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#### MEASURING DEPRIVATION IN THE EU: TO USE OR NOT TO USE SUBJECTIVE INFORMATION.

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# **1** Introduction

Measures of poverty can be divided into direct and indirect ones (Ringen, 1988). Indirect measures use a resources-to-needs ratio to identify the poor. Direct measures try to capture the concrete circumstances in which people live. While there is a long tradition in indirect poverty measurement, interest in direct measures is more recent. As the European Community Household Panel (ECHP) data have become available, which include a range of direct indicators of living circumstances, more research has been devoted to this topic, in particular in a series of papers by Whelan and collaborators (Layte et al., 2000, 2001; Whelan et al., 2001, 2003).

Direct measures of poverty are usually built up from a number of indicators, which measure whether people enjoy or do not enjoy a range of goods, services and activities. It has long been recognized that different tastes are a problem for such direct measures. For example, some people may not have a car, even though they are perfectly able to afford one, because they prefer to use public transport. For this reason, usually only the enforced absence of an item due to lack of resources is regarded as a deprivation. In the original study by Mack and Lansley (1985), this is established by asking first, whether the respondent has or does not have the item, and, second, if not, whether this was due to inability to afford the item.

This approach ensures that instances of non-possession where the person does not feel any need for the item are not counted as non-possession, but there are also some dangers. First, in order to maintain their self-respect, or due to the psychological phenomenon known as 'sour grapes', persons who cannot afford an item may not want to admit this to an interviewer, or may come to actually believe that they do not want the item. Secondly, a similar mechanism may also work in the opposite direction: as people acquire more possessions, they may start to feel they 'need' goods and services, for which they previously had no particular desire. This phenomenon of 'preference drift' has been extensively documented and studied in the field of expressed income needs (Kapteyn, 1977; Van Praag, 1993; Van den Bosch, 2001). Thirdly, while the measurement of possession/availability can be assumed to be rather reliable, the answers to the follow-up question about inability to afford could be affected by measurement error.

Clearly, if the dangers just mentioned are empirically real and important, they would make measures of deprivation used in a number of studies based on the ECHP less valid than researchers would want or hope. Moreover, respondent behavior may differ across countries, which use different languages, and which may have divergent norms and attitudes about the expression of wants and needs. Strengmann-Kuhn (2004) has shown that using the Subjective Poverty Line, which is based on a subjective question about minimum income needs, leads to very high poverty rates in Spain, Greece, Italy and Portugal, which are clearly unrealistic.

This paper is about the question: does using subjective information on whether nonpossession/availability is due to inability to afford, improves empirical measures of deprivation, or rather, renders them less valid. It can therefore be read as a comment on the work of Layte, Whelan et al. Measures of deprivation constructed in the usual way, where the absence of an item is counted as deprivation only if it is due to inability to afford the item, will be compared with alternative measures which are based on non-possession/nonavailability without any further qualification. For ease of expression, in the remainder of the paper the first approach will be called *subjective*, while the second one, for one of a better term, will be denoted as *objective*. Moreover, if people lack an item and say they cannot afford it, this will described as a *want*, as distinguished from the simple *lack* or *nonpossession* of a good, service or activity.

The paper is structured as follows. In the next section, I will present the data used, as well as some descriptive results. In the third section, I will compare characteristics of households in 'subjective' and 'objective' deprivation. The fourth section presents indicative results on the presence of a preference effect in expressed 'wants'. Section five looks at the stability of 'wants' and non-possessions over time. Section six concludes.

#### 2 Data

I use data from the European Community Household Panel (ECHP), wave 6 (1999). However, the follow-up question about inability to afford was not asked in the surveys in Germany, Sweden and the UK (as in those countries, ECHP data are derived from previously existing panel-surveys). Luxembourg was also excluded, because of its small size. In wave 6 in the remaining countries , the Mack and Lansley format with the follow-up question was used for 8 items:

- a car or a van
- a colour TV
- a video recorder
- a microwave oven
- a dishwasher
- a telephone
- a second home
- a home computer
- a second home

However, as in many countries rather few households own the last two items, I excluded them from the analysis, leaving the first six items. (In this I follow Layte et al., 2001. They use six further items, where the leading question was asked as follows: "There are some things many people cannot afford even if they would like them. Can I just check whether your household can afford these if you want them." This format does not allow establishing whether people actually have or do the items, and therefore those items were not useful for my analysis.)

Descriptive data about the frequency of wants for and non-possession of the six items are presented in Table 1. There is a clear dividing line between the northern and continental European countries on the one hand (Finland, Denmark, Netherlands, Belgium, France and Austria) and the southern countries Portugal, Greece and Spain on the other hand, with Italy and Ireland occupying a somewhat intermediate position. In the former group of countries, possession rates of most items are high, and a large majority of those who do not have an item, say this is not because they cannot afford it. The percentage 'wants' remains nearly always below 10 percent, and is more often than not below 5 percent. In the southern countries such as a dishwasher, a micro-wave oven, a video-recorder or a car or van. Possession rates for colour-tv and a telephone seem to have very nearly reached their satiation level everywhere, except in Portugal. The Irish results resemble those of the northern and continental countries for others (car or van, dishwasher, also telephone).

Figure 1 shows the percentage distribution of households according to the number of items they lack. Even in the northern and continental countries, only about a quarter to one-third of all households have all the items. On the other hand, only about 10 percent lack four or more items, and hardly any lack five or six. In Greece and Portugal, by contrast, about 30 percent of households lack four or more items, and particularly in Portugal, a significant group lacks even five or six items. In Italy and Spain about 17 percent do not have four or more items. Somewhat surprisingly, the distribution in Ireland resembles strongly those of the continental and northern countries, except that there are slightly more households lacking five or six items.

Figure 2, showing the percentage distribution of households according to the number of items they 'want', presents a rather different picture. In the northern and continental countries, 80 percent or more do not 'want' any of the items, and of the remaining group, few want more than one item. In Spain, Greece and especially Portugal, substantial numbers of households 'want' several of the items. The distributions in Ireland and Italy are in between, and are also very similar, which is somewhat remarkable, as figure 1 shows big differences in the distribution of non-possessions. (Looking at table 1, this seems mainly due to the micro-wave oven, which is much more often present in Irish households than in Italian ones. Yet the proportion of households who say they 'want' it, is higher in Italy.)

### 3 Characteristics of households in subjective and objective deprivation

In this section I compare subjective and objective (as defined above) measures of deprivation. I use two approaches to construct measures of deprivation on the basis of the items listed. In the first one, I simply count the number of items lacking or wanted, respectively, and regard households that lack four or more, or want two or more, respectively, as being in deprivation. The choice of thresholds of four, resp. two items is of course largely arbitrary, but, considering the distributions shown in Figures 1 and 2, not unreasonable. This approach might be described as an absolute one, as it does not take into account differences in living standards, or in customary consumption patterns between countries. It might be said to have the advantage of transparancy.

In the second approach, following Whelan et al. (2001), I weight each item by the proportion of households possessing that item in each country. Thus, deprivation is measured relative to prevailing consumption patterns in each country. The threshold for the subjective measure (weighted number of wants) is the same in all countries, and has been set at such a level that the overall percentage in deprivation across all country samples is the same (or as near so as the data permit) as the overall percentage of households below the 60 percent income poverty line. The threshold for the objective measure (weighted number of items lacking) varies across countries, and has been set at such a level that the number of households in 'objective' deprivation is as close as the data permit to the percentage in 'subjective' deprivation.

Tables 2 and 3 show the overlap of these measures with other indicators of (a low) standard of living. Presumably, a higher degree of overlap indicates that the measure used has better validity. (In sociological and psychological research, this method of checking validity is often called 'construct validity.) These indicators used are:

- total household income (expressed as a percentage of median household income in each country).
- equivalent household income, using the modified OECD equivalence scale, with weights 1 for the first adult, 0.5 for other adults, and 0.3 for children, i.e. persons below 16 (expressed as a percentage of median equivalent household income in each country).
- income poverty at 60%, i.e. equivalent household income is below 60 percent of median equivalent household income in country sample.
- income poverty at 50%, i.e. equivalent household income is below 50 percent of median equivalent household income in country sample.
- Number of items household respondent says it 'cannot afford', of the following list: keeping home adequately warm; paying for a week's annual holiday away from home; replacing worn-out furniture; buying new, rather than second-hand, clothes; eating meat, chicken or fish every second day, if wanted; having friends or family for drink/dinner once a month.
- Inability to pay for a week's annual holiday away from home.

In Table 2, which presents results for the first approach, countries are ordered by the percentage of households in deprivation following the subjective approach (wanting 2 or more items). It can be seen (last column) that on aggregate across the samples used here, the proportion of households lacking 4 items, is fairly close to the proportion wanting 2 items, but within countries, these two percentages often differ considerably, somewhat hampering the comparison between the two groups. Total household income (third column) is always lower among those lacking 4 items, than among those wanting 2, (except in the Netherlands); in Ireland, Austria and all southern countries the difference is quite large. The results for

equivalent income vary across countries. Equivalent income is higher among those lacking 4 items than for households wanting 2 items in the Netherlands, France, Finland and Belgium On the other hand, the reverse is true in Denmark, Ireland, Austria, Portugal and Greece. (In Spain and Italy the difference is negligable.) Equivalent income is generally regarded as a better indicator of a household's real living standard than total household income. On the other hand, most of the items in the set used here are durables where economies of scale within the household are probably large. Therefore, total household income may be a better measure of the purchasing power of the household as regards these items than equivalent income.

The comparisons between the proportions in income poverty lead to the same conclusions as those for equivalent income. (Not very surprising, as the former are of course based on the latter.) In the northern and continental countries and also in Spain, households lacking 4 or more items generally include fewer items in the list of items they 'cannot afford', compared to households wanting 2 or more items, and they are also less likely not being able to afford a holiday. In the southern countries Portugal and Greece, and in Austria, the reverse is the case. Of course, these items are also subjective in nature, even using the same language as the follow-up question for the items in our measures of deprivation. Therefore, comparisons using these items are probably biased in favour of the 'subjective' measure of deprivation.

The deprivation measures used for Table 3 have been constructed in such a way that the proportions in deprivation are close together, enabling perhaps a more valid comparison. For a few countries, this reverses the results, compared to those in Table 2. In Finland, households in objective deprivation are now clearly worse off on the income-based indicators than households in subjective deprivation. The same is true for Italy, though less clear-cut. For the other countries, the results of Table 2 and Table 3 generally go in the same direction.

What is the economic and social situation of households who find themselves in 'objective' and 'subjective' deprivation? This information in itself does not tell us much about the validity of these measures, but it is important to be aware of the consequences of using one or the other. Table 4 shows the proportions in 'objective' and 'subjective' deprivation by labour market status, household type and by education of the reference person of the household. (For clarity of the table, only results for the main categories of labour market status and household type are shown, viz. employee, unemployed, and retired; and single elderly person, couple where both partners are non-elderly, and couple with one or more children.) Here I have only used the weighted deprivation measure.

The results as regards labor market status are remarkable consistent across countries. Among employees, 'objective' deprivation is somewhat less common than 'subjective' deprivation. When the reference person is unemployed, 'objective' deprivation is much lower than 'subjective' deprivation. For retired households the reverse is true. The only exception is Italy, where more retirees are in 'objective' deprivation than find themselves in 'subjective' deprivation.

Very dramatic differences are registered for all countries (again with the partial exception of Italy) for single elderly persons. In many countries, more than half of these households are in 'objective' deprivation, while 'subjective' deprivation rates generally do not exceed the average rates, or only by a little. An important reason for these differences lies in car ownership: few elderly persons own a car, but the number who want one is also limited (not tabulated). Opposite results are registered for couples with children. (Similar results not shown in Table 4 were obtained for single parents.) While the percentage in 'subjective' deprivation is already below average in all countries, the number of couples with children in 'subjective' deprivation is far lower again, approaching zero in some countries. Evidently, an important reason for this is that many of the durables in the list of items on which the deprivation measures are based, have rather large economies of scale, boosting possession of these items among larger families.

Contrasts in the risk of deprivation by education level are generally sharper when the 'objective' measure of deprivation is used, compared to results with the 'subjective' measure, mainly because the percentage in 'objective' deprivation among those with ISCED level 0 to 2 is higher than the percentage in 'subjective' deprivation. Exceptions are again Italy, and also France and Portugal. These differences are probably to some extent age-related, as in many countries the older generations have lower levels of education than the younger cohorts.

Whelan et al. (2003, p. 22), also using the ECHP data, find that "consistent persistence, and more generally persistent deprivation, appears to be more socially structured than income persistence". The results reported here seem to give rise to an important caveat regarding this conclusion, as the structure that is found depends to a large extent on the choice of deprivation measure. It would be hard to say whether 'objective' deprivation is more or less structured than 'subjective' deprivation, but these measures of deprivation are undoubtedly *differently* structured.

### 4 Is there a preference effect in measured 'wants'?

As mentioned in the introduction, deprivation measures based on 'wants' may perform less well than hoped due to the 'preference effect' (the more you have, the more you want). Also, one possible reason for the differences between countries reported in the previous section is that the preference effect may not be equally important in all countries. Figure 3 gives some indications on this point. It shows how many 'wants' households have, by number of possessions. Of course, as the number of possessions of a households increases, the number of 'wants' falls of, simply because there is a smaller number of items to want left. Therefore, I have plotted the *proportion* of non-possessions that are wanted. Intuitively, in the absence of a preference effect one would expect this proportion to become smaller when households

acquire more possessions, as they would tend to satisfy 'wants' before availing them of other possessions.

However, only for Spain, France, Belgium and The Netherlands do we observe a (somewhat) downward sloping curve; for the other countries, there is no downward trend. For some of the northern and continental countries (including Italy), an important reason for this is that even households who have only 1 or 2 of the items, 'want' only about 1 of the remaining items, thus limiting the scope for a further reduction of the proportion of 'wanted' items. But also in Portugal and Greece, where households on average 'want' several items, we do not observe a downward sloping curve.

Of course, the preference effect may not be the only interpretation for these findings. Heterogeneity of preferences might be another. Some households may have truly greater needs than others, consequently having several possessions and still wanting more. In particular, many of the items under consideration have large economies of scale, and therefore are in a sense more useful for large families than for single persons. In order to control for this source of heterogeneity of preferences, I have regressed the proportion of wants on the number of possessions and on a set of dummy variables representing household types (single elderly person, single non-elderly person, one-parent family, elderly couple, non-elderly couple, couple with children, other). The results in Table 5 partially confirm the hypothesis. The fourth column shows the coefficient estimates for number of possessions when the household dummies are included in the model, and these are generally somewhat lower, indicating a steeper downward sloping curve, than the coefficient estimates in the second column, where the dummies are not included. The effect of including the household dummies on the coefficient estimate for number of possessions is relatively large in Ireland, Greece and Portugal. Nevertheless, even in those countries, the absolute size of the estimates remains limited, indicating that after controlling for heterogeneity of preferences (in an admittedly rather rudimentary way), the proportion of 'wanted' items does not fall off strongly as the number of possessions increases.

Whatever the merits of the analysis reported in table 5, it does not provide an explanation for the differences between countries found in tables 2 and 3. One would expect the 'subjective' deprivation measures to perform better in countries where the 'wants' are more concentrated among households with few possessions, and therefore in countries where the proportion of 'wanted' items falls off faster as the number of possessions increases. However, a cursory comparison of tables 2 and 3 with table 5 shows that that is not the case. (The degree of concentration of 'wants' among households with few possessions is of course also influenced by the distribution of number of possessions across households. When most households have most of the items, most 'wants' will occur with households who already have many items, even if the proportion of 'wanted' items falls off strongly as the number of possessions increases. This mechanism would lead one to expect that the 'subjective' deprivation measures would perform worse in the 'richer' northern and continental countries than in the 'poorer' souther ones. However, tables 2 and 3 show that rather the opposite is true.)

## 5 Longitudinal results

As noted in the introduction, the expression of 'wants', being subjective, may be much more prone to error than the reporting of non-possessions. An interesting way to check this is to examine changes in these variables between waves of the ECHP. I therefore have looked at the transitions in the number of non-possessions, as well as in the number of 'wants' between subsequent waves in the ECHP from wave 2 up to wave 6. (As Finland joined the ECHP only in 1997, the analysis is limited to waves 4 to 6 for this counry.) As changes in household composition due to divorce, widowhood or marriage etc. may have an important impact on a household's possessions, I have selected only 'stable' households, that is households where no person had moved in, or out, or had died since the previous wave. This selection reduces the number of households by about 11 percent, with a maximum of 20 percent, compared to the total number in any country/wave set. Below in this section, I will refer to the earliest wave in any comparison as 'year 1', and the next wave as 'year 2'.

Table 6 shows that, aggregating across countries as well as waves, 90 percent of those who had all items in any year 1, still have them in the next year 2. When one or more items are lacking, the number of non-possessions does not change for two-thirds to three-quarters of all households. A large majority of the remaining households have acquired one extra possession. Interestingly, an increase in the number of non-possessions is much less common than a reduction (among 'stable' households). Few households gain or loose two or more possessions between two subsequent years.

Table 7, which is similar to Table 6, except that it is about changes in the number of 'wants', presents quite a different picture. 88 percent of households who had no 'wants' in year 1 still have none in year 2. However, when there were one or more 'wants', change, and in particular a reduction in the number of 'wants' is far more likely than stability. Only slightly more than one-third of all households express the same number of 'wants' in year 1 and year 2, and many households enjoy reductions in the number of 'wants' of two items or more. (Again, improvements are much more common than increases in the number of 'wants'.) A surprisingly large number of households make the jump from two, three or four wants to zero wants. Possibly, in those cases the household respondent was not the same person in both years. Finally, it is worth mentioning that in the majority of cases where the number of 'wants' changed, there was no change whatsoever in the number of possessions (tabulations not shown here).

Self-evidently, the implication of the findings in Tables 6 and 7 is that 'objective' deprivation is much more stable over time than 'subjective' deprivation. This is confirmed by Table 8, where for reasons of transparency, 'objective' deprivation is defined as lacking four items or more, and 'subjective' deprivation is assumed to exist when a households reports two 'wants'

or more. Table 7 also shows that in this regard there is remarkable similarity across waves as well as countries. With the partial exception of Ireland, and the Netherlands, between 80 and 90 of households that are 'objectively' deprived in any year still find themselves in the same condition in the next year. By contrast, the corresponding percentage for 'subjective' deprivation varies between 31 and 64 percent. An interesting exception is Portugal, where around 80 percent of households that 'want' two or more items in year 1, still are in 'subjective' deprivation in year 2.

Of course, even if households report the same number of 'wants' or non-possessions in two subsequent years, these need not refer to exactly the same items. If households are rather changeable in *what* they say they 'want' (apart from *how much* they 'want'), that would also indicate the presence of measurement error. The same point applies to the items that households say they lack. Table 9 reports the percentage of households who (in the case of an unchanged overall number of 'wants' or non-possessions) changed the composition of their 'wants' or non-possessions, or who (when the overall number was reduced or increased) changed the composition more than was strictly necessary to achieve the measured reduction or increase in the overall number of 'wants' or non-possessions. Only households with at least one 'want' or non-possession in year 1 were included in the calculations.

Very few households change the composition of their non-possessions, or, if there is a change in the overall number, acquire some items and lost others at the same time. This indicates that non-possession is measured with very little random error. The occurrence of changes in the composition of 'wants' is far larger, in most countries many times so. Still, the percentages remain limited, suggesting random error does not dominate and that 'wants' are generally measured with a reasonable degree of reliability. In some countries we perceive a declining pattern across waves in the percentages with changes in composition. This might be the result of learning by respondents, or of higher rates of drop-out by the more careless respondents. There are also interesting differences between countries, but perhaps not too much should be made of them, as the results might be influenced by the number of possessions of households. (With fewer possessions, there is more scope for changing the composition of 'wants'.)

### 6 Summary and Conclusion

There exists now a body of research on deprivation in European countries, based on the European Community Household Panel (ECHP). In this literature, measures of deprivation are built up from a number of indicators on the possession or availability of a range of goods, services and activities. Whenever possible, only the enforced absence of an item due to lack of resources is regarded as a deprivation, and in surveys this is usually established through asking a follow-up question whether non-possession is due to inability to afford the item, or due to other reasons.

This approach has the important advantage that instances of non-possession which are entirely voluntary, are not counted as deprivation. On the other hand, 'wants' (non-possession due to inability to afford), as they are subjective in nature, may be influenced by the phenomenon known as 'preference drift': the more you have, the more you want. Moreover, expressed 'wants' may be affected by measurement error.

This paper is about the question whether using expressed 'wants' actually enhances the validity of deprivation measures, compared with approaches which are based on simple non-possession of items. Data on six items from the ECHP were used, for which the format of the survey questions made this comparison possible. Most of these items are household durables, making the deprivation measures constructed rather one-sided. This limits the value of the results for a comparison of deprivation between countries of the EU; but this was not my main purpose anyway.

Unfortunately, the results do not allow a straightforward answer to the question in the title of this paper. Deprivation measures based on simple non-possessions had clearly higher correlations with income poverty measures in several countries, but in others, the 'subjective' deprivation measures (where only 'wants', non-possession due to inability to afford were counted) performed better in this regard. Alternative measures of deprivation tend to be based on subjective indicators, so that unbiased comparisons were not possible. No clear evidence that expressed 'wants' for the items considered are strongly affected by a preference effect was found. In most countries, households with many possessions express 'wants' for about the same proportion of the remaining items as do households with fewer possessions. However, this finding is at least partly due to heteregeneous preferences, some of which are related to household size and composition.

Yet, there were also some unequivocal results. The first is that there is much greater stability across two years in the number of non-possessions, than there is in the number of expressed 'wants'. Also, when the number of non-possessions is unchanged, very few households 'switch' items, i.e. acquire one item and loose another. Such 'switching' is not uncommon for expressed 'wants', even though most households are fairly consistent over time. These findings suggest that the expression of 'wants' is indeed prone to some measurement error, although this should not be overstated, and 'wants' are measured with a reasonable degree of reliability.

This result is an important footnote to the work of Whelan et al. (2003, p. 29) who conclude that "rates of volatility for income and deprivation measures were roughly similar". It seems that this conclusion is crucially dependent on the kind of deprivation measure used: if it is based on non-possession only, instead of 'wants', rates of volatility are much lower.

The second unambiguous result is that the social and economic covariates of non-possessionbased measures of deprivation are dramatically different from those of 'wants'-based measures of deprivation. In particular, the situation of single elderly persons appears in a much worse light if one uses the former, rather than the latter.

Given these results, I cannot give a straightforward recommendation to use or not to use subjective information on expressed ability to afford when constructing measures of deprivation. Both have advantages and disadvantages. However, it is important to be aware of possible consequences or implications when making a choice between the various approaches. Hopefully, this paper has contributed to such awareness among researchers.

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	•	does not	does not				does not	does not	
		have,	have for				have,	have for	
		cannot	other		Micro-		cannot	other	
Car or van	has item	afford	reasons	total	wave oven	has item	afford	reasons	total
Denmark	71,0	9,6	19,4	100	Denmark	48,5	5,0	46,4	100
Netherlands	69,3	4,6	26,0	100	Netherlands	72,0	2,1	25,9	100
Belgium	81,2	5,0	13,8	100	Belgium	66,8	2,4	30,8	100
France	83,4	5,8	10,8	100	France	61,3	5,2	33,5	100
Ireland	74,4	11,4	14,2	100	Ireland	73,1	5,9	21,1	100
Italy	80,0	2,4	17,6	100	Italy	20,8	9,7	69,5	100
Greece	61,6	16,4	22,0	100	Greece	15,2	18,8	66,0	100
Spain	72,3	10,3	17,3	100	Spain	52,5	14,4	33,1	100
Portugal	66,8	19,6	13,6	100	Portugal	28,5	36,4	35,1	100
Austria	76,6	4,5	18,9	100	Austria	60,0	4,6	35,4	100
Finland	67,7	6,1	26,2	100	Finland	81,0	2,3	16,7	100
Colour TV					Dishwasher				
Denmark	08.3	0.5	11	100	Denmark	18 7	83	13.0	100
Netherlands	08.2	0,5	1,1	100	Netherlands	32.2	3.2	4J,0	100
Relaium	96.0	0,2	28	100	Relaium	30.8	5.9	54.3	100
France	96.0	0,5	2,0	100	France	42 Q	9.4	47.8	100
Ireland	98.4	0.8	2,0	100	Ireland	33.6	י,ד 173	49.1	100
Italy	97 S	0,0	1.4	100	Italy	28.9	16.6	49,1 54.4	100
Greece	97,0	0,7	1,4	100	Greece	26,9	30.2	14,4 14,5	100
Snain	97,0	1,0	0.5	100	Spain	25,4	24.6	50.4	100
Portugal	99,1 05 3	0, <del>4</del> 3.6	0,5	100	Portugal	23,0	24,0 41.6	34.8	100
Austria	95,5 07 3	5,0 0,5	1,1 2 2	100	Austria	23,0 53.2	12.8	34.0	100
Finland	97,5	0,5	2,2 1 1	100	Finland	17 Q	5.0	76 1	100
Finnanu	95,1	0,8	4,1	100	Filliand	47,9	5,9	40,1	100
Video recoro	ler				Telephone				
Denmark	78,1	3,2	18,7	100	Denmark	99,1	0,4	0,6	100
Netherlands	75,5	2,5	22,0	100	Netherlands	99,1	0,1	0,8	100
Belgium	73,8	2,4	23,8	100	Belgium	96,1	0,8	3,1	100
France	72,3	6,2	21,6	100	France	97,4	1,1	1,5	100
Ireland	80,5	4,5	15,0	100	Ireland	91,3	4,7	4,0	100
Italy	65,1	6,6	28,3	100	Italy	92,2	2,3	5,5	100
Greece	48,3	16,9	34,8	100	Greece	96,5	2,3	1,2	100
Spain	72,1	10,0	17,9	100	Spain	91,0	4,2	4,8	100
Portugal	59,9	23,2	16,9	100	Portugal	81,7	13,1	5,2	100
Austria	67,4	5,4	27,2	100	Austria	96,2	0,7	3,1	100
Finland	68,3	4,7	27,0	100	Finland	97,9	0,6	1,5	100

 Table 1: Frequency of possession and of inability to afford of six items in a number of European countries, ECHP 1999.

			/			Nr. of		
		Total hh	Equiv.	Income	Income	items hh	'Cannot	
	Measure of	income	Income	poor 60%	poor 55%	'cannot	afford'	(Prop in
	deprivation	(1)	(2)	(3)	(4)	afford' (5)	holiday	sample)
Netherlands	Lacking 4+	48%	83%	22%	19%	1,1	25%	9,2%
	Wanting 2+	43%	62%	47%	40%	1,8	38%	2,5%
Denmark	Lacking 4+	40%	71%	44%	35%	1,0	29%	10,1%
	Wanting 2+	61%	88%	26%	22%	1,4	34%	6,4%
France	Lacking 4+	45%	77%	37%	33%	1,6	51%	10,2%
	Wanting 2+	54%	67%	47%	41%	2,5	73%	6,8%
Finland	Lacking 4+	37%	67%	49%	40%	1,7	46%	10,4%
	Wanting 2+	39%	63%	51%	45%	2,6	79%	4,5%
Belgium	Lacking 4+	43%	75%	39%	34%	1,3	39%	10,5%
	Wanting 2+	48%	66%	52%	43%	2,4	77%	3,6%
Ireland	Lacking 4+	34%	61%	64%	57%	1,3	42%	11,8%
	Wanting 2+	62%	71%	49%	44%	2,0	71%	10,7%
Austria	Lacking 4+	41%	75%	43%	31%	1,8	45%	12,7%
	Wanting 2+	64%	84%	33%	26%	1,7	40%	5,7%
Spain	Lacking 4+	47%	77%	32%	25%	2,7	73%	15,5%
-	Wanting 2+	62%	76%	37%	30%	2,9	82%	17,8%
Italy	Lacking 4+	48%	83%	28%	23%	2,6	66%	17,5%
	Wanting 2+	79%	85%	30%	25%	2,6	63%	8,2%
Portugal	Lacking 4+	52%	70%	49%	42%	4,0	91%	27,1%
-	Wanting 2+	78%	85%	33%	27%	3,6	86%	39,8%
Greece	Lacking 4+	49%	72%	45%	40%	3,9	78%	29,9%
	Wanting 2+	80%	85%	34%	30%	3,3	67%	24,9%
Total	Lacking 4+	47%	75%	40%	34%	2,7	64%	15,5%
	Wanting 2+	70%	80%	36%	30%	3,0	74%	12,7%

Table 2: Indicators of poverty and living standard by 'subjective' and 'objective' deprivation (first 'absolute' approach).

Notes: (1) Total household income as percentage of overall median in country sample (invididually weighted) (2) Equivalent household income as percentage of overall median in country sample (invididually weighted)

(3) Proportion of households with equivalent income below 60% of median in country sample

(4) Proportion of households with equivalent income below 55% of median in country sample

(5) Number of items household respondent says it 'cannot afford', of the following list:

- keeping home adequately warm,

- paying for a week's annual holiday away from home,

- replacing worn-out furniture,

- buying new, rather than second-hand, clothes,

- eating meat, chicken or fish every second day, if wanted

- having friends or family for drink/dinner once a month.

	×		/			Nr. of		
		Total hh	Equiv.	Income	Income	items hh	'Cannot	
	Measure of	income	Income	poor 60%	poor 50%	'cannot	afford'	(Prop in
	deprivation	(1)	(2)	(3)	(4)	afford' (5)	holiday	sample)
Italy	'Object.' Depriv.	48%	79%	38%	27%	2,94	70%	6%
	'Subject.' Depriv.	69%	84%	34%	25%	2,71	66%	9%
Nether-	'Object.' Depriv.	48%	83%	22%	15%	1,07	25%	9%
lands	'Subject.' Depriv.	51%	72%	33%	24%	1,53	35%	8%
Belgium	'Object.' Depriv.	43%	75%	39%	26%	1,27	39%	10%
	'Subject.' Depriv.	52%	72%	42%	26%	2,00	65%	6%
Finland	'Object.' Depriv.	38%	67%	49%	30%	1,65	46%	11%
	'Subject.' Depriv.	47%	72%	41%	27%	2,17	70%	11%
Denmark	'Object.' Depriv.	42%	71%	40%	23%	0,91	26%	13%
	'Subject.' Depriv.	61%	86%	25%	16%	1,14	30%	13%
France	'Object.' Depriv.	48%	79%	36%	25%	1,52	49%	14%
	'Subject.' Depriv.	56%	75%	40%	25%	2,03	62%	13%
Ireland	'Object.' Depriv.	40%	67%	57%	35%	1,21	42%	19%
	'Subject.' Depriv.	59%	76%	49%	32%	1,76	63%	18%
Austria	'Object.' Depriv.	46%	81%	38%	18%	1,58	39%	20%
	'Subject.' Depriv.	78%	97%	21%	12%	1,19	29%	20%
Spain	'Object.' Depriv.	53%	85%	29%	18%	2,48	68%	26%
	'Subject.' Depriv.	64%	81%	35%	24%	2,76	78%	24%
Greece	'Object.' Depriv.	50%	73%	45%	35%	3,88	78%	30%
	'Subject.' Depriv.	71%	81%	39%	30%	3,40	70%	26%
Portugal	'Object.' Depriv.	60%	77%	42%	29%	3,81	88%	37%
-	'Subject.' Depriv.	71%	81%	37%	25%	3,74	88%	38%
Total	'Object.' Depriv.	50%	77%	39%	26%	2,55	63%	18%
	'Subject.' Depriv.	65%	80%	36%	25%	2,65	68%	17%

 Table 3:
 Indicators of poverty and living standard by 'subjective' and 'objective' deprivation (second 'relative' approach).

Notes: see Table 1.

	Main	<u>'Ohiec-</u>	Subjec-	Household	Objec-	'Subjec-	Education	'Ohiec-	'Subjec-
	activity*	tive'	tive'	type (2)	tive'	tive'	level*	tive'	tive'
	(1)	depriv.	depriv	51 ()	depriv	depriv		depriv	depriv
Denmark	employee	0,03	0,09	Single Eld.	0,58	0,11	ISCED 5-7	0,08	0,11
	unempl.	0,08	0,35	C. non-Eld.	0,01	0,09	ISCED 3	0,08	0,13
	retired	0,30	0,09	C. + Child.n	0,00	0,05	ISCED 0-2	0,24	0,11
	Total	0,12	0,12	Total	0,12	0,12	Total	0,12	0,12
Nether-	employee	0,03	0,05	Single Eld.	0,38	0,06	ISCED 5-7	0,04	0,04
lands	unempl.	0,13	0,30	C. non-Eld.	0,01	0,03	ISCED 3	0,10	0,11
	retired	0,17	0,04	C. + Child.n	0,01	0,04	ISCED 0-2	0,10	0,08
	Total	0,10	0,08	Total	0,10	0,08	Total	0,10	0,08
Belgium	employee	0,02	0,03	Single Eld.	0,41	0,11	ISCED 5-7	0,05	0,03
	unempl.	0,20	0,31	C. non-Eld.	0,03	0,03	ISCED 3	0,07	0,06
	retired	0,19	0,08	C. + Child.n	0,01	0,03	ISCED 0-2	0,16	0,09
	Total	0,10	0,07	Total	0,10	0,07	Total	0,10	0,07
France	employee	0,06	0,09	Single Eld.	0,54	0,18	ISCED 5-7	0,09	0,08
	unempl.	0,16	0,38	C. non-Eld.	0,04	0,07	ISCED 3	0,11	0,13
	retired	0,23	0,13	C. + Child.n	0,02	0,08	ISCED 0-2	0,15	0,14
	Total	0,14	0,13	Total	0,14	0,13	Total	0,14	0,13
Ireland	employee	0,07	0,11	Single Eld.	0,62	0,18	ISCED 5-7	0,05	0,08
	unempl.	0,30	0,53	C. non-Eld.	0,06	0,10	ISCED 3	0,10	0,10
	retired	0,29	0,17	C. + Child.n	0,04	0,11	ISCED 0-2	0,28	0,25
	Total	0,19	0,18	Total	0,19	0,18	Total	0,19	0,18
Italy	employee	0,03	0,09	Single Eld.	0,17	0,08	ISCED 5-7	0,04	0,07
	unempl.	0,17	0,27	C. non-Eld.	0,03	0,11	ISCED 3	0,04	0,07
	retired	0,06	0,08	C. + Child.n	0,02	0,08	ISCED 0-2	0,07	0,11
	Total	0,06	0,09	Total	0,06	0,09	Total	0,06	0,09
Greece	employee	0,11	0,23	Single Eld.	0,87	0,20	ISCED 5-7	0,06	0,09
	unempl.	0,20	0,51	C. non-Eld.	0,20	0,27	ISCED 3	0,11	0,19
	retired	0,53	0,26	C. + Child.n	0,09	0,22	ISCED 0-2	0,44	0,34
	Total	0,30	0,26	Total	0,30	0,26	Total	0,30	0,26
Spain	employee	0,12	0,18	Single Eld.	0,86	0,35	ISCED 5-7	0,08	0,10
	unempl.	0,34	0,47	C. non-Eld.	0,14	0,19	ISCED 3	0,13	0,13
	retired	0,58	0,31	C. + Child.n	0,10	0,18	ISCED 0-2	0,35	0,31
	Total	0,26	0,24	Total	0,26	0,24	Total	0,26	0,24

 Table 4:
 'Objective' and 'subjective' deprivation (second, 'relative' approach) by main activity (selected categories), and education level (proportion of households in deprivation).

\* of household reference person Notes:

(1) For Activity only selected categories.(2) For Household type only selected categories: single elderly person, couple where both partners are non-elderly, and couple with one or more children.

```	Main activity*	'Objec- tive'	'Subjec- tive'	Household type (1)	'Objec- tive'	'Subjec- tive'	Education level*	'Objec- tive'	'Subjec- tive'
	(1)	depriv.	depriv		depriv	depriv		depriv	depriv
Portugal	employee	0,27	0,32	Single Eld.	0,89	0,51	ISCED 5-7	0,08	0,09
	unempl.	0,44	0,54	C. non-Eld.	0,24	0,27	ISCED 3	0,07	0,11
	retired	0,59	0,47	C. + Child.n	0,23	0,32	ISCED 0-2	0,43	0,43
	Total	0,37	0,37	Total	0,37	0,37	Total	0,37	0,37
Austria	employee	0,10	0,22	Single Eld.	0,70	0,13	ISCED 5-7	0,14	0,14
	unempl.	0,24	0,31	C. non-Eld.	0,03	0,15	ISCED 3	0,13	0,18
	retired	0,33	0,12	C. + Child.n	0,04	0,17	ISCED 0-2	0,37	0,24
	Total	0,20	0,20	Total	0,20	0,20	Total	0,20	0,20
Finland	employee	0,04	0,09	Single Eld.	0,31	0,06	ISCED 5-7	0,05	0,09
	unempl.	0,23	0,30	C. non-Eld.	0,02	0,09	ISCED 3	0,08	0,13
	retired	0,20	0,08	C. + Child.n	0,01	0,03	ISCED 0-2	0,19	0,10
	Total	0,11	0,11	Total	0,11	0,11	Total	0,11	0,11
Overall	employee	0,08	0,14	Single Eld.	0,53	0,17	ISCED 5-7	0,07	0,08
	unempl.	0,24	0,39	C. non-Eld.	0,06	0,11	ISCED 3	0,09	0,13
	retired	0,30	0,17	C. + Child.n	0,06	0,13	ISCED 0-2	0,24	0,21
	Total	0,18	0,17	Total	0,18	0,17	Total	0,18	0,17

(Table 4 continued)

Table 5: Regression coefficient of nr of possessions on nr of wants.

	Model with	hout other	Model with dummies			
	va	rs	for housel	nold types		
	Estimate	Prob H0	Estimate	Prob H0		
Denmark	-0,012	0,092	-0,015	0,008		
Netherlands	-0,015	0,000	-0,018	0,004		
Belgium	-0,025	0,000	-0,034	0,006		
France	-0,023	0,000	-0,048	0,006		
Ireland	0,005	0,533	-0,052	0,009		
Italy	0,025	0,000	-0,012	0,005		
Greece	0,002	0,702	-0,068	0,006		
Spain	-0,035	0,000	-0,064	0,006		
Portugal	-0,024	0,000	-0,070	0,005		
Austria	0,033	0,000	0,000	0,008		
Finland	0,007	0,221	-0,014	0,006		

			Number of items lacking in year 1										
		0	1	2	3	4	5	6					
Number of items lacking in year 2	0	90,4	13,7	2,9	0,6	0,1	0,1	0,1					
	1	7,5	76,1	16,5	3,4	0,7	0,3	0,3					
	2	1,7	8,4	70,9	19,2	3,2	1,4	0,6					
	3	0,3	1,4	8,3	68,6	14,5	5,7	1,5					
	4	0,1	0,3	1,2	7,5	77,1	26,2	6,9					
	5	0,0	0,1	0,1	0,6	4,1	62,0	23,4					
	6	0,0	0,0	0,0	0,0	0,3	4,3	67,2					
Total		100,0	100,0	100,0	100,0	100,0	100,0	100,0					
Nr of cases*		24216	31078	33642	25920	19703	5600	2069					

Table 6: Wave-by-wave changes in number of items *lacking*, aggregated across ECHP waves 2-6.

Notes: \* unweighted, aggregated across countries and waves 2-5 See text for further details about selection of cases

Table 7: Wave-by-wave changes in number of items *wanted*, aggregated across ECHP waves 2-6.

			Number of items wanted in year 1								
		0	1	2	3	4	5	6			
Number of items wanted in year 2	0	87,5	46,7	28,4	20,1	15,6	10,5	9,7			
	1	8,5	37,5	25,0	14,8	10,8	9,4	4,6			
	2	2,5	10,6	34,2	21,0	12,8	7,9	7,4			
	3	1,0	3,6	9,0	35,6	20,2	10,6	8,8			
	4	0,4	1,2	2,5	6,8	35,1	22,0	12,0			
	5	0,1	0,2	0,6	1,5	4,9	36,3	21,2			
	6	0,0	0,1	0,2	0,2	0,5	3,3	36,4			
Total		100,0	100,0	100,0	100,0	100,0	100,0	100,0			
Nr of cases*		98634	21104	10844	6473	3342	1327	504			

Notes: \* unweighted, aggregated across countries and waves 2-5 See text for further details about selection of cases

in deprivation in year 2, among households in deprivation in year 1.										
	'Objective'	deprivation	(lacking 4+	items)	'Subjective	'Subjective' deprivation (2+ items wanted)				
_	wave2-3	wave3-4	wave4-5	wave5-6	wave2-3	wave3-4	wave4-5	wave5-6		
Denmark	81	82	86	79	42	46	55	53		
Netherlands	82	83	78	84	57	45	31	35		
Belgium	80	88	85	87	52	52	47	46		
France	82	85	88	84	44	44	43	46		
Ireland	81	75	80	75	53	49	57	58		
Italy	82	84	85	87	34	36	43	41		
Greece	86	89	88	87	56	64	53	57		
Spain	82	85	85	81	53	52	50	42		
Portugal	87	88	90	89	77	79	78	84		
Austria	84	85	85	84	48	48	44	44		
Finland			82	80			47	38		

Table 8: Wave-by-wave changes in 'objective' and 'subjective' deprivation: percentage still in deprivation in year 2, among households in deprivation in year 1.

Table 9: Percentage of households with more change in composition of their non-possessions or their 'wants' then strictly necessary, given the (lack of) changes in the overall number of non-possessions or 'wants' (see text for further explanation).

							/				
		Non-pos	ssessions			'Wants'					
_	wave2-3	wave3-4	wave4-5	wave5-6	wave2-3	wave3-4	wave4-5	wave5-6			
Denmark	1,0	1,2	2,2	2,2	8,0	6,2	6,9	9,3			
Netherlands	0,8	0,9	1,0	0,9	11,9	7,4	7,0	7,4			
Belgium	2,2	2,2	1,9	1,0	8,7	8,6	7,7	2,5			
France	2,2	1,5	1,6	1,3	6,6	7,2	8,1	7,0			
Ireland	3,7	3,1	1,9	2,9	13,4	10,7	10,1	8,5			
Italy	4,0	4,0	4,1	2,5	9,0	13,1	10,3	9,4			
Greece	2,0	2,0	3,0	2,5	12,1	10,9	10,5	8,4			
Spain	1,6	2,0	1,8	2,8	7,7	9,6	7,2	7,3			
Portugal	2,6	2,0	2,4	1,6	8,2	7,2	8,5	5,7			
Austria	3,1	1,7	1,7	2,1	10,4	9,2	7,9	7,1			
Finland			2,9	1,6			8,7	4,3			

Note: Percentages calculated with base households with at least one non-possession c.q. want in year 1.



Figure 1: Number of items *lacking*, percentage distribution, in in a number of European countries, ECHP 1999.

Figure 2: Number of items *wanted*, percentage distribution, in in a number of European countries, ECHP 1999.





Figure 3: Proportion of non-possessions that are wanted, by number of possessions, in a number of European countries, ECHP 1999.

Note: Points based on fewer than 25 observations (unweighted) have been deleted.