

# Households' housing expenditure in Austria, Germany and Italy

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*For many households, housing-related expenditures make up a substantial share of total consumption. This article aims to shed some light on households' current housing expenses in Austria, Germany and Italy. To this end, we use national data from the 2014 Household Finance and Consumption Survey (HFCS) to calculate the current housing expenditure (the ratio of current housing expenses to household net income). Comparing these three countries we see that the housing expenditure is lowest in Italy, with an average (mean) of 22% (median: 17%), and highest in Germany (mean: 37%, median: 31%). The average housing expenditure in Austria is 29% (median: 26%). In all three countries, the housing expenditure decreases as income and/or wealth increases. The current housing expenditure of tenants is higher than that of homeowners. On average, homeowners' housing expenditure amounts to 21% in Austria, 31% in Germany and 19% in Italy, whereas the average housing expenditure of tenants is 39% in Austria, 44% in Germany and 36% in Italy. In particular, homeowners without outstanding housing loans have a relatively low current housing expenditure. The difference between the median current housing expenditure of indebted owners and that of owners without debt is 10% in Austria, 17% in Germany and 19% in Italy. Differences across surveys still make international comparisons of housing expenses difficult. However, the availability of HFCS data has improved the situation considerably.*

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Housing is a basic need. Individuals depend on housing more than they depend on many other consumption goods. For most households, housing accounts for the biggest share of total monthly expenditures. Tenants need to pay rent. Homeowners are often indebted, having had to make a high initial payment, and must repay their outstanding loans plus accrued interest. To determine just how much of household budgets goes toward housing in Austria, Germany and Italy, we have used national data from the Eurosystem Household Finance and Consumption Survey 2014 (Albacete et al., 2016; Banca d'Italia, 2015; ECB, 2016; PHF Survey Team, 2017) to calculate households' housing expenditure (the ratio of housing expenses to household net income).<sup>2</sup>

This paper is structured as follows: Section 1 provides an overview of our

data sources and a definition of the term "housing expenditure" as used in this study. In section 2 we discuss some features of the national housing markets. We present the results of our analyses in section 3 and a summary and conclusions in section 4.

## 1 Data sources and definition of housing expenditure

The housing expenditure is defined as the share of housing-related expenditures as a percentage of household net income. Thus we are applying an expenditure approach. This approach is often used because of its simplicity and low computational requirements and because the results can be easily understood and interpreted. Drawbacks of this approach are the fact that it uses only a single measure and that it is highly sensitive to the definition and measurement of housing

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<sup>2</sup> A similar exercise was done for Austria in past years (Beer and Wagner, 2012; Wagner, 2011).

expenses and household income. An alternative to the expenditure approach is the residual income approach (Stone et al., 2011). The residual income approach requires commonly agreed reference budgets or poverty indicators for housing and non-housing expenditures. As a third option, the expenditure of owner-occupied housing services can be measured by the user cost of housing, which depends on house prices, the preferential tax treatment of home ownership, credit availability, current and expected transaction costs, and the role that ownership plays as insurance against rental price risk (Diaz and Luengo-Prado, 2011). However, the user cost concept seeks to provide a measure of the real cost of owning a home and emphasizes the investment component of home ownership, which is not the aim of this study.

We take into account only those expenditures that are related to the primary residence. We apply a broad definition of housing expenses that includes not only rent and loan-related expenditures (principal repayment and loan interest payments) but also expenditures for mandatory services and charges, maintenance, repairs, taxes and utilities. However, we do not take into account some items that represent costs. For example, we do not include owners'<sup>3</sup> foregone interest income (i.e. the income that owners could have earned from investment/saving alternatives if they had not used their capital to acquire the primary residence). At the same time, we do include repayment of the loan principal in our measure of the housing expenditure even though it represents savings rather than costs or expenditures. As a consequence, institutional differences in mortgage financ-

ing could affect our results. We do not take owner-occupiers' gains or losses from changes in property valuation into account in our calculations. Similarly, we do not count imputed rent as part of household income. We made these choices because our aim is not to calculate housing costs but rather to calculate the expenditures of households for housing purposes. For this reason we use the term "housing expenditure" instead of "housing cost."

Furthermore, we only take into account households' current housing expenditures. Owners have several expenditures when buying a property (e.g. for lawyers, notaries, taxes, obtaining a loan). Thus, owners who had initially taken out a loan to acquire their primary residence but who have since paid back the loan may have had relatively high housing expenditures in the past but their current housing expenditures are relatively low. While owner-occupiers often incur relatively high expenditures at the beginning of their ownership and lower expenditures later, tenants' housing expenditures are more constant. Thus a study of housing expenditures over the life cycle could potentially lead to different conclusions about the relative housing expenditure of owners and tenants compared to the conclusions about the current housing expenditure presented in this article.

This study uses national data from Austria, Germany and Italy from the second wave of the HFCS. Therefore, our analysis reflects the situation in the year 2014. The rationale for selecting these three countries is that data are available on both household net income and current housing expenditures, including operating expenses. Comparing monthly housing expenditures to

<sup>3</sup> Unless otherwise noted, the term "owner" refers to ownership of the primary residence and not to ownership of other property.

monthly household net income (that is, disposable income), is more meaningful than comparing them to gross income. In addition, we see some similarities such as the rates of home ownership in Austria and Germany and attitudes about financing a home with a mortgage. It also seems interesting to consider Italy since the country was more deeply affected by the financial crisis in many respects than the other two countries.

For tenants, monthly rent is the main component of housing expenditures. Owners with outstanding loans taken out to acquire the primary residence have regular loan-related payments (principal and interest). For both tenants and homeowners, operating expenses are factored in as housing expenditures. Operating costs might include, among other things, expenditures for water and sewage, garbage collection, pest control, chimney sweep, premiums for building insurance, taxes and other public charges. In addition, tenants and owners who live in a multi-unit structure might pay for clearing of unclaimed property, electricity for lighting common areas, management fees, house cleaning, and ongoing operating costs of community facilities. However, operating costs are not strictly defined and the definition may vary across surveys. Households might also consider different items when asked about operating costs.<sup>4</sup> That limits the comparability of operating costs and the housing expenditure across countries. Nevertheless, our results do provide insights

about housing expenditures because operating expenses make up only a relatively small part of total housing expenditures. Finally, our data on housing expenditures include not only energy but also telecommunication expenditures, for the simple reason that the HFCS question on operating costs subsumes telecommunication expenditures under operating expenditures in general rather than asking respondents to provide a detailed breakdown of their expenses.<sup>5</sup>

Owners also face maintenance costs. Various international organizations recommend taking maintenance costs into account when calculating housing expenditures (International Labour Organization, 2004; Canberra Group, 2011; Organisation for Economic Cooperation and Development, 2013). Expenses for maintenance occur both regularly and, for larger maintenance items, at irregular intervals. The timing of households' payments for maintenance expenses and the maintenance expenses themselves is not necessarily the same. For example, co-owners may make regular payments for potential future maintenance expenses. Under our approach, these regular payments are regarded as housing expenses. Since the surveys do not include questions on comprehensive maintenance costs, we estimate maintenance expenditures by assuming a cost of EUR 1 per square meter per month. This choice is of course disputable but can be justified on the basis of data on extraordinary maintenance expenses in the Italian Survey on

<sup>4</sup> Data from the 2010 HFCS for Austria show that, among tenants, 8% of households included furniture as operating costs, 11% other inventory such as a washing machine or refrigerator, and 37% garage or parking lot fees. Although these items are housing expenditures, they are not part of operating costs. In addition, 90% of tenant households included water and sewage costs, 61% included heating and 26% included electricity. And though these items are necessities, their inclusion by some households but not others is problematic because it indicates a clear inconsistency in how the question was answered. Respondents' decision whether to include heating costs as operating costs probably depends on the heating system.

<sup>5</sup> A core question in the 2014 HFCS questionnaire asks: "About how much does your household spend on utilities (electricity, water, gas, telephone, internet and television) in a typical month?" See annex for country-specific survey details.

Household Income and Wealth (SHIW). Using SHIW data, D'Ambrosio and Gigliarano (2007) calculate maintenance expenses of EUR 0.88 per square meter per month by dividing the annual amount of extraordinary expenses reported by all owners by the total number of square meters of all owners. For the 2014 data, the corresponding figure is EUR 0.92. However, we should note that "extraordinary maintenance" in the Italian survey includes extensions but not regular maintenance expenses.<sup>6</sup>

## 2 Comparison of tenure status and features of the national housing markets

Whether households own their primary residence, rent it or are able to use it free of charge has a major impact on current housing expenditures. As a result, the share of owners and tenants has a significant impact on average housing expenditures in a country. In this section we therefore discuss ownership and tenancy rates in Austria, Germany and Italy and describe some features of their housing markets that might explain the differences across countries.

Italy has the highest ownership ratio (68%). Ownership rates in Austria (48%) and Germany (45%) are markedly lower (see table 1).<sup>7</sup> Free use is much more widespread in Italy than in Austria or

Germany. In all three countries, the share of homeowners increases in line with income. Conversely, free use declines as net income increases. This might be explained by the fact that free use housing is often provided by family and friends to young or retired relatives or – in Italy in particular – by public sector entities as social housing.<sup>8</sup>

Since Italy has the highest share of homeowners and the lowest share of indebted owners, one may conclude that Italian households are less affected by interest rate changes and rental market developments. In addition, the high share of free use should translate to lower housing expenses.<sup>9</sup>

There are also differences across countries with regard to the average size of the primary residence. The median surface area is 90 square meters in both Austria and Italy and 83 square meters in Germany. Regarding the surface area per earner, Austria and Germany show lower results (median: 65 square meters) than Italy (median: 70 square meters). However, the average number of household members is higher in Italy than in Austria and Germany. Additionally, the mean equivalised<sup>10</sup> household size is highest in Italy (1.7 compared to 1.5, both in Austria and Germany). This fits to the fact, that the median home size per household member is smaller in

<sup>6</sup> A different approach would be to figure maintenance expenditure based on property value. A major drawback of this approach is that maintenance expenses would change as property prices change. Also, maintenance expenses usually increase as buildings age. Although we have information on the year of construction, we do not have information on major refurbishments or renovations, which is important for assessing the effective age of a building.

<sup>7</sup> Data from Eurostat show the following ownership rates: 55% in Austria (2016), 52% in Germany (2016) and 73% in Italy (2015). For Austria, households living in homes owned by relatives are also regarded as owners. Without these households, the share of owners is 51%. For Germany, the ratio relates to the share of individual persons living in an owner-occupied home. Translated to reflect the share of households, the figure is 43%.

<sup>8</sup> According to HFCS data "free use" housing is mostly provided by family members in Austria and by family and friends in Germany (the German survey does not differentiate). Although provision of free use accommodation by relatives is also common in Italy (with 30% of all accommodation being for free use), provision by private individuals that are not relatives is even more common (45%). In contrast to Austria and Germany, a significant share of free use accommodation in Italy is provided by public sector entities (18%).

<sup>9</sup> Free use does not imply that these households do not pay operating costs. Furthermore, the part of housing expenses that is not borne by the inhabitants of a free use accommodation must eventually be paid by other households.

<sup>10</sup> The equivalised household size is the number of consumption units in the OECD modified scale ( $1 + 0.5 * \text{number of 14 and older} + 0.3 * \text{number of children below 1}$ ).

Table 1

**Tenure status**

	Austria		Germany		Italy	
	%					
Owners	47.7	(0.5)	44.6	(0.2)	68.2	(0.7)
of which with outstanding loans	27.6	(0.4)	30.4	(1.5)	12.2	(0.6)
Tenants	45.4	(0.0)	50.9	(0.5)	20.7	(0.6)
Free use	7.0	(0.5)	4.5	(0.5)	11.1	(0.5)

**Income quartiles**

Ownership ratio by income quartile	%					
1	22.9	(0.6)	21.3	(1.7)	38.2	(1.4)
2	44.2	(1.5)	38.4	(2.0)	64.0	(1.6)
3	53.0	(1.0)	52.6	(1.8)	79.4	(1.3)
4	71.2	(0.5)	68.7	(1.5)	91.5	(0.8)
Tenancy ratio by income quartile	%					
1	64.5	(0.6)	70.2	(2.1)	46.5	(1.4)
2	48.9	(1.1)	56.7	(2.0)	20.8	(1.4)
3	41.8	(1.1)	45.0	(1.9)	12.5	(1.1)
4	25.7	(0.8)	29.6	(1.5)	2.9	(0.4)
Free use ratio by income quartile	%					
1	12.6	(0.1)	8.5	(1.4)	15.4	(1.1)
2	6.9	(0.5)	4.9	(0.9)	15.2	(1.2)
3	5.2	(0.3)	2.5	(0.5)	8.1	(0.9)
4	3.2	(1.3)	1.7	(0.5)	5.6	(0.7)

**Networth quartiles**

Ownership ratio by net worth quartile	%					
1	1.2	(0.3)	8.0	(1.0)	2.7	(0.5)
2	12.9	(1.3)	18.2	(1.9)	75.4	(1.2)
3	82.7	(1.3)	64.8	(2.0)	96.7	(0.5)
4	93.9	(0.5)	88.5	(1.3)	98.3	(0.3)
Tenancy ratio by net worth quartile	%					
1	88.1	(1.5)	86.4	(1.6)	67.4	(1.4)
2	74.3	(1.7)	75.2	(2.0)	13.0	(1.0)
3	14.6	(1.3)	30.7	(2.0)	1.5	(0.4)
4	4.4	(1.7)	10.5	(2.0)	0.6	(1.0)
Free use ratio by net worth quartile	%					
1	10.7	(0.8)	5.6	(1.2)	29.8	(0.2)
2	12.8	(1.3)	6.6	(1.3)	11.6	(1.4)
3	2.7	(2.6)	4.5	(1.2)	1.8	(1.0)
4	1.7	(0.2)	1.1	(0.8)	1.1	(0.4)

Source: Authors' calculations based on HFCS, PHF, SHIW.

Note: Standard errors in parentheses.

Italy (43 square meters) than in Austria and Germany (50 square meters in both countries). Concerning the number of employed or self-employed persons within the household, the Italian number is lower than the Austrian and German number (mean 1.75 in Austria and 1.57

in Germany compared to Italy 1.53). This is not astonishing regarding the fact that the Italian women's employment rate is second lowest in Europe<sup>11</sup> (48%, compared to Austria 68% and 71% in Germany, according to Eurostat data for 2016).

Some features of the national housing markets might help to explain the differences in home ownership ratios. One factor driving the preference for home ownership in Italy may be housing policy. The 1970s saw a burst of regulatory activity that included the passage of the Fair Rent Act in 1978. By contrast, these efforts were neglected in the 1980s and some features of the laws and norms that had been enacted in the previous years were repealed, thus changing the laws' corrective impact (Caruso, 2017). In that decade home ownership was promoted through the adoption of new provisions (Caruso, 2017). As a result, the rental market shrank steadily while the owner-occupied market grew. After the financial crisis, credit institutions tightened lending rules, which fueled demand for rental housing. Because social housing is not widespread (Bianchi, 2014, and chart 1), affordability is especially limited for low-income households. The situation is especially problematic in metropolitan areas (Pittini et al., 2015). Aassve et al. (2002) have shown that in southern Europe, more than elsewhere, leaving the parental home depends on employment and income. Often the original family has to take an exclusive role in supporting young people in this transition (Mencarini and Tanturri, 2006). According to the Italian survey data for 2014, 28.2% of households had inherited their primary residence or received a substantial gift (in 1989 the percentage was 26%). The respective

<sup>11</sup> Women's employment rate shows a big difference between northern and southern regions in Italy.

ratio is 27.3% in Germany and 28.1% in Austria. Using data from the 2004 IDEA survey, Mencarini and Tanturri (2006) show that about 65% of young people living outside the parental home in Italy received funds from their parents to purchase or rent a home. German PHF data show that about 13% of households in Germany received support from persons outside the household when acquiring their primary residence. Data on support for tenants is not available for German households. In Italy, house prices have increased dramatically over the past two decades and Italy's labor market and pension system have both undergone various reforms. Together, these changes have worsened the economic conditions of young Italians (Berloff and Villa 2010). Modena and Rondinelli (2011) point out that young people in Italy leave home relatively late compared with other countries, citing the rather small Italian rental market (around 20% of total housing), weak housing policies that offer little in the way of social rented housing for young people, high transaction costs on the housing market, and the difficulty of obtaining a mortgage without providing guarantees (Mencarini and Tanturri, 2006). According to Mencarini et al. (2010), young Italians emancipate five years later than their French counterparts.<sup>12</sup> Modena and Rondinelli (2011) find that in Italy the probability of leaving home decreases by about one half of a percentage point for a one standard deviation increase in house prices and show that the youngest cohort was heavily impacted by the evolution of real estate prices in the last decade.

In Austria, the rental market is highly regulated and comparatively large. Austrian housing policy targeted and still targets low- and middle-income households to provide them with adequate living space. Austria's housing policy rests on several pillars. First, a housing subsidy program provides subsidized loans to individuals, cooperatives and corporations. The second is the nation's legal framework, which consists of private law, building regulations and property development regulations. Besides the Tenancy Law, which targets the private rental market, there is another law that applies to non-profit housing developers, the Limited-Profit-Housing Act. Under this act, limited-profit housing associations are allowed to charge a rent that just covers costs. They must also reinvest any profits in Austrian housing projects. A further pillar is the subsidy given to building and loan associations and mortgage banks. Social housing plays an important role in the Austrian housing market, with 23% of the total housing stock used for social rental housing. To sum it up, in Austria there are quite a lot of instruments subsidizing households (subsidized mortgage loans, tax deductibility of housing expenses<sup>13</sup>, subsidy scheme for tenants etc.) which are not accounted for in our results of housing expenditures (as we do not have data on these items within the HFCS).

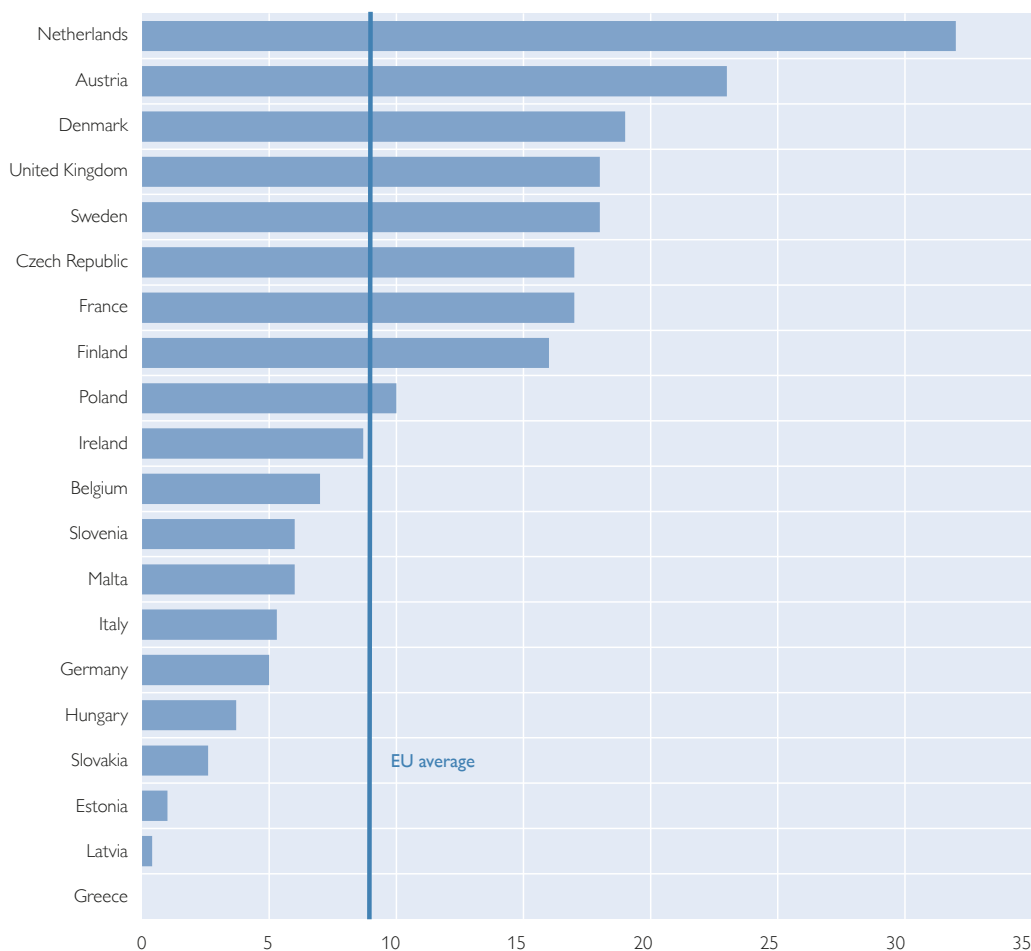
Germany's homeownership rate is 52% and therefore comparable to Austria's rate. An important difference compared to Austria is that the social rental market is much smaller (around 5%). Germany's Limited-Profit-Housing Act was phased out on December 31, 1989,

<sup>12</sup> The HFCS data also show that Austrian and German households bought their primary residence when the survey reference person was 33 years old while in Italy the reference person was 36 years old.

<sup>13</sup> The tax deductibility of housing expenses (e.g. loans for renovation purposes) has been cancelled most recently. For existing loans concluded prior to 1 January 2016 the old rules are still valid for five years till 2020.

**Social housing share 2012**

% of total housing stock



Source: CECODHAS Housing Europe.

and many dwellings that had been regulated until then were released from tenancy regulations.

Austria has a system of regulated rents that allows for surcharges or discounts depending on factors such as the rental property's location for contracts concluded after March 1, 1994, for houses built before May 8, 1945. In contrast, Germany has a very loose principle of

comparable properties, with a regular survey on rents in a number of German cities serving as a reference framework.<sup>14</sup>

In Austria, the above-mentioned tenancy agreements stipulate that rent increases are indexed by the consumer price index and rent increases after refurbishments are handled quite restrictively. In Germany, rents may be increased if owners incurred renovation costs or

<sup>14</sup> In Germany, two measures impose limits on rent increases: the cap which stipulates that rents may be increased by no more than 20% (in some cities 15%) within 3 years, and the survey-based reference framework of comparable rents, which constitute upper limits for rent increases.

Table 2

**Housing expenditure**

	Austria				Germany				Italy			
	mean		median		mean		median		mean		median	
All	28.6	(0.1)	25.6	(0.1)	36.6	(0.6)	30.8	(0.5)	21.6	(0.3)	16.6	(0.2)
Owners	20.7	(0.2)	17.6	n.a.	30.8	(1.1)	25.1	(0.6)	19.0	(0.3)	15.2	(0.2)
Owners without loan	17.3	(0.2)	15.6	(0.2)	24.4	(0.5)	20.6	(0.4)	16.4	(0.2)	13.9	(0.2)
Owners with loan	29.4	(0.4)	26.0	n.a.	45.4	(3.1)	37.2	(1.1)	37.5	(1.3)	33.1	(1.1)
share of loan-related payments (average)	44.6	(0.5)	x	x	57.2	(1.1)	x	x	62.6	(0.9)	x	x
Tenants	39.2	(0.1)	37.0	(0.2)	43.7	(0.9)	36.8	(0.8)	36.4	(1.1)	31.0	(1.0)
share of rent payments (average)	58.2	(1.0)	x	x	63.2	(0.4)	x	x	70.8	(0.6)	x	x
Free use	14.1	(0.2)	11.7	(0.3)	19.6	(1.5)	17.0	(1.3)	10.1	(0.5)	8.5	(0.4)
Income quartile												
1	41.3	(0.2)	39.9	n.a.	60.3	(2.4)	49.9	(1.2)	33.7	(1.2)	26.5	(0.7)
2	30.2	(0.1)	28.7	(0.4)	34.7	(0.6)	32.6	(0.4)	23.6	(0.5)	20.8	(0.4)
3	24.8	(0.3)	22.6	(0.8)	28.6	(0.6)	26.8	(0.6)	17.9	(0.3)	14.9	(0.3)
4	18.1	(0.2)	15.7	(0.3)	23.1	(0.6)	20.5	(0.5)	12.8	(0.2)	10.4	(0.2)
Net worth quartile												
1	40.6	(0.4)	39.8	n.a.	50.8	(1.7)	43.1	(1.4)	30.3	(1.1)	25.0	(0.8)
2	31.4	(0.5)	29.9	(0.5)	36.1	(1.0)	32.7	(0.5)	22.6	(0.5)	19.0	(0.6)
3	23.3	(0.6)	20.1	(0.5)	32.1	(1.0)	28.3	(0.8)	18.0	(0.4)	14.9	(0.3)
4	19.2	(0.4)	16.4	(0.2)	28.0	(1.8)	21.3	(0.6)	16.1	(0.4)	13.1	(0.3)

Source: Authors' calculations based on HFCS, PHF, SHIW.

Note: Standard errors in parentheses.

if comparable rents are higher.<sup>15</sup> However, in Austria no such restrictions exist for buildings constructed after 1945. That means Austrian rents in such buildings (17% of the entire Austrian housing market) are less regulated in Austria than in Germany.

Effective June 1, 2015, new rent-control legislation was introduced in various German districts. The new regime stipulates that rents for new contracts must not exceed the local average rent by more than 10%. The effects of the new regime have been hotly debated. Many experts see distortions in the real estate market as rents have increased quite sharply in many cities since the summer of 2015 (e.g. Kholodilin et al., 2016). Tenants may be avoiding moving out, preferring instead to extend their leases because

sitting tenants' rents are much lower than new rentals. In September 2017, Berlin's district court declared such provisions unconstitutional, finding them to discriminate against some landlords.

### 3 Current housing expenditure

Comparing the current housing expenditure in the three countries (table 2), we see that the housing expenditure is lowest in Italy (mean: 22%, median: 17%) and highest in Germany (mean: 37%, median: 31%). The mean Austrian housing expenditure is 29% (median: 26%).<sup>16</sup> On average, tenants have a higher current housing expenditure than owners. The difference between the average current housing expenditure of tenants and the average current housing expenditure of owners is about 19 percentage points in both Austria and Italy

<sup>15</sup> Austrian law also requires that a 25% discount be applied to rents payable on regulated flats if the contract term is limited. The minimum duration of a limited-term lease is 3 years.

<sup>16</sup> One could argue that household income should be adjusted by an equivalence scale that accounts for the number of household members. We chose not to do that because our interests focus on actual expenditure ratios. An analysis centered on households' needs should apply equivalence scales. Calculations show that – at least with respect to averages and medians – the use of equivalence scales would not affect the order of the results presented in table 2.



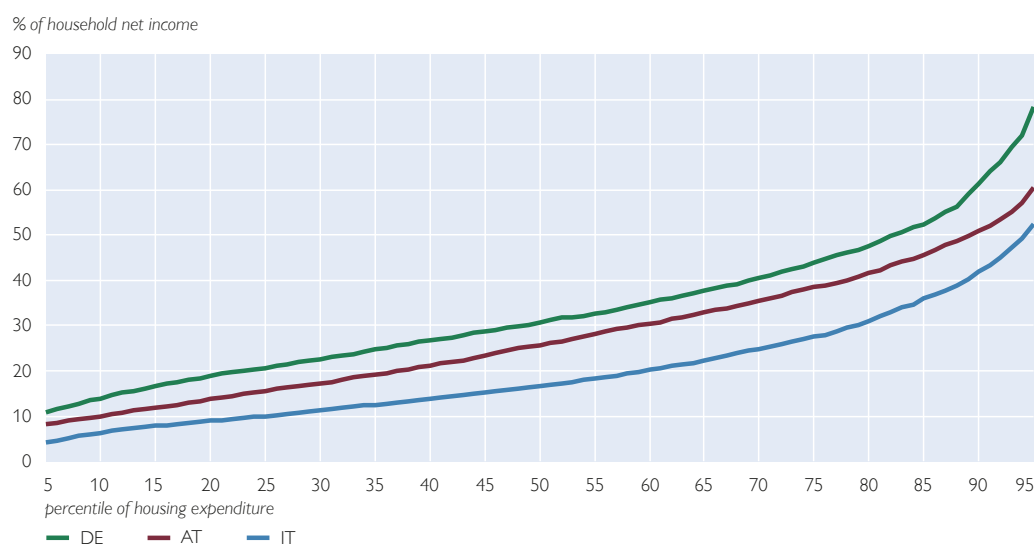
but only 13 percentage points in Germany. The difference between tenants and owners with an outstanding loan is less distinct, particularly in Germany and Italy. In all three countries, the housing expenditure decreases as income increases. The drop in the housing expenditure from the first to the fourth net income quartile is most pronounced in Germany, where the difference in the mean housing expenditure is 37 percentage points. The trend is the same when the housing expenditure is broken down by net worth quartile. It should be borne in mind that the share of homeowners is relatively small in the first net worth quartile but relatively large in the highest net worth quartile. For many households in the fourth net worth quartile, a debt-free primary residence constitutes a large part of their net worth.

Chart 2 shows the distribution of the current housing expenditure between the 5<sup>th</sup> and the 95<sup>th</sup> percentiles. The spread

between the three lines is smallest at the lower end of the distribution and grows as they move into the higher percentiles. The shape of the distribution curve is quite similar in Austria and in Germany although the curve for Germany lies consistently above that for Austria. The Italian distribution has a somewhat different shape. In particular, it is flatter at the lower percentiles and steeper at higher percentiles. The relatively flat part of the Italian distribution up to about the 65<sup>th</sup> percentile indicates a more equal distribution and reflects the large proportion of owners without outstanding loan debt who have a relatively low expenditure. The proportion of owners with outstanding debt to service on their primary residence is much lower in Italy (12%) than in Austria (28%) and Germany (30%).<sup>17</sup> The steeper slope after the 65<sup>th</sup> percentile reflects the higher expenditure of the relatively small group of Italian owners with outstanding loans and tenants.

Chart 2

### Distribution of housing expenditure



Source: HFCS 2014 Austria, SHIW, PHF, OeNB.

<sup>17</sup> Thus, even though the proportion of owners is higher in Italy than in Germany and Austria, the proportion of households that have an outstanding loan to finance the primary residence is lower in Italy (8%) than in Austria and Germany (both around 13%).

In all countries but especially in Germany, high values for the housing expenditure can be observed for the higher percentiles. The slope of the distribution also increases markedly. Data suggest that mostly low-income households exhibit such a high expenditure. However, it must be borne in mind that the number of households observed to have an extremely high housing expenditure is relatively small. Therefore, the estimates have to be taken with caution. This also holds for the distribution of the housing expenditure of owners and tenants (discussed below).

Next we compare the housing expenditure of owners with the housing expenditure of tenants. A major determinant for the current housing expenditure of owners is whether they have an outstanding loan (see chart 3, upper panel). The difference between the current housing expenditure of owners with and without loan debt is more pronounced in Germany and Italy than in Austria. The difference between the median current housing expenditure of indebted owners and that of owners without debt is 10% in Austria, 17% in Germany and 19% in Italy. Loan repayments of indebted Austrian owners account on average for only 45% of the housing expenditure. This number is considerably higher in Germany (57%) and Italy (63%, table 2). Differences in the outstanding loan amounts are one factor causing the disparity in the housing expenditure among owners with an outstanding loan. On average, indebted Austrian households have about EUR 90,000 in outstanding loans to finance their primary residence (median EUR 64,000). This number is somewhat higher in Germany (mean: EUR 99,000; median: EUR 80,000). Outstanding loans among owners are distributed differently in Italy than in Austria or Germany. Outstanding loans of indebted Italian owners

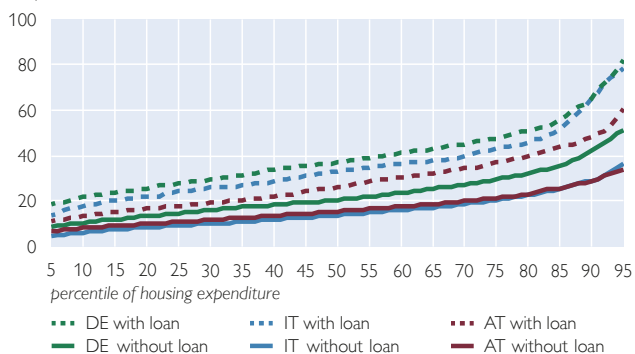
amount to EUR 77,000 on average, with a median of EUR 70,000. Differences in interest rates, mortgage characteristics (duration, initial period of fixation, etc.) also play a role. For example, the average original duration is 26 years in Austria and 23 years in Italy but only 13 years in Germany. That implies that German households have to pay back their loans in a shorter time period. Regulatory differences concerning the division of housing expenditures between tenants and landlords and other topics are also partly responsible for the differences in the levels of housing expenditure across the countries studied. The quality of housing may play a role when analyzing the amount of housing expenditure. There is no information in the HFCS on the building age of the main residence. Looking on the breakdown by the duration of living in the main residence we see a higher expenditure in the first twenty years, later on the amounts are lower (up to 10 percentage points). Therefore, it is not possible to analyze more thoroughly the effect of building standards and resulting country differences. Nevertheless, building characteristics and regulation standards may play a role on the amount a household has to pay as housing expenses.

Regarding the distribution of tenants' current housing expenditure the lower panel of chart 3 shows that the housing expenditure of Italian tenants is about 6 percentage points lower than the expenditure of German tenants across most of the distribution. Up to about the 60<sup>th</sup> percentile, the distribution of the current housing expenditure in Austria and Germany is almost identical. Above the 60<sup>th</sup> percentile the slope of the distribution increases in Germany whereas the Austrian distribution approaches the Italian one. The flatter slope of the Austrian distribution

## Distribution of housing expenditure

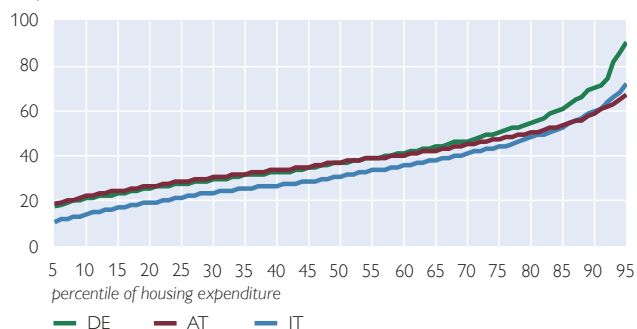
### Owners

% of household net income



### Tenants

% of household net income



Source: HFCS 2014 Austria, SHIW, PHF, OeNB.

reflects somewhat more equality in the housing expenditure of tenants in Austria. Tenants with a high housing expenditure are mostly low-income households.

Overall, the size of the share of ownership and tenancy in a country accounts for a large part of the differences in the housing expenditure across countries. The relatively low current housing expenditure in Italy can be largely explained by the high ownership ratio and the low incidence of outstanding loans that were taken out to finance the primary residence among owners. However, that does not mean that financing housing is particularly easy for Italian households. On the contrary, as discussed above, it is relatively difficult for young people to establish their own first households because of the relatively small supply of cheap rental apartments and relatively high property prices. Italian households are larger than Austrian and German households. Thus housing expenses are distributed among more people.

In addition to the housing expense, we discuss the vulnerability of owners in the following paragraph. Vulnerability can be defined in several ways (see e.g. Albacete et al., 2013). We take advantage of the fact that data on net income

are available and calculate the total debt service ratio of owners. For this purpose, we do not only take into account debt services for loans taken out in order to purchase the primary residence (as above) but also the debt service for loans for the purchases of other real estate as well as consumer loans. As vulnerability is particularly important from a financial stability point of view we restrict our attention to owners with outstanding debt. The analysis shows that the median debt service ratio of these households is 12% in Austria, 19% in Italy and 20% in Germany. In Austria, about 95% of these households have a debt service ratio below 40% (and 80% spend less than a quarter of their net income on debt services). The corresponding numbers for Italy and Germany are 83% (63%) and 88% (65%) respectively. Indebted households are most likely not able to reduce their housing expenses easily if they get in trouble with servicing their debt. Hence, we also calculated the ratio of housing expenses (as defined in the previous sections) plus debt service for loans that were taken out for other purposes than financing the main residence to household net income. For this indicator the median values are 27% in Austria,

31% in Italy and 39% in Germany. In Austria about 80% of indebted owners spend less than 40% on housing expenses plus total debt service (and about 44% less than 25%). In Italy, 68% spend less than 40% (33% less than 25%) of their net income on housing expenditures plus total debt services. In Germany this is only the case for 51% (16%) of indebted owners. Comparing these results with the results on housing expenditures suggests that in Italy loans for other purposes than the primary residence play an important role and increase debt service payments of indebted owners.

#### 4 Summary and conclusions

Housing expenditures usually make up the largest share of household consumption. In this article, we calculated the current housing expenditure of households in Austria, Germany and Italy using 2014 data from the second wave of the HFCS.

Disregarding households that can use their primary residence for free, we find that in all three countries owners without outstanding loans for the purchase of the primary residence have the lowest current housing expenditure. The high share of this group in Italy explains the low Italian current housing expenditure. However, despite this low current housing expenditure, structural

features of the Italian property market make it difficult – especially for young people – to establish a household. Our study analyzes the current housing expenditure and not housing expenditures over the life-cycle. An analysis of housing expenditures over the life-cycle that also takes into account earlier expenses on loans that have already been repaid might yield a different picture with regard to both the differences between owners and tenants within a country and the housing expenditure across countries.

This article aims to give an initial impression of the differences in the housing expenditure across the selected countries. A next step would be to more thoroughly analyze the reasons for these differences while also extending the country sample. Although the HFCS data considerably improve comparisons of the housing expenditure across European countries, differences still exist between the national survey questions. For example, the operating expenses reported might differ across the countries surveyed, thus affecting the comparability of total housing expenses. Availability of net income data for all countries in the HFCS would be another welcomed improvement as it would allow for many important international analyses.

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## Annex

In this annex we discuss particular details of the surveys used.

### Austria

*Survey:* We used national data from the second wave of the HFCS (see Albacete et al., 2016).

*Operating costs:* Respondents are asked “How much does your household spend on ancillary housing costs (electricity, gas, water, sewage, phone, internet, television) in a typical month?” Interviewer guidance indicates that energy costs (e.g. heating, electricity) should be taken into account and that loan repayments do not fall into the category of ancillary housing costs. Owners are asked to record operating costs. Tenants are requested to state their rent both including and excluding operating costs.

*Housing cooperatives:* Tenants in flats provided by housing cooperatives often have to contribute to building costs. We include loan repayments (principal and interest) for loans taken out to finance this redeemable funding contribution. The contribution to building costs is reimbursed upon termination of tenancy, less depreciation. Because we apply an expenditure approach, we do not take this depreciation into account in the calculation of housing expenditures.

*Bullet loans:* Owners are asked whether they have an outstanding bullet loan for the acquisition of the main residence. We calculated expenses arising from these loans using information on current interest rates and loan amounts.

### Germany

*Survey:* We used the PHF Scientific Use File Wave 2 Version 1.0 data set (see PHF Survey Team, 2017).

*Operating costs:* Households are asked to state the ancillary costs including utility costs (heating, electricity). In a separate question, households are requested to give the expenditures on landline phones, mobile phones and internet access.

### Italy

*Survey:* We used national data from the 2014 Survey on Household Income and Wealth (SHIW) from Banca d'Italia (Banca d'Italia, 2015).

*Operating costs:* Households are asked for expenses relating to the main dwelling for condominium costs including any heating costs, electricity, water and gas (if not included in the condominium costs) and landline telephone, including any internet connection costs.

*Household income:* To improve comparability with net income information from the other surveys, we added interest rates paid and transfers paid to and subtracted imputed rent from the net income variable provided in the survey (called *y* in the data set). Of the households surveyed, 42 have an income of zero. For these households it is not possible to calculate the expense ratio. Also, some households have a very low monthly income (sometimes even below EUR 1). Because such a low income results in an unrealistically high expense ratio (up to more than 2000), we set the expense ratio for households with an income below EUR 150 to missing.