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EqualHouse Inequalities Report

Chapter 3. Indicators of Housing Precariousness and Descriptive Statistics

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This chapter provides information on the European Union (EU) Statistics on Income and Living Conditions (EU-SILC) data used in Chapters 4 and 5. We discuss how the key indicators of housing precariousness selected for the latent class analysis in Chapter 4 are defined and operationalised. It then provides descriptive statistics on the proportion of the population experiencing housing precariousness across Europe (categorised by housing-welfare regimes as mentioned in Chapter 1) for the latest available wave (2023).

1. EU-SILC Data

Chapters 4 and 5 use data from multiple EU-SILC survey-waves. EU-SILC is a so-called rotating household panel, collecting household as well as individual-level data via an annual survey carried out by all Member States of the EU and some additional countries, providing statistics on income and living conditions, including housing-related indicators. The vast majority of the data (around 90%) comes from the annual survey module, which is collected every year, while the rest comes from repeated survey modules (collected every 3-6 years) or is collected on an ad-hoc basis according to policy needs. While some additional modules include questions on housing, we only use variables that are collected annually in order to allow for the use of pooled data over a longer period of time, and hence to ensure long-term comparability of our latent class analysis model. Housing data are mainly collected at the household level, whilst information on labour market situation, education, and health are collected at the individual level, by interviewing all household members aged 16 and over.

The survey provides two types of data: cross-sectional and longitudinal. In this research, although we examine changes in housing precariousness over time in Europe, we use cross-sectional data from different waves for two main reasons. First, we aim to examine changes in general as well as disaggregated patterns of housing precariousness over time, rather than how housing conditions change over the life-course of individuals. Second, the rotating panel of EU-SILC only







follows individuals for four (sometimes more) years. This limits options for longitudinal analysis.

EU-SILC is selected for our analysis because it is one of the few datasets that captures individuals' housing experiences in a comparable way across a wide range of countries. The latest wave of EU-SILC (wave 20, 2023) includes data from 28 European countries. It needs to be noted that the United Kingdom (UK) is no longer part of the EU-SILC data collection from 2019 onwards, so the latest data we use in this chapter for the UK are from 2018. Descriptives are presented for 29 countries, including the UK. In each country, data are collected on the basis of a nationally representative probability sample of the population in private households. In each household, only household members aged 16 and over are asked for a personal interview. The sampling strategy varies among countries. All analyses use cross-sectional weights that allow for inferences to be made about the population at the national and European level. In this report, we use personal cross-sectional weights (i.e. variable RB050), which is a personal weight assigned to each household member based on the calibrated household cross-sectional weight (i.e. variable DB090).

In each chapter, the analysis sample is restricted to respondents who answered all key variables. In Chapter 4, the analysis is based on a pooled dataset of seven waves (2010; 2012; 2014; 2016; 2018; 2020; 2023) and 31 countries, with a total of N = 4,130,665 individuals. In Chapter 5, using EU-SILC 2005-2023, we pooled respondents aged 21-45 who are not currently in education (PE010), including all countries except Iceland. Our sample for the age-group analysis consists of N = 2,845,704 respondents in 32 countries. A further exclusion of incomplete cohort age groups leaves N= 2,447,364 respondents for the cohort analysis.







2. Indicators of Housing Precariousness

(1) **Affordability:** There are two aspects to consider when it comes to housing affordability: the cost of housing and the income level of the household. Housing is often considered affordable or not on the basis of how much of one's income is spent on housing (Rapkin 1957). While this definition of 'how much' can be arbitrary, the rule of thumb is 30% of household disposable income, which was 25% until the early 1980s (Stone, 2006a). In other words, if a household spends more than 30% of its income on housing, it is defined unaffordable. In the EU (Eurostat, n.d.-a), 40% is used to define the housing cost overburden rate, as it includes a range of costs associated with the right of living in the dwelling, as well as utility costs as part of total housing costs.1 Despite its widespread use, this measure has been criticised and widely debated since the 1960s in the United States (US) and later in Europe (see review in Stone, 2006a). The main criticism is that it is not a consistent measure across income groups, in particular that it underestimates affordability issues for lower-income groups (Heylen & Haffner, 2010; see also Schwabe's Law in Hulchanski, 1995). Early debates suggested the residual income measure as an alternative. This measure examines the sufficiency of the remaining income after housing costs have been spent (Kutty, 2005; see review in Stone, 2006a, 2006b). One way of examining the affordability of residual income is to link it to the country's poverty threshold. It can be examined by looking at whether the residual income (after housing costs) is below the poverty threshold (i.e. poverty after housing costs) or below a certain proportion² of this redefined poverty threshold (i.e. 'shelter poverty' based on Stone, 2006b). Another option is the budget standard approach,

¹ For more detailed information, see the description of variables in the supporting EU-SILC documentation: https://www.gesis.org/en/missy/metadata/EU-SILC/.



² 2/3 of the poverty threshold as set by Kutty (2005) is preferred, based on Stone (2006b, 2006a).



which defines a threshold based on the actual cost of basic necessities (Stone, 2006a). This has not been widely explored in a comparative perspective as it requires detailed and comparative household budget data. Another alternative that has been used recently is the variable-threshold measure (Bramley, 2012; Dewilde, 2018; Dewilde & De Decker, 2016; Heylen, 2023). This takes into account income levels and uses different thresholds for different income levels, thus addressing the main limitation of the housing costs-to-income ratio measure, while maintaining its relatively simple calculation compared to other methods. Tests conducted by Heylen (2023) to compare different 'objective' affordability measures (including residual-income measures) show that the variable-threshold method performs better in its consistency with the subjective measure. Finally, while these are all more 'objective' measures, affordability can also be measured more subjectively. The most commonly-used measure is the perceived financial burden of housing costs (Clair et al., 2019; Waldron, 2023). Perceived affordability has often been used as a benchmark to test the validity of objective measures (Bramley, 2012; Heylen, 2023), as it captures the actual experience of households rather than relying on theoretical assumptions or arbitrary thresholds. Given Sunega and Lux's (2016) findings that subjective measures may fluctuate over time less than the objective measures, the subjective measure can be an important indicator of affordability as experienced by individuals, and can also take into account national contexts: perceptions are often constructed relative to national norms. Moreover, a significant discrepancy between objective and subjective measures indicates the importance of considering the two measures together, as they complement each other in providing a more holistic understanding of experienced housing affordability. Thus, in this report we use both the variable threshold method and the subjective measure to examine affordability.

(2) **Quality**: Housing quality measures the adequacy of housing as a dwelling. Despite its growing importance, there is no clear consensus on how to







measure quality. An important distinction is between the quality of housing in terms of the dwelling itself, and the quality of housing including its environment, such as air pollution and access to infrastructure. The microlevel indicators used in Soaita and Dewilde (2019) include both aspects, such as the dwelling size, housing deprivation, and difficulty in accessing transport. Waldron (2023) considers housing to be of low quality if at least two of the following conditions are met: presence of leaks or damp; rooms with inadequate lighting; pollution or environmental problems in the area; and presence of central heating. In this report, we use housing quality, which focuses on the dwelling itself, for two reasons. Firstly, the environmental aspects are not necessarily a quality issue. For instance, easy access to infrastructure such as transport is an added benefit of living in a dwelling but does not necessarily make the dwelling of higher quality. Secondly, environmental aspects may be more of an indicator of where one lives than of quality. For instance, air pollution and higher crime rates may be more prevalent in larger cities than in the countryside. In terms of the quality of housing itself, the most widely used measure is what is known as housing deprivation. According to the EU-definition, housing deprivation occurs when a dwelling has no or poor-quality facilities, such as a leaking roof, damp walls, floors or foundations, or rotten window frames or floors; no bath or shower; no flushing toilet; or is too dark (Eurostat, n.d.-c). While this measure of housing deprivation has been criticised for including housing features that may only apply to a minority of the population (Kennedy & Winston, 2019), it nonetheless sets an important threshold for the basic quality or adequacy of housing that can be compared at a European level.

(3) **Overcrowding**: The EU defines overcrowding as when a "household does not have at its disposal a minimum number of rooms equal to: 1) one room for the household; 2) one room per couple in the household; 3) one room for each single person aged 18 or more; 4) one room per pair of single people of the same gender between 12 and 17 years of age; 5) one room for each single person between 12 and 17 years of age and not included in the







previous category; or 6) one room per pair of children under 12 years of age." (Eurostat, n.d.-b). Although overcrowding is often included together with housing deprivation in the definition of severe housing deprivation (Eurostat, n.d.-c), we consider it to be a separate dimension as housing deprivation and overcrowding indicate different housing problems. Overcrowding, particularly in Southern and Eastern Europe, is a key feature based on a culture of intergenerational family support combined with the unaffordability of housing. While it may affect quality of life, it is not always a question of housing quality per se. Empirical research by Hick, Pomati and Stephens (2022) also demonstrates that housing deprivation and overcrowding need to be considered separately. On a different note, there has been some criticism of this 'objective' European measure of overcrowding, which does not necessarily correspond to the selfassessment of individuals, and may vary across countries (Lelkes & Zólyomi, 2010; Sunega & Lux, 2016). However, as our aim is to examine housing precariousness at the European level using variables that are comparable across countries, we use the existing 'objective' measure with one adjustment: a single-person household living in a studio apartment (therefore without a separate room) is not be considered to be living in overcrowded housing.

(4) **Security**: Housing security can be defined in terms of either the temporariness of the tenancy or the possibility of being forced to move. Some define the former as broadly as living in private rental property (Beer et al., 2016) and living in housing with a fixed-term contract (Fitzpatrick & Pawson, 2007). These definitions imply that any housing arrangement other than owning one's own home or having a contract of indefinite duration is inherently insecure. However, there may be situations such as having a de facto permanent living arrangement despite having a de jure temporary contract, and therefore such a broad definition may overestimate the level of insecurity. One way to take this into account is to examine length of tenure (for both renters and homeowners) – that is, how long they have been







living in their current housing – and identify situations of 'secure occupancy'³ (Hulse & Milligan, 2014). However, this measure is not used in this report due to missing countries and the difficulty of accounting for age-effects. Being forced to move or being evicted is a more extreme level of insecurity (Clair et al., 2019), which as a consequence could result in homelessness. A more direct and subjective measure is to ask about perceptions of the likelihood of being evicted (used in Clair et al., 2019), while a more indirect and objective measure is to ask if respondents have ever been in arrears with their rent/mortgage or utilities⁴ (Waldron, 2023). In this research, based on the data availability, we use arrears on rent/mortgage to measure housing (in)security.

(5) **Energy Poverty**: the EU defines energy poverty as a condition in which "a household must reduce its energy consumption to a degree that negatively impacts the inhabitants' health and well-being" (European Commission, n.d.). Despite efforts to measure energy poverty across countries over the last two decades (Healy & Clinch, 2002; Thomson & Snell, 2013), the definition of energy poverty remains ambiguous. Recently, the EU Energy Poverty Observatory (EPOV) has developed a list of indicators to measure energy poverty using different sources (see Gouveia et al., 2023), but some of these indicators overlap with other housing dimensions such as affordability and quality. This is because energy poverty can be due not only to the unaffordability of energy costs, but also to the poor quality or low energy efficiency of housing, which requires more energy to maintain an adequate living environment. Measuring energy poverty can therefore be approached from different perspectives. However, the main limitation is the lack of crossnationally comparable data to measure specific housing expenses, energy consumption, or efficiency. At the national or regional level, studies have



 $^{^3}$ However, note that the concept of secure occupancy also includes perceptual security as well as de jure and de facto security.

⁴ Note that the arrears for utilities are part of the Energy Poverty dimension.



used expenditure-based metrics (i.e. hidden energy poverty) (e.g. Betto et al., 2020; Meyer et al., 2018; Papada & Kaliampakos, 2020) or composite indices incorporating various indicators (e.g. Bouzarovski & Tirado Herrero, 2017; Dubois & Meier, 2016). While Karpinska and Śmiech (2020) use a 'hidden energy poverty' indicator for cross-national comparisons using EU-SILC data, many of these characteristics overlap with the other dimensions used in this report. Thus, in this report, we use heating affordability (i.e. the ability to keep housing adequately warm) and having arrears on utility bills as the two indicators, or rather proxies, of energy poverty.

As discussed above, these five dimensions often overlap and form different configurations of housing precariousness. How these configurations look like is explored in Chapter 4 using latent class analysis.

2.1 Operationalisation of indicators

(1) Affordability: We measure housing unaffordability in two ways: objective and subjective. The 'objective' measure is referred to as overburden, and a household is housing cost overburdened if it spends more than the threshold percentage of their income on housing costs. We use a variable threshold of 25% for the first income quintile, 30% for the second quintile, 40% for the third quintile, and 50% for the fourth and fifth quintiles. Housing costs are based on the monthly expenditure of households related to the dwelling including the costs of utilities, insurance, regular maintenance, compulsory charges (e.g. sewage), and taxes, following the EU definition. Rental payments (for tenants) and mortgage interest payments (for homeowners) are gross of housing benefits, i.e. the benefits are not deducted from the total housing costs, but are net of any tax relief (for homeowners). Household income is net and equivalised by number of household members and their age (modified OECD-scale). The percentage spent for each household is referred to as Housing cost burden (HCB) and it is calculated as follows (identical to EUROSTAT's methodology:







 $Housing\ Cost\ Burden = \frac{\{(total\ housing\ cost\ X\ 12) -\ housing\ allowances\}}{(annual\ disposable\ income-\ housing\ allowances)}$







Some additional conditions are applied:

- 1. If $\{(total\ housing\ cost\ X\ 12)-gross\ housing\ allowances\} \le 0$, then HCB=0
- 2. If (annual disposable income gross housing allowances) \leq 0, then HCB = 100
- 3. If (annual disposable income gross housing allowances) < {(total housing cost X 12) gross housing allowances}, then HCB = 100

Overburden is a binary variable of those whose HCB is higher than the threshold above (therefore overburdened) (1) and those whose HCB is lower than or equal to the threshold (0). The subjective measure is referred to as subjective burden. The variable is constructed based on the question: "Please consider your total housing costs including mortgage repayment (instalment and interest) or rent, insurance and service charges (sewage removal, refuse removal, regular maintenance, repairs and other charges). To what extent are these costs a financial burden to you?". It is divided into three categories: 1) not a burden at all; 2) a slight burden; and 3) and a heavy burden.

(2) Housing quality: Poor housing quality is defined as living in deprived housing, based on the Eurostat definition (Eurostat, n.d.-c). As discussed above, housing deprivation occurs when a house has no or poor-quality facilities, such as a leaking roof, damp walls, floors or foundations, or rot in window frames or floors; no bath or shower; no flushing toilet; or too dark. We use four questions: 1) "Do you have any of the following problems with dwelling/accommodation? leaking roof; damp your walls/floors/foundations; rot in window frames or floor"; 2) "Is your dwelling too dark, meaning is there not enough daylight coming through the windows?"; 3) "Is there a shower unit or bathtub in your dwelling?"; and 4) "Is there an indoor flushing toilet in your dwelling?". Housing deprivation is coded as a binary variable. It is coded as 1 if one has responded at least one of the following: 'yes' to 1), 'yes' to 2), 'no' to 3) or 'no' to 4). Those who







- answered 'no' to both questions 1) and 2), and 'yes' to both 3) and 4) are coded as 0.
- (3) **Overcrowding**: Overcrowding is defined according to the Eurostat-definition (Eurostat, n.d.-b). It occurs when the household does not have at its disposal a minimum number of rooms equal to: 1) one room for the household; 2) one room per couple in the household; 3) one room for each single person aged 18 or more; 4) one room per pair of single people of the same gender between 12 and 17 years of age; 5) one room for each single person between 12 and 17 years of age and not included in the previous category; or 6) one room per pair of children under 12 years of age. The indicator is constructed by comparing, for each household, the total number of rooms available to the household (HH030) with the minimum number of rooms required for the respective household. One exception we make for our analysis is that a single-person household in a studio apartment is not coded as overcrowding. It is coded as a binary variable: living in an overcrowded housing (1) and not (0).
- (4) **Housing insecurity**: Housing insecurity is measured by rent/mortgage arrears. It is based on the question "In the past twelve months, has the household been in arrears, i.e. has been unable to pay on time due to financial difficulties for: (a) rent, (b) mortgage repayment for the main dwelling?". It is coded as a binary variable of having been in arrears at least once (1) and not having been in arrears (0).
- (5) **Energy poverty:** Energy poverty is approximated by two indicators. First, heating unaffordability, which refers to the inability to keep the dwelling warm. This is based on the question "can your household afford to keep its home adequately warm?". It is a binary variable of those living in energy poverty (cannot keep dwelling warm (1) and can keep it warm (0)). Second, utility arrears, which refers to whether one has had utility arrears at least once in the last twelve months. It is coded as a binary variable of having had arrears (1) and not having had arrears (0), based on the question "In the past twelve months, has the household been in arrears, i.e. has been unable to







pay the utility bills (e.g. heating, electricity, gas, water, waste disposal etc.) of the main dwelling on time due to financial difficulties?".

We further examine who is more likely to be in different housing precariousness types in Europe, using the following variables.

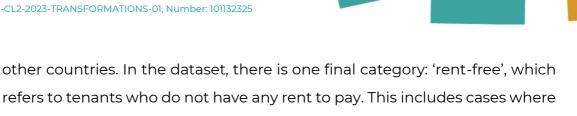
 Tenure status: Tenure is categorised into five types, following the EU-SILC definition. 'Outright homeowner' refers to those who are homeowners without outstanding mortgage. 'Mortgaged homeowner' refers to those who are homeowners with an outstanding mortgage. In both cases, homeowners must live in the housing. 'Market rent' refers to tenants who rent at market or prevailing price. This also includes those whose rent is paid partly or fully by housing benefit or other sources such as private sources or charity. The 'Reduced rent'-category applies to countries where there is a clear distinction between the prevailing market rent, and rent that is below that level. In such countries, the following cases would fall into the latter category: (1) renting social housing, (2) renting through an employer at a reduced rate, and (3) renting housing where the rent is fixed by law. Where there is no clear distinction between market rent and reduced rent (i.e. in the so-called unitary rental market countries), all tenants are coded as renting at 'Market rent'.5 This situation applies to the Netherlands, but for the Netherlands we can distinguish between the two rental tenures by using the so-called 'liberalisatiegrens' (Ministerie van Algemene Zaken, 2020).6 This is a fixed amount that limits the starting rent of social rental housing, as opposed to a prevailing market rent. Sweden and Denmark are the only countries in our dataset where all renters are coded as renting at market rate, and therefore caution is needed in directly comparing these cases with

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⁵ Note that this could also have been recoded as 'reduced rent', as the difficulty to distinguish between renting at market rent and renting at reduced rent concerns the so-called unitary rental market countries, where rents are more strictly regulated.

 $^{^{\}rm 6}$ Note that in Chapter 4, this distinction for the Netherlands has not been applied.





refers to tenants who do not have any rent to pay. This includes cases where the housing is provided free of charge as part of the job or from a private source (e.g. family-owned housing). However, due to the low absolute number of respondents belonging to this category, while they are included in the analysis, further descriptive statistics are not reported here.

- Household income: Although (disposable) (annual) household income refers by default to the household-level, the household income is usually attributed to each household member and standardised for the size and composition of the household by means of an equivalence scale (taking into account economies of scale and the assumed lower costs of younger children). Individuals are classified into income tertiles or quintiles, depending on the chapter in this report. The variable is constructed using the xtile function in Stata with the equivalised household income variable HX090. Tertiles are used in this chapter.
- Age: The age of the individual is categorised as below 18, 18-27, 28-37, 38-47, 48-57, 58-67, 68-77, and 78 and over.
- Migration status: Migration status is operationalised at household level on the basis of the country of birth of the household reference person. Using the question on country of brith, individuals are categorised into three groups: 1) national citizens, 2) EU-born migrants and 3) non-EU-born migrants.

3. Descriptive Analysis of Housing Precariousness

Table 3.1 presents the percentages of individuals for each indicator of housing precariousness discussed above for the year 2023, by country. Where data are missing, the most recent year is given (e.g. data for the UK are from 2018 and subjective burden for Ireland is from 2020). The country with the highest rate of housing cost overburdening is Greece with 38.1% of people experiencing problems, followed by 29.0% in Luxembourg and 23.5% in Denmark. The lowest





rate is 6.1% in Cyprus, followed by 8.1% in Slovenia and 8.7% in Ireland. In terms of subjective housing cost burdens, Poland has the highest proportion of people experiencing a high subjective cost burden (55.8%), followed by 50.8% in Cyprus and 48.9% in Greece. The lowest percentages are found in the Netherlands (5.9%), Norway (8.8%), and Sweden (9.8%). The country with the highest percentage of people living in poor-quality housing is Portugal (33.1%), followed by Cyprus (33.2%) and Spain (27.7%). This suggests that poor-quality housing remains a widespread problem in the Southern-European countries characterized by family-based homeownership. The lowest percentages are found in Central-and-Eastern Europe with 7.5% in Slovakia, 7.9% in Croatia and 8.7% in Poland. In contrast to what has been discussed before based on older research (see Chapter 2), this indicates improved housing quality in Eastern-Europe in recent decades, as well as intra-regime variations. Overcrowding remains an important feature in Eastern-Europe, with 39.2% of people living in overcrowded housing in Romania, followed by 36.7% in Latvia and 33.8% in Bulgaria. Overcrowding is least prevalent in Cyprus (2.3%), followed by the Netherlands (2.7%) and Ireland (4.1%). Rent/mortgage arrears are more common in Southern-European countries, with the highest proportion in Greece (8.8%), followed by 6.0% in Spain and 5.1% in Cyprus. The lowest proportions are found in Central-and-Eastern Europe (as very few households rent): 0.5% in Romania, 0.6% in Croatia and 1.0% in Bulgaria. In terms of utility arrears, these are most common in Greece with 33.0%, followed by Bulgaria (17.8%) and Romania (13.6%). The lowest percentage is found in the Netherlands (1.1%), followed by the Czech Republic (2.0%) and Sweden (3.2%). Finally, roughly 20% of the population experiences heating unaffordability in Spain, Portugal, and Bulgaria. The lowest proportion is found in North-Western European homeownership countries with a dual rental market, with 2.1% in Luxembourg, 2.1% in Norway, and 2.6% in Finland.







Table 3.1 Prevalence of housing problems for each indicator by country, 2023

(ind	ivid	uals	_		

		Affordabilit	y	Quality	Over-	Security	Energy pov	erty
					crowding			
		overburd en	subjectiv e burden (heavy*)	deprived housing		rent/ mortgage arrears	utility arrears	heating unaffor- dability
Social-	DK	23.5	13.2	16.4	6.7	3.1	4.8	7.0
democratic unitary	NL	17.7	5.9	16.7	2.7	1.3	1.1	6.9
rental market- countries	SE	19.4	9.8	9.0	12.4	3.1	3.2	5.8
Conservative	ΑT	12.9	30.2	15.6	12.5	3.9	5.5	3.9
-corporatist unitary	DE	20.2	25.1	11.4	8.4	2.7	5.3	8.2
rental market- countries	FR	13.0	31.4	27.5	8.4	5.2	7.6	12.1
NWE	BE	15.3	26.4	19.2	5.5	1.4	3.8	5.9
homeowner- ship	FI	12.3	21.2	9.1	4.4	4.3	7.4	2.6
countries with a dual	ΙE	8.7	27.7	0	4.1	5.0	7.7	7.2
rental	LU	29.0	31.6	20.7	9.3	2.8	4.8	2.1
market	NO	20.6	8.8	8.9	4.5	3.3	3.4	2.1
	UK	22.6	16.8	16.8	4.8	4.9	5.4	5.4
SE family- based	CY	6.1	50.8	33.2	2.3	5.1	9.0	16.9
homeowner-	EL	38.1	48.9	17.9	26.1	8.8	33.0	19.2
ship countries	ES	13.9	38.6	27.7	7.5	6.0	9.6	20.7
Countries	ΙΤ	10.3	37.4	19.4	24.2	1.6	4.1	9.5
	MT	8.9	24.9	15.3	4.0	1.5	4.9	6.8
	PT	9.0	26.3	33.1	13.3	2.3	3.8	20.8
Baltics	EE	12.4	14.1	12.3	14.2	1.3	4.5	4.1
	LT	10.3	11.6	16.9	22.6	1.2	6.5	20.0
	LV	13.1	15.7	24.6	36.7	1.5	7.1	6.6
Central Eastern	BG	20.9	27.2	15.8	33.8	1.0	17.8	20.7
Europe (CEE)	CZ	17.4	21.3	10.4	14.8	2.0	1.9	6.1
	HR	9.4	33.7	7.9	30.3	0.6	11.6	6.2
	HU	14.4	15.7	18.8	15.0	1.8	7.3	7.2
	PL	12.7	55.8	8.7	33.0	0.8	4.3	4.8
	RO	14.4	37.1	20.9	39.2	0.5	13.6	12.5
	SI	8.1	24.8	20.9	9.6	1.5	6.6	3.6
	SK	13.5	32.1	7.5	30.3	2.9	7.2	8.1

Note: UK data are from 2018 as this is the latest available wave. Ireland (IE) does not have data for subjective burden in 2023, so data from 2020 are used.



* Here we only consider those individuals experiencing a heavy burden. All numbers are rounded off to one decimal place, with the exception of those smaller than 0.1.



Table 3.2 shows the prevalence of individuals for each indicator, by tenure status and country. For instance, the number under 'DK' indicates that 16.6% of owner-occupiers in Denmark is overburdened by housing costs. Overall, we find that the overburden rate is most common among market rate and reduced rate renters, compared to the other tenure statuses in each country. The countries with a conservative-corporatist unitary rental market tend to have generally lower overburden rates amongst renters compared to other countries, and some homeownership countries with a dual rental market (e.g. Luxembourg, Norway, UK) tend to have relatively high overburden rates amongst renters. A relatively high share of homeowners is overburdened by housing costs in only a few countries, such as outright homeowners in Sweden (23.3%), mortgaged homeowners in Luxembourg (35.1%), and both types of homeowners in Greece.

While renters are generally more likely to perceive a high subjective housing cost burden, there are some differences when compared to the overburden rate. Some countries, such as the Netherlands, Sweden, and Norway, have an overall low subjective burden rate. This indicates that the higher 'objective' housing cost burden in these countries does not necessarily translate into the actual perception of a high cost burden by individuals. In general, however, compared with the 'objective' measure, more homeowners feel a housing cost burden. This is not the case in the social-democratic countries with a unitary rental market, and to a lesser extent in the Baltic States, but is more pronounced in the conservative-corporatist countries with a unitary rental market, and especially in Southern-Europe. For example, in Austria the overburden rate is 4.5% and 3.6% for outright homeowners and mortgaged homeowners respectively, whilst the subjective burden is 18.5% and 38.2%. In Cyprus, the overburden rate is 0.8% and 3.1% for outright homeowners and mortgaged homeowners respectively, while the subjective burden is 47.9% and 60.9% respectively. Some countries show a generally high subjective overburden rate across all tenure statuses, such as those in Southern-Europe and in CEEcountries and, to a lesser extent, those with a conservative-corporatist unitary rental market. Higher subjective housing costs burdens in these countries could







be related to lower housing quality resulting in higher housing-related costs, or to lower incomes in some segments of the population (e.g. income inequality is often higher in these countries, see Chapter 6).

Housing quality is relatively better in countries in the North-West of Europe, especially amongst homeowners, while a relatively high percentage of renters experience deprived housing. In particular, around 40% of both market and reduced rate renters live in deprived housing in France and around 30% of market renters in Belgium. Relatively high percentages of housing deprivation across all tenure statuses are found in Southern-European countries, especially Cyprus, Spain, and Portugal. In many CEE countries, we find that renters are more vulnerable to housing deprivation, especially those in reduced rent housing.

As discussed in Chapter 2, overcrowding is a more typical characteristic of the Southern-European and Eastern-European countries. In most countries, a relatively high share of individuals experience overcrowding across tenure statuses. The few exceptions are: Cyprus, Spain and Malta, indicating intra-regime variations in terms of overcrowding. In some countries, overcrowding is more prevalent amongst renters than homeowners, such as Portugal, Slovenia, and the Czech Republic. Even amongst the countries in the North-West of Europe, some have relatively high levels of overcrowding among renters. For instance, roughly 26% of market renters in Sweden and Austria live in overcrowded housing, and roughly 20% of reduced-renters in Austria, Germany, France (i.e. conservative-corporatist unitary rental market countries), and Luxembourg, live in overcrowded housing.

With regard to arrears, rent/mortgage arrears are more common among tenants in most countries. In countries with a dual rental market and a conservative-corporatist unitary rental market, as well as the Baltic States and the CEE-countries, most countries have more reduced renters with rent/mortgage arrears than market renters. Individuals in countries with a social-democratic unitary rental market are generally less likely to be in arrears, along with some other countries such as Germany, Belgium, Luxembourg and Malta. Some countries also show a relatively high percentage of rent/mortgage arrears





amongst mortgage homeowners, such as Cyprus, Greece, Bulgaria, and Romania.

For utility arrears, as for rent/mortgage arrears, it is the tenants who are more likely to be in arrears. It should be noted that some countries, such as Greece, Bulgaria, and Romania, show a high proportion of arrears across all tenure statuses. Countries with a social-democratic unitary rental market, Luxembourg, Norway, Malta, Estonia and the Czech Republic generally show a low percentage of utility arrears across tenure statuses.

In the North-Westen part of Europe, it is the renters who are more likely to experience heating unaffordability, with cross-national variations. Whilst energy poverty is generally low for the rest of the population in the Netherlands, those in reduced rent housing also experience energy poverty in terms of heating unaffordability. Around 20% of both market and reduced renters in France are unable to afford adequate heating of their dwelling, while roughly 20% of market renters in Ireland experience this. These figures are broadly in line with the housing deprivation rates discussed above. Similar patterns can be seen in Southern- and Eastern-European countries in terms of the higher likelihood of renters experiencing heating unaffordability. However, it is worth noting that the energy poverty rate for homeowners in these countries is relatively higher than in Table 3.1. About 20% of outright homeowners in Portugal, Lithuania, and Bulgaria experience heating unaffordability. In many of the Southern-European countries, the heating unaffordability rate is relatively high across all tenure statuses. This is particularly the case in Portugal, where about 62% of reduced renters experience inability to afford adequate heating for housing. Almost half of reduced renters in Lithuania and Bulgaria and around 56% of reduced renters in Slovakia also experience this problem.





Table 3.2. Prevalence of housing problems for each indicator by country and tenure, 2023 (individuals, weighted %)

			emocratic narket-coul			rative-corp rental mai es		NWE homeownership countries with a dual rental market							
		DK	NL	SE	AT	DE	FR	BE	FI	ΙE	LU	NO	UK		
overburden	ОН	16.6	8.1	23.31	4.5	12.2	3.3	8.7	5.7	2.6	3.0	9.0	13.3		
	МН	7.7	4.0	8.1	3.6	17.6	2.0	2.0	2.4	2.3	35.1	15.5	10.0		
	MR	44.5	44.4	34.7	27.8	25.8	32.7	46.8	34.5	32.9	50.3	49.1	49.0		
	RR		49.0		18.2	29.5	29.4	39.8	29.4	16.0	42.5	43.1	44.4		
subjective burden – heavy*	ОН	5.6	1.3	3.4	18.5	17.7	20.7	12.8	9.3	17.6	11.1	2.1	6.1		
	МН	9.7	2.6	7.2	38.2	31.3	31.8	21.7	24.1	25.2	41.7	9.1	12.4		
	MR	19.8	8.2	16.4	37.0	26.4	35.7	49.3	27.4	42.3	48.0	15.1	30.6		
	RR		14.9		32.7	27.7	45.8	43.5	31.4	41.6	25.6	19.9	32.3		
housing	ОН	11.5	10.0	6.0	8.7	6.7	18.7	13.8	6.3	0	12.1	5.4	10.8		
deprivation	МН	12.7	12.8	6.9	8.3	6.6	21.7	16.3	8.6	0	24.2	6.6	13.6		
	MR	22.3	22.3	13.4	25.4	16.3	40.4	30.0	10.2	0	26.4	18.6	24.5		
	RR		27.6		26.9	16.3	40.5	26.9	14.5	0	20.9	43.0	29.9		
overcrowding	ОН	3.2	2.7	4.1	3.5	2.3	2.4	2.1	1.0	1.1	1.5	0.8	1.2		
	МН	3.4	1.7	5.1	6.1	3.4	4.2	3.3	3.7	2.9	7.5	2.9	2.5		
	MR	11.8	4.3	26.0	25.5	13.5	12.5	13.5	10.1	12.6	15.3	13.6	9.6		
	RR		4.6		18.5	20.7	21.2	9.4	7.1	5.5	20.5	0	14.5		
rent/mortgage	ОН	0	0	0.5	0.2	0	0.2	0	0	0	0	0	0		
arrears	МН	1.7	0.3	1.4	2.4	3.2	2.7	0.4	2.3	2.7	4.3	2.3	1.5		
	MR	5.8	1.2	6.7	8.7	3.8	7.5	4.9	9.8	11.7	4.2	9.8	11.7		
	RR		4.4		5.9	5.2	16.2	3.5	13.1	15.3	2.8	14.7	20.8		
utility arrears	ОН	1.3	0.4	0.9	2.2	3.0	2.1	1.0	2.1	2.6	0.9	1.0	0.9		

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Note: UK data are from 2018 as this is the latest available wave. Ireland (IE) does not have data for subjective burden in 2023, so data from 2020 are used. * Here we only consider those individuals experiencing a heavy burden. All numbers are rounded off to one decimal place, with the exception of those smaller than 0.1.

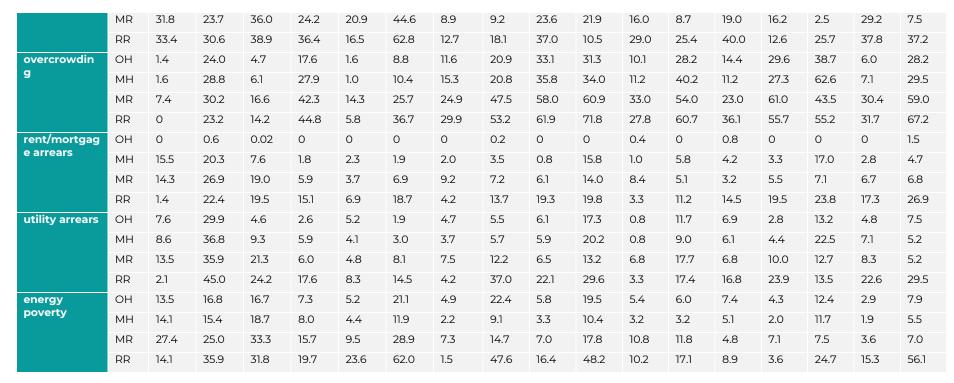
"OH" refers to outright homeowners, "MH" refers to mortgaged homeowners, "MR" refers to market rent, and "RR" refers to reduced rent. Rent-free, as mentioned above, is not reported in this table due to low absolute number of respondents belonging to this category. Missing data is left blank with ".".

Table 3.3. Prevalence of housing problems for each indicator by country and tenure, 2023 (individuals, weighted %) (Continued)

		SE fan	nily-base	d homeo	wnershi	p countr	ies	Baltics			CEE							
		CY	EL	ES	IT	MT	PT	EE	LT	LV	BG	CZ	HR	HU	PL	RO	SI	SK
overburden	ОН	0.8	35.0	5.1	5.0	1.8	3.7	11.7	10.1	12.7	19.0	12.1	9.1	11.2	11.7	12.9	5.5	12.0
	МН	3.1	32.8	9.5	4.1	4.7	3.6	3.8	5.2	6.1	10.6	9.6	4.8	17.3	9.5	8.9	6.0	13.4
	MR	33.9	44.8	44.4	34.1	35.1	40.4	38.1	28.4	24.7	36.5	41.3	39.5	44.2	25.9	39.1	30.7	36.7
	RR	22.8	51.9	40.8	29.0	13.2	15.0	30.7	33.8	16.9	47.5	22.7	20.5	38.5	14.2	58.1	31.8	19.6
subjective	ОН	47.9	44.3	29.3	29.1	20.7	19.9	13.9	11.4	16.1	26.0	15.2	33.4	15.6	53.0	37.1	21.6	30.1
burden – heavy*	МН	60.9	51.3	48.7	49.8	29.9	32.0	13.1	9.8	8.3	12.6	23.8	35.7	10.6	62.6	31.8	26.9	33.5
	MR	52.3	59.9	47.5	54.8	27.6	31.9	23.7	25.1	17.9	33.5	37.7	46.3	16.8	70.4	46.8	43.4	50.8
	RR	31.7	67.8	40.8	56.3	35.3	45.5	9.9	33.1	22.7	41.6	23.0	57.2	32.5	69.3	41.0	48.4	68.2
housing	ОН	33.7	15.0	24.1	17.5	13.4	30.8	14.3	18.2	25.3	15.0	8.0	7.7	17.8	6.9	21.1	19.2	7.6
deprivation	МН	27.1	17.1	26.0	19.3	13.5	27.7	8.1	11.1	13.9	8.7	10.8	5.0	17.2	6.6	0.3	17.4	5.2

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Note: UK data are from 2018 as this is the latest available wave. Ireland (IE) does not have data for subjective burden in 2023, so data from 2020 are used. * Here we only consider those individuals experiencing a heavy burden. All numbers are rounded off to one decimal place, with the exception of those smaller than 0.1.

"OH" refers to outright homeowners, "MH" refers to mortgaged homeowners, "MR" refers to market rent, and "RR" refers to reduced rent. Rent-free, as mentioned above, is not reported in this table due to low absolute number of respondents belonging to this category. Missing data is left blank with "."



Table 3.4 shows the prevalence of individuals for each indicator by income tertile and country. Similar to above, each number represents a percentage for those in the same income tertile within that country. Overall, the results suggest that housing precariousness is a particular problem for low-income households, and thus that there is relative housing inequality between income levels. For example, roughly 93% of low-income households in Greece and around 70% of low-income households in Luxembourg experience housing cost overburdening. In contrast, the overburden rate for high-income households is generally lower than 1%, with the exception of Germany (1.3%), Luxembourg (1.7%) and Norway (4.2%). Here we highlight some inconsistencies in this general pattern. The patterns differ somewhat from the overburden rate when it comes to the subjective housing cost burden, as the difference between individuals from lowand middle-income households is not as large as for the objective measure. In Malta, the subjective overburdening rate is higher for individuals from middleincome households than for those from low-income households. The highest subjective overburdening rates among low-income individuals are found in Greece (65.7%), Poland (65.3%) and Cyprus (62.1%). Moreover, we also find a relatively larger percentage of individuals from high-income households perceiving housing costs as a heavy burden, compared with the objective overburdening rate. With regard to overcrowding, in Latvia and Lithuania, we find more respondents in overcrowded housing amongst middle-income individuals than amongst low-income households.

Regarding housing deprivation, low-income individuals are most likely and high-income individuals are least likely to experience housing deprivation and heating unaffordability in all countries. This pattern is also found for the other indicators, with some exceptions. For instance, although the difference is small, high-income individuals are more likely to experience overcrowding than middle-income individuals in the Netherlands. In Lithuania and Latvia, middle-income individuals are more likely to live in overcrowded housing than individuals in low-income households. In terms of rent/mortgage arrears, while the percentages are generally low, they are the same for the middle- and high-income individuals in Hungary and Poland. This indicates that being in rent/mortgage arrears is more strongly a low-income problem in these countries than in others. In Romania,







finally, we see some polarization, where both low- and high-income individuals (with roughly 0.8% for both) are similarly likely to experience rent/mortgage arrears than individuals in a middle-income household (0.05%). Finally, in Luxembourg, more high-income individuals experience utility arrears compared with middle-income households.







Table 3.4.Prevalence of housing problems for each indicator by country and income tertile, 2023 (individuals, weighted

%)

		Social-democratic unitary rental market-countries				vative-corp rental mar es		NWE homeownership countries with a dual rental market							
		DK	NL	SE	AT	DE	FR	BE	FI	IE	LU	NO	UK		
overburden	Low	64.9	48.6	55.4	37.0	50.6	34.4	43.2	33.3	24.4	68.8	50.2	58.7		
	Mid	5.4	4.1	3.2	1.7	8.9	4.1	2.8	3.2	1.5	21.2	7.3	9.5		
	High	0.2	0.3	0.2	0.1	1.3	0.1	0.1	0.4	0.2	1.7	4.2	0.6		
subjective burden	Low	19.4	12.31	16.7	40.7	32.3	45.6	41.5	28.3	38.2	39.8	15.2	27.2		
– heavy*	Mid	13.4	3.9	8.4	31.2	26.4	30.6	25.3	22.2	30.5	33.0	7.6	16.0		
	High	6.9	1.5	4.5	18.5	17.4	18.1	12.3	13.0	14.3	22.1	3.9	6.4		
housing deprivation	Low	22.3	23.1	11.9	22.6	13.5	38.5	25.2	10.9	0	28.0	13.6	21.6		
	Mid	15.5	14.9	8.9	14.9	11.4	24.9	17.4	9.4	0	17.9	7.8	16.8		
	High	11.2	12.0	6.1	9.2	9.4	19.0	15.1	7.1	0	16.1	5.2	12.1		
overcrowding	Low	9.3	5.3	23.4	24.8	15.3	17.5	12.3	8.4	7.1	22.0	8.7	8.5		
	Mid	7.3	1.2	10.0	9.2	7.3	5.4	3.0	3.4	3.0	4.1	3.3	4.2		
	High	3.5	1.5	3.7	3.3	2.9	2.4	1.1	1.3	2.3	1.6	1.5	1.7		
ent/mortgage	Low	6.1	3.0	5.8	9.2	4.4	11.8	2.7	8.3	10.5	5.6	6.1	10.1		
arrears	Mid	2.5	0.7	2.9	2.0	2.4	2.9	1.4	3.6	3.6	2.1	2.5	3.7		
	High	0.7	0.3	0.6	0.5	1.3	1.0	0.1	1.1	0.9	1.0	1.2	0.9		
utility arrears	Low	8.1	2.3	5.5	12.0	8.1	16.0	6.6	11.1	15.8	7.9	5.8	10.3		
	Mid	4.4	0.9	3.2	2.8	4.9	5.4	4.4	8.1	5.6	3.1	3.2	4.8		
	High	1.8	0.2	1.0	1.7	2.8	1.2	0.5	2.8	1.7	3.3	1.1	0.9		
energy poverty	Low	12.5	15.1	8.0	8.3	13.4	22.0	11.4	3.9	11.8	4.1	4.5	9.9		
	Mid	5.9	4.2	6.1	2.1	7.6	10.7	4.9	2.8	8.3	1.8	1.3	4.5		
	High	2.5	1.7	3.4	1.3	3.7	3.8	1.6	1.0	1.4	0.5	0.7	1.8		





Note: UK data are from 2018 as this is the latest available wave. Ireland (IE) does not have data for subjective burden in 2023, so data from 2020 are used. Also, while the data exists for IE for housing deprivation for 2023, it indicates that 0% of the respondents are in housing deprivation, which requires further investigation into the data. All numbers are rounded off to one decimal place, with the exception of those smaller than 0.1.

Table 3.4 Prevalence of housing problems for each indicator by country and income tertile, 2023 (individuals, weighted %) (continued)

		SE fan	SE family-based homeownership countries						5		CEE							
		CY	EL	ES	IT	MT	PT	EE	LT	LV	BG	CZ	HR	HU	PL	RO	SI	SK
overburden	Low	16.0	92.6	38.2	28.3	24.1	24.5	35.0	30.0	37.2	58.4	47.8	27.7	38.3	35.7	36.8	23.70	37.96
	Mid	1.9	20.9	3.6	2.6	2.6	2.2	2.0	0.9	2.1	4.2	4.2	0.3	4.3	2.0	5.5	0.6	2.4
	High	0.2	0.7	0.1	0.03	0	0.2	0.1	0.03	0.2	0.1	0.3	0.1	0.6	0.1	0.9	0.04	0.07
subjective burden – heavy*	Low	62.1	65.7	49.9	48.5	26.1	34.9	20.9	19.4	27.4	42.4	33.8	48.4	29.0	65.3	53.1	39.0	50.9
	Mid	51.9	47.1	40.5	38.6	29.6	27.2	11.7	11.2	13.6	26.0	18.5	32.8	13.5	57.3	36.7	23.4	28.4
	High	38.2	33.8	25.4	24.9	19.0	16.9	9.7	4.1	6.2	13.3	11.6	19.9	4.5	44.6	21.7	11.9	17.1
housing	Low	40.2	27.2	35.5	22.7	17.6	42.1	15.3	24.6	33.9	29.6	13.1	12.5	27.7	10.9	41.1	27.3	11.4
deprivation	Mid	35.6	15.7	27.5	20.2	14.2	33.1	12.6	17.5	23.8	12.3	9.7	6.0	17.4	9.1	14.3	20.5	6.6
	High	23.7	10.9	20.0	15.4	14.0	24.0	9.1	8.4	16.0	5.5	8.3	5.1	11.2	6.2	7.3	14.9	4.6
overcrowding	Low	4.3	34.3	12.4	32.8	6.2	21.7	16.9	20.5	36.9	36.6	22.0	39.8	24.4	37.6	46.0	13.0	42.0
	Mid	2.4	27.0	6.6	23.8	4.8	14.5	16.5	27.6	43.0	33.8	13.5	35.4	14.2	36.0	38.3	9.9	25.6
	High	0.2	17.0	3.5	16.0	1.0	3.5	9.3	19.7	30.1	31.1	9.1	25.8	6.4	25.5	33.4	5.8	23.3
rent/mortgage	Low	9.7	13.5	11.6	3.4	2.4	4.7	2.0	1.4	2.9	1.7	4.7	0.9	2.9	1.4	0.8	2.9	4.4
arrears	Mid	4.5	8.0	4.4	0.9	1.5	1.8	1.1	1.1	1.3	0.9	1.0	0.5	1.5	0.6	0.1	1.1	1.8
	High	1.1	4.8	1.9	0.3	0.7	0.4	0.7	1.1	0.3	0.4	0.4	0.5	0.9	0.6	0.8	0.5	2.4
utility arrears	Low	16.3	62.7	17.7	7.8	6.9	7.9	6.6	10.3	12.2	29.6	4.9	18.4	14.2	6.4	24.7	11.8	13.5
	Mid	8.2	24.5	8.4	3.1	5.1	2.4	4.6	7.2	7.1	16.3	0.6	10.5	5.5	3.6	10.9	5.7	4.1
	High	2.6	11.7	2.8	1.5	2.8	1.0	2.3	2.0	2.0	7.5	0.3	6.0	2.2	2.8	5.1	2.4	4.0
energy poverty	Low	34.7	34.4	31.8	17.5	11.9	33.2	7.1	32.6	13.2	33.8	11.8	13.0	13.8	8.0	21.5	7.6	17.9

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^{*} Here we only consider those individuals experiencing a heavy burden.

[&]quot;Low" refers to first income tertile, "mid" refers to second income tertile and "high" refers to third income tertile.



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Note: UK data are from 2018 as this is the latest available wave. Ireland (IE) does not have data for subjective burden in 2023, so data from 2020 are used. All numbers are rounded off to one decimal place, with the exception of those smaller than 0.1.

^{*} Here we only consider those individuals experiencing a heavy burden.

[&]quot;Low" refers to first income tertile, "mid" refers to second income tertile and "high" refers to third income tertile.



5. Conclusion

This chapter provides information on the data and indicators used in Chapters 4 and 5, and how each indicator is distributed across 29 European countries based on the latest EU-SILC data from 2023. We find that there are no clear differences across housing-welfare regimes when it comes to the objective housing cost overburden ratio, although it is generally higher in countries with a social-democratic unitary rental market and in some NWE homeownership countries with a dual rental market. On the contrary, the subjective housing cost burden is generally higher in countries with a conservative-corporatist unitary rental market and in Southern-European and CEE countries. Social-democratic countries with a unitary rental market generally show a low subjective burden, indicating a clear discrepancy between objective and subjective measures. In terms of housing quality, countries in Southern and Eastern Europe tend to have more deprived housing, but so do other countries such as France and Luxembourg. However, some intra-regime variations can be noted, such as the generally low rate of housing deprivation in Hungary, Poland, Slovakia, Sweden, Finland and Norway. Overcrowding is found in many Eastern-European countries. Southern Europe presents a mixed picture, with some countries showing low rates of housing deprivation. Cyprus, for example, has the lowest housing deprivation rate of all the countries observed. Among the Eastern-European countries, the Czech Republic and Hungary have housing deprivation rates that are almost half those of other countries in Central-and-Eastern Europe. Arrears are generally not common in all the countries observed, but are particularly high in Greece, both for rent/mortgage arrears and for utility arrears. For utility arrears, the prevalence in Greece is almost double that of the second highest country (Bulgaria). Greece also has a high rate of heating unaffordability, as do the other Southern-European countries, which generally have high rates of heating unaffordability. Across tenure status, we generally find that renters are most





vulnerable to the indicators of housing precariousness observed in this report, albeit with some cross-country variations. Finally, we find that housing precariousness is a particular problem for low-income households in all European countries, with some exceptions discussed above. We must also take into account that while there is relative inequality between income groups, the difference between these groups varies across countries and indicators. Chapters 4 and 5 will develop these further by examining the different configurations of housing precariousness across countries and the tenure restructuring that has taken place over time.



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