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**Working Paper**

## Inherited advantage: The importance of inheritance for private wealth accumulation in Europe

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MPIfG Discussion Paper 16/11

**Inherited Advantage**

The Importance of Inheritance for Private  
Wealth Accumulation in Europe

Philipp Korom



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**Inherited Advantage: The Importance of Inheritance for Private Wealth Accumulation in Europe**

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## Abstract

This study examines from a cross-national perspective the importance of inheritance as a source of private wealth accumulation. Multivariate econometric analyses of harmonized survey data obtained from 11 European countries reveal that inheriting households own considerably more wealth than non-inheriting households, all other things equal. The wealth gap between households who received lifetime gifts or bequests and those who did not varies hugely along the distribution of net wealth. At the median, the wealth gap reaches about 112,000 euros and increases beyond 517,000 euros at the 90th percentile. With regard to the very top percentiles, survey data even suggests differences in wealth levels greater than 1 million euros. Furthermore, the study finds evidence that wealth transfers contribute more to wealth accumulation than higher incomes do. Depending on the respective social position of a household, a gain of one percentile in income distribution entails an increase of between 0.1 and 0.6 percentiles in net wealth, whereas wealth transfers can raise the net wealth of the receiving households by as much as 27 percentiles. These findings suggest a decisive role of intergenerational transfers for the financial well-being of households. Kinship is (again) key to wealth accumulation in Europe.

## Zusammenfassung

Dieser Beitrag untersucht aus einer international vergleichenden Perspektive die Bedeutung von Erbschaft als Quelle privater Vermögensbildung. Multivariate ökonomische Analysen harmonisierter Umfragedaten zu 11 europäischen Ländern zeigen, dass Erben-Haushalte bei gleichen Bedingungen über erheblich mehr Vermögen verfügen als Haushalte ohne Erbe. Die Vermögensunterschiede zwischen Haushalten mit Erbe oder Schenkungen und Haushalten, die keine derartigen Vermögenstransfers erhalten haben, variiert stark entlang der Verteilung des Nettovermögens. Am Median macht die Differenz etwa 112.100 Euro aus und steigt auf etwa 517.000 Euro am neunzigsten Perzentil. Mit Blick auf die obersten Perzentile zeigen die Umfragedaten sogar Vermögensunterschiede von mehr als einer Million Euro. Die Studie findet auch Belege dafür, dass der Beitrag von Vermögenstransfers zum Vermögensaufbau größer ist als jener, der aus höheren Einkommen resultiert. Abhängig von der jeweiligen Position eines Haushalts in der Nettovermögensverteilung geht ein Aufstieg um 1 Perzentil in der Einkommensverteilung mit Zuwächsen von 0,1 bis 0,6 Perzentilen in der Nettovermögensverteilung einher. Indes können Vermögenstransfers die Position von Haushalten in der Nettovermögensverteilung um bis zu 27 Perzentile erhöhen. Alle Ergebnisse legen nahe, dass Vermögenstransfers eine Schlüsselrolle für das finanzielle Wohlergehen von Haushalten spielen. Die familiäre Herkunft ist (wieder) entscheidend für die private Vermögensbildung in Europa.

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# Inherited Advantage: The Importance of Inheritance for Private Wealth Accumulation in Europe

## 1 Introduction

Until recently, social sciences have paid very little attention to the analysis of wealth (concentration). This can be partly explained by the widespread belief that social inequality stems first and foremost from different reward packages that are attached to skill-based occupational groupings in modern capitalism (Grusky/Ku 2008). Contemporary inequality research, however, increasingly turns to wealth as a powerful determinant of social stratification. Most indicative for this trend reversal is the landmark work by the French economist Thomas Piketty.<sup>1</sup> Piketty's (2014) central argument in *Capital in the Twenty-First Century* is that we are currently evidencing the slow resurgence of "patrimonial capitalism": despite a substantial democratization of wealth with an increasing accumulation of property by the middle class, capitalism is again marked by extreme wealth inequalities and an increasing importance of inherited wealth. The share of wealth held by the top 0.1 percent of US families is, for example, today almost as high as it was in the late 1920s (Saez/Zucman 2016). However, the difference is that the "working rich" and the "coupon-clipping rentiers" now appear to "co-habit" at the very top (Atkinson/Piketty/Saez 2011). In most countries, at least 50 to 60 percent of the wealth held in private hands is derived from intentional wealth transfers passed from one generation to the next (Piketty/Zucman 2015).

The focus of this paper is on inherited wealth in Europe. It must be emphasized from the start that administrative information for probing the role of wealth transfers is rare, other than the exceptional French data used first by Piketty (2011). The reason for this is due not the least to the fact that many European countries have abolished their inheritance tax (DICE Database 2015). The few other existing sources of tax data suffer from the shortcoming that only large estates are taxed (Atkinson 2013). Because of scarce administrative data on private wealth, the topic of wealth transfer has long been almost a black box in the study of wealth accumulation. This is particularly unfortunate, since unique evidence from Sweden, a country with exceptionally rich historical data on private finances, suggests that direct transfers from parents (and grandparents) explain up to three-fourths of wealth persistence across multiple generations (Adermon/Lindahl/Waldenström 2015).

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1 It should be noted that increased attention to wealth in sociology preceded that evident in economics. Wilterdink (1995) argued, for example, that the increasing wealth inequality since the 1970s should not be theorized as a short-term fluctuation but rather as an important trend reversal in the development of Western societies.

The article ventures to examine the importance of gifts and bequests (collectively “wealth transfers”) for wealth accumulation in Europe from a cross-national perspective using recently released survey data. The Eurosystem’s Household Finance and Consumption Survey (HFCS) is not only representative of its different member states but is also ex-ante harmonized (HFCS 2013).<sup>2</sup> We will address the following key questions: How large is the wealth gap between households who received wealth transfers in the past and those who did not, and how does this gap vary along the entire net wealth distribution, that is, to what extent do wealth transfers contribute to wealth accumulation in the case of the have-nots, have-littles, and have-lots?

All empirical insights derived from the following study on Europe favor the thesis that gifts and bequests are the major force behind private wealth accumulation in Europe: inheriting households fare better than non-inheriting households along the entire spectrum of wealth distribution. Interestingly, wealth transfers are not only a guaranteed catapult to continued wealth in the case of the wealthy. Receiving wealth transfers also constitutes the main avenue for better social positions in the case of middleclass households. Overall, the effect of wealth transfers on wealth accumulation is considerably stronger than that of higher incomes.

These results run counter to previous survey-based wealth research on Europe that attributed equal importance to income generated in the labor market and intergenerational transfers of economic resources (Semyonov/Lewin-Epstein 2013). This study, in contrast, suggests that the main social mechanisms underlying the accumulation of wealth in Europe are family practices.

## 2 Theoretical background and hypotheses

How important are (intergenerational) wealth transfers in Europe for building up one’s stock of private wealth? Put differently, is personal wealth first and foremost the result of a person’s own efforts or is it founded on inheritance? Research on the relative importance of inheritance has a long tradition. However, with the exception of studies on Scandinavian countries and France (Ohlsson/Roine/Waldenström 2014; Piketty 2011), the literature does not give clear answers. Besides reviewing the existing literature, we will present an alternative, methodological approach rarely applied in the social sciences to examine the impact of wealth transfers in present-day European societies. The

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2 Comparative wealth research used to be severely plagued by a lack of ex-ante harmonization. Core questionnaires, the definition of wealth, and the methodologies of collecting and processing data differed hugely between countries. In the case of the Luxembourg Wealth Study (LWS), formerly the only representative survey available for international comparisons, preexisting national sources were only ex-post converted into a harmonized data format, which could not fully resolve the comparability problem (Sierminska/Brandolini/Smeeding 2006).

main contribution of this approach is that the inheritance–wealth nexus is tackled in a framework that allows us to look beyond the abstract average effect by probing the tangible effect of gifts and bequests on wealth accumulation along the entire spectrum of wealth distribution from the bottom to the top.

### What's the share of inherited wealth?

There are basically three ways through which wealth can be accumulated: earned labor income, capital income, and wealth transfers. The allegedly most widespread view is that private wealth is generated by excess of earnings over expenditures (“life-cycle wealth”). Empirically, however, wealth turns out to be weakly correlated with income (Jäntti/Sierminska/Van Kerm 2013). The relationship is profoundly mitigated by asset portfolio choices, life-cycle effects, and intergenerational transfers. One does not necessarily have to adopt a Marxian perspective on wealth to posit that “capital is not [only] a thing but a process in which money is perpetually sent in search of more money” (Harvey 2010: 40). Financial and real estate assets are sources of wealth themselves. If saved, income from interests, dividends, rents, and price gains contribute to private wealth. A third way to increase wealth is simply to be given it. Newly gained insights into the intergenerational mobility of wealth speak in favor of a profound stability of wealth levels between generations. In their study, for example, Clark and Cummins (2015) report substantial correlations between the wealth of family members five generations apart. In a related vein, simulation studies show that bequests are more suited than other explanatory factors, such as the transmission of earnings ability, to account for the emergence of large estates and the extreme unequal distribution of wealth (De Nardi 2004).

There are roughly two channels parents use to make financial transfers to their children: inter vivos gifts and inheritances post mortem, both types of transfer being known to be positively correlated with each other (Nordblom/Ohlsson 2011; Klevmarken 2004). Quantitatively, inheritances are the more important component of wealth acquisition (Gale/Scholz 1994) even if the bestowal of gifts has increased over the last decades (Pestieau 2003).

Research on the question whether people should be considered to be primarily life cyclers or inheritors has produced mixed findings. Controversy surrounds not only the issue about what should be counted as wealth transfer but also about the exact way capital gains received on past wealth transfers should be incorporated into the current value of wealth. The potential for disagreement is best illustrated by the “Kotlikoff/Summers–Modigliani controversy” that eventually fell into a discursive gridlock (Kessler/Masson 1989). Kotlikoff and Summers (1981) claimed first that 80 percent of wealth is related to intergenerational wealth transfers with the remaining 20 percent resulting from life-cycle accumulation. Modigliani (1986) argued the exact opposite by estimat-



ing the share of transfer wealth to be less than 20 percent of total wealth. The huge discrepancy resulted mostly from different accounting definitions.<sup>3</sup> The debate sparked new research producing a significant strand of contributions. Gale and Scholz (1994) analyzed the lower bound of intergenerational linkages to wealth accumulation by considering intentional inter vivos transfers in particular. On the basis of the 1983 SCF data (Survey of Consumer Finances), they concluded that such transfers account for at least 20 percent of total wealth and more than 50 percent if bequests are included.<sup>4</sup> Wolff (1999) developed a simulation model to explain the observed changes in household wealth over the 1960–1990 period in the United States. By simulating assumed bequests between parents and children, he established that two-thirds of the growth in household wealth is accounted for by intergenerational transfers. Recently, Piketty, Postel-Vinay, and Rosenthal (2014) proposed a model which can track the way inheritances either grow or shrink through consumption, failed investments, or other causes. While the share of inherited wealth in total wealth was 45 percent in France in the 1970s according to Piketty, his calculations suggest that it is today close to 70 percent and may stabilize at 80 or 90 percent, which is a level similar to that at the start of the twentieth century (Piketty 2014: Figure 11.7).

Despite various methodological refinements, most estimations are plagued by significant uncertainty because of data limitations. While detailed Swedish and French estate data facilitate a rather exact identification of the inherited part of wealth, scholars of stratification in most European countries only have survey data at their disposal. Sample survey estimates, however, seriously suffer from underreporting because households typically tend to understate the value of inherited wealth so as to give the impression that they earned their wealth (Alvaredo/Garbinti/Piketty 2015). What is more, no consensus has yet emerged on the best way to calculate the present value of inheritance reported in surveys. A commonly used method (e.g., Klevmarken 2004) is to assume an average real interest rate, but this method disregards the asset-, country- and time-specific returns on capital and thus most likely yields unreliable results in a comparative study such as ours.

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3 Kotlikoff and Summers reported capitalized past bequests while Modigliani, by definition, measured the share of non-capitalized past bequests in total wealth, accounting for inflation but otherwise assuming that any capital returns are consumed away. For further conceptual differences, see Gale and Potter (2003).

4 Bequests are not necessarily intentional or desired. Individuals may save for precautionary reasons and then die (early) without having spent their net worth, thereby unintentionally leaving money or property to their heirs.

## What's the impact of inheritance on wealth accumulation?

A way out of the current impasse between the aspiration to determine the exact share of inherited wealth and the lack of sufficiently accurate survey data is to concentrate on how wealth transfers actually play out. The more vital question thus becomes whether and to what extent heir-households differ from non-heir households, if all else is equal.

The difference is likely to be small if inherited wealth is predominantly used for consumption and not stashed away or invested. If saved, wealth transfers are especially likely to make a difference (*hypothesis 1*). Even if it might appear evident that gifts and bequests add to the current stock of wealth, the empirical evidence is not unanimous. Danish administrative data has enabled research probing into the long-time effects of intergenerational wealth transfers; such data reveal that heirs deplete their excess of wealth in the long run by slack saving efforts and increasing consumption (Martinello 2016). Studies on other countries come to opposite conclusions. Findings by Joulfaian (2006) on the United States suggest, for example, that the wealth of heirs increases less than the full amount of the inheritance received. In a similar vein, Zagorsky (2013) estimates that roughly half of all money inherited is saved and the other half spent or lost.

Persisting differences between households that receive gifts and bequests and those that do not might also stem, at least partly, from different individual-level and household-level characteristics or income streams. Once these alternative explanatory factors have been controlled for, small changes in the wealth differential can be considered as additional evidence for the pivotal role of wealth transfers.

Moreover, what is missing in the current state of knowledge is firm evidence showing the impact of inheritance on wealth accumulation over the whole social spectrum. Previous studies focused on the overall population and limited themselves to the average effect of inheritance (e.g., Semyonov/Lewin-Epstein 2013). In reality, the effect is likely to vary between have-nots, have-littles, and have-lots, not at least because these households differ in their ability to save. Today we have reliable knowledge on the extreme unequal distribution of wealth transfers: about 60 percent of all deceased leave an estate. However, only an elite group of less than 10 percent receives the bulk of the wealth being transferred (Szydlik 2004). Given this distributional pattern, a further hypothesis that begs to be tested is whether wealth transfers constitute a significant dividing line at the top of the distribution scale (*hypothesis 2*).

The most important unanswered question concerns the extent to which wealth transfers allow for upward mobility. While previous generations had little property to pass on to succeeding generations, it has become a normal experience for “ordinary families” across the full range of occupational groups to receive small wealth transfers (Finch/Mason 2000). However, it remains unclear whether receiving gifts and bequests prompts people from different social classes to climb the social ladder. A substantially

stronger effect for wealth transfers vis-a-vis income in the case of have-nots, have-littles, and have-lots can be seen as strong evidence for the overall structuring force of wealth transfers (*hypothesis 3*).

### 3 Data, variables, and method

#### Data and variables

The analysis is based on the first wave of the Household Finance and Consumption Survey (HFCS), an initiative by the European Central Bank (ECB) and the most comprehensive microlevel dataset available. It provides detailed information on balance sheets of more than 62,521 observations in 15 euro-area countries representing 138,122,237 private households residing in the participating countries (HFCS 2013). The first wave of the survey was carried out in a harmonized way in all euro-area countries except Ireland and Estonia. The statistical unit of analysis is defined as a person living alone or a group of people living together in the same private dwelling and sharing expenditures. The target reference population is all *private households*.

Household survey results on private wealth are likely to be biased by misreporting and differential response. To remedy the non-response item, the HFCS survey provides multiply-imputed values. Throughout the analysis, Rubin's rule is applied to all five imputations (Rubin 2004). Wealth surveys are, however, also troubled by unit non-response, that is, lower non-random response rates largely because of the sensitivity of the survey topic. Even if the survey comes with weights that help to adjust for non-response, the issue of the "missing rich" remains unresolved: the richest households do not participate at all or, if they do, these few multi-millionaires are unlikely to be representative (Vermeulen 2014).

Another issue that requires reflection is that the participating countries used different methods of oversampling the wealthy, and a few countries did not adopt an oversampling approach at all. Arguably, having wealth tax data (Spain) to identify different strata is better than sampling based on income tax data (Germany) or regional criteria (Austria). Even if the survey is very consistent across countries, the representation of high-wealth individuals may vary significantly. Full cross-country comparability of the results is thus *not* given.

Table 1 Descriptive statistics of net net wealth

	Observations	Median	Mean	P5	P95	Oversampling method
Euro area	62,521	109.2	230.8	0.0	762.1	–
Austria	2,380	76.4	265.0	–0.2	934.6	Vienna oversampled
Belgium	2,327	206.2	338.6	–0.3	1,073.4	average regional income
Cyprus	1,237	266.9	670.9	0.0	2,411.9	electricity consumption
Germany	3,565	51.4	195.2	–1.6	661.2	taxable income of regions
Spain	6,197	182.7	291.4	0.2	878.5	taxable wealth information
Finland	10,989	85.8	161.5	–8.4	553.6	income information from register
France	15,006	115.8	233.4	0.4	775.4	taxable wealth information
Greece	2,971	101.9	147.8	0.0	469.3	regional, real estate price
Italy	7,951	173.5	275.2	1.0	855.0	no oversampling
Luxembourg	950	397.8	710.1	0.1	2,023.9	personal income
Malta	843	215.9	366.0	4.0	1,049.4	no oversampling
Netherlands	1,301	103.6	170.2	–34.6	581.2	no oversampling
Portugal	4,404	75.2	152.9	0.1	482.4	Lisbon/Porto oversampled
Slovenia	343	100.7	148.7	0.3	434.5	Ljubljana/Maribor oversampled
Slovakia	2,057	61.2	79.7	1.5	207.4	no oversampling

Note: Estimates other than the number of observations are given in thousand euros.

Source: HFCS 2013.

The main variables being explained are net wealth in absolute values and the relative position of households within the country-specific cumulative distribution (CDF) of net wealth.

Net wealth is defined as the sum of all real and financial assets minus outstanding mortgage debt and other liabilities. The second key variable, the wealth position, is a *relative* measure informing us about the wealth level of a given household compared to all other households in the same country. To identify this relative position, we make use of the cumulative distribution function (CDF): for each value of  $y$  (net wealth),  $F_y$  represents the proportion (in percent values) of the population for which  $Y \leq y$ . Put differently, this variable indicates for each observation the percentage of households owning the exact same value or a lower value of net wealth.

Using CDF values instead of absolute wealth values has proven to be useful in efforts to provide easy-to-interpret results on the effect of receiving wealth transfers (see Fessler/Schürz 2015). As Fessler and Schürz also note, there are two other advantages to it: since richness and poverty are largely relative phenomena, the relative position of each household in respect to all others turns out to be more informative than absolute wealth. Furthermore, the results are likely to be less affected by measurement error.

Explanatory variables are either measured at the individual level or at the household level. Variables such as gender, age, or education indicate characteristics of the “financially knowledgeable person” (FKP), meaning the respondent to the survey. Variables at the household level are wealth transfers, entrepreneurship, and income or relative income position (based on the CDF of household income).

Wealth transfers are captured by two dummy survey questions. The first asks whether the household inherited the household main residence (HMR) or received it as a gift. The second asks whether any member of the household received other substantial wealth transfers, including money, real estate, or any other valuable asset as a lifetime gift or a bequest. The dummy takes the value one if either or both questions were answered with yes, otherwise it is zero. Inheritance is thus a simple indicator that distinguishes heir from non-heir households.

Entrepreneur households are defined as households with investments in self-employment businesses in which at least one household member plays an active role.

The income variable refers to the gross income in the calendar year prior to the survey year. It is defined as the sum of labor and non-labor income for all household members. More specifically, the gross income included the following components: employee income, self-employment income, rental income from real estate property, income from financial investments, income from pensions, regular social transfers, regular private transfers, income from private business and income from other sources. The study considers not only absolute income levels but also the relative position of households within the country-specific CDF of income.

Furthermore, the analysis controls for household composition that not only varies drastically between countries but also clearly influences wealth positions (Bover 2010). To control for differences in the household structure, the analysis applies a classification scheme that was proposed by Fessler, Lindner, and Segalla (2014). Each person in the households receives two digits: the first represents their age category (1=[−15]; 2=[16–34]; 3=[35–64]; 4=[65+], the second refers to their gender (1=male; 2=female; 3=below 16). The most common household type considered has the code “3132” and thus stands for a two person household consisting of a man aged between 35 and 64[31] and a woman aged between 35 and 64[32]. Households with five or more members are treated as four-person households and are sorted based on four members only (including the FKP and the next three persons sorted by descending age). The coding identifies 30 different household types that cover more than 90 percent of all households. Unlike the widespread convention of considering the number of different household members only, these household types also consider the age profile and gender composition and do not rely on preconceptions about which household compositions (e.g., “single parent,” “couple with children”) matter for wealth accumulation.

## Method

For the past several decades, ordinary least squares (OLS) have been the workhorse of quantitative social science. However, we do not want to restrict our analysis to the conditional mean only; instead we strive for a global view on the interrelations between a dependent variable (absolute levels of net wealth positions or relative wealth positions) and a set of independent variables (such as inheritance and household structure). Conditional quantile regression (CQR) permits us to approximate the whole conditional distribution of the dependent variable and thus to measure the effect of covariates not only in the center of a distribution, but also in the upper and lower tails (Koenker/Bassett 1978). Using an analogy, one can say that for regression problems, CQR is to classical OLS regression what quantiles are to the mean in terms of describing locations of a distribution (Davino/Furno/Vistocco 2014). This also implies that CQR is more robust to outlying observations when compared with ordinary least squares regression. Like OLS, CQR allows us to control for factors that might be associated with both inheritance and net wealth.

However, one should always bear in mind that the conditional distribution measures whether individuals have higher or lower net wealth positions than would be expected *given their other characteristics*. As an example, imagine a CQR with net wealth positions as the outcome and just two regressors: inheritance and education. If the advantage of heirs is 5 wealth percentiles at the 75th quantile and 15 wealth percentiles at the 25th quantile, it means that, in the case of wealthy households, inheritance is less beneficial for social advancement *conditional on* their educational attainment than in the case of households with little wealth *conditional on* their educational attainment. Therefore, the conditional quantiles cannot be interpreted as the effect of inheritance on high-wealth and low-wealth households, because low-wealth households are much more likely than high-wealth households to have low education.

CQR is thus not suited to answer key questions such as “what happens to the 90 percent quantile of the net wealth distribution when inheritance is considered?” because the answer to this question is *not conditional* on the values of other variables such as education. Firpo, Fortin, and Lemieux (2009) propose an approach that circumvents the aforementioned problem of intractability: unconditional quantile regression (UQR) is based on a transformation of the dependent variable into the recentered influence function (RIF):

$$\text{RIF}(y; q) = q_\tau + \frac{(\tau - 1\{y \leq q_\tau\})}{f_Y(q_\tau)}$$

where  $\tau$  indicates a specific quantile (say the 90th),  $q_\tau$  is the value of the dependent variable at that specific quantile,  $1\{y \leq q_\tau\}$  is a function that equals 1 when an observation's value of  $y$  is less than or equal to the value of the dependent variable at quantile  $\tau$ , 0 otherwise, and  $f_Y(q_\tau)$  is the density of  $y$  at quantile  $\tau$ . All of these quantities are easily

calculated except for the density, which is estimated using a Kernel density estimator. Once the RIF has been calculated for each observation, it is used as the dependent variable in an OLS model, regressing the RIF on a set of independent variables.

The equation above provides an intuitive understanding as to why the RIF produces the effect of inheritance on the *unconditional* distribution of net wealth. The variable is transformed without any reference to any covariates (there are no x's in the equation!). Thus, the value of UQR estimates is that they are not to be interpreted within groups, as with CQR.

As Killewald and Bearak (2014) demonstrate, the use of UQR can sometimes yield very different conclusions compared with OLS regression and, more importantly, CQR. Furthermore, it has to be stressed that interpreting results from UQR as effects at different points of the distribution of Y differs from the usual interpretations of OLS models including different independent variables. With UQR, the effect of X on Y varies, but it varies depending on the value of Y. We interpret the effect of X on a particular quantile of Y, rather than the effect of X (inheritance) conditional on other independent variables (e.g., education).

## 4 Results

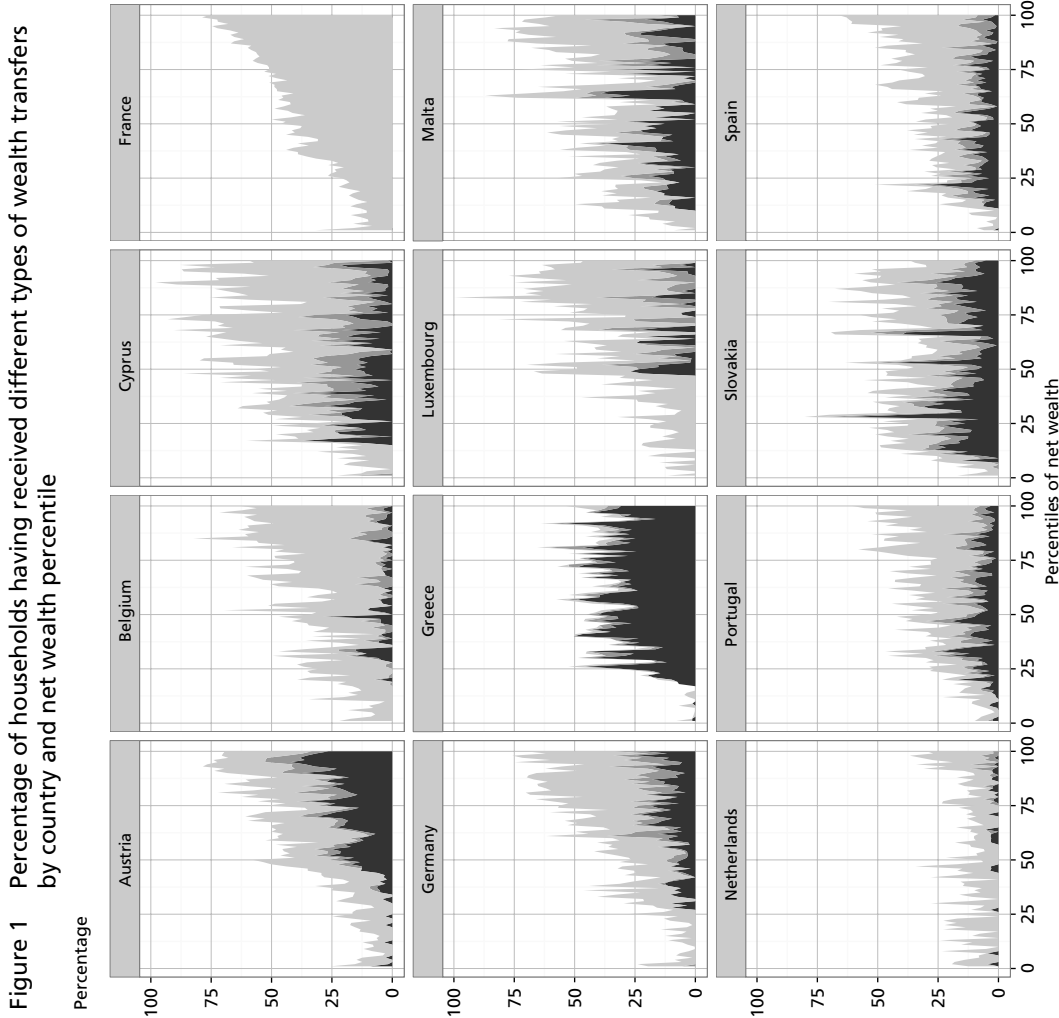
### Heirs and non-heirs in Europe: An initial descriptive account

Cross-national investigations on wealth transfers based on other sources than the HFCS were so severely troubled by the lack of comparability that solid conclusions on similarities and discrepancies between countries were not possible at all (Szydluk 2016: 144). Despite some minor limitations, HFCS is the first survey to gather comparable information on wealth transfers from different European countries.

As the first depiction of the distribution of wealth transfers in Europe, Figure 1 displays the chances of receiving wealth transfers along the whole country-specific net wealth distribution distinguishing between the transmission of the household main residence (HMR), the transmission of money and other assets such as dwellings, land, jewelry, or shares ("money/else"), and a combined category of HMR and "money/else."<sup>5</sup> As in all other analyses, the focus lies on identifying distributional effects within each country. Commonalities between countries in these patterns enable us to draw some general conclusions.

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5 Because a detailed questionnaire section on wealth transfers was not entirely implemented in Italy and Finland, these countries had to be excluded from the analysis. France has been included even though it has no detailed information on inherited household main residences.





What can be derived from Figure 1 is that there is a clear gradient in the chances of receiving wealth transfers across the distribution, with wealth transfers flowing mostly into the hands of those who already own assets. The wealthier a household, the higher the probability of having received gifts or bequests. Interestingly this gradient differs substantially across countries. The share of households in the richest net quantile having received at least one substantial wealth transfer amounts to about two-thirds in Austria, Germany, Cyprus, and France while it makes up only about 50 to 60 percent in Greece, Portugal, and Spain.

Moreover, there are clear national idiosyncracies with regard to the unequal distribution of specific received assets. For Germany and Austria, both countries in which the “median household” is a renter, only a very few transmissions of main residences are evident in the lower part of the net wealth distribution. A somewhat similar unequal distribution of real estate inheritance is observed in the cases of Belgium, Luxembourg, and the Netherlands. In most other countries, real estate wealth “trickles down” generations in very different social strata. At face value, these distributional patterns seem to be linked to welfare regimes, reflecting clear differences between Southern European countries (e.g., Greece, Spain, Malta, Portugal) and Continental European countries (e.g., Austria, Belgium, Germany, Luxembourg, the Netherlands; see Albertini/Kohli/Vogel 2007).

The bulk of previous research has emphasized that wealth transfers do not lead to any compensation of existing social inequalities. On the contrary, those who do not have anything generally do not receive anything more (Szydlik 2004). Thus the Matthew principle applies: “To him that hath shall be given.” Against this background, one would expect that inheriting households differ in wealth levels substantially from their non-inheriting counterparts. Indeed, if one looks at the median, net wealth is always substantially higher for heirs compared with non-heirs depending on the household type (see Table 2).<sup>6</sup> For the most common household type (“3132”), consisting of a man aged between 35 and 64[31] and a woman aged between 35 and 64[32], the difference in median wealth amounts, for example, to about 143.2 thousand euros. In the case of one-person households, such as men aged between 35 and 64[31] and women aged between 35 and 64[32], heirs possess six to seven times as much as non-heirs. As Fessler and Schürz (2015) point out, absolute wealth differences are particularly pronounced in the case of larger households and households with members at the statutory age of retirement.

The approach taken in Table 2 has the advantage of considering wealth differences that stem from varying household compositions. But even given this control, wealth transfers might by far not be the only driving force behind the identified wealth gaps. The households compared might be at very different stages in the life cycle; levels of entre-

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6 For an overview of differences in median net wealth between heirs and non-heirs for all 30 different household types, please contact the author.

preneurial spirit as well as success might differ; savings and human capital accumulation might play a decisive role in the background. Netting out these factors will reveal the unconfounded importance of wealth transfers. Moreover, the median does not provide us with information about whether the impact of wealth transfers differs along the net wealth distribution. Applying UQR to the data will enable us to eliminate confounding factors and probe the importance of bequests and gifts for wealth accumulation in the case of the have-nots, have-littles, and have-lots.

Table 2 Median net wealth by household type and wealth transfers (in 1,000 euros)

hh type	type %	heirs %	NW heirs	NM non-heirs	ratio heirs/non-heirs
3132	10.8	41.8	273.7	130.5	2.1
42	9.5	34.2	128.4	36.0	3.6
42142	8.6	41.4	269.6	141.1	1.9
31	7.6	31.6	129.5	18.6	7.0
32	5.7	31.6	135.3	21.1	6.4
13133132	5.4	35.6	272.3	140.0	1.9

### The unconditional wealth gap between heirs and non-heirs

In the following we will first present results from an OLS model that uses a large set of controls and then contrast these results with selected results from UQR. The dependent variable is the absolute value of household net wealth. Note that with UQR, a separate regression model is estimated for every specific quantile in order to produce the results in Table 3. Six different unconditional quantile regression models are estimated using the `rifreg` STATA command.

Even if applying OLS is problematic because net wealth is highly skewed, both the OLS and unconditional quantile regression results are substantively in line with previous descriptive results presented in Table 2, which suggests a clear positive differential between heirs and non-heirs. The OLS results indicate that households who received wealth transfers own, on average, over 213,562 euros more than non-inheriting households with the same socio-demographic and income profile. With OLS, this estimate is the differential at the mean of the net wealth distribution.

The unconditional quantile regression results, however, tell a different story. At the low end of the distribution, the differential is about 25,090 euros and increases to almost 111,788 euros at the median and then to 517,175 euros at the 90th percentile. In other words, the results suggest a differential that is small when net wealth is low but much larger when net wealth is high. This trend is masked when using OLS only. For the 99th percentile, the coefficient for the dummy (“wealth transfers”) is not significant be-

cause of small subsample sizes. The data suggest, however, a wealth gap above 1 million euros – an estimate that is in line with results of Fessler and Schürz (2015), who adopt a different methodological approach.

Besides pointing to the outranding importance of gifts and bequests, Table 3 reveals other results worth being reported: entrepreneur households fare better in general, but the differential increases rapidly from the 75th percentile onwards to about 1.6 million euros at the 90th percentile. Tertiary education relates highly to high net wealth. If the person selected by the household members to answer household-level questions is female or divorced, net wealth is significantly lower. Again, the wealth gap is especially pronounced at the top end of the distribution (see Schneebaum et al. 2014). The age effect proves to be hump-shaped. In general, age has a positive impact on net wealth, but the effect declines at later ages.

Table 3 pools the data for eleven countries. Figure 2 provides a disaggregated view using the exact same controls. The graphical representations summarize results for every .01 quantile into a single graphic. In Figure 2, the x-axis consists of quantiles ordered from .01 to .90, and the y-axis is the size of the wealth transfer dummy variable coefficient. In other words, the figure displays the heir/non-heir differential for the 1st through the 90th quantiles.<sup>7</sup> The dotted lines above and below the thick line plot the 95 percent confidence intervals, and the horizontal dashed line plots the OLS estimate of the differential (it is constant across the quantiles because OLS yields only one estimate of the differential).

What can be taken from Figure 2 is that the coefficients bracket zero throughout the distribution in the cases of Slovakia and Slovenia, indicating that the wealth gap between heirs and non-heirs is not statistically significant at all. These country-specific results should, however, be interpreted with much caution. The small sample size for Slovenia hardly allows for any representative interpretation at the country level (see Mathä/Porpiglia/Ziegelmeyer 2014). The case of Slovakia is special because, among other things, most people became homeowners after the establishment of the Slovak Republic in 1993. In general, comparisons with post-communist countries like Slovakia and Slovenia are difficult to make since ownership was only recently transferred into private hands.

Overall, the reception of wealth transfers yields a small difference at the low end of the distribution and an increasingly larger difference at the higher end of the net wealth distribution. This trend is especially pronounced for some countries like Austria, France, Luxembourg, or Spain, and less pronounced for others like for Greece or Portugal. Spain stands out since gifts and bequests result in an increase of 121,885 euros at the median, but in a 689,690 euros increase at the 90th quantile. This especially large wealth gap at

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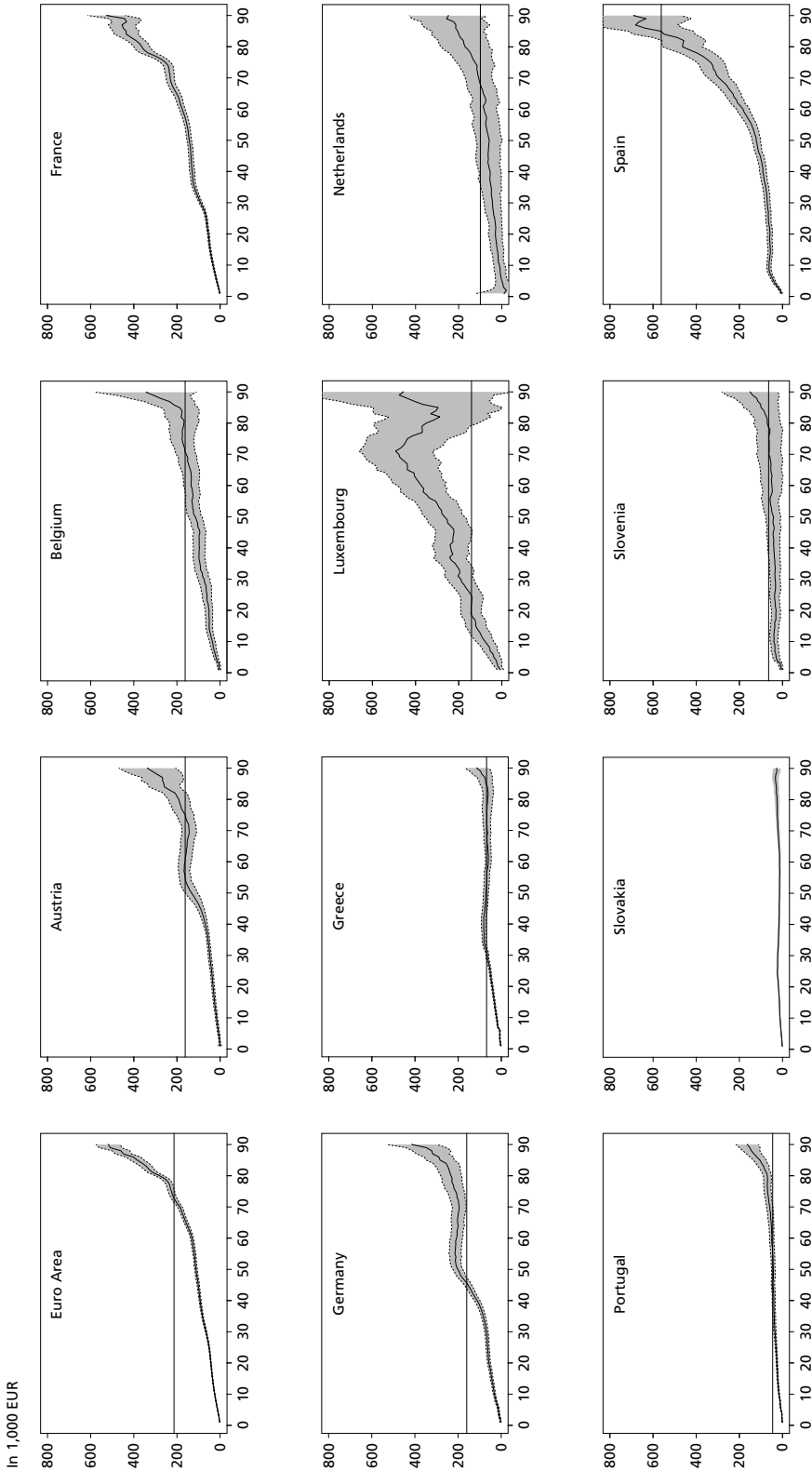
7 Estimates beyond the 90th quantile are not included because they are considerably less precise and difficult to compare across countries.

Table 3 Net wealth differentials between heirs and non-heirs, OLS and unconditional quantile regression results

	OLS	Q 10	Q 25	Q 50	Q 75	Q 90	Q 99
Wealth transfers (dummy)	213,562.2*** (29,633.7)	25,089.6*** (735.0)	50,928.5*** (1,154.4)	111,788.0*** (3,153.9)	225,288.5*** (7,569.7)	517,175.1*** (29,240.0)	754,322.4 (500,550.4)
Income (in 1,000 EUR)	8,434.5*** (427.7)	13.8** (5.2)	46.8*** (14.4)	251.717*** (71.6)	1,111.4*** (301.1)	5,945.8*** (1,567.5)	135,743.7*** (44,744.9)
Female	-139,287.2*** (37,647.6)	-4,969.6*** (1,053.0)	-7,182.3*** (1,491.2)	-24,616.0*** (3,550.1)	-62,494.7*** (8,943.1)	-232,858.6*** (31,936.4)	-1,1367,410.0** (692,759.9)
Divorced	40,044.4 (52,334.8)	-12,143.8*** (2,008.7)	-18,676.9*** (2,491.5)	-29,698.8*** (4,862.1)	-48,694.5*** (10,214.6)	-60,655.9** (29,966.1)	348,279.7 (526,388.6)
Age	-21,208.5** (8,507.4)	3,293.6*** (270.0.0)	6,850.4*** (356.3)	11,626.2*** (736.4)	12,967.9*** (1,617.5)	9,213.9* (5,321.7)	-161,498.1 (123,889.1)
Age squared	308.4*** (77.6)	-23.1*** (2.3)	-48.9*** (3.2)	-81.0*** (6.7)	-62.056*** (15.3)	63.1 (54.8)	2,141.0* (1,274.5)
Tertiary education	214,364.0*** (36,345.4)	17,238.5*** (850.1)	31,448.5*** (1,292.8)	98,183.1*** (4,058.2)	280,470.5*** (13,620.2)	734,729.0*** (58,162.11)	1,420,129.0 (1,203,031.0)
Retired	-200,011.5*** (50,248.1)	2,518.5* (1,327.9)	4,420.2** (1,877.9)	22,092.8*** (4,759.7)	22,024.4** (11,494.9)	28,694.2 (45,602.0)	-1,251,120.0 (953,134.2)
Entrepreneur	883,130.6*** (44,676.2)	17,091.3*** (802.7)	39,687.3*** (1,433.7)	144,716.3*** (4,226.4)	479,939.6*** (14,503.3)	1,567,839.0*** (67,699.2)	12,800,000.0** (3,459,592.0)
Household type FE	x	x	x	x	x	x	x
Country FE	x	x	x	x	x	x	x
N	41,501	41,501	41,501	41,501	41,501	41,501	41,501

Notes: This table shows pooled regressions. Malta as well as Cyprus are not included as not all control variables are available. Standard errors are presented in parentheses; \*, \*\*, \*\*\* denote significance at the 10, 5, and 1% level.

Figure 2 Unconditional wealth gap between heirs and non-heirs (straight lines represent OLS-coefficients)



the top can be at least partly explained by the fact that Spain, unlike all other countries, uses individual wealth tax files and is thus in the position to better oversample the wealthiest households.

The most intuitive way to interpret the regression results presented in Figure 2 is with a thought experiment, in which non-inheriting households suddenly become inheriting households. While we would see significant increases in financial well-being along the distribution of net wealth in nearly all countries, the advantage of inheritance at the very top is the most striking – a finding that was not foreseeable. One could have imagined that the dominant route to wealth is first and foremost via income. However, we caution against over-interpreting this result. In essence, the analysis does not establish *a causal but an associational relationship* between wealth transfers in the past and current net wealth levels at present, controlling for other potential explanatory factors. Short of having longitudinal data that follow the same group of people year after year, we are not in the position to unambiguously assess whether or not wealth transfers are the main determinant of net wealth in current European societies.

### The impact of wealth transfers and income on wealth positions: A juxtaposition

While insights into the (absolute) unconditional wealth gap are informative, the question about the extent to which wealth transfers enable households to climb the social ladder remains unanswered. To probe the effect of wealth transfers (and lack of them) on upward mobility, we use (relative) *wealth positions* as a dependent variable. To better interpret the identified effect, we contrast it with the effects of advances in (relative) *income positions*. By once again applying UQR, we investigate whether wealth transfers and gains in income have a greater impact for poor households than they do for wealthy ones.<sup>8</sup>

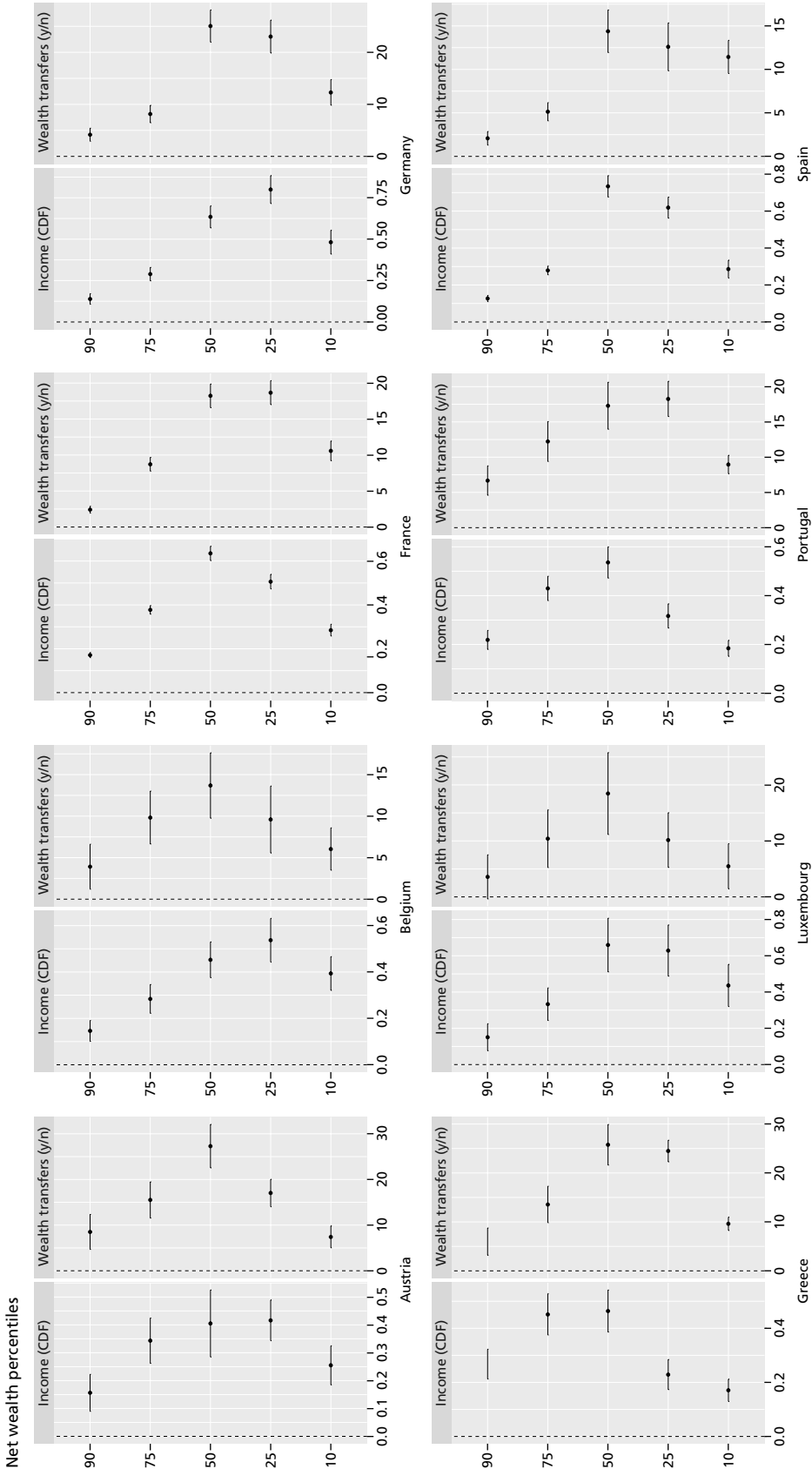
In Figure 3 we make use of the same controls as were used previously.<sup>9</sup> However, since the coefficient estimates of most controls are only of secondary importance, we will exclusively focus on the effect that income and wealth transfer has on net wealth. The coefficients of the regressor “income (CDF)” and “wealth transfers (yes/no)” are plotted countrywise for the 10th, 25th, 50th, 75th, and 90th quantiles.

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8 It should be emphasized that the results presented in Figure 3 are essentially simulations used for predictive purposes that draw on cross-sectional data only. To measure, rather than predict, wealth mobility, one needs to track households across time, which we are unable to accomplish.

9 Excluded from the figure are Slovenia, Slovakia, and the Netherlands because of rather unreliable data with regard to wealth transfers (see also Figure 2).

Figure 3 Unconditional quantile regression coefficients: Income (CDF) vs. wealth transfers (yes/no)



With regard to the income distribution, the UQR approach reveals gains between 0.1 and 0.6 percentiles in the net wealth distribution. The estimate for the respective coefficient follows an inverted U-shape indicating that income contributes the most to wealth accumulation in the middle of the net wealth distribution. However, the pattern is not fully consistent across countries. The maximum contribution of income is, for example, reached at the 25th quantile in Belgium and Germany. No country peaks in the upper part of the net wealth distribution, which suggests that income determines wealth significantly more in the case of the have-littles and have-nots compared with the have-lots.

The results related to wealth transfers suggest a considerably larger effect. The estimates reach values as high as 25-percentile gains for households in Austria, Germany, and Greece. The U-shape is less pronounced with the values for the 25th quantile being closer to the median, as we saw in the case of income. The coefficient for all countries varies at the 25th quantile between 10 and 20 percentiles and at the 75th quantile between 15 and 5 percentiles.

The most plausible explanation for this observed associational pattern is that even small wealth transfers may constitute a large percentage of a household's current stock of wealth if that household has very little; thus the transfer might help lift it to a higher social position. Well-to-do households receive larger wealth transfers (see Figure 1). However, these transfers do not elicit the same effect on social mobility because the proportional increase is less.

## 5 Conclusions

The bulk of this article was concerned with the impact of wealth transfers on wealth accumulation, depending on the position of households within the net wealth distribution. To date, there is very little reliable knowledge on the role of wealth transfers for private households in Europe, and comparative studies have been rarely undertaken (for a exceptions, see Semyonov/Lewin-Epstein 2013; Fessler/Schürz 2015). Drawing on recently collected harmonized survey data (HFCS), this study went beyond previous work that primarily assessed which groups are advantaged and which are disadvantaged in the matter of inheritance (Szydlík 2004); it tested the impact of gifts and bequests on net wealth and contrasted it with the importance of income.

Instead of merely assuming differential rates of return to inherited assets, the analysis relies on a qualitative indicator differentiating heir from non-heir households. To probe the implications of wealth transfers and make the analysis robust against measurement



errors, the household's relative position within the distribution of net wealth is considered. Unconditional quantile regression is used to directly estimate the impact of wealth transfers or income throughout the overall distribution.

The main findings are as follows: First, the chances to receive wealth transfers are very unequally distributed. The proportion of households receiving gifts or bequests climbs sharply with wealth, implying that wealth transfers are rarely substitutes for labor income in the lower half of the wealth distribution. Only in some countries (e.g., Greece, Slovakia) do we observe that inheriting the parent's residence is not limited to high-class households. Second, wealth differences between inheriting and non-inheriting households are considerable, all other things equal, implying that heirs do not deplete most of the initial burst of liquidity obtained through inheritance. The wealth gap is especially obvious at the top of the distribution, amounting up to about 600,000 euros at the 90th percentile (as in the case of Spain). This suggests, among other things, that wealth transfers are vital for entering top wealth groups. Third, gifts and bequests contribute considerably more to upward mobility than do increases in income. Depending on which part of the distribution of net wealth is analyzed, the impact of incomes that lift households one percent in the income distribution ranges between 0.1 and 0.6 percentiles, whereas receiving assets implies hikes of up to 27 percentiles in the net wealth distribution. In essence, this suggests that only large income gains that are hard to achieve through labor market performance produce the same impact on net wealth positions as do direct financial transfers from parents to children. Especially for the middle class, bequests and gifts not only help to secure the social status but imply upward mobility.

While these estimates are imperfect because they rely on self-reports, it has to be emphasized that they are not based on partly arbitrary assumptions often made in the literature about the capital returns on received assets that households earn (see Tiefensee/Westermeier 2016); thus they are likely to provide a more robust basis for probing the impact of wealth transfers. Moreover, estimates related to the upper tail of the wealth distribution are conservative because surveys fail to adequately cover the upper class for which the incidence and amount of financial transfers is the most pronounced.

All findings clearly provide overwhelming evidence for the importance of kinship for private capital accumulation in Europe and are incompatible with the claim that wealth is generated first and foremost by earned income. For most people in Europe today, the death of one's parent, arguably one of the most dramatic events in life, comes with financial gains that put them in considerably better positions compared with others in similar situations who did not win in the inheritance lottery.

Given the limited data available, the article could only draw on cross-sectional survey information. In the future, panel data on wealth trajectories of heirs will be available for different European countries. It is worthwhile investigating whether the inherited advantage identified in this article also becomes visible in comparable surveys that follow heirs and non-heirs over an extended time period. Recent evidence from US panel

data suggests that intergenerational similarities in wealth stem from multiple channels such as the provision of educational advantage (Pfeffer/Killewald 2015). The task of disentangling the relative importance of wealth transfers, on the one hand, and the transmission of educational opportunities and earning abilities, on the other, in creating growing wealth disparities within European societies is one that must be left to future research.

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