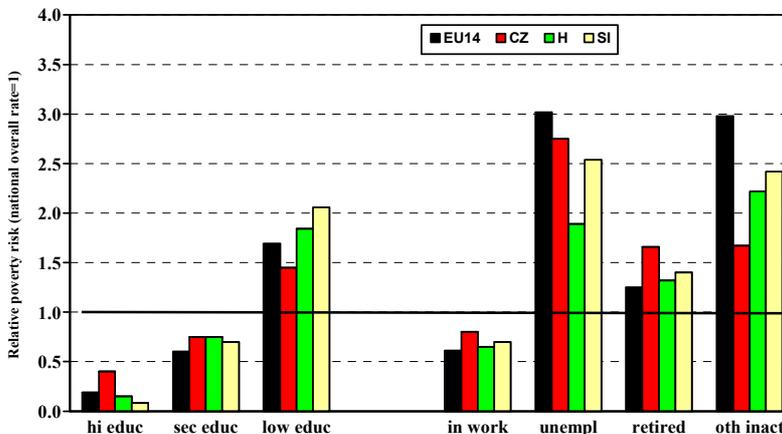
Sources and Notes: see Figure 5.

5.3   Poverty profiles: a multivariate analysis

The limitations of bi-variate analysis such as presented in the preceding sub-section are well-known. The influence of certain household characteristics such as age or gender on poverty risks will be different when taking account of other characteristics such as household size, education level, etc. The data in table A.10 (Annex 3) present the main results from a logistic regression model on the household characteristics available, for four different definitions of poverty: the traditional relative income poverty concept (60% below the national median income); multiple non-monetary deprivation (2 out of 4 EU-wide domains); and two combined consistent poverty measures: (extended) "conventional" (A.1 above) and "weaker absolute" (B.2 above). In addition, the tables present results for the population which is not poor according to any of the explored definitions.

Results have been estimated for the three accession countries and two EU member countries, Denmark – as a low-poverty country – and Greece – as a higher poverty country within the EU. The aim is twofold: first, to test whether in each country the different poverty definitions point to the same or different characteristics leading to high poverty risk. And second, whether poverty profiles for the accession countries are distinctive from those of EU member countries using multi-variate analysis.

In <u>Demark</u>, gender does not seem to have a significant effect on poverty. Youth are more poverty prone, at least concerning income poverty and deprivation. Results for elderly are mixed: they have a very high income poverty risk[27] but negative coefficients for non-monetary deprivation and conventional consistent poverty. Not being in work (including retirement) increases the risk according to all four poverty measures. Income poverty risk decreases with the number of children in Denmark, a rather exceptional feature. However, deprivation and consistent poverty seems higher in the case of having two children. Low and very low incomes are a good predictor also for non-monetary deprivation and consistent poverty.

Also in <u>Greece</u>, gender does not seem to have a significant effect on poverty. Age has less influence on poverty risks than education, and lower education indicates increased risk according to all four poverty measures. Persons in households with three or more children have higher monetary, non-monetary and combined poverty risks. The relative income position of the household is linked to non-monetary deprivation and, in the case of low incomes, also to consistent poverty.

In the <u>Czech Republic</u>, female headed households have a somewhat higher poverty risk, except for conventional consistent poverty. Persons near and over retirement age seem to have lower risks of consistent poverty in the Czech Republic (for both the conventional and weaker absolute measure). Unemployment increases risks according to all four poverty definitions. Also, persons in households with children, especially three or more children, have higher monetary, non-monetary and consistent poverty risks. Lower income induces higher deprivation as well as consistent poverty and vie versa (except for higher incomes in the case of conventional consistent poverty).

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[27]   The odds ratio (not reported in the table) is between 4.9 and 17.3 for persons above 65, and between 1.1 and 4.7 for persons aged 55 to 64, at a confidence interval of 95%.

In <u>Hungary</u>, coefficients for female-headed households are positive in the case of income poverty but negative in the case of deprivation and consistent poverty. By contrast, all four poverty definitions point to a lower poverty risk for people aged 55 to 65 and, even more, for those over 65. Having less then secondary education and being unemployed implies very high monetary, non-monetary and consistent poverty risks[28]. Having children also increases poverty risks but to a smaller extent, and the risk is not increasing with the number of children. The relative income position of the household is linked to non-monetary deprivation and consistent poverty (second definition).

In <u>Slovenia</u>, female headed households have lower risks of deprivation and consistent poverty. Results for age characteristics are controversial but influences appear rather low: younger age groups, for instance, seem to have somewhat higher income poverty but lower deprivation and consistent poverty risks. Unemployed and non-retired inactive have higher risks according to all four poverty definitions. Persons in households with many children have in particular higher consistent poverty risks. Also in Slovenia, the relative income position is linked to non-monetary deprivation and consistent poverty (second definition).

In all five countries, the two EU members and the three accession countries, unemployment appears to constitute a very strong risk for poverty, be it defined as monetary, non-monetary or consistent. Also, lower education implies higher poverty risks, particularly in Greece, Hungary and Slovenia. For all other characteristics, results are more diverse. Especially, gender and age characteristics often have no significant effect, or the effects contradict between the poverty definitions. Labour market and human capital factors, rather than age or other demographic characteristics, are therefore most crucial in explaining poverty in both current and future EU member countries. Finally, the two alternative definitions of consistent poverty – "conventional" and "weaker absolute" – report comfortably similar results for the three central eastern European countries, and coefficients point in the same direction.

7. CONCLUSION

This paper discussed the conceptual underpinning to combine income and non-income elements into measures of consistent poverty for an enlarged European Union, and applied this framework to micro data from 15 EU and 3 Central and Eastern European accession countries.

While there exists a large number of micro data sets on household incomes and living conditions in accession countries, few of them integrate *both* types of information, and little effort has been spent so far to make them comparable. In our data requirements survey which was conducted in 8 accession countries we could finally obtain adequate data for three countries that were included in the present study. It should be noted, that in the EU itself, micro data to study income and non-income aspects of poverty simultaneously were very rare prior to the development of the European Community Household Panel Survey; and in a number of countries, this instrument remains the only relevant data source to date. This calls for a more systematic approach in the development of statistical surveys for poverty analyses

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[28]   Odds ratios for these groups are in excess of 10, in general.

in the imminent future. The development and implementation of the new EU statistical instrument since 2003 (SILC – statistics on income and living conditions) is a first step in this direction.

A second point refers to the methodological comparability of poverty data and the required statistical transformations. In particular the present study could provide evidence that the choice of the furthermore conventional OECD-modified equivalence scale does affect the observed extent of poverty in accession countries -- which use much steeper equivalence scales in national reporting (and social programmes) -- and moreover changes their rank.

The paper extended the analysis of poverty in two ways: by combining monetary with non-monetary aspects to a measure of consistent poverty; and by moving the reference society from the nation state to (enlarged) Europe. <u>Income poverty</u> rates under country-specific relative thresholds are below EU average in the three CEE countries considered, around 13 to 14%. Applying a poverty threshold of 60 % of the European income distribution (including the Czech Republic, Hungary and Slovenia) would result in major changes in poverty rates for these countries: Slovenian poverty would be close to the Italian level (some 25 %), Czech poverty close to that of Portugal (some 50 %) and Hungary would display by far the highest poverty rate (77 %).

Analyses of <u>non-monetary deprivation</u> scores in four standardised life-style domains reveals that those scores are much higher in CEE countries than on EU average in the domain of basic deprivation and the domain of accommodation. That they are higher, but to a lesser extent, in the domain of durables. And that they are not that much different in the fourth domain: subjective well-being. However, some EU countries such as Greece and Portugal also score high on non-monetary deprivation while others such as the Benelux countries and Denmark score very low. A single measure of multiple deprivation using the same items for all countries concerns 15% of the population on EU-14 average and between 5 and 10 % of the population in Denmark, Austria, Germany and the Benelux countries, but more than half the population in Hungary and Slovenia. The multiple-deprivation rate is also very high in the Czech Republic (40%), in Greece (41%), and in Portugal (43%). When weighting deprivation items with country-specific occurrences, such "relative" deprivation measures yield a much lower country variance: the deprivation rate then is between 25 % and 35 % in all countries.

<u>Consistent poverty</u> then is defined as the percentage of persons which fall below a monetary threshold *and* are deprived in non-monetary dimensions. Applying either EU-wide or country-specific thresholds, this leads to four possible alternative consistent poverty measures: "relativist", "absolutist", "conventional" (country-specific income and EU-wide deprivation standard) and "weaker absolute" (EU-wide income and country-specific deprivation standard). The overall levels of consistent poverty do not differ dramatically for the EU-14 average. But differences are much greater for the three CEE countries. In these countries consistent poverty rates are lowest under use of country-specific income thresholds, and highest under use of European-wide thresholds for both income and deprivation.

Most probably the most promising and widely accepted approach for poverty reporting in enlarged Europe would be the (extended) "conventional" approach, which uses country-specific income and European-wide deprivation standards. This measure can also serve as a "lower benchmark" for new EU member states as it disregards overall income differences between countries. It might therefore be useful to complement the "conventional" measure with an "upper benchmark", derived from a combination of a European-wide income and

country-specific deprivation thresholds. The weighted enlarged EU average rate is 7 % for the "conventional" consistent poverty rate and 11 % for the "weaker absolute" consistent poverty rate. The rank order of countries does not change much for the continental European and Nordic countries which, under both approaches, have significantly below-average consistent poverty. The rank order changes, however, for central and southern European countries which score higher consistent poverty rates. Under the "conventional" poverty measure, the highest poverty rates are recorded by Slovenia, Greece and Portugal (13% - 16%). Under the "weaker absolute" poverty measure the Czech Republic, Portugal and Hungary would have the highest consistent poverty rates (24% - 29%).

Bi-variate and multi-variate analyses of poverty profiles according to alternative measures reveal that there seems to be no consistent poverty profile "common" to the three central eastern Eruopean countries and distinctive from the EU average but rather as diverse as within EU, with the exception, perhaps, of a relatively lower relative poverty risk for youth in the future EU countries. At the same time, unemployment and lower education appear to constitute the strongest risks for poverty, defined as monetary, non-monetary or consistent.

This paper did not attempt to propose one single measure for monitoring poverty in enlarged Europe. Rather, the empirical results presented in this article shall primarily serve as a starting point for extensive theoretical reflection and emphasise policy implications of income and non-income poverty indicators.

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