

## HC2.1. LIVING SPACE

### Definitions and methodology

Space is an important dimension of housing quality. Ample space for all household members can be defined in different ways (Indicator HC2.2 considers housing quality in terms of sanitary facilities). Several studies outline the negative effects of overcrowded dwellings on health and particularly on child outcomes (Eurofound, 2012; Solari and Mare, 2012).

This indicator uses (1) the average number of rooms per household member to illustrate how space constraints differ across countries and households within countries and (2) overcrowding for an alternative measure of dwelling space that takes into account household composition. Rooms refer to bedrooms, living and dining rooms and in non-European countries also kitchens (see the section on Data on Comparability Issues for further details).

While the number of rooms available to household members highlights the importance of adequate space for housing quality, it makes no distinction between the different needs of households depending on their composition. Yet, the space requirements for a couple-family with two toddlers may be quite different compared to those of a single-parent family with two sons aged 21 and 16 and a daughter aged 17. The overcrowding rate takes into account households' different personal space needs depending on household members' age, gender and relationship.

The indicator follows the EU agreed definition of overcrowding (Eurostat, 2016). A household is considered overcrowded if it does not have at its disposal a minimum number of rooms equal to:

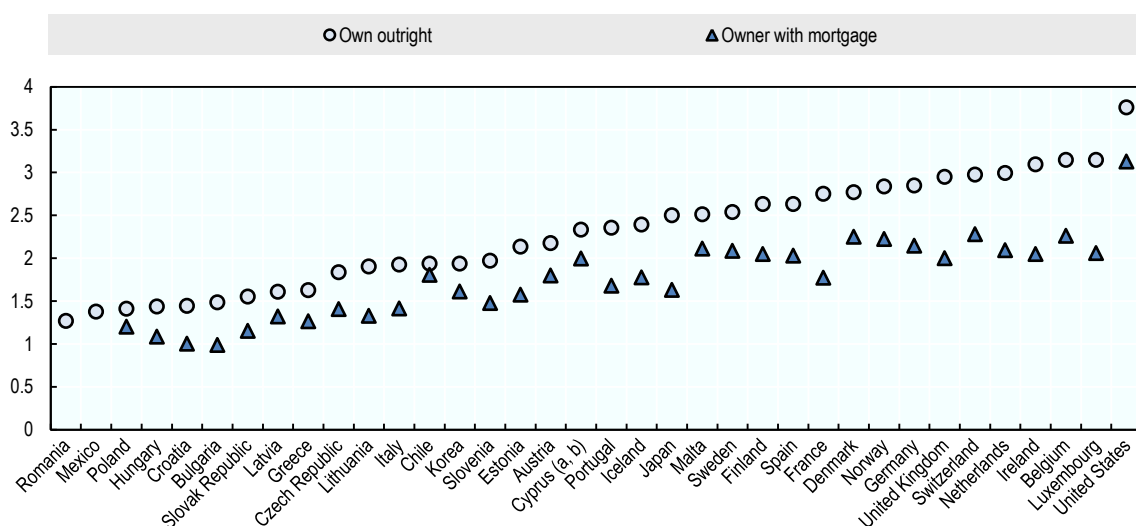
- one room for the household;
- one room per adult couple in the household;
- one room for each single person aged 18 and over;
- one room per pair of single persons of the same sex between 12 and 17 years of age;
- one room for each single person between 12 and 17 years of age and not included in the previous category;
- one room per pair of children under 12 years of age.

## Key findings

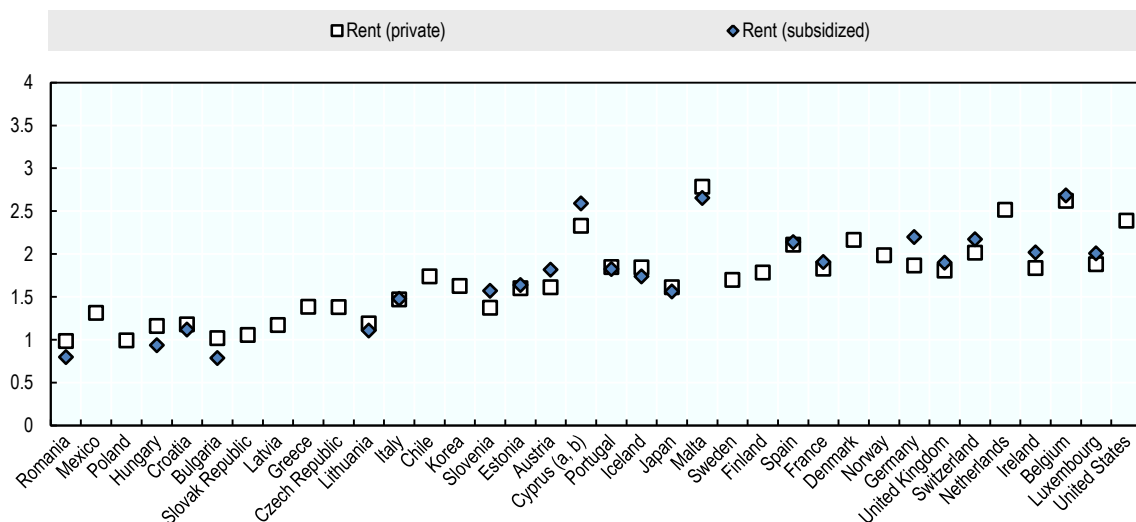
*Outright owner households have on average more rooms per person than owners with a mortgage or tenants*

### HC2.1.1. Average number of rooms per household member by tenure, 2014 or latest year available <sup>1, 2, 3</sup>

Panel A: Average number of rooms per household member, by type of ownership



Panel B: Average number of rooms per household member, by type of tenancy



1. No information available for Australia, Canada, New Zealand and Turkey. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations. See section "Data and comparability issues" of Indicator HC2.1 on limits to comparability across countries due to the definition of rooms.

2. Results only shown if category composed of at least 30 observations.

a) Note by Turkey: The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of

Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the "Cyprus issue".

b) Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

*Sources:* OECD calculations based on European Survey on Income and Living Conditions (EU SILC) 2014 except Germany; the Household, Income and Labour Dynamics Survey (HILDA) for Australia (2014); Encuesta de Caracterización Socioeconómica Nacional (CASEN) for Chile (2013); the German Socioeconomic Panel (GSOEP) for Germany (2014); the Korean Housing Survey (2015); Japan Household Panel Study (JHPS) for Japan (2014); Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) for Mexico (2014); American Community Survey (ACS) for the United States (2014).

Figure HC2.1.1 shows for owners (Panel A) and tenants (Panel B) the average number of rooms per household member (see data under HC.2.1.A1 in the online Annex for earlier years). Outright home owner households have on average more rooms at their disposal than owners with a mortgage. This relates to people's housing decisions over the life cycle: Typically younger people with children are owners paying off a mortgage and frequently become outright owners by the time their children move out (also see indicator HM1.3 on tenure structure in general).

Households in Central and Eastern European countries, Chile, Greece, Italy and Mexico who own their house have on average fewer than 2 rooms per household member. In most Southern European, Nordic and German speaking countries as well as Estonia, and the United Kingdom homes that are owned outright have between 2 and 3 rooms per household member. Ireland, Belgium, Luxembourg and the United States top the list as outright home-owners have more than 3 rooms per household member on average: the United States has the highest average by far with 3.8 rooms per household member.

In most countries tenant households (Panel B) resemble mortgaged households in terms of average number of rooms. Except for Korea, Malta and Cyprus (where tenants have more rooms on average than owners with a mortgage) and the United States (where tenants have a lower number of rooms on average than mortgaged owners). Central and Eastern European tenant households live on average in dwellings with 1 to 1.5 rooms per household member. Households in Belgium, Cyprus, Denmark, Malta, the Netherlands, Spain, Switzerland and the United States households have more than 2 rooms available per household member. Also, tenants renting at private market rates and tenants renting on the subsidized market have a similar number of rooms per household member on average.

Figure HC2.1.2 shows the average number of rooms per household members in low-income households for owners (Panel A) and tenants (Panel B). The basic patterns observed in Figure HC2.1.1 persist across countries for low-income households: In most countries outright owners live in dwellings with on average more rooms per household member than mortgaged owners and tenants. Yet, the differences between outright owners and owners paying off a mortgage are considerably larger for low-income households.

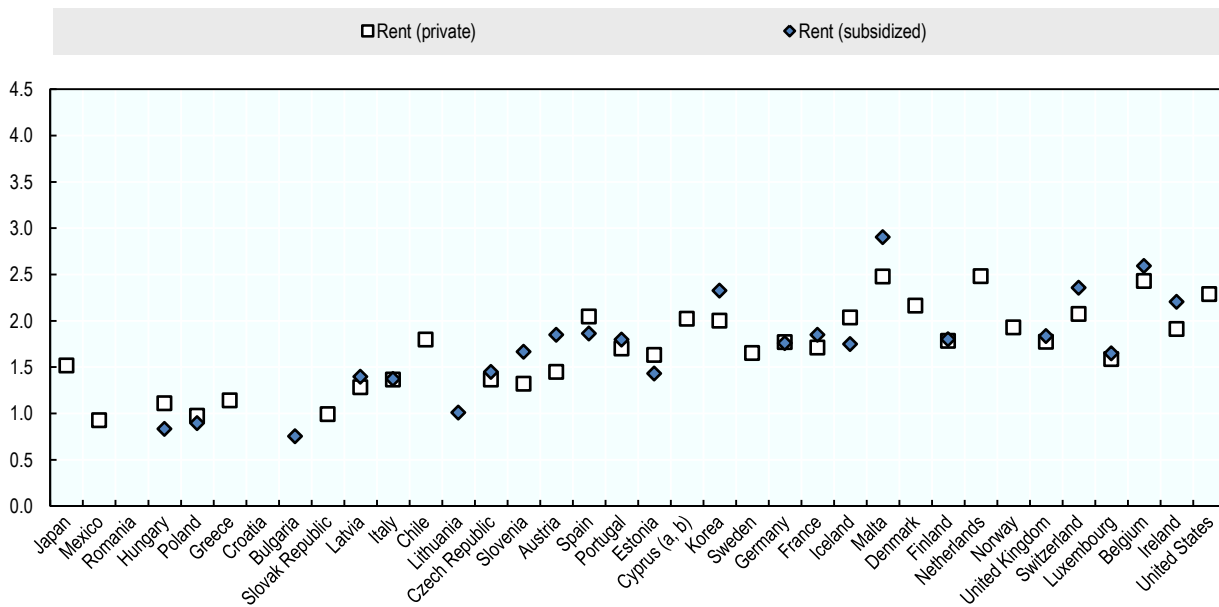
In some countries the space situation is less tenuous for tenants in subsidized housing than those renting on the private market: low-income households in subsidized rental housing have on average of more rooms per household member at their disposal than tenants on the private market in Austria, Ireland, Malta, Slovenia and Switzerland. While rules on access to subsidized housing differ across countries, social housing usually not only aims at offering affordable but also quality housing (see Indicator PH4.3 on social housing). Rules to avoid overcrowding should ensure -- at least when the new tenants move in -- ample space for each household member.

**HC2.1.2. Number of rooms per household member in low-income households by tenure type, 2014 or latest year available<sup>1, 2, 3</sup>**

Panel A: Average number of rooms per household member in owner households (with and without mortgage) in the bottom quintile of the income distribution



Panel B: Average number of rooms per household member in tenant households (private market and subsidized rent) in the bottom quintile of the income distribution



1. No information available for Australia, Canada, New Zealand and Turkey. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations. See section "Data and comparability issues" of Indicator HC2.1 on limits to comparability across countries due to the definition of rooms.

2. Low-income households are households in the bottom quintile of the (net) income distribution. In Chile, Mexico and Korea (2014) gross income is used due to data limitations.

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### ***Overcrowding is higher in low-income households but also occurs in better-off households in many countries***

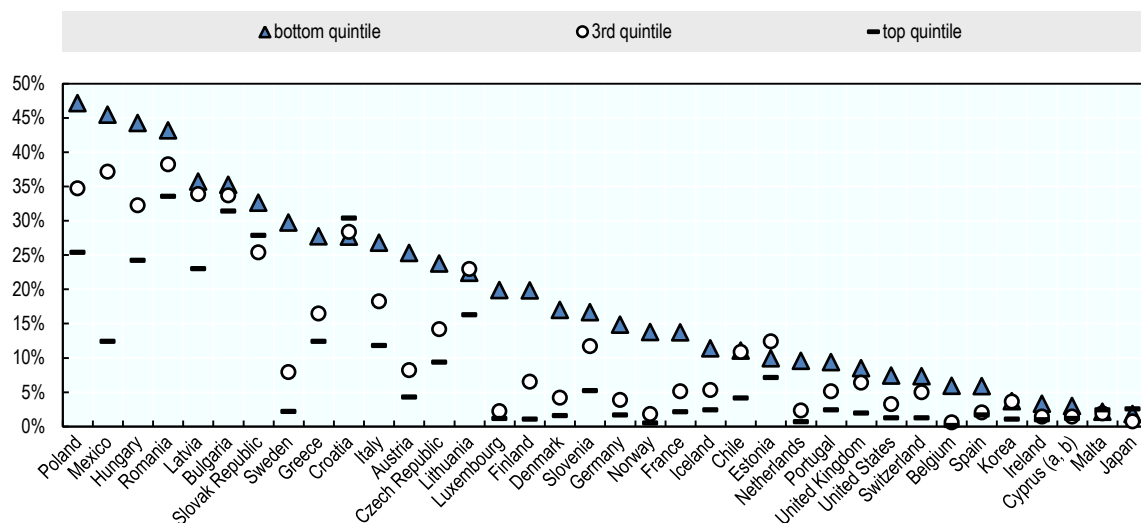
Overcrowding rates vary considerably across countries (Figure HC2.1.3, refer to online Annex HC2.1.A3 for earlier years and additional quintiles). While in some countries less than 5% of households are concerned regardless of their income situation (Korea, Ireland and Malta), the problem is much larger in other countries, particularly Central and Eastern European countries. In Bulgaria, Hungary, Latvia, Poland, Romania and the Slovak Republic overcrowding is an issue even for households in the top quintile of the income distribution with more than 20% of households concerned.

In Hungary, Mexico, Poland and Romania overcrowding rates amongst households in the bottom quintile are highest with more than 40% of households concerned. By contrast, less than one in ten low-income households lives in overcrowded dwellings in English-speaking countries, Belgium, Estonia, Malta, Cyprus, Korea, Japan, the Netherlands, Portugal, Spain and Switzerland.

In nearly all countries, the overcrowding rate increases as household income decreases. In most countries overcrowding rates in the bottom quintile are clearly higher than for households in the third quintile. Overcrowding rates for households in the third quintile of the income distribution are often similar to those for households in the top quintile of the income distribution. In a few countries, overcrowding rates either: (1) vary little across the entire income distribution (Bulgaria, Croatia, Cyprus, Estonia, Ireland, Korea, Japan and Malta); or (2), vary only slightly between the bottom and the middle part of the income distribution (Chile, Latvia, Lithuania and Switzerland).

**HC2.1.3. Overcrowding rates in households across the income distribution, 2014 or latest year available** <sup>1, 2, 3</sup>

Share of overcrowded households, by quintiles of the income distribution, in percent



1. No information available for Australia, Canada, New Zealand and Turkey. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations. See section "Data and comparability issues" of Indicator HC2.1 on limits to comparability across countries due to the definition of rooms.

2. Low-income households are households in the bottom quintile of the (net) income distribution. In Chile, Mexico and Korea (2014) gross income is used due to data limitations.

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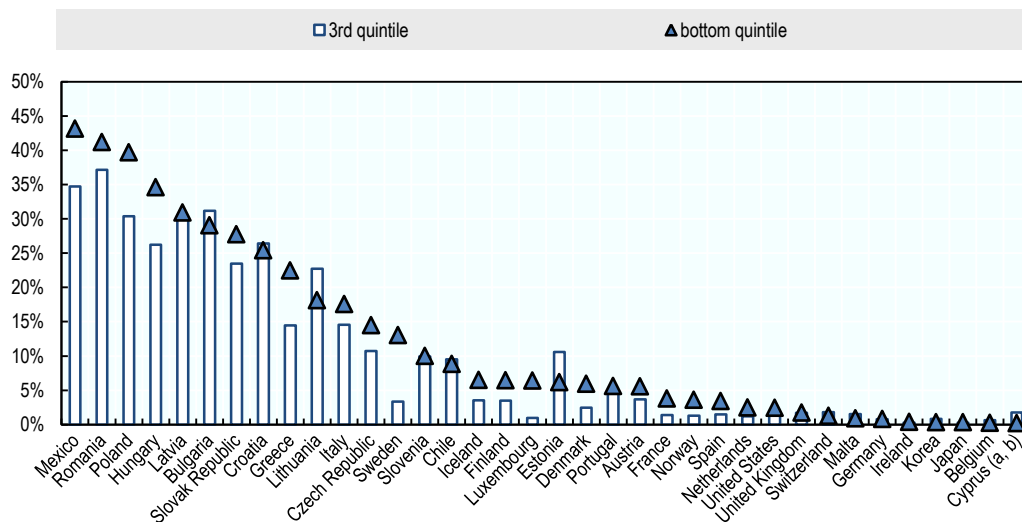
Sources: OECD calculations based on European Survey on Income and Living Conditions (EU SILC) 2014 except Germany; the Household, Income and Labour Dynamics Survey (HILDA) for Australia (2014); Encuesta de Caracterización Socioeconómica Nacional (CASEN) for Chile (2013); the German Socioeconomic Panel (GSOEP) for Germany (2014); the Korean Housing Survey (2015); Japan Household Panel Study (JHPS) for Japan (2014); Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) for Mexico (2014); American Community Survey (ACS) for the United States (2014).

***Overcrowding is more likely to occur in low-income tenant than in low-income owner households***

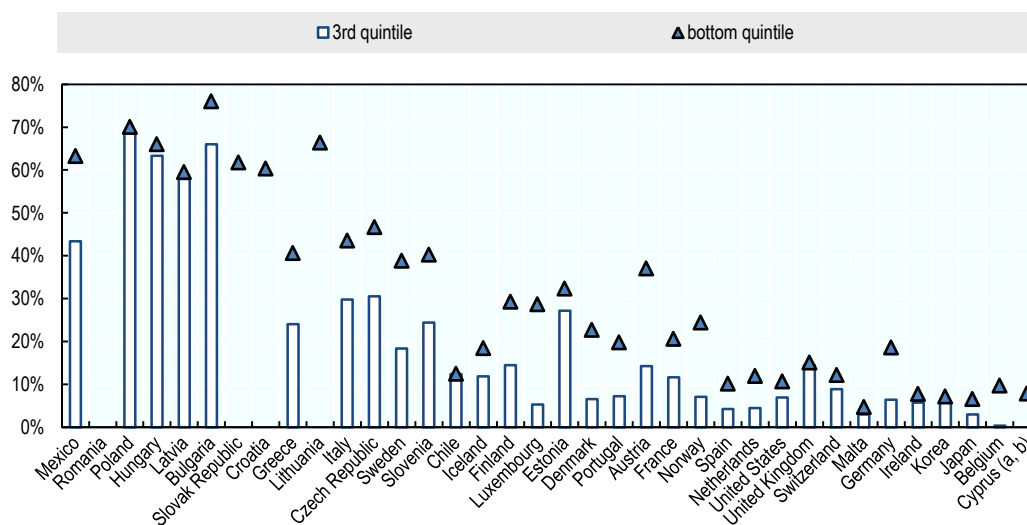
In most countries the difference in overcrowding rates between the bottom and the third quintile is more pronounced among tenant households (Panel B of Figure HC1.2.4) than among owner households (Panel A of Figure HC2.1.4, see HC2.1.A4 in the online Annex for earlier years and a further breakdown of tenure type). In Austria, the Czech Republic, Denmark, Germany, Greece, Luxembourg, Mexico, Norway, Slovenia and Sweden the difference is greater than 15 percentage points (Panel B). There is no difference in overcrowding rates between low and middle-income tenant households in some countries where overcrowding rates are high (Hungary, Latvia and Poland) and in some countries where overcrowding rates are low (Ireland, Malta and the United Kingdom).

**HC2.1.4. Overcrowding rates of low and middle-income households, by tenure type, 2014 or latest year available**<sup>1, 2, 3</sup>

Panel A: Share of overcrowded owner households (with and without mortgage), bottom and third quintile of the income distribution, in percent



Panel B: Share of overcrowded tenant households (renting at market or subsidized rate), bottom and third quintile of the income distribution, in percent



1. No information available for Australia, Canada, New Zealand and Turkey. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations. See section "Data and comparability issues" of Indicator HC2.1 on limits to comparability across countries due to the definition of rooms.

2. Low-income households are households in the bottom quintile of the (net) income distribution. In Chile, Mexico and Korea (2014) gross income is used due to data limitations.

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### ***Children are more likely to experience overcrowding than the grown-up population***

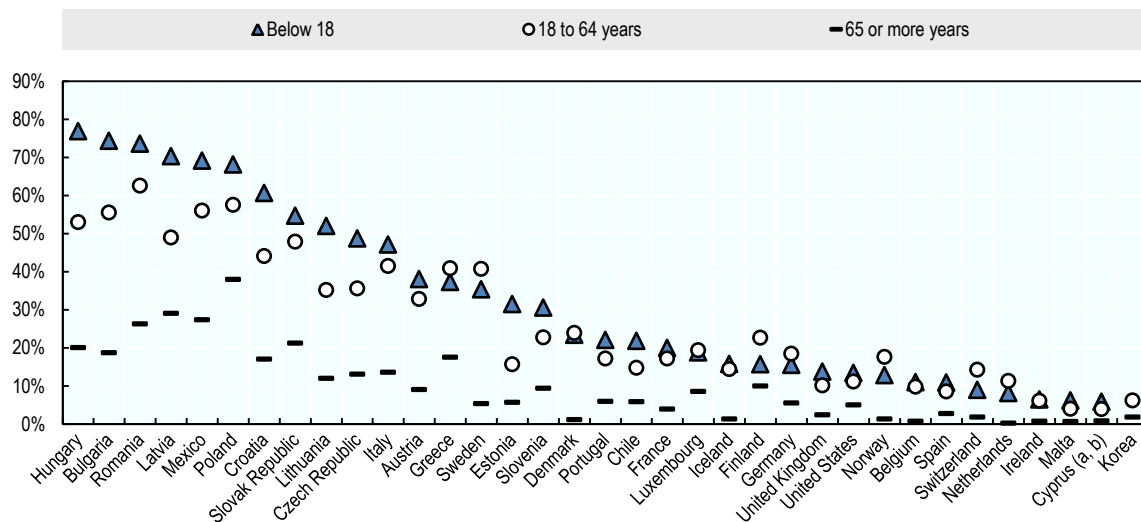
Within the low-income population it is particularly children that live in overcrowded dwellings, while this is generally least likely to concern senior citizens (Figure HC2.1.5, refer to HC2.1.A5 for earlier years). In Bulgaria, Hungary, Latvia and Romania more than seven out of ten children (under 18 years of age) are concerned. In Cyprus, Ireland, Malta, the Netherlands, and Switzerland, by contrast, less than one in ten children in low-income households live in overcrowded dwellings.

The differences in overcrowding rates between age-groups are particularly large in Central and Eastern European countries but are also considerable in Austria, Italy, Greece, Mexico and Sweden. As couples have children they need more space yet may be forced to live in overcrowded quarters if they lack affordable alternatives. Tsenkova (2005), for example, reports for South Eastern European countries that high outright ownership rates among low-income households together with rising prices, particularly in the capital regions, and a small private rental market sector limit housing choices. In countries with low or very low overall overcrowding rates, the situation is largely the same for everyone not yet 65 years of age (English-speaking countries, Belgium, Cyprus, Ireland, Malta, the Netherlands, Norway and Spain).



**HC2.1.5. Overcrowding rates among the low-income population, by age group, 2014 or latest year available** <sup>1,2,3</sup>

Share of population in the bottom quintile of the income distribution living in overcrowded dwellings, in percent



1. No information available for Australia, Canada, New Zealand, Turkey and Korea for below 18. For Chile, Mexico, Denmark, the Netherlands and the United States no information on subsidized tenants due to data limitations. See section "Data and comparability issues" of Indicator HC2.1 on limits to comparability across countries due to the definition of rooms.

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**Data and comparability issues**

This indicator is calculated based on household surveys. For European countries the European Survey on Income and Living Conditions (EU SILC) is used; for Chile the Encuesta de Caracterización Socioeconómica Nacional (CASEN); for Korea the Korean Housing Survey; for Mexico the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH); and for the United States the American Community Survey (ACS). For Japan, the Japan Household Panel Study is used. Data in JHPS is sampled on the respondent level and not on the household level.

The Survey of Living and Income Dynamics (SLID) in Canada and the Household and the Income and Labour Dynamics Survey in Australia (HILDA) only record the number of bedrooms and are therefore not included in the analysis.

While all surveys do not count bathrooms as a room, definitions differ for kitchens. JHPS counts kitchens towards the total number of rooms. EU SILC and GSOEP do not count a kitchen used exclusively for cooking as a room; a 'kitchen-cum-dining rooms' by contrast is counted as such. In ACS, CASEN, ENIGH and the Korean Housing Survey kitchens exclusively used for cooking and 'kitchen-cum-dining rooms' would both qualify as a room. As ACS, CASEN, ENIGH and the Korean Housing Survey do not provide information on which type of kitchen is counted towards number of rooms it is not possible to completely harmonize the number of rooms between EU SILC and other surveys. The overcrowding rates for European countries are thus likely to be slightly overestimated compared to other countries.

EU SILC, GSOEP and ACS also impose minimum space restrictions on rooms: In EU SILC spaces with less than four square meters are not considered rooms, in GSOEP the threshold is six square meters and in the ACS rooms "must extend out at least 6 inches and go from floor to ceiling" according to the questionnaire.

**Sources and further reading:**

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