Critical Housing Analysis

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Subjective or objective? What matters?

Petr Sunega

Institute of Sociology, Academy of Sciences
Jilská 1, 110 00, Prague
petr.sunega@soc.cas.cz

Abstract: *The aim of the paper is to discuss selected methodological problems of quantitative comparative housing research. The analysis is based on EU-SILC data and the concept of overcrowding is considered. We used two alternative definitions of overcrowding rate, both based on normative assumptions and each giving slightly different results. We tried to answer the question, which definition is better. The basic idea was that the closer the 'objective' rate of overcrowding is to its 'subjective' assessment, the better the selected method (definition) is. Moreover, it was shown that while in more advanced countries the share of households that consider dwelling space to be a problem is significantly higher than the share of households living in overcrowded dwellings based on 'objective' criteria, in post-socialist countries the opposite is true.*

Keywords: comparative housing policy; globalisation.

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Introduction

A risk society (or society of change) can be characterised by a growing gap between the picture drawn by official statistics and individual perceptions of living conditions (Watson et al. 2010). Therefore, it is useful also to measure subjective (well-being) indicators, which can provide (among others) an external check on economic indicators and can act as a corrective. The advantage of subjective well-being indicators is that they are able to directly capture people's experience, while social, economic and environmental indicators do so only indirectly. Moreover, subjective indicators capture people's experience in a way that respects cultural differences in values. Such indicators allow people to assess their lives in their own terms rather than on the basis of what is objectively considered by an outside observer, who may have different values and priorities. The disadvantage of 'subjective' measures is that they reflect people's aspirations and they are therefore measures of adaptation to current housing (or life) conditions rather than a measure of housing (life) conditions themselves. There also exist some policy fields (such as health or housing) in which the assessment of policy goals requires the use of both subjective and objective indicators (Veenhoven 2002). In other words, subjective well-being indicators can be useful complements to objective indicators. 'Subjective' and 'objective' indicators can differ by the methods of measurement (self-reported or non-self-reported) and/or in what is measured: whether feelings or non-feelings. In line with the above-mentioned theoretical approach we employed a 'subjective' measure of the overcrowding rate to decide which 'objective' indicator of the overcrowding rate is better able to capture people's perceptions.

The overcrowding rate and housing overconsumption

Previous analyses (e.g. Lux et al. 2004; Lux, Sunega 2006) have shown that the average rent-to-income ratio (or housing cost burden rate) in the Czech Republic is significantly affected by housing overconsumption, i.e. by the fact that many Czech households live in dwellings that are 'too large' for them (i.e. dwellings in which the number of rooms or the floor area does not correspond to the number of household members). These analyses were based on the methodological approach inspired, in particular, by Thalmann (1999). To identify households that cannot afford appropriate housing, he proposed an approach in which the thresholds for the rent-to-income ratio for households are determined by a measure of housing consumption and by other measures that take into account the physical attributes of the housing. 'Some households deliberately spend a large part of their income for the enjoyment of residential comfort. … Conversely, the conventional affordability index does not detect households in difficulty that spend less than the limit share of their income on rent. Some live in homes of insufficient size or quality, not because they prefer to spare their income for other commodities but because they cannot afford appropriate housing.' (Thalmann 1999: 1933)

Eurostat defines housing deprivation and overcrowding as follows (Eurostat): 'Severe housing deprivation rate is defined as the percentage of population living in the dwelling which is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to those households with a leaking roof, no bath/shower and no indoor toilet, or a dwelling considered too dark. A person is considered as living in an overcrowded household if the household does not have at its disposal a minimum number of rooms equal to: one room for the household; one room per couple in the household; one room for each single person aged 18 or more; one room per pair of single people of the same gender between 12 and 17 years of

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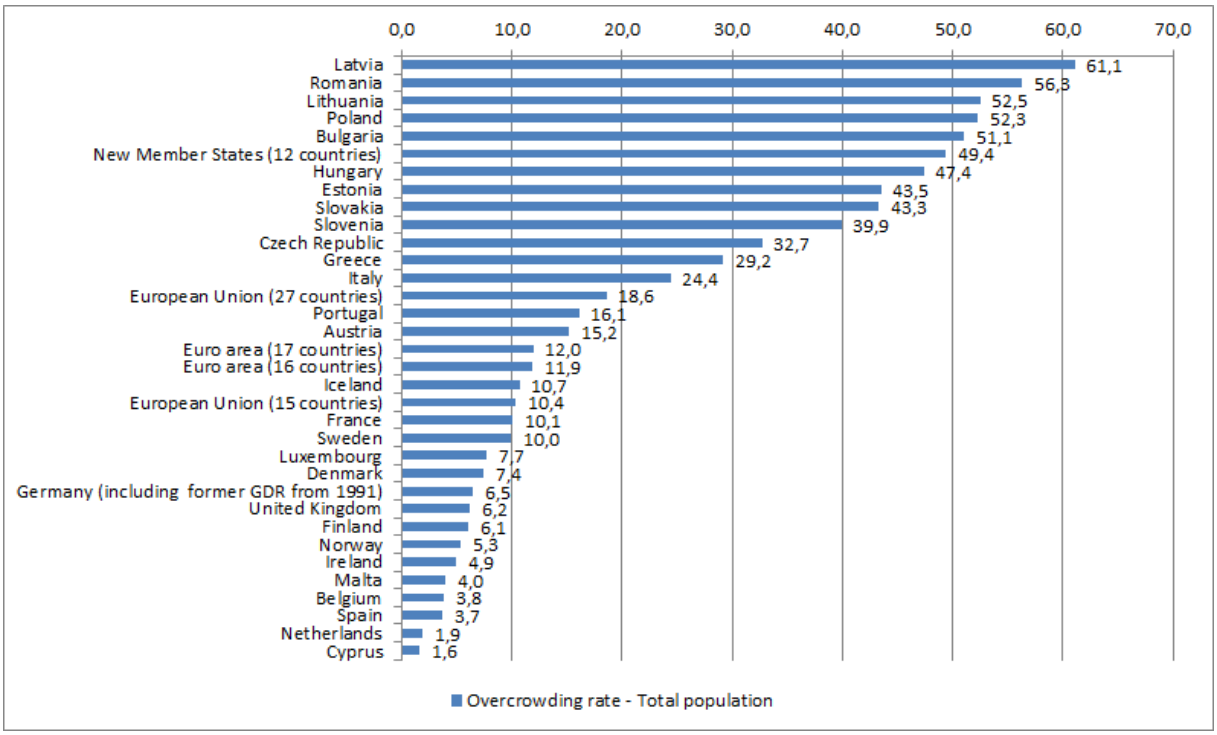
age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room per pair of children under 12 years of age.' Figure 1 shows that new EU Member States have a much higher average overcrowding rate than more advanced EU countries. The values presented in Figure 1 were just taken from the Eurostat web pages (see the source below the Figure), i.e. they were not empirically verified by authors.

Figure 1: Overcrowding rate (percentage of total population) in 2007 (Eurostat definition of overcrowding)



Source: Eurostat (http://epp.eurostat.ec.europa.eu/portal/page/portal/income_social_inclusion_living_conditions/data/database).

We used another, simpler definition of overcrowding that was based on the assumption that the number of rooms should equal the number of household members. If the number of rooms exceeded the number of household members, the household (and the corresponding number of household members) was considered an over-consuming housing. If the number of rooms was lower than the number of household members, the household (and the corresponding number of household members) was considered to be living in an overcrowded dwelling.[1] The results for the Czech Republic show that 30.2% of households lived in dwellings of adequate size (i.e. where the number of rooms equals the household size), 20.8% lived in overcrowded dwellings (the adjusted number of household members exceeds the number of rooms) and 49.1% of households were overconsuming housing (i.e. lived in dwellings where the number of rooms exceeds household size). Besides, the fact that these figures present a different

[1] The number of rooms available to the household is limited in the international dataset to just 6 or more rooms. Therefore, household size was also recoded (adjusted) in a similar way: households with 6 or more members were combined within a single category as 'households with 6 and more members'. Then the number of rooms available was compared to the household with the adjusted household size. The share of households with more than 6 members in the countries included in the EU-SILC 2007 survey is usually below 1%, except in Bulgaria (2.7%), Poland (2.4%), Romania (2.2%), Slovakia (1.7%) and Ireland (1.4%).

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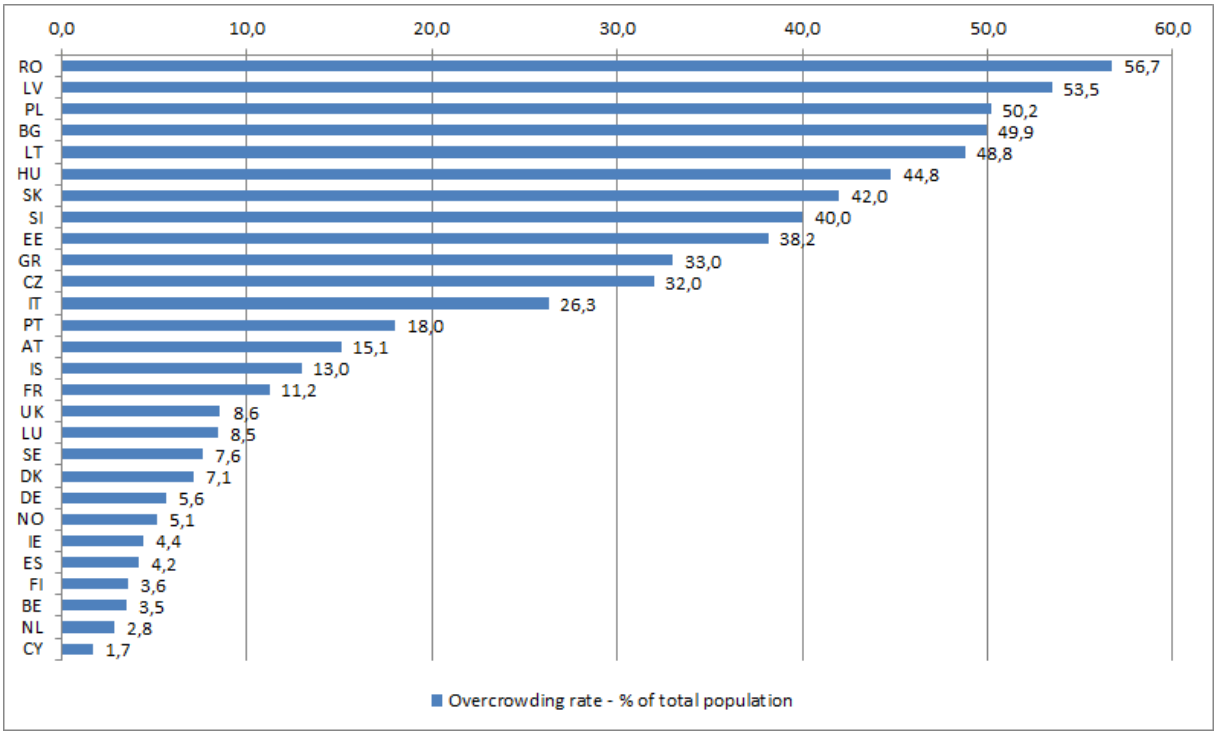
picture than Eurostat, the results show that housing overconsumption may be a more serious problem than overcrowding in the Czech Republic (potential problems with the financial affordability of housing). Figure 2 shows the percentage of the total population living in overcrowded housing for countries in the EU-SILC 2007 dataset according to our adjusted method. The ranking of individual countries is slightly different from the one presented above by Eurostat. The 'simple' definition of overcrowding seems to be stricter than the Eurostat definition, because it requires one room for each household member, while the Eurostat definition allows in certain cases two household members (e.g. pair of children under 12 years of age) to share one room. Therefore, it would seem that the values in Figure 2 should always be higher than the values in Figure 1, but they are evidently not (or at least not for all countries). The first reason for this could be methodological. As stated above, households with more than six members were treated as households with six members in our calculations. However, it was also noted that most countries have only a negligible share of households with more than six members. There are only five countries in which the share of households with more than six members exceeds 1% of all households. The second (and probably much more important) reason is the different size and composition of households among countries (e.g. extended households with grandparents are more common in post-socialist countries than in EU 15 countries etc.) and the different 'distribution' of overcrowding among households (e.g. in western countries overcrowding may occur more often in extended families with adult members, but the share of such households is significantly smaller than in post-socialist countries, while in post-socialist countries extended families with children were favoured in the allocation of flats by the previous regime, so overcrowding is rather rare in this group of households).

Figure 2: Percentage of the total population living in overcrowded housing (%) – based on the normative assumption that adjusted household size should equal the number of rooms available to the household (simple definition of overcrowding)



Source: EU-SILC 2007 dataset, authors' computations.

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Both 'definitions' of overcrowding are based on normative assumptions. None of them can be simply considered as inappropriate. It would be possible to create a list of other, alternative definitions of overcrowding (or housing overconsumption). Nevertheless, all the definitions would be more or less culturally (context) sensitive. How can we determine which definition of overcrowding is superior to other(s) for the purpose of international comparison? One possible answer is to let people decide themselves.

In the 2007 module of the EU-SILC respondents were asked about whether they felt they had a shortage of space. We assessed to what extent the respondent's subjective perception (view) conformed to the two aforementioned definitions of overcrowding. The basic idea is that the closer the 'objective' rate of overcrowding is to its 'subjective' assessment, the better the selected method (definition) is. The distance could be measured as a simple Euclidian distance between the percentage of population living in overcrowded housing (according to selected definition) and the percentage of population considering space to be a problem for the household. Formally:

$$\text{distance} = \sqrt{\sum_{i=1}^{n} w_i \times (h_1 - h_2)^2} \text{ , where}$$

distance - Euclidian distance between measures;
n - number of countries;
w_i - weights for individual countries (i) based on the population size;[2]
h_1 - share of population living in overcrowded housing (according to the selected definition);
h_2 - share of population considering that (dwelling) space is a problem for the household.

Figure 3 shows interesting results. While in more advanced countries (with the exception of Greece and Italy) the percentage of the population that considers (dwelling) space to be a problem is significantly higher than the percentage of the population that is living in overcrowded dwellings based on 'objective' criteria, in post-socialist countries the opposite is true. 'Objective' normative criteria set externally with no relation to the particular country context may thus create artificial problems that in fact may not be felt by the population living in the given context.

[2] It would be inappropriate to use weights based on the share of households living in a country out of the total number of households surveyed in the EU-SILC 2007 (across countries), because the survey samples do not correspond to population size. For example, in 2007, 9,675 households were surveyed in the Czech Republic, while in the UK there were 9,275 households: consequently, the weight for the Czech Republic would be higher than for the UK.

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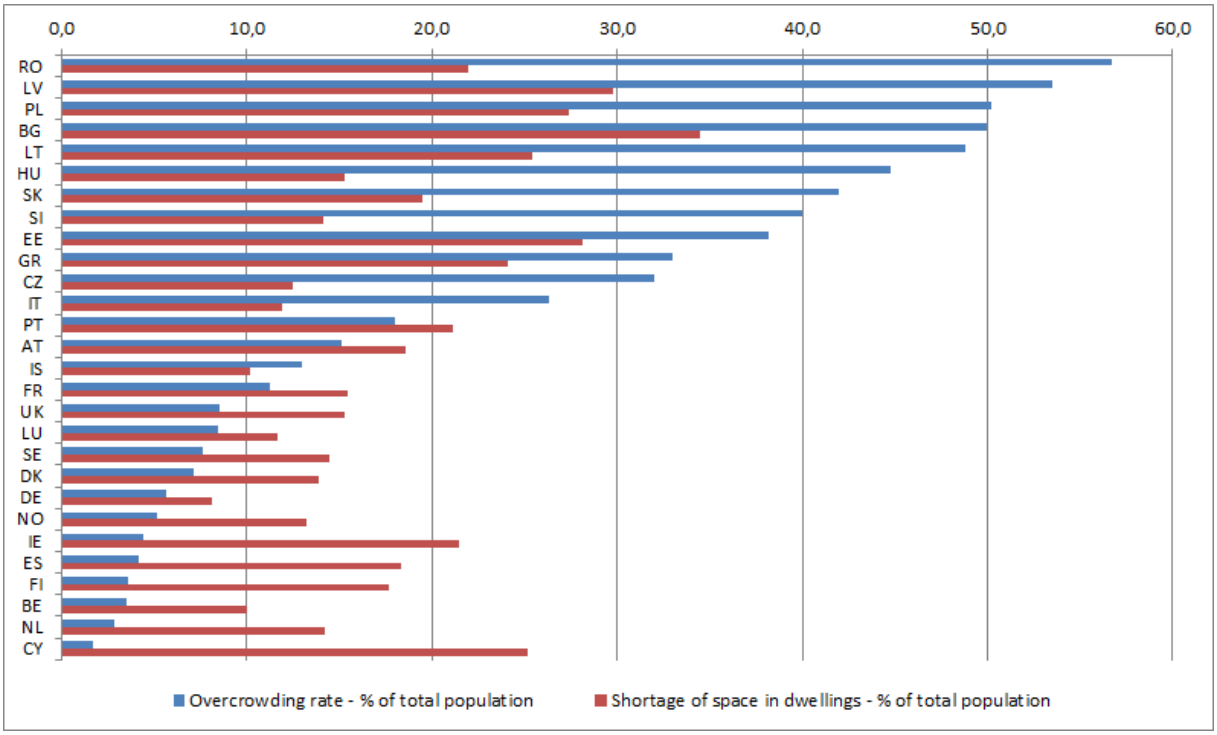
Figure 3: Percentage of the population living in overcrowded housing (%) and percentage of the population that believe (dwelling) space is a problem for the household (%)



Source: EU-SILC 2007 dataset, authors' computations.

Table 2 presents a comparison of the Euclidian distances of overcrowding rates specified above. The last two columns in Table 2 show the Euclidian distance between the overcrowding rate based on the 'simple' definition and the 'subjective' overcrowding rate (Distance 1) and between the overcrowding rate based on the Eurostat definition and the 'subjective' overcrowding rate (Distance 2) for each country included in the EU-SILC 2007 survey. The most significant difference between the distances is in Poland (7.7 percentage points), Italy (6.1 percentage points), the UK (4.5 percentage points) and Hungary (3.2 percentage points). Since the results for countries are ambiguous (for some countries Distance 1 is lower, while for other countries Distance 2 is), the distances were weighted (by population size weights) and summed up for all the countries. The results are presented in the last row of Table 2 (last two columns). It seems (given the lower value of the total distance in the last row of Table 2) that the 'simple' method of calculating the overcrowding rate (based on the assumption that adjusted household size should equal the number of rooms) is 'on average' closer to the 'subjective' overcrowding rate based on the perceptions of household members than is the method based on the Eurostat definition.

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Table 1: Euclidian distances of 'objective' and 'subjective' overcrowding rates (EU-SILC 2007)

Country	Overcrowding rate - % of total population	Shortage of space in dwellings - % of total population	Overcrowding rate as % of total population (Eurostat)	Population (2007)	Weights (population)	Distance 1*	Distance 2**
RO	56.7	21.9	56.3	21 565 119	0.0433	52.4	51.1
LV	53.5	29.8	61.1	2 281 305	0.0046	2.6	4.5
PL	50.2	27.4	52.3	38 125 479	0.0766	39.9	47.5
BG	49.9	34.4	51.1	7 679 290	0.0154	3.7	4.3
LT	48.8	25.4	52.5	3 384 879	0.0068	3.7	5.0
HU	44.8	15.3	47.4	10 066 158	0.0202	17.6	20.9
SK	42.0	19.5	43.3	5 393 637	0.0108	5.5	6.1
SI	40.0	14.2	39.9	2 010 377	0.0040	2.7	2.7
EE	38.2	28.1	43.5	1 342 409	0.0027	0.3	0.6
GR	33.0	24.1	29.2	11 171 740	0.0224	1.8	0.6
CZ	32.0	12.5	32.7	10 287 189	0.0207	7.8	8.4
IT	26.3	11.9	24.4	59 131 287	0.1187	24.6	18.5
PT	18.0	21.2	16.1	10 599 095	0.0213	0.2	0.5
AT	15.1	18.6	15.2	8 282 984	0.0166	0.2	0.2
IS	13.0	10.2	10.7	307 672	0.0006	0.0	0.0
FR	11.2	15.4	10.1	61 795 238	0.1241	2.2	3.5
UK	8.6	15.2	6.2	60 781 346	0.1220	5.4	10.0
LU	8.5	11.7	7.7	476 187	0.0010	0.0	0.0
SE	7.6	14.5	10.0	9 113 257	0.0183	0.9	0.4
DK	7.1	13.9	7.4	5 447 084	0.0109	0.5	0.5
DE	5.6	8.2	6.5	82 314 906	0.1653	1.1	0.5
NO	5.1	13.2	5.3	4 681 134	0.0094	0.6	0.6
IE	4.4	21.4	4.9	4 312 526	0.0087	2.5	2.4
ES	4.2	18.3	3.7	44 474 631	0.0893	17.9	19.1
FI	3.6	17.6	6.1	5 276 955	0.0106	2.1	1.4
BE	3.5	10.0	3.8	10 584 534	0.0213	0.9	0.8
NL	2.8	14.2	1.9	16 357 992	0.0328	4.3	5.0
CY	1.7	25.2	1.6	778 684	0.0016	0.9	0.9
				498 023 094	**1**	***14.2***	***14.7***

***** Distance between the overcrowding rate, based on the assumption that the number of rooms available to the household should equal the household size, and the shortage of space in dwellings.
****** Distance between the overcrowding rate, defined by Eurostat, and the shortage of space in dwellings.
Source: EU-SILC 2007 dataset, authors' computations.

Conclusions

The overcrowding rate according to the Eurostat definition is much higher in post-socialist states than in advanced EU countries. Were we to use the alternative definition of the overcrowding rate, the results would be (not surprisingly) slightly different. Both definitions are based on normative assumptions and it is difficult to assess which one is better. The idea presented in the article is that the closer the 'objective' rate of overcrowding is to its 'subjective' assessment, the better the selected method (definition) is. For measuring the distance between the objective and the subjective overcrowding rate we employed simple Euclidian distance.

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The comparison of objective and subjective rates of overcrowding produced interesting findings. While in more advanced countries (with the exception of Greece and Italy) the percentage of the population that considers (dwelling) space to be a problem is significantly higher than the percentage of the population that lives in overcrowded dwellings based on 'objective' criteria, in post-socialist countries the opposite is true. 'Objective' normative criteria set externally with no relation to the particular country context may thus create artificial problems that in fact may not be felt by the population living in the given context.

A comparison of the two different measures of overcrowding revealed that the 'simple' method of calculating the overcrowding rate (based on the assumption that adjusted household size should equal the number of rooms) is 'on average' closer to the 'subjective' overcrowding rate based on the perceptions of household members than is the method based on the Eurostat definition. The question of how to make the 'objective' indicators more context-specific and closer to reality was answered only very generally – we suggested linking the 'objective' indicators to 'subjective' perceptions more closely. It would be very useful to analyse the differences between the 'objective' and 'subjective' overcrowding rates in detail, for different countries, and (especially) for different types of households (with a different composition). Such an analysis would be a good starting point for a new 'objective' definition or at least for re-formulating the existing definition of the overcrowding rate. However, such an analysis would be well beyond the scope of this article.

Another problem is that, like other 'subjective' measures (such as in the context of poverty), the percentage of the population that perceives (dwelling) space to be a problem (i.e. subjective perception of overcrowding) can fluctuate over time, more so than are the 'objective' measures of overcrowding. Moreover, some households can perceive (dwelling) space to be a problem, despite the fact, that they have enough space according to the 'objective' criteria. Alongside 'objective' criteria, aspirations, belonging to a certain social group, and so forth, also play an important role in shaping personal perceptions.

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