The Long and The Short of it:
Inheritance and Wealth in Ireland

Simone Arrigoni, Laura Boyd
and Tara McIndoe-Calder

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THE LONG AND THE SHORT OF IT: INHERITANCE AND WEALTH IN IRELAND

Simone Arrigoni[†]

Trinity College Dublin, IM-TCD, Central Bank of Ireland

arrigons@tcd.ie

Laura Boyd[‡]

Central Bank of Ireland

laura.boyd@centralbank.ie

Tara McIndoe-Calder[‡]

Central Bank of Ireland

tara.mcindoecalder@centralbank.ie

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Abstract

Inheritances matter for wealth accumulation and are often central to policy debates on wealth taxes. Using household level survey data, this paper shows that up to 2020 over one-third of households in Ireland had inherited wealth, the cumulative value of which (€97 billion) accounts for approximately one sixth of current net wealth for these households. However, the impact of inheritance extends beyond its direct value as inheritors tend to be wealthier, with a greater ownership of property. Our analysis shows that inheritances in Ireland contribute little to wealth inequality, and may even have reduced it over time, in line with existing findings for Britain and the United States. Tentative evidence suggests that mechanisms behind this wealth equalising effect may be (i) the importance of inheritances for the acquisition of property assets for middle-wealth households, (ii) the rise of asset prices, especially house prices, and (iii) substitution from employee income to rental income among inheritors.

JEL codes: D14, D31, D64
Keywords: intergenerational transfers, inheritances, wealth inequality, HFCS, Gini

[†]Department of Economics, Trinity College Dublin, Dublin 2, Ireland
[‡]Central Bank of Ireland, New Wapping Street, North Wall Quay, Dublin 1, Ireland

1 INTRODUCTION

Aggregate household net wealth, defined as total assets net of debt, has been increasing in Ireland since the beginning of the century. The latest value (€1,069 billion in 2022 Q4) is almost three times higher than it was twenty years earlier (€392,2 billion in 2002 Q4).[1] However, as is the case for other advanced economies, the distribution of net wealth in Ireland remains highly unequal, with the Gini coefficient being 0.65 in 2020. Although this is still high in an historical sense, the coefficient has decreased by 10 percentage points since 2013.[2] Horan et al. (2021) find that the rise in house prices, the decline in the share of households with negative equity, and changes in home ownership are the main drivers behind this decline in wealth inequality.

Interest in the drivers of wealth inequality and the role of intergenerational wealth transfers (inheritances and gifts) in the determination of the net wealth distribution remains an area of active policy and research focus. There is evidence that the importance of inheritance has increased over time (Piketty, 2011; Piketty and Zucman, 2015; Atkinson, 2018; Ohlsson et al., 2020; Acciari et al., 2021). However, the literature has not yet reached a consensus on whether inherited wealth acts as an equaliser of the distribution of total net wealth or not. By and large, the answer depends on the country being considered. Differences in demographics, the propensity to transfer between generations and the evolution in wealth stocks over time, lead to heterogeneous results between countries. However, several recent studies which use micro-data find that intergenerational transfers act as an equalising force of the wealth distribution.

There exist a plethora of methodologies to study the link between inherited wealth and the accumulation of net wealth. Each one tackles the question from a different perspective and results from different methodologies should be seen as complements rather than substitutes. Nolan et al. (2021) implement a decomposition method to disentangle the relative contributions of inherited and non-inherited wealth to total wealth inequality, as measured by the Gini coefficient on wealth, for six advanced economies

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[1]Source: Quarterly Financial Accounts (QFA), Central Bank of Ireland.

[2]We compute the Gini coefficients using micro-data from the Household Finance and Consumption Survey (HFCS). This is the same data that we use for the empirical analysis. The first HFCS wave in Ireland was conducted in 2013, while the latest data were collected in 2020. The evolution of the Gini coefficient, calculated from survey data, is as follows: 0.52 in 1987 (Horan et al., 2021), 0.75 in 2013, 0.67 in 2018 (0.7 considering the May 2023 revision by CSO), 0.65 in 2020.

in 2010/11 (United Kingdom, France, Germany, Italy, Spain, United States). In this paper we implement and update this methodology for Ireland, using household level data from the latest wave of the Household Finance and Consumption Survey (HFCS).

We find that, by 2020, over one-third of households had received an inheritance or gift. For these households, the real value of inherited wealth is €97 billion and accounts for approximately one sixth of their total net wealth. Moreover, the incidence of inheritances appears to be increasing over time with a higher proportion of households receiving inheritances in the last 20 years than previously. Older households in 2020 (those whose head of household is aged 60 and over) are more likely to have received inheritances than similar households in 2013. Wealthier households are more likely to have received inheritances. However, for those households who have received an inheritance, the value of inherited wealth is a larger share of total wealth for those in the middle of the wealth distribution than for those at the top. Due to the relatively larger size of inherited wealth in total net wealth for households in the middle of the wealth distribution, inheritances in Ireland appear to contribute little to wealth inequality, and may even reduce it (similar to findings for Britain, the United States and Germany).

Addressing this research question has relevant policy implications. In Ireland the debate on wealth taxation centres on ways to increase the amount of tax collected, minimise distortions and improve equity. One example of which is *Foundations for the Future* (Government of Ireland, 2022), the report of the 2022 Commission on Taxation and Welfare, which considered a number of reforms to existing capital taxes, such as a minimum capital charge on inheritances and gifts. But the discussion has a global nature. In its *Inheritance Taxation Report 2021*, the OECD suggests that inheritance taxes are a useful instrument to reduce wealth concentration and enhance equality of opportunity (OECD, 2021). Moreover, compared to other taxes on wealth, they have lower efficiency costs and are easier to assess and collect. Uncovering the effect of inheritance for the distribution of wealth would help inform the policy discussion around this debate.

The remainder of the paper is organised as follows. Section 2 reviews the related literature. Section 3 describes and explores the data providing a set of stylised facts. Section 4 explains the methodology and presents the results. Section 5 discusses potential mechanisms, while Section 6 provides robustness checks. Section 7 offers policy

implications and concludes.

2 LITERATURE

Part of the literature suggests that inheritances are associated with an increase in wealth inequality (Davies, 1982; Gokhale et al., 2001; De Nardi, 2004; Salas-Rojo and Rodríguez, 2022). Various papers document a strong intergenerational wealth correlation (Wedgwood, 1928; Harbury, 1962; Harbury and Hitchens, 1976; Harbury and Hitchins, 1979). Benetton et al. (2022) estimate that in the United States the likelihood of homeownership is 60 per cent higher for individuals whose parents extract equity compared to those who don't. Adermon et al. (2018) document that in Sweden at least 50 per cent of the intergenerational wealth correlation can be explained by bequests. Fagereng et al. (2021) complement adoption data with Norwegian tax records and find that wealth amounts and decisions of adopted children are strongly influenced by the background of the adoptive family.

However, another substantial portion of the literature actually finds that inheritance can be an equalising force for the distribution of wealth. There are three main strands of the literature reaching this same conclusions, using different methodologies, frameworks, and data.

First, from a theoretical perspective, this result can be explained by the parents' decision on how to distribute their inheritance (Becker and Tomes, 1979; Tomes, 1981) and/or spousal backgrounds (Laitner, 1979). Tomes (1981) finds that inheritances make the distribution of wealth more fair because low-income children inherit more compared to children of advantaged households.

Second, administrative data have been employed to show this result. Boserup et al. (2016) use Danish administrative data and find that inheritances are associated with a reduction in relative inequality, via a decline in the share of wealth going to the top 1%. Elinder et al. (2018) find a similar result using population register data for Sweden.

Third, there are papers that come to this result empirically using survey data. Survey data are not qualitatively as good as admin data, but they allow to run comparative analysis for a larger number of countries and to collect extra *ad-hoc* informa-

tion. Moreover, they offer valuable insights when administrative data is not available to researchers, which is the case for Ireland. The main channel behind this result is that inheritances are relatively more important to people at the bottom of the distribution rather than to those at the top. Although differences in the institutional and economic setup of countries can lead to heterogeneous results, this finding appears to be robust across countries (Nolan et al., 2021). Relevant papers include Wolff (2002) and Wolff and Gittleman (2014) using the Survey of Consumer Finances (SCF) for the United States, Bönke et al. (2017) using the Household Finance and Consumption Survey (HFCS) for European Union countries, Karagiannaki (2017) using the British Household Panel Survey (BHPS) for the United Kingdom, Klevmarken (2004) using the Swedish Household Panel Surveys (HUS) for Sweden, Horioka (2009) using the Survey of Intra-household Distribution and Intergenerational Transfers for Japan, Wei and Yang (2022) using the China Health And Retirement Longitudinal Study (CHARLS) for China. Given the framework of this paper, the latter is the strand of the literature that relates the most to our work.

To summarise, the literature has not reached a consensus on this matter. The conclusion depends on the methodology which is implemented, the assumptions that are made, and the horizon of study. For example, Crawford and Hood (2016) find that inheritances are wealth equalising when pensions are not taken into account in the definition of wealth, while the effect lessens once these are included. Nekoei and Seim (2023) find that in Sweden inheritances reduce relative wealth inequality at the time of receipt, but they lead to the opposite effect within a decade. This is due to the heterogeneity in depletion rates of inheritances between the average receiver and the wealthier ones. Morelli et al. (2023) suggest that in advanced economies most inheritances and gifts serve as an equaliser for the distribution of wealth, while large inheritances and gifts worsen the relative wealth gap. In their policy discussion, they calculate specific monetary thresholds for each country, determining the point at which wealth transfers received throughout a household's lifetime become unequalising for the overall wealth distribution (i.e. a maximum tax-free threshold for inheritances and gift). This is interesting for our paper because in Ireland a framework has been adopted where inheritances and gifts are aggregated over an individual's entire life, and they

are exempt from taxation if they fall below €335,000.[3] The excess amount is taxed at a rate of 33 per cent.

In brief, different approaches should be seen as complements rather than substitutes.

Our study makes a significant contribution to the literature in two ways. On the one hand, we provide further evidence of the link between inheritances and wealth inequality using updated micro-data. Specifically, we aim to add to the third strand of the literature by using household-level survey data. Unlike previous studies that have used this data for other European countries (Nolan et al., 2021), we leverage the latest wave of the survey, allowing us to compare results with older waves and providing a more comprehensive analysis of the issue. In addition, we try to identify potential mechanisms behind our finding. On the other hand, we address a major gap in the literature by providing a decomposition of wealth inequality between inherited and non-inherited wealth for Ireland. Despite a few papers analysing this link in the Irish context (Nolan, 1992; Lawless and Lynch, 2017), our study is the first, to the best of our knowledge, to provide such decomposition. By focusing on Ireland, we believe that our study sheds light on an under-explored context and helps to fill a significant gap in the literature. We believe this is particularly important and interesting because national policy efforts have focused on the distribution of income in recent decades with less attention on the distribution of wealth. Wealth, including its distribution, is important to households and in aggregate due, for example, to the consumption smoothing role wealth plays in household financial behaviour (Ganong et al., 2020).

3 DATA

This section describes the data we use in our analysis and presents stylised facts that will help us to interpret the results we get from the empirical analysis.

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[3]This is the tax-free rate for transfers received by individuals in Group A. See here for more details on the Capital Acquisitions Tax, the threshold for other groups, and the tax rates.

3.1 HFCS

The Household Finance and Consumption Survey (HFCS) is a Eurosystem survey, co-ordinated by the European Central Bank (ECB) and conducted by the Central Statistics Office (CSO) in Ireland. It collects cross-sectional household-level data on wealth (real and financial assets, liabilities and credit constraints), income, intergenerational trans-fers and gifts, consumption and saving.

The HFCS was first conducted in 2010. However, Ireland only entered the country sample in 2013, at the time of the second wave. In this paper, we use data for Ireland from the latest HFCS wave, conducted in the second half of 2020 on a sample of 6,020 households.[4] Among other reasons, we focus our analysis on Ireland, as access to data for this wave for the other countries is still limited. Household sampling is designed to ensure representativeness of the Irish population and a probabilistic sample design is applied.[5] An oversampling of wealthy household is implemented, to account for the high concentration of financial instruments towards the top of the distribution. To correct for item non-response and increase quality, the dataset is imputed and comple-mented with official data, when available.

The HFCS includes questions on wealth that households inherited at any point in the past up to and including the year 2020. In this paper, we refer to *inherited* wealth as wealth received in the form of both inheritances and gifts. However, as of 2020 the vast majority of the cumulative value of inherited wealth consists of inheritances (90 per cent). We define *non-inherited* wealth (or non-transfer wealth) as any other type of wealth (total wealth minus inherited wealth). As standard in the literature, *net wealth* is defined as the total market value of a household's assets minus its outstanding debt.

Table 1 provides an overview of the HFCS variables that we will use for our analysis. Each household can report up to three of the largest inheritances or gifts received. This is standard in comparable surveys of household finances, such as the Survey of Con-sumer Finances (SCF) for the United States or the Wealth and Assets Survey (WAS) for

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[4]For some comparisons and robustness tests we will also use the initial 2013 waves, who surveyed 5,419 households. Officially the ECB labels this wave as 2014, but we changed the reference to 2013 for better clarity, given that the fieldwork in Ireland happened between March and September 2013.

[5]The latter means that the ex-ante probability that each household in the target population will take part in the survey is non-zero. When aggregating HFCS statistics, representative weights are used to reflect the characteristic of the 2020 population.

the United Kingdom.[6] Moreover, if household members received several gifts or inheritances at the same time from the same donor, these are all treated as one. This means that households can potentially report even more than three transfers.[7] To exploit the largest amount of information, the value of inherited wealth for household i is the sum of the values of all inheritances and gift reported:

$$\text{Inherited Wealth}_i = \sum_{\$=1}^{3} \text{HH040\$x}_i \qquad (1)$$

where $\$$ denotes the specific inheritance or gift reported by household i, and x is used to identify additional information such as the type of asset received. We apply the same approach to the other information (type of asset, type of disposer, type of transfer), using the information attached to the three inheritances and gifts reported by each household altogether.

It is recognised that households, particularly those with high net wealth, tend to under-report information in surveys, which means that even though the sample weights are representative, the overall amount of inherited wealth estimated from these data is likely to be underestimated (Vermeulen, 2018; Kennickell, 2019). This remains a limitation of the dataset that we employ for our analysis, as administrative data on inheritance is not available for Ireland. Our estimate of the share of inherited wealth in total wealth (12 per cent) is consistent with survey data estimates for other advanced economies. However, since there is no official data on the aggregate level of inheritance for Ireland, we cannot directly evaluate the potential underestimation. Instead, we compare the wealth aggregates derived from the HFCS data with those from the Central Bank of Ireland's Quarterly Financial Accounts (QFA) for the household sector. Figure A2 presents the comparison using the three HFCS waves. We find that while there is substantial under-reporting of financial assets, the aggregate value of real assets in the

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[6]In Figure A1 we observe the distribution of inheritances/gifts across the net wealth distribution. The data is broken down by the three largest inheritances received. While the share of households inheriting wealth shows a linear trend, the number of inheritances evolves exponentially and it does not seems to be under-estimated, especially due to the over-sampling of wealthy households. Notably, the number of inheritances reported by households in the 10th decile is 23 times higher than that reported by households in the 1st decile and 6 times higher than that reported by households in the 5th decile. Furthermore, while middle-low wealth households primarily report one inheritance/gift (representing 84% of all inheritances), wealthy households tend to report multiple inheritances/gifts (in the 10th decile, only 63% of inheritances/gifts are in the "first" group).

[7]Among the inheritors in Ireland, 99% report at most 3 inheritances/gifts while 1% report more than 4 inheritances/gifts, with the maximum being 6. The average is 1.4.

TABLE 1: HFCS VARIABLES

HFCS code	Description
HH0100	Any substantial gift or inheritance received.
HH020$x	Gift/inheritance $x: year in which gift/inheritance was received.
HH030$x	Gift/inheritance $x: what kind of asset received.
HH040$x	Gift/inheritance $x: value at the time of receipt.
HH050$x	Gift/inheritance $x: type of transfer (gift or inheritance).
HH060$x	Gift/inheritance $x: from whom received.

Source: ECB (2021).

Notes: $ denotes a loop variable which can range from 1 to 3, as the HFCS allows households to report up to 3 substantial inheritances or gifts received. x is used to identity additional information such as the type of inheritance or disposer. Inheritance includes transfer of assets in connection with death of an antecedent, while gift is a transfer of assets made during the life of a donor, not connected to the death of that person. The value of the gift/inheritance is net of any corresponding inheritance or donation taxes applied at the moment of receipt.

HFCS data is higher than that in official data. Additionally, the trends in real assets over time in HFCS closely match those in QFA. Overall, net wealth is underestimated by an average of 17 per cent. Given that real assets, such as dwellings and land, contribute the most to the total value of inheritances and gifts, our comparison results provide reassurance about the robustness of our analysis. Moreover, the response rate in Ireland is generally high (ECB, 2021), and the proportion of households that participate in the survey is particularly large compared to other countries used as a reference in this paper (Table B1).

3.2 STYLISED FACTS

Just over a third (36 per cent) of Irish households report having ever received an inheritance or gift. The relationship between net wealth and receiving an inheritance is strictly positive (Figure 1). However, as we will show in Section 5, the value of inheritances and gifts as a share of net wealth is decreasing in the distribution of net wealth.

Inheritances and net wealth are positively correlated (Table 2). Inheritors' median gross income and net wealth are 17 and 155 per cent higher respectively than those
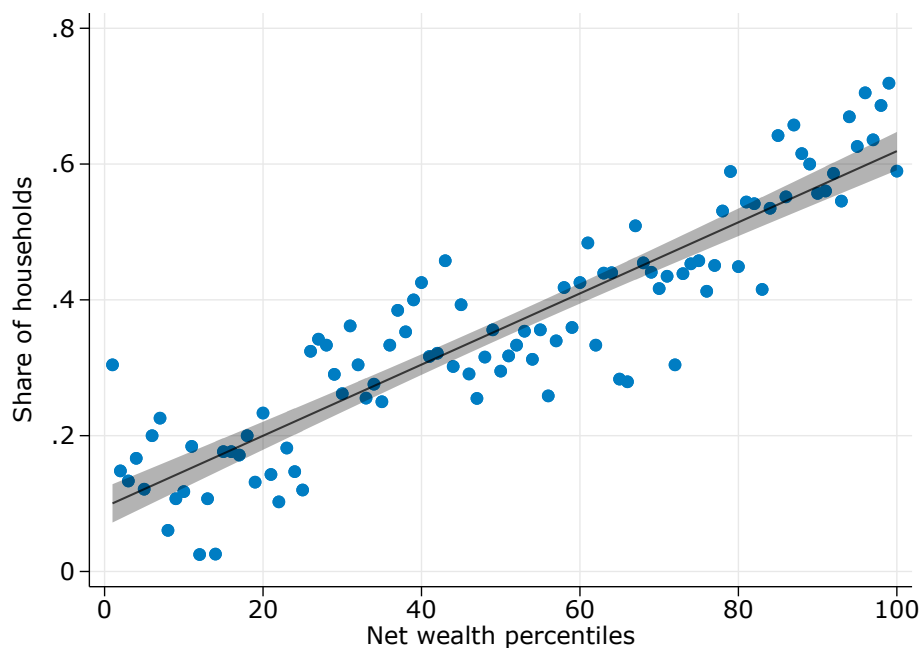
FIGURE 1: HOUSEHOLDS RECEIVING SUBSTANTIAL INHERITANCES OR GIFTS
Source: HFCS and authors' calculations.
Notes: Values of reported inheritances and gifts are adjusted to 2020 values using the Consumer Price Index (CPI).

who have not inherited. Inheritors are also more likely to own a home or private business, relative to those without inherited wealth (23 and 13 percentage points higher, respectively). Whilst these are correlations, as opposed to causation, this provides tentative evidence of what Benetton et al. (2022) call "dynastic home equity", whereby persistence in home-ownership across generations in the United States – i.e., when donors (parents) own housing or property – generates a substantial increase in young adults' housing wealth inequality.

Income and age are also relevant factors for wealth, home-ownership and business ownership. But even controlling for these, we find a strong correlation with inheritances. Controlling for income and age, we find that households that receive an inheritance have higher net wealth. At the median, a 1 per cent increase in inheritance (log) relates to a 0.2 per cent increase in net wealth. Moreover, households who receive an inheritance are on average 2.7 per cent more likely to own a home and 6 per cent more likely to own a private business.[8]

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[8]0.2 is the coefficient of a log-log OLS median regression of the log of inheritance on the log of net wealth. 2.8 and 6.3 are the marginal effects from a probit model with home-ownership and business ownership dummies as dependent variables, respectively, estimated at the average inheritance log value. All estimations control for the log of income, age, and age squared. Full regression results are available upon request.

TABLE 2: COMPOSITION AND VALUE OF WEALTH FOR HOUSEHOLDS

	With inheritances or gifts	Without inheritances or gifts	All households
Net wealth (median)	€331,500	€130,079	€193,100
Homeownership (share)	0.86	0.63	0.71
Private business ownership (share)	0.24	0.11	0.16
Income (equivalised, median)	€34,733	€29,654	€31,490

Source: HFCS and authors' calculations.
Notes: Home-ownership means owning all or part of the residence or use it for free (e.g. usufruct). Private business ownership refers to ownership of all/part of any business that is not publicly traded where the household has an active role in running the business or ownership of any business that is not publicly traded where the household acts only as an investor or silent partner. Equivalised income is defined as total gross annual household income equivalised using the modified OECD equivalence scale which accounts for the number of consumption units in the household.

Based on the self-reported year of the inheritance, inherited wealth appears to have increased over time. Specifically, the proportion of households who have inherited wealth in the past 20 years is higher than at any time prior to this. When disaggregating this information by age cohort, we find that older households (i.e., those whose head of household is aged over 60) in the 2020 survey are more likely to have received inheritances or gifts than comparable households in the 2013 survey (Figure 2). Younger cohorts however, show a similar likelihood in both 2013 and 2020.

The HFCS also provides an overview of the main classes of assets that households typically inherit. Money was the most common type of asset received (57 per cent) by households who reported ever having received an inheritance, as shown in Figure 3. Dwellings (33 per cent) and land (19 per cent) were the other most common asset types reported by households in the 2020 survey. However, when looking at the value, land and dwellings represent about 70 per cent of the cumulative value of all inheritances received by households by 2020.

Figures 4(a) and 4(b) break down the value of inheritances received over time by type of inheritance and relation with the donor, using the self-reported year of the inheritance. Dwellings represented the largest value in total inheritance up to the 1980s, when land started to increase in importance. While, after the 1990s, money became a consistent part of the value of transfer wealth. This decomposition reflects the changes that the Irish economy, and thus Irish households, have experienced over time. The
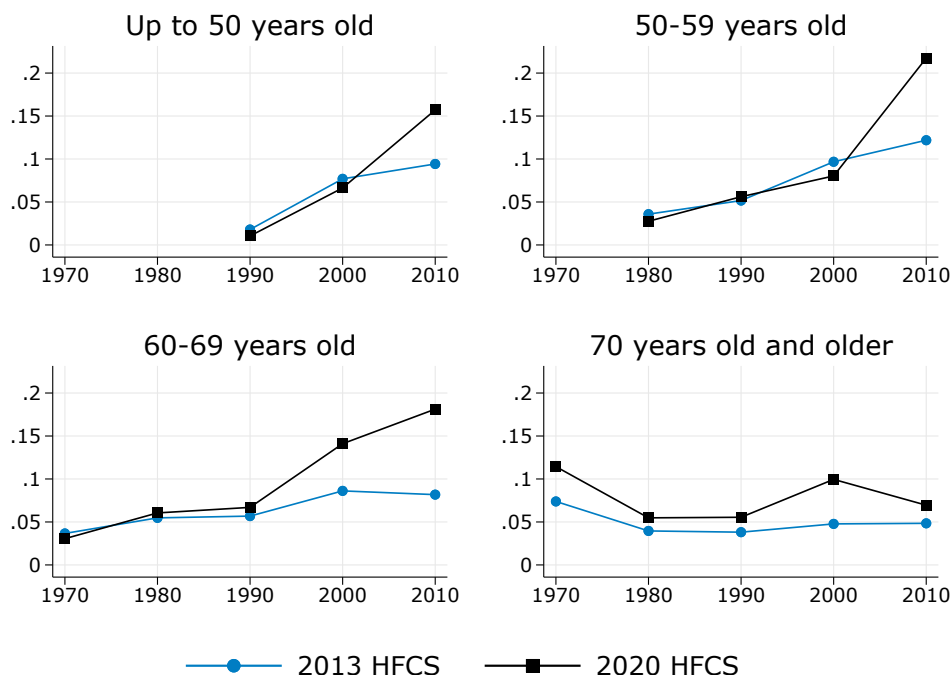
FIGURE 2: HOUSEHOLDS RECEIVING INHERITED WEALTH OVER TIME BY AGE, SHARE

Source: HFCS 2013 and 2020, and authors' calculations.
Notes: The years refers to when the household received the inheritance/gifts. Age refers to the age of the household head in the survey year (2013 or 2020). We have linearly adjusted the share for the 2010 decade in the 2013 wave to account for the missing years compared to the 2020 wave.

vast majority of disposers were parents of the beneficiary. Parents account for 78 per cent of the total value of all inheritances and gifts as of 2020.

4 DECOMPOSING THE WEALTH GINI

Inherited wealth can plausibly impact on wealth acquisition in a variety of ways. For example, households can spend out of inherited wealth or use it to stimulate additional saving (i.e., use inherited wealth to acquire additional assets). As a result, there are a growing number of studies seeking to understand how intergenerational transfers contribute to the distribution of total wealth. Here, we decompose changes in wealth inequality – as measured by the Gini coefficient – by contributions from inherited wealth (*"transfers"*) and other sources of wealth (*"non-transfers"*). We use the Marginal Gini Decomposition (MGD) methodolody developed for analysis on wealth inequality by Nolan et al. (2021) (NPVKM), who in turn adapted the income version by Lerman and Yitzhaki (1985). This type of decomposition has been used in several empirical pa-
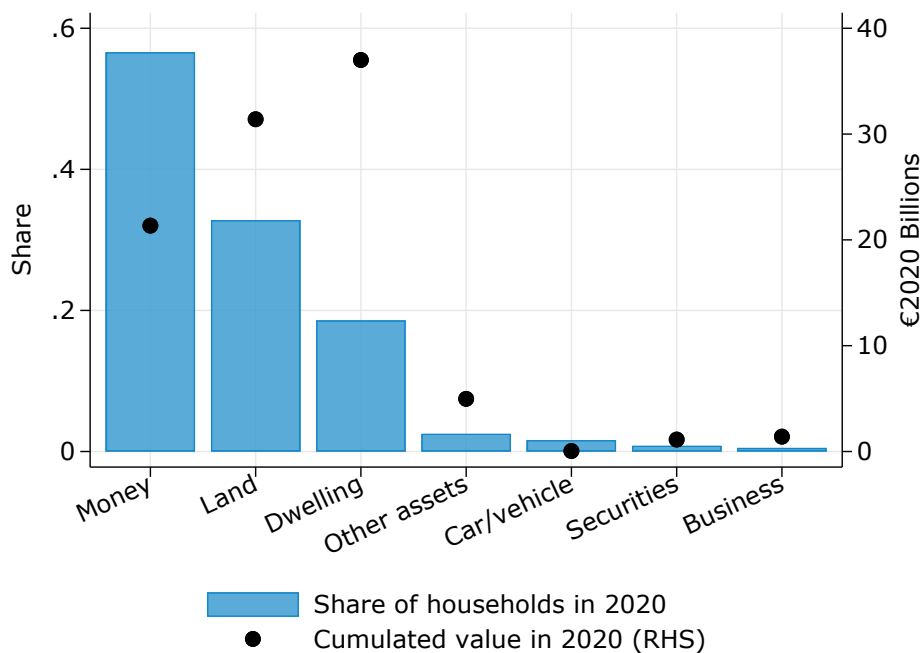
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FIGURE 3: TYPE OF ASSETS RECEIVED AS INHERITANCE OR GIFT

Source: HFCS and authors' calculations.
Notes: Conditional on having received inheritance. The figures includes all the inheritances and gifts received up to 2020. "Other assets" includes use of dwelling (reserve/usufruct), jewellery/furniture/artwork, life insurance, and any other type of assets that is not specified as a category. Values of reported gifts and inheritances are adjusted to 2020 values using the Consumer Price Index (CPI) and then cumulated over time.

(A) TYPE OF ASSET RECEIVED

(B) RELATION WITH DISPOSER

FIGURE 4: INHERITED WEALTH OVER TIME, SHARE OF TOTAL VALUE

Source: HFCS and authors' calculations.
Notes: Conditional on having received inheritance. The figures includes all the inheritances and gifts received up to 2020. "Other assets" includes use of dwelling (reserve/usufruct), jewellery/furniture/artwork, life insurance, and any other type of assets that is not specified as a category. Values of reported gifts and inheritances are adjusted to 2020 values using the Consumer 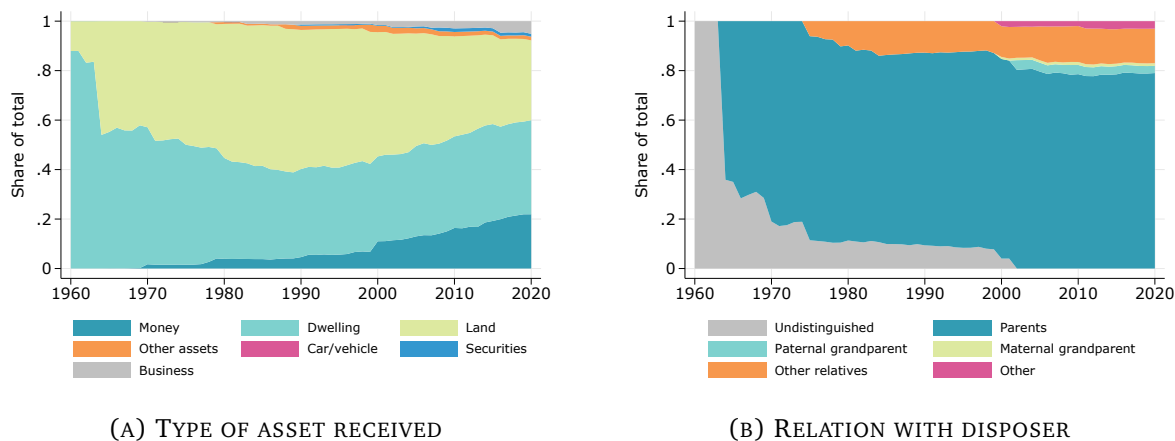Price Index (CPI) and then cumulated over time. No return/disinvestment on transfer wealth is assumed. Due to data confidentiality, "undistinguished" include the sum of all categories with less than 30 cumulative observations at that point in time.

pers, either to decompose the Gini coefficient or the coefficient of variation (Wolff and Gittleman, 2014; Wolff, 2015; Crawford and Hood, 2016; Karagiannaki, 2017; Bönke et al., 2017). Methodological limitations have been addressed in a comprehensive way by Urban (2022). While other options are possible (e.g., wealth shares, variation coefficient), we use the Gini coefficient as a proxy for wealth inequality given that this measure relies less on extreme observations.

The Gini coefficient for total net wealth (G_W) is separated into the weighted contributions from transfer (C_T) and non-transfer (C_{NT}) wealth, with the shares of the two types of wealth into total wealth as weights (S_T and $S_{NT} = 1 - S_T$):

$$G_W = \underbrace{(S_T \cdot G_T \cdot R_T)}_{\text{Transfer wealth contribution } (C_T)} + \underbrace{((1 - S_T) \cdot G_{NT} \cdot R_{NT})}_{\text{Non-transfer wealth contribution } (C_{NT})} \tag{2}$$

G_T and G_{NT} are the Gini coefficients for transfer and non-transfer wealth, while R_T and R_{NT} are the respective correlations with total wealth.[9]

Implementation of the methodology involves inflating all disclosed intergenerational inheritances and gifts received by households in the 2020 HFCS to 2020 values, using the Consumer Price Index (CPI).[10] As in NPVKM, whenever the values of transfer wealth are larger than total wealth for a given household, we cap the former at the latter value.[11]

Table 3 shows the decomposition results. Our baseline specification for the decomposition assumes no real return on inherited wealth, as we cannot precisely know what

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[9]The decomposition methodology uses ranked, or non-parametric, correlations. These are Pearson non-parametric correlations between values of transfer and non-transfer wealth ranked by their rank in the total wealth distribution, rather than by their own distribution. This means that transfer, non-transfer, and total wealth values are ordered from the smallest to the largest before computing correlations. The only assumption required of the data is that the two series are monotonic in their ranks. In other words, the ranked correlation allows transfers and non-transfers to be related to total wealth in a way that does not assume linearity, which is important for variables like wealth which tend to be very concentrated in particular parts of the population.

[10]We deflate inheritances and gifts using the CPI to adjust for inflation changes and to align the stylised facts with the empirical methodology following Nolan et al. (2021). While other options are available, we believe CPI is the most appropriate measure given that we do not have information on what the receivers of the inheritance do once they have inherited wealth. Thus, any other type of adjustment would require rather strong assumptions. Note that, given that each household can report up to three inheritances or gifts, each of them is deflated before we aggregate them at household level to account for different prices at the time of receipt of each of them.

[11]Piketty et al. (2014) suggest this procedure as resulting in a plausible estimation of transfer wealth by better accounting for the coexistence of savers and dissavers out of transfer wealth.

TABLE 3: CONTRIBUTION TO WEALTH INEQUALITY FROM TRANSFER AND NON-TRANSFER SOURCES

	Baseline (without capitalisation)
Gini total wealth (G_W)	0.65
Gini transfer wealth (G_T)	0.91
Gini non-transfer wealth (G_{NT})	0.67
Share of transfers in total wealth (S_T)	0.12
Correlation transfers with total wealth (R_T)	0.67
Correlation non-transfers with total wealth (R_{NT})	0.98
Contribution of transfer wealth to Gini total wealth (C_T)	0.07
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.58
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.11
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.79

Source: HFCS and authors' calculations.

households did with the inheritance once received.[12] However, given that inherited wealth can change wealth both directly and indirectly – that is, by investing it and/or using it to acquire additional assets – we will allow for wealth capitalisation using different returns on wealth as a robustness test (Section 6). We find that results are robust to different specifications.

Similar to NPVKM, the distribution of inherited wealth in Ireland is highly unequal (see Table B2 in Appendix B for cross-country comparison). The inheritances Gini coefficient (G_T, 0.91) is similar to that for Britain, France, and Germany (around 0.89). The correlation of inherited wealth to total wealth (R_T, 0.67) is lower than the correlation of non-inherited wealth (R_{NT}, 0.98). Moreover, the share of inheritances in total

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[12]The debate on whether to capitalise inherited wealth or not was a key issue in the Kotlikoff-Summers (capitalisation) versus Modigliani (no capitalisation) discourse of the 1980s. See Piketty et al. (2014) for a review. In our study, we have opted to present our primary estimates without capitalisation and include the non-capitalised estimates as a robustness check for two reasons. Firstly, this allows for comparability with results from NPVKM, whose primary estimates are also without capitalisation. Secondly, due to the unavailability of both aggregate data and information in the HFCS, we are unable to accurately compute the rate of capitalisation.

wealth is particularly low (S_T, 0.12), which resembles the results for Britain and the United States (0.12 and 0.09 respectively). Together, these three factors – the last one in particular – explain why the contribution of transfer wealth to total wealth inequality is small (C_T, 0.07), and far more modest than the contribution of non-transfer wealth (C_{NT}, 0.58).

The combination of the relative inequality of inherited wealth (G_T) and low correlation of inherited wealth with total wealth (R_T), means that a proportionate increase in transfer wealth of 1 per cent would reduce Ireland's Gini of total wealth (G_W) by 0.79 per cent.[13] This estimated change in wealth inequality is equivalent to one third of the average annual fall in the Gini observed in the data between the first survey wave (2013) and the latest one (2020).[14]

Figure 5 provides a visual summary of our results, compared with those from NPVKM for other advanced economies.[15] Our findings for Ireland are similar to results for Britain, Germany, and the United States.

5 MECHANISMS

Shedding light on the potential channels driving the results we find with the Gini decomposition is particularly challenging using HFCS data. HFCS provides a snapshot for the year of the survey. Using the self reported year of receipt it is possible to construct a time series of inheritances, but we do not have any information of the household at the time of receipt. This means that we cannot assess the contribution of inheritances to wealth accumulation, controlling for initial characteristics of the household. Therefore, we refrain from employing econometric strategies to assess the mechanisms that drive our findings, given that results would not be reliable. However, to theorise why inheritances could reduce wealth inequality in Ireland, we can use complementary facts from HFCS. We identify three channels.

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[13]To compute this elasticity we follow the definition by Stark et al. (1986), as Nolan et al. (2021) did.
[14]This figure is calculated by comparing the annual fall in wealth Gini between HFCS 2013 and HFCS 2020 (0.014) with the implied change in wealth Gini computed by applying the estimated elasticity from the decomposition to the Gini from HFCS 2020 (0.005).
[15]We still do not have wide access to 2020 data for the other countries, so we compare our results directly with those from Nolan et al. (2021).
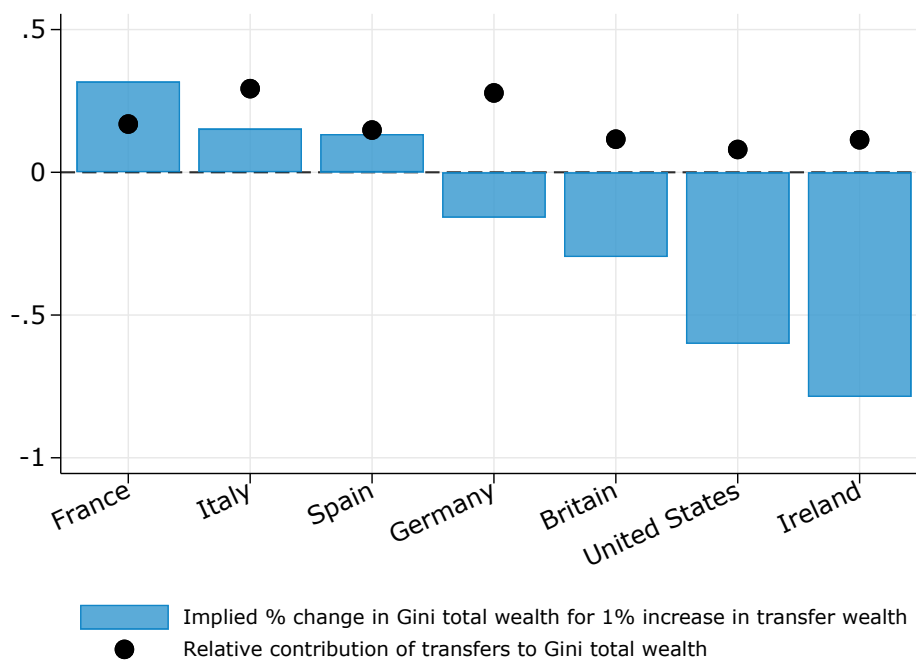
Implied % change in Gini total wealth for 1% increase in transfer wealth
● Relative contribution of transfers to Gini total wealth

FIGURE 5: CROSS-COUNTRY COMPARISON OF RESULTS

Source: Nolan et al. (2021), HFCS and authors' calculations.
Notes: Our estimates are based on the 2020 wave of HFCS, while the estimates from Nolan et al. (2021) for France, Italy, Spain, Germany, Britain, and the United States are based on the first wave of HFCS (2010/11). Results refers to the "without capitalisation" specification.

PROPOSITION 1.

Inheritances are especially important for the middle and lower part of the distribution.

Figure 6 shows that while the share of households receiving inheritance increases with net wealth, its contribution – when present – to their net wealth is decreasing in net wealth. It is this latter finding that provides the intuition for *Proposition 1*. Specifically, the share of inherited wealth in net wealth is highest for households in the lower half of the net wealth distribution. Thus, everything else equal, an equi-proportionate increase in transfer wealth transmits more to households in the lower half of the distribution than those at the top, relative to their total net wealth, reducing wealth inequality.[16]

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[16]In Figure A3 we show the total amount of inheritances in euros to evaluate the plausibility of households' reported values, particularly at the top end. Our findings reveal that nearly half (44 per cent) of the total €97 billion is concentrated in the 10th decile, while the bottom 50% accounts for only 18 per cent. This evidence complement what we show in the data section, suggesting that the under-estimation in reported amounts is likely to be contained. The evolution of the total, average, and median amounts across the net wealth distribution evolves in line with theoretical expectations.
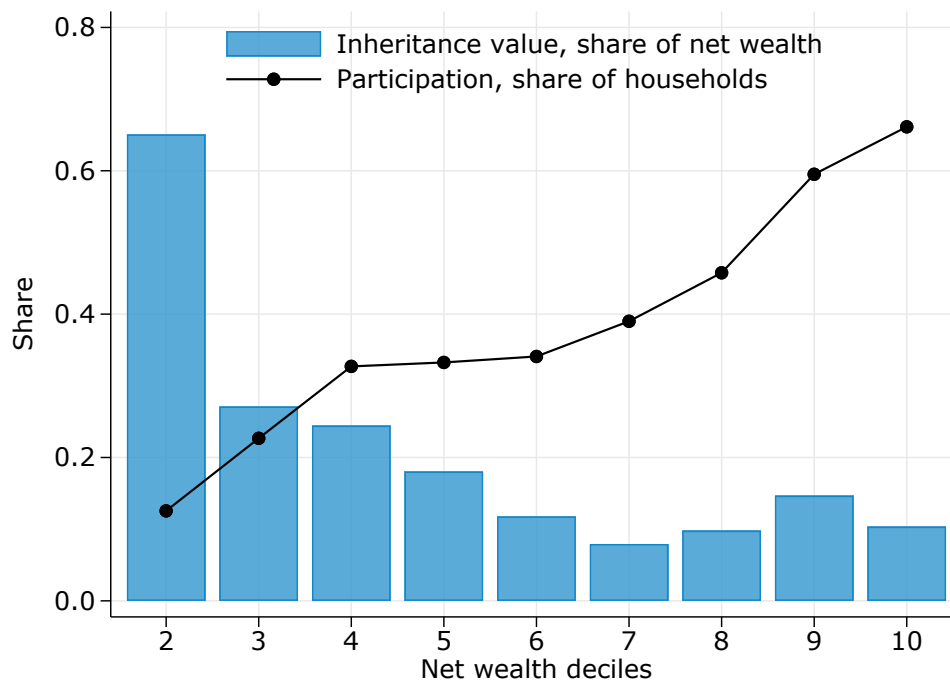
FIGURE 6: INHERITANCE ALONG THE DISTRIBUTION OF NET WEALTH

Source: HFCS and authors' calculations.
Notes: We exclude the first decile from the chart as it includes a large amount of negative and zero wealth. Each bar is the median of the values of inheritance as a share of net wealth of households in that decile, conditional on having received inheritance.

PROPOSITION 2.

The flow of inherited wealth increased over time alongside asset prices.

House price growth was one of the key drivers behind the fall in wealth inequality between 2013 and 2018 in Ireland (Horan et al., 2020, 2021). Real assets represent the vast majority of assets owned by Irish households, with housing assets accounting for a large part of them and being particularly relevant in the middle of the net wealth distribution (Figure A4). Figure 7 shows that the flow of inheritance in real terms increased hand in hand with real and financial asset prices, between 2013 and 2020 and more generally since 1970.[17] This, together with housing representing a larger part of the value of inherited wealth (Figures 3 and 4(a)), could explain our finding

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[17]In Appendix A we show additional information. First, Figure A5 presents a comparison of the quantity and value of inheritances. The correlation coefficient between these two series is 0.58. It is important to note, however, that between 2013 and 2020, the correlation turns negative (-0.11). This indicates that both quantity and prices are significant factors in shaping the overall flow of inheritance over time. Second, Figure A6 compares the flows and the stock of inherited wealth that we constructed using 2020 and 2013 HFCS, as a robustness. The correlation in high.
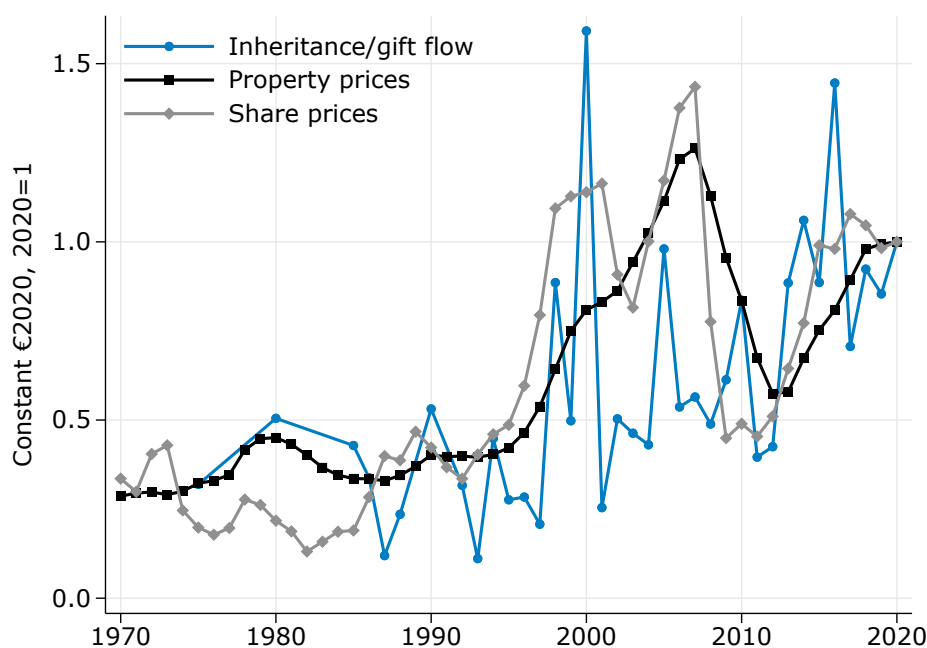
that inheritance may have reduced wealth inequality.[18]

FIGURE 7: EVOLUTION OF INHERITED WEALTH AND ASSET PRICES

Source: HFCS, BIS Residential Property Price database, OECD Main Economic Indicators.
Notes: The inherited wealth series is constructed from HFCS using the reported year of receipt, summing over the three main inheritances reported by each household, and adjusting for inflation using the Consumer Price Index (CPI). No return on inherited wealth or dismissal/reinvestment of it is assumed. Due to data confidentiality, inheritance flow is plotted only for years in which there are at least 30 observations. Property prices include all types of new and existing dwellings in the whole country. Share prices include all the shares for Ireland. As a robustness we computed the inheritance flow using HFCS 2013. The correlation between the two time series (2020 and 2013) expressed in constant prices is high: 0.75 over the whole sample, 0.67 after 1970.

PROPOSITION 3.

Although its share is higher, rental income is less skewed among inheritors compared to non-inheritors. Instead, income inequality is similar across inheritors and non-inheritors.

Our analysis focuses on wealth inequality and how inheritances impacted the stock of wealth that households own. However, to rationalise our findings, it is worth examining the flow component, i.e. income. Does receipt of an inheritance provide additional income generation channels for recipient households? Do they use these additional sources of income to substitute or complement existing income sources in their efforts to accumulate wealth and/or consume? In order to assess the relative role of income streams for inheritors compared to non-inheritors, we use the same decomposition methodology employed above, but here we examine the contribution of different

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[18]The caveat here remains that using HFCS data we cannot assess what households did with the inheritance they have received.

income sources to the total gross income Gini (G_Y).[19] HFCS provides the following income sources: employee income (E), self-employment income (SE), rental income from real estate property (R), capital income from financial assets (C), income from pensions (P), regular social transfers (ST), and regular private transfers (PT). For further details on income sources please see Appendix B, Table B3. Similar to the wealth one, the decomposition for income is the following:

$$G_Y = \sum_{i \in I} \underbrace{(S_i \cdot G_i \cdot R_i)}_{\text{Income } i \text{ contribution } (C_i)} \qquad I = \{E, SE, R, C, P, ST, PT\} \qquad (3)$$

where G_Y is the total income Gini, G_i the Gini coefficient for income source i, S_i the share of income source i in total income, R_i the correlation coefficient of income source i with total income, and C_i the contribution of income source i to the total income Gini.

Table 4 reports the result of the decomposition for three different groups of households: all households, inheritors, and non-inheritors. The Table conveys two interesting results, that are relevant for the interpretation of our main findings. First, income inequality is homogeneous across groups. Differences in the Gini coefficient among the three groups are only visible at the third decimal, and are thus not substantial. Second, while among non-inheritors the contribution of employee income is higher, for inheritors rental income appears to be more relevant. In fact, examining the decomposition we can see that the share of income coming from rental properties is higher for inheritors, however it is less concentrated towards the top of the distribution, as demonstrated by the lower Gini coefficient. There is no difference in the correlation.

The income decomposition provide suggestive evidence that recipients of an inheritance may afford income source diversification. However, it provides little evidence that inheriting households have used additional available income sources to augment spending or saving decisions. Rather, we conclude that Table 4 is consistent with households using inherited wealth and associated income flows, to substitute for alternate sources of income and savings. In this way it is not surprising that inheritor households are not significantly contributing to wealth inequality in aggregate.

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[19] HFCS does not provide post-tax income, so one should keep in mind that our analysis is on gross income. However, transfers from the government are included (Social Transfers) which account for part of the redistribution policies.

TABLE 4: CONTRIBUTION TO INCOME INEQUALITY BY INCOME SOURCE

Source	All households					Inheritors					Non-inheritors				
	G	S	R	C	C/G	G	S	R	C	C/G	G	S	R	C	C/G
Employee (E)	0.62	0.61	0.84	0.32	0.75	0.62	0.58	0.82	0.29	0.68	0.61	**0.64**	0.87	**0.34**	**0.79**
Self-employment (SE)	0.95	0.10	0.74	0.07	0.16	0.92	0.11	0.70	0.07	0.16	0.97	0.09	0.77	0.07	0.15
Rental (R)	0.96	0.03	0.79	0.03	0.06	**0.94**	**0.06**	0.79	**0.05**	**0.11**	0.97	0.02	0.78	0.01	0.03
Capital (C)	0.99	0.00	0.75	0.00	0.01	0.98	0.00	0.73	0.00	0.01	0.99	0.00	0.77	0.00	0.01
Pensions (P)	0.78	0.13	0.14	0.01	0.03	0.74	0.15	0.16	0.02	0.04	0.79	0.11	0.10	0.01	0.02
Social transfers (ST)	0.65	0.11	0.00	0.00	0.00	0.68	0.08	0.06	0.00	0.01	0.63	0.13	-0.01	0.00	0.00
Private transfers (PT)	0.99	0.00	-0.02	0.00	0.00	0.99	0.00	0.15	0.00	0.00	0.99	0.00	-0.09	0.00	0.00
Total income (Y)				0.43	1				0.43	1				0.43	1

Source: HFCS and authors' calculations.

6 ROBUSTNESS CHECKS

We conduct several robustness checks to validate our findings. We start by comparing our baseline results with results accounting for capitalisation. We apply the same 3 per cent real annual return on inheritances and gifts used in the reference paper, to allow comparability. Results are similar to the baseline (Table 5). As in NPVKM the major difference is the share of transfers in total wealth (S_T), which increases to 0.19 when returns are taken into account. The marginal change in the total wealth Gini (G_W) following an increase in transfers remains negative, but slightly lower. In addition, we do not find significant differences when applying a more data-oriented return (i.e. 6.3 per cent).[20]

We run two additional robustness checks. First, we run the decomposition considering only inheritances and gifts received after 1995.[21] Results – shown in Table 6 – are similar to what we get from the benchmark specification, confirming that the main finding was not driven by some inheritances or gift that were under-reported because they were received a long time ago or misreported due to currency changes. Second,

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[20]We compute this as the median wealth return in advanced economies from Jordà et al. (2019), net of median inflation in Ireland, over the period 1995-2020 (1995 is the 25th percentile of the distribution of years in which inheritances/gifts were received).

[21]HFCS asks households about the three main inheritances and gifts received. The 25th percentile of the year of receipt is 1995 for first and third group and 1997 for the second group. For this robustness check, we set to zero all the inheritances and gifts received prior to this threshold. Given that we do not drop these households from the sample but rather assume they did not receive the inheritance/gift, the Gini coefficient for total wealth remains unchanged.

TABLE 5: ROBUSTNESS — DIFFERENT WEALTH RETURN RATES

	3% capitalisation	6.3% capitalisation
Gini total wealth (G_W)	0.65	0.65
Gini transfer wealth (G_T)	0.91	0.90
Gini non-transfer wealth (G_{NT})	0.69	0.70
Share of transfers in total wealth (S_T)	0.19	0.20
Correlation transfers with total wealth (R_T)	0.69	0.70
Correlation non-transfers with total wealth (R_{NT})	0.95	0.94
Contribution of transfer wealth to Gini total wealth (C_T)	0.12	0.13
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.53	0.53
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.18	0.19
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.59	-0.58

Source: HFCS and authors' calculations.
Notes: Each inheritance/gift is capitalised as follow: $\text{value}_t \cdot (1+\text{rate})^{(2020-t)}$

we replicate the analysis using data from the first wave of HFCS for Ireland (2013) instead of the 2020 wave and find a similar and consistent result. The estimated implied percentage change in Gini total wealth following a 1 per cent increase in transfer wealth in -0.67, compared to -0.79 estimated from most recent data (Table 7).

Finally, although we cannot infer from HFCS data what households do with their inheritances and gifts at the time of receipt, as a further robustness we assume that they immediately consume part of it. To be as data-driven as possible we use the historical median consumption rate for Ireland (53 per cent, source: OECD).[22] Table 8 shows the results, without and with capitalisation at the real return rate of 6.3 per cent. Both specifications deliver similar results to the main one.

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[22]We use household spending as percentage of GDP form OECD's Household Accounts (link) over the period 1970-2020. Both median and mean are about 53 per cent, with the historical maximum being 69.7 per cent in 1970 while the historical minimum 24.9 in 2020.

TABLE 6: ROBUSTNESS — DIFFERENT TIME SAMPLE

	Full sample	1995–2020
Gini total wealth (G_W)	0.65	0.65
Gini transfer wealth (G_T)	0.91	0.93
Gini non-transfer wealth (G_{NT})	0.67	0.67
Share of transfers in total wealth (S_T)	0.12	0.09
Correlation transfers with total wealth (R_T)	0.67	0.63
Correlation non-transfers with total wealth (R_{NT})	0.98	0.98
Contribution of transfer wealth to Gini total wealth (C_T)	0.07	0.05
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.58	0.60
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.11	0.08
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.79	-0.91

Source: HFCS and authors' calculations.
Notes: Estimations refer to the baseline "without capitalisation" framework.

TABLE 7: ROBUSTNESS — DIFFERENT HFCS WAVES

	2020 HFCS	2013 HFCS
Gini total wealth (G_W)	0.65	0.75
Gini transfer wealth (G_T)	0.91	0.94
Gini non-transfer wealth (G_{NT})	0.67	0.77
Share of transfers in total wealth (S_T)	0.12	0.12
Correlation transfers with total wealth (R_T)	0.67	0.75
Correlation non-transfers with total wealth (R_{NT})	0.98	0.98
Contribution of transfer wealth to Gini total wealth (C_T)	0.07	0.09
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.58	0.66
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.11	0.12
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.79	-0.67

Source: HFCS and authors' calculations.
Notes: Estimations refer to the baseline "without capitalisation" framework.

TABLE 8: ROBUSTNESS — CONSUMPTION OF INHERITANCE/GIFT AT TIME OF RECEIPT

	Without capitalisation	With capitalisation
Gini total wealth (G_W)	0.65	0.65
Gini transfer wealth (G_T)	0.91	0.91
Gini non-transfer wealth (G_{NT})	0.66	0.67
Share of transfers in total wealth (S_T)	0.06	0.12
Correlation transfers with total wealth (R_T)	0.66	0.69
Correlation non-transfers with total wealth (R_{NT})	0.99	0.97
Contribution of transfer wealth to Gini total wealth (C_T)	0.04	0.07
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.61	0.57
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.06	0.12
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.50	-0.36

Source: HFCS and authors' calculations.

7 CONCLUSION

Micro-data from the Household Finance and Consumption Survey (HFCS) provide a detailed overview on the inheritances and gifts received by Irish households at any point in time up to 2020 alongside information on the distribution of household wealth in Ireland. By 2020, over one-third of households had received an inheritance or gift. For these households, the cumulative real value of inherited wealth by 2020 stood at €97 billion, accounting for approximately one sixth of household total net wealth (assets minus debts). The value of inherited wealth in Ireland has been rising over time, with a greater proportion of households in 2020 inheriting wealth in the past 20 years than any time prior to this. Households that received inheritances or gifts are substantially wealthier and own more homes and businesses than households that did not inherit any wealth. Notwithstanding these stylised facts, we find that inheritances and gifts contribute little to the overall distribution of wealth in Ireland. Moreover, inheritances may actually have reduced overall wealth inequality over time, as their contribution to net wealth is higher for households in the middle of the wealth distribution than for households at the top. These results are consistent with Nolan et al. (2021), with

Ireland notably more similar to Britain than euro area countries. This is not particularly surprising given the similarities in economic and institutional setups in the two countries

Absent a clear identification strategy to examine the characteristics of households before and after receipt of inherited wealth, which is not possible using HFCS, the available data can say little on the precise nature of the causal mechanisms driving our findings from the wealth Gini decomposition. However, the decomposition in conjunction with the stylised facts, suggests three plausible, candidate mechanisms. First the predominant form inheritances take in Ireland – medium sized transfers of property assets – and the portfolio choices of households – highly concentrated in property assets – suggests that transfers of property assets to large parts of the middle of the net wealth distribution underscores both the importance of transfers in acquiring important assets (property) and the inequality enhancing nature of transfers (middle wealth households accruing relatively larger transfers, on average). Second, and consistent with evidence on the primacy of property ownership in explaining wealth inequality in Ireland, the value of inheritances is strongly correlated with property values (Horan et al., 2020). This means that the rising tide (property prices) has raised all ships (70 per cent of households in Ireland are home owners). Third, we provide tentative evidence that inheritor households may substitute employee for rental income, reducing the ability for income flows from property ownership in additional wealth acquisition. This implies that inheritance does not contribute to differential wealth accumulation between inheritors and non-inheritors but rather allows inheritors to substitute away from labour income whilst maintaining spending.

Our analysis provides relevant insights for fiscal policy. Our findings that the inheritance contribution to wealth inequality is rather small and potentially equalising could itself be related to how Ireland taxes inheritances and gifts. Recent academic research point out that large transfers are unequalising while small ones serve as equaliser of the wealth distribution (Morelli et al., 2023). Thus, tax free thresholds are recommended.[23] Moreover, Stantcheva (2022) discusses the utility of cumulating the value of gifts and inheritances over the life cycle of the heir for tax purposes, alongside having

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[23]Their estimates range from around €430 thousands for France to €838 thousands in Italy, at the household level. The tax free threshold in Ireland is currently €335 thousands.

progressive tax rates, to enhance equality. In fact, Ireland already implements both of these having a tax free thresholds which is applied on the cumulative value of inheritances and gifts received at the individual level, after which inherited wealth is taxed at a rate of 33 per cent that gets frequently revised. But implications are not limited to fiscal policy and are more far reaching. For example, our findings from the third mechanism could be relevant to explore whether inheritors have higher shock absorption or insurance capacity compare to non-inheritors.

There are some caveats that the methodology and HFCS data cannot address. First, we cannot comment on the transfers of intangibles. There is evidence that human capital transfers across generations is persistent (Alesina et al., 2020) and that family environment is also important for these transfers (Black et al., 2020). Second, the HFCS does not measure contingent household assets well, including state pensions and defined benefit occupational pensions, which have been shown to be an important source of income-generating wealth in the United States, especially for lower income and wealth families (Jacobs et al., 2020). In addition, it is important to bear in mind that the effect we find for Ireland relates to households already in receipt of inherited wealth. This paper does not explore the likelihood of receiving an inheritance in the first place, nor does it speak to the effects on wealth inequality of changes in this likelihood across households or over time. Further, apart from inheritances there are numerous other structural drivers of wealth inequality.[24] Finally, the mechanisms generating changes in the distribution of net wealth within countries remain an area of on-going research endeavour and are not well understood. Although we acknowledge these limitations, we believe that our paper provides a relevant contribution to the literature and can serve as a benchmark for future research avenues.

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[24]Noted recently in remarks by Central Bank of Ireland Governor Gabriel Makhlouf at Social Justice Ireland (Central Bank of Ireland, 2022).

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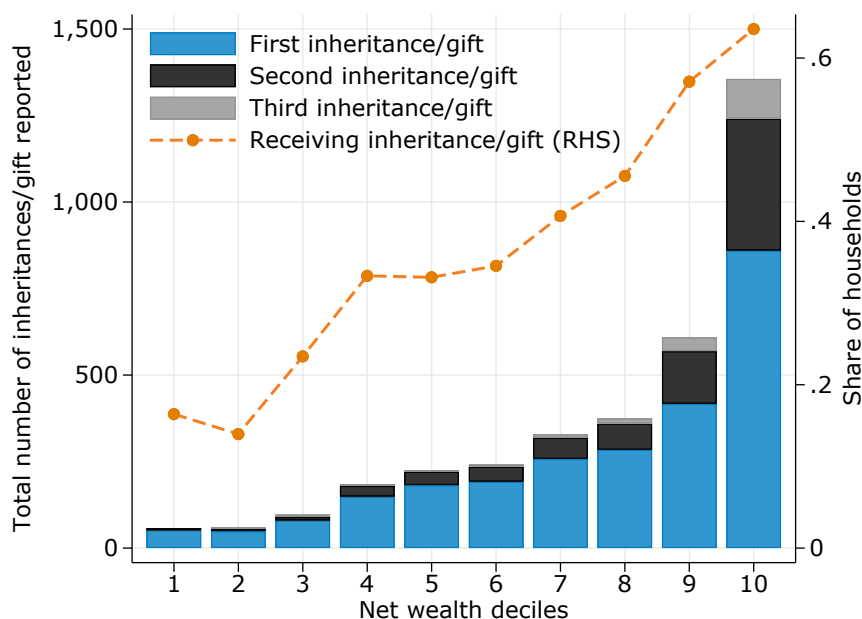
A ADDITIONAL FIGURES

FIGURE A1: NUMBER OF INHERITANCES/GIFTS REPORTED

Source: HFCS and authors' calculations.
Notes: The bars indicate the total number of inheritances and gifts reported by households in each decile of net wealth, including each of the three largest received. The dashed line shows the number of households that have received at least one inheritance/gift.
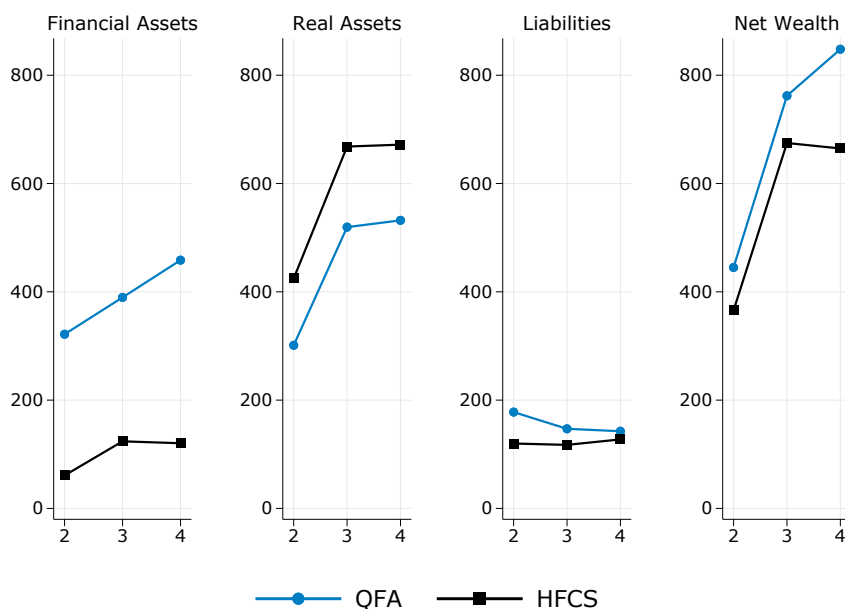

FIGURE A2: COMPARISON OF WEALTH AGGREGATES, HFCS VS QFA

Source: HFCS 2013 (2), 2017 (3), 2020 (4), Quarterly Financial Accounts and authors' calculations.
Notes: Nominal Euro billion. QFA data are averaged over the fieldwork period of each HFCS wave. HFCS gap in 2020 (average): Financial Assets -74% (-74%), Real Assets +26% (+32%), Liabilities -11% (-21%), Net wealth -22% (-17%). Note that there might be slight discrepancies in concept definitions between the two sources.
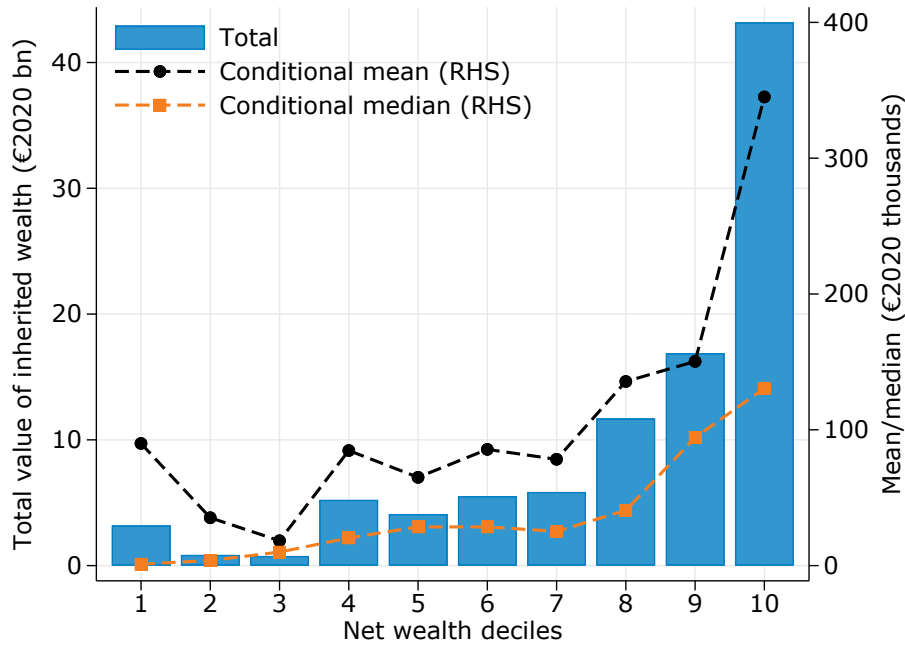
FIGURE A3: INHERITANCE VALUE ACROSS THE WEALTH DISTRIBUTION

Source: HFCS 2020 and authors' calculations.
Notes: Mean and median conditional on having received an inheritance or gift.
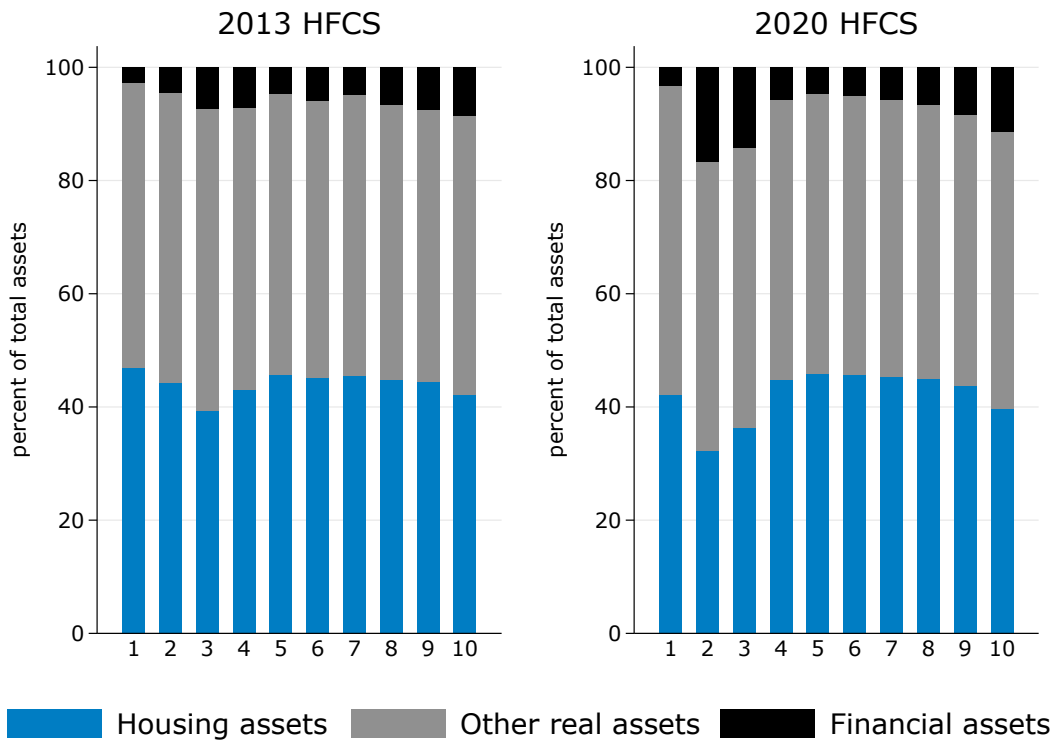

FIGURE A4: HOUSEHOLDS' ASSETS COMPOSITION

Source: HFCS 2013 and 2020, and authors' calculations.
Notes: Deciles of net wealth. For an overview of asset types see ECB (2021).
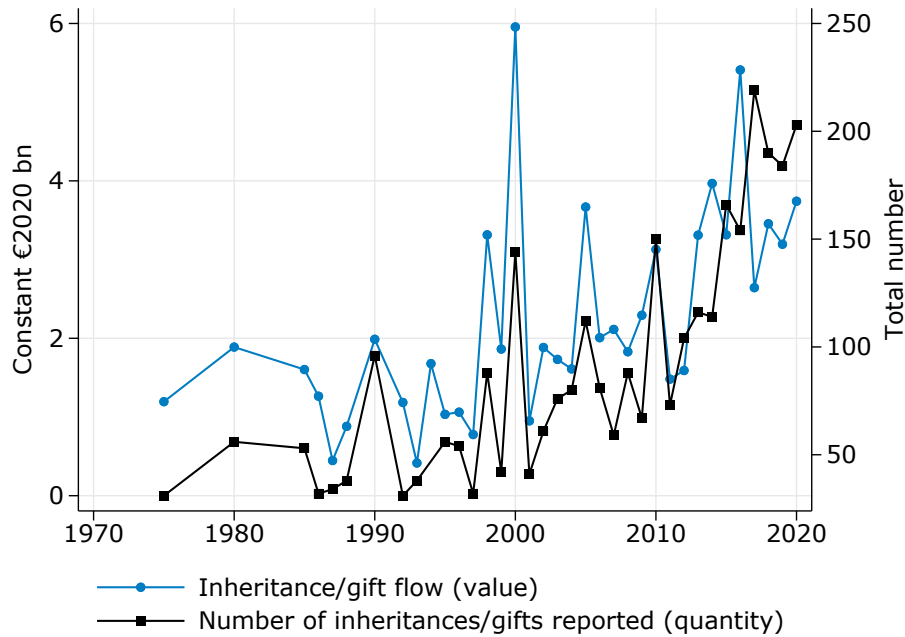
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FIGURE A5: INHERITED WEALTH, VALUE VS QUANTITY

Source: HFCS 2020, and authors' calculations.

Notes: The inherited wealth series is constructed from HFCS using the reported year of receipt, summing over the three main inheritances reported by each household, and adjusting for inflation using the Consumer Price Index (CPI). No return on inherited wealth or dismissal/reinvestment of it is assumed. Due to data confidentiality, years in which there are less than 30 observations are not visualised.
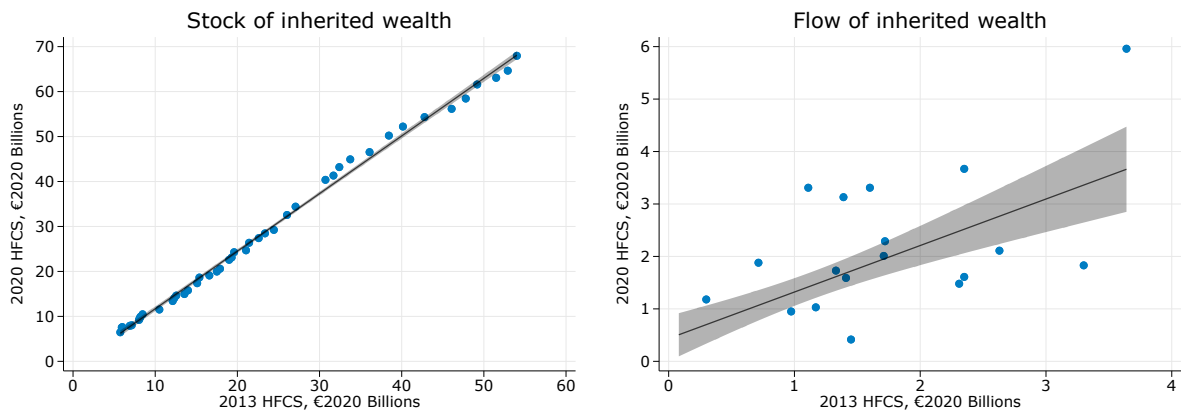
FIGURE A6: INHERITED WEALTH, COMPARISON BETWEEN HFCS WAVES

Source: HFCS 2013 and 2020, and authors' calculations.

Notes: Due to data confidentiality, observations for the flows that are based on less than 30 observations are not plotted. However, these observations are included in the calculation of the linear fit. The correlation of the two flows considering all observations is 0.68. All observations are plotted for the stocks of inherited wealth as these are based on the cumulation of observations over time.

B ADDITIONAL TABLES

TABLE B1: SURVEYED HOUSEHOLDS

	(a) # Households in HFCS	(b) # Households in the country (millions)	Year	% Households surveyed (a)/(b)
Luxembourg	1,616	0.25	2018	0.6420
Malta	1,004	0.18	2017	0.5565
Estonia	2,679	0.60	2017	0.4482
Cyprus	1,303	0.32	2017	0.4057
Finland	10,210	2.66	2017	0.3845
Ireland (Wave 4)	6,020	1.91	2020	0.3159
Ireland (Wave 3)	4,793	1.84	2018	0.2599
Slovenia	2,014	0.88	2017	0.2286
Latvia	1,249	0.85	2017	0.1469
Hungary	5,968	4.13	2017	0.1445
Portugal	5,924	4.10	2017	0.1444
Lithuania	1,664	1.32	2018	0.1259
Slovakia	2,179	1.96	2017	0.1110
Croatia	1,357	1.47	2017	0.0922
Greece	3,007	4.58	2018	0.0657
France	13,685	29.27	2017	0.0468
Poland	5,858	14.24	2017	0.0411
Spain	6,413	18.59	2018	0.0345
Netherlands	2,556	7.82	2017	0.0327
Italy	7,420	25.86	2017	0.0287
Germany	4,942	40.46	2017	0.0122
Austria	3,072	3.89	2017	0.0002
Belgium	2,329	4.79	2017	0.0001

Source: HFCS (a), EU Labour Force Survey (b).
Notes: We select the year for the total number of households data according to the country specific fieldwork period in HFCS. For Ireland we report data for both the latest two waves, while for other countries only for the 2017 Wave as data for the 2020 one are not widely available yet.

TABLE B2: CONTRIBUTION TO WEALTH INEQUALITY FROM TRANSFER AND NON-TRANSFER SOURCE

	IE	UK	FR	DE	IT	ES	US
Gini total wealth (G_W)	0.65	0.67	0.68	0.78	0.60	0.58	0.87
Gini transfer wealth (G_T)	0.91	0.89	0.89	0.89	0.85	0.89	0.95
Gini non-transfer wealth (G_{NT})	0.67	0.69	0.71	0.82	0.69	0.62	0.88
Share of transfers in total wealth (S_T)	0.12	0.12	0.17	0.28	0.29	0.15	0.09
Correlation transfers with total wealth (R_T)	0.67	0.73	0.78	0.87	0.72	0.66	0.85
Correlation non-transfers with total wealth (R_{NT})	0.98	0.97	0.96	0.95	0.88	0.94	0.99
Contribution of transfer wealth to Gini total wealth (C_T)	0.07	0.08	0.12	0.22	0.18	0.09	0.007
Contribution of non-transfer wealth to Gini total wealth (C_{NT})	0.58	0.59	0.56	0.56	0.42	0.49	0.80
Relative contribution of transfers to Gini total wealth ($\frac{C_T}{G_W}$)	0.11	0.12	0.17	0.28	0.29	0.15	0.08
Implied % change in Gini total wealth for 1% increase in transfer wealth: $(\frac{G_T R_T}{G_W} - 1) \cdot S_T \cdot 100$	-0.79	-0.30	0.32	-0.16	0.15	0.13	-0.60

Source: Nolan et al. (2021) for UK, France, Germany, Italy, Spain, and US. Authors' calculations for Ireland.
Notes: Results refer to the "without capitalisation" benchmark. Note that our estimates are based on the 2020 wave of HFCS, while the estimates from Nolan et al. (2021) comes from the first wave of HFCS (2010/11).

Table B3: HFCS variables - Income

HFCS code	Description	Details
DI1100	Employee income	Income received from regular wages or salaries, as well as any overtime pay, tips, bonuses, profit sharing benefits (unless part of the pension arrangements).
DI1200	Self-employment income	Net operating profit or loss that a self-employed household member makes out of his or her unincorporated enterprise (including farming).
DI1300	Rental income from real estate property	Income received from renting a property (for example renting a dwelling – not included in the profit/loss of unincorporated enterprises – , receipts from boarders or lodgers, or rent from land) after deducting costs such as mortgage interest repayments, minor repairs, maintenance, insurance and other charges.
DI1400	Income received from financial assets	Income from financial assets, gross of interest payments, and private business other than self-employment (profits from capital investment in unincorporated and incorporated not publicly traded private businesses less expenses incurred.)
DI1500	Income from pensions	Income received from public pension schemes (old age pensions, anticipated old age pensions, partial retirement pensions, survivor's pensions, disability pensions) and occupational or individual private pensions schemes.
DI1600	Regular social transfers (except pensions)	Income received from unemployment benefits (full and partial, early retirement for labour market reasons, vocational training allowance, mobility and resettlement, other cash benefits) and public transfers (e.g. maternity benefits, scholarships and other educational assistance from government).
DI1700	Regular private transfers	Income received from any regular transfer from private entities and/or other households on a regular basis (alimony and child support, payments from households in other countries, income support payments from other households, support received from non-profit institutions, strike pay from unions, scholarships from charitable trusts)
DI2000	Total income	Total gross annual household income aggregate. Sum of all the income sources.

Source: ECB (2021).
Notes: All income sources are reported gross of taxes.