

PART III

Chapter 7

Non-income Poverty: What Can we Learn from Indicators of Material Deprivation?*

Based on a measure that aggregates data on the prevalence of different types of deprivation, non-income poverty is higher in countries with lower per capita income and higher relative income poverty headcounts. The experience of deprivation declines monotonically with people's income and age. In a given year, a large share of the income poor are not materially deprived while, conversely, a large share of the population experience either low income or deprivation.

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Introduction

Income is only a partial measure of the economic resources of people and of the extent to which these resources allow them to meet their basic needs. Some people with low income may benefit from in-kind support from public agencies and relatives, or from accumulated savings and borrowing that allow them to enjoy a decent standard of living. Conversely, even income above conventional thresholds may leave some people with insufficient resources when they have special needs due to sickness and disability, or when they incur high work-related expenses, such as child care. Because conventional income measures cannot identify such needs, a long tradition of research on poverty has looked instead at direct measures of the extent to which individuals and households have access to the goods and amenities that are deemed to be needed for an acceptable standard of living in any given society.

This chapter takes stock of what can be learned from measures of material deprivation in a comparative perspective. After having described the conceptual foundations of material deprivation, the next section provides evidence of the size and features of material deprivation using two different approaches. The first is based on measures of the *average* prevalence of a broad range of deprivation items across OECD countries, with summary measures derived as a simple average across these items: this approach allows covering a broad range of items and countries, but relies on survey questions that are not strictly comparable across countries (and are missing for some). The second approach is based on measures of the extent to which *each* individual or household experiences a more limited number of deprivation items, with summary measures derived by considering how many people cumulate several deprivations at the same time. The final section summarises the key patterns and draws some policy implications.

Material deprivation as one approach to the measurement of poverty

Poverty is a complex phenomenon, and different measures give different perspectives as to its size and evolution.¹ While a variety of alternative measures have been developed, all approaches to the measurement of poverty rely on the specification of: i) a threshold separating the poor and the non-poor; and ii) an index that expresses how far from the threshold the poor are. Different poverty measures can however be distinguished along two main dimensions:

- First, whether the metric used is “monetary” or “non-monetary”.
- Second, whether these measures refer either to “inputs” (i.e. indirect measures of poverty) or to “outcomes” (i.e. direct measures).

Most poverty measures, including those presented earlier in this report, are “monetary” and “input”-based, where the inputs are the resources required to achieve well-being; income measures fall in this category, and they can be distinguished based on whether they rely on either “absolute” or “relative” thresholds.² A complementary approach is that of measuring poverty “outcomes”, which concentrates on the final

conditions of people rather than on the means required to achieve those conditions. Outcomes are generally conceived in terms of well-being or living standards, and measured based on metrics that are either monetary – as in the case of the measures that consider whether actual household expenditures fall short of some minimum level – or non-monetary. Measures of material deprivation fall in this latter category – i.e. they are “non-monetary” and “outcome”-based measures of poverty.

Much of the interest in measuring material deprivation (or “hardship”, in the US literature) stems from the work of Townsend (1979), who related the concept of deprivation to the broader notion of “inability of living a decent life”. Following Townsend, other scholars have emphasised the notions of “shame” and “inability to live a decent life with dignity” (Sen, 1983). Today, most authors define material deprivation as “exclusion from the minimum acceptable way of life in one’s own society because of inadequate resources” (Callan *et al.*, 1993; Nolan and Whelan, 1996; Kangas and Ritakallio, 1998; Layte *et al.*, 2001; Whelan *et al.*, 2002; Perry, 2002) or as “lack of socially perceived necessities” (Bradshaw and Finch, 2003; Nolan and Whelan, 1996). In all these definitions, the line separating what is acceptable or decent and what is not differs across countries and over time. As a result, at least in theory, measures of material deprivation imply a reference to a “relative” threshold. In practice, once a set of deprivation items is identified, change in material deprivation over time will reflect changes in the absolute living conditions of people. Conversely, as in the case of income-based measures, all these definitions retain the household as the fundamental unit within which resources are shared and needs satisfied.

These definitions of material deprivation are consistent with a range of measurement approaches, and much of the later research has aimed to refine empirical measures of deprivation. This research has focused on a number of questions:

- *How to distinguish between preferences and constraints?* One objection to using material deprivation concerns the failure to distinguish between the lack of a good (or of an activity) due to voluntary choice from that due to financial constraints (Piachaud, 1981). For example, lack of a TV set might be due to not having enough money to buy one, or it might reflect disgust with the quality of programmes. Today, the wording of most survey questions on material deprivation tries to distinguish between preferences and affordability, although other aspects about the nature of deprivation (*e.g.* those related to the quality of the items owned) are not adequately addressed.
- *Which deprivation items to select?* A second issue relates to the arbitrary list of items used in the early research on material deprivation. This typically relied on experts’ views of the items that allow a decent life – or, most often, of whatever information happened to be available. However, people may disagree with what is and what is not included in the list. A more structured approach pioneered by Mack and Lansley (1985) for the United Kingdom aims to reduce the arbitrariness in the choice of deprivation items by asking a representative sample of people to evaluate which specific items they perceived as “social necessities”.
- *How to weight different items?* A further argument stressed the importance of accounting for the seriousness of different forms of deprivation (Gordon *et al.*, 2000). Indeed, most empirical studies relied on simple binary scores to characterise whether a person experienced each deprivation item; this approach implicitly assigns each type of deprivation an equal weight. This might not be reasonable – we might consider not having enough food to eat as more important than access to a TV. Desai and Shah (1988)

adopted a different approach by, first, replacing binary deprivation scores with a continuous score (reflecting the distance between the respondent's and the modal value in the distribution of each given item) and, second, applying weights that reflected how common was access to each item among the total population. This approach to weighting deprivation items (with a larger weight given to those items that larger proportions of the population possess) is increasingly common.

A number of consistent patterns have been identified in past studies, and these are described in Box 7.1. A fuller description of results from previous research is provided in Boarini and Mira d'Ercole (2006).

Because material deprivation takes many different forms, a framework is required to describe it. The forms deprivation takes will vary even among countries at a comparable level of economic development – depending on cultural norms, the diffusion within society of various types of consumption goods, the characteristics of the social protection system – as well as over time – as the luxuries of one generation become the conveniences of the

Box 7.1. **Main empirical results from previous research on material deprivation**

The empirical research on material deprivation highlights a number of consistent patterns:

- The same people typically report several forms of deprivation at the same time.
- People with lower incomes are more likely to experience material deprivation, and deprived individuals are most likely to be counted among the income poor. However, the relationship between people's income and deprivation is not very strong (i.e. only between one-third and one-half of people who are income poor are deprived, and *vice versa*), with most studies reporting correlation coefficients between 0.33 and 0.54 (Perry, 2002).
- The overlap between income poverty and material deprivation increases when a higher income threshold is used (although the evidence is mixed in the United States) and when assessing deprivation over the long term. Also, the overlap between income poverty and material deprivation generally increases when relying on measures that track individuals over time.
- Multivariate studies relying on different controls suggest that the probability of being deprived is higher for: persons who are young; unemployed or with weak ties to the labour market; poorly-educated; living alone or as a lone parent; disabled; immigrants; or receiving welfare benefits.
- Tracking people over time shows that most of those reporting material deprivation are in that condition over prolonged periods of time; this implies that material deprivation provides a useful complement to poverty measures where longitudinal income data are not available.
- Material deprivation is both more concentrated among a minority of the population and tends to last longer in countries where its prevalence is also higher.*

* On average, around 17% of the population in 14 EU countries reported having been affected by material deprivation over the four years to 1997. The number of people who have been deprived at least once in this period is, on average, 50% higher than the average number of people who report material deprivation throughout the period. Further, around 70% of those reporting material deprivation over the four-year period were persistently in that state, a share that is well above the analogous share of those who are income poor (Eurostat, 2002).

next and the necessities of the one that follows. A simple typology of material deprivation distinguishes between the following types.

- *Satisfaction of basic needs*, which refers to items that are essential for physical survival (e.g. food, clothes, ability to keep the home warm during winter, etc.).
- *Capacity to afford basic leisure and social activities*, which refers to items that, while not essential for physical survival, are critical for enjoying a decent quality of life (e.g. having a week of holiday away from home at least once per year, or occasionally inviting friends and relatives home for drinks or meals).
- *Availability of consumer durables*, which refers to items that are essential to perform everyday life activities (e.g. having a telephone) or that significantly ease housework and other domestic tasks (e.g. having a microwave oven).
- *Housing conditions*, which relates to both the physical characteristics of the dwelling (e.g. availability of electricity, water supply, or indoor flushing toilet, or whether parts of the dwelling are deteriorated or damaged) and of the areas where these are located (e.g. exposure to noise, indoor pollution, etc.).
- *Appreciation of own personal conditions*, in terms of their financial stress and ability to make ends meet, as well as subjective perception of whether they consider themselves as poor.
- *Characteristics of the social environment* where individuals live, which describe features of the neighbourhood (e.g. exposure to specific hazards, fear of crime, and availability of public services such as schools and hospitals) and of the social networks of individuals (e.g. ability to rely on support from others in case of need).³

This typology provides a grid that is used in the next section to summarise the available evidence on material deprivation across OECD countries. However, not all of the items listed are equally relevant and few measures exist for some. As a result, the description below excludes indicators of the extent to which individuals feel poor and indicators of neighbourhood characteristics.

Characteristics of material deprivation in a comparative perspective

The most important problem in making international comparisons is data availability: no survey currently exists that includes a common set of questions on material deprivation and covers a significant number of OECD countries – although a common survey (the *EU Survey on Income and Living Conditions*) now exists for EU countries. It follows that any attempt to shed some light on how material deprivation compares across OECD countries will need to identify items for which comparisons are less arbitrary. This section uses two different approaches to make international comparisons. The first describes the prevalence of material deprivation in each country for a large number of items, and derives summary measures of deprivation for the country as a whole by *averaging* across these items. The second approach restricts attention to a more narrow set of items and countries, and reverses the order of aggregation, i.e. a composite measure of material deprivation is derived by looking at, first, the extent to which each person lacks various items and, second, at how many people are in these conditions.


Prevalence of material deprivation based on aggregate data

Table 7.1 presents information on the prevalence of various types of deprivation across households within each of the six main categories described above. The information

Table 7.1. Share of households reporting different types of material deprivation, around 2000

Based on aggregate data

	Households deprived in terms of												
	Basic needs			Basic leisure	Consumer durables			Housing			Financial stress		Support from others
	Inability to adequately heat home	Inability to have a healthy diet	Restricted access to health care	Having one week holiday away from home per year	Television	Telephone	Personal computer	Needing repair	Lacking indoor toilet	Exposed to pollution	Arrears in bills	Inability to make ends meet	Received regular help from others
Austria	1	6	5	21	0	1	9	4	3	4	1	14	13
Belgium	4	3	8	20	0	1	5	6	2	10	5	11	7
Canada	..	8	..	0	..	4	..	8	..	..	14	..	..
Czech Republic	8	19	3	34	..	..	18	9	5	20	7	19	14
Denmark	2	1	1	11	0	0	5	5	0	4	2	11	10
Finland	7	4	3	26	1	0	8	2	1	14	6	12	13
France	4	3	4	24	0	1	11	9	2	17	5	12	9
Germany	3	2	3	21	0	1	18	7	1	5	4	9	8
Greece	31	26	21	51	2	2	16	9	6	15	21	49	19
Hungary	11	34	8	63	..	..	23	19	9	22	18	28	20
Ireland	4	1	10	24	1	2	15	5	1	7	3	10	8
Italy	17	5	26	36	1	1	15	6	1	15	3	22	6
Japan	1	..	2	26	..	2	12	17	1	..	5	25	10
Luxembourg	6	2	5	8	0	0	2	6	..	16	3	7	6
Netherlands	3	2	3	13	0	0	4	8	0	11	1	9	10
New Zealand	4	11	8	21	0	2	..	14	0	7	10	..	14
Poland	30	17	19	68	..	..	40	25	11	22	28	53	17
Portugal	56	3	17	59	2	5	26	23	7	19	1	34	12
Slovak Republic	17	33	21	64	..	..	28	26	7	18	15	24	17
Spain	42	3	4	37	0	2	21	9	0	10	3	21	12
Sweden	1	2	3	15	0	..	4	4	1	5	4	5	0
Turkey	45	53	33	66	..	..	61	20	12	29	26	48	19
United Kingdom	2	8	3	24	0	0	10	6	1	7	11	7	11
United States	7	11	8	..	1	5	33	5	..	3	10	15	24
OECD-24	13	11	9	32	1	2	18	10	3	13	9	20	12

StatLink  <http://dx.doi.org/10.1787/423030535328>

..: Data not available.

Source: OECD (2006), based on a selection of the indicators included in Tables 3 to 8 in Boarini et al. (2006).

presented is limited to a few items within each category, with information on a broader range of items (not always available for all countries) presented in Boarini et al. (2006). Some broad patterns emerge:

- **Basic needs.** In the early 2000s, across the OECD countries included in Table 7.1, around 10% of OECD households failed to satisfy basic needs such as adequately heating their home, having a healthy diet or having unrestricted access to health care. These shares are, in general, larger in most Southern and Eastern European countries (especially for heating and clothing). A high level of deprivation in one of these items generally means a high level in other indicators too.⁴ The simple OECD-average of the share of households deprived in basic needs is 11% (and 10% when items that only a small share of the population lack are given a larger weight, Table 3 in Boarini et al., 2006) with values ranging from 5% or less in France, Ireland, Luxembourg, Netherlands, Sweden and the United Kingdom up to 20% or more in Greece, Hungary, Poland, Portugal, the Slovak Republic and Turkey.
- **Basic leisure.** On average, across all OECD countries, around one-third of all households could not afford to take one week of holiday away from home over the past 12 months, with this share exceeding 50% in Greece, Hungary, Poland, Portugal, the Slovak Republic and Turkey. Also, according to Table 4 in Boarini et al., 2006, 14% of all households report not having invited friends and relatives over the past month. The correlation between these two types of basic leisure activities is high (84%), and cross-country variability in the two items small. The average share of OECD households unable to afford basic leisure activities is 24% based on unweighted data, and 21% when the items that only a small share of the population lack are given a larger weight (Boarini et al., 2006). Lack of basic leisure activities appears to affect a larger share of people than does lack of basic needs.
- **Consumer durables.** On average, few OECD households lacked a television or a telephone, but close to one-fifth did not have a personal computer at home. Differences across OECD countries in the share of households possessing different consumer durables are large, with the shares lacking basic consumer durables generally higher in Australia, Canada and the United States than in most European countries (although this may reflect differences in the wording of survey questions, i.e. lack of a distinction between financial constraints and voluntary choices in most non-European surveys). Cross-country differences in the possession of consumer durables are generally higher than in the case of basic needs and leisure activities, in particular when looking at possession of cars and microwaves (Table 5 in Boarini et al., 2006). Lack of one type of durable is very much correlated with lack of another type. On average, 11% of OECD households report lacking some basic consumer durables (9% when considering the weighted average), with this share exceeding 25% in Hungary, Poland, the Slovak Republic and Turkey (Boarini et al., 2006).
- **Housing conditions.** If most households in OECD countries report having an indoor toilet, one in ten reported that their house was in need of repairs, and 13% that it was exposed to pollution. When looking at other characteristics of dwellings, very few households reported lacking an indoor shower or bath (2%) or hot running water (7%), while a significantly higher proportion (14% on average) reported overcrowding (based on an indicator referring, for most countries, to dissatisfaction with respect to housing space, Table 6 in Boarini et al., 2006). A larger share of households declared being exposed to noise and crime (21% and 19%), with little variation across countries. Overall, the items

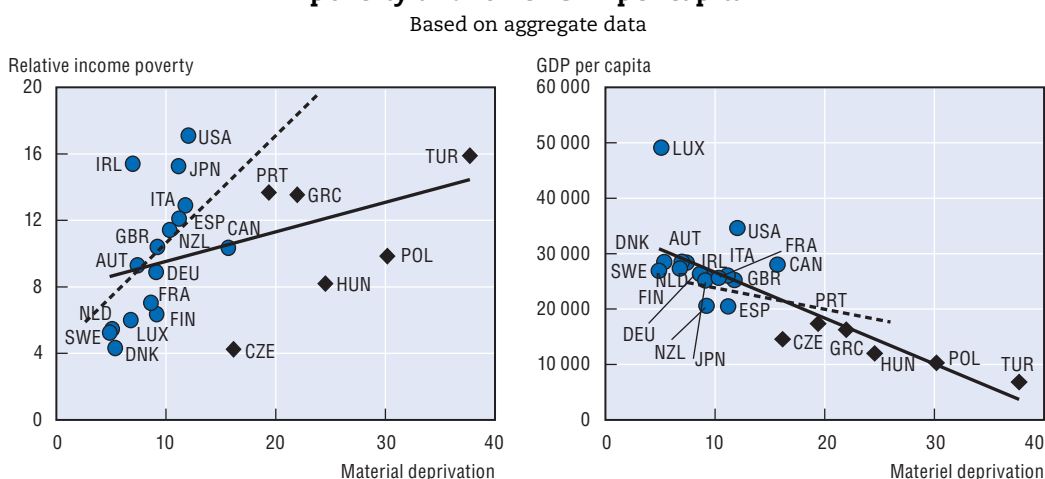
describing housing conditions are not very correlated with each other, with the average share of OECD households experiencing poor housing conditions around 12% (and 8% based on weighted data, Boarini *et al.*, 2006).


- **Financial stress.** Less than 10% of OECD households reported having incurred payment arrears during the past year, but the share was 20% for those declaring that in the past year they could make ends meet only with great difficulty, or that occasionally they could not meet essential expenses (with much higher values in several East European countries). On average 9% of households declared having been unable to pay utility bills in the past year (a share that is much higher in East European countries, Turkey and Australia, Table 7 in Boarini *et al.*, 2006), with a lower proportion reporting arrears in paying rents or mortgages (5%) and other types of loans (3%).⁵ Different forms of financial stress are highly correlated with each other, with the main exception being the indicator referring to the inability to repay loans. The simple OECD average of households suffering from financial strain is 10%, while the weighted average is 8% (Boarini *et al.*, 2006).
- **Support from others.** On average, around 13% of all households report that they regularly relied on help from persons living outside the household in the year preceding the survey.⁶ A similar proportion of households declared that, in case of financial need, they would not have anyone on whom to rely (Table 8 in Boarini *et al.*, 2006). Across countries, the correlation between the two indicators (at 36%) is smaller than for other deprivation dimensions. The OECD average for the two indicators is 14%, based on unweighted data (and marginally lower when using weighted data or excluding countries where only one indicator is available, Boarini *et al.*, 2006).

Across countries, data on the prevalence of the six main components of deprivation are highly correlated with each other, particularly for deprivation in basic needs, social activities and consumer durables (with average correlations, across these dimensions, of 64%, 77% and 65%, respectively) and, to a lesser extent, for help from social networks and financial stress (with average correlations of 40% and 46% respectively). The high correlations between the different types of deprivation suggest that they measure the same underlying phenomenon and that they provide a reasonably consistent picture of the extent of poverty and hardship across OECD countries.

A summary measure of the overall prevalence of material deprivation can be computed by averaging first across the deprivation items within each of the six main categories, and then across the categories. Figure 7.1 plots the relation between this summary measure of material deprivation, on one side, and the relative income poverty headcount and per capita income, on the other. This summary measure of material deprivation is only weakly correlated with income poverty (at around 40% when using a threshold set at half of the median), while the correlation is stronger (over 80%) with respect to GDP per capita. This suggests that this simple measure of material deprivation provides information about the absolute living standard of the poor, which in turn depends on the economic development of each country. However, when limiting the comparisons to OECD countries with similar levels of income (*i.e.* those with a GDP per capita above USD 20 000), the correlation with relative income poverty rises (to around 0.60) while that with per capita GDP disappears. While it is not possible to interpret this relation in terms of causality, the figure suggests that monetary and non-monetary measures of poverty convey a broadly consistent picture.

Figure 7.1. **Higher material deprivation in countries with higher relative income poverty and lower GDP per capita**



StatLink  <http://dx.doi.org/10.1787/422677656865>

Note: Material deprivation refers to the share of households reporting different forms of deprivation among the six main categories shown in Table 7.1 averaged across them. Relative income poverty is based on a threshold set at half of median disposable income. OECD countries with per capita GDP below USD 20 000 are denoted with a diamond. The grey dashed line in each panel is the trend line between the two variables obtained when limiting the analysis to countries with per capita GDP above USD 20 000.

Source: Boarini and Mira d'Ercole (2006).

Size and characteristics of material deprivation based on individual data

Despite the high correlation between the different measures of material deprivation shown above, it could be that they are not suffered by the same people. This is because the measures of material deprivation presented above do not distinguish between situations where the same person experiences different types of deprivation and those where these experiences are widely shared among the population at large. Distinguishing between these two situations requires data referring to specific individuals and households. This section presents results for 25 OECD (22 European and three non-European countries) based on household surveys referring to the mid-2000s.

The analysis refers to a small set of deprivation items that are common across surveys:

- Inadequate heating.
- Constrained food choices.
- Overcrowding.
- Poor environmental conditions.
- Arrears in utility bills.
- Arrears in rents/mortgages.
- Inability to make ends meet.

These items include both specific contingencies (such as payment arrears) and more general assessments of the respondents' own conditions (e.g. ability to make ends meet). It should also be noted that the wording of the survey questions differ (Box 7.2), and these differences may affect cross-country comparisons of the overall prevalence of material deprivation in each country.⁷ The analysis in this section makes abstraction of these differences, trying instead to make the best possible use of the information that is currently available. The evidence below refers to the share of people affected by different

Box 7.2. Description of deprivation items used in this section

The analysis in this section is based on seven deprivation items that are broadly comparable across countries.

1. **Ability to adequately heat home** is assessed through questions on whether the household can “*keep the home adequately warm*” (and, if not, whether this was because it could not afford it) for European countries; is “*unable to heat home*” in Australia; “*could not afford heating and cooling devices such as air conditioners, heaters and kotatsu*” in Japan; and is “*satisfied with the warmth of home in winter*” in the United States.
2. **Constrained food choices** is assessed through questions on whether the household “*could afford to eat meat or chicken every second day if wished*” for European countries; “*went without meals because of a shortage of money*” in Australia; “*could not afford to eat a fruit each day if wished*” in Japan; and, for the United States, whether the household had “*sometimes*” or “*often*” not enough to eat, whether any member of the household has “*cut the size of the meals*”, “*skipped meals*”, “*eaten less than they felt they should*” or “*not eaten for a whole day*” because of shortage of money, whether they had “*enough but not always the kind of the food we want to eat*” or “*could not afford balanced meals*”.
3. **Overcrowding** is assessed through questions on “*number of rooms available to the household*” for European countries; on the “*number of bedrooms*” in Australia; on whether the household “*cannot afford more than one bedroom*” or “*cannot afford to have a bedroom separate from eating room*” in Japan; and on the “*number of rooms with kitchen and without bath*” in the United States. Overcrowding is deemed to prevail when the number of household members exceeds the number of rooms (i.e. a family of four is considered as living in an overcrowded accommodation when there are only three rooms – excluding kitchen and bath but including a living room).
4. **Poor environmental conditions** are assessed through questions on whether the household’s accommodation “*has noise from neighbours or outside*” or has “*any pollution, grime or other environmental problem caused by traffic or industry*” for European countries; whether there is “*vandalism in the area*”, “*grime in the area*” or “*traffic noise from outside*” for Australia; whether “*noises from neighbours can be heard*” for Japan; and whether there is “*street noise or heavy street traffic*”, “*trash, litter, or garbage in the street*”, “*rundown or abandoned houses or buildings*” or “*odors, smoke, or gas fumes*” for the United States.
5. **Arrears in payments of utility bills** is assessed through questions on whether the household has “*been unable to pay scheduled utility bills during the past 12 months*” for European countries; whether “*over the past year could not pay gas/electricity/telephone bill because of a shortage of money*” for Australia; whether “*in the past year some services (gas, water, telephone, others) got stopped because of failure to pay bills*” for Japan; and whether “*during the past 12 months, has there been a time when household did not pay the full amount of the gas, oil or electricity bills*” in the United States.
6. **Arrears in mortgage or rent payments** is assessed through questions on whether the household “*has been unable to pay scheduled rent/mortgages for the accommodation during the past 12 months*” for European countries; whether it “*could not pay rent*” for Australia; whether “*in the past year, there has been a time when you couldn’t pay the rent or the mortgage*” for Japan; and whether “*during the past 12 months, has there been a time when you did not pay the full amount of the rent or mortgage*” for the United States.

Box 7.2. Description of deprivation items used in this section (cont.)

7. **Ability to make ends meet** is assessed through questions on whether, “Thinking of your household’s total monthly income, is your household able to make ends meet with great/some difficulty/fairly easily” for European countries; those indicating “very poor situation” in response to questions about the household’s “prosperity, given current needs and financial responsibilities” for Australia; whether “the family runs into red every month” for Japan; whether “during the past 12 months, has there been a time when you did not meet all of your essential expenses” for the United States.

Data on these items are available for 22 European countries based on the Survey on Income and Living Conditions (EU-SILC) conducted in 2005; for Australia, based on the survey Household Income and Labour Dynamics in Australia (HILDA) conducted in 2005; for Japan, based on the *Shakai Seikatsu Chousa* (Survey of Living Conditions) conducted in 2003; and for the United States, based on the Survey of Income and Program Participation, SIPP, conducted in 2003. While these are large, official surveys for most countries, the survey used for Japan is an unofficial and experimental survey designed by the National Institute of Population and Social Security Research, with a (nationally representative) sample limited to around 2 000 households and around 6 000 persons aged 20 years and above, with data on household income provided through categorical answers. For the United States, where SIPP data refer to gross (*i.e.* pre-tax) income, income values “after taxes” have been obtained by applying the TAXSIM model of the National Bureau of Economic Research to the SIPP data.

types of deprivation based on responses from the household head or reference person, ignoring possible differences in assessments of their own conditions provided by various members of the same household.⁸

Prevalence of different deprivation items


The natural starting point for a comparative assessment of material deprivation is provided by prevalence rates for each of the seven items described above. Two main patterns stand out from Table 7.2:

- First, patterns differ across items. On average, across the countries considered, 20% of respondents declared being unable to make ends meet, while smaller shares of respondents report living in overcrowded housing or in areas with poor environmental conditions (18% and 16% respectively). The frequency of other deprivation items (inadequate heating and food consumption, payment arrears for utilities and rents) is, on average, below 10%.⁹
- Second, differences across countries are significant. In general, Nordic countries (except Iceland) record the lowest prevalence rates for all the items considered, Southern and Eastern European countries have some of the highest shares in almost all dimensions, while Australia, Japan and the United States are somewhere in the middle.¹⁰

Another perspective on the prevalence of material deprivation is provided by information on the number of items that people lacked on average. Figure 7.2 shows large differences in the share of people lacking two or more items, ranging from 10% in all Nordic countries (except Iceland), Luxembourg, Austria and the Netherlands, to 20% or more in Italy, Switzerland, the Czech Republic, Australia, the United States and Japan, and to 40% or more in Greece, Hungary, the Slovak Republic and Poland. The share of people lacking three

Table 7.2. Prevalence of different forms of material deprivation
Shares of total population, based on individual data

	Inadequate heating	Constrained food choices	Over-crowding	Poor environmental conditions	Arrears in paying utilities	Arrears in mortgage or rents	Inability to make ends meet	Average across items
<i>European countries</i>								
Austria	3.1	8.7	15.1	9.1	1.7	1.3	8.8	6.8
Belgium	14.0	3.8	5.1	16.8	5.7	3.0	17.1	9.4
Czech Republic	9.3	17.8	33.5	19.8	7.2	6.3	30.2	17.7
Denmark	8.9	1.9	7.7	6.7	2.8	3.1	6.8	5.4
Finland	2.6	2.9	5.9	12.8	7.4	4.4	8.5	6.3
France	5.3	6.4	6.4	17.2	7.2	6.2	16.2	9.3
Germany	4.4	10.1	6.5	21.1	2.7	2.4	11.3	8.3
Greece	15.6	5.8	33.4	33.4	18.1	26.5	6.6	19.9
Hungary	17.7	31.2	46.1	17.2	15.9	2.8	35.4	23.8
Iceland	9.4	4.2	11.9	7.7	7.7	9.9	13.3	9.1
Ireland	4.0	2.9	6.8	7.6	6.9	5.0	24.8	8.3
Italy	10.6	6.3	26.3	22.1	10.5	3.4	34.6	16.3
Luxembourg	0.9	2.4	12.0	18.6	3.2	2.2	6.3	6.5
Netherlands	3.1	2.6	3.7	14.9	3.2	3.8	16.9	6.9
Norway	1.3	3.6	5.9	7.7	7.9	5.9	8.7	5.9
Poland	33.6	35.3	52.5	13.8	24.4	2.3	51.5	30.5
Portugal	41.9	4.0	19.6	20.7	5.2	2.9	36.9	18.7
Slovak Republic	13.6	41.4	46.8	18.7	8.3	4.2	30.6	23.4
Spain	8.6	2.3	8.4	16.8	3.7	2.6	26.8	9.9
Sweden	1.4	3.2	8.4	5.0	5.0	5.1	8.5	5.2
Switzerland	2.6	9.3	41.8	20.2	12.6	2.7	27.2	16.6
United Kingdom	5.6	6.1	8.5	13.9	0.1	4.9	12.9	7.4
<i>Non-European countries</i>								
Australia	2.4	3.0	9.0	11.1	16.7	8.0	34.6	12.1
Japan	0.5	10.5	15.0	29.8	4.3	6.0	26.7	13.3
United States	5.1	16.4	14.1	25.4	10.0	6.3	14.2	13.0
<i>Averages</i>								
EU-22	9.5	9.2	17.9	14.9	7.3	4.8	19.1	11.8
OECD-25	9.0	9.7	18.0	16.3	7.9	5.2	20.6	12.4

StatLink  <http://dx.doi.org/10.1787/423075011583>

Source: OECD Secretariat calculation based on different household surveys.

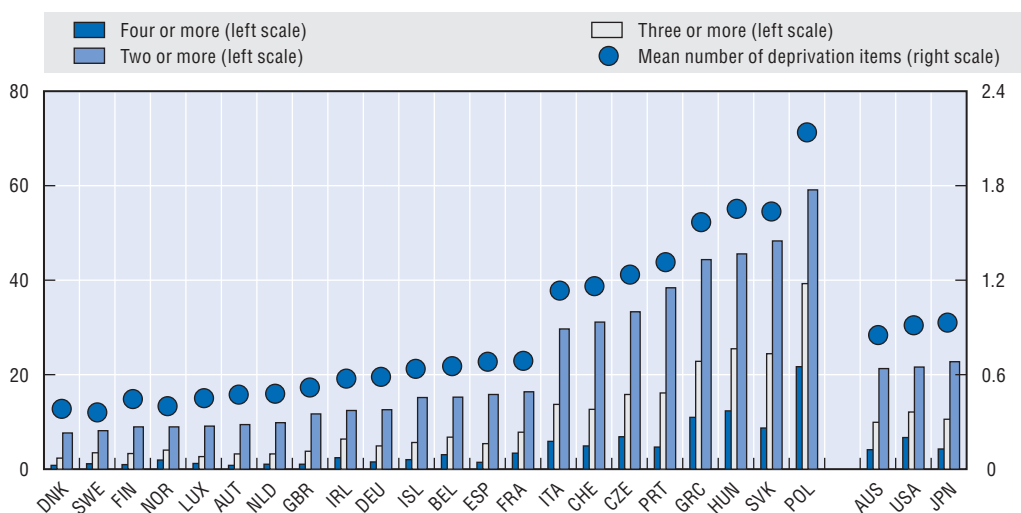
or more items is below 5% in the Nordic countries, Luxembourg, Austria, the Netherlands as well as in the United Kingdom and Germany, but above 10% in Italy, Switzerland, the Czech Republic, Portugal, Japan and the United States, and above 30% in Greece, Hungary, the Slovak Republic and Poland. The average number of items lacked varies from 0.5 or less in several European countries to around 1 in Italy, Switzerland, the Czech Republic, Australia, the United States and Japan, and to 1.5 or more in Greece, Hungary, the Slovak Republic and Poland.¹¹

Characteristics of individuals experiencing multiple deprivation

People reporting multiple deprivations share a number of characteristics. The most important of these is income. Households that are experiencing material deprivation have a lower (equivalised) disposable income than those that are not, and the larger the number of items of deprivation in a household, the lower is household income. All countries shown in Figure 7.3 conform to this pattern of monotonic declines of income for increasing numbers

Figure 7.2. **Share of people lacking different numbers of deprivation items and mean number of items lacked**

Based on individual data



StatLink <http://dx.doi.org/10.1787/422725806623>

Note: European and non-European countries are ranked separately, from left to right, in increasing order of the share of people reporting deprivation in two or more items.

Source: OECD Secretariat calculation based on different household surveys.

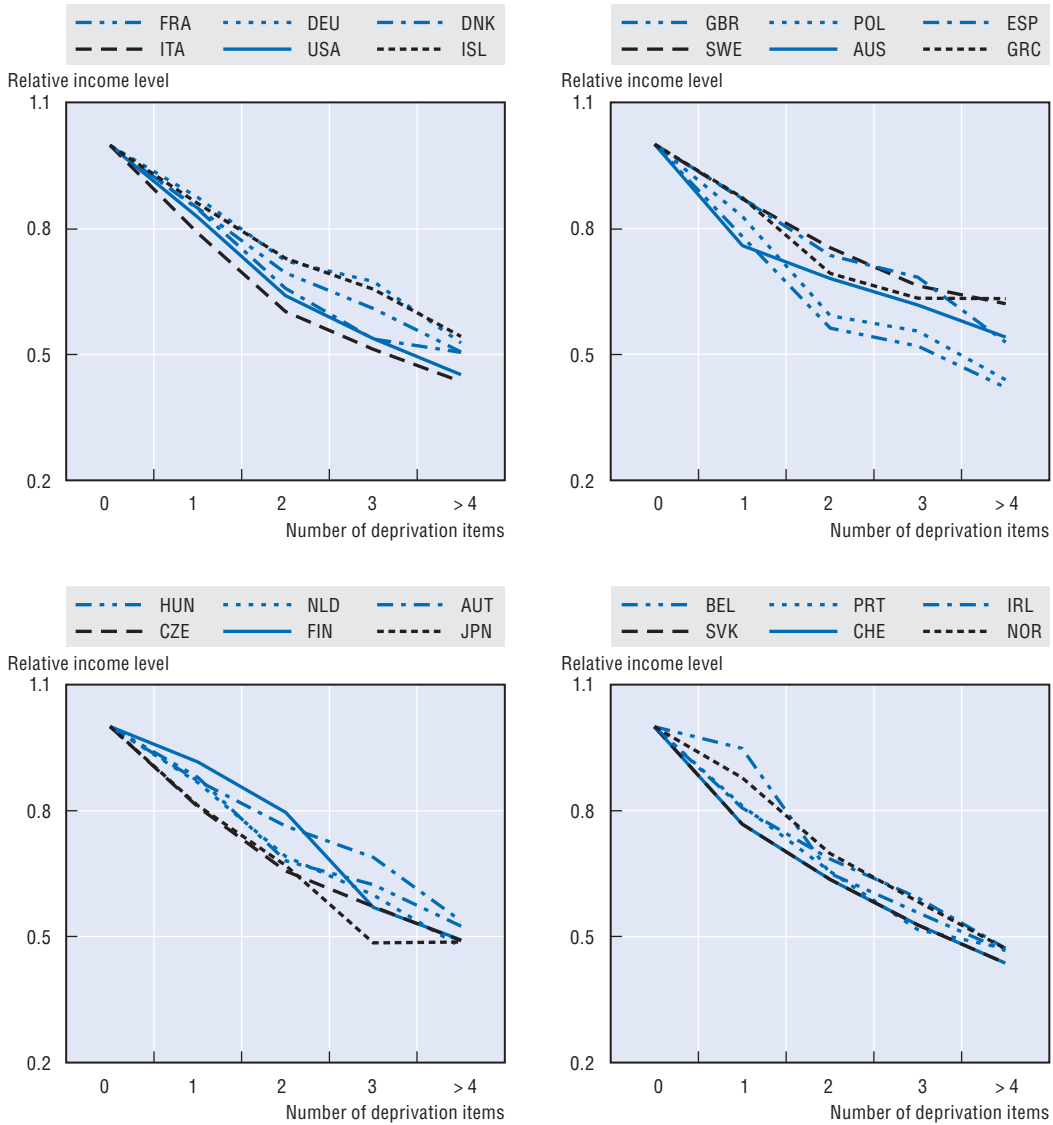
of deprivation items, although with differences in this profile – which is (marginally) steeper in the United Kingdom and Switzerland and flatter in Australia and Sweden.¹²


A second dimension that is important is the age of each person experiencing deprivation. Figure 7.4 shows the share of each age group reporting two or more deprivation items (top panel) and three or more items (bottom panel), relative to the corresponding share for the entire population. These profiles decline monotonically with the age of each person, a pattern that contrasts with the U-shaped profile for the income-poverty headcount described in Chapter 5. This suggests that household disposable income over-estimates the risk of inadequate consumption among the elderly. There are, however, differences in these age-deprivation profiles across countries – with high risks of deprivation for young adults in Denmark and the very elderly in Greece and Portugal, and much flatter profiles (*i.e.* small declines in the frequency of material deprivation with people's age) in Austria, Hungary, Poland, Portugal, the Slovak Republic and the United States.¹³

The risk of material deprivation also differs with the characteristics of the household where individuals live. Among households with a head of working age (Table 7.3), the experience of multiple deprivations is higher among singles than couples; among households with children than those without; and among households where no one is working than those where someone is. There are, however, exceptions and large differences in the deprivation-risk of different household types across countries. For example, couples with children have a below-average risk of deprivation (at 0.9, across the 25 OECD countries considered) when both parents work (although this is not true in eight countries) but an above-average one when only one person is working (1.8) and especially when no one works (3.1) – with a deprivation risk for jobless couples of 5 in Austria, Poland and Sweden. Among lone parents, the risk of deprivation is, on average, around 3 when the

Figure 7.3. **Relative income of individuals with different numbers of deprivation items**

Relative to people who are not materially deprived, based on individual data



StatLink  <http://dx.doi.org/10.1787/422738465847>

Source: OECD Secretariat calculation based on different household surveys.

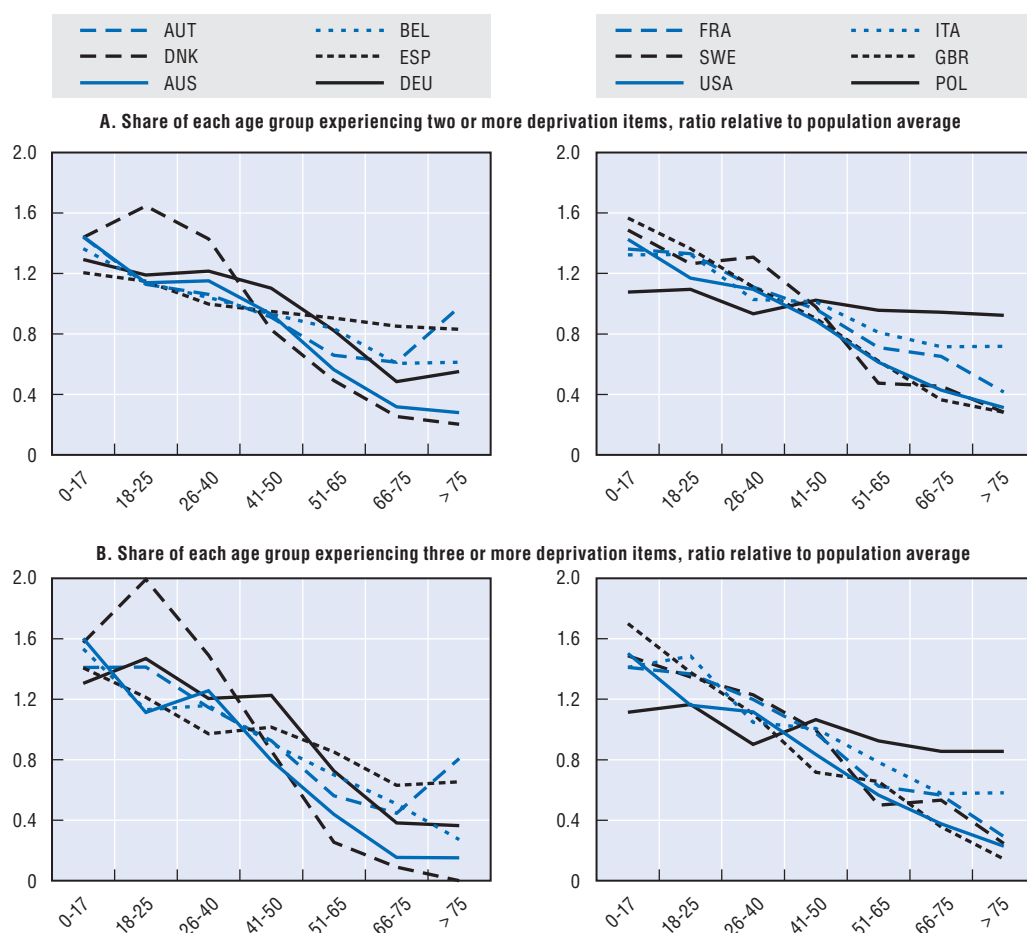
single parent is jobless (and above 5 in Luxembourg, Norway and Poland) and below 2 when he or she is working (with a deprivation risk above 2 in Denmark, Finland, France, Ireland, the Netherlands, Norway, Sweden and Japan).¹⁴

Overlap between material deprivation and income poverty

The pattern of income falling as the number of deprivation items experienced by people rises might be taken to imply a significant degree of consistency between income and deprivation at the individual level. In reality, the overlap between the income poor and those reporting different numbers of deprivation items is far from perfect. Figure 7.5 presents information on the number of people who are *both* deprived (in two or more

Figure 7.4. Risk of multiple deprivation by age of individuals

Based on individual data


 StatLink  <http://dx.doi.org/10.1787/422745863337>

Note: No data on deprivation by age of individuals are available for Japan.

Source: OECD Secretariat calculation based on different household surveys.


items) and income poor (based on a threshold set at half of median income) and the number in either of these conditions, as well as the share of all people who are materially deprived and have income of less than half of the median. Several patterns stand out:

- The overlap is in general only partial, i.e. only a small proportion of people reporting material deprivation are also income poor, and vice versa. On average, only 20% of people deprived in two or more items have income below the 50% threshold, with this share ranging from around 30% in the United States and Luxembourg, down to 10% in the Netherlands and the Slovak Republic (see Table 7.A2.1 available at <http://dx.doi.org/10.1787/424402577838>).
- Relatively few people experience both income poverty and material deprivation. On average, around 4% of all people have both income below the 50% threshold and experience two or more deprivations. Across countries, this share varies from less than

Table 7.3. Risk of experiencing two or more deprivations for people living in households with a head of working age, by household characteristics

Relative to the population average, based on individual data

Household with a head of working age										
Single adults					Couples					
Without children			With children		Without children			With children		
Working	Not working		Working	Not working	Two or more workers	One worker	No worker	Two or more workers	One worker	No worker
<i>European countries</i>										
Austria	0.7	2.2	1.9	4.2	0.7	0.6	0.7	1.0	1.6	5.1
Belgium	0.9	2.4	1.5	3.7	0.4	0.8	1.1	0.5	1.9	3.7
Czech Rep.	0.6	1.3	1.6	1.9	0.7	0.8	0.9	1.0	1.6	2.7
Denmark	1.4	2.9	2.5	4.7	0.4	0.5	0.5	0.8	2.8	4.7
Finland	1.2	2.5	2.7	3.9	0.5	0.7	1.3	1.0	2.2	3.1
France	1.0	2.0	2.2	3.9	0.6	0.8	0.8	0.8	1.9	3.6
Germany	1.1	2.7	1.8	3.6	0.6	0.9	0.8	0.8	1.4	3.6
Greece	0.8	0.8	1.4	0.9	1.0	0.9	1.0	0.9	1.2	1.6
Hungary	0.7	1.1	1.1	1.8	0.8	1.0	1.0	1.1	1.4	1.9
Iceland	0.9	3.0	1.8	2.0	0.6	0.7	0.8	1.1	2.6	3.0
Ireland	0.7	1.9	2.3	4.6	0.2	0.7	0.9	0.6	1.5	4.4
Italy	0.7	1.2	1.1	1.4	0.8	0.8	0.9	1.1	1.7	2.3
Luxembourg	0.5	2.4	1.8	6.0	0.4	0.6	0.6	1.4	1.6	2.2
Netherlands	1.1	2.9	2.5	5.9	0.5	0.7	1.2	0.8	1.7	4.2
Norway	1.3	2.8	2.3	5.7	0.4	0.8	1.0	0.8	2.6	6.4
Poland	0.7	1.1	1.0	1.4	0.8	0.9	1.1	0.9	1.2	1.4
Portugal	0.8	1.2	1.2	1.6	0.8	0.9	1.1	1.1	1.3	1.6
Slovak Rep.	0.6	0.9	1.0	1.7	0.9	0.9	1.0	1.1	1.2	1.5
Spain	0.9	1.9	1.5	2.0	0.8	0.9	1.1	1.1	1.2	2.2
Sweden	1.1	2.9	2.1	6.7	0.4	0.9	1.2	0.9	2.5	6.4
Switzerland	0.6	1.5	1.0	0.8	0.9	0.9	0.8	1.1	1.7	2.5
United Kingdom	0.9	2.1	1.6	3.1	0.5	0.6	1.0	0.7	1.8	2.5
<i>Non-European countries</i>										
Australia	1.1	1.8	1.5	3.2	0.5	0.9	0.7	0.9	1.5	2.4
Japan	2.1	1.2	3.0	2.2	0.9	1.1	0.5	1.1	1.5	2.1
United States	0.8	1.6	1.7	2.5	0.5	0.8	0.9	1.0	2.5	1.5
<i>Averages</i>										
EU-22	0.9	2.0	1.7	3.3	0.6	0.8	0.9	0.9	1.8	3.2
Non-EU-3	1.4	1.5	2.1	2.6	0.6	0.9	0.7	1.0	1.8	2.0
OECD-25	0.9	1.9	1.8	3.2	0.6	0.8	0.9	0.9	1.8	3.1

StatLink  <http://dx.doi.org/10.1787/423113020872>

Note: The risk of deprivation is measured as the share of people in each household type experiencing two or more deprivation items divided by the share for the entire population.

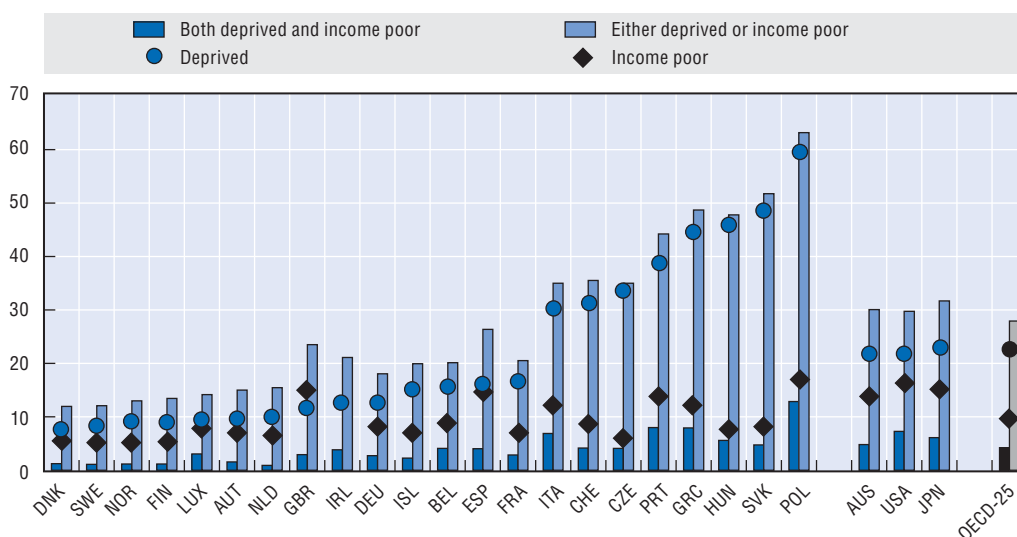
Source: OECD Secretariat calculation based on different household surveys.


2% in Sweden, Denmark, Norway, Finland and Austria, up to 6% or more in Japan, Italy, the United States, Portugal, Greece and Poland.

- While people who are *both* income poor and materially deprived may be considered as being in severe conditions, the number of those who are *either* income poor or deprived provides an upper bound estimate of those facing a risk of poverty. People in this group may be reducing their consumption patterns, despite having an income that is above the conventional poverty line, or they may afford typical consumption patterns, despite their low income, through additional resources. The share of people in either of these

Figure 7.5. **Share of people who are both deprived and income poor and either deprived or income poor**

People deprived in two or more items and with income below half of median household disposable, estimates based on individual data



StatLink  <http://dx.doi.org/10.1787/422866807520>

Note: European and non-European countries are ranked separately, from left to right, in increasing order of the share of people reporting deprivation in two or more items.

Source: OECD Secretariat calculation based on different household surveys.

two conditions is at 28% on average, ranging from 40% or more in Portugal, Hungary, Greece, the Slovak Republic and Poland, down to 15% or less in Denmark, Sweden, Norway, Finland, Luxembourg and Austria.¹⁵

Conclusion

While both of the approaches used in this chapter – i.e. the one based on averaging at the country level across a large number of items, and the one based on looking at how many people experience different types of deprivation for a more narrow range of items – have limits, when combined they highlight a number of patterns that go beyond those based on static income:

- There are large differences across OECD countries in the extent of material deprivation. Based on a measure that aggregates data on the prevalence of different items, deprivation is higher in countries with lower income and higher relative-income poverty.
- Evidence from individual data shows that the experience of deprivation declines monotonically with income. It also declines with age, in contrast to the U-shaped relation between relative income poverty and age described in Chapter 5, suggesting that income-poor older people are not necessarily experiencing material hardship.
- Individual data also suggest that, while there is some overlap between low income and deprivation, a large share of the income poor are not materially deprived; this pattern may reflect the temporary nature of many spells of low-income, the features of the deprivation questions considered here (i.e. capturing dimensions that go beyond a minimum standard of living), and the availability of other means through which low-income people may support their living conditions (e.g. in-kind transfers, the running

down of assets or the accumulation of debt). Conversely, a large share of the population as a whole experience either low income or deprivation.

This chapter is only an attempt to use the information currently available on material deprivation in a comparative setting. Better comparative measures can be achieved only through greater *ex ante* standardisation of surveys, so as to include a larger set of items that are comparable across countries. Achieving such standardisation in statistical sources is an investment worth doing in the light of the importance for social policy of measuring material deprivation accurately. Standardised measures are important not only for benchmarking countries' performance, but also in order to improve the targeting of individual programmes. This is especially important in countries where income is a poor proxy of economic needs. Indirectly, measures of material deprivation also point to the importance of looking at factors that go beyond the income and earnings capacity of people, to other constituents of an acceptable standard of living.

Notes

1. For example, Callan *et al.* (1996) shows that a much smaller minority of households in Ireland fail to satisfy their basic needs compared to those counted as income poor, and that their incidence has declined over time even when income poverty was rising.
2. Absolute thresholds define poverty on the basis of a normative judgment of, for example, what qualifies as basic needs or what is the proportion of food expenses in the household's budget. While most of these measures are not purely "absolute" – i.e. the threshold is both time- and space-specific – their common characteristic is that they build on *a priori* assumptions of what basic needs should be satisfied. Conversely, relative-income measures such as those used in Chapters 5 and 6 of this report fix an arbitrary threshold relative to the most "typical" standard of living in society (e.g. median income).
3. Van den Bosch (2001) provides a comprehensive discussion of the subjective dimensions of deprivation and a detailed description of methods used for the subjective assessment of poverty. Gallie and Paugam (2002) provide useful discussions of issues related to the social environment.
4. Across countries, there is in general a positive correlation between the deprivation items included in Table 3 in Boarini *et al.*, 2006 (the average of these correlation coefficients is 66%). Inability to clothe properly is the item most highly correlated with others, and inability to adequately heat the home the least (with these two items recording the highest and lowest cross-country variability).
5. Data are available, however, for only a few OECD countries. These data also raise specific problems of interpretation: first, because most households reporting material deprivation are also likely to face constraints in financial markets, hence limited indebtedness; second, because the availability of consumer loans depends on the characteristics of credit markets, which differ among OECD countries.
6. This share is higher in the United States (24%), where, however, this question is only asked to those households that experienced problems in meeting essential expenses (rather than all households). Also, the questions in the US survey refer to help received in specific contingencies (rather than in general) and to persons who did not expect to receive any help in a broader range of (non-financial) contingencies. Because of these differences in survey questions, data for the United States are not included in Table 8 in Boarini *et al.* (2006).
7. For example, overcrowding is defined more strictly in the case of Japan than for other countries while, conversely, questions about constrained food choices and poor environmental conditions encompass a larger menu of contingencies for the United States than elsewhere.
8. In the case of Australia, questions on material deprivation are answered separately by each household member. While the deprivation data for Australia used in this section are those provided by the household head, Breunig *et al.* (2005) highlight significant differences in the reporting of material deprivation among partners of the same household, especially for households with intermediate levels of income, with other household members often reporting various forms of deprivation even when the household head does not. This implies that survey which rely upon a representative individual to report about financial difficulty are missing

important information about material hardship, and suggests that, in the presence of a significant disagreement between partners on their experience of financial difficulties, many household will be misclassified.

9. The larger share of people reporting “inability to make ends meet” relative to other items partly reflects the more general and subjective nature of this type of question.
10. The share of people unable to make ends meet ranged from less than 10% in the Nordic countries (except Iceland), Luxembourg, Austria and Greece to 25% or more in the Czech Republic, Hungary, Ireland, Italy, Poland, Portugal, Switzerland and the Slovak Republic, as well as Japan and Australia. The share of people reporting inadequate heating is above 10% in Belgium, Greece, Hungary, Italy, Poland, Portugal and the Slovak Republic, and the same occurs for constrained food choices in the Czech Republic, Germany, Hungary, Poland, the Slovak Republic, as well as Japan and the United States. More than 10% of people report arrears in paying utility bills in Greece, Hungary, Italy, Poland, Switzerland, Australia and the United States, and the same share reports arrears in paying mortgages or rents in Greece and Iceland.
11. Some of the approaches that might be used to derive a measure of the prevalence of non-income poverty based on a synthetic measure of multiple deprivations are described in Annex 7.A1.
12. An alternative approach to describing the relation between income and material deprivation is used by Saunders and Adelman (2006), who plot the share of people in the various income groupings (in decreasing order of income) that are also materially deprived: their results show that this gradient is steeper and more monotonic in Australia than in the United Kingdom.
13. Across the 24 OECD countries with available data, people aged 66 to 75 and over 75 have, respectively, a risk of deprivation that is 62 and 60% lower than that of the population average in the case of two or more items, but only 47 and 43% lower in the case of three or more items.
14. Among households with an elderly head, patterns mirror those by age of individuals. Households with a head of retirement age have a deprivation risk always below that of the entire population, even when the elderly person is living alone and not working. Only in Austria, Greece, Poland and Portugal is the share of elderly people living alone reporting two or more deprivations (marginally) above that for the entire population.
15. A number of other patterns stand out from Table 7.A2.1 (available at <http://dx.doi.org/10.1787/424402577838>). First, for a given number of deprivation items, the extent of overlap rises when a higher income threshold is used. For example, among people reporting deprivation in two or more items in OECD countries, 30% have income below 60% of the median, as compared to only 10% when considering those with income below 40% of the median. When considering people deprived in three or more items, the corresponding shares are 37% and 13% respectively. Second, for a given income threshold, the overlap rises when a higher number of items is considered (e.g., in the case of people with income below 60% of the median, from 30% in the case of deprivation in two or more items to 37% in the case of deprivation in three or more items).

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ANNEX 7.A1

Prevalence of Non-income Poverty Based on a Synthetic Measure of Multiple Deprivations

While the data on individuals experiencing different forms of deprivation allow identifying a range of patterns, as described in this chapter, it is more difficult to derive a summary measure of non-income poverty based on the experience of multiple deprivations. This is for both practical and conceptual reasons. While the practical reasons mainly reflect the differences in the wording of survey questions across countries, as already noted, the conceptual reasons relate to two main issues:


- The first is the importance to be attributed to each deprivation item. The basic choice here is between measures that give equal weight to each of the seven deprivation items considered and measures that “weight” each item according to its prevalence among the entire population – *i.e.* giving greater weight to items that are more common in a given society.
- The second is the choice of the threshold to be used.¹ These thresholds can be based on either an absolute number of deprivation items (*e.g.* those lacking two or more items) or on some multiple of the typical number of items lacked by the population at large.

As there are no unambiguous answers to these two questions, Table 7.A1.1 shows different summary measures of non-income poverty, as well as income-poverty headcounts (based on different thresholds) drawn from the same surveys.² The first column shows a deprivation rate for unweighted items (*i.e.* all types of deprivation are equally important), where the number of items above which people is counted as “deprived-poor” varies across countries. This is achieved by setting the threshold at twice the average number of deprivation items that people lack.³ This method implies, in practice, setting a deprivation threshold of two items in most countries, of three in the Czech Republic, Greece, Hungary, Italy, Portugal, Switzerland, the Slovak Republic, Australia, Japan, the United States, and of four in Poland. Based on this measure, around 14% of all people in the OECD countries considered in Table 7.A1.1 experienced multiple deprivations, a rate that is close to the income-poverty headcount based on a 60% threshold. This unweighted summary measure of multiple deprivations was above 20% in Greece, Hungary, Poland and the Slovak Republic, and below 10% in Austria, Denmark, Finland, Luxembourg, the Netherlands, Norway and Sweden. On this measure, the deprivation rate is around half of the income-poverty headcount based on a 60% threshold in Ireland, the United Kingdom, Australia, Japan and the United States, but almost double

Table 7.A1.1. **Summary measure of material deprivation and income poverty based on different thresholds**

Based on individual data

	Summary measure of material deprivation				Income-poverty rate		
	Unweighted		Weighted				
	Threshold set at:		Threshold set at:		Threshold set at:		
	Twice the mean	20%	30%	Twice the mean	60% median	50% median	40% median
<i>European countries</i>							
Austria	9.4	5.3	2.8	4.8	13.4	7.1	3.4
Belgium	15.2	10.8	6.6	8.5	15.6	9.0	3.7
Czech Republic	15.8	29.4	16.4	12.7	11.5	5.8	3.0
Denmark	7.6	8.2	3.3	4.4	11.1	5.5	2.7
Finland	8.9	10.4	4.1	6.5	12.3	5.7	2.3
France	16.4	16.4	8.9	11.0	14.0	7.0	2.8
Germany	12.6	11.0	5.2	7.0	14.2	8.2	3.9
Greece	22.8	32.8	20.6	13.6	19.4	12.2	7.0
Hungary	25.5	35.4	22.9	15.0	13.9	7.8	3.8
Iceland	15.2	16.2	6.9	10.5	12.1	7.0	4.2
Ireland	12.4	11.5	6.7	7.9	21.2	12.5	5.4
Italy	13.7	19.6	12.8	12.8	19.2	12.2	6.9
Luxembourg	9.2	4.8	3.4	4.4	13.1	8.0	3.0
Netherlands	9.8	8.1	4.1	6.4	10.6	6.6	4.2
Norway	8.8	9.2	4.3	5.3	10.1	5.3	3.0
Poland	21.7	43.1	25.5	17.3	22.4	16.9	11.9
Portugal	16.1	18.3	8.5	8.5	21.6	13.9	8.3
Slovak Republic	24.4	35.7	19.0	12.6	13.8	8.2	4.5
Spain	15.7	9.5	4.7	7.1	21.4	14.6	8.8
Sweden	8.1	8.6	3.8	6.0	9.4	5.0	2.8
Switzerland	12.7	16.7	7.9	8.5	13.6	8.6	4.0
<i>Non-European countries</i>							
Australia	9.9	12.7	6.4	10.5	20.6	13.6	6.0
Japan	10.6	10.5	4.3	6.8	20.1	15.0	8.7
United States	12.1	22.8	13.9	13.9	23.7	16.5	10.5
<i>Averages</i>							
EU-21	14.4	16.5	9.0	8.7	15.2	9.2	5.0
Non-EU-3	10.9	15.3	8.2	10.4	21.4	15.0	8.4
OECD-24	14.0	16.6	9.1	9.0	15.8	9.7	5.3

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Note: The deprivation rates shown in the first column are based on a threshold set at twice the mean number of items lacked by the population as a whole i.e. twice the difference between the number of items considered (7) and the average number of items held, as shown in Figure 7.2. In practice this threshold is equal to 2 for Austria, Belgium, Germany, Denmark, Spain, Finland, France, Ireland, Iceland, Luxembourg, the Netherlands, Norway, Sweden, the United Kingdom, as well as Japan; to 3 in the Czech Republic, Greece, Hungary, Italy, Portugal, Switzerland and the Slovak Republic, as well as Australia and the United States; and to 4 for Poland.

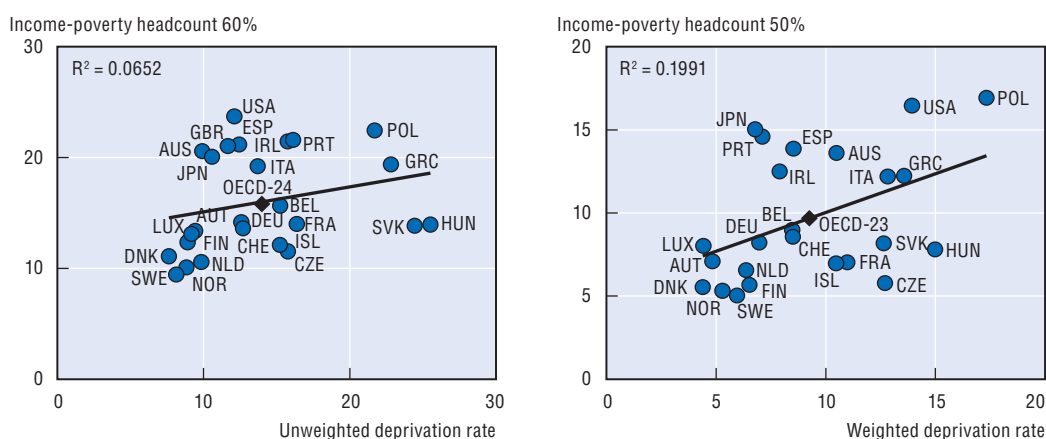
Source: OECD Secretariat calculation based on different household surveys.


the headcount in Hungary and the Slovak Republic (Figure 7.A1.1, left-hand panel). The correlation with the income-poverty headcount, while positive, is low.

Another way of computing a summary measure of multiple deprivations is by “weighting” each item according to its general prevalence. Weighting has the advantage of converting the discrete “1 to 7” deprivation scale into a continuous scale ranging between 0 (for people not deprived of any of the items considered) to 1 (for those deprived of all items); its disadvantage is that weights are sensitive to outliers.⁴ Annex Table 7.A1.1 shows summary measures of “weighted” deprivation based on three thresholds: 20% and 30% of

Figure 7.A1.1. **The relation between a summary measure of material deprivation and income poverty headcounts**

Based on individual data



StatLink  <http://dx.doi.org/10.1787/423021363648>

Source: OECD Secretariat calculation based on different household surveys.

all items (i.e. a threshold common across countries) and a relative threshold (differing across countries) set at twice the average number of deprivation items experienced by the entire population. On average (across the 22 OECD countries included), the weighted deprivation rate based on a relative threshold is 9%, ranging between values of 12% and over in the Czech Republic, Greece, Hungary, Poland, the Slovak Republic and the United States, and below 5% in Austria, Denmark, and Luxembourg. On average, this summary measure of multiple deprivations is close to the poverty headcount based on a threshold of 50% of median income, but again with large differences across countries. This summary measure of multiple deprivations is well below the poverty headcount in Japan, Luxembourg and Spain, but well above it in the Czech and Slovak Republics, France, Iceland and Hungary (Figure 7.A1.1, left-hand panel). While the correlation between this measure of multiple deprivation and the income-poverty headcount is higher than for the “unweighted” measure, cross-country dispersion remains large.

Notes

1. Townsend (1979) considered individuals with a score equal to or greater than 5 as living in deprivation, and then derived an income threshold corresponding to the level below which “deprivation scores escalated disproportionately”. Most studies of material deprivation use an absolute standard, usually defined by specifying a minimum number of items, and counting people as “poor” when they report deprivation in (at least) these items. Other approaches rely on “relative” thresholds, whereby poverty is defined by the lack of a certain number of items, the level of which is set such that the number of people lacking them is the same as the number of income poor (Layte *et al.*, 2001). This procedure is, however, less useful if the goal is to derive an independent measure of non-income poverty that could be used alongside the income-poverty headcount.
2. The income-poverty headcounts shown in Table 7.A1.1 are very close to these based on the OECD income distribution questionnaire shown in Chapter 5, with a correlation coefficient of 0.88 for a threshold of 50% of median income, and of 91% for one at 60%.
3. This is analogous to using half of median income as the threshold for income poverty. The mean, rather than median, is used here, as the median number of items that people lack is typically zero. This approach implies that if, on average, people have six of the seven items considered (i.e. on

average they lack only one item) the threshold is set at two. The number of items “lacked” is conventionally rounded to the greater integer (*e.g.* if they lack 1.5 items, this is rounded to two).

4. When the share of people in the entire population experiencing deprivation of items is very low, the weight given to other types of deprivation becomes very small (tending to zero). For this reason, “weighted” deprivation rates for the United Kingdom are not shown in Table 7.A1.1.

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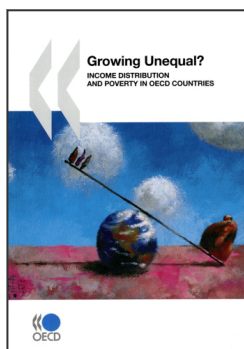


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