

Real Estate Inheritance in Austria

As real estate inheritances are an important component of Austrian households' assets, they are relevant for monetary policymaking and for the maintenance of financial stability. 20% of Austrian households have inherited real estate wealth, with some 2% of all households accounting for around 40% of the overall volume of real estate inheritances in Austria. In aggregate, real estate inheritances constitute up to 23% of households' total real estate wealth. Households which have inherited differ from those which have not in so far as the former have a higher level of education, earn higher incomes and possess greater real estate wealth. The largest inheritance ratio is in the age group of 50- to 70-year-olds. Households with greater real estate wealth and higher income inherit more often, and they receive larger inheritances. Yet the relative share of inherited real estate properties in total real estate wealth is larger among households with smaller real estate wealth. Less well-off households may come into comparatively considerable real estate wealth through an inheritance. Real estate inheritances are of particular importance for farmers. The majority of real estate owners plan to bequeath their real estate. This intention is rather independent from wealth and income levels.

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This paper is based on the OeNB's Household Survey on Housing Wealth (HSHW) of 2008,² which also included a number of questions on bequests and inheritances. Any isolated assessment of the inheritance process would not do justice to the multidimensional subject of private capital transfers. The concept of inheritances should be considered together with gifts and investments in children's education. Empirical studies show a clearly positive connection between inheritances and gifts. Within families, money transfers mainly flow from parents to their children, following a cascade model. Gifts reach beneficiaries at an earlier stage of their life cycle than inheritances do.³ Inheritances can either be used for consumption or for private provisions (for old age or health, or against other risks) as well as for building up wealth.

Since inheritances account for a large part of Austrian households' as-

sets (section 4), they are a relevant factor for monetary policymaking and for maintaining financial stability. Accounting for about two-thirds of all assets held by households, real estate is the single most important portfolio item in terms of volume in Austria (Fessler et al., 2009a). It serves as collateral for loans and, given its dominant role in the composition of households' assets, it is of particular relevance for the resilience of households to financial risks (Albacete and Wagner, 2009; Albacete and Fessler, 2010). Furthermore, the effects of monetary policy are determined by several transmission mechanisms, including the cost of capital, expected future changes in real estate prices, real estate supply and demand, the credit channel and the balance sheet effect on consumption as well as on demand for real estate itself (Fessler et al., 2009a). The prospect of inheriting real estate can also have an

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² For more detailed information on the 2008 Household Survey on Housing Wealth, see Wagner and Zottel (2009) and Fessler et al. (2009).

³ In Germany, almost as much as two-thirds of inheritances are received after the age of 40 (Szydlík, 2006).

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impact on saving and consumption. Households expecting to come into an inheritance may be more likely to take on higher debts in order to optimize their lifetime consumption. Likewise, they will be able to make greater transfers to their children, and to do so at an early stage, if they have reason to expect asset transfers from their parents to complement their old age income. Hence, the inheritance process has a bearing on the conduct and the financial wealth of individuals of several generations.

Given the relevance of household wealth and of inheritances for monetary policy and financial stability, the Eurosystem Household Finance and Consumption Survey (HFCS), which will be conducted in Austria in 2010, will contain a separate inheritance chapter. While the HSHW was limited to real estate inheritance, the scope of the HFCS will also include other forms of inheritance. Therefore, the HSHW may be seen as a pilot project for the euro area harmonized HFCS.

So far, international comparisons have been hard to draw, given the differences in respondents targeted (individuals, households), in the reference period (inheritances occurred during the past five years, ten years or ever) as well as in the capital transfers reviewed.⁴ The harmonized HFCS data for the euro area are to shed light on these cross-country differences. Moreover, data quality will only be assessable in longitudinal analyses once the results of several waves of surveys are available.

So far, little is known about inheritances in Austria. Data derived from a 2004 OeNB survey on financial assets of Austrian households show that one-third of households have received an inheritance whose size varies among these households according to social categories (Schürz, 2007). The consolidated real estate wealth of Austrian households amounts to some EUR 880 billion. This large figure implies a considerable potential for gifts and bequests.

The economic literature deals with three main questions arising in connection with bequests: How large are the assets bequeathed, and what types of assets are bequeathed? What are the motives for bequeathing? Which socio-economic characteristics distinguish heirs from nonheirs? The economic literature offers partly contradictory reasons for making bequests.⁵ Sociology, by contrast, focuses on issues such as intergenerational solidarity within families and the conditions set out by institutional frameworks. In his sociological work on “legitimate domination,” Weber (1922, 1985) already stressed the close links between inheritance, law, economy and political authority. The connection between inheritances and death raises the former above the *sphere of the profane* (Beckert, 2004) and therefore renders this subject so complicated. This study delves into three questions:

- (a) What are the motives for bequeathing real estate?
- (b) Who inherits real estate in Austria, and which socioeconomic charac-

⁴ The Socio-Economic Panel (SOEP) asks respondents: “Have you ever inherited real estate or have you ever received a large gift? We refer to transfers of real estate wealth and estates in land, equity, securities, other assets or large amounts of cash.” The responses cite the value at the time of the inheritance, which means that the prices need to be adjusted. The annex contains the HSHW’s questions on real estate inheritances.

⁵ For an introduction, see Kessler and Masson (1989); Pestieau (2003); for an overview of motives for bequests, see Arrondel and Masson (2002).

teristics distinguish heirs from nonheirs?

- (c) How large and how important are real estate inheritances in Austria?

A period of more than six decades of political stability and economic wealth has enabled Austrian households to accumulate significant assets. Since World War II, this accumulation process has not suffered any major shocks such as wars or currency reforms. The fallout of the financial crisis may well harbor potential for a temporary setback, especially for the value of risky investments. The long-term significance of inheritances, however, has increased and is likely to rise even further.

With life expectancy increasing, most households receive bequests at a later stage in life. The inheritance ratio (households with inheritances over total sample) of the HSHW rises until the age cluster of 60- to 69-year-olds.

Together with retirement provisions, provisions against income risk and emergencies, capital transfers (inheritances and gifts) have an important role to play in building up wealth. On the other hand, accumulated wealth forms the basis for gifts and inheritances. Thus, there is a reciprocal relationship between accumulated wealth and capital transfers (e.g. Kessler and Masson, 1989; Gale and Scholz, 1994; Szydlík, 2004; DIW, 2005). The well-educated and earners of high incomes accumulate greater wealth, which translates into more sizeable inheritances for their descendants.

As a result of demographic aging, the volume of inheritances will probably concentrate on a diminishing num-

ber of heirs.⁶ However, empirical evidence of capital transfers have so far remained contradictory, and it is hard to draw international comparisons (Fessler et al., 2008). The Eurosystem's HFCS, which is currently being conducted in most countries of the euro area, will enable substantial progress in this area.⁷

Inter vivos transfers and inheritances are sensitive areas in household surveys. Respondents are particularly likely to refuse to answer questions on where their wealth originated. Moreover, real estate has a special status in inherited wealth. Real estate is not as readily marketable as cash gifts, and often it is the explicit wish of the testator or donor that the estate remain unsold.

Section 1 deals with the motives for bequeathing. Section 2 illustrates conceptual problems of research into the significance of inheritances, while section 3 presents empirical results based on the HSHW 2008. Section 4 assesses the significance of inheritances for wealth accumulation, section 5 concludes.

1 Why Do People Make Bequests?

Economists have an interest in bequest motives because these motives have an impact on capital formation. Accordingly, the intent to leave assets to an heir is likely to lead to an increase in the saving ratio. Furthermore, it is assumed that members of a cohort intending to leave assets to beneficiaries will save more than a younger cohort of heirs who, in anticipation of their inheritance, feel a lesser urge to do so.

⁶ For a historical overview on inheritances, see Bradford DeLong (2003).

⁷ See www.ecb.int/home/html/researcher_hfcn.en.html

For the sake of simplicity, the economic literature distinguishes three key reasons for making bequests: Accidental bequests, altruistic bequests (motive) as well as strategic bequests (motive).⁸

(a) *Accidental bequests*

The intention to leave wealth has no role to play in the original life cycle hypothesis (Modigliani and Brumberg, 1954). People save for old age and to provide for unexpected financial shortfalls, and not with the intention to inherit; thus, if someone inherits their wealth, this happens accidentally. Involuntary bequeathers' propensity to save remains unaffected. Empirical indicators imply that the life cycle hypothesis presents the process of saving in a too simplistic way. Low-income earners are unable to build up any or any significant amount of wealth during their lifetime. There are also many elderly people who do not consume their assets during retirement.

(b) *Altruistic bequests*

People who follow an altruistic bequest motive consider their descendants' benefit in their utility function. In deciding on whether to save or to consume, parents take their childrens' interests into account and try to anticipate their future income. At the beginning, they invest in the education of their children until the return on this human capital transfer decreases. Later, they make gifts and thereafter bequests (Masson and Pestieau, 1997, p. 62f). It therefore appears that parents endeavor to level

out income differentials between the generations of their family. Transfers based on altruistic motives should level out income differentials among children and neutralize public redistribution (Arrondel et al., 1997). Altruistic bequests offer dynastic protection to family wealth down the generational line.

(c) *Strategic bequests*

In the strategic bequest model, testators seek to influence the behavior of potential future heirs. For instance, they promise to testate in the heirs' favor in exchange for old-age care. This implies that there is a positive connection between transferable wealth and descendants' care for the testator (Bernheim et al., 1985, p. 1045f). Empirical evidence of this assumed motivation has yet to be found.⁹

1.1 Bequest Motives

The motives underlying planned bequests, as explored in household surveys, are stylized ones. Inheritance law based on mandatory shares creates a legal framework which obscures possible motives.

In their three-generation study, Arrondel and Masson (2001) describe even more intricate interrelationships, and they significantly expand the conventional two-generation model. The perception that several generations determine intergenerational transfer behavior goes back to Mauss (1950): The author suggests that an inheritance is not a unilateral or reciprocal transfer of wealth, but rather a process of mutual

⁸ The literature also identifies further bequest motives, such as the paternalist motive, which is akin to the altruistic motive. Unlike the former, the latter does not take into account the childrens' preferences but is based on parents' views on what is good for their offspring. Affluent testators might also have a capitalistic motive. In such a case, the aim of accumulating wealth would be the bequest in itself rather than the well-being of family members.

⁹ SOEP data show that persons who took care of their parents or maintained close contact with them would not receive larger inheritances, quite the opposite. Empirical evidence suggests that a principle of equal distribution is applied in inheritance matters; i.e. all children are treated equally.

appreciation. Bequeathing creates a social bond between a testator and a beneficiary. This is why the inheritance process does not stop when the agreed service (e.g. care and attention) is rendered, but continues thereafter – thus, social relations develop over several generations.

The microdata on real estate wealth derived from the HSHW allow for a limited investigation into the different bequest motives. The survey asks about attitudes, values and expectations. However, basically none of the motives provides a coherent explanation for bequests. One will always find a number of partly competing motives in real-life social settings. It would be too schematic to categorize human behavior only within the dichotomy of altruism and strategy. Economic literature also neglects emotional ties, which are of great importance in family settings, particularly so when it comes to inheritances (Lettke, 2003; Stutz et al., 2006).

Real estate ownership is the starting point of possible asset transfers. The question “*Are you planning to bequeath any real estate to anyone?*” was only put to owners of real estate, and yet there is a social differentiation to be found in the results. Workers are hardly concerned with the matter of bequests, maybe on account of their low income. It also comes as no surprise that elderly people were found to deal with the subject of bequests more often than the average. The older people become, the more pressing the question of asset transfers grows. The positive link between the question on bequest plans and the one on inheritances received

reveals the continuity of the inheritance process across generations.¹⁰

Altruistic motives – “*affection for future heirs*” – account for 49% of bequest plans, while strategic motives – “*bequests lead to a better relationship with children*” – account for only 17%. Most of the answers, however, go beyond these two motives. 54% of respondents bequeath “*because it is customary to do so in their families.*”¹¹ This is particularly true for farmers (86%). The importance of conventions increases sharply among the age group 30 to 39 and is highest among the oldest respondents. Quite the opposite is true for the altruistic motive, which is more common among younger people.

2 Conceptual Difficulties in Researching the Significance of Inheritances

This study is based on empirical data collected during the OeNB Household Survey on Housing Wealth 2008 (HSHW 2008),¹² which was conducted as a pilot project for the planned comprehensive Eurosystem household survey. The respondents were the owners or tenants¹³ of the respective households’ real estate at the time of the interview. The survey focused on the ownership of the occupied housing and on other real estate items belonging to any of the household members as well as on the related liabilities incurred by the household. Furthermore, detailed socioeconomic characteristics and data concerning intergenerational transfers in connection with real estate wealth were compiled. The questions relating to the value of inheritances in the

¹⁰ This is in line with the results found by Cox and Stark (2005).

¹¹ Multiple answers were permitted.

¹² The HSHW 2008 fieldwork was conducted by the Institute for Empirical Social Studies (IFES).

¹³ The person identified as the tenant in the applicable rental agreement.

HSHW that were analyzed for this study can be found in the annex. For more detailed information on the 2008 Household Survey on Housing Wealth, see Wagner and Zottel (2009) and Fessler et al. (2009a).

A number of difficulties arising in the data collection process have to be taken into account when interpreting the results. Questions on the total amount of gifts and inheritances often lead to misunderstandings. Thus, respondents often have trouble remembering the value of bequests made long ago or the year of receipt, or it is not clear whether the value stated in the answer is adjusted or not. Furthermore, not all respondents may make a neat distinction between inheritances and gifts.

The issue of inheritances touches upon several taboos. The increase in wealth generally goes hand in hand with bereavement, conferring an ambivalent note on inheritances. The “item nonresponse” problem is of particular importance in such sensitive questions, meaning that respondents do not know the answer or deliberately refuse to give it. If this error were randomly distributed, the item nonresponse problem would be less important. However, it is specially the better-off households – where inheritances and bequests are of crucial significance – that are always generally underrepresented in surveys and that are more likely to withhold responses (Fessler et al., 2009b, 2009c). Therefore, we can assume that the inheri-

tances captured in household surveys only mark the lower bound of the actual volume of bequests. In actual fact, inheritances are likely to be of a much greater importance.¹⁴

Given the insufficient data base, it is not possible to establish if the inherited real estate was sold or rented out and whether the proceeds were used for consumption or rather saved. In any event, wealth increases from real estate bequests will certainly have a smaller impact on consumption than cash inheritances.

The answers regarding the absolute amounts of inheritances must be interpreted with caution.¹⁵ Given that fluctuations in real estate values differ from those in financial assets, it is of limited use to apply general price adjustment methods. Moreover, changes in real estate prices follow different regional patterns and can vary quite a lot even within a closely delimited geographical area.

The representative OeNB Household Survey on Housing Wealth 2008 explored real estate inheritances received by households. The survey did not set a lower limit for inheritance coverage, since a number of estates are very small,¹⁶ nor did it make distinctions between inheritances within the same household.

There were no nonresponses for the HSHW question on whether there had been any inheritances in a household. In this case, possible data problems could only arise from concealment or poor recollection. All households of

¹⁴ Therefore, it remains open to debate whether bequests in well-to-do households follow other motives than in low-income households with a low level of wealth.

¹⁵ The SOEP requests information on the nominal value of inheritances in the year of transfer. The current value depends on value increases (e.g. in the case of real estate and shares) as well as on inflation. The international literature’ assumptions on return are arbitrary. It often assumes a standard real remuneration rate which does not reflect the development of asset prices.

¹⁶ The German SOEP 2001 had a lower limit of EUR 2,500. Academic researchers criticized this threshold because it precluded a considerable number of inheritances from the survey.

Table 1

Response Behavior Regarding Inheritance Values

| Values of first to ninth real estate inheritance | Observations | | Missing values | | Multiple imputed |
|--|--------------|-------|----------------|-------------------|------------------|
| | Number | % | Number | % of observations | |
| 1. | 418 | 20.09 | 161 | 38.52 | Yes |
| 2. | 60 | 2.88 | 25 | 41.67 | Yes |
| 3. | 17 | 0.82 | 9 | 52.94 | Yes |
| 4. | 5 | 0.24 | 4 | 80.00 | No |
| 5. | 4 | 0.19 | 4 | 100.00 | No |
| 6. | 4 | 0.19 | 4 | 100.00 | No |
| 7. | 1 | 0.05 | 1 | 100.00 | No |
| 8. | 1 | 0.05 | 1 | 100.00 | No |
| 9. | 1 | 0.05 | 1 | 100.00 | No |

Source: HSHW 2008.

heirs (19.9%) were asked how many real estate inheritances they had received until the time of the survey. 86.7% of respondents said that they had received only one real estate inheritance.

A further 9.2% had received two estates and some 2.8% of the surveyed households of heirs had received three. The remaining 1.4% indicated that they had received more than three inheritances; the highest number was nine inheritances. This question, too, was answered by all households. For each of the inheritances mentioned, the survey included questions on the year of transfer and the (estimated) value at the time of receipt. Respondents supplied full details on the timing but, as expected, would not always indicate the values of bequests.

Table 1 shows the nonresponses for the first to the ninth real estate inheritances of households. For the first real estate inheritance, the nonresponse rate was 38.5%, for the second 41.7% and for the third 52.9%. Only five households indicated that they had received more than three real estate in-

heritances. The missing data for the first, second and third real estate inheritances were imputed through multiple imputations using a regression-based chained equation method (Albacete, 2010).¹⁷ The values for the fourth to the ninth real estate inheritances were not imputed (15 values from four households) since a methodically meaningful imputation for these variables was not possible, given the limited number of realized observations and the total lack thereof from the fifth inheritance onward. This procedure leads to an undervaluation of the mean value, of the volume and of the unequal distribution of the inheritances received.

The percentage of households that refuse to make statements on the value of their real estate inheritances rises markedly in line with the size of their real estate wealth. While 30% of respondents from the lowest real estate wealth decile of owner households refused to answer, this figure rises to around 60% for the highest decile. This demonstrates a well-known problem with household surveys: Nonresponses on questions related to wealth are far

¹⁷ Imputations serve to partially correct the item nonresponse problem.

more common among households with greater real estate wealth than among those with a lower level of assets.¹⁸

Even though households with sizeable wealth display a higher nonresponse rate, the multiple imputation method leads to a slight reduction of the mean of inheritance values. The incidence of missing values was on average higher for inheritances received longer ago, which might be a sign of memory gaps (recall bias).

3 Empirical Evidence for Austria

A number of studies (e.g. Kohli et al., 2006; Szydlík, 2001; Szydlík and Schupp, 2004) have consistently found a significantly higher incidence of inheriting (and/or inheritance probability in binary choice models) as well as larger inheritances among beneficiaries with higher levels of income and education. The datasets of the Luxembourg Wealth Study (LWS), which have been harmonized ex post, make it possible to compare the income and wealth situation of those who have inherited with those who have not. When comparing the financial wealth and income medians of these two subsets, we find those who have inherited to be significantly better off in terms of wealth, income and educational attainment (Fessler et al., 2008).

3.1 Who Inherits?

The HSHW data on inheritances received show the socioeconomic characteristics of households which have made inheritances to differ significantly from those who have not. Note that the following information on employment, educational attainment and age does

not refer to households in general but specifically to the owners (or tenants) of a household's primary residence. We find the number of heirs to be disproportionately low among blue-collar workers, low-income earners, households with low levels of net wealth as well as tenants of rental and co-op apartments. In contrast, the number of heirs is specially high among civil servants, freelance professionals and above all farmers, high-income earners, house owners and households with a particularly high level of real estate wealth (table 2).

With regard to educational attainment, the findings are mixed. While younger people tend to be better educated, given the spread of education that started in the 1960s, chances of having inherited at least once are higher the older a person is. Hence, educational effects and age effects develop in inverse order. This effect may mask the positive relationship we expect to exist between the level of educational attainment and housing bequests in a descriptive analysis.¹⁹ The relationship between the housing situation or real estate wealth of households and their inheritance patterns must be interpreted with caution, as housing bequests have a direct impact on the size of households' real estate wealth, and in some instances probably also on their housing situation. When we control for age in a logit estimate with a dependent variable (*real estate wealth inherited yes/no*), we find real estate wealth, income and profession to have a positive and significant influence (even after adjustment for inherited estates). Because of endogeneity problems, it is not possible

¹⁸ Approximately half of the German households which stated that they had inherited but which did not specify the amounts belong to the wealthiest 20%. More than half of the households which in 1988 confirmed that they had received an inheritance said in 2001 that they had never inherited anything. Only about 26% of respondents answered in a consistent way, which again points to a general overestimation of inheritances in household surveys.

¹⁹ Educational attainment is, as a rule, positively correlated with the wealth of parents.

Table 2

Share of Inheriting Households by Socioeconomic Characteristics

| Socioeconomic characteristics | Households which have inherited property | |
|---|---|------|
| | % | |
| Occupation (profession/trade) of tenant/owner | Freelance professional | 32.7 |
| | Entrepreneur | 25.7 |
| | White-collar worker | 16.8 |
| | Civil servant | 32.1 |
| | Farmer | 58.0 |
| | Blue-collar worker | 14.1 |
| | Other (contractor, free agent) | 12.6 |
| | Retired | 21.9 |
| | Not gainfully employed (parental leave, unemployed, on home duties, etc.) | 14.5 |
| Net household income | Up to EUR 795 | 13.9 |
| | EUR 796 to 1,432 | 17.0 |
| | EUR 1,433 to 2,388 | 17.8 |
| | EUR 2,389 to 3,185 | 21.5 |
| | EUR 3,186 or more | 27.1 |
| Gross housing wealth | No wealth | 5.3 |
| | Wealth \leq median | 24.8 |
| | Wealth $>$ median | 25.5 |
| | Wealth $>$ two times the median | 29.5 |
| | Wealth $>$ five times the median | 46.1 |
| Housing situation | One-family/two-family home | 29.6 |
| | Condominium | 16.3 |
| | Co-op apartment | 8.7 |
| | Rental apartment | 12.1 |
| | Public housing apartment | 21.1 |
| | Other (employer-provided housing, life tenants, beneficiaries of usufructs or other) | 15.8 |
| Highest level of education of tenant/owner | Compulsory education | 19.7 |
| | Apprenticeship, vocational school, intermediate or higher technical/vocational school | 20.3 |
| | High school | 17.4 |
| | College, university, academy | 21.5 |
| Age of tenant/owner | 18 to 29 years | 5.3 |
| | 30 to 39 years | 15.9 |
| | 40 to 49 years | 22.5 |
| | 50 to 59 years | 26.8 |
| | 60 to 69 years | 26.1 |
| | 70 years or older | 19.9 |
| Total | | 19.9 |

Source: HSHW 2008.

to integrate the housing conditions into the equation, and educational attainment has a positive, but insignificant effect despite its positive relationship with the inheritance probability. Educational attainment appears to be a weak indicator of real estate inheritance in Austria.

3.2 How Large Are the Inheritances?

In Austria, approximately 20% of all households have inherited real estate. In the HSHW, households which had inherited real estate were asked to indicate when this had been the case and how much the property or properties had been worth at the time. As individual households may have inherited more

than once, and as different households will have inherited at different points in time, the values of their inheritances need to be adjusted to make them comparable over time. The usual approach is to calculate present values. As these value adjustments imply a transformation of the values indicated in the survey, it would appear to make sense to calculate different variants. Adjusting the values of assets is particularly difficult in the case of inherited properties, as price developments will differ strongly from building to building, depending on location, building fabric, refurbishing or extension work, and numerous other factors.

The common approach in the literature is to assume underlying values to have changed at a real interest rate of between approximately 2% to 3% p. a. (Wolff, 2002; Cannari and D'Alessio, 2008) or to use real estate price indices (Kohli et al., 2006), which tend to reflect even higher increases in value. It is also common to use reported and adjusted values side by side (Cannari and D'Alessio, 2008).

The method of assuming inherited real estate to have gained in value over time is controversial for a number of reasons. On the one hand, it is not clear whether increases in value should be considered to be part and parcel of the inheritance. On the other hand, it is hard to say what part of an inheritance is used for consumption and what part is used to increase real estate wealth. Obviously, the respective shares differ significantly among different types of households. These controversies notwithstanding, in the literature, the adjustment interest rate is generally applied to the total inheritance value.

In the case at hand, assuming the value of inherited real estate properties in Austria to have grown at a real inter-

est rate of between 2% and 3% p. a. might cause the significance of real estate bequests to be overestimated. Using the real estate price index published by the Federal Economic Chamber of Austria instead is not an option, either, as there are no sufficiently comparable time series for the period leading up to 2000. For those reasons and to make the influence of the assumed value adjustments as transparent as possible, our approach was to proceed with caution and to calculate three variants in parallel:

(a) Simple value:

The values of inherited estates are shown as indicated by respondents. Rather than assuming the assets to have increased in value, we assume them to have lost in value in real terms (compared with the consumer price index (CPI)).

(b) Present value I:

We apply a nominal interest rate of 2% p. a. to the values of inherited estates, which is tantamount to a loss in value in real terms (compared with the CPI).

(c) Present value II:

We assume the values of inherited estates to have increased in line with the CPI. In other words, we assume the underlying real value with regard to households' purchasing power (as measured by the CPI) to have been preserved.

The present values relate to the year in which the HSHW was conducted, namely 2008. When we refer to the value of inherited real estate properties below, we mean the combined (simple) value of all properties as indicated by a given household, or the aggregate present values of all inherited properties, as adjusted.

Table 3

Inheritance Values as Established with Three Different Calculation Methods

| | Simple value | Present value I | Present value II |
|------------------------------|--------------|-----------------|------------------|
| Share of heirs in % | 19.9 | 19.9 | 19.9 |
| All households | | | |
| Average in EUR | 27,935 | 43,542 | 58,424 |
| Median in EUR | 0 | 0 | 0 |
| Gini index | 0.92 | 0.92 | 0.93 |
| Inheriting households | | | |
| Average in EUR | 140,559 | 219,088 | 293,968 |
| Median in EUR | 79,999 | 112,616 | 122,967 |
| Gini index | 0.58 | 0.60 | 0.64 |

Source: HSHW 2008.

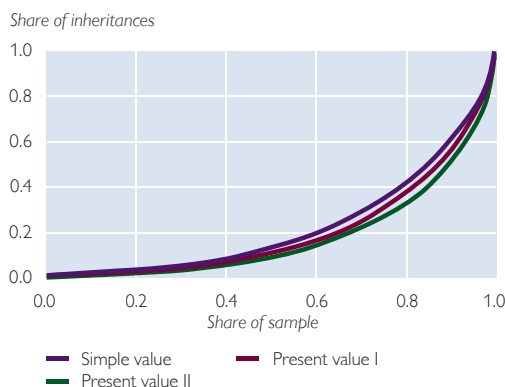
Using all three calculation methods, we thus find Austrian households (including any households which have not inherited anything) to have, on average, inherited real estate properties worth EUR 27,900 or EUR 43,500 or EUR 58,400. In other words, the average real estate value doubles when adjusted for the CPI. When we limit the calculation to those households which have inherited real estate, the average value of inherited real estate properties comes to EUR 140,600 or EUR 219,100 or EUR 294,000 EUR, respectively.

Both Gini coefficients (table 3) and Lorenz curves (chart 1) reflecting the inheritance values of households which have inherited real estate show that calculations based on present values lead to a higher degree of concentration of inheritance values. Value adjustments based on a real interest rate of between 2% and 3% p. a., as is common in the literature, would have led to an even higher degree of concentration.

Calculating deciles over the value of inheritances for households which have inherited allows us to show how inheritance wealth is distributed among households. As is evident from table 4, approximately 10% of all households which have inherited real estate – which is approximately 2% of all households – have received roughly 40% of the aggregate inheritances (simple value). This is approximately as much as the combined inheritance size of the lower 80% of the households which have inherited real estate. Based on present values, this figure increases to almost 50% of all inheritances (present value II). This means that the upper 10% of inheriting households have inherited as much as all other inheriting households taken together. Surprisingly, the financial value of the inherited real estate – which would generally

Chart 1

Lorenz Curve of Inheritance Values Based on Three Different Definitions



Source: HSHW 2008.

Table 4

Inheritance Decile Averages and Shares in Aggregate Inheritances

| | Simple value | | Present value I | | Present value II | |
|-----------|--------------|-----------------|-----------------|-----------------|------------------|-----------------|
| | Average | Share of decile | Average | Share of decile | Average | Share of decile |
| | EUR | % | EUR | % | EUR | % |
| Decile 1 | 6,401 | 0.5 | 9,422 | 0.4 | 11,156 | 0.4 |
| Decile 2 | 16,376 | 1.1 | 24,290 | 1.1 | 27,202 | 0.9 |
| Decile 3 | 27,238 | 1.9 | 43,136 | 2.0 | 50,051 | 1.7 |
| Decile 4 | 44,596 | 3.2 | 65,584 | 3.0 | 78,310 | 2.7 |
| Decile 5 | 67,659 | 4.9 | 97,662 | 4.5 | 109,585 | 3.7 |
| Decile 6 | 96,205 | 6.8 | 133,566 | 6.0 | 151,938 | 5.1 |
| Decile 7 | 136,493 | 11.0 | 190,357 | 8.7 | 221,763 | 7.5 |
| Decile 8 | 183,410 | 11.1 | 272,072 | 12.4 | 330,603 | 11.4 |
| Decile 9 | 259,721 | 19.8 | 396,871 | 18.6 | 500,799 | 16.8 |
| Decile 10 | 602,882 | 39.7 | 975,346 | 43.3 | 1,467,450 | 49.8 |

Source: HSHW 2008.

be expected to exceed the value of financial assets – is comparatively small in most cases. As a case in point, the average (simple) value is below EUR 200,000 even in the eighth decile of inheriting households, and the average CPI-adjusted value is below EUR 260,000 – which is the average sales price for primary residences – even in the seventh decile (Fessler et al., 2009a). While the decile averages change considerably depending on the method of calculation (simple value, present value I, present value II), the decile shares are robust with regard to the chosen method. The number of small real estate inheritances is very large, that of large real estate inheritances is very small. This finding is in line with international evidence produced by virtually all inheritance analyses (e.g. Wolff, 2002; Kohli et al., 2006; Cannari and D'Alessio, 2008).

3.3 Who Inherits How Much?

Apart from the question of which households – as differentiated by certain socioeconomic characteristics – have inherited more often than others, the question arises as to how much in-

dividual households inherit and how large the differences are.

The size of inheritances depends, above all, on the socioeconomic characteristics of people's parents and grandparents. The socioeconomic characteristics themselves are correlated across generations. For instance, respondents with a higher level of educational attainment tend to have had better-educated, wealthier parents with higher incomes, reflecting a high degree of intergenerational transmission of social status, income, wealth, consumption and educational attainment. Mulligan (1999) provides an overview of numerous studies that have confirmed these relationships.

Households participating in the HSHW (i.e. the owners or tenants of a household's primary residence) were asked to indicate what level of educational attainment they had achieved. Educational attainment is an excellent indicator of parent households' social characteristics, as it is very stable throughout the life cycle and highly correlated with income, wealth and social status (OECD, 2008, p. 216).

Table 5

Rank Correlation between Educational Attainment and Inheritance Values of Inheriting Households

| Owner/tenant | Simple value | Present value I | Present value II |
|-----------------------------|-----------------|-----------------|------------------|
| | Kendall's Tau-b | | |
| Educational level | 0.090*** | 0.031* | -0.026 |
| Educational level of father | 0.153*** | 0.106*** | 0.062*** |
| Educational level of mother | 0.101*** | 0.043** | -0.004 |

Source: HSHW 2008.

Note: *, **, ***: Significant at the 10%, 5% and 1% level of significance.

While respondents' parents constitute only one potential source of inheritances,²⁰ there is a significantly positive correlation between the size of the inheritances made by households and their level of educational attainment as well as that of their parents (table 5). In the case of simple values and present values I, the level of educational attainment of participating households and of their mother as well as father are correlated significantly with the size of the inheritances. When it comes to present values II, a significant positive correlation remains only for the fathers. This relationship may be explained by the opposing effects of age. The older the respondents are, the higher the probability is that a member of the household has made an inheritance, and the lower the probability is (on account of the process of education expansion) that they will have a higher level of educational attainment. The rise in women's general level of educational attainment occurred with a lag compared with men. When inheritances are adjusted for the CPI (present values II), this effect increases because inheritances made a longer time ago rise in value

and the assets tend to have been bequeathed by people with a lower degree of educational attainment.

Approximately 90% of households which had inherited real estate owned property at the time of the survey. This group accounted for some 97% of the aggregate inheritances. If we divide the inheriting households into five groups of equal size according to their real estate wealth (quintiles), we find the shares of inheriting households to be higher – and the size of the inheritances to be significantly higher – in the upper quintiles²¹ (table 6), for two reasons: First, the inheritance becomes part of these households' real estate wealth and second, wealthier households make significantly larger inheritances. Moreover, between the fourth and the fifth quintile, the share of inheriting households increases by roughly 42%, and the share of aggregate inheritances more than doubles.

The different calculation methods (simple value, present value I, present value II) have a significant impact on the quintile averages (table 6). At the same time, the quintile shares in inheritances remain relatively constant. This

²⁰ What is not evident from the survey, however, is information on households' potential partners or on their grandparents, etc.

²¹ The share of households who have inherited exceeds the average in all quintiles. This is so because, in the case at hand, we have looked only at households who own real estate (which is roughly 90% of all households who have inherited), and those households have inherited significantly more often than the average household.

Table 6

Quintile Averages and Shares in Aggregate Inheritances by Real Estate Wealth Quintiles¹

| | Share of inheriting households | | Simple value | | Present value I | | Present value II | |
|------------|--------------------------------|-------------------|--------------|-------------------|-----------------|-------------------|------------------|-------------------|
| | Average | Share of quintile | Average | Share of quintile | Average | Share of quintile | Average | Share of quintile |
| | % | EUR | % | EUR | % | EUR | % | EUR |
| Quintile 1 | 26.0 | 73,663 | 8.6 | 103,355 | 7.8 | 127,755 | 7.8 | 127,755 |
| Quintile 2 | 24.7 | 127,854 | 14.2 | 193,045 | 13.9 | 245,315 | 13.9 | 245,315 |
| Quintile 3 | 24.3 | 146,366 | 16.1 | 231,840 | 16.4 | 324,423 | 16.4 | 324,423 |
| Quintile 4 | 31.0 | 142,346 | 20.2 | 228,473 | 20.9 | 308,027 | 20.9 | 308,027 |
| Quintile 5 | 44.0 | 210,570 | 40.9 | 326,285 | 41.0 | 417,253 | 41.0 | 417,253 |

Source: HSHW 2008.

¹ Only households which have inherited and own real estate were taken into account. Quintiles cover only real estate owners.

can be explained with the fact that the points in time at which households inherited real estate are distributed randomly over quintiles and households, so that the calculation of present values has a limited influence on the relative quintile shares of aggregate inheritances. While the lowest real estate quintile (owners of real estate only)

accounts for less than 9% of aggregate inheritances, the highest quintile is accountable for as much as 41%.

The higher the real estate wealth of households, the lower is the relative share of inherited property in their total real estate wealth (table 7). Both the median and the average share of inherited housing in overall real estate

Table 7

Share of Real Estate Inheritances in Real Estate Wealth of Inheriting Households¹

| | | Quintile 1 | Quintile 2 | Quintile 3 | Quintile 4 | Quintile 5 |
|------------------|--|------------|------------|------------|------------|------------|
| | | % | | | | |
| Simple value | Median share of inheritances in wealth ² | 74.4 | 82.1 | 44.4 | 27.0 | 9.6 |
| | Average share of inheritances in real estate wealth ² | 141.5 | 84.9 | 66.0 | 44.5 | 24.5 |
| | Share of inheritances in real estate wealth ³ | 111.1 | 84.1 | 66.1 | 44.8 | 13.9 |
| Present value I | Median share of inheritances in wealth ² | 100.4 | 97.1 | 67.3 | 39.0 | 14.5 |
| | Average share of inheritances in real estate wealth ² | 213.6 | 128.9 | 106.2 | 71.5 | 38.1 |
| | Share of inheritances in real estate wealth ³ | 155.8 | 127.1 | 104.4 | 71.8 | 21.5 |
| Present value II | Median share of inheritances in wealth ² | 102.8 | 99.7 | 74.8 | 44.4 | 17.2 |
| | Average share of inheritances in real estate wealth ² | 279.6 | 165.5 | 151.3 | 96.4 | 48.8 |
| | Share of inheritances in real estate wealth ³ | 192.8 | 161.1 | 146.9 | 97.1 | 27.4 |

Source: HSHW 2008.

¹ Only households which have inherited and own real estate.

² Calculated at the individual household level.

³ Calculated at the quintile level.

Table 8

Annual Real Estate Inheritances

| | Inheritances made in the past ten years | | | Inheritances made in the past five years | | |
|---|---|-----------------|------------------|--|-----------------|------------------|
| | Simple value | Present value I | Present value II | Simple value | Present value I | Present value II |
| Share of inheriting households in % | | 5.9 | | | 2.8 | |
| EUR average | 137,796 | 153,189 | 154,577 | 141,117 | 148,469 | 150,072 |
| Share of inheritances p.a. in real estate wealth in % | 0.33 | 0.36 | 0.36 | 0.32 | 0.34 | 0.34 |
| Share of inheritances p.a. in GDP in % | 1.06 | 1.18 | 1.19 | 1.04 | 1.09 | 1.11 |

Source: HSHW 2008.

wealth decreases steadily from the first to the fifth real estate wealth quintile (with quintiles, again, calculated only for owners). The same holds true for the share of inheritances in the real estate wealth of inheriting households clustered in the same quintile.

Tables 6 and 7 show that, while rising in absolute terms in line with the size of real estate wealth, real estate inheritances decline relative to overall real estate wealth. In other words, inheritances clustered in the lower real estate wealth quintiles are more significant with regard to their relative share in total real estate wealth than inheritances clustered in the higher real estate wealth quintiles. While the average real estate inheritance is roughly three times as high in the highest quintile as in the lowest quintile, the average share of the inheritance in real estate wealth is six times as high in the lowest quintile as in the highest quintile. Hence numerous studies conclude that bequests offset inequality somewhat.²² Yet this perspective neglects differences in the use of inheritances (consumption or

saving). Neither the Austrian HSHW data nor the German SOEP (Socio-Economic Panel) data provide any evidence about the direct use of inheritances. Still, Kohli et al. (2006) conclude on the basis of SOEP longitudinal data generated in two waves that inheritances tended to increase the wealth previously accumulated by households.

3.4 Volume of Real Estate Inheritances

Depending on the calculation method, real estate inheritances of households account for a share of 11% (simple value), 17% (present value I) or 23% (present value II) of their overall real estate wealth. Note that those figures do not reflect any real increases in value.

In order to get an idea of how much real estate is inherited per year, we calculated the respective average values for two periods: for the ten years from 1998 to 2007, and for the five years from 2003 to 2007. We found 5.9% (2.8%) of households to have inherited real estate in those ten (five) years. This

²² The Gini coefficient drops when, say, in a group of two persons, person A, who already has EUR 10, inherits another EUR 5 and person B, who already has EUR 1,000, inherits another EUR 499. While the difference between the wealth of A and B thus increases in absolute terms, the respective bequest accounts for a larger share of A's wealth than of B's wealth.

Table 9

Share of Inheritances in Total Household Wealth – Selection of Relevant Literature

| Authors | Share of inheritances/gifts in total wealth | Comments |
|-------------------------------|---|---|
| Kotlikoff and Summers (1981) | 80% | United States, capitalized inheritances, spending for durable consumer goods, financial support by parents for adult children |
| Modigliani (1988) | 20% | United States, inheritances only, no college expenses (therefore figures only half as high as in Kotlikoff and Summers); not remunerated (lops another half of the figures of Kotlikoff and Summers) |
| Davies and St.-Hilaire (1987) | 35% present value, 53% capitalized | Canada, inheritances not remunerated |
| Kessler and Masson (1989) | 46% inheritances | France |
| Gale and Scholz (1994) | 20% gifts, 30% inheritances, 12% college expenses | United States, data based on US-SCF 1983, 1986; deliberate transfers by parents to adult children in other households, only inter-household transfers above USD 3,000 (including payment of college expenses) |
| Wolff (2002) | One-third each inheritances, gifts, saving | United States |
| Brown and Weisbrenner (2002) | 20% to 25% | United States, data based on US-SCF 1998; inheritances and gifts; high degree of concentration |
| Klevmarken (2004) | 19% capitalized, 10.5% present value | Sweden, inheritances and gifts; capitalized at a real interest rate of 3%; HUS 1998 |
| Kohli et al. (2006) | 27% | Germany, increase in housing value and prices of 2002 |
| Cannari and D'Alessio (2008) | 56% capitalized, 34% present value | Italy, capitalized at a real interest rate of 3% |

boils down to approximately 0.6% of households inheriting some real estate on average during that period. For Germany, SOEP data show that some 1.5% of households made inheritances (real estate, financial assets, companies) each year, with the aggregate annual volume of inheritances corresponding to approximately 1.4% of GDP.²³ The corresponding figure for real estate inheritances in Austria is above 1% of GDP. This appears to be plausible; after all, real estate inheritances account for the lion's share of inheritances. Moreover, real estate wealth represents approxi-

mately two-thirds of the overall wealth of households in Austria. As some 40% to 50% of inheritances are clustered in the highest real estate inheritance decile (table 4), approximately 0.06% of households inherit property worth some 0.5% of GDP each year.

4 Share of Inheritances in Wealth in an International Comparison

The HSHW 2008 does not allow for analyses of the share of inheritances in the total wealth of households, as it was limited to real estate wealth and inheritances. Data integrating both financial

²³ In Switzerland, the aggregate volume of estates amounts to as much as 6.8% of GDP (Stutz et al., 2006, p. VIII).

assets and real estate wealth/inheritances are scheduled to be available for Austria by the end of 2011 upon completion of the first wave of the Eurosystem Household Finance and Consumption Survey (HFCS).

However, the share of inheritances in overall wealth has been discussed broadly in the literature (Davies and Shorrocks, 1999). SHARE (Survey of Health, Ageing and Retirement for Europe) data have also confirmed for EU countries that intergenerational transfers are a major source of household wealth. Across all SHARE countries, about 30% of all households reported to have received large gifts or inheritances larger than EUR 5,000 at least once. The top 5% of inheriting households have received about two-thirds of all inheritances (Börsch-Supan et al., 2005).

Davies and Shorrocks (1999) expect inheritances to account for 35% to 45% of household wealth; yet surveying the literature shows a high degree of dispersion (table 9).

The differences can be attributed to the following factors:

- In the absence of a uniform definition of wealth, individual surveys and register data reflect different delimitations of wealth in different studies.
- More than one model of valuation was used (different papers use different interest rates).
- Different papers use different concepts of the intergenerational transfer of wealth (inheritances, gifts, spending on education, etc.).
- Different survey dates reflect different stock prices, and the differences may be substantial.

The range of results shows that it is of paramount importance to make the underlying methodological approaches transparent, as all methods come with

specific problems. This is the case in particular for the calculation of present values, as the present values may differ for different types of wealth. When inheritances include financial assets and real estate, it would be necessary to establish or assume separate price paths for stocks, trade investments, mutual fund shares, passbook savings, cash, real estate, life insurance plans, etc. Assuming an average real interest rate is problematic as a rule, as this interest rate may be adequate for some periods but not for others. Average interest rates applied to all inheritances cause inheritances to be weighted differently at different times.

5 Summary and Conclusions

Bequests of real estate account for a considerable share of household wealth, which is why real estate inheritances may have far-reaching implications for monetary policymaking and for the maintenance of financial stability. Real estate is used to collateralize loans and is of particular relevance for the resilience of households to financial risks. Prospects of inheriting housing or plans to bequeath housing can, moreover, have an impact on saving and consumption.

Given the relevance of household wealth and of inheritances for monetary policy and financial stability, the Eurosystem HFCS, which will be conducted in 2010 in Austria, will contain a separate inheritance chapter. The HSHW is a pilot project for the HFCS, which will provide harmonized data for the euro area. While the HSHW was limited to real estate wealth and inheritances, the HFCS will cover total wealth and the different types of wealth transfers.

Based on the OeNB Household Survey on Housing Wealth 2008, we found the Gini coefficient for inherited

housing to range from 0.92 to 0.93²⁴ depending on the calculation method. Approximately 20% of Austrian households reported that they had inherited real estate, with the inheritance share being highest (about 27%) for the age group of the 50- to 70-year-olds. Real estate wealth was higher among inheriting households than among nonheirs. The number of Austrian households

which have inherited huge real estate properties is very small. The relative share of inherited real estate properties in total real estate wealth is larger among households with smaller real estate wealth; in other words, real estate inheritances tend to have an equalizing effect on the prevailing distribution of wealth. The results for Austria are in line with international findings.

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²⁴ To put these figures into perspective: A Gini coefficient of 0.92 might imply, for instance, that as many as 99 persons out of 100 inherited a single euro each, whereas 1 person inherited as much as EUR 1,400.

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Annex

HSHW Questions Relating to Inheritance Issues

1. Have you (= your household or any member of your household) ever inherited real estate?
2. How many real estate items did you inherit?
3. In what year was that (approximately)?
4. What was the approximate value of this real estate item (please indicate separately for each real estate item inherited)?