

March 15, 2024

INCOME AND LIVING CONDITIONS

HOUSING, HOUSING DIFFICULTIES AND ENERGY EFFICIENCY OF DWELLINGS

2023

## SEVERE HOUSING DEPRIVATION INCREASED IN 2023

The Survey on Income and Living Conditions (ICOR) currently consists of a set of data that are collected annually and a system that combines modules that collect pre-defined complementary information on a regular basis and *ad hoc* modules on new information needs. The results presented in this press release include data from the annual component, as well as from the 2023 information on "Housing difficulties" and the *ad hoc* module on "Energy efficiency of buildings and housing".<sup>1</sup>

The results obtained confirm the deterioration of housing conditions, with the proportion of persons living in dwellings in which the number of habitable rooms was insufficient for the number and demographic profile of household members increasing to 12.9%, 3.5 p.p. more than in the previous year (9.4%), and the proportion of residents in severe housing deprivation rate increasing to 6.0%, 2.1 p.p. more than in 2020 (3.9%).

On the other hand, there was a slight improvement in the ratio between housing expenditure and household disposable income<sup>2</sup>, with a median housing expenditure burden of 9.7% in 2023, lower than the result of 10.2% recorded in the previous year (0.5 p.p. less), and a housing expenditure overburden rate of 4.9%, slightly below the value in the previous year (5.0%).

Regarding the thermal comfort of housing, the data collected indicate that 20.8% of the population lived in households in 2023 where there was no financial capacity to keep the dwelling comfortably warm, 3.3 p.p. more than in 2022. Portugal was in 2022 one of the 5 EU-27 countries in which this disability was highest, at 17.5%, almost double the European average of 9.3%.

The situation in terms of thermal comfort is even more serious if we take into account that, to the proportion of those who were in a precarious thermal situation for financial reasons, it is necessary to add the 21.6% who report living in a situation where the accommodation is not warm enough in winter for other reasons, and that 38.3% live in dwellings that are not adequately cool in the summer.

When asked about previous situations in which they had to stay temporarily overnight in another accommodation (private or collective), on the street or in a public space, because they had nowhere to stay, 4.0% of the persons aged 16 and over reported having experienced at least one situation of housing difficulty, of which 3.2% temporarily at the home of friends or relatives. The main reasons mentioned by respondents were "relationship or family problems" (39.6%) and "financial problems" (19.1%).

<sup>1</sup> The implementation of the ICOR module on "Intergenerational transmission of advantages and disadvantages and Housing difficulties" and the *ad hoc* module on "Household energy efficiency" in 2023 was co-financed by the European Union.

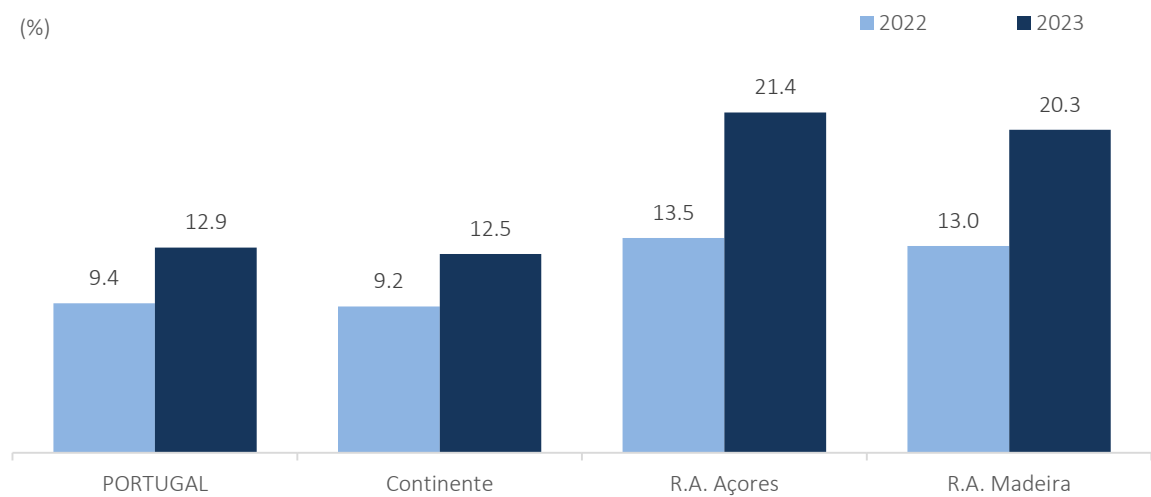
<sup>2</sup> After deduction of social transfers relating to housing.

In 2023, the proportion of people living in overcrowded conditions increased

According to the results of the Survey on Income and Living Conditions carried out in 2023, 12.9% of people lived in dwellings where the number of habitable rooms ( $\geq 4\text{ m}^2$ ) was insufficient for the number and demographic profile of household members, 3.5 p.p. more than in the previous year (9.4%).

The increase in the condition of overcrowding compared to 2022 was common to the three Portuguese NUTS 1 regions, although more significant in the Autonomous Regions: 3.3 p.p. more in Continente, 7.9 p.p. more in Região Autónoma dos Açores and 7.3 p.p. more in Região Autónoma da Madeira.

Figure 1. Overcrowding rate, NUTS I, 2022-2023



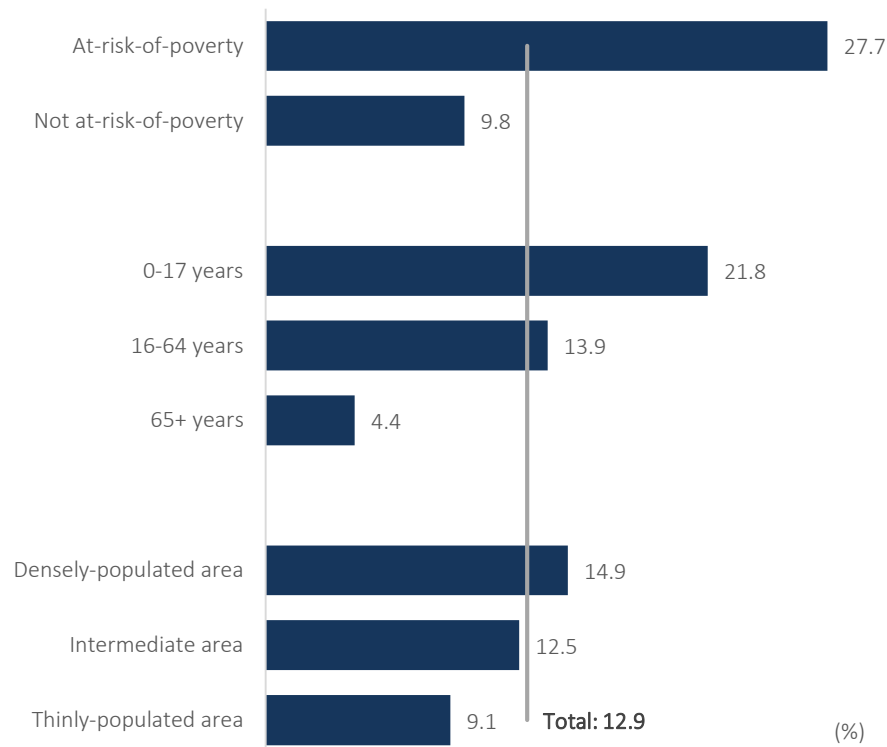
Source: INE, Survey on Income and Living Conditions 2022-2023.

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: 27.7% of the population at risk of poverty was in a situation of overcrowding, compared to 9.8% for the rest of the population.

In 2023, the housing overcrowding rate was highest for the younger population (21.8% for the up to 17-year-old age group), decreasing with age (13.9% for adults and 4.4% for the elderly).

The overcrowding rate was also higher for the population living in densely populated areas (14.9%).

Figure 2. Overcrowding rate by poverty condition, age group and degree of urbanisation, Portugal, 2023



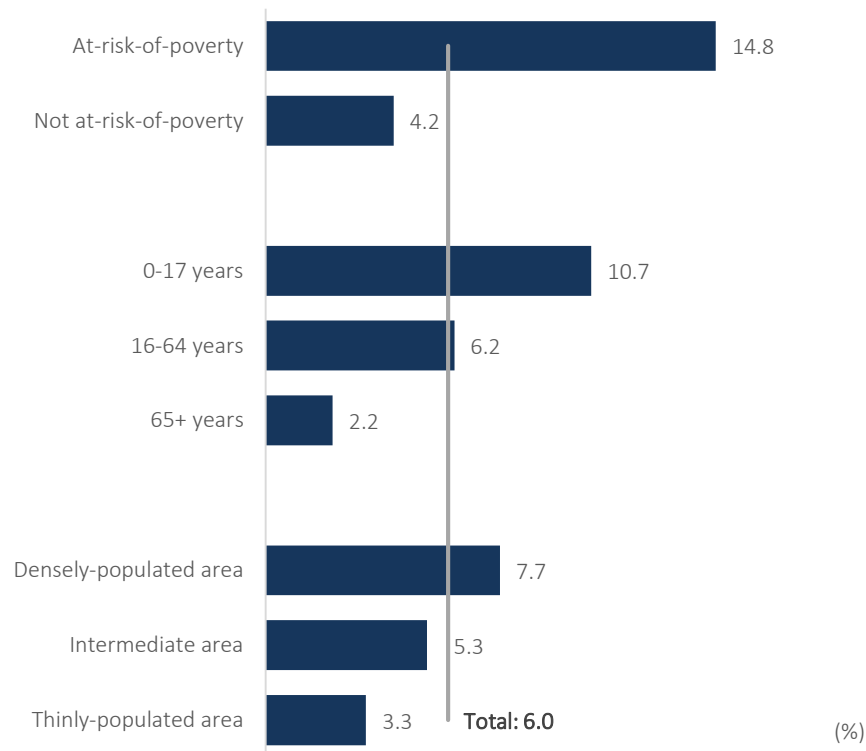
Source: INE, Survey on Income and Living Conditions 2023.

It was also found that 36.4% of the population lived in a situation of underoccupation of housing, i.e., in dwellings in which the number of habitable rooms ( $\geq 4$  m<sup>2</sup>) was higher than what would be necessary for the number and demographic profile of the members of the household. Living in an underoccupied dwelling was, in 2023, a condition that mainly affected the older population (56.2%) and families without dependent children (51.7%).

From 2023 onwards, the Survey resumes the complete collection of data on the physical and sanitary conditions of housing, making it possible again to obtain the annual severe housing deprivation rate, which had been interrupted in 2021 and 2022. This indicator corresponds to the proportion of people who lived, in 2023, in an overcrowded dwelling and who reported at least one of the following problems: a) with no bath, nor a shower, nor indoor flushing toilet in the household; b) leaking roof, damp walls, floors or foundation, or rot in window frames of floor; c) insufficient natural light on a sunny day.

In 2023, 6.0% of residents lived in severe housing deprivation rate, 2.1 p.p. more than in 2020 (3.9%). Severe housing deprivation in 2023 mainly affected the population at risk of poverty (14.8%), those under 18 years of age (10.7%) and those living in densely populated areas (7.7%).

Figure 3. Severe housing deprivation rate by condition of poverty, age group and degree of urbanisation, Portugal, 2023

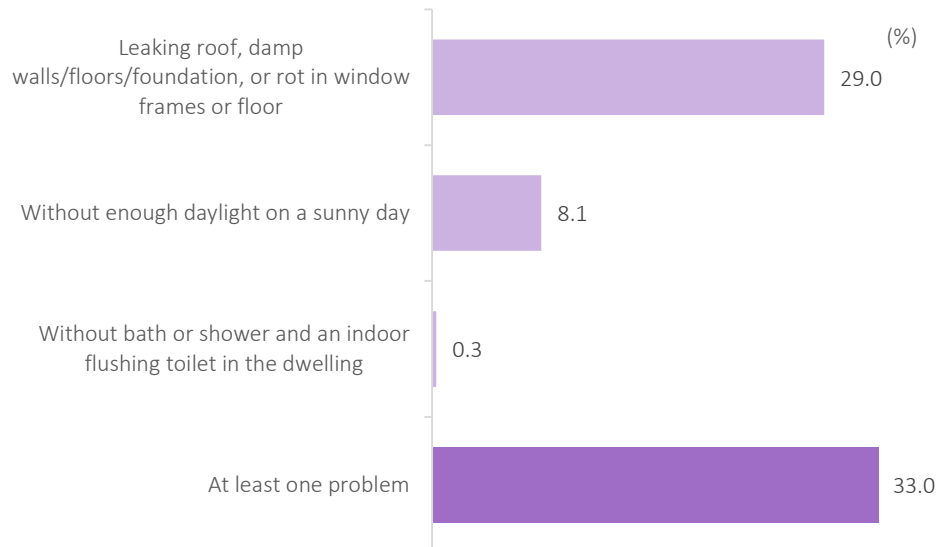


Source: INE, Survey on Income and Living Conditions 2023.

Considering the composition of the household, both the overcrowding rate and the severe housing deprivation rate mainly affect families with dependent children (21.1% and 10.0%, respectively).

If a simplification exercise is carried out, in which only the problems related to sanitary facilities and the quality of the basic physical structures of the accommodation (ceiling, walls, floors, windows) are considered, it is observed that 33.0% of the population lived, in 2023, with deprivation in at least one of the items considered.

Figure 4. Proportion of the population living in dwellings with problems related to sanitary facilities and quality of physical structures, Portugal, 2023



Source: INE, Survey on Income and Living Conditions 2023.

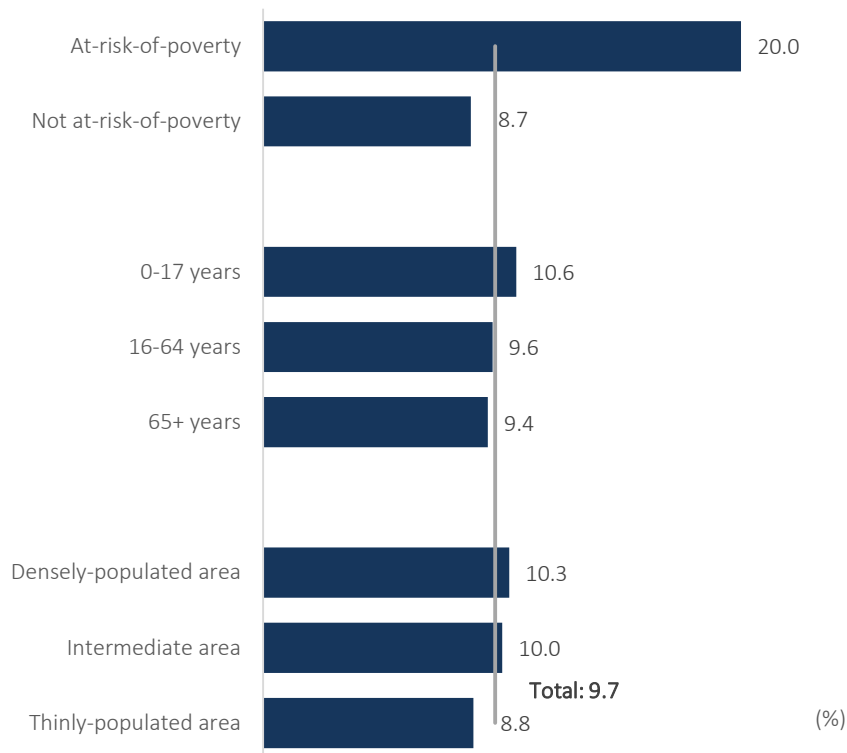
### The median of the housing cost burden mainly affects the population at risk of poverty ...

Indicators on housing expenditure, such as the median burden and the housing cost burden rate, allow the assessment of the importance of housing access and use in household disposable income. These indicators are based on the housing cost burden, i.e. the ratio of annual housing expenditure to the household disposable income, after deduction of social housing transfers. Housing costs include those related to water, electricity, gas or other fuels, condominium fees, insurance, sanitation, minor repairs, as well as rents and interest on the main mortgage.

In 2023, the median burden of expenditure on housing was 9.7%, lower than the result of 10.2% recorded in the previous year (-0.5 p.p.). For the population at risk of poverty, the median burden of housing expenditure was 20.0% in 2023, more than double the figure recorded for the general population.

In 2023, the median of the housing cost burden did not show significant differences according to the degree of urbanisation of the area of residence of individuals, being 10.3% in densely populated areas, 10.0% in intermediate areas and 8.8% in thinly populated areas.

Figure 5. **Median of the housing cost burden by poverty condition, age group and degree of urbanisation, Portugal, 2023**



**Source:** INE, Survey on Income and Living Conditions 2023.

### ... which was also the most affected by the overburden housing cost

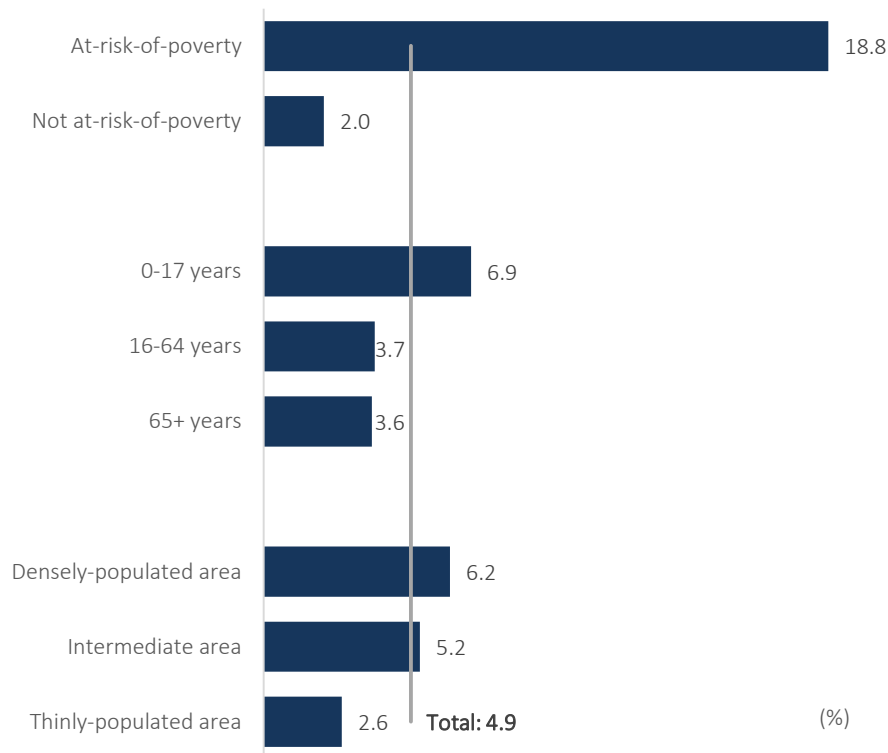
The housing cost overburden rate, which corresponds to the proportion of persons living in households in which the ratio of annual housing cost to disposable income (minus social housing transfers) is above 40%, was 4.9% in 2023, slightly below the value in the previous year (5.0%).

In 2023, 18.8% of the population at risk of poverty was under housing overburden, compared to 2.0% for the rest of the population.

The overburden housing cost in 2023 was highest for residents in densely populated areas, at 6.2%, falling to 5.2% for residents in intermediate areas and 2.6% for residents in thinly populated areas.



Figure 6. Overburden housing cost rate by poverty condition, age group and degree of urbanisation, Portugal, 2023



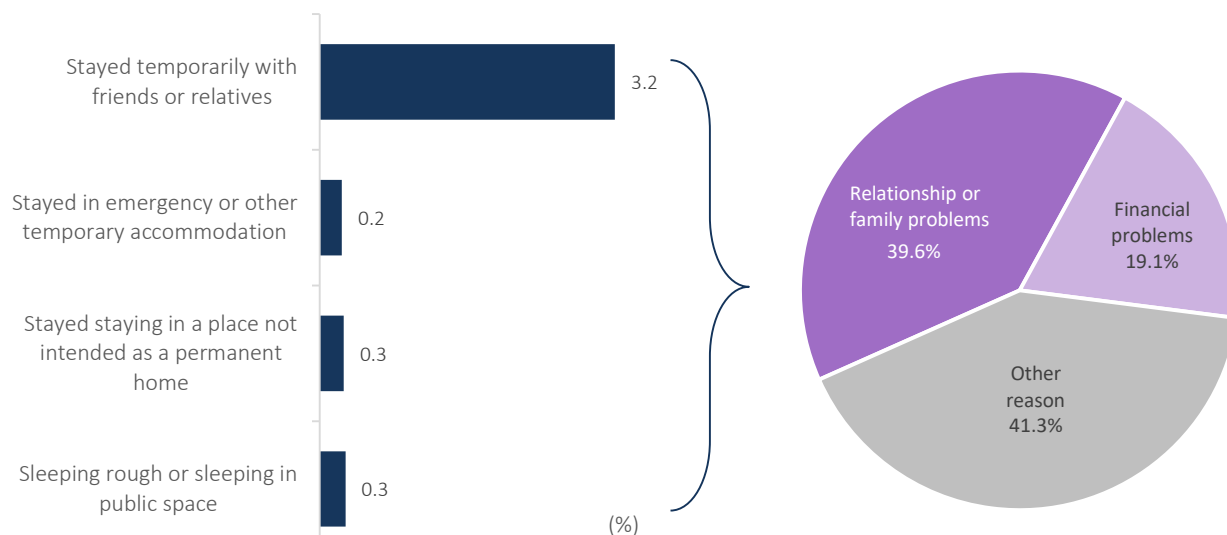
Source: INE, Survey on Income and Living Conditions 2023.

#### 4.0% of the population aged 16 and over lived in a situation of housing difficulty

In 2023, information was also collected on housing difficulties, namely on individuals aged 16 and over who, at some point in their lives, experienced a situation in which they had nowhere to stay and were forced to temporarily stay overnight in another accommodation (home of friends or relatives, temporary accommodation centre or social emergency), on the street or in a public space.

4.0% of the respondents reported having experienced at least one situation of housing difficulty, of which 3.2% reported having temporarily stayed with friends or relatives. The main reason that triggered the situation reported by the respondents was "relationship or family problems" (39.6%), followed by "financial problems/insufficient income" (19.1%).

Figure 7. Proportion of the population aged 16 and over having experienced housing difficulties by main reason, Portugal, 2023



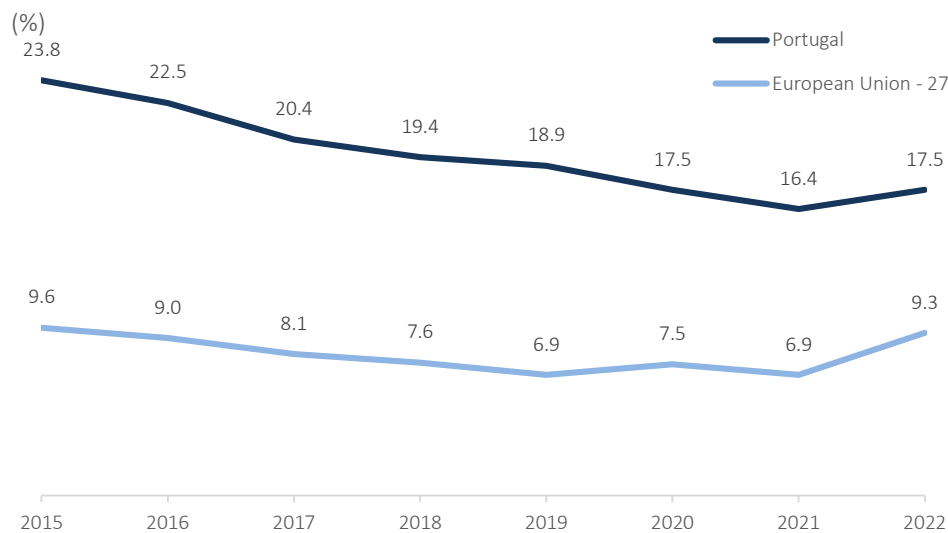
Source: INE, Survey on Income and Living Conditions 2023.

### More than 1/4 of the population lives in dwellings where no heating systems are used

Regarding the thermal comfort of housing, the data collected by the Survey indicate that 20.8% of the population lived in 2023 in households where there was no financial capacity to keep accommodation comfortably warm, 3.3 p.p. more than in 2022. Portugal was in 2022 one of the 5 EU-27 countries in which this disability was highest, at 17.5%, almost double the European average of 9.3%.



Figure 8. Proportion of the resident population financially unable to keep home adequately warm, Portugal and EU-27, 2015-2022



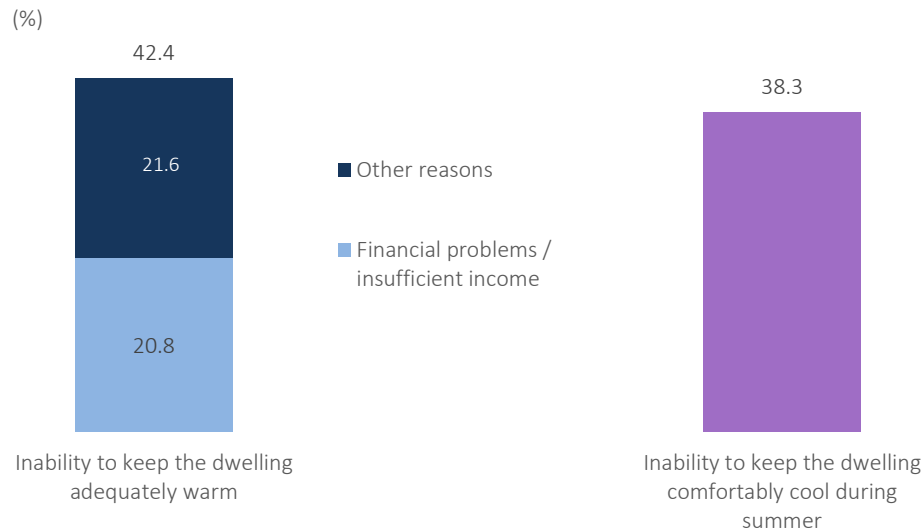
Fonte: Eurostat, EU-SILC [ilc\_mdcs].<sup>3</sup>

The percentage of the population at risk of poverty without the financial ability to keep their home adequately warm (37.3%) was more than double that of the rest of the population (17.4%), and particularly affected the elderly (28.5% for the 65 and over age group).

The situation in terms of thermal comfort is even more serious if we take into account that, to the proportion of those who are in a precarious thermal situation for financial reasons, it is necessary to add the 21.6% who report living in a situation where the dwelling is not warm enough in winter for other reasons, and that 38.3% in accommodation that is not adequately cool in the summer.

<sup>3</sup> The statistics produced by Eurostat from EU-SILC are the result of each of the SILC carried out by the NSO of each of the Member States, which are sent to Eurostat which then aggregates to obtain statistics for the European Union.

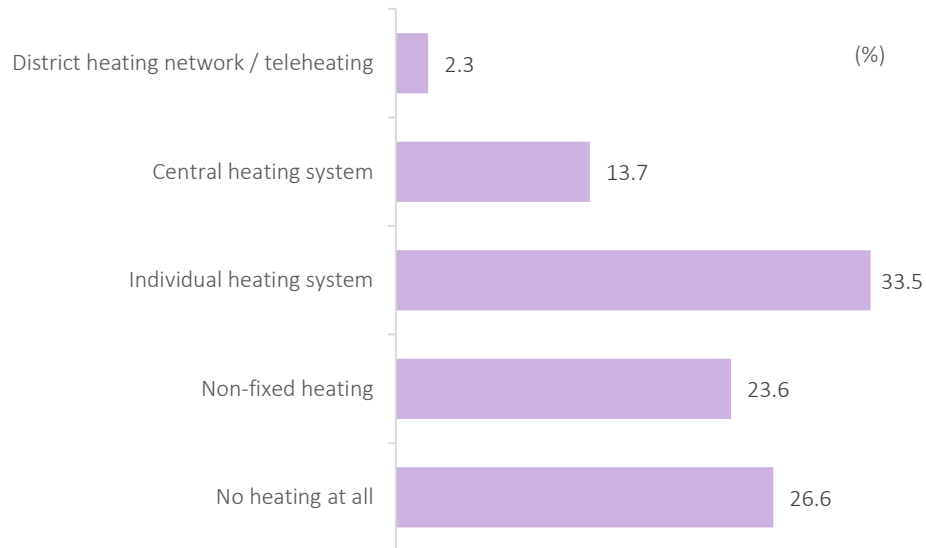
Figure 9. Proportion of the resident population unable to maintain accommodation with thermal comfort, Portugal, 2023



Source: INE, Survey on Income and Living Conditions 2023.

The results of the *ad hoc* module on Housing energy efficiency, carried out in 2023, indicate that, in 2023, 26.6% of the population lived in dwellings in which no type of heating was used at home, a proportion that was much higher in the Autonomous Regions (86.0% in Região Autónoma da Madeira and 72.6% in Região Autónoma dos Açores) than in Continente (24.0%). The proportion of people living in dwellings where no heating was used at home was higher in poverty: 39.7% of the population at risk of poverty reported not using heating at home, compared with 23.9% of the rest of the population.

Figure 10. Proportion of population by type of heating system used in the home, Portugal, 2023



Source: INE, Survey on Income and Living Conditions 2023.

Of the 73.1% who reported using heating, the most used system was the individual heating (33.5%) and the main source of energy used was electricity (48.5%), followed by firewood (36.1%).

Regarding the type of glass in the windows, about half of the population reported having double glazing in the windows of their accommodation, 40.9% single glazing and 7.1% a mix of single and double/triple glazing.

## THE INABILITY (TO PAY) TO KEEP THE HOME ADEQUATELY WARM

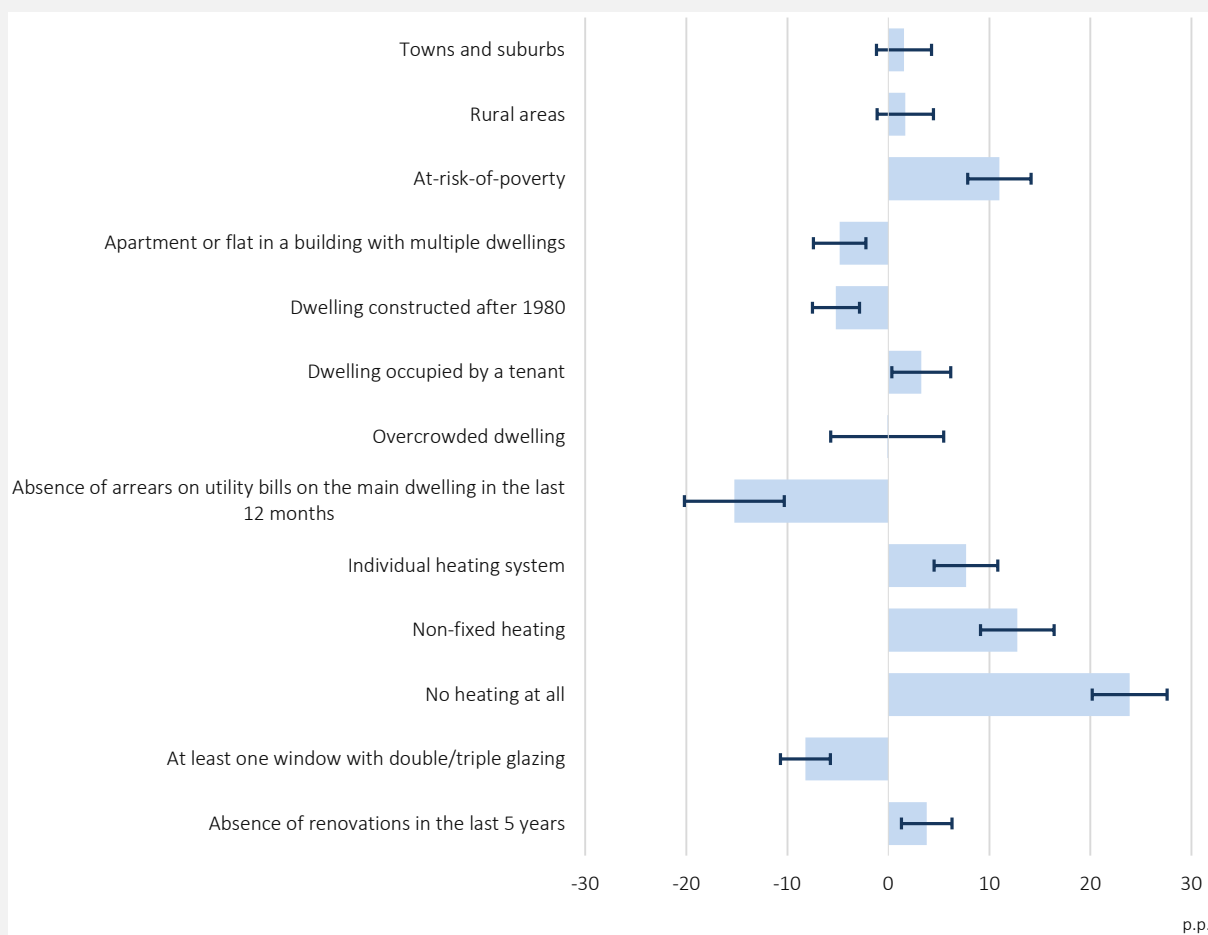
The results presented here show relationships between the characteristics of the household and its housing conditions in the main residence and the **probability of financial inability to keep the home adequately warm**, which represents an indicator of energy poverty. Seeking to deepen the analysis, a model that captures these relationships when considering all the characteristics simultaneously was estimated. It is an attempt to identify which household characteristics or housing conditions are most relevant to the occurrence of energy poverty. It is a question of knowing, for example, the relationship between the year of construction of the dwelling and the inability to keep it properly warm, when simultaneously controlling (i.e., holding everything else constant) for any improvements that have been made in the dwelling in the previous 5 years<sup>4</sup>.

The results suggest that there are factors that contribute positively to the financial ability to keep the home adequately warm (Figure 11). In situations where, in the previous year, there were no delays in the payment of the current housing expenses (water, electricity, gas and condominium), are associated with a reduction in the financial inability to keep the dwelling sufficiently warm by 15.2 percentage points (p.p.). Cases in which the construction of the dwelling is more recent (after 1980) are associated with a reduction in the probability of financial inability to guarantee the heating of the dwelling by 5.2 p.p., compared to constructions prior to 1981. The fact that the household lives in a residential building with multiple dwellings decreases the probability of being unable, for financial reasons, to keep the home warm by 4.8 p.p., compared to households living in independent houses. Compared to dwellings in which all windows are single-glazed, having at least one double- or triple-glazed window decreases the financial inability to keep the dwelling warm by 8.2 p.p.

Conversely, there are housing characteristics that contribute positively to the inability to keep the house properly warm. Among these, the results highlight the positive relationship between the risk of poverty and the financial inability to keep housing warm, which increases by 11.0 p.p. when the household is at risk of poverty. The results also underline the importance of the heating system used – with reference to a central heating system, using a non-central or portable fixed heating system or not having any heating system at all is associated with an increase in financial inability to heat the house by 7.7 p.p., 12.8 p.p. and 23.9 p.p., respectively. The results also suggest that, in rented dwellings, the probability of the household not having the financial capacity to keep the home warm increases by 3.3 p.p. compared to the situation in which the accommodation is occupied by the owner. Finally, it is estimated that the absence of improvements in housing in the previous 5 years is associated with an increase of 3.8 p.p. in the probability of not having the financial conditions to keep the house warm.

<sup>4</sup> See note at the end of this press release for technical specifications of the model.

Figure 11. Change in the probability of financial inability to keep home adequately warm (average marginal effects in p.p.), 2023



The results point to the importance of the income level (at-risk-of-poverty) for the financial capacity to keep the house adequately warm. However, they also demonstrate the relationship with the physical conditions of the accommodation, quantifying its possible influence. In particular, the difficulties that arise if the family lives in an independent house (building with only one dwelling) or if it is older (before 1980). In addition, having carried out recent works or having adequate window protection and heating systems continue to exert their influence, even when considering the household income at the same time<sup>5</sup>.

<sup>5</sup> The results remain even when income level rather than at-risk-of-poverty is considered in the estimated model specification.

## METHODOLOGICAL NOTE

The Survey on Living Conditions and Household Income (ICOR or EU-SILC in English terminology) is carried out in Portugal from 2004 until 2020 within the framework of specific European legislation (Regulation No. 1177/2003), which established a harmonised European system for the production of statistics on poverty, deprivation and social exclusion.

As of 2021, the survey started to be carried out in accordance with specific European regulations and in accordance with Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019, currently consisting of a set of data that are collected annually, and a system that combines modules that collect pre-defined complementary information on a regular basis and *ad hoc* modules on new information needs. The results presented in this press release include data from the annual and 2023 component on "Housing difficulties" and "Energy efficiency of buildings and dwellings".

The implementation of the ICOR module on "Intergenerational transmission of social advantages and disadvantages and housing difficulties" and the *ad hoc* module on "Energy efficiency of buildings and housing" in 2023 was co-financed by the European Union.

The survey aims to obtain results for all individuals who reside in the national territory in the reference period, with disaggregation at NUTS 2 level from 2018 onwards, when the sample size enables the statistical reliability of the results.

The indicators for poverty and economic inequality were constructed on the basis of the annual net monetary income of households in the year prior to the survey (2022). Other sources of income, such as wages in kind, self-consumption, self-supply and self-rental, are excluded.

The data on housing deprivation refer to the year in which the survey was conducted (2023). However, the indicators of housing deprivation by state of poverty compare information relating to the time of the interview (year of the survey) with monetary information relating to the reference year of income.

In 2023, information was collected through *Computer Assisted Personal Interviewing (CAPI)* and *Computer Assisted Telephone Interviewing (CATI)* between April and July. The questionnaire incorporates questions about the household and also about the personal characteristics of each member, in particular about the income of all members aged 16 and over. In 2023, the survey was addressed to 17,444 households, of which 14,209 had a complete response (with data collected on 33,639 people). For the 25-59 age group, 14,179 responses were collected.

For more detailed information on the methodological options and concepts used, see the [Press Release of 27 November 2023](#) that released the first results of ICOR 2023. In this area, two other highlights were also published: on [February 20](#) and [March 8](#), 2024.

## LOGIT MODELS – TECHNICAL SPECIFICATIONS

The results presented in the box seek to complement the explanation for the financial inability to keep the house adequately warm, as an indicator of approximation to energy poverty. The main objective is to try to isolate the relationship between the characteristics of the household and its housing conditions and the probability of financial inability to keep the house adequately warm. For this purpose and based on information on households residing in Portugal in 2023, we used the estimation of a binomial Logit model whose dependent variable is defined by: 0 – whether the household is financially able



to keep the house adequately warm; 1 – whether the household is financially unable to keep the house adequately warm (which stands as a relevant indicator of energy poverty).

Among the variables that can potentially explain the probability of the household being financially able to keep the house adequately warm, those that, for theoretical and statistical reasons, are most pertinent, were selected. The potential independent variables are: the location (urban/rural) of the accommodation in the national territory; the equivalent adult income of the household; the type, year of construction and occupancy regime of the accommodation; the occurrence of overcrowding of accommodation and delays in the payment of current housing expenses (water, electricity, gas and condominium); the heating system used, the type of window glass and any improvements to the accommodation (e.g. the thermal insulation of the external walls, roof or floor, the type of windows or the heating system).

The marginal effects presented can be interpreted as variations in the probabilities of occurrence of the event (the financial inability to keep the house adequately warm) associated with each of the explanatory variables (in relation to the reference class), keeping the remaining variables unchanged.

Full results on the mean marginal effects and statistical significance of the estimates can be found in the data file annexed to this publication, which also includes the other result tables.

## CONCEPTS

**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.

**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).

**Overcrowding rate:** proportion of households where the number of rooms ( $\geq 4m^2$ ) 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.



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

**Severe housing deprivation 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 and lack of an indoor flushing toilet for sole use of the household; b) leaking roof, damp walls/floors/foundation, or rot in window frames or floor; c) insufficient natural light (too dark) in a sunny day.

**Underoccupation rate:** share of population living in dwellings in which the number of habitable rooms ( $\geq 4 \text{ m}^2$ ) exceeds by at least 2 rooms the minimum number of rooms determined by the number and demographic profile of the members of the household.