INCOME POVERTY AND MINIMUM INCOME REQUIREMENTS
IN THE EU 14

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1   Introduction

In this paper we present first exploratory findings on income distribution and poverty as measured in the European Community Household Panel (ECHP) and examine their potential for the discussion of minimum income.

The ECHP is a genuine harmonised data source on social living conditions and was launched in 1994. Currently it is conducted in 14 EU-member states, comprising roughly 60.000 households which are yearly interviewed. It provides a wide range of information important for social policy, including issues of poverty and social exclusion.

The ECHP has so far mainly been used for reporting on income and income poverty. Manifold methodological problems have been encountered which determine the appropriateness of the various standardised measures. Therefore we review some of the main methodological standards which have been established.

The identification of a justified monetary (or non-monetary) threshold is here fundamental, not only for the statistical investigation of poverty, but also for those who are interested in tax-benefit systems which should cover basic financial requirements. Conventional standards can hardly substitute for a lack of a theoretical conceptualisation on the meaning of minimum requirements. Although far from being able to overcome the shortcomings of the present schemes it seems important to contrast these with alternatives. In particular our interest concentrates on more consensual definitions of poverty. As an example we construct a subjective poverty line based on a question on the individually required minimum income (MIQ).

In the following section we return to the conventional approach for poverty measurement, which is also guiding European social policy, and present findings on incidence and severity of poverty in Europe.

Subsequently we briefly discuss the hypothetical scenario of bringing all persons who are presently poor out of poverty through social transfers. To illustrate this "budget gap" between the status quo and the desired "eradication" of poverty we aggregate individual poverty gaps into national budgets

Finally we show the impact of social security systems on poverty, comparing poverty rates before and after social transfers

2 The ECHP

2.1 The survey

In 1991, EUROSTAT, the Statistical Office of the European Communities set up a Task force on Household Incomes in order to respond to the strong need for information on household and individual income. The first intention was to check if existing national household surveys could be harmonised. After the failure of this approach the decision was taken to launch a specific EU survey, the European Community Household Panel.

The survey started in 1994, including 12 EU member states. Austria joined in 1995, Finland in 1996, Sweden is not participating. The questionnaire was designed by EUROSTAT but allows the member states to adapt it to national specificities. The national samples add up to roughly 60.000 interviewed households and 130.000 persons. Three characteristics make the ECHP a unique source of information:

(1) a multi-dimensional coverage of a range of topics which gives a broad picture of the social situation in Europe

(2) a standardised methodology which allows cross-national comparability

(3) the longitudinal or panel design which gives information of social change on micro level. (see EUROSTAT, 1996)

Currently the seventh wave is in the field and will be terminated in Spring 2001,microdata is only available for waves 1-3. The next release is expected for 2001. In Austria the cross sectional report of the sixth wave and the first longitudinal report for the first four Austrian waves are is currently under preparation. The ECHP is expected to terminate after wave 8. Currently a working group of national statistical officials is discussing the future of a harmonised data source which will substitute the ECHP (PanDoc158).

2.2 A knowledge base to support measures against poverty and social exclusion in Europe

The ECHP is not the sole statistical source for household income, but was decided as the main source for statistics on social exclusion. The Amsterdam Treaty included the fight against exclusion as one of the six objectives of European social policy. (Mejer 1999)

A Task Force for statistics on Social Exclusion and Poverty Statistics was set up to deal with the translation problem of policy terminology into statistical concepts. The definition of povery used by the European Commission appears in the Council decision, December 1984:

"The poor shall be taken to mean persons, families and groups 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." (Mejer, 1999)

In practice, the term poverty was then used to refer to income poverty. Currently a broader concept of social exclusion and deprivation is under development.[1]

The framework currently adhered to by EUROSTAT for reporting on social exclusion is closely tied to the content of the ECHP. It expands the concept of relative income poverty (operationally defined by the 60% median threshold) by employment status and different non-monetary aspects of deprivation. According to this framework different degrees of social exclusion can be observed. Most socially excluded are then persons who face multiple deprivation, i.e. persons who at the same time live in income poverty, are faced with unemployment, and are subject to deprivation also in other life domains (ibid.).

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[1] The limitation of a purely income based poverty concept has been discussed already in the seventies and was leaded by Pete Townsend (1979), who developed a well known and often criticised deprivation index and A. Sen (1992) who developed a theory of basic functions and capabilities necessary to achieve a basic level of well-being

3 Income and poverty – methodological standards

3.1 Disposable income

The distribution of incomes gives important information on inequalities which are present in a society. Furthermore it is a standard reference point in the definition of relative income poverty and social exclusion. It seems therefore advisable to start the investigation of particular vulnerabilities with a description of the distribution of incomes.[2]

Disposable income includes all net monetary and non-monetary incomes of the household and are most relevant concerning the distribution of individual welfare. Apart from incomes in kind and operating surplus of owner occupied dwellings, all required income components are contained in the ECHP.[3]

Figure1 Components of disposable income

+   *Income from Activity* (1) Compensation of employees, (2) Income from self-employment, (3) Operating surplus of owner occupied dwellings, (4) Income from activity not elsewhere covered

+ *(5) Income from Property*

+   *Transfer Income received:* (6) Social Security Benefits and Social Welfare Assistance, (7) Other money income

-   *Compulsory payment transfers*: (8) Taxes on Income and wealth, (9) Social security contributions, (10) Other disbursements
-   *Voluntary Transfer Payments*: (11) Inter household transfers received

 = Disposable Income

Source CPS (98/31/2)

3.2 The use of Power Purchasing Parity for international comparison

Purchasing Power Parities (PPP) convert national currencies into Purchasing Power Standards (PPS), of which every unit can buy the same amount of goods and services in every state in a specific year and allows the income comparison between EU countries. The calculation of the PPP is necessary since the market exchange rates do not fully reflect the differences in price levels in the countries concerned. The calculation of the PPPs are based on differences in consumption patterns among nations. There is criticism that the application of PPS is only a very poor mean to represent welfare standards, as it does not consider

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[2] The income definition used in the following derives from the DICAH-report, which is a revised version of the UN-guidelines on income statistics set up in 1977 (Franz et al. 1998). The income concepts of the DICAH system were recommended also by the "Expert Group on Poverty and Social Exclusion Statistics" (CPS 98/31/2).

[3] There has been for a long time the demand to take respect of cost differentials between tenants and owner-occupiers. EUROSTAT proposes to impute fictitious rents for owner-occupiers (PanDoc 103/99). This seems rather questionable. Neither it is clear what relevance this hypothetical income should have for the individual (e.g. if outstanding mortgage or loans have to be repaid), nor is there a sufficiently reliable empirical basis to estimate these imputed rents.

specific subsidies for goods as health or housing. Yet they are the best tool we have to make comparisons. (Rainwater and Smeeding, 1995)

The measurement of income in the ECHP relates to the preceding year; so the conversion rates for data from 1996 are 1995 PPPs. The number of national currency units which represent one PPS: D (2.148), B (42.13), DK (9.740), EL (236.5), E (134.9), F (7.274), IRL (0.7032), I (1.696), L (40.79), NL (2.250), A (15.19), P (142.7),FIN (7.012), UK (0.7305) (EUROSTAT 2000).

3.3 Equivalised household income as the central measure of welfare

The distribution of personal income gives only a fragmented picture of the distribution of welfare in the total population. For example, persons, with no income, like housewives or children are not represented in such an analysis. To draw a more complete picture of the income situation of a society, the *income of a household* has to be examined.

Using the household income as a welfare indicator raises several methodological problems which have yet to be resolved entirely. Because of the existence of shared costs (e.g. housing, consumables etc...) the cost for living is not fully proportional to the size of the household (i.e. economies of scale). Thus a standardised measure of welfare, which is derived from household income needs to be adjusted for household size.

The transformation from household income to equivalised income (i.e. the welfare index) is done through an equivalence scale, which determines the weighted size of the household.

3.3.1 Normative Equivalence scales

Most commonly used are *normative equivalence scales* which basically express intuitive feelings of some experts. Once established, they remain quite unquestioned standard in poverty and income statistics. One example is the so-called "Oxford scale" which was adopted by the OECD in 1982 (OECD 1982). This scale assigns a weight of 1.0 for the first person, 0.7 for each additional adult and 0.5 for children. It was criticised that these weights would put too much emphasis on the cost of children in highly industrialised countries. This criticism was reflected also by EUROSTAT which adapted a modified OECD scale in which additional adults are weighted by 0.5 and children by 0.3 (Haagenars et al.1994).

The above examples are special cases of a two-parametric scale with the weights α_1 and α_1, ranging between 0 and 1 for adults (N_1) and children (N_2) in a. The welfare index (W) is then the ratio of household income to the weighted household size.

$$W = H/(1+\alpha_1 N_1+\alpha_2 N_2) \tag{1}$$

One may imagine various other multi-parametric scales which distinguish between even more characteristics (e.g. age, region, employment situation, education, disabilities etc..). For global inequality parameters such scales can be approximated by a single parameter scale (Buhmann 1988, Figini 1998):

$$W=H/S^{\varepsilon} \tag{2}$$

where ε ranges within 0 and 1 and represents family size elasticity of need. The larger the elasticty the smaller are the economies of scale assumed by the equivalence scale. Thus the

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modified OECD scale introduced by EUROSTAT could be approximated by a single parameter scale with a lower elasticity ($\varepsilon \sim 0.5$) than the original OECD scale of 1982 ($\varepsilon \sim 0.7$). In OECD publications usually a single parametric scale with an elasticity $\varepsilon = 0.5$ is used. (Atkinson et al. 1995, Buhmann et al. 1998, Förster 1994)

The choice of any single equivalence scale does not only substantially affect the identification of risk groups (Till & Tentschert 2000), but is also questioned for cross-national comparisons:

> „...in empirical studies there is a tendency in using a value for ε of about 0.5. Yet, a comparison of well-being between countries should allow ε to take different values for each country." (Figini 1998)

3.3.2 Subjective Equivalence Scales

This latter point is particularly addressed by so-called 'subjective scales'. Characteristic for this approach is that family size elasticities are derived from subjective judgements which are empirically observed in a population.

The subjective dimension of welfare is mostly measured with asking the household how well it can "make its ends meet" supplied with the labels 'very bad' to 'very good'. Questions of this kind are often called "Income Evaluation Questions" (IEQ). Basic assumption in this method is that households which give a similar score draw equivalent utility from their income. Once equivalent income levels are established for households of different size or composition the implicit elasticities can be easily derived.

Similarly it is possible to ask the respondent straightforward what the household's required minimum income would be. This is usually referred to as "Minimum Income Question" (MIQ). Comparing average minimum income requirements in relation to household composition and size would yield a very crude empirical approximation of the implicit elasticities[4].

More sophisticated approaches emphasise that demand levels are not independent of actual available income. Households with a higher income do also have a higher standard of living. If, for instance, the individual reference point for minimum income requirements includes the possession of a car, or living in an expensive apartment answers to the MIQ will be markedly higher than if those consumption patterns are far beyond the individual expectations. In fact the MIQ is a distorted variable which does not properly reflect income requirements as a function of household size or composition. For the computation of subjective equivalence scales it is therefore common practice to add the socio-psychological "preference drift" into a multivariate model of minimum income requirements (Van Praag & Flik 1991).

In that model subjective minimum income is seen as a function of household income and size.

$$\ln\gamma_{min} = \gamma_0 + \gamma_1.\ln\gamma_c + \gamma_2.\ln fs \tag{3}$$

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[4] Till & Tentschert (2000) have shown that in the case of Austria the naivist approach yields almost identical values for the equivalised household size when compared to the modified OECD Scale employed by EUROSTAT (1-0.5-0.3). The more sophisticated approach resulted in an only slightly lower elasticity of 0.43 as compared to ~0.5 in the EU-scale.

These regression coefficients allow to estimate the subjective economy of scale as a single parameter for the family size elasticity (Van Praag & Flik 1991)

$$\varepsilon = \gamma_2 / (1 - \gamma_1) \tag{4}$$

Our empirical results show that there is considerable variation in family size elasticities between countries. This is in strong contradiction to the commonly used normative scales (e.g. modified OECD scale, $\varepsilon \sim = 0.5$) which assume uniform elasticities. Apart from the variation between countries elasticities are surprisingly high, which is also expressed in an EU-14 average of 0.5. In standard literature subjective scales are usually much lower. In a generalised typology of equivalence scales Atkinson et al. (1995) associated subjective scales with an elasticity of about 0.25, or below.[5] If one neglects differences within a range of 0.4 to 0.6 for the family size elasticities it appears that family size elasticities are below 0.4 only in the BE-NE-LUX countries, while particularly in southern countries like Portugal and Spain, but also in Denmark only low economies of scale are observed (indicating a relatively strong increase of living costs with household size).

Table 1: Elasticities in EU 14

Country	Subjective family equivalence scale
B	*0.37*
DK	**0.62**
D	0.43
EL	0.57
E	**0.62**
F	0.43
FIN	0.59
IRL	0.55
I	0.50
L	*0.27*
NL	*0.28*
A	0.43
P	**0.78**
UK	0.51
ø EU 14	0.50

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

3.4   Conventional concepts and measures of poverty

The reduction of poverty was declared as a key objective of future European Social Policy. On the one hand this stimulated research which contributes to a better understanding of poverty and social exclusion. On the other hand the close relationship between poverty research and policy leads to often unjustified simplifications. With the ECHP for the first time a comparative data base became available which contains invaluable information on the distribution of welfare within the European Union and its member states. Slightly delayed, a set of operational definitions for statistics on poverty and social exclusion was also established as statistical convention for the European Community (CPS 98/31/2, Mejer 1999,

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[5] Nevertheless our results are rather consistent with the findings of Van Praag and Flik (1991) who found an elasticity of 0.31 for Belgium while our own results computed for the ECHP in Belgium are only slightly higher (0.37).

CPS 2000/37/15). These administrative-statistical measures can not substitute for a comprehensive theoretically grounded framework to describe and explain poverty, which would be urgently required.

Some concepts of poverty:

Absolute poverty, a lack of basic amount of calories, as common in third world countries is regarded as being overcome in western industrialised countries.[6] Generally, absolute poverty "is defined without reference to social context or norms" (Gordon & Spicker 1999). An official definition of absolute poverty was formulated by the United Nations on the occasion of the 1995 World Summit for Social Development in Copenhagen:

"Absolute poverty is a condition characterised by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. It depends not only on income but also on access to social services" (ibid.).

A comprehensive definition of core requirements can be found in the works of Amartya Sen (e.g. 1992) and are also reflected in the regular Human Development Reports which are published by the United Nations (e.g. UNDP 1990).

Contemporary approaches in Europe regard poverty as a phenomenon which needs to be understood in relation to societal context and the degree of participation in it.

> *"Individuals, families and groups in the population can be said to be in poverty when the lack of resources to obtain the types of diet, participate in the activities and have the living conditions and menities which are customary .... in the societies to which they belong"* (Townsend, 1979)

In statistical publications relative poverty is usually reported as relative income or consumption poverty. Poverty is then defined by a threshold in relation to the average income or consumption level of society. This *relative concept* implies that poverty can have a totally different meaning in a society with a high level of income and consumption than in a society with a relatively low level of welfare.

Relative income poverty has been criticised to be a measure of inequality and therefore not an adequate approach to poverty (Giorgi & Steiner 1997). Since inequality is usually morally and politically more tolerated, relative measures of poverty loose a lot of the vividness of more absolutist notions of poverty (Bradshaw 2000).

Often it is tried to combine or replace relative income poverty with concepts of *deprivation and social exclusion*. An early example for such an approach is the deprivation index which was developed by Peter Townsend (1979).

The relative poverty concept is generally a behavourist approach and constructed from the evidence of behaviour patterns revealed in surveys of household incomes or expenditures. (Alcock 1993) Such information requires that a threshold is determined from outside, mostly depending on the judgement of experts. Van Praag and his colleagues from the university of

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[6] Poverty measures which are derived from nutritional standards are still used for development countries, 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)

Leyden tried to overcome this by developing a consensual definition of needs and income requirements by asking the subjective assessment of one's welfare position. Several surveys were conducted which aimed to achieve a *subjective definition of poverty* by asking respondents on their subjective welfare level. Consensual definitions of poverty are also present in recent approaches to poverty and social exclusion in the United Kingdom (Bradshaw et al. 2000).

Criticism on the concept of relative income poverty lead not only to an intensive discussion of non-monetary and subjective aspects of relative poverty but also to a renewed interest in the concept of absolute poverty (see e.g. Bradshaw 2000)

Concrete measures of poverty

Deaton (1997) states that poverty measures are special cases of social welfare measures which focus attention exclusively towards the poor. Indeed it is characteristic for poverty measures that they depend on a *poverty line* which sharply separates poor from non-poor. Although such a discrete definition is an important illustrative construct in the policy discourse, Deaton warns to minimise the poverty count as an object of policy. A reduction of the poverty rate could be misleading if it would be for example achieved by transfers from the poorest to those which are just below the poverty line.

The most simple statistical measure is the *poverty rate*, or headcount ratio. It gives the proportion of persons below the poverty line to the total (or any other reference) population. Although this is a widely understood measure it is also one which contains only little information on the severity of poverty.

An alternative measure is the so-called *poverty gap*. It denotes the average distance of those defined as poor to the poverty line and is expressed as a proportion to this threshold. For example a poverty gap of 30% indicates that on average the incomes of the poor are 30% below the poverty line (i.e. their average income amounts to 70% of the poverty threshold). The poverty gap is sensible against transfers from poor to non poor but not for transfers among the poor.

4 Income poverty threshold and basic income

4.1 The conventional approach of EUROSTAT

The concept of relative income poverty is typically used to describe low income groups. It is a widely shared practice to set the poverty threshold with reference to the mean or median (equivalised) income in a society. Currently the conventional definition for the poverty threshold which is used by EUROSTAT is 60% of the median (CPS 98/31/2). People living in households with a disposable income below 60 per cent of the national median are characterised as poor or, more correctly, as subjected to relative income poverty.

Although the use of different thresholds is recommended and the arbitrariness of thresholds is widely recognised (CPS 98/31/2) political reality tends to neglect the complexity of poverty and its measurement. In practice political discussion is often reduced to a single figure - the absolute count of the poor, which is illustrated by the poverty threshold (see table 2). Methodological sensitivity of the results and their theoretical implications are hardly taken into consideration.

Table 2: poverty thresholds (60% of the median of the total annual equivalised income, modified OECD scale) and poverty risk in EU 14

Country	Poverty threshold in PPS of 1996	Poverty risk (%)
B	7.900	17
D	7.700	16
DK	8.300	11
E	4.600	18
EL	4.100	21
F	7.100	16
FIN	5.900	12
I	5.200	19
IRL	5.100	18
L	11.700	13
NL	7.000	11
A	8.000	13
P	3.700	22
UK	7.000	19
ø EU 14	6.500	17

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

Can the conventional poverty thresholds be used as justified reference points for a minimum income?

In principle the answer is positive, given that:

1) social benefits aim to bring people out of poverty

2) the threshold is empirically justified in the sense of a substantial poverty definition

In other words, if people below the poverty threshold do not possess the financial resources to participate in society, social benefits could theoretically be designed to provide a protectional income against this line.

An empirical evaluation of poverty standards could open alternatives to basic income schemes which merely refer to specific existing social assistance packages (i.e. a set of social transfers which provide a de facto minimum income). For instance an Austrian proposition was to fix the monetary value of a basic income on the level for the minimum pension in Austria (see Büchele and Wohlgenannt 1985).

In the following chapters we try to empirically verify the use of the conventional poverty line for the evaluation of a minimum income. The subjective welfare concept is one way to describe poverty, but here it is used as an approach to validate monetary basic needs. In comparing subjective (empirical) welfare measures with the more conventional objective (normative) ones we can not claim to overcome theoretical deficits. Instead we aim to create awareness of the methodological sensitivity of poverty statistics and emphasise the importance of less arbitrary empirical measures of poverty to represent real minimum (not necessarily income) requirements.

4.2 Alternative concepts for poverty lines

The poverty standard officially applied by the EU is only one example for a so-called objective poverty line. In this particular case the poverty threshold is a purely normative concept which is more or less arbitrarily set by experts. The presently used 60% -median standard was actually preceded by a half-mean standard in EU-poverty statistics or a half-median standard in OECD statistics (see Atkinson et al. 1995)) and can be found in most other publications on relative income poverty (see e.g. Van Praag & Flik 1991). Without questioning the fundamental arbitrariness of these poverty lines it has become good custom (CPS 98/31/2) to test several threshold parameters, for example 50, 60 or 70 percent of the median (corresponding approximately to 40, 50 or 60% of the mean, which is however less robust in sample surveys).

Further 'objective' poverty standards can be derived from income distributions basing on non-normative scales like the social security scale or equivalence scales based on consumption. Still these objective poverty lines cannot avoid to be arbitrary even though the are derived from expenditure data. Usually such approaches focus at the share of total expenditure on necessities. Albeit empirically constructed, such measures depend to a considerable amount on normative judgements, when for instance an allowable share of expenditure on food needs to be determined. [7]

4.2.1 Subjective methods

Conceptually different are so-called subjective approaches which include the people's own judgements to reach a consensual definition of poverty. A subjective poverty line (SPL) can for instance be drawn according to the subjective evaluation (IEQ) of available income to make ends meet (also known as the Leyden Poverty Line (LPL)) or to the subjective estimation on the level of required minimum income (MIQ). Questions of both kinds are present in the ECHP and could serve for an evaluation of the conventional normative approach.

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[7] For more detailed comparisons of different poverty lines see e.g.; Haagenars et al., Buhmann et al. 1988, Van Praag & Flik 1991), for a recent review of absolute definitions of poverty including budget standards see Bradshaw et al.2000.

Being only in an early stage of our research we will confine ourselves to the MIQ- method which builds on the following minimum income question posed in the ECHP:

In your opinion, what is the very lowest net monthly income that your household would have to have in order to make ends meet. (Please answer in relation to the circumstances of your household and what you consider as "making ends meet").

4.2.2 Individual income requirements

A quite straightforward definition of poverty may be derived, in taking all households as poor whose actual income is below the individually perceived minimum income (see table 3).

Table 3: Subjective minimum income and individual poverty risk in EU 14

Country	Individual poverty perception (%)
B	24
D	22
DK	10
E	69
EL	78
F	34
FIN	20
I	70
IRL	35
L	14
NL	12
A	21
P	82
UK	24
ø EU 14	40

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

This approach has the advantage that it does not necessitate any complex transformations which would require assumptions on the economies of scale or even any definition of a poverty line. However the resulting poverty definition lacks also the comfort of universal applicability when it depends exclusively on the individual (as opposed social) judgement of minimum requirements. Thus it is possible that members of one household regard their income as sufficient while in another household with the same income the household is judged to be poor. Especially if a reference point for a minimum income is required this does not seem a suitable alternative.

4.2.3 The Subjective Poverty Line (SPL)

Distinct from the above method is the so-called (social) subjective poverty line (SPL) method which transforms individual judgements into a consensual definition of poverty. As was explained already in section 3.3.2 answers to the MIQ can also be modelled as a function of actual income and household size. When we apply the subjective equivalence scale which is obtained from formula (4) and transform $n\gamma_c$ into an equivalised income $\ln\gamma_e$, equation (5) turns:
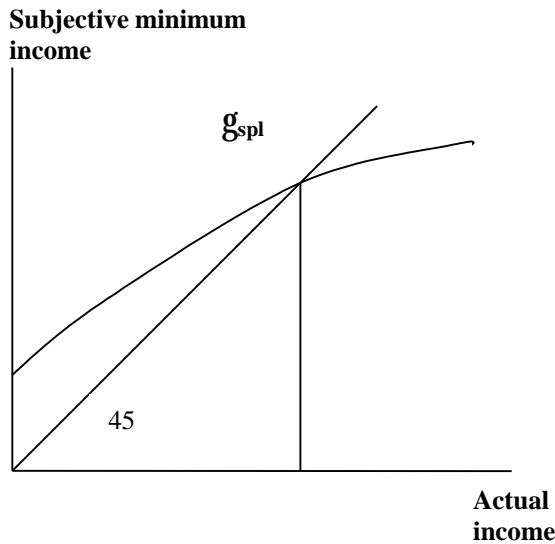
$$\ln\gamma_{min} = \gamma_0 + \gamma_1.\ln\gamma_e \qquad (5)$$

Solving for $\ln\gamma_{min} = \ln\gamma_e$ we get:

$$\ln\gamma_{min} = \gamma_0 /(1- \gamma_1.)$$ (6)

which yields the subjectively defined poverty threshold (Van Praag & Flik 1991). The subjective poverty line can also be represented graphically as the cutting point between actual income and minimum income in figure 1. Actual incomes to the left of this subjective poverty line are always below the minimum income, whereas incomes to the left of Y_{spl} are above it.

Figure 1: The Subjective Poverty Line (g_{spl})

The empirical cutting points obtained from the ECHP (see table 4 below) show in some countries a huge difference to the EUROSTAT poverty threshold and partly also extreme subjective poverty risks. Generally the gap between subjective requirements and the conventional poverty threshold is higher in poorer countries.
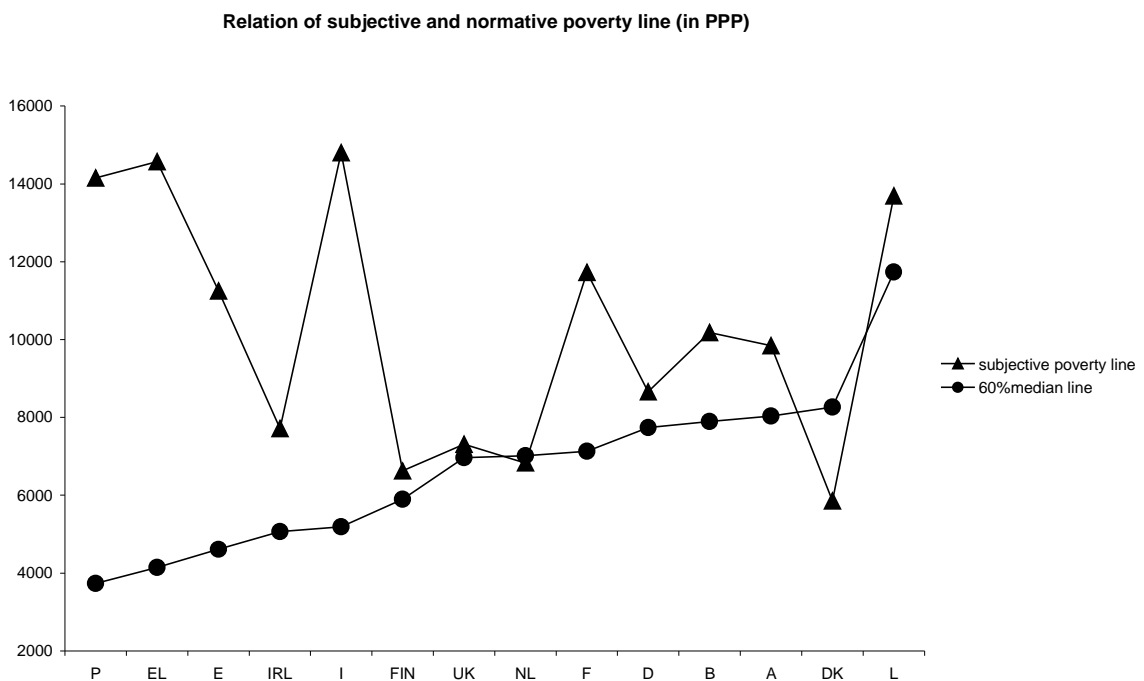
Table 4: poverty thresholds (SPL, subjective elasticities) and poverty risk in EU 14

Country	Poverty threshold in PPS (SPL)	poverty risk (%)
B	10.200	20
D	8.700	16
DK	5.900	4
E	11.200	74
EL	14.600	88
F	11.700	36
FIN	6.600	18
I	14.800	77
IRL	7.700	40
L	13.700	8
NL	6.800	8
A	9.800	15
P	14.200	93
UK	7.300	19
ø EU 14	10.400	40

From the relative definition of the objective poverty line follows that countries with a lower overall level of welfare must have a lower poverty threshold as well. In contrast the SPL is defined irrespective of what the overall welfare level is, such it may be accepted as closer to a definition of absolute minimum requirements. In Finland, UK, Germany or the Netherlands the two thresholds are almost identical, while in Mediterranean countries the difference is considerable.

However to fall below a SPL may not only reflect insufficient supply with necessary financial means. It seems remarkable that, if one calculates in Euro the basic needs of countries where a large part of the population is subjectively poor, like Portugal (93%) and Greece (88%), the subjective poverty line is almost at the same level as in Germany, Denmark or Austria.

Figure 3: SPL and income poverty threshold in the EU 14

Relation of subjective and normative poverty line (in PPP)

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

Even when different price levels are taken into account as in figure 5, where the poverty standards are expressed in PPS, those patterns remain. Possible reasons could be:

(1) semantic and social-psychological problems: a different perception of the subjective questions when translated in different languages may be critical to the consensual definition of poverty. (see e.g. Haagenars et al. 1988).

(2) Expectation of changes in market conditions can influence the subjective perception of welfare

(3) The point of reference is crucial to the subjective perception of welfare: i.e. people living in countries with lower GNP, like in Portugal or Greece might well have their personal reference point in the living standard of Germany or other countries with higher GNP.

(4) Finally, cultural factors could possibly be responsible for a large part of the variation in response behaviour.
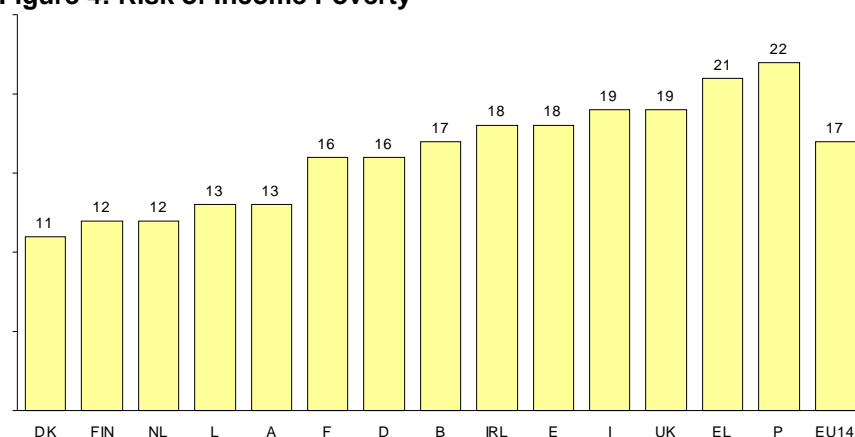
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It is evident that a measure which appears to be unstable against cultural specificities is critical for international comparisons. If subjective minimum income requirements are not adequately modelled, it is likely that the subjective poverty line does not contain the same information across countries.

The dilemma with choosing either a relative or a subjective poverty line is exactly that the definition of the relative threshold rules out that minimum requirements could depend on anything else than the average level of welfare and inequality in a specific country. This implies that if for example all incomes would rise by a constant factor, poverty would remain stable, though intuitively one would expect that poverty is reduced. This problem exists also if prices are inflated. The subjective method takes account both of the desired welfare level and the perception of the actual welfare, yet it seems that too many national factors are allowed. It is possible to expand the original model and control for more parameters than actual income and family size. Subjective models are successfully applied in countries with rapid changes in the level of (nominal) income levels. (Ferrer-i-Carbonell & Van Praag 2000). From the above results one may be rather critical whether a coherent subjective poverty line for EU 14 could be achieved, without any question further research in this direction would be required.

5   Income Poverty in EU14 as reported by EUROSTAT

Income poverty is mostly reported as the number of persons who fall below the poverty line. The share of persons falling below the conventionally defined national specific poverty threshold in EU14 ranges between 12% in the Scandinavian countries and Luxembourg and 22% in Portugal. (see figure 4)
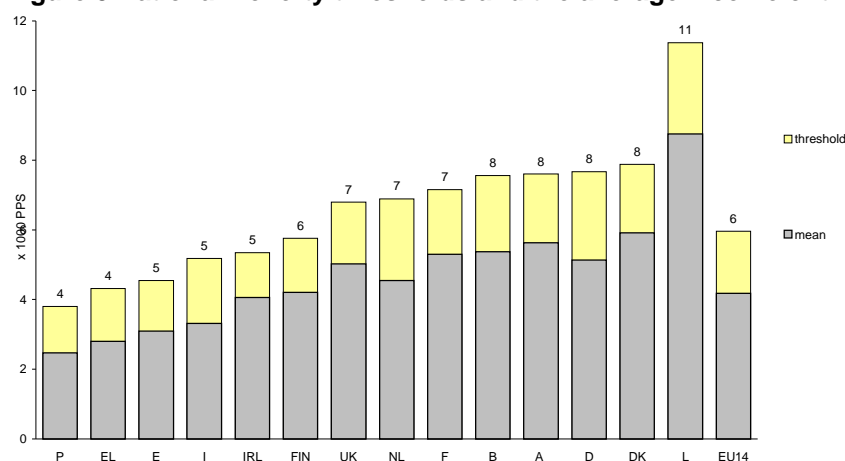
Figure 4: Risk of Income Poverty

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

The concept of relative income poverty as currently operationalised is sensitive to income inequality at country level but not at multi-country (or in this case European) level. Thus it is well possible that a person classified as 'poor' in Luxembourg where the poverty threshold is 11.000 PPS would be considered comparatively well off in a country like Portugal where the poverty threshold is 4.000 PPS. This said, there is a tendency for countries with very low poverty thresholds measured in PPS to also display higher poverty rates.

In figure 5 the national specific poverty thresholds in EU member states are converted into PPS and opposed to the mean income of the poor (shaded bars). The difference between the mean equivalised income of the poor and the poverty threshold (in percent of the threshold) represents the poverty gap .
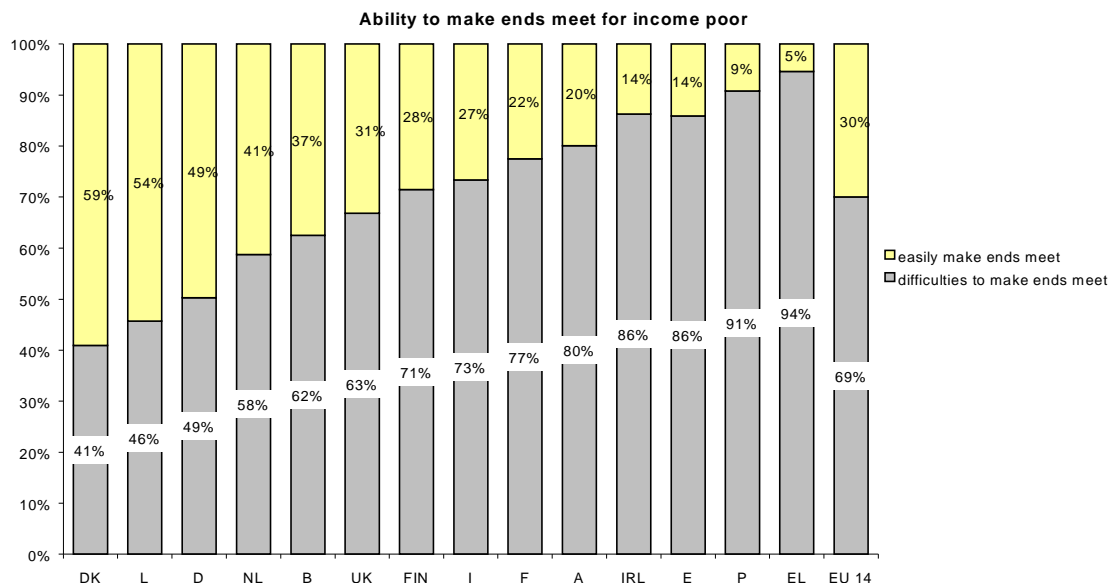
Figure 5 National Poverty thresholds and the average income of the poor

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

The comparison of national poverty thresholds shows already differences of what "poor" means between EU-member states. But not only he objectively measured income standards of the poor differ from country to country, disparities across countries are also reflected in the subjective perception. It appears that a 'poor' person in Luxembourg, who on average has more than the double income available than a poor person in Greece, also evaluates the personal situation more positively. This is shown in the following figure where the subjective ability to make ends meet is displayed. In countries with low median income and high poverty rates, 80% to 90% of people below the poverty threshold do indeed claim to have difficulties to make their ends meet, while in relatively rich countries like Germany, Denmark and Luxembourg less than half of the poor have problems. Exceptional is the UK, where the poverty rate is well above the EU average and a third of the poor is still confident to make their ends meet. In Austria the poverty rate is rather low and the threshold comparatively high, nevertheless the 80% of the poor feel difficulties to make their ends meet.

Figure 6: Income Evaluation Question[8]

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

The risk to become poor is not equally distributed but shows clear socio-demographic patterns which are highlighted in figure 7: Not very surprisingly economic activity appears to be a key determinant for low income. Persons in economically inactive households who are not retired do face poverty risks face also an over-proportional risk to be in income-poverty. Members of *unemployed* households experience income poverty roughly three times as often as, for instance, households where at least one working person is present. Only in Portugal, Greece and Denmark[9] unemployed are somewhat better off, though their risk to become

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[8] Question: A household may have different sources of income and more than one household member can contribute to it. Thinking of your own household's total monthly income, is your household able to make ends meet? Answers: with great difficulty, with difficulty, with some difficulty, fairly easily, easily, very easily (the first three categories and the latter three were summarised)

[9] Other studies confirm that in Denmark the income loss due to unemployment is efficiently mediated through the social security system (see e.g. the reader edited by Gallie and Paugam, 2000). For other countries the slightly lower poverty risk may be explained by a high risk of poverty also in working households.
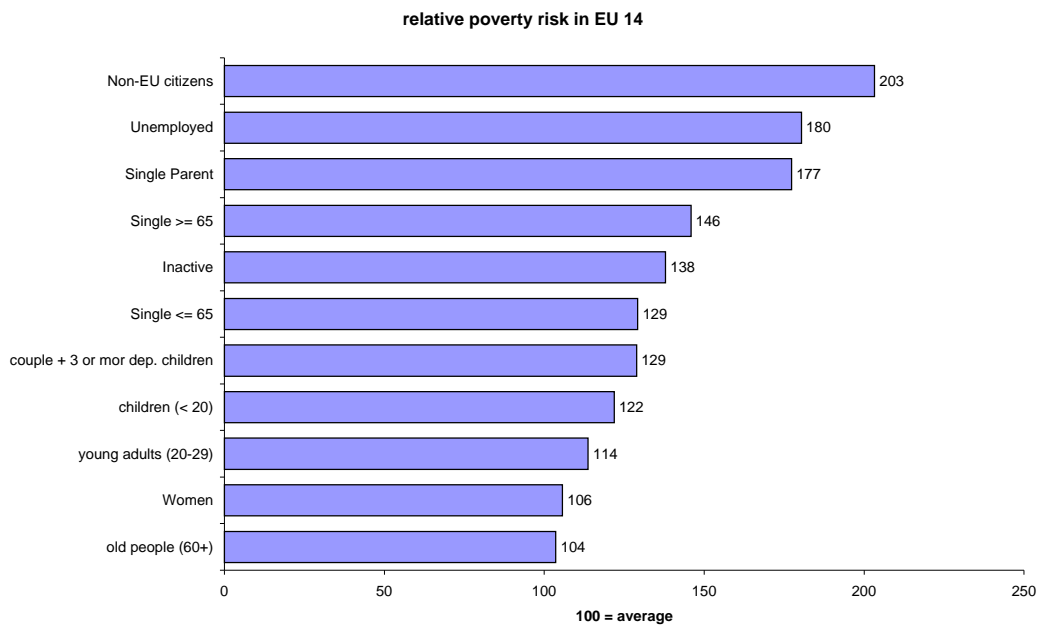
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poor is still clearly above the national average. On the other hand, households with at least a minimum work attachment have markedly lower poverty risks in all countries.

In most countries the risk of poverty increases also with the number of *children*. Particularly if the number of children exceeds 2 or only one parent is present, the risk of falling below the poverty threshold is high. Inevitably this has consequences also for the scope of child poverty. Only in Greece, Denmark and Finland is the risk of income poverty for large families below the population average. In Denmark or Finland single parent households also have poverty risks below the population average.

Elderly single households in EU14 (which are mostly widows) find themselves almost as often in income poverty as persons who live in large families. Only in Spain and the Netherlands are persons over the age of 65 relatively well protected from income poverty. In most other countries their poverty risk is increased by at least one third against the national average.

The role of family type and of the labour market situation for income poverty and exclusion have been widely discussed (detailed analysis see Dirven *et al.* 2000), including with reference to the ECHP data. This has not been the case with citizenship or migrant status.[10] Despite a wide margin of statistical error which is associated with the poverty rates of comparatively small groups, one can observe that *foreigners* without the citizenship of an EU-country are particularly vulnerable to income poverty.

Figure 7: Characteristics of people with above average risk of poverty in EU 14

relative poverty risk in EU 14

Group	Value
Non-EU citizens	203
Unemployed	180
Single Parent	177
Single >= 65	146
Inactive	138
Single <= 65	129
couple + 3 or mor dep. children	129
children (< 20)	122
young adults (20-29)	114
Women	106
old people (60+)	104

100 = average

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

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[10] This is partly related to a lack of representativeness of the ECHP for this population. Foreigners are a minority in all EU-member states, thus only few sample persons do not have the national citizenship. Selective attrition (e.g. related to mobility but also mother language) of the sample can further reduce the share of non-nationals in the data. In some countries (D, NL, EL) information on the country of birth is confidential and not available for statistical analysis.

6 Minimum income requirements in EU 14

It is possible not only to estimate the number of people who fall below a specified poverty line but also to assess the gap which separates the poor from the non-poor. This is expressed in the poverty gap, a poverty measure which compares the average income of the poor, relative to the threshold (see 3.4.1). If the poverty line is understood as the reference point for a minimum income, the poverty gap reflects the financial requirements to reach this minimum standard.

Notwithstanding theoretical criticism of the operational definitions of poverty and practical problems of such an endeavour, one may well be interested in the hypothetical budget which would be required to assure a minimum income just above the relevant threshold by means of monetary transfers. In the following we will therefore give some illustrative estimations on the budgetary dimensions for a financially protective social security.

Since the poverty gap compares artificial (equivalised) income standards it can not be directly converted into a real "budget gap". First the standardised incomes need to be multiplied by the household equivalent size. For illustrative purposes it seems appropriate to express the budget gap in billion Euro per year, on the basis of current exchange rates. One should be cautious in interpreting the amounts as "cost" for eliminating poverty in Europe, most of all for the following reasons:

1) the concept of relative income poverty implies that the poverty threshold is sensitive against changes in the income distribution

2) a targeted (re)distribution of incomes involves high administrative efforts which can lead to considerable inefficiencies of the tax-benefit-system

3) social benefits can affect market incomes, for example when they act as negative incentives to work

Table 5: Minimum income requirements with <u>objective</u> (EUROSTAT) poverty line[1]

Country	threshold (? p.a.)	poverty gap (%)	budget gap (billion ? p.a.)	budget gap per capita (? p.a.)
B	7.900	29	2,6	258
D	8.400	33	25,3	313
DK	10.300	25	1,2	236
E	3.700	32	4,9	127
EL	3.000	35	1,5	147
F	8.000	26	13,0	227
FIN	6.800	27	0,9	173
I	4.500	36	10,8	190
IRE	4.800	24	0,4	124
L	11.500	23	0,1	221
NL	7.000	34	2,9	189
A	8.500	26	1,5	192
P	2.700	35	1,3	127
UK	8.300	26	16,0	278
EU14	**6.700**	**30**	**82,5**	**230**

[1] exchange rates from October, 2nd 2000, Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

7   The impact of social transfers on poverty in Europe

The detailed analysis and decomposition of the effect of social transfers on inequality and poverty would require special attention and can only briefly be dealt with here. (for more a more comprehensive review see e.g. Marlier et al. 1999). We will therefore confine ourselves to a comparison of poverty rates before and after social transfers, categorised only in pensions (P) and social benefits other than pensions (STOP). (see table 6)

It appears that in all countries the number of persons whose income is below the (fixed) poverty 60% median threshold is markedly higher before social transfers. Without pensions and other social transfers more than 42% would be identified as poor in EU 14. If pensions are included this figure remains as high as 26% compared to 17% whose total income is below the threshold. While poverty reductions due to pensions partly reflect age structures in different EU countries, a reduction of the poverty rate which is attributable to social transfers other than pensions can be seen as a genuine result of welfare policy. Overall, social transfers other than pensions reduce the number of poor by roughly one third in EU-14.
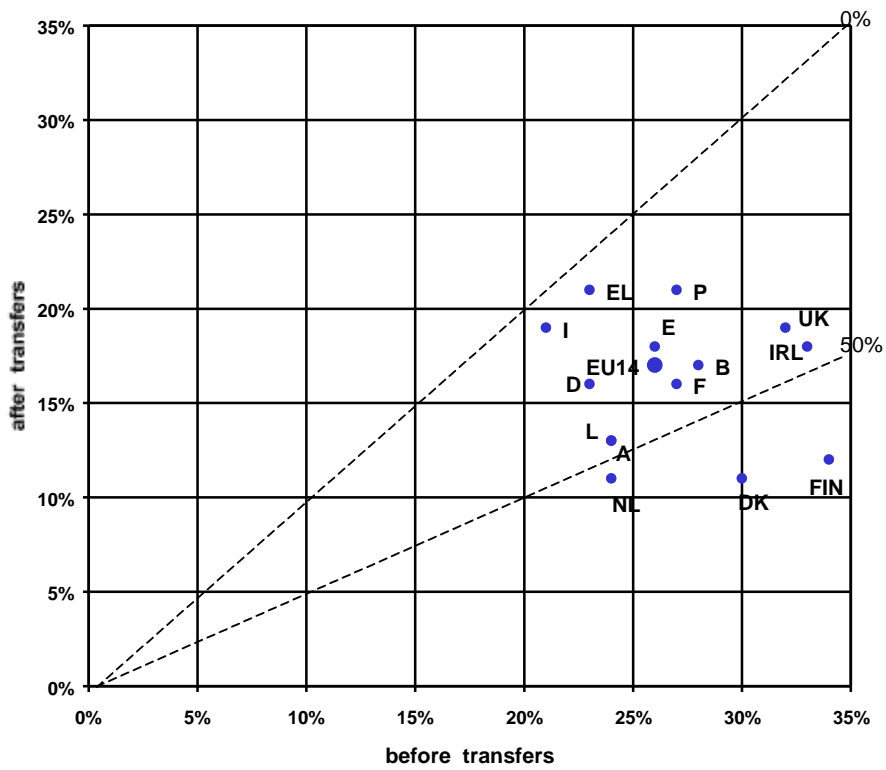
Table 6: poverty rate before and after social benefits

	OI	OI+P	OI+P+STOP	relative reduction of poverty through STOP
D	42%	23%	16%	29%
DK	40%	30%	11%	62%
NL	39%	24%	11%	53%
B	46%	28%	17%	41%
L	42%	24%	13%	48%
F	43%	27%	16%	42%
UK	41%	32%	19%	41%
IRL	42%	33%	18%	45%
I	41%	21%	19%	14%
EL	39%	23%	21%	9%
E	43%	26%	18%	31%
P	39%	27%	21%	20%
A	41%	24%	13%	48%
FIN	50%	34%	12%	66%
EU14	42%	26%	17%	34%

[1] OI = Original Income (without any social transfers), P = Pensions (including private pensions but also state pensions paid before retirement age (e.g. orphans' benefits), STOP Social transfers other than pensions

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000

The effects of social transfers on the poverty rate are visualised as in figure 8. The horizontal axis represents the percentage of people who would fall below the (fixed) poverty threshold if no other social benefits than pensions would be received, while the vertical axis shows the actual poverty rates, including social benefits. If there would be no difference before and after social benefits countries would be placed along the upper diagonal. Greece and Italy are particularly close to this diagonal indicating a rather small reduction of poverty achieved through social benefits. On the other extreme are the countries like Finland, Denmark and the Netherlands, here the poverty count was reduced by more than 50%.

Figure 8: effect of social transfers to poverty rates

Source: own calculations, ECHP 3rd wave, Eurostat UDB 2/2000 (after Marlier et al.1999)

8 Summary

Two main monetary thresholds for the definition of poverty in the European Union have been discussed. The conventional 60%median threshold employed by EUROSTAT has been contrasted with a consensual definition of poverty measured through subjective welfare perception. The question was posed if a monetary value based on a common definition throughout the Union can be located and if subjective measures can be integrated.

Concepts of income poverty usually rely on household equivalence scales reflecting the economy of scale in a household. The modified OECD scale does not take into account any national differences so it can be said that this normative scale represents some countries better than others. In comparison to subjective elasticities it corresponds to the EU average, but does not reflect the economy of scale in poorer countries.

Disregarding possible methodological problems the subjective welfare measures offers some insight to specific national problems in the measurement poverty. Generally it can be said that in countries where the subjective perception of household's economy of scale meets the normative elasticity of the modified OECD scale (0.5) also the 60%median threshold and the Subjective Poverty Line converge. Exceptions like UK with above average income poverty and France with below average income poverty indicate to still unknown methodological problems, but also different proportions of non-monetary social benefits may be relevant. Mediterranean countries, particularly Spain, Portugal and Greece are characterised by low overall prosperity, high inequality, low economies of scale and a low level of non-monetary social benefits. There the conventional poverty threshold seems to strongly underestimate the problem of poverty.

One may be critical about whether the existing model could be accepted for a subjective poverty line for EU 14. The partly contradicting poverty definitions however point to the methodological sensitivity of poverty statistics. So far, the ECHP data were mainly approached with conventional methodological standards. As was seen above, different approaches exist and can be applied to the ECHP. Conventional standards are inevitable for a coherent system of reporting on poverty, yet the scientific challenge may not end here.

9 Glossary

Disposable income: official income concept for welfare measurement of households. Net yearly income of a household from all sources. Gets asked for the preceding year

Current income: current total net household income, only for France gross figures.

MIQ Minimum Income Question*:*

Minimum Income: derived from the MIQ, "very lowest net income to make your ends meet"

PPP Power Purchasing Parity

Poverty gap: difference between the average income of the poor and the poverty threshold divided by the poverty threshold.

Poverty risk: the ratio of low income persons (or households) which fall below the poverty threshold and the total population.

Poverty threshold: income which is assumed as minimal for the definition of poverty. EUROSTAT uses currently 60% of the Median equivalised (disposable) income as the poverty threshold.

*Relative disposable income: a*verage disposable income of a sub-population divided by the average disposable income of the total population multiplied by 100. Can be read as the average income in % of the grand mean.

Relative poverty risk: poverty risk specific to a sub-population divided by the overall poverty risk (multiplied by 100). A relative poverty risk can be read as the poverty risk in % of the overall poverty risk.

SPL Subjective Poverty Line, crossing point of disposable and minimum income

standardised income: measure of the welfare level within a household which is derived from the total household income. Members of a household are weighted differently according to age. Here the modified OECD scale is applied which assigns a weight of 1 to the head of household, 0.5 to other adults and 0.3 to children. Total (disposable) income is then divided by the total number of person equivalents per household.

standardised minimum income: minimum income derived from the MIQ, standardised by the economy of scale estimated through national elasticity (subjective family scale)

Subjective family scale: household weight, based on the assumption that the minimum income can be seen as a function of current income and household size.

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