

# Research note no. 2

## *Quality of housing and the link to income*

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### **ABSTRACT**

*The aim of this Research Note is to present an overview of housing deprivation in EU countries and to examine the relationship between various aspects of housing quality and the risk of poverty, defined as 60% of the national median. Data from the 2007 wave of the EU-SILC is used as the main basis for the analysis, including from the special ad hoc module on housing quality which was part of the survey. The analysis shows that those on poverty levels of income are more exposed to problems of shortage of space and housing deficiencies. At the same time, the analysis indicates that such deficiencies are difficult to capture in a single indicator since they can cover a range of different aspects to do with the ease or difficulty of keeping the house warm in the Winter and cool in the Summer as well as its state of repair or the features and fittings it includes.*

*The analysis also shows that access to basic services depends as much on the type of area in which people live, whether urban or rural, as on their level of income, though those has a more important effect in many countries, although those with low incomes living in rural areas tend to suffer a double disadvantage.*

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# Quality of housing and the link to income<sup>1</sup>

## I. Introduction

Housing is a key element of the risk of poverty and social exclusion. The quality of housing affects not only living standards but also social relations and even access to employment. At the same time, housing deficiencies are a major element of deprivation.

Poverty, according to the classic definition of Townsend (1979), is a state characterised by the lack of resources, with the result of being excluded from customary social activities. This definition highlights the importance of non-monetary aspects of poverty, including “living conditions”, although it is still based on a single poverty threshold which distinguishes those that are poor from those that are not.

*“Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the type of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged or approved, in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities” (Townsend 1979: 31).*

According to this definition, poverty should be understood as a relative concept, depending on the general standard of living in a society. Moreover, poverty has a multidimensional aspect, in terms of being deprived of a broad range of various goods and services and of being unable to participate in various activities. In this context, poverty is often referred to as material deprivation which can be measured by a set of non-monetary indicators.

Housing quality is normally thought of as one component of deprivation and, accordingly, there are relatively few empirical studies which have focussed solely on housing quality as such. Instead, it tends to be examined in combination with various alternative measures of deprivation, or social exclusion.

Housing-related issues often tend to be part of a composite index. For example, in the Townsend score, “lack of owner occupied accommodation” is used as a proxy indicator of wealth, and “overcrowding” as a measure of material living conditions<sup>2</sup>.

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<sup>1</sup> Based on a revised version of EU-SILC 2007 (release 2, dated 01-08-09).

<sup>2</sup> (Calculations are based on 1991 and 2001 census data, see the website of the UK Data Archive, <http://www.data-archive.ac.uk/findingData/snDescription.asp?sn=5850>)

## **BOX 1. MEASURING LEVELS OF MATERIAL DEPRIVATION**

### **The Townsend score:**

This includes four variables: unemployment, overcrowding (material living conditions), lack of owner occupied accommodation (a proxy indicator of wealth) and lack of car ownership (a proxy indicator of income). The Townsend score is a summation of the standardised scores (z scores) for each variable (scores greater than zero indicate greater levels of material deprivation).

### **Other deprivation indices used in the UK:**

Breadline Britain Index (Gordon and Pantazis 1997)

Carstairs Deprivation index (Carstairs and Morris 1989)

Jarman Underprivileged Area Score (Jarman 1983)

Scottish/Welsh/ Index of Multiple Deprivation

Northern Ireland Multiple Deprivation Measure

Department of Environment Index

Indices of Deprivation (produced by Communities and Local Government (CLG))

(For more information on the definition and calculation of these scores, see the website of the Census Dissemination Unit <http://cdu.census.ac.uk/related/deprivation.htm> )

Townsend's definition and his measurement approach have been modified or extended by subsequent authors (Piachaud, 1981; Sen, 1983; Mack and Lansley, 1985; Ringen, 1988; Nolan and Whelan, 1996). The core concept, however, is clearly present in the official documents of the Council of the European Union which relate to poverty<sup>3</sup>.

Deprivation indicators measure exclusion directly (i.e. lack of durables or housing facilities) so capturing a state of actual exclusion (Ringen, 1988; Nolan and Whelan, 1996). Moreover, while indicators based on current income are affected by transitory shocks, non-monetary indicators can compensate for such limitations because they tend to be more stable over time and to reflect the underlying circumstances of individuals and households. Non-monetary indicators, however, also suffer from limitations. They may fail to distinguish between outcomes resulting from financial constraints (inability to afford) and those influenced by personal preferences and lifestyles (choice) and, therefore, between situations which are the legitimate target of policy and between those which are not.

Townsend (1979) focused on establishing contemporary social standards, accordingly, chose indicators on the basis of whether they were possessed by a majority or not. Mack and Lansley (1985) introduced the distinction between the inability to afford certain items and a choice not to possess them. One way of avoiding a deprivation index being too sensitive to the particular items selected is to cover a large number of different aspects, as suggested by Gordon and Pantazis (1997), though, in practice, the choice is often influenced and constrained by the data available. An equally important issue concerning the selection of indicators is whether they provide a broad representation of the underlying concept of deprivation. In their survey on material deprivation for Ireland,

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<sup>3</sup> See e.g. Council Decision 85/8/EEC of 19 December 1985 on Specific Community Action to Combat Poverty

Callan et al (1993) identified three groups of deprivation items: basic life-style, housing and availability of consumer goods. Later research has relied on similar groupings (Papadopoulos and Tsakoglou, 2000; Layte et al, 2001; Whelan et al, 2001; Boarini and d’Ercole, 2006; Whelan et al, 2008).

Most surveys designed to measure the risk of poverty and deprivation include questions related to housing such as housing costs, quality of housing, housing facilities and characteristics of the neighbourhood in which the housing is located – i.e. where people live (see Table 1 for an overview). In the European context, the European Union Community Statistics on Income and Living Conditions (EU-SILC) is the prime source of data on housing indicators. In addition, a special module on housing quality was included in the 2007 wave of the survey.

**Table 1. Surveys on material deprivation which include housing conditions as a component in some selected countries**

<i>Country</i>	<i>Survey</i>	<i>Years available</i>	<i>Type of data*</i>	<i>Sample size**</i>
European countries	European Community Household Panel (ECHP)	1994-2001	L	60,500
	EU-Survey on Income and Living Conditions (EU-SILC)	From 2003	L	60,500
	Eurobarometer Special module	1976, 1989, 1993, 2001, 2007	C	1,000
	European Quality of Life Survey (EQLS)	2003, 2007-8	C	1,000
United Kingdom	Millenium Study of Poverty and Social Exclusion (PSE)	1998	C	1,534
	Family and Children Study (FACS)	1999-2001	L	6,550-8,000
France	Permanent Survey of Household Living Conditions (PCV)	1996-2003	C	8,000
Germany	Germany Welfare Survey	1978-1998	C	3,000
United States	Survey of Income and Program Participation (SIPP)	From 1984	L	14,000-36,700
	National Survey of American Families (NSAF)	1997, 1999, 2002	C	40,000
Canada	Household Income, Facilities and Equipment (HFE)	1971-1996	C	18,000
	Survey of Household Spending (SHS)	From 1997	C	20,000
Australia	Australian Housing Survey (AHS)	1994-1999	C	13,800

Source: Boarini and d’Ercole (2006)

Notes:

\* L = Longitudinal; C = Cross-sectional

\*\*Sample size refers to households; In Eurobarometer Special module and European Quality of Life Survey: sample size refers to 1,000 households in each country

In studies of material deprivation, three main dimensions of housing can be identified:

- quality of housing: the physical characteristics of the dwelling (i.e. housing space, availability of heating or indoor flushing toilet, or state of repair);
- affordability: the ability of households to pay rents, mortgages or utility bills, and is usually expressed as the share of household income devoted to rents, mortgage payments, housing maintenance and repairs;
- neighbourhood characteristics: relating to the broader environmental and social characteristics of the area where housing is located (i.e. exposure to noise or pollution, crime or vandalism in the area, availability of public services such as public transport and schools).

## Data and methodology in the EU-SILC survey

The comparability of these indicators is often challenged by the variability of their interpretation across countries, which may be more explicit in the case of variables involving self-assessment, which tends to be affected by social or cultural standards. For example, people with different standards or experience may assess noise from the street or shortage of space in rather different ways.

### Box 2. LIST OF ITEMS RELATED TO HOUSING IN EU-SILC 2007

#### 1. Main questionnaire

Areas	List of variables
Housing costs	Arrears on mortgage or rent payments ( <i>yes, no</i> ) Arrears on utility bills ( <i>yes, no</i> )
Housing facilities and quality	Ability to keep home adequately warm ( <i>yes, no</i> ) ( <i>regardless of whether the households actually needs to keep it warm</i> ) Bath or shower in dwelling ( <i>yes, no</i> ) Indoor flushing toilet for sole use of household ( <i>yes, no</i> ) Problems with the dwelling: too dark, not enough light ( <i>yes, no</i> ) Leaking roof, damp walls/floors/foundation, or rot in window frames or floor ( <i>yes, no</i> )
Neighbourhood characteristics	Noise from neighbours or from the street ( <i>yes, no</i> ) Pollution, grime or other environmental problems ( <i>yes, no</i> ) Crime violence or vandalism in the area ( <i>yes, no</i> )

#### 2. Special module on housing

Areas	List of variables
Shortage of space in dwelling	Shortage of space in dwelling: respondent's opinion ( <i>yes, no</i> )
Dwelling installations and facilities	Adequate electrical installations ( <i>yes, no</i> ) Adequate plumbing/water installations ( <i>yes, no</i> ) Dwelling equipped with heating facilities ( <i>yes, no</i> ) Dwelling comfortably warm during winter time ( <i>yes, no</i> ) Dwelling equipped with air conditioning facilities ( <i>yes, no</i> ) Dwelling comfortably cool during summer time ( <i>yes, no</i> )
Overall satisfaction with dwelling	Overall satisfaction with dwelling (very dissatisfied, somewhat dissatisfied, satisfied, very satisfied)
Accessibility of basic services	Accessibility of grocery services ( <i>with great difficulty, with some difficulty, easily, very easily</i> ) Accessibility of banking services ( <i>see above</i> ) Accessibility of postal services ( <i>see above</i> ) Accessibility of public transport ( <i>see above</i> ) Accessibility of primary health care services ( <i>see above</i> ) Accessibility of compulsory school ( <i>see above</i> ) ( <i>only concerns children whose age corresponds to the compulsory school attendance in the country</i> )

**BOX 3. DEFINITIONS OF “ADEQUATE ELECTRICAL INSTALLATIONS” AND “ADEQUATE PLUMBING/WATER INSTALLATIONS” IN THE SURVEY**

**Related questions in the EU-SILC 2007 questionnaire (UK):**

- Do you have sufficient electrical sockets and light fittings in your accommodation? (Yes/No)
- Are the sockets, lights and other fixed electrical equipment in your accommodation in safe working order? (Yes/No)
- Does your accommodation have a sufficient number of sinks, baths, showers and toilets? (Yes/No)
- Does your accommodation have sufficient plumbing for appliances? (Yes/No)
- Are the plumbing and drains in your accommodation in working order? (Yes/No)

**Definition:**

- Electrical installations: wiring, contacts, sockets and other permanent electrical installations in the dwelling.
- Plumbing/water installations: pipes, taps, drainage and outlets.

Adequate: sufficient to satisfy the general requirements/needs of the household. An installation, which is permanently out of order, is considered as no installation. Inadequate installations can be: installations in bad condition, dangerous installations, installations which are regularly out of order, where there is not enough electrical power/pressure for the water to be used, the water is not drinkable, or there is limited availability. Minor temporary problems such as a blockage in the outlet do not mean that the installation is inadequate.

The analysis here is based on data from EU-SILC 2007, including from the special *ad hoc* module on housing. The survey covers 24 EU Member States (there are no data for Malta, Bulgaria and Romania),

***Non-response***

In the majority of countries, non-response is of marginal importance (below 1%) with respect to questions of shortage of space, adequate installations and facilities and overall satisfaction (Table 2). There are some exceptions, however, which might affect the results. In addition, the number of missing observations increases significantly for the questions on access to services. In the case of Latvia, in particular, there are more missing observations than for the other countries for all variables. Missing observations are especially important as regards the questions on access to services in Portugal (around 30% or more in some cases) as well as in Lithuania, Latvia and Cyprus, while the large number of missing observations for “access to public transport” can largely be explained by people not using public transport.

**Table 2. Item non-response for specific housing indicators, % (EU-SILC 2007, Special module on housing)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Space	Adequate installations		Heat	Warm	Air c.	Cool	Satis.	Accessibility						Move	Reason
AT	0.01	0.00	0.44	0.00	0.01	0.00	0.23	1.94	0.17	0.33	0.43	3.07	0.46	56.78	0.09	0.06
BE	0.00	0.00	0.03	0.00	0.08	0.00	0.14	0.02	1.13	1.04	0.89	2.19	0.96	25.58	0.00	0.00
CY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.57	11.92	66.72	0.22	54.38	0.00	0.00
CZ	0.00	0.05	0.25	0.00	0.00	0.00	0.00	0.00	0.51	8.37	0.65	10.60	0.36	72.28	0.00	0.00
DE	0.49	0.11	0.11	0.17	0.64	8.42	0.50	0.25	0.37	0.51	2.03	3.65	0.85	31.30	0.00	0.15
DK	0.16	0.31	0.35	0.87	0.58	0.16	1.17	0.21	0.01	0.11	0.26	0.79	0.31	49.22	0.04	100.00
EE	0.00	0.29	11.91	0.01	0.06	0.00	0.00	0.00	0.00	2.00	3.06	13.55	0.50	47.18	0.00	0.12
ES	0.02	0.02	0.06	0.00	0.02	0.02	0.16	0.02	2.84	2.59	31.06	44.66	4.88	60.96	1.27	1.55
FI	0.08	0.10	0.18	0.24	0.09	33.51	1.44	0.16	0.17	0.16	0.46	23.52	2.71	50.07	0.06	0.03
FR	0.00	0.51	0.05	1.19	1.05	0.03	2.06	0.02	0.36	1.15	3.82	67.13	1.59	60.96	0.03	0.23
GR	0.00	0.03	0.09	0.00	0.00	0.00	0.00	0.00	0.01	0.76	1.43	6.15	0.22	45.36	0.00	0.00
HU	0.12	0.02	0.45	0.00	0.08	0.04	0.06	0.09	0.09	0.10	0.10	0.15	0.09	38.87	0.00	15.01
IE	0.00	0.06	0.42	0.00	100.00	0.00	0.30	0.04	0.03	0.15	0.09	0.32	0.14	50.73	1.88	0.00
IT	0.00	0.91	10.40	6.50	0.00	0.00	0.00	0.00	0.13	2.18	0.35	14.12	0.42	52.35	0.00	0.00
LT	0.00	0.10	13.57	0.00	0.00	0.00	0.00	0.00	0.05	25.42	6.54	13.74	0.54	67.96	0.00	0.00
LU	0.03	0.00	0.11	0.43	0.12	0.00	0.79	0.00	0.10	0.22	0.52	6.67	0.39	46.17	0.00	2.30

LV	4.46	4.71	21.74	4.46	4.46	4.46	4.53	4.46	9.26	23.23	12.88	20.16	6.38	63.32	4.46	0.00
NL	0.05	0.06	0.11	0.00	0.85	0.01	0.47	0.03	1.26	0.51	1.95	17.85	4.03	46.63	0.00	0.09
PL	0.00	0.03	4.44	0.00	0.00	0.00	0.00	0.00	0.19	2.27	0.66	4.47	0.42	36.10	0.11	0.00
PT	0.05	1.43	14.07	2.94	0.51	0.15	0.44	0.29	24.28	39.53	38.42	45.31	32.97	66.88	0.00	0.00
SE	0.09	0.07	0.12	0.16	1.50	0.64	1.55	0.19	0.29	3.21	1.17	7.31	4.29	65.89	0.02	0.06
SI	0.00	0.00	1.01	0.00	0.00	0.00	0.00	0.00	0.08	0.46	0.44	4.56	0.06	63.68	0.07	0.00
SK	0.20	0.03	0.95	0.24	0.00	0.00	0.14	0.05	0.22	3.65	0.22	4.59	0.17	62.49	0.00	0.00
UK	1.68	1.74	1.76	1.63	2.03	1.64	2.34	1.73	1.70	2.42	1.78	50.99	1.87	25.02	1.63	0.00

Source: Own calculations based on EU-SILC 2007

Notes:

1. Shortage of space in dwelling
2. Adequate electrical installations
3. Adequate plumbing/water installations
4. Dwelling equipped with heating facilities
5. Dwelling comfortably warm during winter time
6. Dwelling equipped with air conditioning facilities
7. Dwelling comfortably cool during summer time
8. Overall satisfaction with dwelling
9. Accessibility of grocery services
10. Accessibility of banking services
11. Accessibility of postal services
12. Accessibility of public transport
13. Accessibility of primary health care services
14. Accessibility of compulsory school
15. Change of dwelling
16. Main reason for change of dwelling



## II. Living in poor housing conditions

The occurrence of deficiencies in housing (including the lack of adequate electrical or plumbing installations and a shower or indoor toilet, but also of fixed heating or air conditioning) tends to vary only to a limited extent with income per head across countries. In Tables 3 and 4 countries are ranked according to median (equalised) disposable income per head, measured in purchasing power parity terms to adjust for differences in price levels across countries

With respect to the lack of adequate electrical installations there are only 5 countries where the proportion concerned is 10% or more (France, Italy, Portugal, Latvia and Lithuania) and in each case, it is below 15%.

Much the same is the case for those reporting inadequate plumbing, where again there are only 5 countries where the proportion is 10% or more, four being the same as for inadequate electrical installations – the exception being Italy – the other being Estonia.

There are also relatively few countries in which many people report not having fixed heating, the proportion being above 15% in Germany, Cyprus, Spain and, above all, in Portugal, where it is as high as 87%. The difficulty here, however, is judging whether fixed heating is necessary in the countries concerned given the climate. The question on whether or not the home is comfortably warm in the winter throws some light on this. The proportion reporting this not being so varies only to a limited extent with income per head across countries and is above 10% in 15 of the 24. In Cyprus, Poland, Latvia and Portugal, it is over 20% (reaching 55% in the last).

The same is the case in respect of air conditioning, which is much more necessary in some countries than others. Over 10% of people report having this in only 7 of the 24 countries, two of these, perhaps surprisingly being Finland and Sweden. Having a home which is uncomfortably warm in the summer provides more of an insight into potential housing problems in this respect, though it is perhaps more difficult to keep houses cool in the summer than warm in the winter. The fact that in Cyprus a significant proportion of those with air conditioning report being unable to do so is testament to this.

There is, however, some tendency for the proportion reporting problems in keeping their home comfortably cool in summer to vary inversely with average income per head across countries, being over 25% in all the new Member States except Slovenia and Estonia, and over 40% in Cyprus, Portugal and Poland.

**Table 3. Proportion of population reporting problems with quality of housing**

	No adequate electrical installations	No adequate plumbing/water installations	No fixed heating in dwelling	Dwelling not comfortably warm during winter time	No air conditioning facilities	Dwelling not comfortably cool during summer time
EU*	7.6	8.0	9.1	13.3	88.8	25.9
LU	6.1	9.2	<i>0.6</i>	8.9	94.8	17.9
UK	9.3	9.6	0.7	5.4	98.1	10.7
CY	8.2	8.3	17.1	27.5	22.9	40.9
AT	2.2	1.3	3.7	2.7	98.5	18.1
IE	9.2	6.1	1.0	:	99.6	7.8
NL	1.6	5.9	0.4	4.9	93.6	18.2
DE	5.0	6.2	15.8	12.0	98.2	22.7
DK	3.6	5.4	0.0	10.3	94.4	17.7
BE	4.8	3.1	7.9	6.0	96.9	14.3
SE	3.9	4.8	<b>0.0</b>	6.3	84.8	11.2
FR	11.1	15.1	1.4	10.6	94.6	29.0
FI	5.2	5.8	0.5	9.1	80.8	20.3
IT	14.1	8.3	2.9	18.4	74.9	33.4
SI	1.2	2.5	0.5	3.5	88.0	21.0
ES	5.3	4.7	26.9	12.3	61.9	26.0
EL	5.2	7.1	9.8	16.0	47.3	29.4
PT	14.0	13.4	86.9	55.7	92.8	42.5
CZ	8.3	5.6	0.3	9.8	99.1	39.1
SK	5.0	5.3	<i>0.2</i>	13.0	98.9	37.5
EE	9.7	11.7	<b>0.0</b>	15.9	98.2	23.3
HU	<i>0.2</i>	2.7	1.0	15.4	95.5	28.5
LT	10.0	12.0	0.5	17.9	97.9	33.0
PL	4.1	8.3	<b>0.0</b>	23.3	99.1	41.1
LV	12.3	16.6	1.3	20.2	98.2	39.5

Source: Own calculations based on EU-SILC 2007

Notes:

\* Countries ordered in terms of their median income per head

*Italics: low number of observations (25-49)*

**Bold:** Estimations based on less than 25 observations

Relatively high ratio of missing values was observed in a number of countries for the following variables (for more, see Table 2):

"Adequate plumbing/water installations": EE: 11.9%, LT: 13.6%, PT: 14.1%, LV: 21.8%

"Dwelling equipped with air conditioning facilities": FI: 33.5%

**Table 4. Proportion of population deprived and overlap between the indicators (comparison of variables in the main and the supplementary module)**

	No bath/shower and indoor toilet		No adequate plumbing/water installations	
		Out of these: % with no adequate plumbing / water installations		Out of these: % with no bath/shower and indoor toilet
EU	1.1	54.7	8.0	3.6
LU	<i>0.2</i>	<b>30.7</b>	9.2	<b>0.6</b>
UK	<b>0</b>	<b>0</b>	9.5	<b>0</b>
CY	1.4	40.8	8.3	6.7
AT	0.7	<b>52.1</b>	1.3	<b>7.7</b>
IE	0.3	<b>26.4</b>	6.1	<b>0.9</b>
NL	<b>0</b>	<b>0</b>	6.0	<b>0</b>
DE	0.2	<b>27.8</b>	6.2	<b>0.9</b>
DK	<b>0</b>	<b>0</b>	5.4	<b>0</b>
BE	<i>0.3</i>	<b>19.5</b>	3.1	<b>2.1</b>
SE	<b>0</b>	<b>0</b>	4.8	<b>0</b>
FR	0.4	<b>6.9</b>	15.1	<b>0.2</b>
FI	0.6	31.5	5.8	2.7
IT	<i>0.1</i>	<b>5.8</b>	8.3	<b>0</b>
SI	0.7	<b>10.9</b>	2.5	<b>2.2</b>
ES	0.2	<b>44.1</b>	4.7	<b>1.3</b>
EL	0.8	52.4	7.0	5.9
PT	2.8	57.7	13.4	7.8
CZ	0.6	<i>37.8</i>	5.6	<i>2.5</i>
SK	1.3	36.4	5.3	7.2
EE	12.5	23.6	11.7	9.3
HU*	3.2	49.6	2.7	77.4
LT	17.1	21.4	12.0	8.5
PL	5.6	99.2	8.3	21.8
LV	18.4	36.3	16.6	11.6

Source: Own calculations based on EU-SILC 2007

Notes: *Italics: low number of observations (25-49)*

**Bold:** Estimations based on less than 25 observations

\* in the Hungarian questionnaire, question about "plumbing/water installations" refers to availability of "running water in the dwelling, which is different from e.g. the UK questionnaire

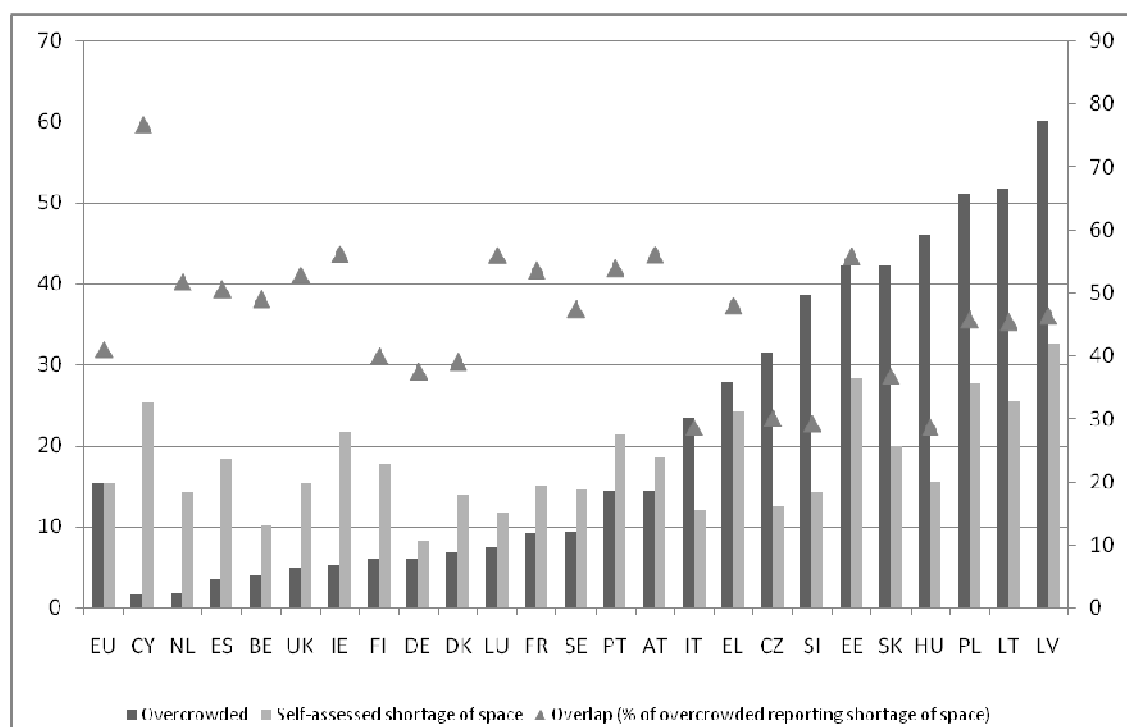
A significantly larger share of the population lives in housing with inadequate plumbing than with no indoor bath, shower or toilet. From this it follows that most of those without the latter also have problems as regards the former, while it is less so the other way round. On the other hand, there is only a limited overlap between those reporting inadequate plumbing installations (supplementary questionnaire) and also lacking both bath or shower and indoor toilet (questions in the main questionnaire) in the majority of the countries. Poland stands out as an exception, as nearly all of those who lack bath or shower and indoor toilet have also problems with plumbing installations (suggesting that the latter may be the cause of the former problem). Interestingly, there is little overlap between these questions in the Baltic States, despite the relatively high occurrence of these problems, suggesting that the lack of adequate plumbing installations tends to refer to other problems than the lack of bath or indoor toilet in the dwelling.

The results are heavily affected by non-response: in around a third of the countries there are simply not enough observations to compare the figures on indoor bath or toilet with those on inadequate plumbing installations. Note also that Hungary stands out as the country where people who report inadequate plumbing overwhelmingly tend to have no bath or shower or indoor toilet (which may be due to form of the question in this country which unlike elsewhere focuses on the existence of water pipes, so, not surprisingly, those without running water tend not to have a shower or an indoor flushing toilet either).

### Shortage of space

While shortage of space, as measured by an objective indicator based on “need” defined in terms of the household size and composition (see Box on space shortages) varies markedly across the EU, there is less variation in self-assessed shortage of space. According to the objective indicator, therefore, the proportion of people living in households where there is a shortage of spaces varies between 2% and 60%, with Cyprus, the Netherlands, Spain and Belgium at the lower end, and Poland, Latvia and Lithuania at the upper end, in each case with over half of the population categorised as living in overcrowded accommodation (Figure 1). The proportion reporting a shortage of space, on the other hand, varies only between 8% and 32%, reflecting the effect of people adapting to the space available. In countries where space problems are prevalent, a much smaller share of the population reports having space shortages, while in a number of countries, where only a small proportion live in households where space is assessed as being short, several times as many people feel that their families live in crowded conditions.

**Figure 1. Shortage of space: “objective” versus self-assessed measure**



Source: Own calculations based on EU-SILC 2007

Note: EU: BG, RO and MT are not included

The discrepancy between the two measures may partly reflect cultural factors. The objective measure, which assumes that everyone aged 18 or over should have a separate room, or that no more than two young children should share a room, irrespective in both cases of the size of the room, may be odds with the space that people expect to have. Shortage of space, as assessed by respondents is, therefore, not closely correlated with the objective indicator. On the other hand, the latter indicator is strongly related to the median income per head, with countries with the lowest income levels having the highest values of the indicator.

Indeed, the two measures identify two distinct groups of people as being short of space. The majority (59%) of those who are assessed as living in over-crowded conditions according to the objective measure, therefore, do not consider that they have space problem. There is a particularly weak relationship between the two measures in Hungary, Italy, the Czech Republic, and Slovenia (an overlap of only 29-30%). On the other hand, there is a relatively close relationship in Cyprus (77% overlap).

### **BOX 3. DEFINITION OF SPACE SHORTAGES**

The indicator of space shortages agreed at EU-level specifies that shortages exist if a house or apartment does not contain at least the following:

- one room for the household (in addition to the other rooms below)
- one room for each couple
- one room for each single person aged 18 and over
- 1 room - for two single people of the same sex between 12 and 17 years of age
- 1 room - for each single person of different sex between 12 and 17 years of age
- 1 room - for each two children under the age of 12

To be counted, rooms have to be at least 4 square metres in size, have a height of over two metres and be accessible from inside the unit. Kitchens used solely for cooking, bathrooms, toilets and corridors are not counted.

The main potential defect of this measure is that it denotes all single-room accommodation, such as studios, as being short of space, irrespective of the size of the room concerned. This poses a particular problem in respect of people living alone. However, for most countries, the result does not change much if those living alone are excluded from the measure. The main change is for the former communist countries, where the proportion of people living in housing with space shortages is increased – largely for those in the bottom quintile (i.e. the bottom 20% of the income distribution) – though less so in Slovenia and Poland than the other 8. On the other hand, in Finland, the proportion is reduced if such households are excluded, again the reduction being concentrated in the bottom quintile.

### ***Access to essential services***

There is only a limited tendency for the proportion of people reporting problems of access to various basic services to vary inversely with average income per head across countries, though the tendency is greater in respect of banking services, primary health care and, to a lesser extent, grocery services (Table 5). In a number of countries, however, the proportion reporting accessibility difficulties is sizable in respect of all of the

services, though less so in the case of access to grocery services (where the proportion is over 20% only in Italy and Latvia) and compulsory school (where the proportion is over 20% only in the same two countries plus Portugal) (Table 6).

**Table 5. Proportion of population reporting difficulty of access to basic services**

	Grocery services	Banking services	Postal services	Public transport	Primary health care services	Compulsory school*
EU	10.4	17.3	20.5	20.8	16.8	15.4
LU	13.5	14.0	14.6	10.3	10.6	12.5
DK	8.1	14.1	19.1	14.7	22.0	11.1
IE	10.6	20.2	14.3	24.9	17.4	12.0
UK	3.8	11.9	6.3	11.5	6.6	9.8
FI	5.8	8.1	9.1	30.2	17.1	8.7
SE	4.3	11.2	9.4	16.8	16.6	8.9
AT	17.3	19.1	24.3	22.0	19.4	17.2
NL	4.4	4.2	11.3	19.9	9.4	9.3
DE	8.8	13.0	26.3	22.3	11.4	16.9
BE	15.6	20.6	26.8	19.2	10.7	10.3
FR	3.2	9.0	19.3	14.4	6.1	9.8
CY	9.9	8.4	12.4	46.9	18.1	8.5
IT	22.5	30.2	28.9	29.0	31.4	22.3
ES	13.2	13.2	21.8	14.0	19.2	17.7
GR	12.6	30.3	26.5	19.4	25.1	12.0
SI	14.2	18.3	16.0	23.2	24.1	15.1
PT	11.8	15.1	18.7	20.7	27.9	24.8
CZ	12.3	25.5	18.1	15.5	20.1	13.7
EE	17.9	24.5	18.0	20.3	25.3	15.3
SK	10.3	36.6	23.0	16.9	29.6	16.4
HU	8.2	30.1	16.6	19.3	16.9	14.2
PL	12.3	27.3	23.5	24.5	28.5	19.1
LV	23.0	29.3	25.2	23.1	34.7	24.5
LT	19.2	25.5	17.2	24.8	30.0	16.7

Source: Own calculations based on EU-SILC 2007

Notes: \*Only includes those living in households with dependent children

Relatively high ratio of missing values was observed for a number of countries for the following variables (for more, see Table 2):

“Accessibility of grocery services”: PT: 24.3%

“Accessibility of banking services”: LV: 23.2%, LT: 25.4%, PT: 39.5%

“Accessibility of postal services”: CY:11.9%, LV:12.9%, ES: 31.1%, PT: 38.4%

“Accessibility of public transport”: CZ: 10.6%, EE:13.5%, LT:13.7%, IT:14.1%, NL: 17.8%, LV:20.2%, FI:23.5%, ES:44.7%, PT:45.3%, UK:50.1%, CY:66.7%, FR:67.1%

“Accessibility of primary health care services”: PT: 33.0%

**Table 6. Pair wise correlation coefficients between specific variables measuring accessibility to certain services**

	Grocery	Banking	Postal services	Public transport	Primary health care	Compulsory school
Grocery	1,000					
Banking	0,550	1,000				
Postal services	0,519	0,591	1,000			
Public transport	0,405	0,377	0,388	1,000		
Primary health care	0,489	0,538	0,497	0,419	1,000	
Compulsory school	0,442	0,421	0,430	0,388	0,456	1,000

### III. Poor housing conditions by income level

The proportion of people reporting problems with the state of their housing in the form of a leaking roof, damp walls and so on is uniformly more among those with income below the poverty threshold (defined as 60% of median income) than among those above. In Poland, it is well over half of the former group, in each of the three Baltic States and Cyprus, almost 40%. Even among those with income above the poverty threshold, the proportion reporting such problems is over 20% in three of the four countries (all except Estonia) and around a third in Poland.

More of those with income below the poverty threshold than those with income above report that their housing does not have enough light in all countries except Sweden where the proportions concerned are similar. The difference between the two groups is also small (less than 2 percentage points) in Denmark, Finland and the Netherlands, where relatively few report such problems, as well as in Spain, where 10-12% do so.

Although the proportion reporting having no bath or shower or indoor flushing toilet for their own sole use is again uniformly larger among those at risk of poverty than those with higher incomes, the proportion concerned is much above 10% only in Hungary, Poland and the three Baltic States. In Latvia and Lithuania, it is around 40% of those with income below the poverty threshold, in Estonia, around 30%, and in all three countries, over 10% of those with income above the poverty threshold.

A significant number of people in all countries report having problems of noise, with no systematic tendency for the proportion concerned to vary with overall income per head across countries. Moreover, in most cases there is only a relatively small difference in the proportion concerned between those with income below and above the poverty line. Indeed, in Greece, Spain, Portugal and the three Baltic States, the proportion is larger among those with income above the poverty threshold than among those with income below.

A similar picture emerges in respect of those reporting environmental problems,. In this case, there are 10 countries where the proportion reporting problems to this kind are larger among those with income above the poverty threshold than below – once again the three Baltic States, Spain and Greece together with Italy, Cyprus, Hungary, Finland and the UK.

**Table 8. Population reporting various problems with housing by whether at risk of poverty or not (based on main questionnaire)**

		Leaking roof	Dark dwelling	Bath or shower	Indoor toilet	Noise	Pollution, grime	Crime, violence
LU	At risk	22.9	9.6	<b>1.2</b>	2.0	30.0	18.5	9.7
	Not at risk	13.2	4.2	<b>0.2</b>	0.4	20.7	15.9	9.7
UK	At risk	20.0	13.6	<b>0.1</b>	<b>0.6</b>	22.0	12.2	28.2
	Not at risk	13.3	10.4	<i>0.2</i>	0.8	19.3	13.2	26.5
CY	At risk	39.3	8.5	5.7	5.7	37.1	23.0	13.3
	Not at risk	28.4	6.1	0.6	0.6	36.7	26.3	13.6
AT	At risk	13.5	7.8	3.9	6.8	25.4	10.4	11.6
	Not at risk	8.9	5.4	0.6	0.8	19.1	7.6	11.4
IE	At risk	24.9	13.7	1.7	<i>1.3</i>	16.0	11.8	21.1
	Not at risk	12.7	8.2	0.4	0.5	12.3	8.8	14.1
NL	At risk	28.9	6.7	<b>0.6</b>	<b>0.3</b>	34.0	15.2	18.2
	Not at risk	17.1	5.1	0.2	<b>0.0</b>	31.9	13.6	17.6
DE	At risk	19.8	8.3	1.1	2.4	34.7	25.6	18.3
	Not at risk	12.0	3.7	0.5	1.0	25.8	21.1	11.4
DK	At risk	14.0	5.7	2.0	<b>0.0</b>	27.0	14.2	17.6
	Not at risk	10.2	4.5	0.7	<b>0.0</b>	18.9	7.2	13.5
BE	At risk	22.2	12.5	2.2	2.1	25.9	21.0	20.9
	Not at risk	12.7	7.9	0.8	0.5	22.3	16.7	16.7
SE	At risk	9.9	6.4	<b>1.7</b>	<b>0.0</b>	15.6	5.3	16.5
	Not at risk	5.9	6.7	0.4	<b>0.0</b>	12.4	7.2	12.6
FR	At risk	23.8	11.8	1.6	1.7	25.4	18.0	21.9
	Not at risk	12.8	7.9	0.6	0.8	18.0	16.5	15.6
FI	At risk	7.2	6.7	3.3	2.6	18.9	12.5	16.4
	Not at risk	4.5	5.0	1.0	0.6	15.6	14.2	12.3
IT	At risk	28.1	12.4	0.6	0.5	26.5	20.4	18.3
	Not at risk	19.3	7.3	0.2	0.1	25.1	21.3	15.5
SI	At risk	30.5	14.9	5.0	5.5	21.6	20.8	10.0
	Not at risk	15.8	9.0	0.4	0.5	18.3	19.7	10.2
ES	At risk	26.0	11.9	0.9	0.9	25.5	15.8	18.1
	Not at risk	16.0	10.1	<i>0.1</i>	<i>0.1</i>	26.1	16.5	18.0
GR	At risk	26.5	11.3	2.8	7.6	18.4	14.6	8.7
	Not at risk	17.6	6.6	0.8	2.1	22.6	19.8	10.8
PT	At risk	31.6	24.9	8.5	8.0	24.4	23.3	13.5
	Not at risk	16.8	15.5	2.5	2.1	28.2	21.8	12.4

CZ	At risk	30.0	10.5	4.0	4.9	20.0	20.2	17.8
	Not at risk	14.1	3.7	0.5	0.8	18.3	16.7	12.6
SK	At risk	11.2	7.9	6.2	10.3	22.1	20.4	7.5
	Not at risk	5.5	3.2	0.8	2.1	18.5	17.9	8.3
EE	At risk	38.1	11.1	32.2	27.6	18.8	22.8	22.7
	Not at risk	17.7	6.2	14.3	11.9	23.8	27.3	21.1
HU	At risk	32.2	17.2	16.8	17.5	17.9	12.9	18.4
	Not at risk	17.4	9.5	2.8	4.8	14.3	13.5	12.1
LT	At risk	39.5	14.4	42.2	44.6	15.4	13.6	4.1
	Not at risk	21.7	9.7	12.6	14.4	19.2	15.9	7.8
PL	At risk	56.9	14.1	18.2	16.1	19.7	11.3	8.5
	Not at risk	33.4	8.1	4.8	4.2	19.3	13.2	7.8
LV	At risk	38.6	15.1	42.0	38.8	19.3	34.6	25.2
	Not at risk	23.0	11.2	16.8	14.4	22.6	37.4	30.6

Source: Own calculations based on EU-SILC 2007

Notes: Countries ordered in terms of their average income per head

Poor: refers to those at risk-of-poverty, with income below 60% of the national median equivalised income

Non-poor: refers to those with income above the poverty threshold

*Italics: low number of observations (25-49)*

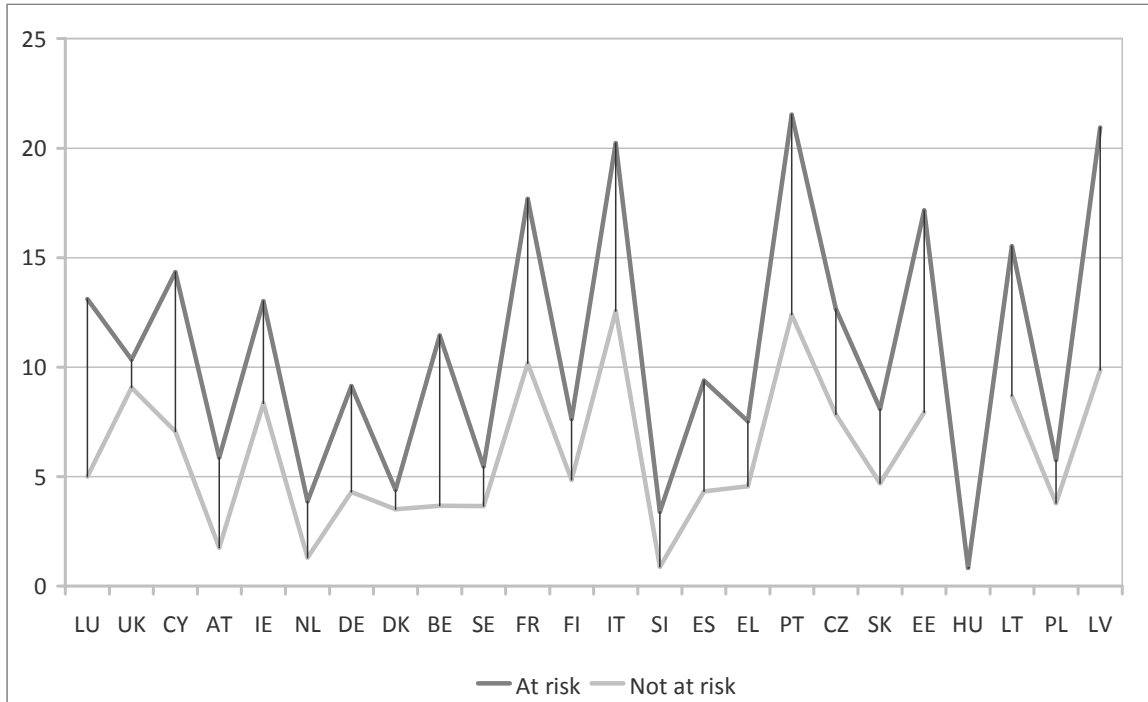
**Bold:** Estimations based on less than 25 observations

There is also no systematic tendency for the number of people reporting crime and vandalism in the area to vary with overall income levels across countries. Moreover, once again, the proportions reporting such problems are similar in most countries among those with income above the poverty threshold as among those with income below. In Cyprus, Greece, Slovenia, Latvia and Lithuania, if in most of them only slightly, more of those with income above the poverty line than of those with income below report these kinds of problem.

The proportion reporting inadequate electrical installations was larger among with income below the poverty threshold than among those with income above in all countries. Only in Italy, Portugal and Latvia, however, was the proportion over 20% and then only slightly (Figure 2).

Much the same is the case with those reporting inadequate plumbing, with again the proportion of those with income below the poverty line reporting such problems being over 20% in Portugal and Latvia, though this time together with France (Figure 3).

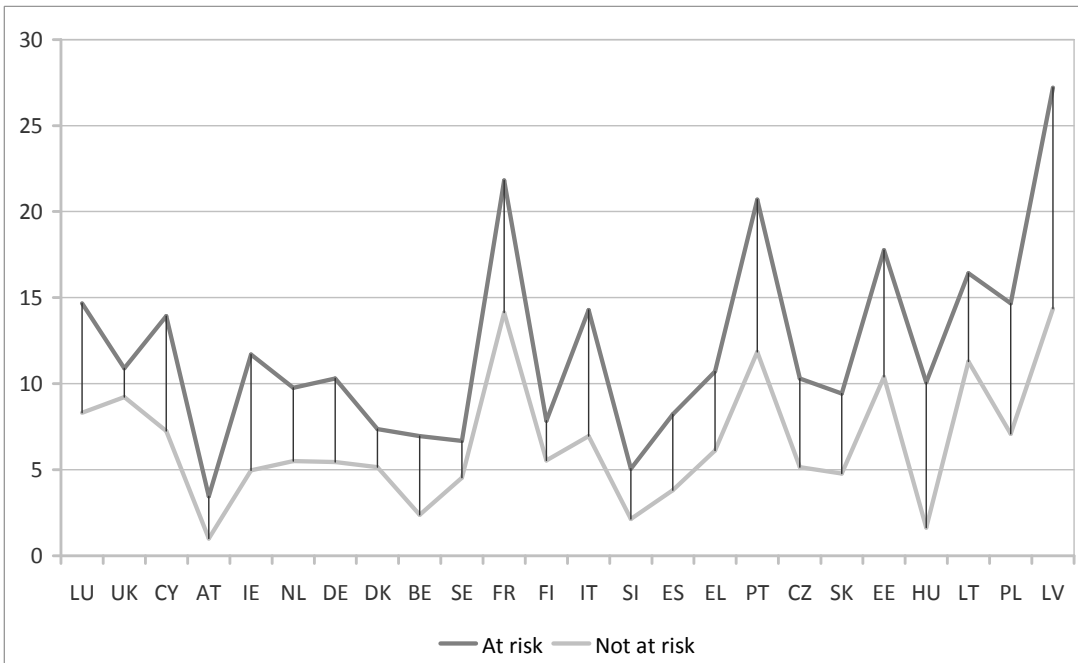
**Figure 2. No adequate electrical installations**



Source: Own calculations based on EU-SILC 2007

Notes: see Figure 2

**Figure 3. No adequate plumbing/water installations**



Source: Own calculations based on EU-SILC 2007

Notes: see Figure 2

**Table 9. Dwelling not equipped with heating facilities and not comfortably warm during winter time and Dwelling not equipped with air conditioning facilities and not comfortably cool during summer time**

	Without heating facilities		Not warm during winter		Without air-conditioning facilities		Not cool during summer	
	At risk	Not at risk	At risk	Not at risk	At risk	Not at risk	At risk	Not at risk
EU	13.3	8.5	22.3	11.6	91.1	88.4	31.1	24.8
LU	<b>2.0</b>	<b>0.4</b>	17.3	7.6	99.1	94.1	30.9	15.9
UK	<i>0.7</i>	0.8	9.3	4.5	98.4	98.0	10.8	10.6
CY	41.7	12.5	44.8	24.3	47.4	18.4	46.8	39.9
AT	7.4	3.1	6.9	2.2	99.2	98.4	25.6	17.1
IE	2.1	0.8	:	:	99.8	99.6	10.4	7.2
NL	<b>0.9</b>	0.3	9.3	4.4	96.6	93.3	24.8	17.4
DE	11.6	16.5	21.0	10.4	99.4	98.0	29.9	21.4
DK	<b>0.0</b>	<b>0.0</b>	18.2	9.3	96.0	94.2	22.4	17.1
BE	17.6	6.2	14.8	4.4	99.0	96.5	22.0	12.9
SE	<b>0.0</b>	<b>0.0</b>	9.8	5.9	85.7	84.7	12.6	11.0
FR	2.3	1.3	16.3	9.8	96.0	94.4	30.2	28.9
FI	<b>0.7</b>	0.4	14.7	8.2	90.1	79.8	20.3	20.3
IT	7.4	2.0	32.0	15.1	84.8	72.4	43.8	30.9
SI	<i>2.3</i>	0.3	8.1	2.9	94.1	87.2	25.0	20.5
ES	41.3	23.5	21.9	9.9	67.5	60.5	31.3	24.6
EL	17.4	7.9	24.3	13.9	66.8	42.3	37.4	27.4
PT	86.0	87.2	63.4	54.0	97.4	91.7	51.3	40.5
CZ	<b>1.0</b>	0.3	14.0	9.4	99.9	99.0	43.8	38.6
SK	<b>0.9</b>	<b>0.1</b>	23.9	11.7	98.2	99.0	39.2	37.3
EE	<b>0.0</b>	<b>0.0</b>	22.6	14.2	99.4	97.9	22.8	23.4
HU	<b>0.7</b>	1.1	24.8	14.1	98.5	95.1	27.6	28.6
LT	<b>1.0</b>	0.4	24.3	16.4	99.3	97.6	22.8	35.5
PL	<b>0.0</b>	<b>0.0</b>	33.9	21.1	99.5	99.0	46.9	39.7
LV	<i>1.6</i>	1.2	32.8	16.7	98.6	98.1	46.2	37.6

Source: Own calculations based on EU-SILC 2007

Notes:

*Italics: low number of observations (25-49)*

**Bold:** Estimations based on less than 25 observations

No observations for Ireland for Dwelling not comfortably warm during winter time.

There is less of a tendency for those with income below the poverty line to report that their housing has no fixed heating – only in Belgium, Cyprus, Spain and Greece was the proportion much larger than among those with income above the poverty threshold.

In all countries, the relative number reporting not being comfortably warm in the winter was larger among those with income below the poverty threshold than among those with income above this, the proportion reaching 45% in Cyprus and 63% in Portugal (in the last, 54% even among those with income higher than this).

There is only a limited tendency for the relative number reporting that they have no air condition to vary between income groups. In most countries, very few people have no air conditioning irrespective of their level of income. Only in Greece, Spain, Italy and, above all, in Cyprus, do more than three-quarters of the population with income above the poverty threshold have air conditioning. These are all countries where in most parts, such equipment can be important in the summer months. In three of the four countries, the exception being Spain, the proportion of people with air conditioning is over 10 percentage points higher among those with income above the poverty threshold than those with income below – in Greece, over 20 percentage points higher and in Cyprus, almost 30 points higher. In Portugal, another hot country in the summer months, less than 10% of those with income above the poverty line have air conditioning.

There is also only a limited tendency for the relative number reporting their house not being comfortably cool in the summer to be larger among those with income below the poverty line than among those with income above. Indeed, in 6 countries, either the reverse is the case or there is not much difference (less than 2 percentage points) between the two proportions.

In 6 countries also, the proportion among those with income below the poverty threshold reporting not being comfortably cool was over 40% - in Cyprus, Poland and Latvia, around 46-47% and in Portugal, 51%.

### ***Multiple housing deficiencies***

In 13 of the 24 countries, over 10% of those with income below the poverty threshold report at least three of the five housing deficiencies covered in the EU-SILC special module and in Portugal, over 25%. In some of these countries, including Cyprus, Latvia and Portugal, over 10% of those with income above the poverty threshold also reported multiple problems. The occurrence of cumulative disadvantage falls markedly when in case of 4 or 5 deficiencies out of 5. In all countries, a larger proportion of those at risk of poverty report multiple problems than those with higher income levels.

**Table 10. Multiple housing deficiencies: proportion of population reporting at least 2, 3, 4, or 5 problems (out of 5)**

	At least 2 problems			At least 3 problems			At least 4 problems			All 5 problems		
	At risk	Not at risk	Total	At risk	Not at risk	Total	At risk	Not at risk	Total	At risk	Not at risk	Total
EU	27.3	15.9	17.8	10.9	4.4	5.5	3.4	1.1	1.5	0.9	0.3	0.3
LU	25.8	9.5	11.7	13.0	2.9	4.3	6.6	1.0	1.7	1.7	0.4	0.6
UK	14.9	11.2	11.9	5.3	3.3	3.7	<b>0.6</b>	0.7	0.7	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>
CY	45.5	29.9	32.3	16.7	10.2	11.2	8.0	3.2	4.0	3.4	1.1	1.5
AT	17.0	6.7	7.9	5.0	1.0	1.5	<b>1.0</b>	0.2	0.3	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
IE	14.4	8.4	9.5	4.9	1.4	2.1	<b>0.7</b>	<b>0.2</b>	0.3	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
NL	16.8	8.3	9.2	3.9	1.7	1.9	<b>1.1</b>	0.2	0.3	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>
DE	22.1	11.7	13.3	8.5	3.5	4.3	2.9	1.0	1.3	0.7	0.3	0.3
DK	18.5	9.3	10.4	7.0	2.5	3.0	<b>1.4</b>	0.6	0.7	<b>0.0</b>	<b>0.1</b>	<b>0.1</b>
BE	21.1	6.0	8.3	8.3	1.7	2.7	2.6	0.5	0.8	<b>1.0</b>	<b>0.1</b>	0.3
SE	11.7	8.1	8.5	2.8	1.8	1.9	<b>1.2</b>	0.3	0.4	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>
FR	28.7	18.7	20.0	11.9	5.0	5.9	4.0	1.1	1.4	0.8	<b>0.2</b>	0.2
FI	17.1	12.9	13.5	6.8	3.0	3.5	1.5	0.6	0.7	<b>0.6</b>	<b>0.1</b>	0.1
IT	39.1	19.1	23.0	16.4	5.6	7.7	4.7	1.2	1.9	0.9	0.2	0.3
SI	12.1	7.3	7.8	3.3	1.0	1.3	<b>0.6</b>	0.3	0.3	<b>0.5</b>	<b>0.0</b>	<b>0.1</b>
ES	22.7	13.3	15.2	9.6	3.2	4.5	4.4	0.9	1.6	0.8	0.2	0.3
EL	30.4	18.6	21.0	12.6	6.4	7.7	4.5	2.6	3.0	2.2	1.4	1.5
PT	56.6	42.4	44.9	26.8	15.0	17.1	12.2	5.7	6.9	3.2	1.5	1.8
CZ	29.2	17.1	18.2	11.1	4.3	5.0	3.5	1.2	1.4	<b>0.5</b>	0.1	0.2
SK	31.5	18.0	19.4	11.3	5.9	6.5	3.7	1.3	1.6	2.5	0.4	0.6
EE	27.7	22.3	23.3	10.4	5.9	6.8	3.3	2.1	2.3	<b>0.6</b>	0.3	0.4
HU	22.7	13.9	15.0	7.5	2.2	2.8	1.5	0.1	0.3	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>
LT	26.6	26.5	26.5	10.2	8.9	9.2	2.8	2.8	2.8	<b>0.2</b>	0.5	0.4
PL	43.3	29.8	32.1	16.5	7.4	9.0	4.5	1.4	2.0	1.3	0.2	0.4
LV	38.3	27.1	29.4	19.5	10.0	12.0	6.3	3.6	4.2	<b>0.6</b>	0.6	0.6

Source: Own calculations based on EU-SILC 2007

Notes:

*Italics: low number of observations (25-49)*

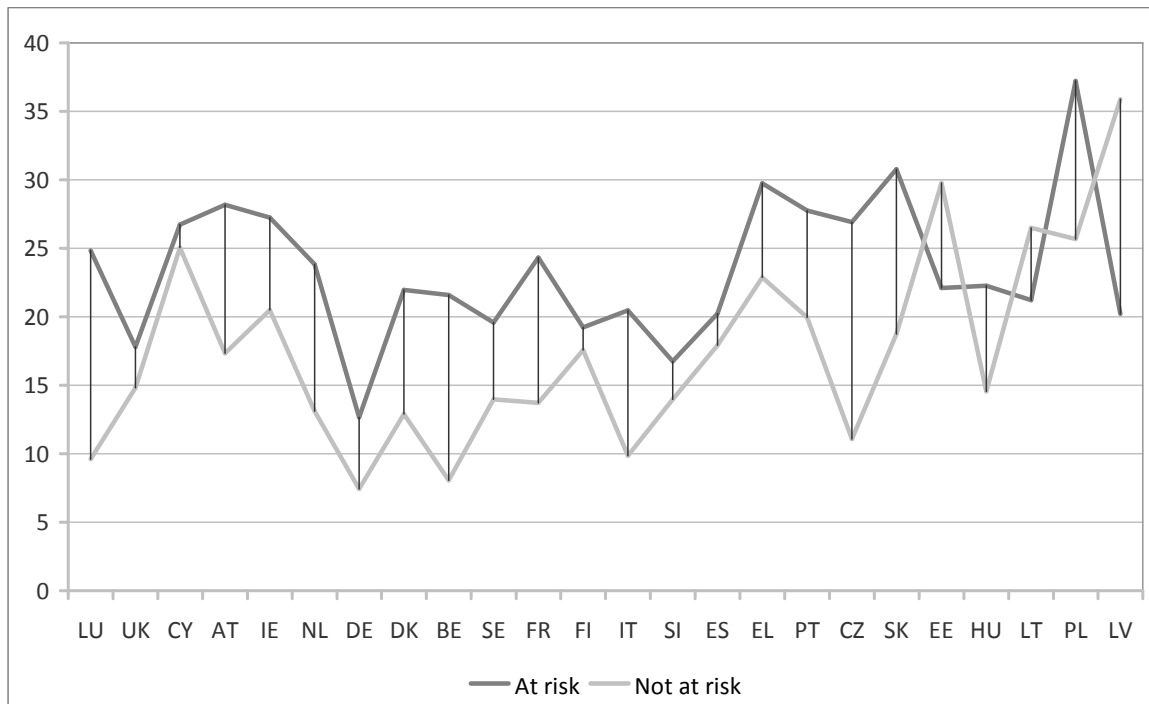
**Bold:** Estimations based on less than 25 observations

List of indicators: Shortage of space, Adequate electrical installations, Adequate plumbing/water installations, Dwelling comfortably warm during winter time, Dwelling comfortably cool during summer time

### Shortage of space

Both Figures 4 and 5 show that there is a tendency for more of those with income below the poverty line to be short of space in all countries than those with higher income levels, except the three Baltic States, where the reverse is the case.

**Figure 4. Self-assessed shortage of space in dwelling – among those at risk of poverty and those not at risk**



Source: Own calculations based on EU-SILC 2007

Notes: Countries ordered in terms of their average income per head

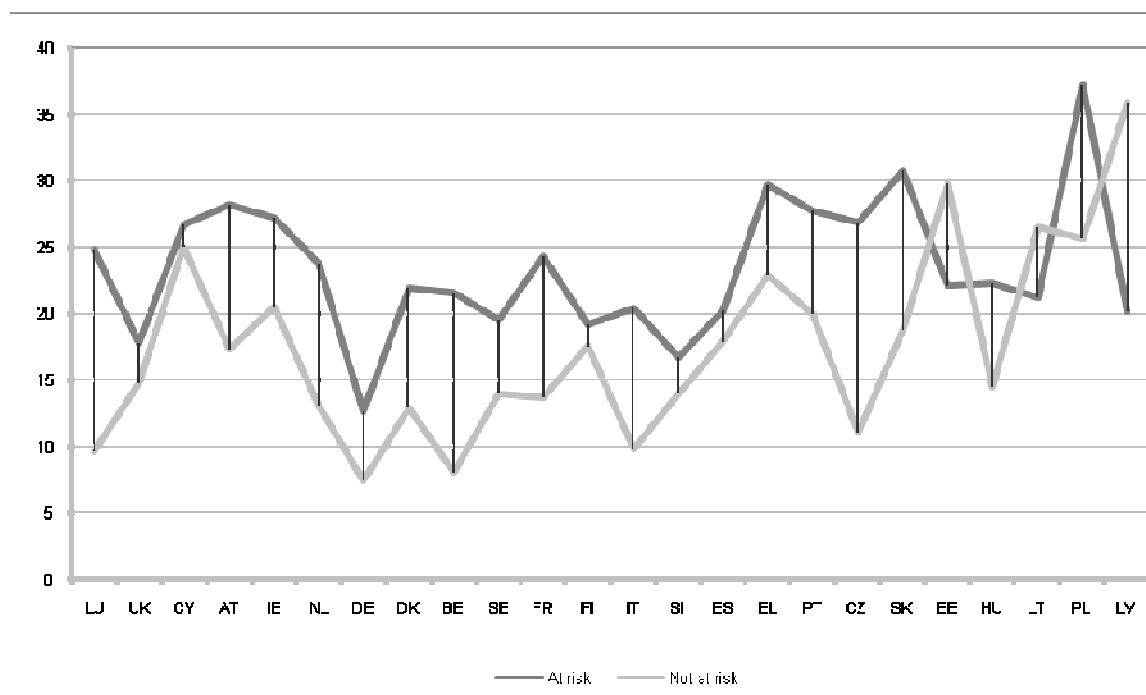
Poor: refers to those at risk-of-poverty, with income below 60% of the national median equivalised income

Non-poor: refers to those with income above the poverty threshold

Estimations based on less than 25 observations have been omitted

In 9 of the 24 countries, the proportion reporting a shortage of space was 20% or more even among those with income above the poverty threshold – in Estonia, 30% and in Latvia, 36%. There were only 4 countries in which the proportion with income above the poverty threshold reporting such problems was less than 10% - Germany, Belgium, Luxembourg and Italy – in the last two, only marginally. At the same time, there were only 5 countries in which the proportion of those with income below the threshold was less than 20% - Germany, Slovenia, the UK, Finland and Sweden, in the last only marginally.

**Figure 5. Those at risk of poverty and those not at risk assessed as living in overcrowded conditions**



### ***Environmental problems***

The quality of housing is not only to do with the houses or apartments in which people live but the environment in which they are situated. To live in noisy or polluted surroundings or to face a high risk of crime or vandalism can be as distressing as living in house in need of repair or one which is cramped or too dark. In practice, however, the subjective nature of environmental problems and the differing attitudes towards them make it difficult to compare circumstances not only across countries but also between individuals and social groups within the same country. At the same time, it is arguably the subjective views of people which matter in this respect since they affect their well-being. If people consider that excessive noise from the street or from their neighbours or that dirt and pollution constitute a problem, then whether or not either is an objective fact, measured against a particular standard, may not be so relevant. Similarly, perceptions of crime and feeling at risk are arguably as important as the actual chances of being a victim.

In practice, the responses to the set of questions in the EU-SILC to environmental aspects indicate very little relationship with levels of household income across countries, as noted above, and only a limited relationship within them. While in most countries (18 of the 24 countries), the proportion of people reporting noise problems is larger for those at risk of poverty than for those with higher income levels (the shaded figures in the Table 11), in three of these, the difference in the proportion is very small (less than 2 percentage points).

Much the same picture is evident for those reporting problems of dirt and pollution in their neighbourhood (in place where people usually walk or shop). In this case, the

relative number of those at risk of poverty reporting such problems is larger than for those with higher income in half of the countries but smaller in the other half. Having problems of pollution, therefore, does not invariably go together with having a low income.

There is also no evidence of people reporting a problem of crime varying with income within countries. While in the majority of countries (17 of the 24), the proportion of people at risk of poverty reporting such problems is larger than for those with higher income, in 7 of these, the difference in the proportion is very small, so that overall, there is no clear tendency for problems of crime to be experienced more by those with low income.

It is evident from the above that unlike many aspects of deprivation, environmental problems are not closely linked to levels of household income. It is also evident, however, that there is equally little relationship between the three types of environmental problem, in the sense that countries in which a relatively large number of people report problems of noise are not typically the same as those in which large numbers report problems of pollution or crime. Exceptions are Latvia and Estonia, where the proportions reporting problems are high for all three types and Sweden and, to a lesser extent, Hungary, where the proportions are relatively low for all three.

**Table 11. Proportion of people with income above and below the poverty threshold reporting environmental problems, 2007**

	<i>% people at risk/not at risk of poverty</i>					
	Noise		Pollution		Crime, violence or vandalism	
	Not at risk	At risk	Not at risk	At risk	Not at risk	At risk
LU	20.7	30.0	15.9	18.5	9.7	9.7
UK	19.3	22.0	13.2	12.2	26.5	28.2
CY	36.7	37.1	26.3	23.0	13.6	13.3
AT	19.1	25.4	7.6	10.4	11.4	11.6
IE	12.3	16.0	8.8	11.8	14.1	21.1
NL	31.9	34.0	13.6	15.2	17.6	18.2
DE	25.8	34.7	21.1	25.6	11.4	18.3
DK	18.9	27.0	7.2	14.2	13.5	17.6
BE	22.3	25.9	16.7	21.0	16.7	20.9
SE	12.4	15.6	7.2	5.3	12.6	16.5
FR	18.0	25.4	16.5	18.0	15.6	21.9
FI	15.6	18.9	14.2	12.5	12.3	16.4
IT	25.1	26.5	21.3	20.4	15.5	18.3
SI	18.3	21.6	19.7	20.8	10.2	10.0
ES	26.1	25.5	16.5	15.8	18.0	18.1
GR	22.6	18.4	19.8	14.6	10.8	8.7
PT	28.2	24.4	21.8	23.3	12.4	13.5
CZ	18.3	20.0	16.7	20.2	12.6	17.8
SK	18.5	22.1	17.9	20.4	8.3	7.5
EE	23.8	18.8	27.3	22.8	21.1	22.7
HU	14.3	17.9	13.5	12.9	12.1	18.4
LT	19.2	15.4	15.9	13.6	7.8	4.1
PL	19.3	19.7	13.2	11.3	7.8	8.5
LV	22.6	19.3	37.4	34.6	30.6	25.2

*Note: Shaded figures show those where the difference in the proportions reporting problems between those at risk of poverty and those not at risk is less than 2 percentage points*

*Source: EU-SILC, 2007*

## Access to essential services

Except in Luxembourg, the Czech Republic and Slovakia, more people with income below the poverty threshold report having problems accessing a grocery shop than those with income above the threshold in all countries. The difference is particularly wide - over 12 percentage points – in Cyprus, Slovenia and the three Baltic States, in all of which over 20% of those with income below the poverty line report having problems (over 30% in Latvia and Lithuania). By contrast, the proportion with this level of income so reporting is only 5-7% in the UK, France, the Netherlands and Sweden

**Table 12. Proportion of people reporting difficulties of access to basic services**

	Grocery services		Banking services		Postal services	
	At risk	Not at risk	At risk	Not at risk	At risk	Not at risk
LU	13.2	13.6	13.4	14.1	10.8	15.2
UK	7.2	2.9	15.4	11.0	8.2	5.8
CY	23.5	7.5	20.4	6.2	21.0	11.0
AT	22.8	16.6	22.9	18.6	28.2	23.7
IE	16.2	9.5	28	18.5	18.6	13.4
NL	5.5	4.2	5.7	4.1	11.9	11.2
DE	11.1	8.4	14.3	12.7	27.5	26.0
DK	11.4	7.6	18.5	13.5	15.9	19.6
BE	20.9	14.7	24.7	19.8	28.8	26.4
SE	6.0	4.1	15.6	10.6	9.5	9.4
FR	5.1	2.9	9.7	8.9	15.6	19.8
FI	12.0	4.9	13.9	7.2	14.5	8.3
IT	27.9	21.1	41.4	27.4	37.7	26.8
SI	26.4	12.6	33.4	16.4	26.1	14.7
ES	14.4	12.9	15.0	12.8	20.8	22.0
GR	18.2	11.1	42.4	27.3	34.9	24.3
PT	15.7	10.9	23.8	13.6	23.4	17.9
CZ	11.7	12.4	25.3	25.5	18.0	18.1
SK	8.3	10.6	42.7	35.9	22.5	23.0
EE	28.2	15.4	36.8	21.7	27.8	15.7
HU	10.6	7.8	38.8	28.9	19.3	16.3
LT	37.2	14.9	43.8	21.9	30.0	14.4
PL	17.2	11.3	38.5	25.1	33.0	21.5
LV	32.7	20.3	43.5	26.6	34.7	22.6

Source: Own calculations based on EU-SILC 2007

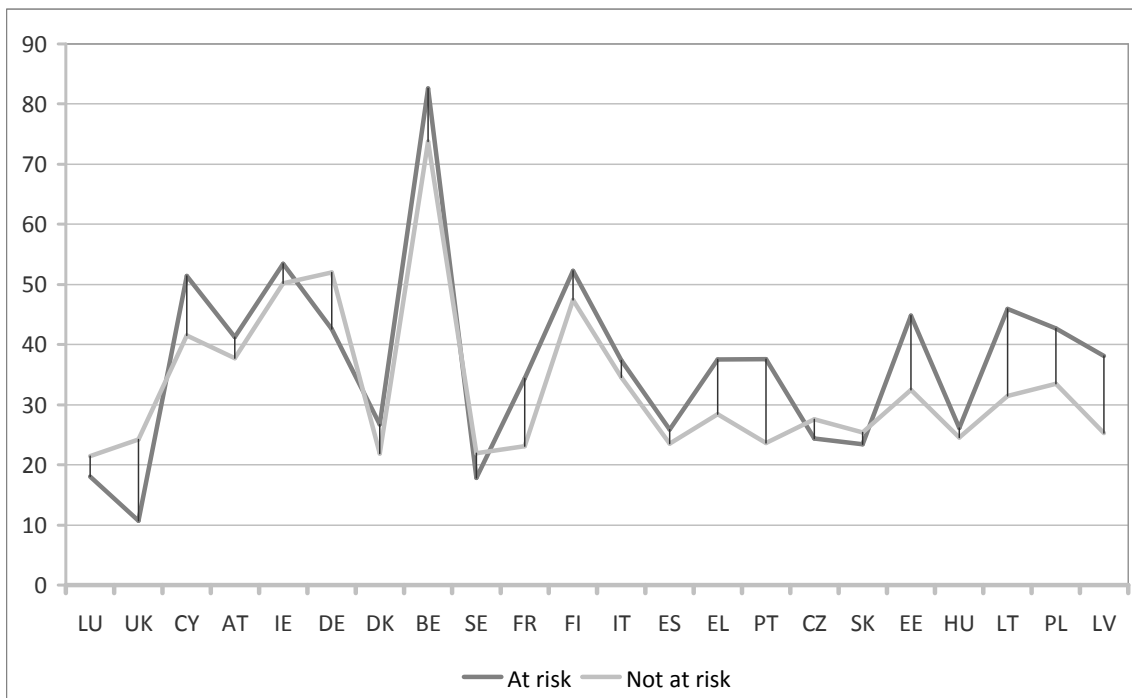
Note: figures include those reporting "with great difficulty" or "with some difficulty"

Difficulty accessing banking services also tends to be more prevalent among those with income below the poverty threshold in all countries except Luxembourg and the Czech Republic, in both of which there is not much difference between those with income above and below the poverty line. The difference is especially wide (over 13 percentage points) in Cyprus, Italy, Greece, Slovenia, Poland and the three Baltic States, in all of which except Poland, over 35% of those with income below the poverty threshold report such problems.

In the majority of countries, there is not much difference in those reporting having difficult access to postal services between those with income above and below the poverty line. The exceptions are the same countries listed above in respect of access to banking services, in each of which significantly more of those with income below the poverty threshold (at least 10 percentage points more) report having difficulty of access to postal services than of those with income above the threshold.

In the EU15 countries apart from Ireland, Italy, Greece and Portugal, there is little difference (less than 5 percentage points) in the relative number reporting difficulty in access public transport between those at risk of poverty and those with higher income levels. In 6 of the 9 new Member States – all except for Cyprus, the Czech Republic and Slovakia – the difference is relatively wide, with over 30% of those at risk of poverty reporting such problems in the three Baltic States (over 40% in Lithuania) and Poland. The proportion among such people is also over 30% in Ireland, Finland, Italy and Cyprus (46% in the last).

**Figure 6. Proportion of people reporting difficulties of access to public transport by income level in rural areas**



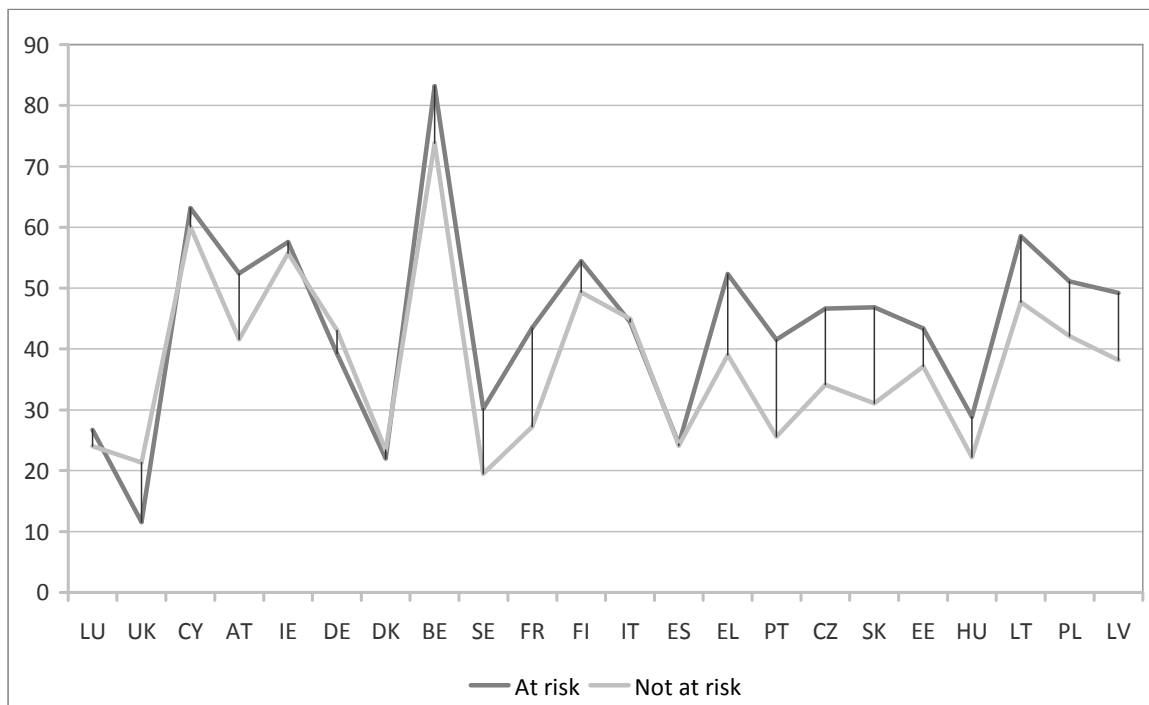
Source: Own calculations based on EU-SILC 2007

Notes: Urban=densely populated area, rural=thinly populated area

Difficulties: refer to “with great difficulty” and “with some difficulty”

Population density, or urban or rural residence plays a greater role in explaining differences in access to public transport than income as such. There is a substantial difference between people living in rural and urban areas reporting difficulty of access to public transport, with the exception of Cyprus, where both groups find it about equally difficult. There is a smaller difference between those with income above and below the poverty threshold in rural regions (Figure 5). A few countries, Greece, Portugal, Poland and the Baltic States, in particular, stand out as having more pronounced differences between the two groups.

**Figure 7. Proportion of people aged 65 and over reporting difficulties of access to public transport by income level in rural areas**



Source: Own calculations based on EU-SILC 2007

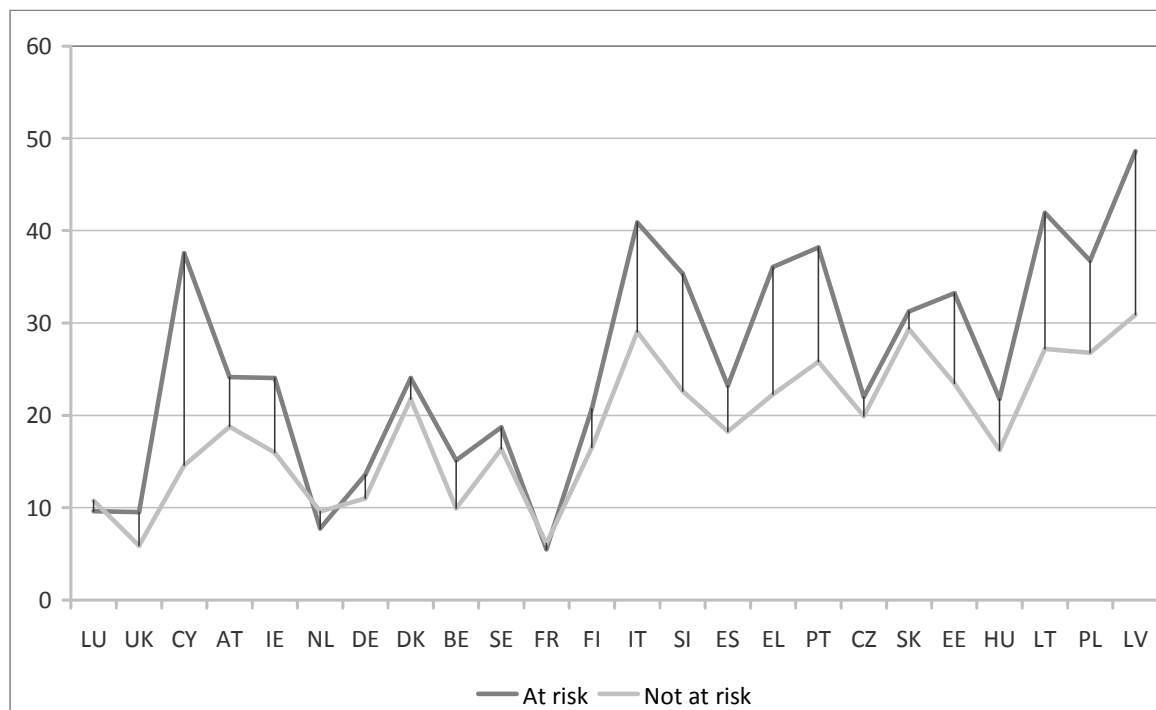
Notes: Rural area=thinly populated area

Difficulties: refer to “with great difficulty” and “with some difficulty”

Note: BE, FR, LU and UK have been omitted due to low number of observations

Among those aged 65 and over living in rural areas, those at risk of poverty are more likely to report difficulties in accessing public transport in many countries than those with higher income levels. There are a few countries, however, where this is not the case and the elderly on low incomes do not seem to be disadvantaged (Denmark, Ireland, Germany and Italy).

**Figure 8. Proportion of people reporting difficulties of access to primary health care services**

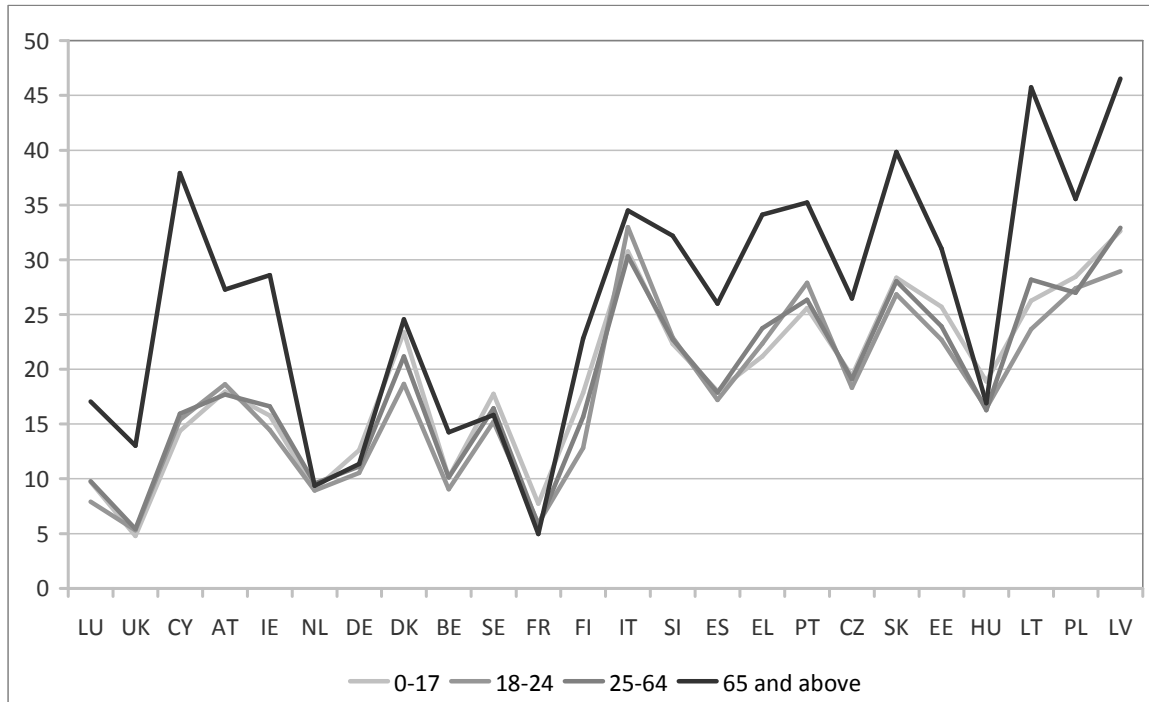


Source: Own calculations based on EU-SILC 2007

Note: refers to “with great difficulty” or “with some difficulty”

Except in Luxembourg, the Netherlands and France, more of those with income below the poverty threshold report problems in accessing primary care services than those with income above the threshold. Difficulty of access is particularly widespread among those with low levels of income in most of the new Member States (in all but the Czech Republic and Hungary, the proportion reporting difficulty being over 30%), Italy, Greece and Portugal, though in many cases, this is also the case among those with income above the poverty threshold (over 20% of these reporting such problems in all but the Czech Republic (where the figure is around 20%) and Hungary. However, the proportion is also over 20% in Denmark and only slightly lower in Austria.

**Figure 9. Proportion of people reporting difficulties of access to primary health care services by age group (refers to “with great difficulty” or “with some difficulty”)**



Source: Own calculations based on EU-SILC 2007

There is a clear age divide, with more of the elderly reporting problems of access than younger age groups, perhaps because they have the most need of medical services. This age divide is particularly pronounced in the Baltic States, Poland and Cyprus, and to a lesser extent, Austria and Ireland. There is no significant difference between age groups in Denmark, Sweden, the Netherlands and Hungary.

**Table 13. Proportion of those aged 65 and over in urban and rural areas reporting difficulties of access to primary health care services by income level**

	Access to primary health care services			
	Urban areas		Rural areas	
	At risk	Not at risk	At risk	Not at risk
LU	<b>28.9</b>	17.0	<b>47.1</b>	<i>20.6</i>
UK	13.4	13.4	<b>15.0</b>	<b>7.0</b>
CY	47.7	24.4	56.4	28.2
AT	<b>21.1</b>	11.5	50.9	37.4
IE	<i>24.1</i>	14.9	45.4	39.8
DE	9.6	8.5	<i>26.8</i>	20.1
DK	<b>11.8</b>	14.3	<i>31.2</i>	32.4
BE	<i>14.7</i>	9.0	<b>52.0</b>	<b>30.0</b>
SE	<b>25.9</b>	<i>10.2</i>	<i>17.1</i>	17.4
FR	<b>0.9</b>	4.0	<b>9.8</b>	<i>5.1</i>
FI	<b>27.1</b>	17.5	31.8	22.3
IT	34.7	28.7	50.9	39.9
ES	22.2	18.1	35.1	32.5
EL	<b>18.4</b>	15.4	58.9	44.1
PT	<i>38.1</i>	27.4	54.4	33.0
CZ	<b>19.3</b>	17.4	47.5	37.4
SK	<b>25.5</b>	24.8	<i>52.7</i>	49.0
EE	30.8	19.2	43.9	35.6
HU	<b>23.4</b>	12.4	<i>24.1</i>	18.7
LT	40.5	34.2	57.8	47.9
PL	<b>21.6</b>	23.0	54.3	44.3
LV	47.2	34.0	63.2	47.8

Source: Own calculations based on EU-SILC 2007

Notes:

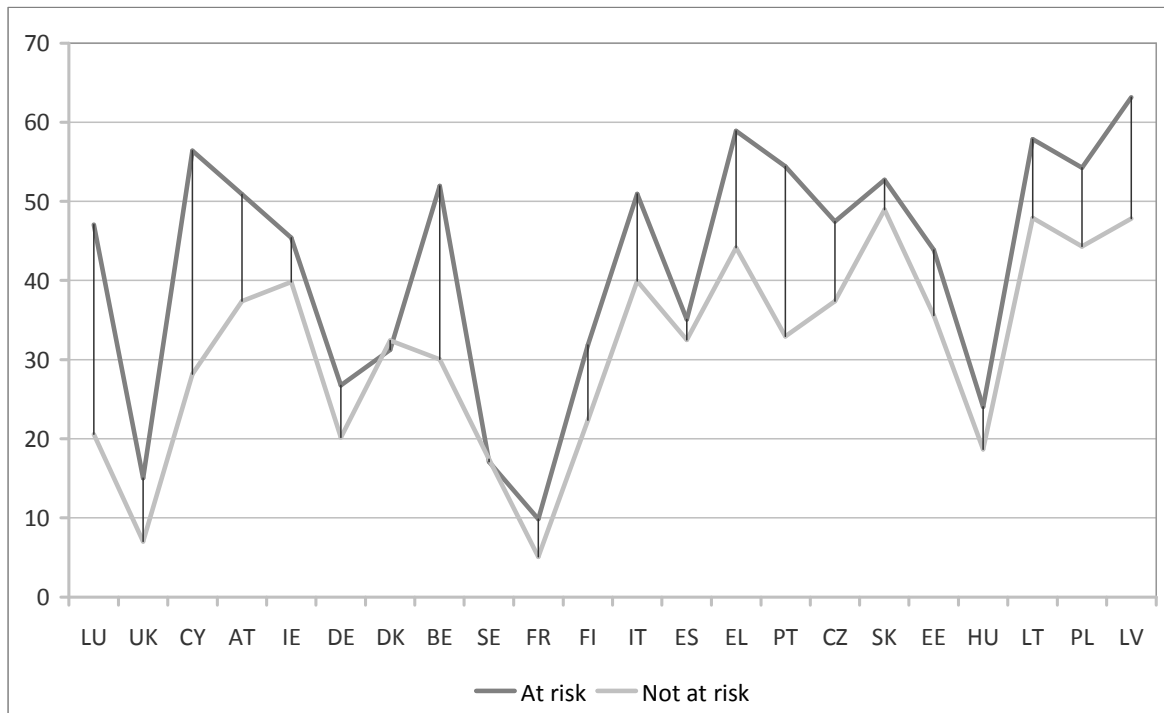
*Italics: low number of observations (25-49)*

**Bold:** Estimations based on less than 25 observations

Notes: Urban=densely populated area, rural=thinly populated area

Access to primary health care services differs both by income level and the degree of urbanisation among the elderly population than in other age groups (Figure 8). Those with income below the poverty level are more likely to report problems of access to these services than those above whether they live in urban or rural areas. The proportion of elderly with low income reporting such problem is significantly larger in rural than in urban areas in almost all Member States. In Austria, Belgium, the Czech Republic, Greece, Slovakia and Poland, the difference is over 30 percentage points

**Figure 10. Proportion of those aged 65 and over in urban and rural areas reporting difficulties of access to primary health care services by income level**



Source: Own calculations based on EU-SILC 2007

Note: BE, FR, LU, and UK were omitted due to low number of observations. (See also Table 12.)

**Table 14. Proportion of households reporting difficulties of access to compulsory school**

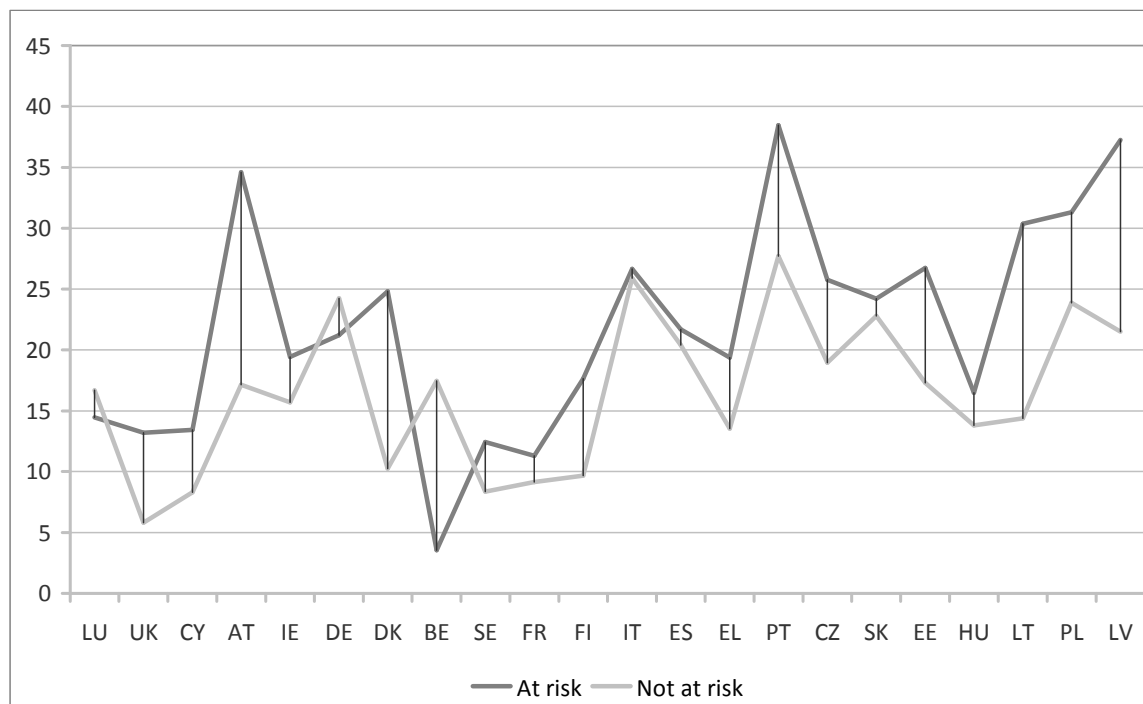
	At risk	Not at risk
LU	9.4	13.2
UK	12.5	9.0
CY	10.8	8.2
AT	22.9	16.3
IE	13.5	11.7
NL	9.7	9.3
DE	18.4	16.7
DK	21.1	10.2
BE	7.7	10.7
SE	10.2	8.8
FR	10.7	9.6
FI	13.2	8.3
IT	29.5	20.1
SI	15.1	15.1
ES	17.6	17.8
EL	15.9	10.8
PT	28.8	23.7
CZ	17.1	13.0
SK	20.9	15.6
EE	21.7	14.0
HU	16.2	12.8
LT	27.8	13.8
PL	25.1	17.3
LV	33.3	22.4

Source: Own calculations based on EU-SILC 2007

Note: The figures are restricted to households with dependent children of school age.

Low-income households with children tend to have greater difficulties of access to compulsory schooling in the majority of countries. The difference is relatively wide (over 6 percentage points) in the Baltic States, Denmark, Italy, Poland and Austria. In all of these countries, over 20% of those at risk of poverty report such difficulty. Note, however, that there is no significant different in this regard in a number of countries.

**Figure 11. Proportion of households in rural areas reporting difficulties of access to compulsory school by income level**



Source: Own calculations based on EU-SILC 2007

Notes: Rural=thinly populated area

Difficulty of access: refers to “with great difficulty” and “with some difficulty”

More of those with income below the poverty line than above report difficulty of access to a number of different essential services in all countries apart from Cyprus, Spain, Luxembourg and the Netherlands. This is particularly the case for those living in rural areas. Indeed, those living in such areas are more likely to report problems of access to more than one service than those living in urban areas irrespective of their level of income (Table 15).

**Table 15. Difficulty of access to more than one essential services by urban/rural and by income (proportion of population reporting 2 and 5 such problems out of 5)**

	Deprived of 2 services (out of 5)				Deprived of 5 services (out of 5)			
	Urban		Rural		Urban		Rural	
	At risk	Not at risk	At risk	Not at risk	At risk	Not at risk	At risk	Not at risk
EU	16.7	13.1	35.0	26.8	3.1	2.1	9.4	6.2
LU	9.4	10.6	28.6	26.3	<b>1.5</b>	1.8	11.5	3.9
UK	9.6	6.2	23.1	6.4	<b>0.5</b>	0.5	<b>0.0</b>	<b>0.2</b>
CY	27.0	8.7	33.7	13.3	<b>1.9</b>	0.8	6.3	1.8
AT	9.3	9.6	45.2	33.2	<b>0.6</b>	1.7	21.4	14.8
IE	19.7	10.4	38.7	32.7	<b>1.9</b>	0.9	22.1	14.3
DE	13.4	13.2	35.3	33.9	<b>0.3</b>	1.1	6.2	5.8
DK	<i>11.3</i>	11.0	27.8	22.6	<b>2.0</b>	<i>1.0</i>	<i>10.1</i>	3.8
BE	18.3	14.4	62.0	67.3	<i>2.8</i>	1.3	<i>31.4</i>	19.9
SE	13.4	8.4	14.4	14.1	<b>0.0</b>	<b>0.5</b>	<b>0.7</b>	0.7
FR	8.5	7.1	10.1	9.2	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
FI	12.0	10.6	22.5	14.6	<b>3.3</b>	<i>0.8</i>	7.1	2.1
IT	44.1	28.8	44.1	35.0	14.7	8.8	17.9	13.9
ES	11.5	12.1	23.3	22.8	<b>0.4</b>	0.4	<b>0.4</b>	1.3
EL	20.6	16.8	50.6	38.6	6.5	4.1	15.6	8.6
PT	14.5	11.9	21.2	13.9	<b>0.6</b>	<i>0.8</i>	<i>3.8</i>	2.6
THE CZECH REPUBLIC	9.3	14.0	32.9	31.7	<b>2.0</b>	3.1	10.0	8.7
SK	21.7	24.6	40.9	36.9	<b>1.7</b>	3.4	4.9	5.2
EE	21.3	13.4	46.6	31.9	<b>2.8</b>	1.7	<i>19.2</i>	8.6
HU	27.2	18.1	30.1	24.4	6.7	3.0	5.2	3.6
LT	27.7	18.2	45.4	30.3	6.9	2.9	12.4	3.9
PL	16.6	15.0	48.7	36.0	4.0	4.3	12.6	9.6
LV	29.4	19.0	44.6	31.4	<b>5.7</b>	5.2	12.9	9.1

Source: own calculations based on EU-SILC 2007

Notes:

*Italics: low number of observations (25-49)*

**Bold:** Estimations based on less than 25 observations

List of items, included in the measure:

Accessibility to grocery services

Accessibility to banking services

Accessibility to postal services

Accessibility to public transport

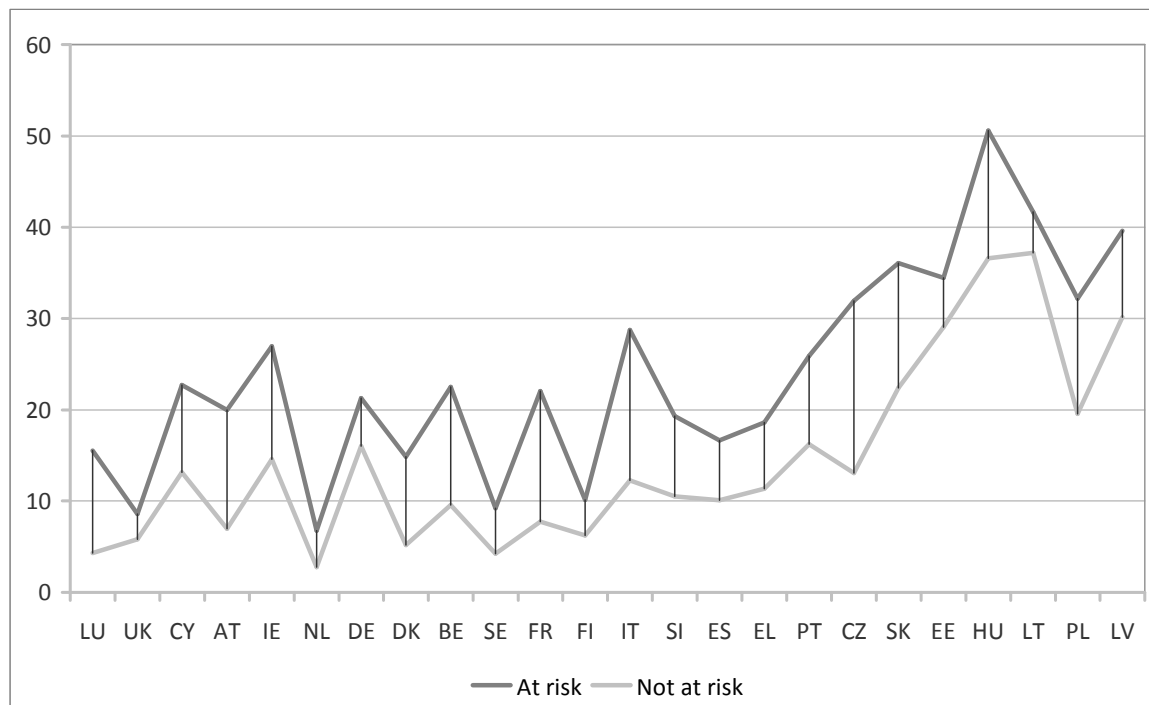
Accessibility to primary health care services

Notes: Urban=densely populated area, rural=thinly populated area

## IV. Dissatisfaction with housing

There is some tendency for the level of dissatisfaction with housing to vary inversely with the average level of income across countries, though the relationship is not particularly close. There is more of a tendency for dissatisfaction to be higher among those with income below the poverty threshold than among those with income above. Indeed, this is the case in all countries. The difference is relatively wide – around 9-10 percentage points or more – in 14 of the 24 countries. Dissatisfaction is also relatively widespread among those with income above the poverty threshold in the three Baltic States and Hungary – over 30% reporting so – though also in Poland and Slovakia, where the proportion is around 20% or more as well as in Portugal, Ireland and Germany, where it is around 15-16%. (Figure 12).

**Figure 12. Proportion of people dissatisfied with housing by income level**



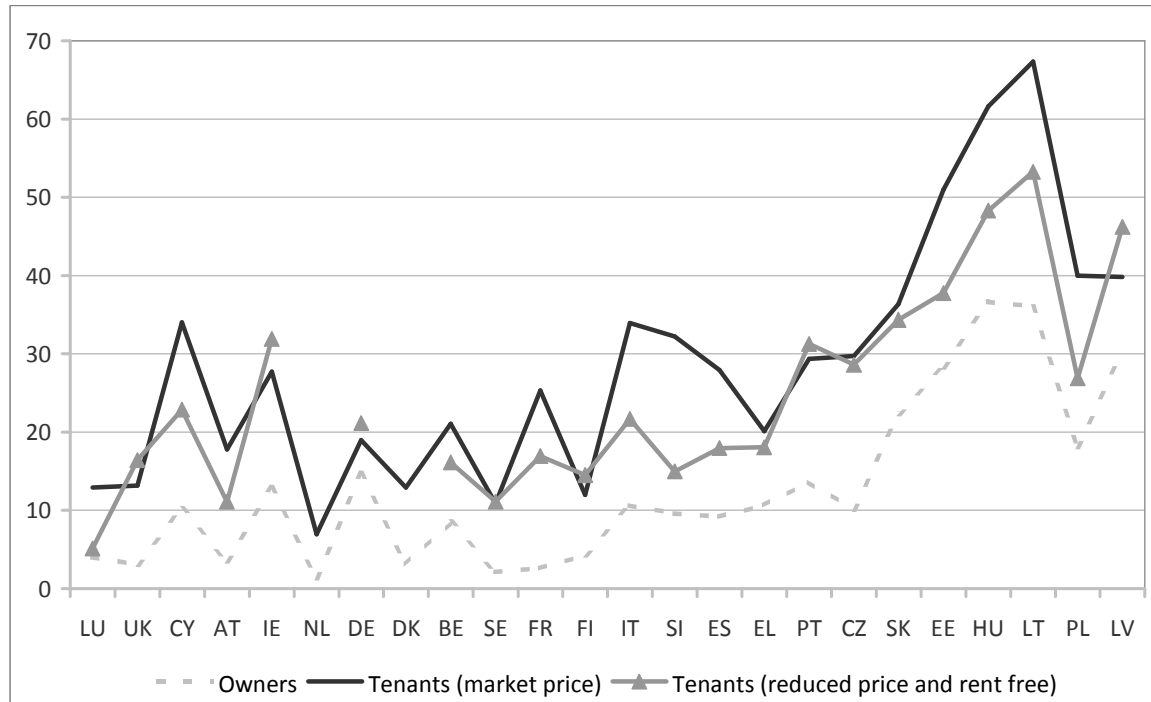
Source: Own calculations based on EU-SILC 2007

Notes: Countries ordered by average income per head

Dissatisfied: refers to "very dissatisfied and "somewhat dissatisfied"

In general, those who pay market rents for their accommodation tend to be the most dissatisfied with their housing, followed by those who pay a subsidised rent or no rent at all. Owners tend to be the most satisfied with their housing. There is also a correlation between median income levels in countries and the proportion satisfied with their housing (Figure 13).

**Figure 13. Proportion of people dissatisfied with dwelling by ownership**



Source: Own calculations based on EU-SILC 2007

Notes: Countries ordered by average income per head

Dissatisfied: refers to "very dissatisfied and "somewhat dissatisfied"

## V. Concluding remarks

- Problems of housing quality and lack of basic housing facilities are most widespread in the new Member States, particularly in the three Baltic States and Hungary. Problems of the neighbourhood environment are more widespread across the EU, though a relatively large proportion of people report such problems in Estonia and Latvia.
- The large proportion of people in the three Baltic States and Hungary reporting housing problems of various kinds is reflected in the large number also reporting dissatisfaction with their housing in these countries.

- More of those at risk of poverty report problems of housing deficiency, especially with respect to electrical installations and plumbing than those with higher income levels.
- Whether people live in urban or rural areas is more likely to affect the accessibility of basic services than their level of income.
- More of those aged 65 and over report problems of access to primary health care than younger age groups, the more so if they live in rural areas and have low income.
- Overall, tenants who pay market rent for their accommodation tend to be the most dissatisfied with their housing, followed by tenants paying a reduced rent or living rent free, while owners tend to be the most satisfied.
- Self-assessed shortage of space problems are not closely correlated with lack of space as measured by the number of room relative to the number living in a house. The latter, however, is closely correlated across countries with low average income

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