OXFORD

Inherited Advantage: Comparing Households that Receive Gifts and Bequests with Non-receiving Households across the Distribution of Household Wealth in 11 European Countries

Philipp Korom*

Max Planck Institute for the Study of Societies (MPIfG), Paulstraße 3, 50676 Köln, Germany

*Corresponding author. Email: philipp.korom@gmail.com

Abstract

This study examines the importance of gifts and bequests ('wealth transfers') across the distribution of household wealth. Unconditional quantile regression applied to harmonized survey data obtained from 11 European countries reveals that households that receive gifts and bequests own considerably more wealth than non-receiving households, all other things being equal. The wealth gap varies hugely along the distribution of net wealth. At the median, the wealth gap reaches about 119,000 euros and increases to 630,000 euros at the 90th percentile. With regard to the 99th percentile, survey data even indicate differences in wealth levels greater than 2.3 million euros. Further analysis finds evidence that the impact of wealth transfers on household wealth follows an inverted *U*-shaped pattern: gifts and bequests contribute the most to the stock of private wealth in the broad mid-section and less so at the lower and upper ends of the distribution. Overall, the study provides evidence for a strong nexus between inheritance and household wealth that is not limited to the top.

Introduction

Until recently, the social sciences have paid very little attention to the analysis of inherited wealth. This can be partly explained by the widespread belief that social inequality stems first and foremost from the different reward packages that are attached to skill-based occupational groupings in modern capitalism (Grusky and Ku, 2008). Current inequality research, however, is increasingly turning to inherited wealth as a powerful determinant of social stratification (see Corneo, Bönke and Westermeier, 2016; Alvaredo, Garbinti and Piketty, 2017). Most indicative for this trend reversal is the landmark work by the economist Thomas Piketty. Based on

an unprecedented, rich tax data set, Piketty (2011) reports on a 200-year time series for France, showing that the annual flow of inheritance is growing strongly, approaching levels not seen since the early 20th century. In a later contribution, Piketty (2014) put forward the argument that when economic growth is slow, the role of inherited wealth becomes even more important: inheritance gives its recipients a head start on wealth accumulation that is increasingly difficult to achieve by saving individually.[1]

The most recent research on intergenerational wealth mobility confirms the outstanding role of inherited wealth in Europe. By tracking rare surnames in the

United Kingdom, Clark and Cummins (2015) found that there was a significant correlation between the wealth of families even five generations apart. Adermon, Lindahl, and Waldenström (2017) follow individuals born in Malmö in 1928 and track their parents, children, and grandchildren. The Swedish data set reveals a parent–child rank correlation in wealth of 0.3–0.4, similar to the intergenerational persistence in other measures of socioeconomic attainment. Boserup, Kopczuk, and Kreiner (2014) assembled a data set from Danish tax records that makes it possible to compare the wealth of almost 1.2 million children with that of their parents. The authors find an almost linear relationship between the wealth ranks of children and parents with a slope of 1/4.

The prominent role of inheritance demands a re-orientation of social stratification research toward kinship and household analyses. Transfers of the unconsumed material accumulations of previous generations need to be considered. It is especially noteworthy that the growing proliferation of wealth and the rise in median wealth levels have made more common the practice of cross-generational transfers as a means to promote the economic well-being of family members, not only among the wealthy but also among a growing number of middle-class households (Elmelech, 2008). Receiving gifts and bequests has become a normal experience for 'ordinary families' (Finch and Mason, 2000).

However, despite the increased salience of inheritance, we know little about *the contribution of gifts and bequests to the private wealth of households occupying very different positions in the distribution of wealth.*

To shed more light on this matter, this article applies two different methodological approaches to the Eurosystem's Household Finance and Consumption Survey (HFCS) that is not only representative for its member states but also *ex ante* harmonized (ECB, 2013b).[2]

First, it documents the wealth gap between households that received gifts and bequests (collectively 'wealth transfers') in the past and those that did not along the entire *raw distribution of net wealth*, all other things being equal. In this way, it is possible to estimate the difference in absolute terms that wealth transfers make for households along the social spectrum.

Second, the impact of gifts and bequests on net wealth is examined by using *the cumulative distribution function (CDF) of net wealth*. With this technique, we are able to measure the impact of gifts and bequests in percentiles of net wealth—an easy-to-interpret impact measure for evaluating the role of wealth transfers. Again, the analysis considers the entire wealth distribution.

In both approaches, *unconditional quantile regression* (UQR) will be applied, as it marginalizes the effect of receiving gifts and bequests over the distributions of other covariates. Bringing together insights from both approaches will help us to arrive at a comprehensive understanding of the role of gifts and bequests at very different tiers of the wealth pyramid.

The key insights are: households that receive gifts and bequests fare better than non-receiving households along the entire spectrum of the net wealth distribution. It is particularly noteworthy that at the 99th percentile, the wealth gap is above 2 million euros. Cross-sectional data on 11 European countries further suggest that wealth transfers have the highest potential to improve social position in the broad mid-section of the wealth distribution.

Exploring the Inheritance–Wealth Nexus: Two Approaches that Go beyond the Average

It is well established that gifts and bequests are essential for acquiring wealth. Recent research, conducted with French tax data, comes to the conclusion that inherited wealth today makes up more than 70 per cent of private total wealth (Piketty, 2014: figure 11.7). What is not yet known, however, is *for which households* intergenerational wealth transfers have an effect on wealth accumulation. Some households may respond to transfers by increasing consumption and decreasing saving, while others may pay off existing debt, invest, or stash away inherited assets. It is also reasonable to assume that small transfers do not have any particular lasting effect, as they neither help the recipients reach the next rung on the class ladder nor free them from having to accumulate their own savings (Nau and Tumin, 2012).

Danish administrative data reveal that in the case of unexpected inheritances, heirs deplete their excess of wealth in the long run by slacking on saving efforts and increasing consumption (Druedahl and Martinello, 2016). But studies on other countries come to different conclusions. Zagorsky (2013), for example, estimates for the United States that roughly half of all inherited money is saved and the other half spent or lost.

Scarce evidence suggests that households from wealthy backgrounds are by far the most successful in converting intergenerational transfers into greater wealth. For the United States, Pfeffer and Killewald (2015) find that 70 per cent of children from the highest parental wealth quintile end up in one of the top two quintiles. Being of top wealth origin turns out to be a crucial

determinant for belonging to the top 1 per cent in egalitarian Norway (Hansen, 2014). In a Swedish study, Adermon, Lindahl, and Waldenström (2017) identify associations between three generations that become substantially steeper at the top. In general, there is robust evidence that the bulk of large gifts and bequests goes to an elite group of the wealthiest 10 per cent (Szydlik, 2004).

However, to establish whether the inheritance–wealth nexus is really confined to the wealthy, more knowledge is needed, as it is conceivable that less-well-off households are also able to save a larger proportion of their inheritances. To fill this gap in the research, this article applies UQR to probe the tangible effects of wealth transfers along the entire spectrum of the wealth distribution.

Measuring the Wealth Gap between Households That Receive Gifts and Bequests and Non-receiving Households

One way to ascertain the significance of gifts and bequests is to study differences in wealth levels between households that receive gifts and bequests and non-receiving households while controlling for other relevant factors. If households do not spend down wealth transfers, we would expect to find wealth gaps at different points in the wealth distribution. To be able to properly attribute identified wealth disparities to the role of gifts and bequests, we need to control for at least the following individual-level and household-level characteristics.

Demographics and family structure

It is well documented that basic demographic differences related to age, marital status, and family formation largely influence wealth disparities for different groups of people. As implied by the life cycle hypothesis, wealth is accumulated through the mid-60s, followed by a subsequent decline in wealth holdings (Spilerman, 2000). Along with age, household composition and certain life course events, such as marriage or divorce, are also connected with changes in wealth (Zagorsky, 2005; Sierminska, Smeeding and Allegrezza, 2013).

Education, employment, and income

Higher education levels (conditional on financial literacy) turn out to be strongly positively associated with wealth attainment (Behrman *et al.*, 2012), and entrepreneurs are reported to hold significantly more wealth than workers (Bradford, 2003). Aside from wealth transfers, income is the strongest predictor of adult wealth (Semyonov and Lewin-Epstein, 2013).

Public welfare

Households are likely to replace private savings with expected pension benefits. Alessie, Angelini, and van Santen (2013) estimate the displacement effect of pension wealth on household savings to be between 47 and 61 per cent, depending on the estimation method used. In general, there is evidence that a well-developed welfare state goes hand in hand with lower levels of private wealth. Fessler and Schürz (2015) established that the negative relationship between welfare state spending and household wealth is stronger at the lower end of the wealth distribution spectrum.

Estimating the Change in Net Wealth Percentiles Due to Gifts or Bequests

Another way to explore the role of gifts and bequest is to ascertain their impact on household wealth. As longitudinal wealth data on households in Europe, including detailed information on wealth transfers, are either not available at all or do not yet go very far back in time (for an exception, see Karagiannaki, 2015),[3] most researchers probe the inheritance–wealth nexus by applying ordinary least squares (OLS) (linear) regression to cross-sectional information (Semyonov and Lewin-Epstein, 2013; Mathä, Porpiglia and Ziegelmeyer, 2014). However, regression estimates of the effect of inheritance on wealth accumulation are difficult to interpret as the highly right-skewed wealth variable must be transformed. Using values from the CDF of wealth instead of absolute wealth values as a dependent variable has proven to be useful in efforts to provide easy-to-interpret results on the effect of receiving wealth transfers (c. Fessler and Schürz, 2015). As Fessler and Schürz (2015) note, there are two other advantages to this approach: 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, and it is less affected by measurement error.

In the second approach, we will thus measure the impact of gifts and bequests on the CDF of net wealth while controlling once more for a large set of socioeconomic characteristics of households. In this way, we will derive a measure that expresses impact in the number of net wealth percentiles gained.

Data, Variables, and Method

The analysis is based on the first wave of the HFCS, an initiative by the European Central Bank (ECB) and the most comprehensive microlevel data set available. It

provides detailed information on households' finances, with more than 62,000 observations in 15 euro-area countries representing 138,122,237 private households residing in the participating countries (ECB, 2013a,b). 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. The following analyses consider 11 of the 15 euro-area countries.[4]

Household survey results on private wealth are likely to be biased by differential response. To remedy item non-response, the HFCS makes use of multiple imputations following the guidelines provided by Rubin (2004). The number of implicates provided by the HFCS is 5 (ECB, 2013b) which seems to be the generally agreed on number of imputations provided with survey data on household wealth (Westermeier and Grabka, 2016).

For all descriptive statistics, five imputations and survey weights have been used.[5] Within the regression framework, two models, each with five imputations, were estimated: one with unweighted data and one using survey weights. As the parameters were substantively similar, this article reports regression results based on unweighted data (c. Winship and Radbill, 1994).

With regard to item non-response, the Netherlands stands out, showing an exceptionally low rate of households that report having received gifts and bequests. Such a high non-response level with regard to wealth transfers, which is likely to yield biased results, is most likely associated with the fact that the Netherlands is the only country that conducted computer-assisted web interviews instead of personal interviews.

With regard to unit non-response, the response rates range from 18.7 per cent in Germany to 64.1 per cent in Portugal and almost 70 per cent in France—in the latter two countries, participation was compulsory, but this was never enforced (ECB, 2013b).

Furthermore, as with other wealth surveys, the HFCS survey is troubled by the problem of the 'missing rich': the richest households do not participate at all or, if they do, the few multi-millionaires covered are unlikely to be representative. There is no easily available solution to correct for this non-observation bias (c. Vermeulen, 2014).

A further 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). It can be safely assumed that countries with no or weak oversampling strategies, such as Austria, Greece, and Portugal, underestimate wealth levels. However, as Table 1 indicates, there are also other vexing problems, too. Slovenia has a very small sample size which is deemed 'not fully representative for the country' (ECB, 2013b: p. 9).

Given these inconsistencies, Tiefensee and Grabka (2016: p. 137) draw the following conclusion: 'The core questionnaire and also the survey methodology was largely pre-harmonized, however there are significant differences across country surveys which *impair cross-country comparability* [...], and thus should be carefully taken into account by researchers' (emphasis added). In the following, we therefore present results

Table 1. Sample size, response rate, and oversampling strategy[6]

Country	Net sample size	Response rate (per cent)	Basis for oversampling	Effective oversampling rate of the top 10 per cent
Spain	6,197	56.7	Individual information from taxable wealth	192
France	15,006	69.0	Individual information from net wealth	129
Luxembourg	950	20.0	Individual information from income	55
Germany	3,565	18.7	Geographic income and other information	117
Belgium	2,364	21.8	Geographic information	47
Greece	2,971	47.2	Geographic real estate price information	−2
Slovenia	343	36.4	Geographic information (Ljubljana, Maribor)	22
Portugal	4,404	64.1	Geographic information (Lisbon, Porto)	16
Austria	2,380	55.7	Geographic information (Vienna)	1
Netherlands	1,301	57.5	None	87
Slovakia	2,057	n.a.	None	−11

Note. Based on ECB (2013b) and Tiefensee and Grabka (2016)

derived mostly from pooled data and interpret the cross-country differences we identify with a great deal of caution.

Dependent Variable

In the first multivariate analysis, the variable being explained is net wealth in absolute terms, and in the second analysis it is the relative position of households within the country-specific cumulative distribution (CDF) of net wealth. In the case of wealth transfer receiving households, both variables provide information only about household net wealth after the inheritance or gift.[7]

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 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.

Independent Variables

Explanatory variables are measured either at the individual level or at the household level. Variables at the individual level, such as gender, age, marital status, and whether the respondent is retired or self-employed, refer to the 'financially knowledgeable person' (FKP), meaning the respondent to the survey. Variables at the household level are household types, income, and wealth transfers. To control for differences in the household structure, the analysis applies a classification scheme that was proposed by Fessler, Lindner, and Segalla (2012). Each person in a household is assigned two digits: the first represents their age category $(1 = [-; 15]$: $2 = [16; 34]$; $3 = [35; 64]$; $4 = [65;+])$, and the second refers to their gender $(1 = \text{male}; 2 = \text{female}; 3 = \text{under}$ 16 years old). The most common household type considered has the code '3132', which stands for a two-person household consisting of a man between 35 and 64 years old [31] and a woman between 35 and 64 years old [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 per cent of all households.[8]

The income variable refers to the gross income from earnings in the calendar year prior to the survey year.[9] It is defined as the sum of employee and self-employment income of all household members (i.e. excluding public transfers such as pensions and other social security benefits as well as capital income). As in the case of net wealth, income is considered in the first analysis in absolute terms, while the second analysis makes use of the relative position of households within the country-specific cumulative distribution (CDF) of income.

Wealth transfers are considered a dummy distinguishing between households that received wealth transfers and non-receiving households. Gifts and bequests are captured by two 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.[10] The dummy takes the value 1 if either or both questions were answered with yes, and otherwise it is assigned the value of 0.[11]

Method

We use UQR[12] models to estimate the association between wealth transfers and net worth across the wealth distribution. Unlike conditional quantile regression, in which control variables essentially redefine each quantile, UQR models define quantiles in relation to the unconditional wealth distribution (Killewald and Bearak, 2014). UQR is thus 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, for example, household composition or levels of household income. Following the suggestions of Firpo, Fortin, and Lemieux (2009), UQR models are estimated using the recentered influence function (RIF) and OLS regression. In a first step, the RIF is calculated for each quantile of interest using the following equation:

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

where τ indicates a specific quantile (say the 90th); q_τ is the value of the dependent variable at that specific quantile; $I\{y \leq q_\tau\}$ 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 τ and 0 otherwise; $f_Y(q_\tau)$ is the density of y at quantile τ; and I is an indicator function.

In a second step, a basic regression framework is used where the dependent variable, i.e. either household net wealth or the CDF of net wealth, is replaced with RIF (y; q_τ) for each quantile to estimate unconditional partial effects across quantiles. The equation above provides an intuitive understanding of why the RIF produces the effect of inheritance on the unconditional distribution of net wealth. The variable is transformed without reference to any covariates (there are no x's in the equation!).

It should be emphasized that interpreting coefficients from UQR models differs substantially from interpretations in the OLS framework (Porter, 2015). With UQR, we interpret the effect of X on a particular quantile of Y, rather than the effect of X (e.g. having inherited or not) on the mean of Y (e.g. net wealth). The unconditional regression estimates might reveal similar effects across the distribution. However, one might also expect to find the strongest 'inheritance

effect' occurring at the mid-section or the upper end of the distribution.

Results

Households that Receive Wealth Transfers and Non-receiving Households in Europe: An Initial Descriptive Account

Cross-national investigations of wealth transfers based on sources other than the HFCS were heavily troubled by the lack of comparability (Szydlik, 2016: p. 144). Despite some limitations, HFCS is the first survey to gather *ex ante* harmonized information on wealth transfers from different European countries.

As a first depiction of the distribution of wealth transfers in Europe, Figure 1 shows the chances of receiving wealth transfers along the whole country-specific net wealth distribution, distinguishing between the transmission of the 'HMR', the transmission of
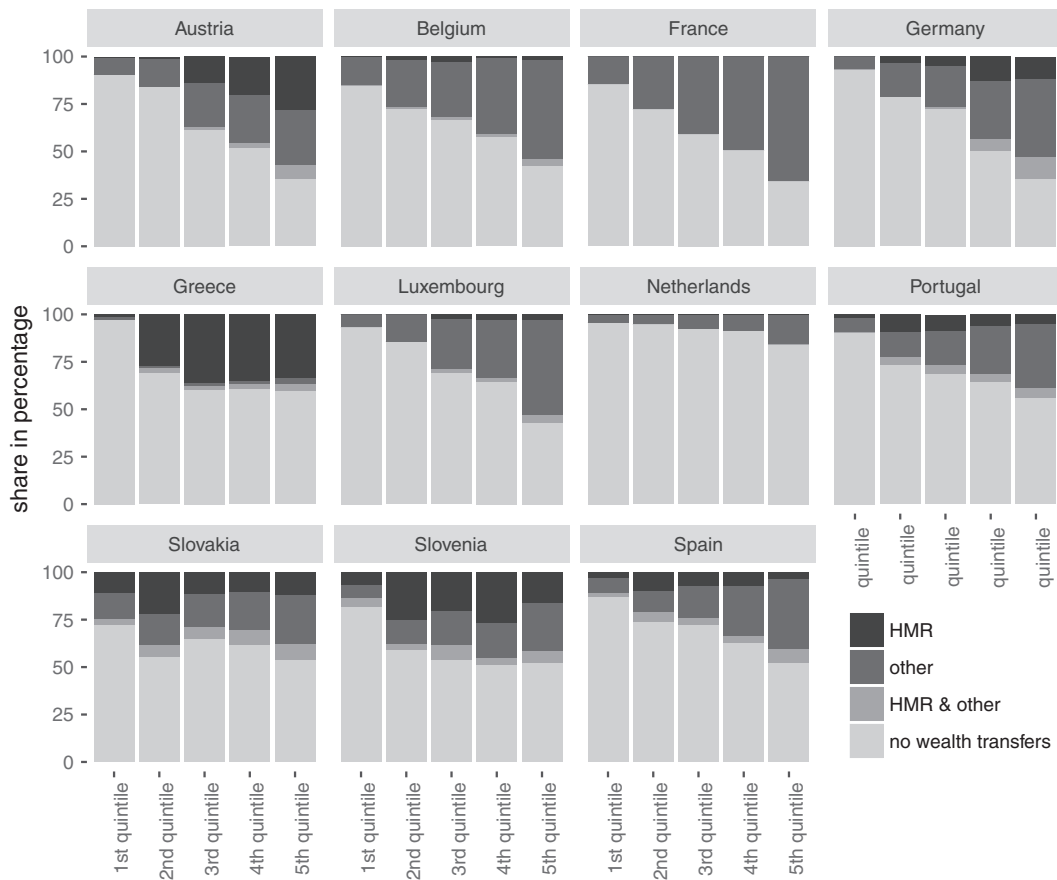

Figure 1. Percentage of households having received different types of wealth transfer by country and net wealth quintile

Notes. There is no detailed information available for France on HMR gifts/inheritances; weighted data.

money and other assets, such as dwellings, land, jewelry, or shares ('other'), and a combined category of 'HMR' and 'other'.

What can be seen in Figure 1 is that inheritances and gifts are highly concentrated among households at the top of the wealth distribution: the wealthier a household, the higher the probability of having received gifts or bequests in the past. Interestingly, this gradient differs across countries. The share of households in the richest net quintile having received at least one substantial wealth transfer amounts to about two-thirds in Austria, Germany, Cyprus, and France, while it makes up only between 50 and 60 per cent in Greece, Portugal, and Spain.

Moreover, there are clear national idiosyncrasies with regard to the unequal distribution of specific received assets. For Germany and Austria, both countries in which the 'median household' is a renter and homeownership rates are comparatively low, 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 Wealth Gap across the Distribution

To begin with a general description of wealth disparities, Figure 2 plots the net worth disparities between households that receive wealth transfers and non-receiving households at percentiles 1–99 of net worth. The left panel of Figure 2 covers the percentiles 1–89, and the right panel covers the percentiles 90–99. The solid line in Figure 2 stands for the 'raw' wealth gap. As shown, differences in net worth measured in euro amounts increase almost exponentially as household wealth levels increase. At the 10th percentile, the gap between receiving and non-receiving households is about 36,000 euros, and it widens to approximately 396,000 euros at the 75th percentile. This disparity more than almost triples to about 1 million euros at the 90th percentile.

The left and right panels of Figure 2 also present results from UQR models that sequentially added (i) country fixed effects, (ii) household types, (iii) income
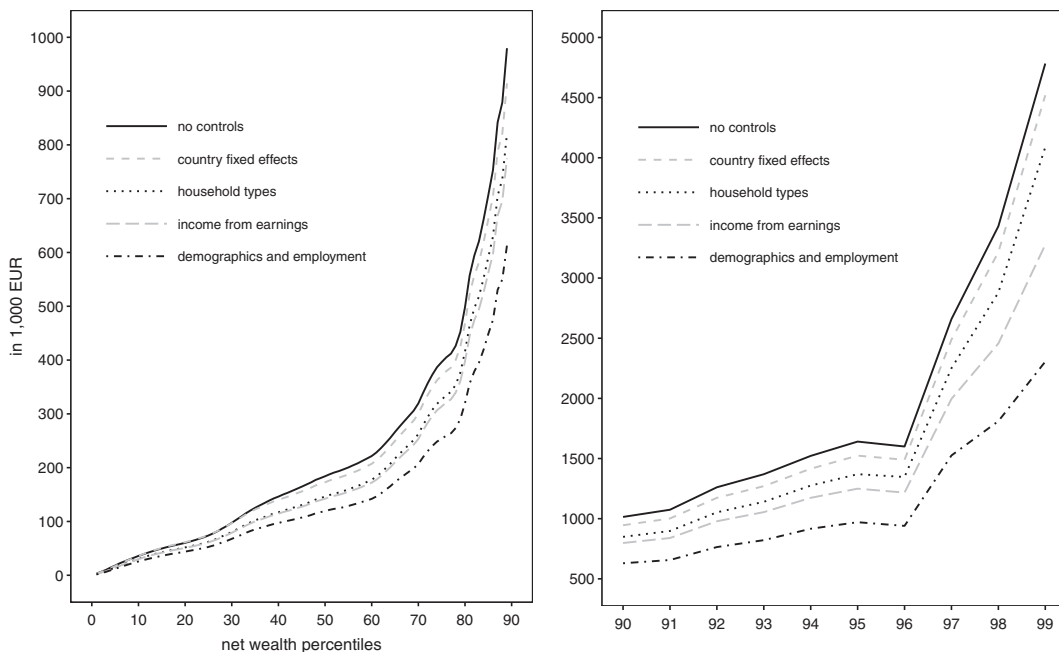

Figure 2. Differences in net wealth by households that receive wealth transfers and non-receiving households (pooled data)[13]

Notes. Results are derived from UQR. Straight lines present the unconditional difference in net worth across the distribution for wealth transfer receiving households when compared to non-receiving households. Dotted or dashed lines present results from UQRs that additionally consider four sets of covariates sequentially added to the model; non-weighted data.

from earnings, and (iv) demographics and employment status of the reference person. Together, these covariates account for a non-negligible percentage of the wealth gap. The gap becomes especially smaller at the higher end of the distribution.

After accounting for all controls, households that receive wealth transfers hold about 26,000 euros more in net worth than non-receiving households at the 10th percentile. The disparity increases to about 52,000 euros at the 25th percentile, 119,000 at the median, 249,000 at the 75th percentile, and 630,000 at the 90th percentile. That each set of covariates is associated with wealth outcomes becomes obvious when looking at the 99th percentile. By considering country fixed effects, the wealth gap at the 99th percentile is reduced from 4.8 million euros to 4.5 million. By adding household types, the gap drops to 4.1 million. The largest drop, from 4.1 to 3.3 million euros, is evidenced when further controlling for income from earnings. The fourth set of covariates, that considers characteristics of the reference person, finally reduces the gap to 2.3 million euros.

The Impact of Wealth Transfers across the Distribution

In a second analysis, we probe the impact of gifts and bequests on a household's position within the distribution of net wealth. We make use of all the controls from the first multivariate analysis and employ OLS and UQR models. Instead of considering net wealth and income in absolute terms, we use the relative position of households in the net worth distribution and in the income distribution.

Table 2 reports the RIF-OLS estimates of the wealth position model for the 10th, 25th, 50th, 75th, and 90th quantile. The results (labeled as UQR for unconditional quantile regression) are also compared with the OLS benchmark.

The OLS result indicates that households who received wealth transfers occupy on average wealth positions in the distribution that are 14.9 percentiles higher than non-receiving households with the same sociodemographic and income profile. With OLS, this estimate is the differential at the mean of the net wealth distribution.

Table 2. Estimates from OLS and unconditional quantile net wealth position regressions, 10th, 25th, 50th, 75th, and 90th quantiles (pooled data)

	OLS	UQR 10	UQR 25	UQR 50	UQR 75	UQR 90
Wealth transfers (dummy)	14.85***	10.29***	21.12***	22.17***	13.19***	4.65***
	(0.26)	(0.36)	(0.61)	(0.65)	(0.41)	(0.17)
Income position	0.24***	0.23***	0.39***	0.32***	0.17***	0.07***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.00)
Female	−1.92***	−0.66	−2.42***	−2.81***	−2.01***	−1.37***
	(0.32)	(0.46)	(0.67)	(0.64)	(0.47)	(0.22)
Divorced	−4.80***	−5.68***	−8.17***	−6.41***	−2.86***	−0.45
	(0.44)	(0.85)	(1.04)	(0.92)	(0.54)	(0.25)
Age	1.27***	1.23***	2.49***	1.84***	0.56***	0.04
	(0.07)	(0.13)	(0.16)	(0.14)	(0.09)	(0.04)
Age squared	−0.01***	−0.01***	−0.02***	−0.01***	−0.00*	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Tertiary education	11.49***	4.03***	10.91***	17.52***	15.63***	7.16***
	(0.29)	(0.38)	(0.62)	(0.66)	(0.49)	(0.24)
Retired	7.16***	6.02***	11.01***	11.02***	5.31***	1.01**
	(0.44)	(0.67)	(0.91)	(0.94)	(0.60)	(0.35)
Self-employed	15.36***	5.73***	13.71***	22.70***	21.83***	9.95***
	(0.40)	(0.46)	(0.72)	(0.87)	(0.74)	(0.39)
	+ HH-type-FEs	+ HH-type-FEs	+ HH-type-FEs	+ HH-type-FEs	+ HH-type-FEs	+ HH-type-FEs
	+ Country-FEs	+ Country-FEs	+ Country-FEs	+ Country-FEs	+ Country-FEs	+ Country-FEs
Constant	−10.93***	−45.97***	−83.88***	−36.80***	38.39***	82.04***
	(1.84)	(3.78)	(4.69)	(3.91)	(2.55)	(1.16)
	41,501	41,501	41,501	41,501	41,501	41,501

Notes. Standard errors in parentheses. In the case of UQRs standard errors were calculated using bootstrap with 100 replications; *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$; FEs = fixed effects (dummy variables for $N-1$ countries/household types); non-weighted data.

The UQR results, however, tell a different story. At the low end of the distribution, the differential is about 10 percentiles; it increases to 22 percentiles at the median and drops to 5 percentiles at the 90th percentile. In other words, the results suggest an inverted *U*-shaped pattern: gifts and bequest contribute most to private wealth in the broad mid-section of the net wealth distribution.

As can be seen in Figure 3, the influence of gifts and bequests varies between countries and net wealth percentiles. The coefficients for the Netherlands and Slovenia turn out to be especially unreliable.[14] In most countries, the coefficients at the 25th quantile are higher than those at the 75th quantile, suggesting an impact between 10 and 25 percentiles. At the bottom and the top of the net wealth distribution, wealth transfers yield the smallest impact. The maximum contribution of receiving wealth transfers on wealth positions is clearly reached at the median where the estimates for Austria, Germany, and France indicate at least 25-percentile gains for households.

Overall we can observe a U-shaped pattern across countries suggesting that wealth transfers especially lift households in the broad middle to higher social positions.

Conclusions

To date, there is very little reliable knowledge on the role of wealth transfers for private households in Europe, and comparative studies have rarely been undertaken (for an exception see: Semyonov and Lewin-Epstein, 2013; Fessler and Schürz, 2015). Drawing on recently collected harmonized survey data, this study set out to explore the inheritance–wealth nexus across the whole distribution of household wealth.

The main findings are as follows:

First, the chances of receiving wealth transfers are very unequally distributed: the proportion of households receiving gifts or bequests climbs sharply with wealth,
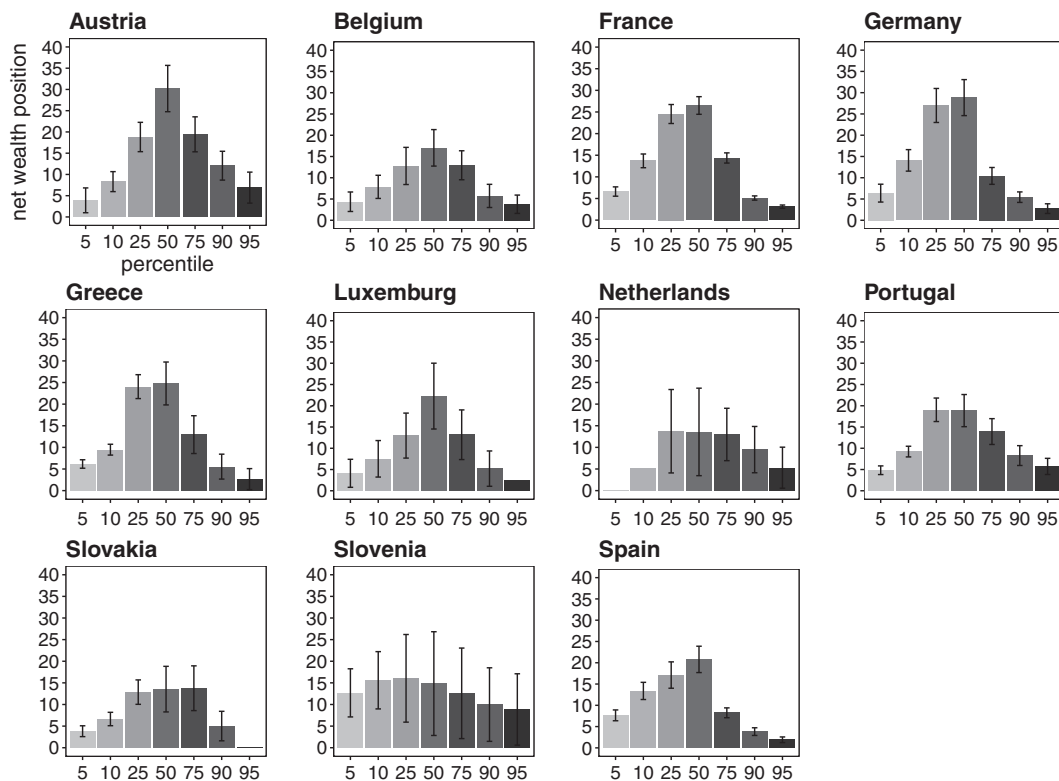

Figure 3. Coefficients for the independent variable wealth transfers (dummy), unconditional quantile net wealth position regressions

Notes. Crosshairs showing 95 per cent bootstrap confidence intervals; non-weighted data.

implying that wealth transfers are rarely substitutes for labor income in the lower half of the wealth distribution.

Second, wealth differences between households that receive gifts and bequests and non-receiving households are considerable, all other things being equal, suggesting that heirs do not deplete most of the initial burst of liquidity obtained through gifts or bequests. The wealth gap is especially obvious at the top of the distribution, amounting to about 630,000 euros at the 90th percentile.

Third, the impact of wealth transfers on household follows an inverted U-shaped pattern: gifts and bequests contribute the most to the stock of private wealth in the broad mid-section and less so at the lower and upper ends of the distribution. In the case of households in the mid-section of the wealth distribution, wealth transfers thus not only help to secure a household's social status, but even lead to substantial gains in social status.

An implication of this study is that the 'effortless' acquisition of wealth via gifts and bequests substantially improves social status, especially in the broad mid-section. 'Inherited advantages', however, are rarely discussed in the literature on the middle strata of societies. Rather, the focus is on how parents use 'meritocratic' educational institutions to improve their children's status (Edwards and Power, 2003). The marked effect of inheritance on household wealth in the mid-section of the wealth distribution together with recent evidence on parental wealth effecting educational achievements (Hällsten and Pfeffer, 2017) suggests, however, re-orienting future research toward a better understanding of how family wealth influences households belonging to very different social strata.

With regard to the top, the large wealth gaps identified here suggest that inheritance plays an important role in the financial stories of privileged households. To what extent intergenerational wealth reproduction among the wealthy has become a common phenomenon in Europe's contemporary societies is thus a question that is worth addressing in future research (Hansen, 2014).

Given the findings, the often-observed rejection of inheritance taxes by the electorate (Gross, Lorek and Richter, 2017) becomes less puzzling. Households belonging to the middle strata have the experience that inherited wealth helps them substantially in their drive for opportunities. Inheritance taxation is thus seen not only as destructive interference with the unity of the family but also as economically harmful to them. Such

opposition is, however, mostly irrational, as wealth-related taxes only apply to the wealthiest estates while raising money for the public purse (Prabhakar, 2015).

Despite its contributions, this article, like most analyses, builds on data with clear limitations. One such limitation is that the survey data used do not cover the top tail of the wealth distribution. Only future research based on different data sources will be able to shed more light on the importance of inherited advantages among the rich.

A second limitation is the cross-sectional nature of the data. In essence, all analyses establish *only an associational and not a causal relationship* between wealth transfers in the past and current levels of household wealth. Ideally, we would like to follow households over time and analyze to what extent gifts and bequests received account for increases in wealth. In the future, panel data on the wealth trajectories of heirs will be available for different European countries. It is worthwhile to investigate whether the inherited advantage identified in this article will become visible in panel survey data as well.

A third limitation is that the data used are not fully harmonized as, among other things, the oversampling techniques differ between countries. The analysis thus featured findings that are either robust across countries or looked at pooled data. Only with further efforts toward data harmonization of the ECB will it be possible to test for cross-country differences or differences between Continental European and Southern European welfare states on the basis of the HFCS survey (Albertini, Kohli and Vogel, 2007).

A fourth limitation is missing information on parents, which makes it impossible to disentangle the relative importance of wealth transfers, on the one hand, and the transmission of educational opportunities and earning abilities from parents to their children, on the other, in creating the wealth gap documented in this article (Pfeffer and Killewald, 2015).

Overall, this study has provided overwhelming evidence for a strong positive association between inheritance and wealth that is not limited to the top end of the wealth distribution.

Notes

1   Mankiw (2015) engages in a critiques of Piketty's *Capital in the Twenty-first Century* (Piketty, 2014), pointing to three theoretical reasons why inheritance in an 'r > g economy' does not necessarily lead to the resurgence of patrimonial capitalism. Heirs will consume some of the wealth they inherit; inherited wealth is divided among a

growing number of descendants; and governments impose taxes on bequests and capital income.

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, pre-existing national sources were only *ex post* converted into a harmonized data format, which could not fully resolve the comparability problem (Sierminska, Brandolini and Smeeding, 2006).

3   An up-to-date overview of wealth surveys around the world is given by Killewald, Pfeffer, and Schachner (2017).

4   In the first wave of the HFCS, there is no information for Italy or Finland on intergenerational transfers. Malta is excluded, since the age of household members is not included as a continuous variable, and Cyprus is excluded because of missing characteristics for all household members.

5   The procedures for computing survey weights are described in the methodological report accompanying the data (ECB, 2013b).

6   The effective oversampling rate of the top 10 percent is described as follows: 'if the share of rich households in the net sample is exactly 10%, the effective oversampling rate of the top 10% is 0. If the share of households in the wealthiest decile is 20%, the effective oversampling rate is 100, meaning that there are 100% more wealthy households in the sample than would be if all households had equal weights' (ECB, 2013b: 37).

7   The main aggregates of wealth 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. Public and occupational pensions are *not* recorded in the HFCS. Real assets include main residence, other real estate, investments in self-employed businesses, vehicles, and valuables. Financial assets include: Sight accounts, saving deposits, life insurances, mutual funds, debt securities, publicly traded stocks, and money owed to households (see ECB, 2013a).

8   Gender and age are thus included twice: on the personal and on the household level (as both variables are included in the definition of household types). This results in smaller coefficients for the reference person. However, one should keep in mind that household types are based only on age categories, while we measure age as a continuous variable at the individual level of the reference person.

9   Information on net income is not available.

10   Additionally, the survey contains information on the year a household received a given inheritance or gift.

11   The wording of the two questions is as follows: How (did you/your household) acquire the (part of the) residence (you own/your household owns): Did you purchase it, did you construct it yourself, did you inherit it or did you receive it as a gift? In addition to the household main residence, have you (has any member of the household) ever received an inheritance or a substantial gift, including money or any other assets (from someone who is not a part of your current household)? Note that given these questions, the distinction between wealth receiving and non-receiving households is unable to differentiate between expected and unexpected wealth transfers. Such a distinction, however, might be potentially important as households tend to adjust, among other things, their saving behaviors to gifts and bequests that are anticipated.

12   In this article, unconditional quantile regression models are estimated using the STATA command rifreg.

13   For similar, country-specific analyses of the wealth gap between wealth transfers receiving and non-receiving countries please contact the author. It can be shown for each and every country that wealth transfers receiving households tend to have considerably higher levels of net wealth than their (non-receiving) counterparts.

14   The coefficient is unreliable in the case of Slovenia because of the small sample size, and in the case of the Netherlands, it is due to high item non-response with regard to questions of wealth transfers.

Acknowledgements

References

Adermon, A., Lindahl, M. and Waldenström, D. (2017). Intergenerational wealth mobility and the role of inheritance: evidence from multiple generations. *Economic Journal*, available from: https://www.ifn.se/eng/publications/accepted_articles1/2017/2017-intergenerational-wealth-mobility.

Albertini, M., Kohli, M. and Vogel, C. (2007). Intergenerational transfers of time and money in European families: common patterns different regimes? *Journal of European Social Policy*, **17**, 319–334.

Alessie, R., Angelini, V. and van Santen, P. (2013). Pension wealth and household savings in Europe: evidence from SHARELIFE. *European Economic Review*, **63**, 308–328.

Alvaredo, F., Garbinti, B. and Piketty, T. (2017). On the share of inheritance in aggregate wealth: Europe and the USA, 1900-2010. *Economica*, **84**, 239–260.

Behrman, J. R. *et al.* (2012). How financial literacy affects household wealth accumulation. *American Economic Review: Papers and Proceedings*, **102**, 300–304.

Boserup, S. H., Kopczuk, W. and Kreiner, C. T. (2014). *Stability and Persistence of Integenerational Wealth Formation: Evidence from Danish Wealth Records of Three Generations*. Unpublished Working Paper. University of Copenhagen.

Bradford, W. D. (2003). The wealth dynamics of entrepreneurship for black and white families in the U.S. *Review of Income and Wealth*, **49**, 89–116.

Clark, G. and Cummins, N. (2015). Intergenerational wealth mobility in England, 1858-2012: surnames and social mobility. *The Economic Journal*, **125**, 61–85.

Corneo, G., Bönke, T. and Westermeier, C. (2016). Erbschaft und Eigenleistung im Vermögen der Deutschen: eine Verteilungsanalyse. *Perspektiven Der Wirtschaftspolitik*, **17**, 35–53.

Druedahl, J. and Martinello, A. (2016). *Long-Run Saving Dynamics: Evidence from Unexpected Inheritances*, Working Papers 2016:7. Department of Economics, Lund University (revised 27 September 2017).

ECB (2013a). *The Eurosystem Household and Finance and Consumption Survey—Results from the First Wave*. Frankfurt a. M.: European Central Bank.

ECB (2013b). *The Eurosystem Household and Finance and Consumption Survey—Methodological Report for the First Wave*. Frankfurt a. Main: European Central Bank.

Edwards, T. and Power, S. (2003). *Education and the Middle Class*. Buckingham: Open University Press.

Elmelech, Y. (2008). *Transmitting Inequality. Wealth and the American Family*. Lanham, MD: Rowman & Littlefield Publishers.

Fessler, P., Lindner, P. and Segalla, E. (2012). *Net Wealth Across the Euro Area. Why Household Structure Matters and how to Contol for it*. ECB Working Paper 1663. Frankfurt a. M.: European Central Bank.

Fessler, P. and Schürz, M. (2015). Private Wealth Across European Countries: The Role of Income, Inheritance and the Welfare State. ECB Working Paper 1847. Frankfurt a. M.: European Central Bank.

Finch, J. and Mason, J. (2000). *Passing on: Kinship and Inheritance in England*. London: Routledge.

Firpo, S., Fortin, N. M. and Lemieux, T. (2009). Unconditional quantile regressions. *Econometrica*, **77**, 953–973.

Gross, C., Lorek, K. and Richter, F. (2017). Attitudes towards inheritance taxation - results from a survey experiment. *The Journal of Economic Inequality*, **45**, 99–112.

Grusky, D. B. and Ku, M. C. (2008). Gloom, doom, and inequality. In Grusky, D. B., Ku, M. C. and Szelényi, S. (Eds.), *Social Stratification: Class, Race, and Gender in Sociological Perspective*. Boulder: Westview Press, pp. 2–28.

Hällsten, M. and Pfeffer, F. T. (2017). Grand advantage: family wealth and grandchildreńs educational achievement in Sweden. *American Sociological Review*, **82**, 328–360.

Hansen, M. N. (2014). Self-made wealth or family wealth? Changes in intergenerational wealth mobility. *Social Forces*, **93**, 457–482.

Karagiannaki, E. (2015). The impact of inheritance on the distribution of wealth: evidence from Great Britain. *Review of Income and Wealth*, **63**, 394–408.

Killewald, A. and Bearak, J. (2014). Is the motherhood penalty larger for low-wage women? A comment on quantile regression. *American Sociological Review*, **79**, 350–357.

Killewald, A., Pfeffer, F. T. and Schachner, J. N. (2017). Wealth inequality and accumulation. *Annual Review of Sociology*, **43**, 379–404.

Mankiw, G. N. (2015). Yes, r > g. So What? *American Economic Review*, **105**, 43–47.

Mathä, T. Y., Porpiglia, A. and Ziegelmeyer, M. (2014). *Household Wealth in the Euro Area. The Importance of Intergenerational Transfers, Homeownership and House Price Dynamics*. ECB Working Paper 1690. Frankfurt a. M.: European Central Bank.

Nau, M. and Tumin, D. (2012). Wealth transfer receipt and later life wealth. *Research in Social Stratification and Mobility*, **30**, 233–245.

Pfeffer, F. T. and Killewald, A. (2015). *How Rigid is the Wealth Structure and Why? Inter- and Multi-generational Associations in Family Wealth Population Studies Center Research Report 15-845*. Michigan: University of Michigan.

Piketty, T. (2011). On the long-run evolution of inheritance: France 1820-2050. *The Quarterly Journal of Economics*, **126**, 1071–1131.

Piketty, T. (2014). *Capital in the Twenty-First Century*. Cambridge, MA: Harvard University Press.

Porter, S. R. (2015). Quantile regression: analyzing changes in distributions instead of means. In Paulsen, M. B. and Porter, S. R. (Eds.), *Higher Education: Handbook of Theory and Research*. Dordrecht: Springer International Publishing, pp. 335–381.

Prabhakar, R. (2015). Why do the public oppose inheritance taxes? In Gaisbauer, H. P., Schweiger, G. and Sedmak, C. (Eds.), *Philosophical Explorations of Justice and Taxation*. New York, NY: Springer, pp. 151–166.

Rubin, D. B. (2004). *Multiple Imputation for Nonresponse in Surveys*. Hoboken, NJ: Wiley-Interscience.

Semyonov, M. and Lewin-Epstein, N. (2013). Ways to richness: determination of household wealth in 16 countries. *European Sociological Review*, **29**, 1134–1148.

Sierminska, E., Brandolini, A. and Smeeding, T. M. (2006). The Luxembourg Wealth Study—a cross-country comparable database for household wealth research. *The Journal of Economic Inequality*, **4**, 375–383.

Sierminska, E., Smeeding, T. and Allegrezza, S. (2013). The distribution of assets and debt. In Gornick, J. C. and Jäntii, M. (Eds.), *Income Inequality: Economic Disparities and the Middle Class in Affluent Countries*. Stanford: Stanford University Press, pp. 285–311.

Spilerman, S. (2000). Wealth and stratification processes. *Annual Review of Sociology*, **26**, 497–524.

Szydlik, M. (2004). Inheritance and inequality: theoretical reasoning and empirical evidence. *European Sociological Review*, **20**, 31–45.

Szydlik, M. (2016). *Sharing Lives: Adult Children and Parents*. London: Routledge.

Tiefensee, A. and Grabka, M. M. (2016). Comparing wealth—data quality of the HFCS. *Survey Research Methods*, **10**, 119–142.

Vermeulen, P. (2014). *How Fat is the Top Tail of the Wealth Distribution?* ECB Working Paper 1692. Frankfurt a. M.: European Central Bank.

Westermeier, C. and Grabka, M. M. (2016). Longitudinal wealth data and multiple imputation. An evaluation study. *Survey Research Methods*, **10**, 237–252.

Winship, C. and Radbill, L. (1994). Sampling weights and regression analysis. *Sociological Methods and Research*, **23**, 230–257.

Zagorsky, J. L. (2005). Marriage and divorce's impact on wealth. *Journal of Sociology*, **41**, 406–424.

Zagorsky, J. L. (2013). Do people save or spend their inheritances? Understanding what happens to inherited wealth. *Journal of Family and Economic Issues*, **34**, 64–76.

Philipp Korom was a senior researcher at the MPIfG and is currently a postdoctoral researcher in the Department of Sociology at the University of Graz/Austria. His research interests comprise academic elites, wealth inequality, and the sociology of intellectuals. His work has been published in the journals *European Societies*, *Social Science Research*, and *World Political Science Review*.