



August 2, 2022

INCOME AND LIVING CONDITIONS – Housing deprivation
2021

THE POPULATION LIVING WITH A LACK OF SPACE HAS INCREASED

The Survey on Income and Living Conditions indicates that in Portugal 10.6% of people lived in a condition of lack of space in 2021, a proportion higher than in the previous three years, in which the housing overcrowding rate was below 10% (9.6% in 2018, 9.5% in 2019 and 9.0% in 2020).

In 2021, as in previous years, the risk of living in a situation of insufficient housing space was more significant for the population at-risk-of-poverty: 18.8% of the population at-risk-of-poverty were in a situation of housing overcrowding, which compared to 8.7% in the rest of the population.

The median housing cost burden, ie. the median of the distribution of the ratio between annual housing costs and household disposable income (both terms net of housing allowances), was 10.5% in 2021, slightly higher than in 2020 (10.4%), but lower than in 2018 (11.7%) and in 2019 (11.0%).

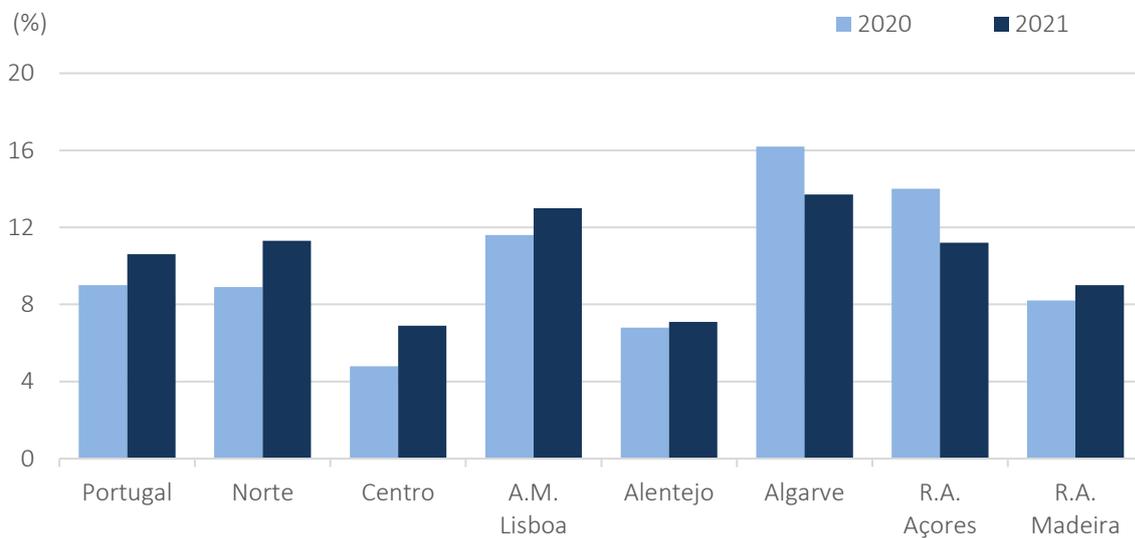
The overburden housing cost rate was 5.9% in 2021, with an increase of 1.8 pp compared to the previous year (4.1%).

Unfavourable housing conditions increased in 2021

In Portugal, in 2021, according to the results of the Survey on Income and Living Conditions, 10.6% of people lived in accommodation in which the number of rooms (≥ 4 m²) was insufficient for the number and demographic profile of household members, plus 1.6 pp than in the previous year.

The percentage of people living in overcrowded conditions increased in most regions of the country, except in the Algarve and in the Região Autónoma dos Açores (2.5 pp less and 2.8 pp less, respectively). The most significant increases were recorded in the regions Norte (plus 2.4 pp), Centro (plus 2.1 pp) and Área Metropolitana de Lisboa (plus 1.4 pp)

Figure 1. Overcrowding rate, NUTS 2, 2020-2021

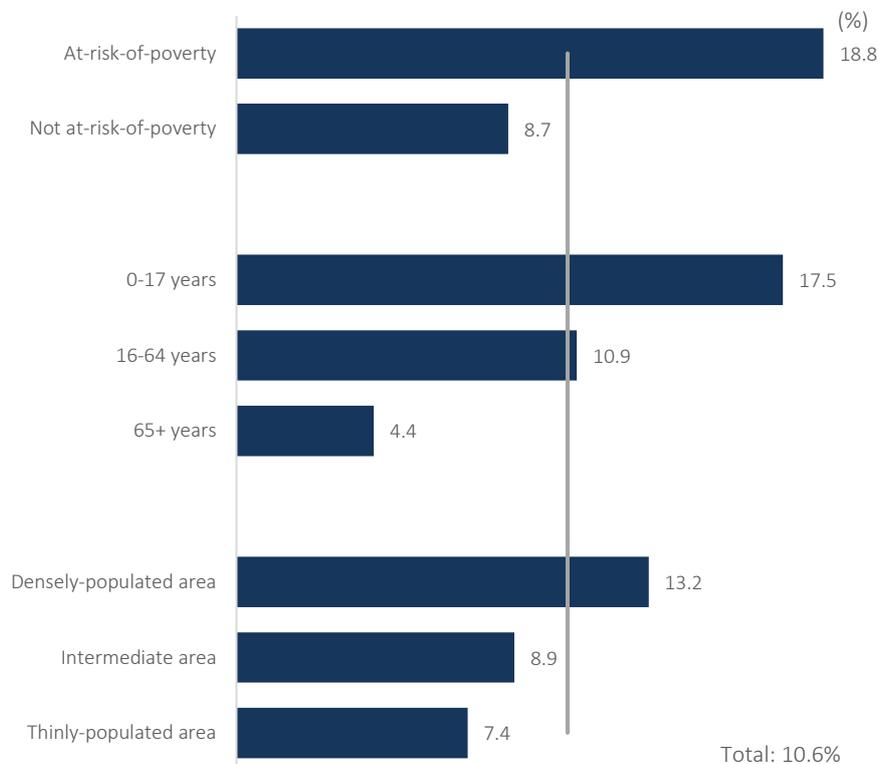


Source: INE, Survey on Income and Living Conditions, 2020-2021.

Living in an overcrowded dwelling was, in 2021, a condition that mainly affected households at-risk-of-poverty (18.8%) and households residing in densely populated areas (13.2%).

In the same year, the housing overcrowding rate was higher for younger people (17.5% for the age group up to 17 years), and lower in older ages (10.9% for adults and 4.4% for the elderly).

Figure 2. Overcrowding rate by poverty status, age group and degree of urbanisation, Portugal, 2021



Source: INE, Survey on Income and Living Conditions, 2021.

The effect of household characteristics on the lack of space in the main residence

In addition to the statistical results describing the lack of housing space presented in the previous paragraphs, the outcomes of exploring the same data are shown to determine the relation of the households' characteristics, simultaneously, to the probability of a household living in an overcrowded housing condition (household size, household type, degree of urbanization, tenure status, poverty status, level of education).

With this aim, a binomial¹ Logit model was estimated in which the dependent variable "Overcrowding of the household's main residence" takes the value 1 when the number of rooms (≥ 4 m²) is insufficient for the number and demographic profile of the household members, and 0 when it is sufficient (see the Methodological note).

Contrary to the statistical results previously presented, which follow the convention adopted in the EU-SILC program to consider the individual as the unit of analysis, the definition of the Logit model took into account that most of the variables of interest are obtained at the household level, although not neglecting the integration of

¹ See the Methodological note.



some individual characteristics (age and level of education) by including the Household type and the Level of education of the reference person.

The following were considered as explanatory variables:

Household type – qualitative variable with 7 categories (One person household; Other households without dependent children²; One adult with dependent children; Two adults with one dependent child; Two adults with two dependent children; Two adults with three or more dependent children; Other households with dependent children) converted into 6 binary variables, with the category “One person household” being the reference class.

Tenure status – qualitative variable with 3 categories (Owners, Tenants, Accommodations provided free of charge) converted into 2 binary variables. Reference class: Owners.

Degree of urbanisation – qualitative variable with 2 categories (Densely-populated areas; Intermediate and thinly-populated areas). Reference class: Intermediate and thinly-populated areas.

Level of education of the reference person³ – qualitative variable with 3 categories (Basic education or less; Secondary education; Higher education), converted to 2 binary variables. Reference class: Basic education or less.

Poverty status – qualitative variable with 2 categories (Households not at-risk-of-poverty; Households at-risk-of-poverty). Reference class: Households not at-risk-of-poverty.

The NUTS 2 region of the residence was also included in the Logit model estimation, although not analysed due to the non significance of the average marginal effects for the majority of the regions.

The results of the Logit model (see tables in attachment) should be interpreted as approximations to the single relations of each selected explanatory variable with the probabilities of occurrence of a given state of the dependent variable, when all other variables are controlled simultaneously.

The coefficients presented correspond to the variations in the probabilities (marginal effects) associated with each of the explanatory variables (in relation to the reference class), keeping all other constants.

The results obtained allow us to conclude that:

- Living in a household with dependent children increases the probability of living in an overcrowding condition compared to an adult who lives alone, especially in the case of households of three or more adults and at least one dependent child (plus 31.3 pp) and two adults and three or more dependent children (plus 16.0 pp);
- The probability of a household of two adults and two children living in overcrowding increases by 5.7 pp compared to a single adult, and 4.9 pp in the case of a family consisting of an adult and at least one dependent child;
- The probability of facing a situation of insufficient housing space is 4.9 pp higher in the case of tenants than in the case of a household that owns the main residence accommodation;

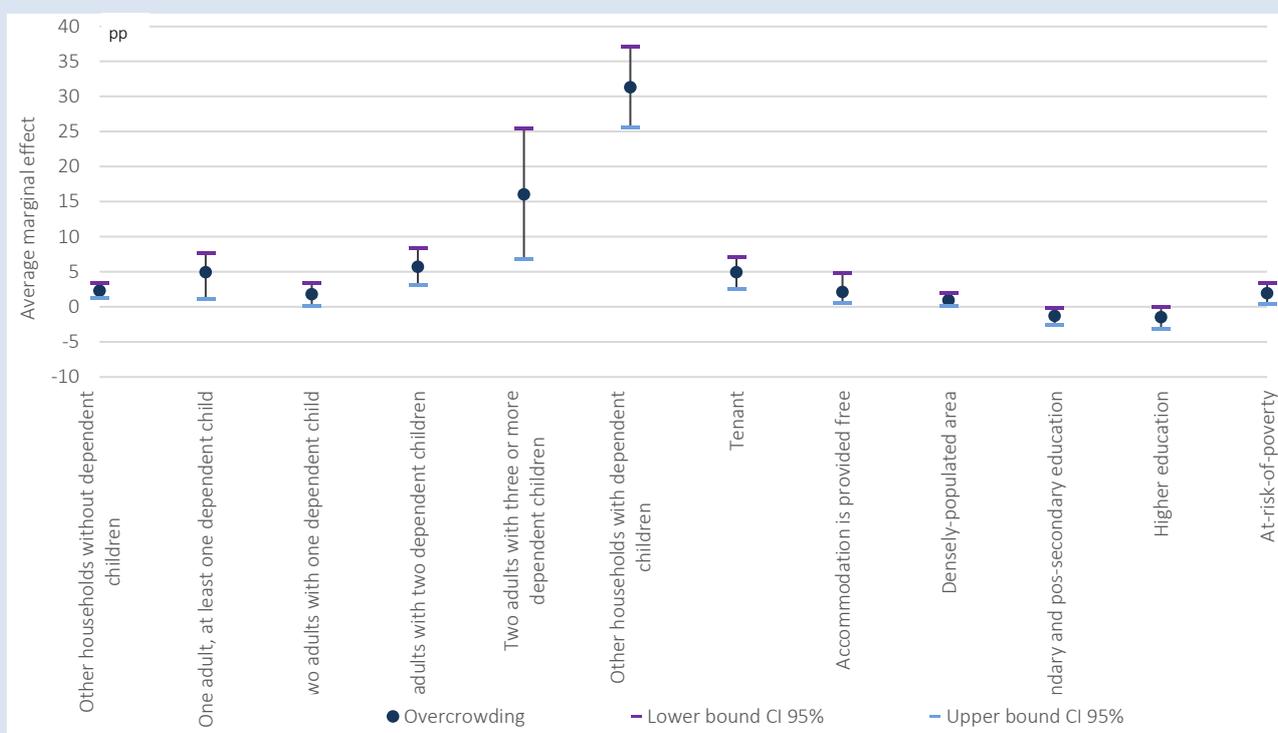
² Dependent children: All individuals aged less than 18 years old, as well as those aged between 18 and 24 years old but economically dependent.

³ Household reference person: the household member with the highest proportion of the household's annual gross individual income.



- Facing an at-risk-of-poverty condition increases by 1.9 pp the probability of the household being simultaneously overcrowded;
- Living in a densely-populated area increases by 0.9 p.p. the probability of living in an overcrowded condition in relation to living in an intermediate or thinly-populated area;
- The probability of a household living with insufficient housing space decreases with the increase in the level of education completed by the reference person: minus 1.3 pp when the reference person has completed secondary education, and minus 1.5 pp when the reference person has completed some degree of higher education, both in relation to a family in which the reference person has completed Basic education or less.

Figure 3. Average marginal effects – relation with the probability of living in an overcrowding dwelling, 2021



Source INE, Survey on Income and Living Conditions, 2021.

5,9% of the population in overburden housing cost condition, 1.8 pp more than in 2020

Indicators relating to housing costs, namely the median housing cost burden and the overburden housing cost rate allow to assess the importance of the costs associated with access and use of housing in the households' disposable income. These indicators are based on the housing cost burden, ie., the ratio between the annual housing cost and the household's disposable income, less social transfers related to housing. Housing costs

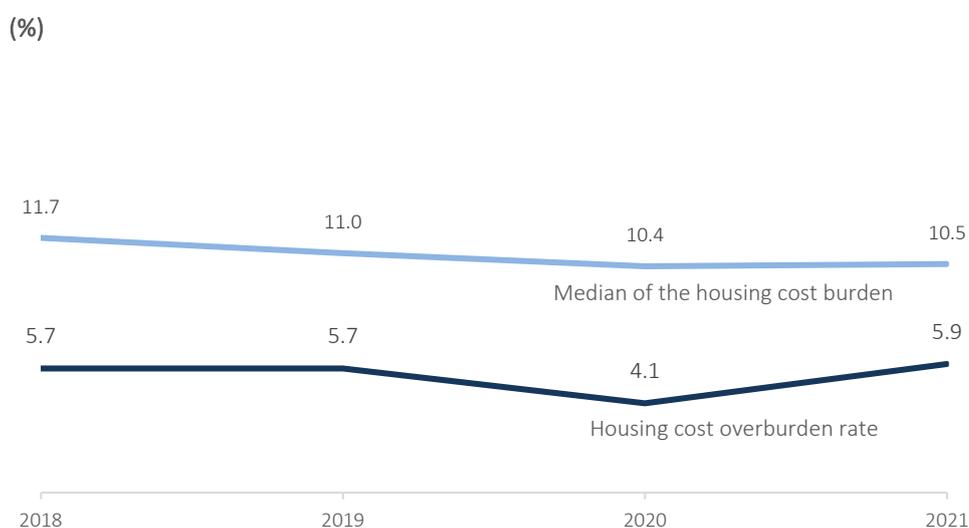


include those related to water, electricity, gas or other fuels, condominium, insurance, sanitation, minor repairs, as well as rent and interest related to the main residence loan.

In 2021, the median housing cost burden was 10.5%, 0.1 pp higher than in the previous year.

For the population at-risk-of-poverty, the median housing cost burden was 22.9% in 2021 (2.3 pp more than the percentage recorded in 2020) and more than doubling the value recorded for the general population.

Figura 4. Housing deprivation indicators, Portugal, 2018-2021



Source: INE, Survey on Income and Living Conditions, 2018-2021.

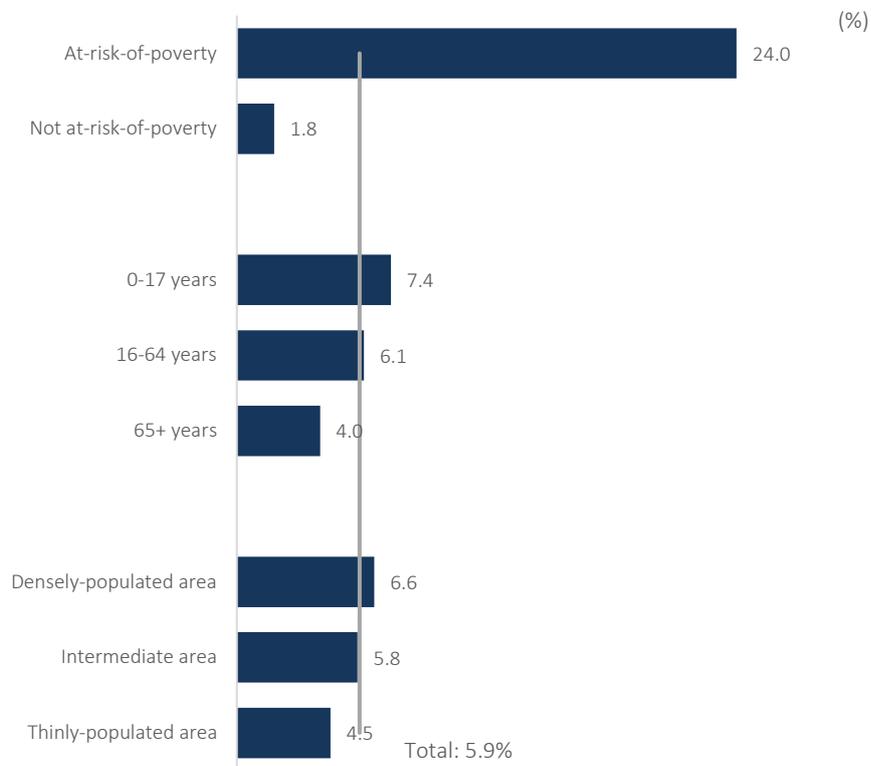
The overburden housing cost rate, which corresponds to the proportion of people living in households where the ratio of annual housing costs to disposable income (deducting social transfers relating to housing) is greater than 40%, rose to 5.9% in 2021, 1.8 pp more than in the previous year (4.1%).

The increase in the overburden housing cost rate was extensive to almost all NUTS 2 regions, with the exception of the region of Centro.

In 2021, 24.0% of the population at-risk-of-poverty lived in a overburden housing cost condition, compared to 1.8% for the rest of the population.

The overburden housing cost rate in 2021 did not show significant differences by degree of urbanisation of the area of residence of the individuals, being 6.6% in densely populated areas, 5.8% in intermediate areas and 4.5% in the thinly-populated areas.

Figure 5. Housing cost overburden by poverty status, age group and degree of urbanisation, Portugal, 2021



Source: INE, Survey on Income and Living Conditions, 2021.



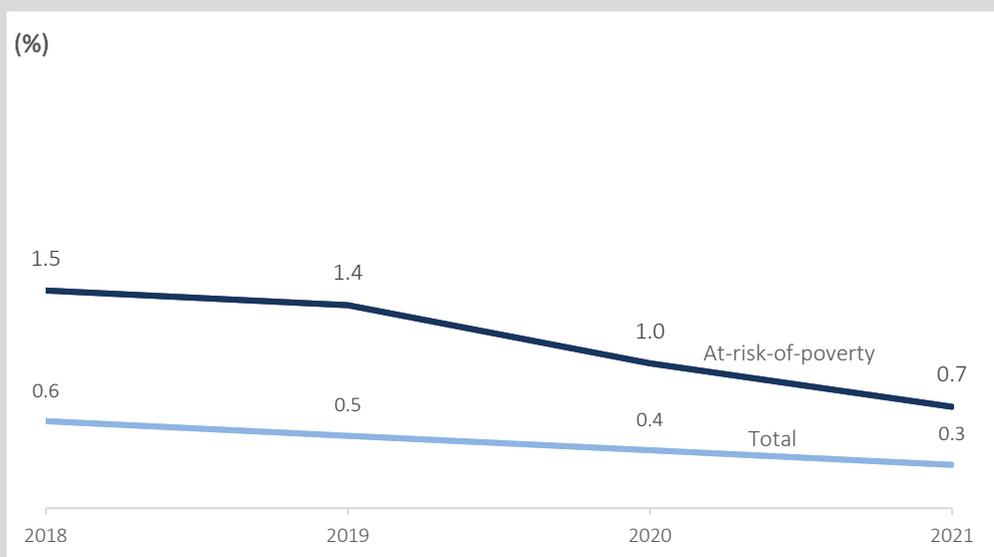
The impact of the new Regulation (EU) 2019/1700 of the European Parliament and of the Council in the compilation of data on housing deprivation from 2021

The Survey on Income and Living Conditions collects data on the physical and sanitary conditions of the dwellings, in addition to those relating to the income distribution, material and social deprivation and health status. Until 2020, all these data were collected annually and the information was synthesized through the indicator Severe housing condition rate, which corresponds to the proportion of the population living in an overcrowded household and with, at least, one of the following housing problems: a) lack of a bath or shower in the dwelling; b) lack of an indoor flushing toilet for sole use of the household; c) leaking roof, damp walls/floors/foundation, or rot in window frames or floor; d) insufficient natural light (too dark) in a sunny day.

With the entry into force of Regulation (EU) 2019/1700 of the European Parliament and of the Council from 2021, some of these variables are now collected only every 3 years, starting in 2023, therefore preventing the calculation of the Severe housing condition rate each year (in particular, for 2021).

It is possible, however, to present the indicator relating to the proportion of the resident population having neither a bath, nor a shower, nor indoor flushing toilet. According to the final results of the Survey on Income and Living Conditions, 0.3% of the total population (0.6% in 2018) and 0.7% of the population at-risk-of-poverty (1.5% in 2018), lived without a bath, shower or toilet inside the accommodation in 2021. Thus, the trend for improvement regarding this housing condition is confirmed, especially in the case of the population at-risk-of-poverty.

Figure 6. Proportion of the resident population having neither a bath, nor a shower, nor indoor flushing toilet, Portugal, 2018-2021



Source: INE, Survey on Income and Living Conditions, 2018-2021.



METHODOLOGICAL NOTE

The Survey on Income and Living Conditions (EU-SILC) has been carried out in Portugal since 2004, until 2020 within the framework of specific European legislation (Regulation no. 1177/2003), establishing an harmonised European system of production of statistics on poverty, deprivation and social exclusion. As of 2021, the survey is being carried out in the context of new specific European regulations, in accordance with Regulation (EU) 2019/1700 of the European Parliament and of the Council, of 10 October 2019.

The survey aims to obtain results for the set of all individuals residing in the national territory in the reference period, with a breakdown by NUTS 2 level from 2018. For income, the reference period corresponds to the year before that in which the interviews are carried out.

In Portugal, survey data was regularly collected on an annual basis through computer-assisted face-to-face interviews (CAPI, or Computer Assisted Personal Interview in English) in the 2nd semester of the year. Yet, as a result of public health measures following the COVID-19 pandemic, namely lockdown and social distancing, the survey was exclusively carried out through telephone interviews (CATI, or Computer Assisted Telephone Interviewing) in 2020 and 2021. In 2021, the survey addressed 16,478 families, of which 10,973 received a complete response (with data collection on 26,822 people; 23,730 aged 16 and over).

Households are selected by stratified and two-stage sampling from a sampling frame of private dwellings. The partial longitudinality of the sample (about $\frac{1}{4}$) and the concern with limiting the statistical burden on the respondents are ensured through the implementation of an annual rotational scheme of four independent subsamples, each one being replaced each year. Thus, each household responds to a maximum of four interviews, guaranteeing the overlap of $\frac{3}{4}$ of the respondents in relation to the previous year.

Data on housing deprivation refer to the year the survey was carried out (2021). Nevertheless, the housing deprivation indicators by poverty status compare data relating to the time of the interview (year of the survey) with monetary information relating to the income reference year.

DEFINITIONS

Housing cost burden: ratio between the housing costs and the disposable household income (net of housing allowances). Housing costs include those related to housing facilities such as water, electricity, gas and other fuels, as well as condominium, insurances, sewage, minor repairs, rents and interest related to the main residence mortgage.

Two indicators have been calculated on the basis of the distribution of this ratio:

Median housing cost burden, i.e. the median of the housing cost burden distribution.

Overburden housing cost rate: proportion of people living in households where the housing costs represent more than 40% of the disposable household income (net of housing allowances).



At-risk-of-poverty threshold: Income threshold under which a household is considered to be living in risk of poverty. It was conventionalised by the European Commission as 60% of the median national equivalent income.

Poverty status: Condition of the resident population whose equivalent disposable income is below the at-risk-of-poverty threshold.

Overcrowding rate: proportion of households where the number of rooms ($\geq 4\text{m}^2$) is not sufficient for the household's dimension and demographic composition.

An individual is considered to be living in an overcrowding condition there is not a minimum number of rooms in the dwelling ensuring:

- one room for the household as a whole;
- one room for each couple;
- one room for each single person aged 18 years old or over;
- one room per two persons aged 12 to 17 years old of same sex;
- one room for each person aged 12 to 17 years of different sex;
- one room for two persons aged less than 12 years old.

Severe housing condition rate: proportion of the population living in an overcrowded household and with, at least, one of the following housing problems: a) lack of a bath or shower in the dwelling; b) lack of an indoor flushing toilet for sole use of the household; c) leaking roof, damp walls/floors/foundation, or rot in window frames or floor; d) insufficient natural light (too dark) in a sunny day.

LOGIT MODEL

The probability of a household living in an overcrowded dwelling was estimated from the following equation:

$$Pr(Y = 1|X_i) = F(X_i\beta)$$

where $F(X_i\beta) = \frac{\exp(X_i\beta)}{1 + \exp(X_i\beta)}$ is the cumulative logistic function and X_i is the vector of explanatory variables mentioned above: Household type, Tenure status, Degree of urbanisation, Level of education of the reference person, Poverty status.

This exercise used 10,969 sample household observations collected by ICOR 2021, weighted, so that the results are valid for the household population.