

In Focus:

Eurosystem Household Finance and

Consumption Survey 2010

First Results for Austria

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This report provides the first results of the Eurosystem Household Finance and Consumption Survey (HFCS) for Austria. The HFCS covers households' real assets, financial assets and debt, thereby for the first time allowing an analysis of Austrian households' net wealth. The rich data on which the HFCS is based facilitate the analysis of a multitude of issues relevant to monetary policy and financial stability. The main objective of this report is to describe net wealth and the underlying household assets and liabilities in Austria. Additionally, it looks into the relationship between a number of key socio-economic characteristics of households and net wealth. Finally, the study gives brief insights on debt, inheritances, savings and consumption.

1 Introduction

The Household Finance and Consumption Network (HFCN) was established in December 2006 by the European Central Bank (ECB) and the national central banks of the Eurosystem. Under the framework of the HFCN, the national central banks collect data on income, wealth, debt and expenditures of households in all euro area countries. The ECB initiated this project to gain important insights into the working of the monetary transmission mechanism and financial stability. "The main purpose of the HFCS is to investigate key policy questions about the economic behaviour of households for which knowledge about distributional aspects, i.e. about how economic events and policy decisions affect different household wealth and income classes, is of the essence." (*Manual of procedures for the conduct of the Household Finance and Consumption Survey*).

The current crisis has shown that a small, highly indebted part of the population can have a substantial influence on market developments. Therefore, future analyses will focus not only on monetary transmission, household debt

and wealth effects on consumption, but also comprise micro simulations to analyze financial instability.² It is a fact that before the crisis there was a lack of data suitable for analyzing financial stability and monetary transmission at the micro level. The crisis has starkly revealed that such data are indispensable for conducting sound monetary policy and safeguarding financial stability.

On the initiative of the ECB, the national central banks of the euro area conducted the first wave of the Household Finance and Consumption Survey (HFCS) on a harmonized basis in their respective countries in 2010. The comprehensive data set will be made available by the ECB to the international scientific community in 2013. For Austria, the HFCS provides the first source comprising data on the real assets, financial assets and debt of households in a single data set, thereby allowing an extensive representation of the distribution of wealth in Austria.

Households' net wealth, i.e. financial and real assets minus debt, may be considered from a variety of perspectives. A split structure is used to obtain

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² See Eurosystem HFCN. 2009. *Survey data on household finance and consumption. Research summary and policy use.* ECB Occasional paper 100.

a concise presentation of the data without overfreighting it with the hundreds of HFCS variables. This structure is described below.

- (i) **Analyzing net wealth by its distribution and components.** Such a perspective provides insights into the distribution of net wealth and into its many components along with the latter's relative importance within the aggregate.
- (ii) **Analyzing net wealth within a context.** To this end, net wealth is discussed in relation to other variables, such as income, age, household composition and education. This perspective allows wealth to be seen in a specific context.

Section 2 of this analysis provides background information about wealth and collecting the relevant data. In section 3, we take a closer look at the distribution of net wealth and its key components – real wealth, financial wealth and debt. Section 4 goes into the relationship between wealth and other important variables, such as household composition. The risk-bearing capacity of indebted households, a topic that has become a focus of financial stability analyses above all since the financial crisis, is discussed in section 5, followed by information about inheritances in section 6. Sections 7 and 8 briefly recount households' motivations for saving and their consumption expenditures, section 9 provides a summary.

2 Wealth

In the fourth book of the *Nicomachean Ethics*, Aristotle defined wealth as follows: "Wealth is everything whose value is measured by money." (1119, b 26) This sounds almost like a modern definition. From the economic perspective, wealth in general includes economic goods that may reap returns. Wealth is attributable to persons and is

a stock that must be valued. This valuation is indispensable for wealth to be measured statistically. Academic researchers disagree whether motor vehicles, consumer durables, antiques and jewelry are to be included in wealth. These items were included in the definition of wealth in the HFCS; therefore, data on these items were collected. Essentially, different definitions of wealth may be applied to the analysis of HFCS data.

Apart from material wealth, the social security system assumes some functions of wealth: Health, unemployment, and pension benefits may be seen as substitutes for material wealth and can be regarded as "social wealth" in a broad sense. Here, too, we come up against fundamental valuation problems. Comparing wealth across euro area countries, institutional differences with respect to these types of "social wealth" will have to be taken into account very carefully.

The measurement of pension assets, for instance, involves the following delimitation problems: Under a pay-as-you-go pension arrangement, contributions are paid into the system, entitling future pensioners to benefits later. Such entitlements cannot be sold, nor can they serve as collateral for loans. Hence, when we analyze a country's wealth at the macro level, wealth cannot be unambiguously defined to include the wealth accumulated in the social security system or similar pensions. Some countries, though, operate mainly funded pension systems. In these countries, the financial assets are included in the assessment of household wealth in the form of life insurance contracts, private retirement insurance contracts or company retirement benefits. Therefore, when interpreting differences between countries, the respective pension systems must be borne in mind.

Other types of wealth, such as human capital, environmental capital or cultural capital, are difficult to quantify and even more difficult to attribute to households. Human capital consists of human skills that can be put to productive use. As a rule, investment in human capital raises income and hence consumption possibilities; it also allows the option of generating additional wealth. Human capital is not transferable, though. Including it in wealth would imply measurement problems, therefore the HFCS does not take this category into account. However, the HFCS provides information about aspects of human capital, as questions cover education, income, economic activity (labor status) along with numerous other variables for each person in the household aged 16 and over.

Surveys on household wealth aim to capture values corresponding to current market prices. In the HFCS, these prices are stated by the respondents.

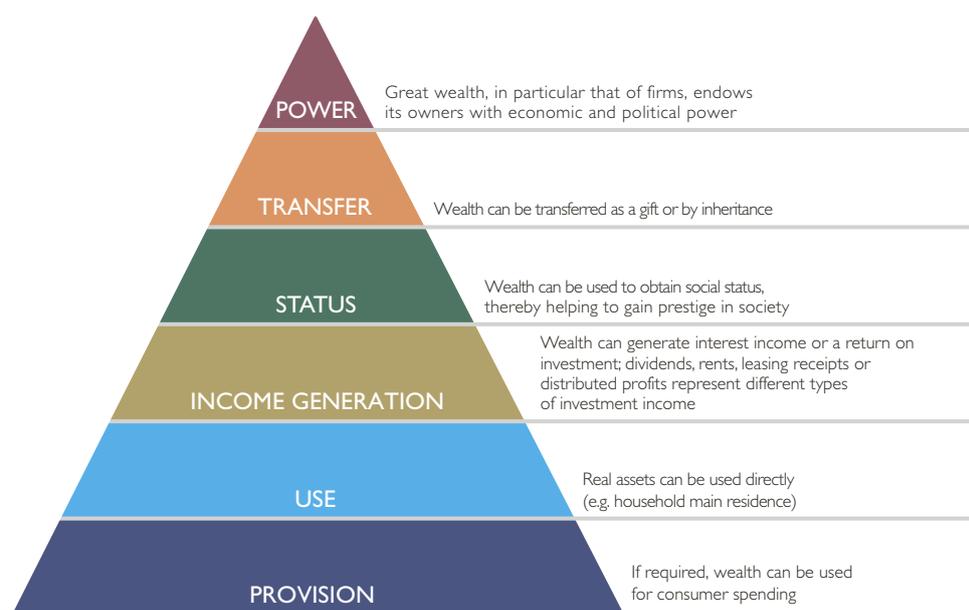
This is simple in some questions (e.g. about the current balance on the respondent's current account) and fairly difficult in others (e.g. about the value of the respondent's home), where the respondent must give an estimate of the current market price. Such an estimated current market price is certainly a hypothetical one, conditional on a variety of factors. In particular, if all households tried to sell their homes at the same time, prices in the market would collapse, and the real estate would never fetch the putative sale price.

2.1 Functions of Wealth

As early as 1900, German sociologist Georg Simmel identified a central feature of wealth in his seminal work, "The Philosophy of Money." Wealth itself holds out the promise of "being a means to an end." This is what Simmel means when he writes that "*a great fortune is encircled by innumerable possibilities*

Illustration 1

Functions of Wealth



Note: As wealth increases, the number of the possible functions of wealth also tends to increase.

of use, as though by an astral body, which extend far beyond the employment of the income from it or the benefits which the income brings to other people.” (Simmel, G. 1978. The Philosophy of Money. Routledge.)

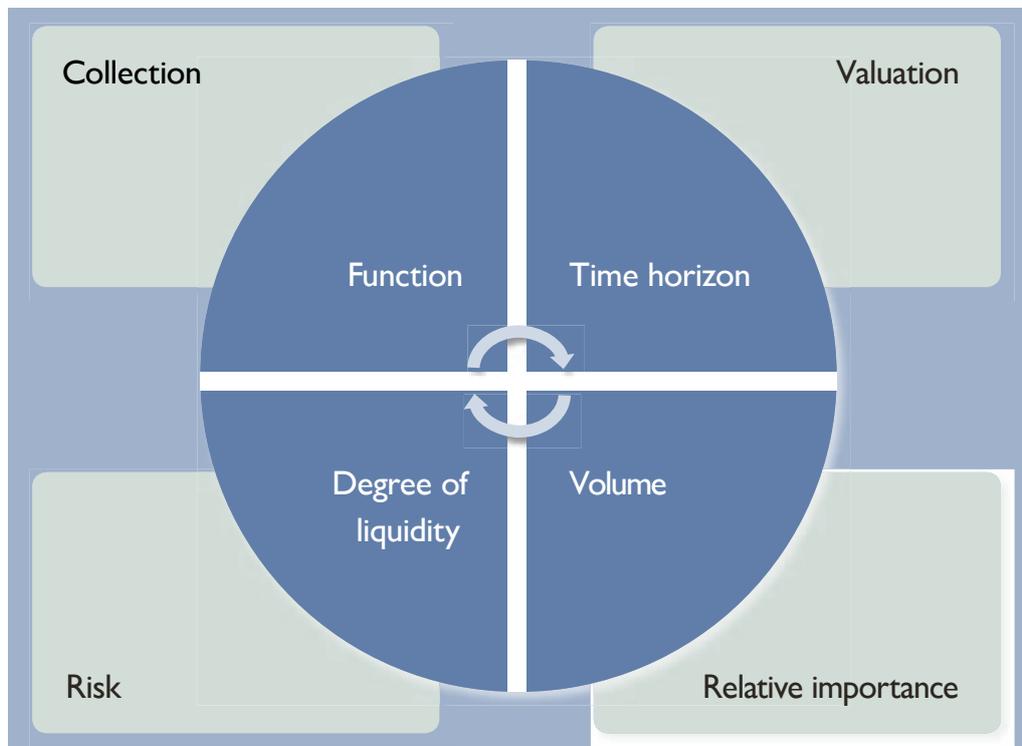
Wealth fulfills different functions for its owners. Illustration 1 shows a selective breakdown of the functions of wealth. Their importance depends on the volume, type and composition of wealth.

The large number of functions that are merely outlined in illustration 1 signals that wealth research faces unresolved conceptual issues: The functions of wealth can be distinguished by the amount of wealth; also, the social environment has an impact on these functions. A small amount of wealth will allow its owner to exercise only a limited amount of power and will confer

only a modest improvement in status. Also, great wealth will not primarily fulfill a provision function, as very wealthy persons will generally be able to use their incomes to meet this need. Undeniably, the more wealth is involved, the more options will come into play. The choice of work – above all the option of being self-employed – education opportunities, consulting opportunities, spare time and many other personal circumstances are influenced by wealth. Quantitative comparisons such as the statement that a wealthy household has 100 times the wealth of a less wealthy household do not account for these qualitatively different functions that go hand in hand with the amount of wealth. In addition, the composition of wealth, i.e. its components, are of relevance.

Illustration 2

Differences between Wealth Components



Note: blue – criteria of wealth categories; green – problems in measuring wealth components.

2.2 Differences between Wealth Components

As mentioned before, wealth can be distinguished by a number of functions; likewise, the components are characterized by different criteria, such as time horizon, liquidity and the current volume. Illustration 2 provides an example of the different characteristics of wealth components and potential problems in collecting relevant data.

2.2.1 Characteristics

Function: The different components of wealth can fulfill different functions. Real estate assets, for instance, can serve other purposes than financial assets, providing material security or – in the case of home ownership – yielding savings because no rent must be paid. Furthermore, real estate assets can mirror a household social status. The main function of own homes is to serve as a place to live, not as an investment vehicle. In Austria, e.g., real estate used as main residences may have been bought not with the intention of reselling, but rather to keep it in the family by way of bequest or as a gift.

Time horizon: Purchases of residential property are generally made for a longer holding period (time horizon) than stock purchases. For most real-estate owners, the purchase of a home is their largest lifetime investment and represents the greatest long-term and locational commitment. Whereas the accumulation of financial assets is usually slow and steady – with the exception of private transfers of gifts and bequests – real assets (especially real estate) are acquired quickly, but often require substantial debt to be incurred to finance the purchase.

Degree of liquidity: Wealth can be turned into liquid assets. How easily wealth can be converted depends very much on the component of wealth in-

involved. Financial assets are more liquid than real assets and can therefore be mobilized more readily for consumer spending. The liquidity of the markets in which different components of wealth are traded covers a broad range. Some assets are quite volatile, making valuation more difficult. The volatility problem mostly applies to particular financial assets, with stocks representing a case in point: Even within a single business day, their value can fluctuate sharply. Accordingly, respondents find it hard to state a precise market value at a given time. Moreover, the field phase of the survey could raise consistency problems during volatile periods in the stock markets, as households in the sample could state different values for one and the same stock, depending on when they are surveyed.

Volume: Households' real assets significantly exceed their financial assets in terms of volume. Also, income on real assets is often higher than that on financial assets (non-monetary return due to own use, renting out).

2.2.2 Related Problems

Coverage: Special difficulties in wealth coverage arise in the case of financial assets and investment income. Both the concentration of wealth and the number of nonresponse cases are high. This causes underreporting in the aggregate.

Valuation: Respondents find it difficult to estimate market values during a survey, in particular if the real assets in question have been inherited, received as a gift or have been purchased some time ago, and the respondents are not sufficiently familiar with current market developments. The market price of other components of real wealth (e.g. jewelry or antiques) is also difficult to estimate, but such assets represent only a small share of total wealth. The values of the components of wealth do not

change in parallel. Real estate prices, for instance, will change differently than stock prices.

Risk assessment: Specific knowledge is needed to manage the different components of wealth. The knowledge required for holding a savings account is very much different from that needed for holding stocks or equity shares. Respondents' knowledge about real estate assets is comparatively high, and interviewees are quite willing to answer related questions.

Relative importance of wealth categories: A look at wealth categories by size shows that real estate ownership for own use is the most important type of investment. Real estate assets play a larger role in the portfolios of households living in the country than in those of households living in cities.

The differences in the importance of the individual types of wealth epitomize the difficulty of using a single term to denote all types of wealth. Not only may the features of a single wealth component – its function, time horizon, liquidity degree and volume – dif-

fer strongly among households, they also differ noticeably between countries. These differences must be taken into account when comparing results across countries.

2.3 Sources of Wealth

Illustration 3 shows the main sources of wealth. Inheritances and gifts as well as investment income represent the main sources of wealth in addition to labor income, part of which is saved to accumulate wealth.

Both financial assets and real estate assets are also sources of wealth themselves. In the case of financial assets, the income consists of interest, dividends and price gains. In the case of real estate, income is produced in the form of rents from property rentals and leases. Owner-occupied real estate generates income measured as imputed rent, i.e. the fictitious income that would be generated by renting out the property. Such income is not included in the HFCS standard definition of income, however.

Illustration 3

Sources of Wealth

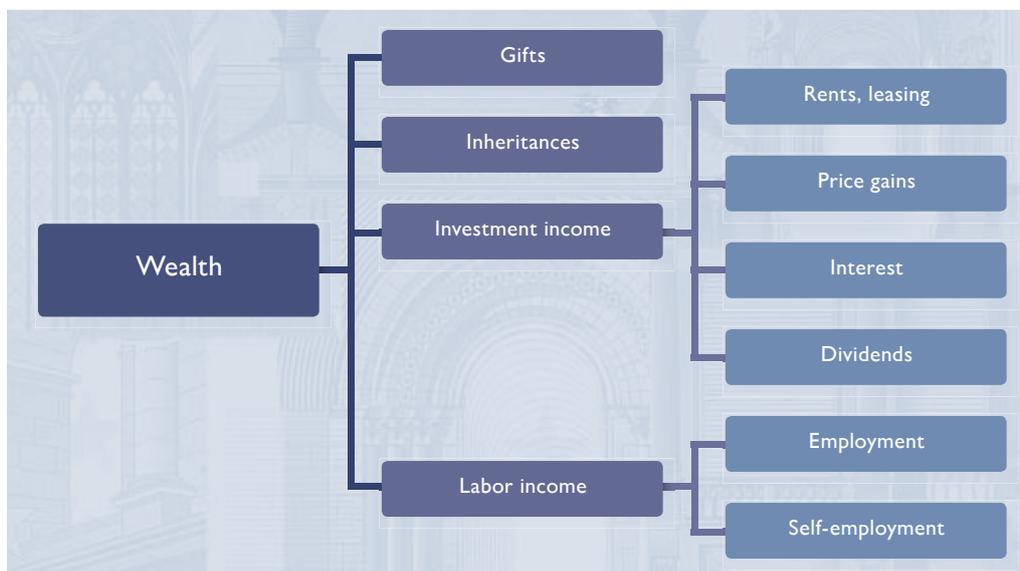
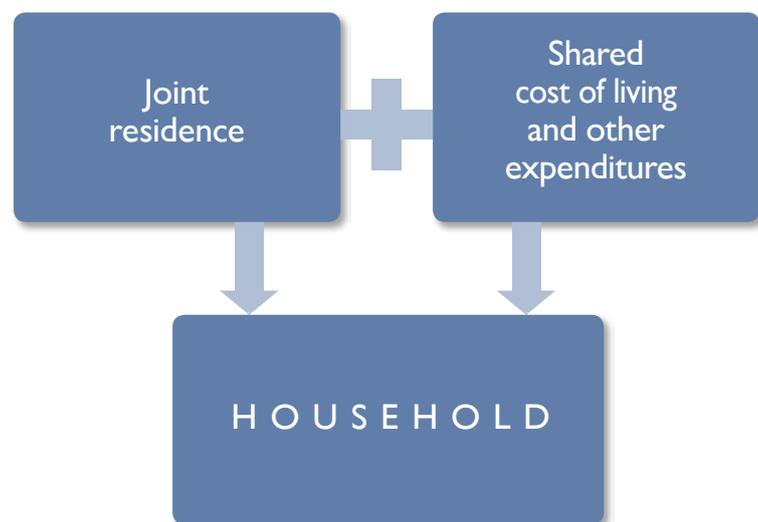


Illustration 4

Household by HFCS Definition



Wealth transfers like inheritances and gifts received are a part of wealth themselves, but there is no information on whether the assets that have been transferred have remained in the respondents' possession, whether they have been consumed, kept, reinvested or transferred onward. Investment income exhibits a circular development: It results from wealth, and it may generate wealth, for instance through interest income.

2.4 HFCS Reference Unit

The primary reference unit in the HFCS is the individual household. All wealth components in the HFCS are covered at the household level. This makes sense for surveys on the financial situation, as some of the key wealth components, such as real estate (main residence, secondary residence, land), are jointly used by the members of a household as a rule. Splitting wealth

among persons in a household (e.g. in line with legal ownership criteria) would not properly reflect such joint use. By contrast, financial assets tend to be linked to individuals. Life insurance policies are made out to particular individuals; stock portfolios are also held by persons rather than households. But there are also households in which savings plans with a building and loan association are made out to children in the household whereas the parents have the power of disposal of the contract. For reasons of simplicity, the household serves the purpose of a reference unit very well. A large number of other variables, e.g. income components, occupation or education, are collected at the individual level.³

A household comprises all persons who live together in the same private dwelling and share expenditures, including the joint provision of the essentials of living or who bear the costs of their residential unit and related expenditures alone. The target population excludes households or persons in institutions, i.e. hospitals, nursing homes, old persons' homes, student residences, boarding schools, convents, correctional facilities, barracks or the like.⁴

The following persons are additionally included in a household if they share the cost of living and other expenditures:

- (i) persons who are usually resident in the household but are temporarily absent from the dwelling (for reasons such as vacation, work, education, hospital stays, etc.);
- (ii) children of the household who are being educated away from home;
- (iii) persons who are absent for long periods but who have strong

³ For details see chapter 2 in Albacete, N., Lindner, P., Wagner, K., and Zottl, S. 2012. Eurosystem Finance and Consumption Survey 2010. Methodological Notes. Monetary Policy & the Economy Q3/12 – Addendum.

⁴ *Ibid.*, chapter 6.

- household ties (e.g. seasonal workers); and
- (iv) persons who do not live in the same residence at the time of the survey but who have clear financial ties to the household.

Given the broad definition of households, the HCFS data take into account

family ties that exceed the narrow definition of persons living in the same dwelling. A key difference between the HFCS and other surveys in Austria is that the definition of households in the HFCS is not limited to the main residence as recorded in the Austrian Central Population Register; it also com-

Illustration 5



prises households in dwellings for which there is no main residence record in the Central Population Register.⁵

The person at whom the survey was directed at the household level was the one deemed to be best informed about the household's financial affairs, the financially knowledgeable person (FKP). Referring to the best-informed person in the household increases the probability of receiving detailed and qualitatively valuable information about the respective household's finances.⁶

2.5 Definition of Wealth in the HFCS

A clear definition of which wealth variables are to be covered in the survey is required to assess household wealth. A

standard technical definition of wealth by analogy to the definition of income (by the Canberra Group on Household Income Statistics) has yet to be developed. The OECD is currently working on a joint scientifically-based description of wealth. The definition of household wealth in the Eurosystem HFCS is not theory-based but rather oriented on the information households can reasonably be expected to supply voluntarily in a questionnaire.

The main aggregates are real assets, financial assets and debt. Gross wealth is the sum of real assets and financial assets; net wealth is gross wealth minus debt. Illustration 5 provides an overview of the main components of household accounts; box 1 provides the definitions of these components.

Box 1

Definitions of Individual Components

Real Assets

Household main residence: a piece of residential property the household owns and lives in for most of the year.

Other real estate property: any type of real estate the household owns but does not use as a main residence, such as single-family houses and apartments, vacation homes or apartments, multi-family homes, apartment buildings, garages, offices, hotels, other commercial buildings (provided they are owned by the household and not part of a business owned by the household), factories, warehouses, farms, land, lots. This explicitly includes properties that are located abroad.

Investments in self-employed businesses: business that is owned by the household and in which at least one household member has an active function.

Vehicles: cars and other motor vehicles, e.g. motorbikes, trucks, vans, planes, boats or yachts, motorhomes.

Valuables: gold, gold coins, antiques, works of art, jewelry, collections, other valuable items.

Financial Assets¹

Sight accounts (current accounts): the credit balances on all household members' bank accounts that are at the immediate disposal of the account holders (by way of cash withdrawal, transfer order or check).

¹ The HFCS also covers assets owned under occupational and private pension schemes at the individual level, unless they are covered by other components (see Albacete et al., 2012, chapter 2). While the cumulated private pension provision assets of all persons in a household are assigned to the financial assets of the household (where they are not shown separately), occupational pension assets are not covered.

⁵ Ibid., chapter 6.

⁶ Ibid., chapters 3 and 6.

Savings accounts: the credit balances on all household members' savings accounts (including saving contracts with building and loan associations).

Savings contracts with building and loan associations: the credit balances on all household members' contracts with building and loan associations.

Life insurance: assets invested in life insurance contracts such as traditional or unit-linked life insurance plans.

Mutual funds: assets of a household invested in (mutual) funds. Common types of funds include equity funds, fixed-income funds, money market funds, funds-of-funds, hedge funds, exchange-traded funds (ETFs), etc.

Bonds: households' holdings of bonds, e.g. government bonds, federal savings bonds, municipal bonds, other securities issued by the Austrian federal, regional and municipal governments, corporate bonds, bank bonds.

Shares: households' holdings of securities traded on a stock exchange which identify the shareholder (the owner of the security) as owner of a share in the stock of a joint stock company. They usually guarantee a stake in part of the company's profits.

Debt owed to the household: all financial assets owed to a member of the household.

Other financial assets: any other financial assets including silent partnerships (i.e. ownership in part of a business in which no household member has a management function), fiduciary accounts, etc.

Debt²

Mortgage loans:

Collateralized by the household main residence: any outstanding mortgages or loans of the household that use the household main residence as collateral.

Collateralized by properties other than the household main residence: any mortgages or loans on the part of the household that use other properties owned by the household as collateral.

Uncollateralized loans:

Bank overdrafts: any debt on any of the household's sight accounts (current accounts; see above).

Outstanding balance on credit cards: any debt on the household's credit card(s) that remains after the most recent monthly bill has been paid.

Other uncollateralized loans: any uncollateralized debt. This includes unpaid bills that are more than 30 days overdue, loans from relatives, friends, employers as well as any other private loans.

² The purpose of a loan is identified for each loan separately. Self-employed persons, for instance, take out loans to fund businesses or professional activities. These loans account for a small share in almost each debt category; frequently, they are collateralized by properties other than the household main residence or uncollateralized.

2.6 Challenges in Surveys of the Financial Situation of Households

Household surveys are subject to non-response problems: Households may refuse to take part in the survey or they cannot be reached (*unit nonresponse*), or they may participate but refuse to answer particular questions (*item nonresponse*). Nonresponse would not repre-

sent a problem if it were random within the sample. However, in the case of wealth surveys, nonresponse does not occur randomly: Empirical evidence shows that the willingness of wealthy households to participate in surveys and to answer questions about wealth is below average. This means that the share of missing answers is especially high in the case of precisely those

households whose responses would be particularly valuable because wealth is expected to be concentrated in such households.

Ignoring nonparticipation and non-response will produce biased estimators as the observations not included form a selective subsample of the entire sample. Since the questions touch on sensitive and complex income and wealth issues there is a particularly large number of variables which elicit a nonresponse from wealthy households (either “don’t know” or “no answer”).⁷

Consequently, statistical procedures to correct for nonresponses are applied. The use of *nonresponse weights* can partly remedy the nonresponse problem. However, there is no way to replace the missing part of the population with wealth estimates that are higher than the highest wealth value stated in the survey (including ranges).⁸

Sampling error is the uncertainty that comes with all estimators in relation to a target population that are based on a sample of the target population instead of on the entire target population. Knowing the degree of uncertainty associated with certain statements about the target population is important for a number of purposes. Owing to the complex sampling design (and the multiple imputations) used in the HFCS it is not possible to apply standard procedures for variance estimation. Sampling details, which would allow such a calculation, are not part of the HFCS data set because the data have to be anonymized. Therefore replicate

weights are provided for variance estimation, enabling an assessment of the uncertainty associated with the estimates. These replicate weights must be used together with multiple imputations for the variance estimation to be correct. The HFCS multiple imputations help to minimize the (statistical) nonresponse bias while at the same time taking into account the associated uncertainty in the variance estimation.⁹ Tables A2 and A3 in the annex provide the standard errors for selected statistics that reflect the uncertainty resulting from both the complex survey design and nonresponse.¹⁰

Earlier surveys simply did not cover wealth components whose collection created particular problems, e.g. unlisted equity investments. The German Federal Statistical Office stopped including unlisted equity investments in its Income and Consumption Survey (EVS) in the mid-1980s. But not including highly concentrated wealth components results in a considerable underestimation of wealth in the aggregate. Unlike the National Accounts, the HFCS takes business investments into account not just under financial assets, but partly also under real assets.¹¹

The careful design of the HFCS questionnaire and the conduct of interviews by well-briefed interviewers helped to minimize many of the problems that may arise during surveys. The OeNB actively participated in all-day interviewer training sessions and prepared detailed training material for such sessions. Interviewer success was

⁷ *Albacete et al. (2012), chapters 5 and 7.*

⁸ *Ibid., chapter 7.*

⁹ *Ibid., chapters 5, 6, 7 and 8.*

¹⁰ *It should be noted, however, that no valid confidence intervals can be derived from these standard errors calculated on the basis of (bootstrapped) replicate weights. Also, a normal distribution assumption does not make much sense. Given the positive skew of the distribution it is highly unlikely that the true confidence intervals are distributed symmetrically around the estimators.*

¹¹ *Albacete et al. (2012), chapter 2.*

evaluated not only on the basis of the number of conducted interviews but also with a view to the impact of the interviewers on individual results.¹² Interviewers are generally not neutral in the data collection process. Key insights into the central role of successful communication between interviewers and interviewees that have been relevant to the HFCS have been derived from the work of Arthur Kennickell (Federal Reserve Board).

Memory lapses on the part of respondents are a fundamental problem in gathering data on events that happened long ago in a household's history. The more time has passed since a particular transaction (acquisition, gift, inheritance), the more inaccurate the answers tend to be. The respondent may simply have forgotten the entire transaction, or the amounts stated in euro may be wrong. If the questions are broken down to cover individual components of wealth and income, households are less likely to forget about individual items. The option of stating amounts in various currencies prevents incorrect answers caused by problems with currency conversion, and the provision of ranges for amounts gives households the possibility of not having to state the exact amounts of individual items because they are uncertain how high they are or because they are not willing to provide the exact figures.

2.7 The U.S. Survey of Consumer Finances

The Survey of Consumer Finances (SCF) conducted by the U.S. Federal Reserve Board (Fed) is a key model for the HFCS. The SCF has been conducted every three years since 1983

and serves as a standard on which household finance surveys throughout the world are patterned. The results of the SCF meet with great interest among academic researchers internationally. Also, the SCF has an enormous economic policy impact. For instance, in a panel survey held outside the regular cycle, the SCF examined the effects of the financial crisis in the U.S.A. to determine how U.S. households' wealth changed in the course of the financial crisis. This special survey shows that micro data are crucial for monetary policy, financial stability and economic policy, which numerous central banks' have come to realize, recently.

The two main wealth surveys conducted in the U.S.A., the PSID (Panel Study of Income Dynamics) and the SCF, employ different methodologies in surveying household wealth. The SCF oversamples wealthy households and contains a greater number of questions on wealth. The Fed uses statistical records from tax returns to establish a subsample selected to disproportionately include especially wealthy households. 1,500 of the 6,500 households in the SCF sample are in this list sample of wealthy households. This approach allows a better coverage of the share of wealthy households in the survey. At first glance, the sample appears very small, but meticulous sampling, exact preparation of interviewers, extensive data editing and sophisticated multiple imputations deliver detailed analyses of U.S. household net wealth.

In Austria, it is as yet not possible to oversample wealthy households. This results in significantly increased standard errors of the wealth-related estimates.

¹² *Ibid.*, chapter 3.

Methodological Merits of the HFCS

The HFCS has numerous advantages in comparison to other micro data sets. In the following, only its main merits will be presented.¹

Comprehensive survey data: Information on wealth, income and spending is collected and united in a single data set. The survey will be repeated every three years. For the first time, there are comprehensive data sets that allow country comparisons across the euro area.

Ex ante harmonization: The HFCS core questionnaire has been harmonized across all euro area countries. A set of common core variables, which was harmonized before the first round of interviews was carried out, allows a broad definition of wealth. This means that it is not necessary to apply a narrow definition of wealth that represents the smallest common denominator used in different surveys. Thanks to this harmonized and detailed data set, it will finally become possible to conduct complex country comparisons across the euro area. Furthermore, unlike in other surveys (e.g. the EU SILC), the collection of data and the imputation methods have also been harmonized in the HFCS.

Paradata: In the course of the HFCS, a large number of paradata are collected, which include information on the outward appearance of the household dwelling, neighborhood and surrounding buildings and similar factors. This makes it possible to check respondents' statements for plausibility, to quickly conduct further research in case of ambiguities, and also to assess the competence of interviewers. Paradata also comprise information with regard to households that do not participate in the survey. They are used for the calculation of nonresponse weights, which is extremely important with a view to unbiased estimators.

In-depth interviews: Many questions contained in the HFCS questionnaire ask for exact statements of money amounts. If respondents were unwilling to state an exact numerical value, they were asked to provide a range indicating their estimate of the relevant amount. It was possible to provide ranges without upper or lower bounds. Alternatively, respondents could also choose a pre-specified range from a list. In this way, interviewers tried to gather as much information as possible on sensitive issues. The answer was automatically translated into a numerical figure, which was then repeated by the interviewer. The respondent verified this figure as "correct" or dismissed it as "incorrect." Any incorrect amounts were then corrected. This time-consuming procedure helped to prevent typos and any misunderstandings caused by language problems, misheard responses, etc.

Wholly CAPI-based survey: All household interviews were conducted in person, using the computer-assisted personal interviewing (CAPI) technique. CAPI has the advantage that different lines of questioning may be pursued as the interview progresses and that the interviewer may add explanations at any time. In addition, the interviewer has immediate access to stored data. CAPI software also makes it possible to immediately check related responses for plausibility, even during the interview. The use of a uniform interviewing technique for all households is a necessary prerequisite to achieve comparability.

No weight trimming: The HFCS in Austria has been designed to produce unbiased estimators (to the greatest extent possible) for its target population, even if this sometimes happens at the expense of estimate precision. Unbiased estimates with larger standard errors are given preference over biased estimates with smaller standard errors, which is why no weight trimming is applied at any level.

Multiple imputations: Imputations supplement missing data. Multiple imputations replace a missing value by several plausible values and thus, unlike simple imputations, also reflect the uncertainty of the imputed values. The method used for the HFCS is based on an iterative approach under which all variables that are to be imputed are imputed in one model so as not to distort the combined distribution of the variables.

Methodologically, the HFCS ranks among those household surveys that reflect the state of the art in terms of precise and careful data production for household micro data. Modeled after the Federal Reserve's Survey of Consumer Finances (SCF), the HFCS has been designed so as to reflect the uncertainty associated with surveys of this kind in the data rather than artificially reduce the variance, which would also raise the bias.

¹ For details see Albacete et al. (2012).

3 Net Wealth and Its Components

Household net wealth comprises gross wealth less debt. This measure is the best record of a household's current wealth position. However, solely analyzing net wealth would necessarily mask key aspects of the composition of wealth and the relative importance of individual household wealth components.

By way of example, the net wealth of two households may be identical in size but may break down into different components. The first household might have saved barely anything, keeping the little it has saved for a rainy day in the form of a savings account alone; the second household, by contrast, may have just bought a house, which means it has high levels of both gross wealth and debt.

The first stage of the two-step analysis that follows entails an examination

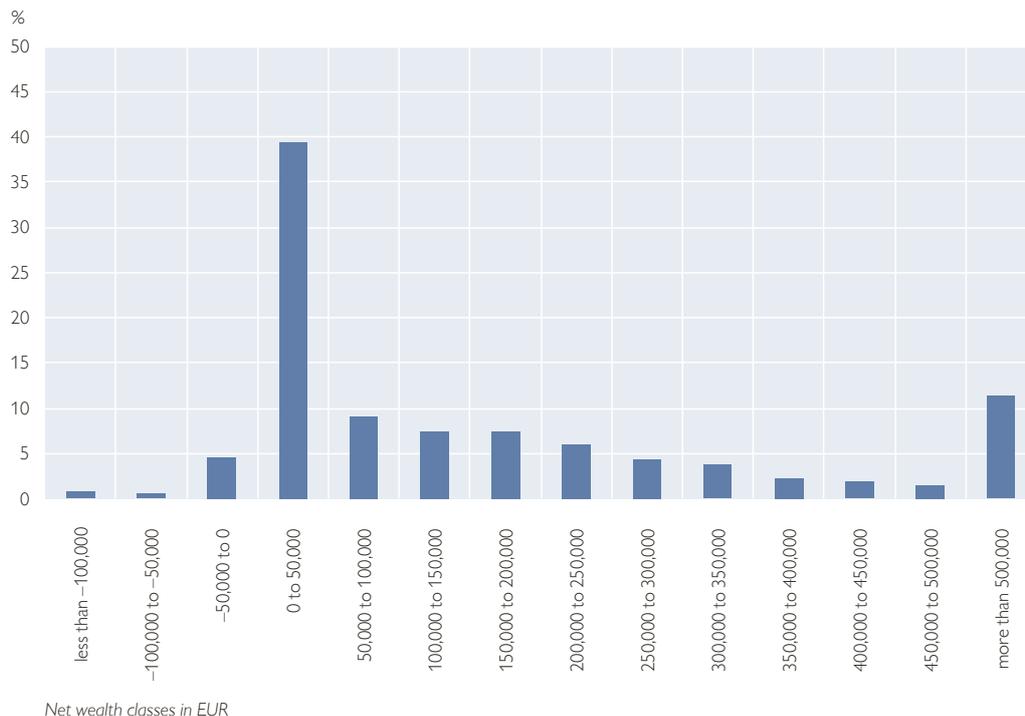
of the distribution of net wealth and its components, real assets, financial assets and debt. Each household is assigned to a particular net wealth class.

Chart 1 breaks down all households by their net wealth into classes of EUR 50,000 and shows the percentages of households in the respective classes. To enhance the depiction, the bottommost and topmost classes are open to the downside and the upside. The bottommost class therefore comprises households with a net wealth of less than –EUR 100,000, i.e. households with significantly more debt than gross wealth. The uppermost class contains households with a net wealth of more than EUR 500,000.

Almost 40% of households have net wealth ranging between EUR 0 and EUR 50,000. This class comprises the largest share of Austrian households by far. The following four classes up to

Chart 1

Distribution of Households to Net Wealth Classes

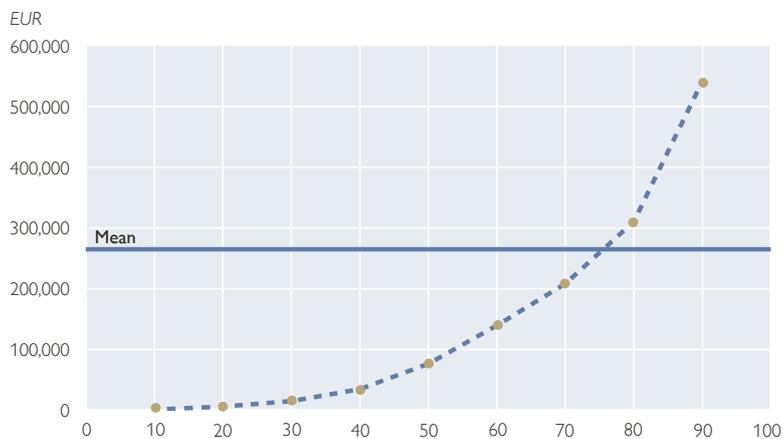


Net wealth classes in EUR

Source: HFCS Austria 2010, OeNB.

Chart 2

Percentiles and Mean of Net Wealth



Source: HFCS Austria 2010, OeNB.

EUR 250,000 each contain between 5% and 10% of households. Overall, these five classes with net wealth ranging from EUR 0 to EUR 250,000 make up some 70% of all households in Austria.

If households with negative net wealth are added to this group, we see that some three-quarters of all households have net wealth of less than EUR 250,000. The remaining quarter is strongly dispersed to the upside, which means that the number of households decreases considerably in each class. Nonetheless, the class open to the upside with net wealth of more than EUR 50,000 still contains about 11% of all households, illustrating a pronounced positively skewed distribution of wealth.

Whereas in chart 1 the intervals between the wealth values are fixed and the number of households within these classes is estimated, we then estimate nine percentiles, which divide into ten

identically large groups all the households sorted according to their wealth in ascending order. Chart 2 breaks down the Austrian household population into deciles of around 377,000 households each.¹³ One-tenth of Austrian households have net wealth of less than EUR 1,000, and half of households have less than some EUR 76,000. By contrast, about one-fifth of households have more than EUR 311,000 in wealth, and one-tenth have more than some EUR 542,000.

In addition to the median, which divides the households into two equally large groups in terms of whether they have more or less net wealth, the mean (average) is also a frequently used, albeit not robust¹⁴ feature of a distribution. The mean of Austrian households' net wealth is some EUR 265,000, i.e. in the eighth decile. More than three-quarters of households have less net wealth than the average. This once more illustrates the pronounced positively skewed distribution of net wealth. There is a very large number of households that have little net wealth, and there are only a few households that have very high net wealth.

3.1 Real Assets, Financial Assets and Debt

Household net wealth is composed of various elements. It is the sum of real assets and financial assets minus debt (see section 2).

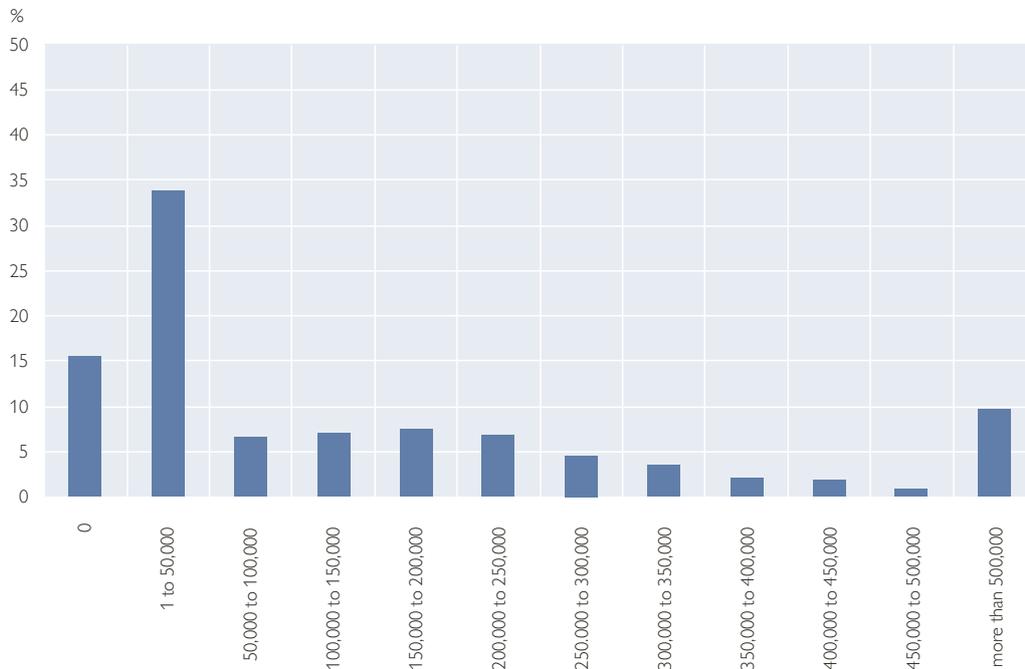
If households do not, for instance, have real assets, these assets are computed into the calculation of net wealth with a value of 0. The same approach applies to financial assets and debt.

¹³ See table A1 in the annex for the underlying mean values and percentiles of the distribution of net wealth, real assets and financial assets.

¹⁴ A statistical measure is considered robust if its influence function is bounded, i.e. changing one data point does not have a substantial effect on the measure (see Huber, P.J. 2004. *Robust Statistics*. Wiley Series in Probability and Statistics).

Chart 3

Distribution of Households by Real Assets



Real asset classes in EUR

Source: HFCS Austria 2010, OeNB.

While only very few households do not own financial assets, there is a relatively large number of households that do not own real assets (by HFCS definition). Likewise, only some households have debt.

For this reason, we perform the analysis of real assets, financial assets and debt in two steps: First, we look at household participation in these wealth components, determining how many households hold positive values (strictly larger than 0) of real assets, financial assets and debt. Second, we show the distribution of the positive net wealth and debt values of the households holding these assets (conditional distributions).

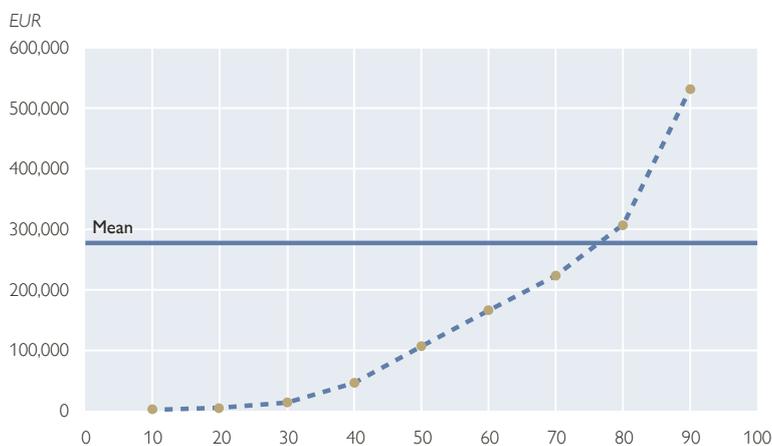
3.1.1 Real Assets

Chart 3 shows how many households can be assigned to each of the predefined real asset classes. There is also a 0 class for those 15% that do not own real assets. The EUR 1 to EUR 50,000

class is the largest one by far, accounting for some 34% of Austrian households. These households primarily comprise tenants of their main residence, for whom their car in most cases represents their biggest single real asset component. In higher real asset classes, the main residence most frequently represents the largest real asset component. Investments in self-employed businesses in which at least one household member holds an active function are also recognized as real assets by the HFCS. These assets play a significant role in the higher real asset classes, which may also be attributable to the fact that the HFCS records agriculturally used real estate property of farmers excluding main residences as investments in self-employed businesses. Since the HFCS records all these components individually and allows the identification of farmers, it offers considerable flexibility in the use of data.

Chart 4

Households with Real Assets: Percentiles and Mean of Real Assets



Source: HFCS Austria 2010, OeNB.

Chart 4 shows the distribution of real assets in percentiles for those some 85% of households with positive values of real assets.

40% of households with positive real assets own less than some EUR 47,000. The median in this category, dividing real asset owners into two

equally large groups, is about EUR 108,000. The mean value of some EUR 278,000 is exceeded only between the 75th and the 80th percentiles. Even in the group of households that possess real assets, three-quarters have fewer real assets than the average. In the top-most quartile, real asset values rise sharply again, setting the 90th percentile at some EUR 534,000.

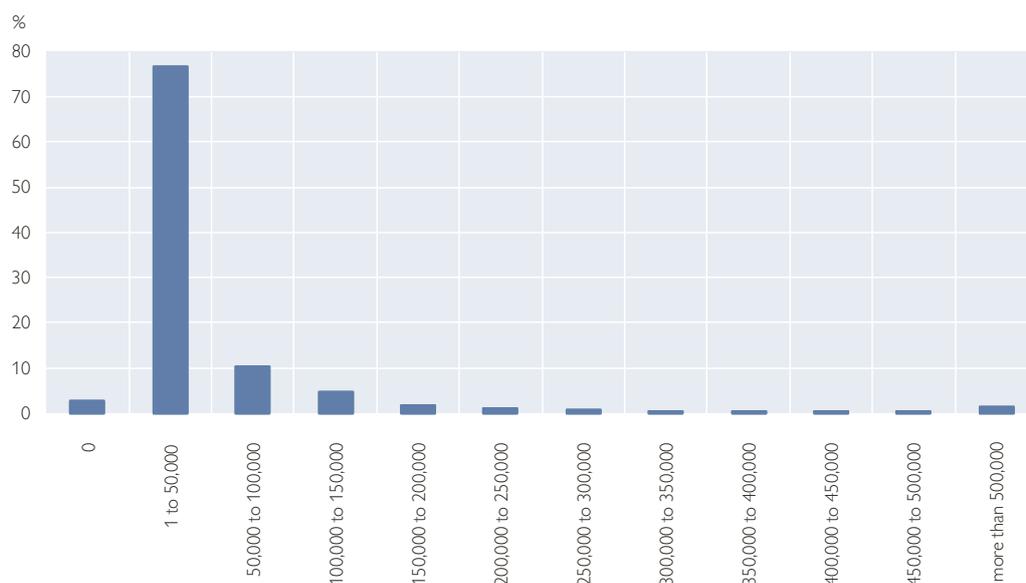
3.1.2 Financial Assets

Unlike real assets, financial assets are owned by almost all Austrian households (some 97%), as shown in chart 5. However, more than three-quarters are in the bottommost financial asset class with less than EUR 50,000. The shares of households in the following classes decrease sharply in number. Only around every 10th household has financial assets exceeding EUR 100,000, and only about 1.3% have more than EUR 500,000 in financial assets.

Chart 6 shows the distribution of positive financial assets. These values

Chart 5

Distribution of Households by Financial Assets



Financial asset classes in EUR

Source: HFCS Austria 2010, OeNB.

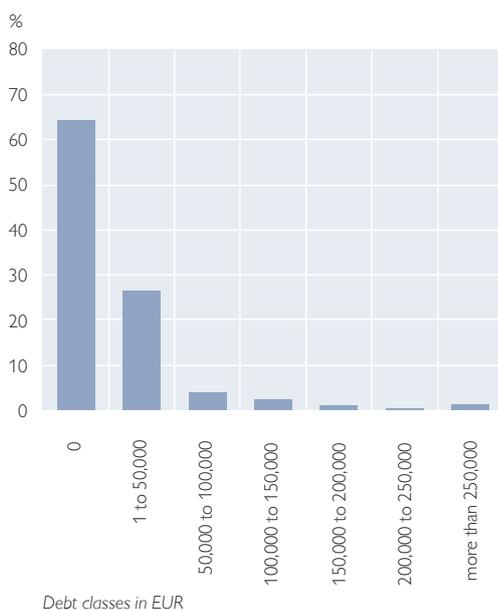
are relatively small compared with the real asset values. Half of households have less than some EUR 14,000, and more than three-quarters are below the average of some EUR 48,000. At the same time, 10% own more than some EUR 105,000 in financial assets. When interpreting these results, it must be borne in mind that financial assets, in particular, are strongly understated, especially in the upper range of the distribution.

3.1.3 Debt

Household debt is far less widespread in Austria than household financial or real assets. Some 64% of households do not have debt, representing the largest group by far, as shown in chart 7. A further some 26% of households have outstanding debt of less than EUR 50,000. The remaining classes with debt of more than EUR 50,000 account for less than 10% of households. A considerable sum of debt is held only by a comparatively small group of households.

Chart 7

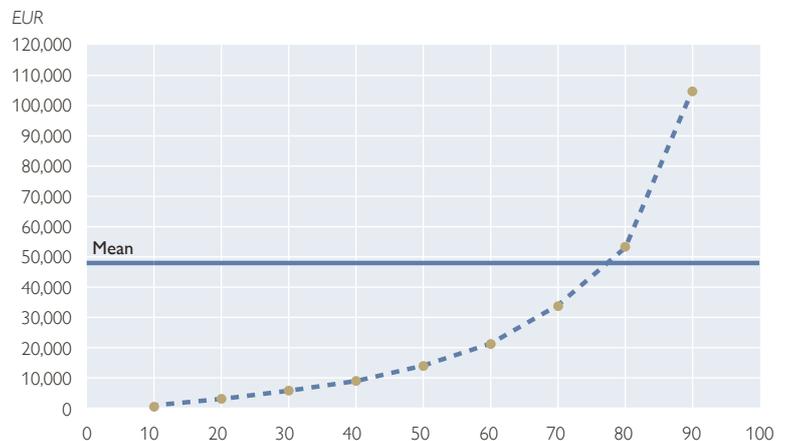
Distribution of Households by Debt



Source: HFCS Austria 2010, OeNB.

Chart 6

Households with Financial Assets: Percentiles and Mean of Financial Assets



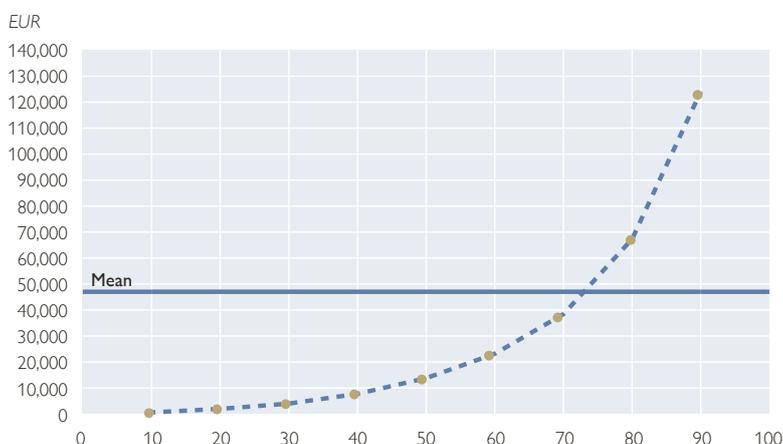
Source: HFCS Austria 2010, OeNB.

Debt is subject to particularly pronounced life cycle patterns, which are not identifiable in charts such as these. For instance, the bulk of large sums of debt arises from the purchase of real estate property, primarily the purchase of a main residence. In Austria, people usually buy their homes between the age of 25 and 40. When households buy homes, both debt and real assets rise while financial assets as a rule decrease, as they are used to finance the purchase. Except in the case of interest-only loans with balloon payment, debt generally decreases and financial assets start to increase again after the purchase has been made.

Chart 8 shows the distribution of debt values of the approximately 36% share of indebted households. 20% of these households – or some 7% of all households – hold debt exceeding about EUR 67,000. This debt primarily entails loans to finance real estate property, i.e. mortgage loans. Uncollateralized loans, by contrast, are mainly found in the lower range of the distribution. Half of all indebted households have debt below some EUR 14,000. The HFCS also captures motor vehicle

Chart 8

Households with Debt: Percentiles and Mean of Debt



Source: HFCS Austria 2010, OeNB.

lease contracts, without recording the amount of debt associated with such contracts. Therefore, debt in the form of lease financing contracts is not covered by the depiction of debt. In Austria, lease financing is far less popular among households than in other countries. Only about 5% of households say they have a lease financing contract.

Chart 9 shows the distribution of net wealth and its components (real assets and financial assets as well as debt).

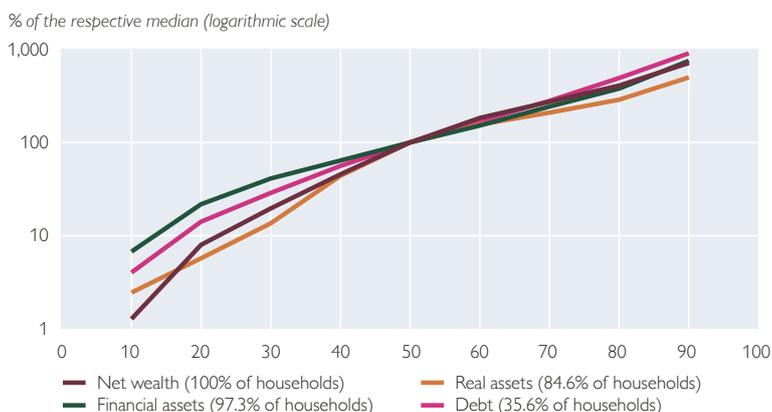
It maps the percentiles as percentage shares of the respective medians across the households holding the corresponding wealth components, showing that debt is furthest dispersed to the upside whereas real assets and net wealth are furthest dispersed to the downside. Since these distributions were computed independently this contrast in the distribution of wealth components does not provide any information about the relationship between the individual components at the household level.

3.1.4 Measures of Distribution of Gross Wealth and Net Wealth

When depicting the distribution of wealth it must be borne in mind that the Gini coefficient, the best-known distribution measure of inequality, has drawbacks in analyzing wealth. Since wealth also has negative values, it is debatable whether the Gini coefficient of gross wealth or net wealth should be stated; both values are close to each other. At any rate, Gini coefficients of 0.73 and 0.76, respectively, denote a pronounced inequality in wealth. At 233.7, P90/P10 shows a marked disparity between the upper and lower ranges of the distribution. The household at the boundary to the wealthiest 10% of households holds more than 233.7 times the gross wealth of the household at the boundary to the least wealthy 10% of households. At 581.1, the corresponding measure of net wealth is more than double this value. Percentile ratios are robust measures. In addition, the ratios chosen here (P90/P10, P90/P50, P75/P25) do not include the edges of the distribution, which are difficult to capture (e.g., at P90/P10 the wealthiest and the least wealthiest 10% of households are excluded), and therefore they can be considered to be particularly reliable.

Chart 9

Percentiles of the Conditional Distributions in Percent of the Median



Source: HFCS Austria 2010, OeNB.

3.2 Components of Net Wealth

The three components of net wealth (real assets, financial assets, debt) can be analyzed in detail at the level of their subcomponents.

We perform this analysis in two steps: First, we determine household participation in a specific wealth subcomponent, i.e. how many households have this component of wealth. Second, we compute the median and the mean for the households with this subcomponent.

The conditional distributions in section 3.1 related to positive wealth values. There are certain components, however, for instance sight accounts, that can have a value of 0. Negative positions on sight accounts are captured as part of debt. Overdrafts are recorded as loans in a different section of the HFCS questionnaire, and the sight accounts are assigned a value of 0.¹⁵ Table 2 provides an overview of the key subcomponents of net wealth. Only households that actually have these net wealth subcomponents are included in the computation of the medians and means reported. The mean-to-median ratio is also computed as an indicator of the skewness of the distribution within the wealth class in question.¹⁶ The further the mean is from the median, the more skewed the distribution is. All the subcomponents of wealth have positively skewed distributions. Accordingly, the mean is higher than the median.

3.2.1 Real Assets

Motor vehicles are by far the most common subcomponent of real assets

Table 1
Measures of the Distribution of Wealth

	Gross wealth	Net wealth ¹
Gini	0.73	0.76
P75/P25	22.4	24.3
P90/median	6.2	7.1
P90/P10	233.7	581.1

Source: HFCS Austria 2010, OeNB.

¹ The Gini coefficient does not have an upper bound at 1 with data that contain negative values. Whether its interpretation and its comparability with regard to Gini coefficients resulting from other distributions is useful is controversial for several reasons.

among Austrian households. Almost three-quarters own at least one vehicle. The average value of these vehicles is about EUR 13,000. The mean-to-median ratio of 1.6 indicates a relatively equally distributed component of wealth.

Some 48% of households at least partially own their main residence.¹⁷ In this subcomponent, the median wealth of owner households is around EUR 200,000, and the average wealth of owner households amounts to about EUR 258,000. Hence, the main residence is the most important subcomponent of real assets in terms of volume.

About 24% of households have real assets that are pooled under “other valuables.” This position comprises gold, works of art, jewelry, collections, etc. With the median value being EUR 4,000, the values in this class are rather low.

About 13% of households own other real estate assets, i.e. other than the household main residence. This subcomponent includes above all houses, apartments and undeveloped land. Farmers’ real estate property that

¹⁵ Table A1 in the annex illustrates the differences resulting from these approaches, showing the conditional distributions of real assets, financial assets and debt.

¹⁶ For reasons of simplicity, we state the mean-to-median ratio here as a simple division of the estimated mean by the estimated median. This means that the underlying means and medians were estimated on the basis of the five multiply imputed data sets.

¹⁷ Households may own their main residence only partly for instance because the home has been inherited and one of the heirs lives in this home but is not (yet) the sole owner of the house or apartment.

Table 2

Subcomponents of Net Wealth

	Participation	Median	Mean	Mean-to- median ratio
	%	EUR		
Real assets				
vehicles	74.9	8,000	13,088	1.6
main residence	47.7	200,000	258,072	1.3
other valuables	23.6	3,909	12,835	3.3
other real estate property	13.4	94,028	227,929	2.4
investment in self-employed businesses (incl. farms)	9.4	180,603	731,425	4.0
Financial assets				
sight accounts	99.0	707	3,171	4.5
savings accounts	87.1	11,657	30,062	2.6
savings plans with building and loan associations	54.7	3,414	5,291	1.5
life insurance contracts	38.0	11,137	26,922	2.4
money owed to household	10.3	2,620	15,754	6.0
mutual funds	10.0	11,248	55,414	4.9
stocks	5.3	7,086	26,864	3.8
bonds	3.5	13,832	102,860	7.4
other financial assets	2.3	4,722	45,846	9.7
Debt				
collateralized debt	18.4	37,546	76,288	2.0
main residence	16.6	37,332	72,745	1.9
other real estate property	2.4	36,397	80,204	2.2
uncollateralized debt	21.4	3,016	12,687	4.2
overdrafts	13.6	1,208	2,349	1.9
uncollateralized loan	11.1	8,000	21,475	2.7
outstanding balance on credit cards	1.5	540	966	1.8

Source: HFCS Austria 2010, OeNB.

is part of their farm is not recorded in the HFCS as other real estate assets but as part of investments in self-employed businesses.

Less than 10% of households have investments in self-employed businesses (including farms), i.e. businesses in which at least one household member has an active function. Both the median and the mean of this subcomponent are high, amounting to about EUR 181,000 and some EUR 731,000, respectively. Silent partnerships, i.e. ownership in part of a business in which no household member has an active function, are recognized as financial assets.

3.2.2 Financial Assets

Sight accounts are the most common subcomponent of financial assets and the one with the lowest values. Almost

all households (99%) say they have at least one sight account. The median in this subcomponent of financial assets is no more than around EUR 700, the mean value is around EUR 3,000.

Savings accounts, which in the HFCS Austria include savings plans with building and loan associations and life insurance contracts, are by far the most common savings variant. About 87% of households have at least one savings account, some 55% have at least one savings plan with a building and loan association, and about 38% have at least one life insurance contract. The holdings on savings accounts are quite substantial, with the median coming to around EUR 12,000 and the mean to some EUR 30,000.

Another subcomponent of financial assets is money owed to the responding

household. About 10% of households state that they have lent money to others. This money is therefore recorded as part of household financial assets. With the median and the mean coming to some EUR 2,600 and to some EUR 15,800, respectively, this subcomponent is of a size that must not be underestimated; it is of an order comparable to that of financial assets invested in shares. Money owed to households is not recorded as financial assets by the financial accounts.

Some 10% of households hold mutual funds, about 5% hold stocks, and around 4% hold bonds. Considering that these subcomponents are higher-risk than savings accounts, the median values are sizeable at about EUR 11,000 (mutual funds), about EUR 7,000 (stocks) and about EUR 14,000 (bonds). Mean values should generally be interpreted with caution as only a few observations may have a significant impact on these values. This is especially true for components that are held by a small number of households, e.g. bonds and stocks.

The residual measure “other financial assets,” for which about 2% of households reported values, comprises financial assets that are not recorded in any other class. This includes, for instance, silent partnerships, deferred compensation or trade mark rights. The median of this subcomponent is around EUR 5,000.

3.2.3 Debt

About 17% of households (some 35% of households that own at least part of their main residence) have debt collateralized by their main residence. The median of about EUR 37,000 and the mean of around EUR 73,000 reflect the current status of repayment of loans taken out to finance homes.

Only about 2% of households have loans using other real estate property as collateral; in terms of their values, however, these loans are similar to loans collateralized by main residences.

About 21% of households have uncollateralized debt, which has a significantly more skewed distribution but is far less important than collateralized debt in terms of total value. For instance, about 14% of households have overdrawn their account by a median of about EUR 1,200; the average value of this subcomponent is EUR 2,300. The largest subcomponent of uncollateralized debt are uncollateralized loans, amounting to an average of about EUR 21,000.

Outstanding credit card balances play a minor role in Austria, with only about 2% of households holding debt in this class and the median and the mean coming to a comparatively low of around EUR 500 and EUR 1,000, respectively. Austrians continue to use credit cards rather like debit cards, settling their bills in full every month.

4 Wealth in the Household Context

In addition to the household financial balance, which we describe in detail in section 2, the HFCS compiles a multitude of other information. This section explores the relationship between some of households’ most important socio-economic characteristics and their net wealth.

4.1 Household Structure and Net Wealth

Table 3 shows a breakdown of household net wealth by household size, clearly indicating that net wealth rises sharply with household size. While one-person households – at 39%, the most common type of household in Austria – have a median wealth around

Table 3

Net Wealth by Household Size

	Share	Median	Mean	Mean-to- median ratio
	%	EUR		
1 person	38.7	18,675	112,841	6.0
2 persons	34.7	125,794	284,943	2.3
3 persons	11.3	164,482	371,553	2.3
4 persons	8.9	147,436	421,398	2.9
5 or more persons	6.5	235,071	664,536	2.8

Source: HFCS Austria 2010, OeNB.

EUR 19,000, this value rises to about EUR 126,000 for two-person households. One reason for this gap is that two-person households are much more likely to own their main residence. Mean net wealth, too, tends to rise with household size. In the breakdown of households by household size, the distribution of net wealth is especially unequal among one-person households: In this group, mean household net

wealth is almost six times higher than the median value, whereas for two- or three-person households, the mean-to-median ratio is only 2.3. This is, among other things, due to the specific age distribution of one-person households, among which the share of younger (under 30 years of age) and older persons (over 60) is above average, and the share of middle-aged persons is below average.

Box 3

Reference Person

Many household surveys define a reference person, which allows mapping information about households to characteristics that can be assigned to one household member alone.

For instance, net wealth and debt as well as all characteristics of the main residence are typical pieces of information that in the HFCS are available only at the household level. In contrast, age, education and occupation are attributed to persons only.

The HFCS does not define a reference person in the data set, as it is useful only to a limited extent – except for one-person households – to map personal attributes, which can vary considerably among household members, to the household as a whole. Ultimately, it would be arbitrary to declare one person as “representative” of the household or base one measure on the characteristics of several people (e.g. median or mean age). This would certainly not adequately reflect the diversity of household structures. Taking all socioeconomic characteristics of all household members into account equally would call for the application of different types of regression analysis or (re)weighting.

For this – first – HFCS report we use as the reference person what is referred to as the financially knowledgeable person (FKP). The FKP is the person with whom the interview about information at the household level was conducted. The aim of this approach is to interview the person best informed about the household’s finances.¹ Therefore, the FKP’s personal characteristics are truly representative of the household in the case of one-person households only.

¹ See Albacete et al. (2012), chapter 2.

Table 4

Net Wealth by Age of Reference Person

	Share	Median	Mean	Mean-to- median ratio
	%	EUR		
16–29 years	12.1	9,995	92,777	9.3
30–39 years	15.4	35,130	237,361	6.8
40–49 years	21.1	102,998	315,687	3.1
50–64 years	28.0	158,510	352,696	2.2
65–74 years	14.3	110,816	244,671	2.2
75 years and over	9.1	60,185	186,438	3.1

Source: HFCS Austria 2010, OeNB.

Table 4 is a breakdown of household net wealth by age. Net wealth tends to be lower for households with a younger reference person. Both the median and mean values rise considerably up until the 50- to 64-years age group, whereas they are markedly lower for households with an older reference person. This result cannot be interpreted as indicative of typical changes in net wealth over the life cycle, though, as the different age cohorts are faced with different circumstances that have an impact on the wealth they accumulate (e.g. economic developments, size of inter-generational transfers and social context). Still, the HFCS data clearly show an age pattern. The inequality within the different age groups declines with age: The mean-to-median ratio drops from 9.3 among those aged 16 to 29 to just 2.2 among people aged 65 to 74.

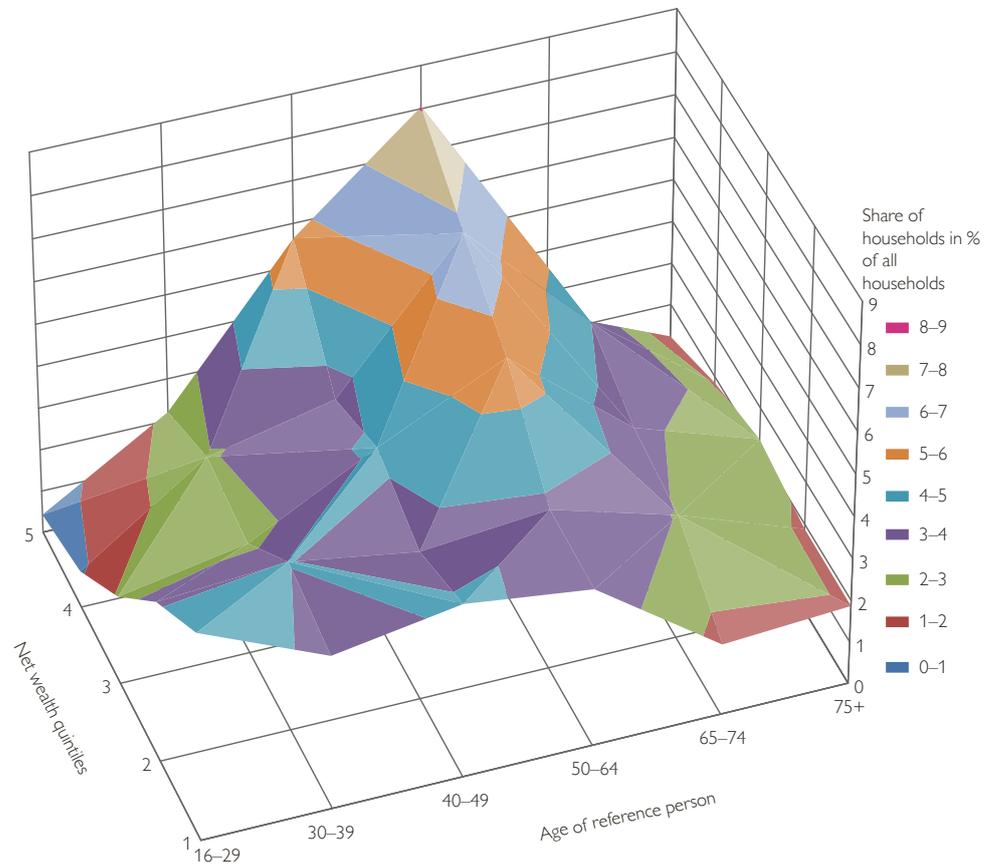
Chart 10 shows the combined distribution of the reference person's age and the household's net wealth. All households are ranked by their net wealth and assigned to five equally sized groups (quintiles). Then all households are grouped according to these age-wealth combinations. The sum of all shares is 100%, as each household has a unique net wealth value and a unique value for the reference person's age (and thus a unique combination of

the two). While households with younger reference persons (16 to 29) typically belong in the lower wealth quintiles, those with older reference persons (50 to 64) are particularly frequently in the higher wealth quintiles. Beyond that age, wealth decreases again, and these households – unlike the ones with particularly young reference persons – are relatively equally distributed across all wealth quintiles.

Table 5 is a breakdown of household net wealth by the reference person's education level. It shows that net wealth increases sharply with the reference person's level of education. When the reference person has only completed compulsory education (or less), the household's median net wealth is about EUR 36,000, whereas it is around EUR 170,000 when the reference person holds a tertiary education degree (university or technical college). The mean-to-median ratio falls sharply with increasing education levels, almost halving from 4.0 to 2.2. The variation in net wealth is comparatively low in the highest education group (university or technical college degree). It must be noted that wealth tends to rise with age but younger reference persons account for a disproportionately large share of higher education degrees due to the expansion in education seen over the past few decades.

Chart 10

Combined Distribution of Age of Reference Person and Wealth



Source: HFCS Austria 2010, OeNB.

Comparing net wealth by gender is only useful for one-person households. The share of one-person households in Austria is 39% (23% female and 16% male households). There are only marginal gender-specific differences in median net wealth, but the average net wealth is about EUR 129,000 for men

and only around EUR 102,000 for women (see table 6). While the majority of young one-person households are male, older one-person households are more often female. This is also the reason why there is greater disparity among male one-person households.

Table 5

Net Wealth by Education Level of Reference Person

	Share	Median	Mean	Mean-to-median ratio
	%	EUR		
Compulsory education or below	17.9	35,827	144,345	4.0
Apprenticeship	38.0	52,915	217,577	4.1
Upper secondary	30.5	98,818	342,500	3.5
University, technical college	13.6	170,415	382,615	2.2

Source: HFCS Austria 2010, OeNB.

Table 6

Net Wealth of One-Person Households by Gender

	Share	Median	Mean	Mean-to- median ratio
	%	EUR		
Women	23.0	19,211	101,875	5.3
Men	15.7	18,250	128,888	7.1

Source: HFCS Austria 2010, OeNB.

Ownership of a home marks a distinct separation between households in terms of the size of household net wealth. Households that own their main residence hold substantially larger assets than those who do not: At around EUR 487,000, the mean net wealth of homeowners is more than nine times that of households that rent their home; the median net wealth of home renters is as low as EUR 11,000. The mean-to-median ratio is markedly higher for home renters than it is for homeowners, as the former are a highly heterogeneous group. Also, there are several very wealthy households among the group that does not pay for the use of their main residence, therefore the distribution – the mean-to-median ratio – is considerable (see table 7). It must be borne in mind that the standard error can be significant especially for non-robust statistics such as the mean and the mean-to-median ratio. Hence, such statistics must be interpreted with caution.

4.2 Combined Distribution of Income and Net Wealth

While income is one of the most important sources of wealth, there is no

direct proportional link between household income and wealth. Factors like age, household composition as well as past and expected future income, also influence households' attitude to saving and their ability to save. Moreover, there is a number of other sources of wealth, notably intergenerational transfers and gifts, that can have a substantial influence on household net wealth.

Chart 11 shows the distribution of households' gross annual income¹⁸ (percentiles and mean). We see that income is distributed much less unequally than wealth. Around one-half of Austrian households have an income of less than some EUR 32,000, and around 90% have less than around EUR 79,000. Just over 60% of households earn less than the average.

Table 7

Net Wealth by Main Residence

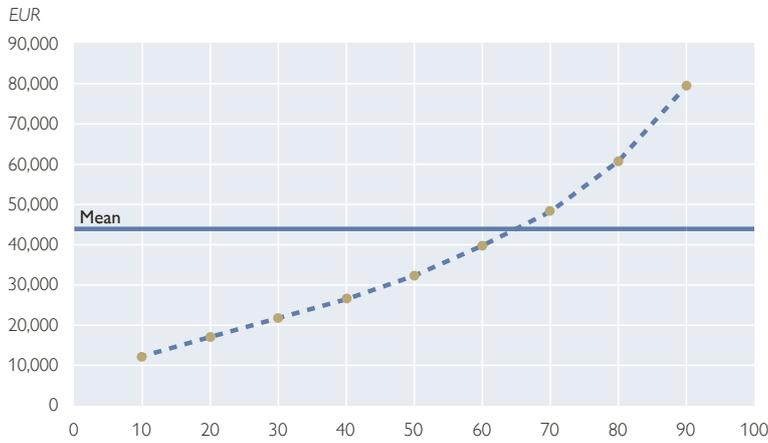
	Share	Median	Mean	Mean-to- median ratio
	%	EUR		
(Partly) owned	47.7	241,213	487,422	2.0
Rented	46.5	11,487	51,568	4.5
Free use	5.8	12,652	145,560	11.5

Source: HFCS Austria 2010, OeNB.

¹⁸ Gross annual income is made up of gross labor income (from employment and self-employment), investment income (from renting, interest, dividends, etc.), social transfers and private transfers. For details see Albacete et al. (2012).

Chart 11

Percentiles and Mean of Household Gross Annual Income

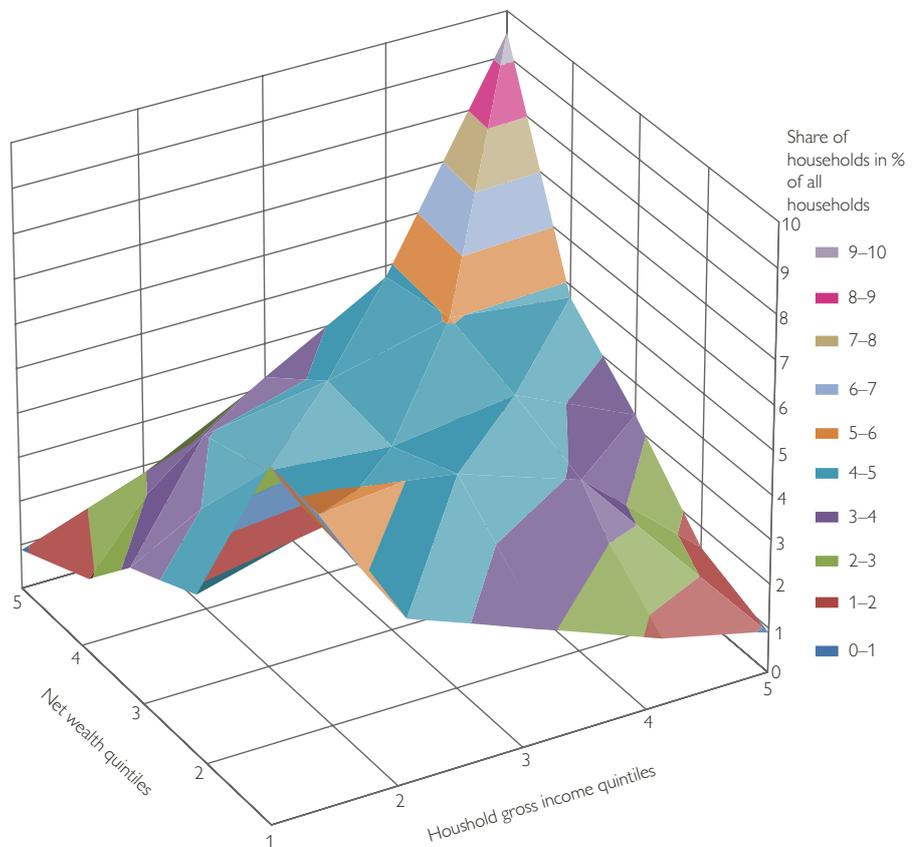


Source: HFCS Austria 2010, OeNB.

Chart 12 shows the combined distribution of income and wealth. We use net wealth quintiles and gross household annual income quintiles. We obtain 25 combinations (5 by 5 categories) to which all households can be assigned: The range is from households that belong to both the lowest income and the lowest wealth quintiles (front of the chart) to households that are in both the highest income and the highest wealth quintiles (back end of the chart). The back of the chart reveals that particularly numerous households with a high income also have high net wealth. The reverse is true for households with a low income; they often have low net

Chart 12

Combined Distribution of Income and Wealth



Source: HFCS Austria 2010, OeNB.

wealth too (front of the chart). The saddle in the center of the chart indicates that households that belong in a medium income and net wealth range are also relatively evenly distributed in the medium ranges of the other measure.

5 Risk-Bearing Capacity of Indebted Households

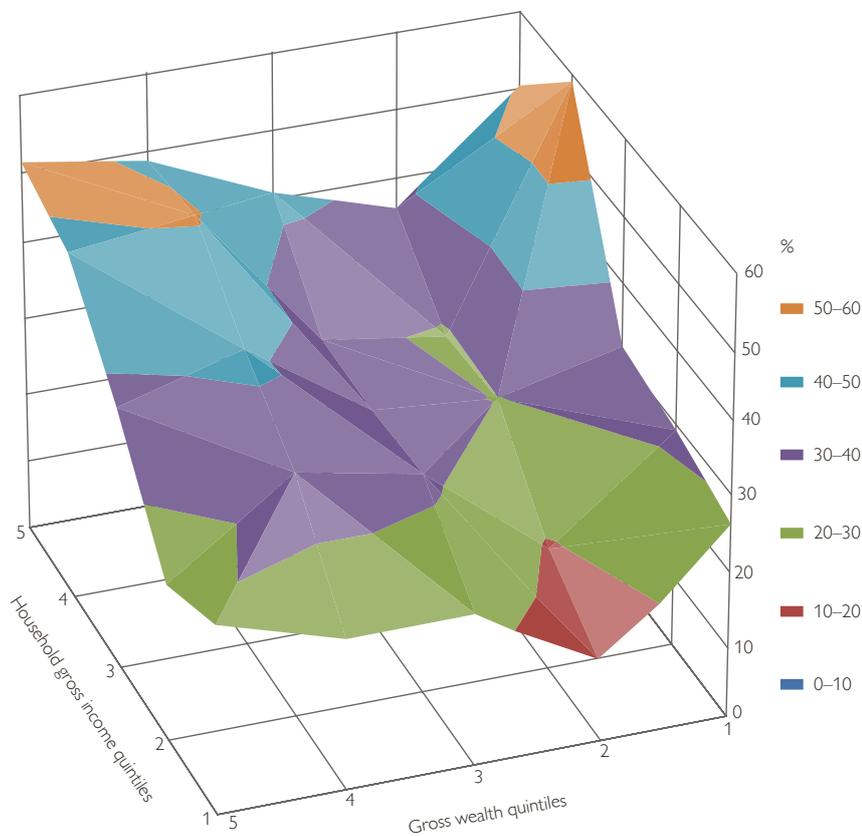
The most important measures of household debt with a view to financial stability are the debt level and the degree to which debt is covered by wealth and income.

Chart 13 shows the percentage of indebted households by gross wealth and income. It turns out that higher-in-

come households tend to hold debt with a higher frequency. There is a tendency that it is wealthy households that hold debt more frequently (back left), but there are also some low-wealth households that hold debt disproportionately often (back right). This debt tends to be uncollateralized, as otherwise there would be gross wealth in the form of real estate. These households use debt as a substitute for income and/or wealth. In other words, the purpose of debt here is to provide liquidity to finance the purchase of consumer goods. Finally, a small share of self-employed respondents say that they have uncollateralized debt for business purposes.

Chart 13

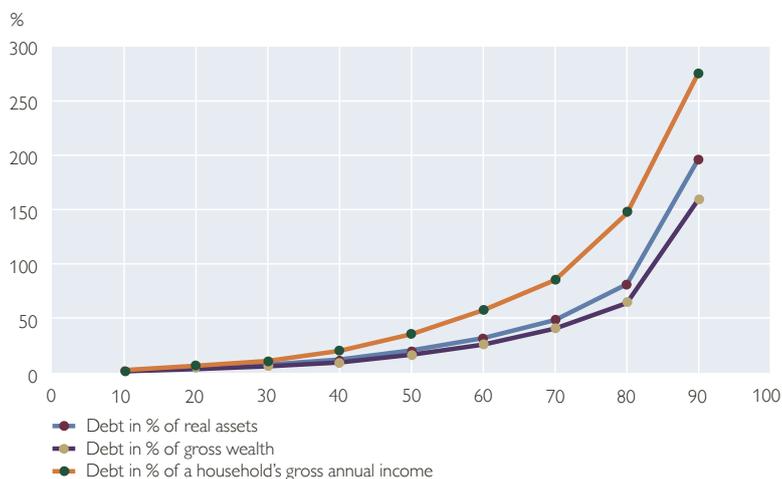
Share of Indebted Households by Income and Gross Wealth



Source: HFCS Austria 2010, OeNB.

Chart 14

Households with Debt: Percentiles of Selected Debt Measures



Source: HFCS Austria 2010, OeNB.

How much of a burden are these debts for the households? And how much leeway do households have in the event of a shock, e.g. loss of income, higher interest rates or exchange rate fluctuations in the case of foreign currency loans? To answer these questions, we compare the level of households' debt with their gross wealth, their real assets and their gross annual income. For each household, debt is calculated as a percentage of the respective wealth or income component. After ranking the resulting ratios by size, we estimate nine percentiles that categorize all households in ten equally sized groups, which range from households whose debt as a percentage of the respective wealth or income component is smallest to those whose debt as a percentage of the respective wealth or income component is largest.

Chart 14 clearly shows that a little less than 30% of indebted households

hold debt higher than their gross annual income. Less than 20% of households each have debt higher than their real assets or gross wealth respectively.¹⁹ Still, 10% to 20% of indebted households hold relatively high debt, which, on the one hand, might be a large burden for the households themselves and, on the other hand, could pose a risk to financial stability.

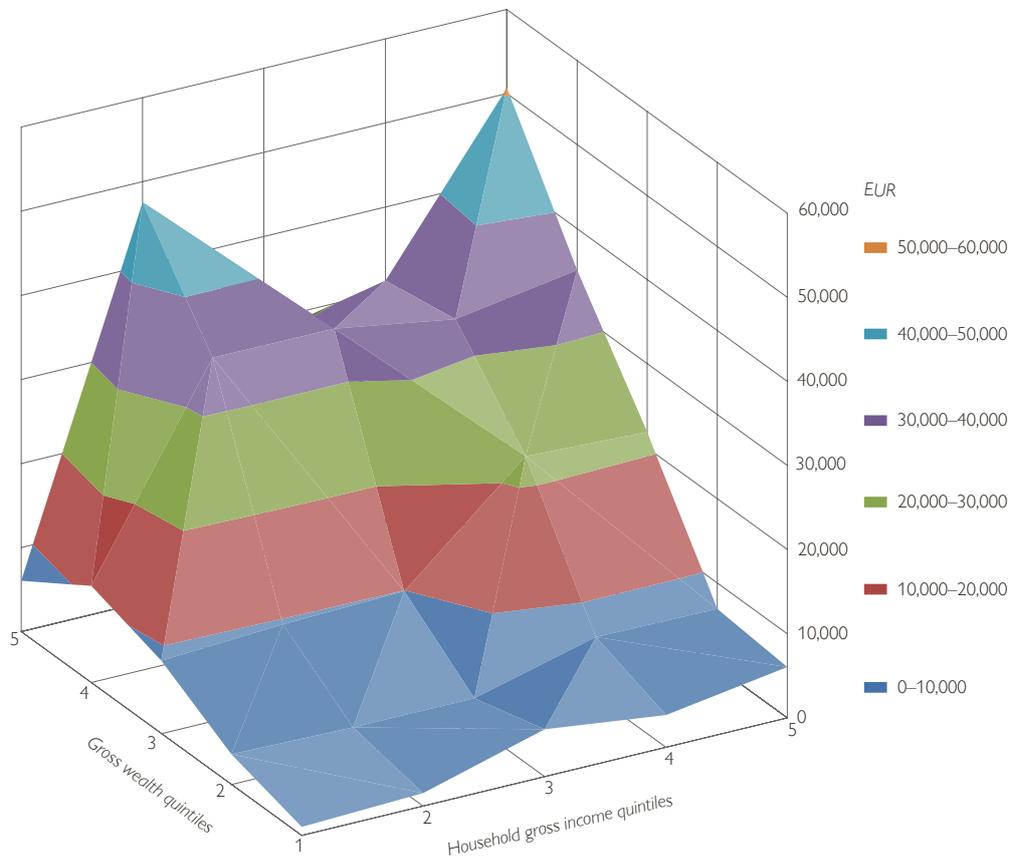
To gain a better understanding of this issue, we now look at households' debt levels in relation to their income and gross wealth. Chart 15 shows the level of households' debt (median values), clearly illustrating that the debt level rises sharply with wealth. After all, people often take on debt to purchase their homes. Accordingly, in the two lowest gross wealth quintiles, the median debt levels remain below EUR 10,000 across all income quintiles. They increase notably in the fourth and fifth gross wealth quintiles, reaching a median of over EUR 50,000 in the fifth wealth quintile. While in the high-income quintiles a disproportionately large share of households hold debt (see chart 13), the level of this debt is mainly correlated with wealth. This illustrates the fact that in Austria, large debt is hardly ever connected to the purchase of consumer goods. Instead, it is almost exclusively associated with the purchase of a home or other real assets.

Austrian household debt poses a relatively low risk to financial stability, given that debtors – unlike, e.g., in general in the U.S.A. – are liable for their debts with all their assets and even future income. Moreover, only a small share of households is indebted at all, and those who hold relatively large debt

¹⁹ Computing this relationship for households that have debts but no real assets or gross wealth is impossible. Therefore both distributions are distorted to the right, that is, there are in fact more than 10% of households with higher ratios than the 90th percentile shown in the chart. However, the distortion is marginal especially with regard to gross wealth.

Chart 15

Level of Debt (Median) by Income and Gross Wealth



Source: HFCS Austria 2010, OeNB.

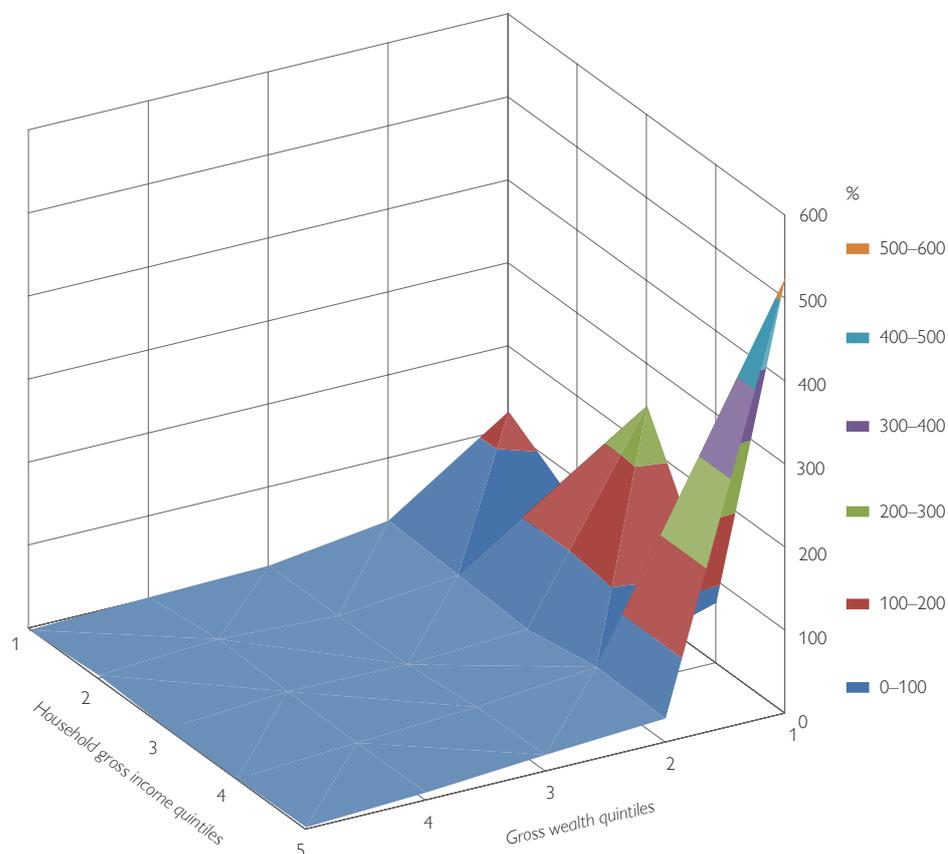
usually hold enough wealth to cover it. In general, people do not use debt as a substitute for income or wealth but to accumulate wealth.

Chart 16 illustrates this point even more clearly, showing debt as a percentage of gross wealth. While the absolute debt level rises sharply with gross wealth,²⁰ the relative debt level declines steeply. While in the lowest gross wealth quintile there are debt levels of more than 500% of gross wealth, these levels fall well below 50% starting from the second gross wealth quintile and well below 25% from the third gross

wealth quintile. Even though the high ratios in the lowest quintile are attributable to a combination of relatively low debt (see chart 15) and even lower gross wealth and therefore do not pose a risk to financial stability, they can still be a substantial burden for the households affected. The high debt levels of indebted households in higher gross wealth quintiles (see chart 15), too, are hardly a danger to financial stability, as this debt is largely covered by even larger wealth that is available to the households and the banks concerned, if need be.

²⁰ It must be noted that the fact that there are households with positive debt but without gross wealth (footnote 19) implies the existence of households with infinitely high ratios in the lowest gross wealth quintile.

Debt-to-Gross Wealth Ratio (Median) by Income and Gross Wealth



Source: HFCS Austria 2010, OeNB.

While the risk to financial stability from household debt in combination with their wealth is low, debt can be a substantial burden for the households in question. The 25 medians provide a detailed picture of indebted households and hence allow an assessment of the overall risk to financial stability. We see that only small groups of highly indebted households can still create problems in the financial market, if this debt is concentrated in certain banks or regions.

A qualification to this analysis, however, is that it is based on current wealth figures, which may change with economic conditions.

The HFCS data allow a more detailed analysis of households' risk-bearing

capacity, but such an analysis would have been beyond the scope of this first paper.

6 Inheritances

People acquire wealth in two ways: They either save from their income or they obtain wealth from other persons. The latter includes transfers in the form of gifts or inheritances. Transfers of wealth and the accumulation of wealth are reciprocally related. Inheritances and gifts play a key part in creating wealth, and accumulated wealth, in turn, provides the basis for gifts and inheritances.

Inheritances are transfers of wealth that usually take place between generations within a family. The concept of

inheritance must also be considered in the context of parents' gifts and investments in their children's education. Gifts are made less frequently and are usually of a lower value than inheritances. There is a positive relationship between inheritances and gifts. People whose parents were able to support them financially already during their lifetime also stand a better chance of inheriting. Usually people receive gifts much earlier in life than inheritances. Furthermore, compared with inheritances, gifts are distributed more evenly in terms of a person's lifetime.

The issue of inheritances for many people touches upon several taboos. Usually the increase in wealth by inheriting goes hand in hand with bequeavement, conferring an ambivalent note on inheritances. This, in turn, affects respondents' reactions to questions on inheritances, which sometimes seem inappropriately intimate. People often refuse to respond to questions on the size of inheritances. In addition, there are a number of other difficulties involved in the collection of data on inheritances, which have to be taken into account when interpreting the results. For instance, people may not fully remember the absolute size of gifts or inheritances. Memory lapses (causing a recall bias) are more frequent when a respondent received an inheritance a long time ago. Respondents may have forgotten the value of inheritances or the year when they received them. Furthermore, we cannot expect all respondents to make a clear conceptual distinction between inheritances and gifts.

Wealthier households, for whom inheritances are of crucial significance, are generally underrepresented in household surveys; and those who are included are more likely to withhold responses. The percentage of households that refuse to make statements on

the value of their inheritances rises in line with the size of their wealth. This demonstrates the problem of household surveys mentioned above: Nonresponses are far more common among households with greater wealth than among those with a lower level of wealth. Therefore we can assume that the inheritances captured in household surveys underestimate the entire volume of inheritances and that inheriting is indeed significant in the accumulation of wealth.

To keep things simple, we show and analyze also the data on inheritances on the level of households. Moreover, we look at inheritances and gifts together but will not identify the source of the inheritances or gifts.

Responses concerning the absolute size of inheritances must be interpreted with caution. The value of real estate changes in a different way than the value of financial assets. Hence, general price adjustment methods only help obtain proxies for the actual values. Moreover, changes in real estate prices follow different regional patterns and can vary quite a lot within a closely delimited area. Value adjustments are particularly difficult in the case of inherited real estate, as changes in value differ strongly from property to property, depending on location, the building stock, extensions and many other factors. If inheritances included financial assets and property, it would be necessary to establish or assume separate price paths for stocks, business investments, mutual fund shares, holdings on savings books, cash, property, life insurance plans, etc., but we do not have a sound basis of data for drawing up such paths. Assuming an average real interest rate is problematic in principle, as this interest rate may apply to some periods but not to others. Households may have inherited more than once; also differ-

Table 8

Inheritances and Gifts

	Participation	Median	Mean	Mean-to- median ratio
	%	EUR		
Main residence	15.2			
simple value		101,740	162,512	1.6
present value ¹		163,092	279,515	1.7
All inheritances	35.4			
simple value		63,836	148,670	2.3
present value ¹		99,526	241,753	2.4

Source: HFCS Austria 2010, OeNB.

¹ We apply the CPI for calculating present values.

ent households inherit at different points in time. In order to be able to compare such inheritances with each other, we would have to convert the values provided in the survey. In the literature it is common to assume real interest rates of approximately 2% to 3% p.a. for value increases. Still, it remains unclear whether increases in value should be considered to be a part of the inheritance.

In this report, we use the following two types of presentation:

- (i) **Simple value:** The sum of the values of inherited assets is shown as indicated by respondents. A gain in value is not assumed.
- (ii) **Present value:** The values of inherited assets are extrapolated using the consumer price index of the year the HFCS 2010 was conducted. Next, these values are totaled.

At the survey date, some 35% of Austrian households had already received an inheritance or gift. About 15% (43% of all households that have inherited) have inherited (among other things) their main residence, which, hence, represents the most important category in terms of overall value. The mean value of inherited main residences is around EUR 280,000 (present value), the median is about EUR 163,000 (present value). If all inheritances (in-

cluding main residences) are taken into account, the mean and the median decrease to around EUR 242,000 and around EUR 100,000, respectively (table 8).

The inheritance ratio increases across age groups up to the group of 50-to 64-year-olds (table 9). As life expectancy rises with age, inheriting tends to play a larger role when people are retired. Older people have simply had more time to inherit and a higher probability that their parents or grandparents had died. After a certain age, the inheritance ratio decreases, which could be due to a cohort effect (World War II generation) or to the fact that old people are more likely to have forgotten inheritances or gifts. Also, wealthy people may perceive smaller amounts to be insignificant and for this reason do not mention them.

The share of households that have inherited increases from quintiles 1 through 5 (table 10). In the highest net wealth quintile, about 65% of households have inherited, while in the lowest quintile, this share is only some 10%. Likewise, the value of inheritances increases across quintiles. This is due to the fact that first, the inheritance becomes – at least to some extent – part of households' wealth, and second, wealthier households receive sig-

Table 9

Inheritances and Gifts by Age of the Reference Person

	Share of inheriting households	Median		
		Present value	Present value in % of gross wealth	Present value in % of gross annual income
		%	EUR	%
16–29 years	15.2	35,559	40.5	78.9
30–39 years	34.2	96,825	49.4	218.6
40–49 years	35.9	106,666	43.9	187.6
50–64 years	43.5	120,146	49.6	263.4
65–74 years	37.1	83,519	56.4	291.0
75 years and over	35.1	77,326	70.0	268.2

Source: HFCS Austria 2010, OeNB.

nificantly larger inheritances. Here lies one of the main reasons for the persistence of wealth distribution across generations.

The relative share of inheritances in households' total wealth decreases considerably with rising wealth. While inheritances increase across net wealth quintiles in absolute terms, their relative share as a percentage of total wealth decreases. In other words, in the lower wealth quintiles, inheritances are relatively more important than in the higher wealth quintiles. In the topmost quintile, the present value of inheritances accounts for only about 36% of

gross wealth. We observe the opposite trend across quintiles in terms of gross annual income, which mirrors differences in absolute terms in present values. While households in the bottom-most net wealth quintile have received a median inheritance of only about EUR 14,000, households in the top-most quintile received a median EUR 237,000. This analysis does not account for potential differences in the purpose for which inheritances are used (for consumption or saving), however. The Austrian HFCS data do not provide information on how inheritances are used.

Table 10

Inheritances and Gifts by Net Wealth Quintiles

	Share of inheriting households	Median		
		Present value	Present value in % of gross wealth	Present value in % of gross annual income
		%	EUR	%
1	9.6	14,072	317.2	76.3
2	16.1	14,598	83.4	62.2
3	38.6	51,890	60.6	187.0
4	47.9	114,599	53.6	269.4
5	64.7	236,516	35.7	388.8

Source: HFCS Austria 2010, OeNB.

7 Saving

The HFCS asks households not only in detail about their financial and real assets but also about their motivation for saving and accumulating wealth. This report provides only a brief overview of households' reasons to save.

Table 11 provides a breakdown of households by the main purposes of saving as identified in the HFCS. Most, but not all households said that provision for unexpected events was their main reason to save. Depending on the purpose of saving indicated by the respondents, there are significant differences in the level of net wealth, gross annual income and age. Those who save mainly for unexpected events in relative terms have lower incomes and less wealth, and they are comparatively older. Wealthier people and higher-income earners save for old age, even though they are comparatively younger. Those saving to fund their children's or grandchildren's education or to support them have considerable wealth and the highest incomes by comparison. The small group saving for paying debts are the wealthiest and those with relatively high incomes. The group saying that they save primarily for holidays have particularly low incomes. We can

therefore see that the purpose of saving depends on a household's resources.

8 Consumption

Private consumption is a variable that is difficult to capture in household surveys as it is very complex. While valuation is difficult in analyzing wealth, completeness is a potential problem in capturing consumption. Consumption fluctuates frequently, and it is crucial to clearly distinguish between regular expenses and extraordinary purchases. Households have many small expenses, e.g. to buy food, and a few large expenses, e.g. to buy a car or a TV. Lower-income households spend almost their entire income on everyday consumption (food, energy, housing, etc.), which accounts for only a small share of higher-income households' consumption expenses whereas more money is spent on larger, fairly rare purchases.

The time horizon of the questions on consumption expenses is relatively short (the past 12 months). Therefore, there is a smaller risk of people having forgotten purchases they had made a long time ago, a common problem in questions on inheritances and gifts. Nonresponse is much less common on questions on consumption than on

Table 11

Purposes of Saving

	Share of households	Median		
		Net wealth	Gross annual income	Age of reference person
Most important motivation for saving	%	EUR		years
Provision for unexpected events	42.3	62,312	28,915	56
Old-age provision	12.7	98,619	39,150	51
Education/support of children or grandchildren	9.6	110,050	46,441	47
Travels/holidays	8.5	22,565	28,704	43
Purchase of own home as main residence	6.3	54,232	44,054	37
Other major purchases (other residences, vehicles, furniture)	8.0	55,466	30,244	47
Paying of debts (e.g. repayment vehicles)	5.0	205,668	41,166	44
Other (bequests, financing business investments, etc.)	7.5	90,760	25,701	54

Source: HFCS Austria 2010, OeNB.

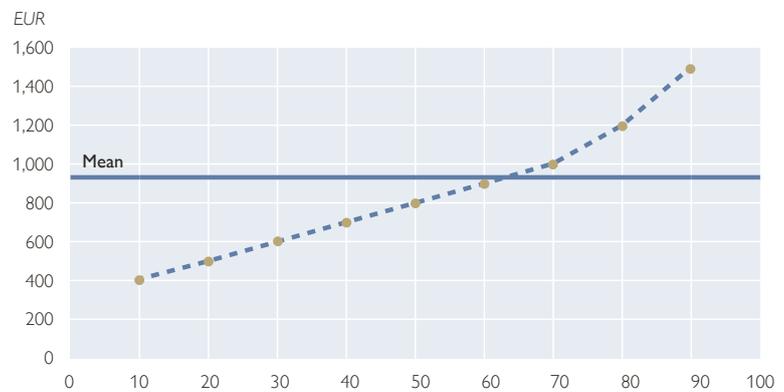
questions concerning wealth or income. As a rule, households consider information on consumption habits to be less sensitive than information on income and wealth.

Chart 17 shows monthly consumption expenses as estimated by households, excluding housing costs, loan repayments, insurance premiums and one-off payments such as vehicle purchases). Like for charts in section 3, we estimate nine percentiles that classify consumption expenses by amount into ten equally sized groups of households. 20% of households spend less than some EUR 500 per month on consumption, 70% less than about EUR 1,000. Consumption expenses very much depend on the number of persons living in a household. What becomes clear, at any rate, is that monthly consumption is significantly less unequally distributed than income and wealth. This shows that lower-income and less wealthy households spend more on consumption relative to their income (and wealth) than higher-income and wealthier households.

9 Summary

This report provides a first overview of the results of the Eurosystem HFCS in Austria, the central objective of which is to create a complete financial balance sheet of households, providing a picture of the financial situation of households. The HFCS covers households' real assets, financial assets and debt as well as a broad range of socio-economic characteristics, thereby providing for the first time data to calculate Austrian households' net wealth. It is an extensive data source to examine a wide range of issues in monetary policy and financial stability; apart from that, HFCS data can be used to analyze gen-

Chart 17
Monthly Consumption Expenditure excluding Housing Costs



Source: HFCS Austria 2010, OeNB.

Note: Rent, taxes, financial payments (e.g. loan repayments, insurance premiums, payments into pension plans, etc.) and one-off payments (e.g. for purchasing valuables, cars, major household appliances, furniture, etc.) are not taken into account.

eral economic policy issues. This first report, together with the methodological notes²¹ and the information published at www.hfcs.at, is to provide a starting point for conducting research on the basis of HFCS data.

The main results of the first HFCS results for Austria are as follows:

The distribution of the individual components of net wealth varies considerably. While almost all households (about 97%) hold financial assets, less than one-half of Austrian households own (part of) their main residence (about 48%). Only about 36% of households have debt, most commonly in the form of collateralized loans to finance the main residence. The amount of real assets exceeds that of financial assets held by households. The real asset item that is particularly unequally distributed is investments in self-employed businesses. As regards households' financial assets, riskier investments with lower participation rates belong to the relatively unequally distributed investment instruments.

²¹ See *Albacete et al. (2012)*.

All in all, the distribution of net wealth in Austria is very unequal. One-tenth has less than some EUR 1,000, but 10% have more than about EUR 542,000 in net wealth. A household's wealth tends to increase with age, income and education. Debt is usually held by wealthy and high-income households. Households most likely to suffer under their debt burden are those with uncollateralized loans and comparatively low debt.

One of the most important sources of wealth is inheritance. 35% of Austrian households have already received inheritances or gifts. Both the frequency and the amount of inheritances increase markedly with net wealth. Still, the smaller inheritances account for a much larger share of the total wealth of the less well-off households.

A plurality of households (about 42%) saves to provide for unexpected

events. The second most common motivation is provision for old age, which is the most important purpose of saving cited by about 13% of households. The reasons for saving are very much determined by a household's wealth. We see that consumption is distributed much less unequally than wealth.

The quality of the compilation methodology is crucial in order to obtain useful results from a household survey as complex as the HFCS. In particular, much attention was paid to in-depth training for interviewers, careful sampling, and data editing, exact weighting, elaborate imputation methods and transparent documentation.²² This notwithstanding, the HFCS underestimates the inequality of the distribution of wealth in Austria, and the problem of inadequate statistical coverage of the wealthy persists.

Annex

Monetary Policy & the Economy Q3/12 – Addendum: Methodological Notes¹

The Household Finance and Consumption Survey (HFCS) gets its data from face-to-face interviews conducted by specially trained interviewers with members of the participating households on the basis of a questionnaire that has been harmonized across the euro area. For the HFCS in Austria, a stratified two-stage cluster sampling design has been developed, which was used to draw a sample of 4,436 addresses (gross sample) in accordance with the HFCS definition of households. Additional information available on the addresses was used for weighting to reduce distortions caused by nonparticipation. The households willing to participate identified at 2,380 addresses (net sample) provided extensive information in the interviews about the household and the persons living in the household. Far-reaching reviews, plausibility checks and – if deemed necessary – follow-up investigations and editing measures were carried out during and/or after the process of data compilation to ensure the quality of data. Multiple imputations using an iterative Bayesian chained equations approach were carried out with the aim of reducing distortions caused by nonresponse to specific questions and facilitating data analysis. In addition, the calculation of replicate weights allows correct variance estimations, thereby ensuring that the uncertainty resulting from the complex sample design and the imputations is taken into account.

The addendum to Monetary Policy & the Economy Q3/12 contains detailed information on the methodological notes of the HFCS.

¹ Albacete, N., Lindner, P., Wagner, K., and Zottel, S. 2012. Eurosystem Finance and Consumption Survey 2010. Methodological Notes. Monetary Policy & the Economy Q3/12 – Addendum.

²² See Albacete et al. (2012).

Table A1

Mean Values and Percentiles of Net Wealth and Its Components

	Real assets		Financial assets		Debt		
	Value > 0	Component exists	Value > 0	Component exists	Value > 0	Component exists	
<i>Share of households in % of all households</i>							
	100.0	84.6	84.8	97.3	99.5	35.6	35.6
<i>EUR</i>							
Mean	265,033	277,925	277,372	47,991	46,926	47,015	47,015
10 th percentile	977	2,634	2,503	947	619	553	553
20 th percentile	6,086	6,150	6,100	3,060	2,615	1,946	1,946
30 th percentile	14,992	14,598	14,411	5,776	5,314	3,954	3,954
40 th percentile	34,731	47,159	46,233	8,981	8,319	7,704	7,704
Median	76,445	107,618	106,988	14,071	13,469	13,777	13,777
60 th percentile	139,614	166,815	166,452	21,327	20,535	23,148	23,148
70 th percentile	208,435	224,459	224,459	34,035	33,138	38,414	38,414
80 th percentile	310,837	308,763	308,051	53,028	52,082	67,346	67,346
90 th percentile	542,163	534,401	533,178	105,284	103,928	124,111	124,111

Source: HFCS Austria 2010, OeNB.

Note: "Value>0" includes all households that have a strictly positive value of wealth in the respective component. "Component exists" includes additionally those households that have the respective component and that assign a value of 0 to this component (e.g. a household with only one sight account that has a negative balance of -100, which is recorded with a value of 0 for financial wealth and a value of 100 for debt).

Table A2

Variance Estimation: Subcomponents of Net Wealth

	Participation %	Standard error
Real assets		
vehicles	74.9	1.204
main residence	47.7	1.335
other valuables	23.6	1.285
other real estate property	13.4	0.954
investment in self-employed businesses (incl. farms)	9.4	0.767
Financial assets		
sight accounts	99.0	0.194
savings accounts	87.1	0.879
savings plans with building and loan associations	54.7	1.279
life insurance contracts	38.0	1.290
money owed to household	10.3	0.804
mutual funds	10.0	0.784
stocks	5.3	0.550
bonds	3.5	0.396
other financial assets	2.3	0.389
Debt		
collateralized debt	18.4	1.049
main residence	16.6	0.957
other real estate property	2.4	0.378
uncollateralized debt	21.4	1.174
overdrafts	13.6	0.927
uncollateralized loan	11.1	0.861
outstanding balance on credit cards	1.5	0.302

Source: HFCS Austria 2010, OeNB.

Table A3

Variance Estimation: Mean and Median of Net Wealth and Its Components

	Mean		Median	
	Estimator	Standard error	Estimator	Standard error
<i>EUR</i>				
Net wealth	265,033	47,848	76,445	10,961
Real assets (component exists)	277,372	60,516	106,988	7,464
Financial assets (component exists)	46,926	6,682	13,469	859
Debt (component exists)	47,015	11,315	13,777	3,153
Gross annual income	43,929	3,211	32,296	1,154

Source: HFCS Austria 2010, OeNB.