Gender and Inheritances[1]

by

Sandra E. Black
Department of Economics
Columbia University, NHH, IZA, and NBER
sblack@columbia.edu

Paul J. Devereux
School of Economics and Geary Institute
University College Dublin, NHH, IZA, and CEPR
devereux@ucd.ie

Fanny Landaud
Department of Economics
Norwegian School of Economics, and IZA
Fanny.Landaud@nhh.no

Kjell G. Salvanes
Department of Economics
Norwegian School of Economics, IZA, CEPR, and HCEO
kjell.salvanes@nhh.no

January 2022

Abstract

Using administrative data from Norway, we document that gifts and inheritances are a more important component of total income for women than for men. This is particularly the case at the very top of the distribution of total lifetime income and at the top of the net wealth distribution. We find that the gender difference in the ratio of gifts and inheritances to total income received over a 19-year period is not due to gender differences in the receipt of intergenerational transfers but is driven by gender differences in total income. We conclude by comparing gender differences in the distribution of total lifetime income to counterfactual measures where gifts and inheritances are equalized across all individuals and show that gifts and inheritances tend to reduce gender gaps across the distribution.

[1] This work was partially supported by the Research Council of Norway through its Centres of Excellence Scheme, FAIR project No 262675 and by the NORFACE DIAL grant 462-16-090.

Intergenerational transfers have received much attention as a source of inequality, with many researchers studying how gifts and inheritances relate to the cross-sectional distributions of wealth and of lifetime income.[2] Despite the general view that gifts and inheritances are important, our recent work using administrative data from Norway (Black *et al.*, 2021) has found that they constitute a small fraction--about 5%, on average--of total income received over a 19-year period, with relatively little variation across the distribution of income or the distribution of wealth. However, given the very different labor market experiences of men and women, as well as possible gender disparities in amounts given by parents to children, does the importance of inheritance differ by gender?

It is well established that women hold less wealth than men (Schneebaum, Rehm, and Mader, 2018) and, because women tend to have lower labor market earnings, researchers have assumed that inheritances are more important for women than for men.[3] Administrative data from Norway enable us to examine this directly and to evaluate how gender differences vary over the distribution of lifetime income and the distribution of wealth.[4]

In this paper, we document that intergenerational transfers are a more important component of Total Inflows—defined as the capitalized sum of net labor income, government transfers, and gifts and inheritances received over a 19-year period--for women than for men. This is particularly true at the very top of the distributions of Total Inflows and net wealth. We find that the gender difference in the ratio of gifts and inheritances to Total Inflows is not due to gender differences in the receipt of intergenerational transfers but is driven instead by gender differences in Total

[2] See Piketty et al. (2014) and Feiveson and Sabelhaus (2019) for two examples.
[3] As only one example, Edlund and Kopczuk (2009) use the share of women amongst the very wealthy in the United States as a proxy for the importance of inherited wealth relative to self-made wealth.
[4] In terms of wealth levels and inequality, Norway appears quite similar to many other European countries. See Black et al (2021) for more details.

Inflows. We conclude by examining the counterfactual distributions of Total Inflows for men and women when gifts and inheritances are equalized across all individuals and show that inheritances tend to reduce the gender gap in Total Inflows.

I. Data and Methods

We combine several administrative registers on the full population of Norway. We begin with the population register, which includes detailed family information and demographics, and merge that to the administrative tax records available from 1993 onwards to construct various sources of income and wealth (without top coding). Tax records on gifts and inheritances are available from 1995 to 2013, so this period is the focus of our analysis.

Calculation of Total Inflows

To assess the importance of gifts and inheritances, we calculate the ratio of capitalized gifts and inheritances to capitalized total income received (Total Inflows) over the 1995-2013 period. Like Piketty (2014), we consider just the primary sources of income--net labor income, government transfers, and gifts and inheritances. We cumulate these over time, allowing them to grow at a specified interest rate.[5] While, ideally, we would observe individual income sources over the entire lifecycle, we observe all income sources over a 19-year period. Because we have data on the entire population without topcoding, we are able to identify the importance of inheritance at all points in the distribution of Total Inflows and across the distribution of net wealth in 2013.

We define Total Inflows in 2013:

[5] We calculate this yearly average interest rate by dividing the sum of capital gains on real and financial assets and total capital income by total net wealth at the end of the previous year for the whole sample. While we use the same interest rate for all individuals in our main specifications, we have experimented with allowing the rate of return to be higher for persons with greater resources, consistent with findings in the literature (Fagereng *et al.*, 2020). This has little effect on our conclusions.

$$Total\ inflows_i = \sum_{t=1995}^{2012} L_{i,t} \times \prod_{k=t+1}^{2013} (1 + r_{i,k}) + L_{i,2013} + \sum_{t=1995}^{2012} G_{i,t} \times \prod_{k=t+1}^{2013} (1 + r_{i,k}) + G_{i,2013} + \sum_{t=1995}^{2012} I_{i,t} \times \prod_{k=t+1}^{2013} (1 + r_{i,k}) + I_{i,2013}$$

We measure the components of Total Inflows as follows:

Net Labor Income (L)

Net Labor Income (L) is gross labor income (from employment and self-employment) less taxes and deductions. The Norwegian registry data contain information on gross labor income and total income taxes paid during the calendar year. We use this information to distinguish between taxes paid on capital income and taxes paid on labor income and transfers, thereby imputing taxes paid on labor income.[6] To calculate net labor income (*L*), we subtract taxes paid on labor income from gross labor income.

Net Transfer Income (G)

Net Transfer Income (G) is income from government transfers net of any taxes. We have separate information on taxable and non-taxable transfer income.[7] We estimate the amount of taxes paid on taxable transfers and subtract this amount from the sum of taxable and tax-free government transfers to define government transfers net of taxes.

Inheritances and Gifts Net of Taxes (I)

Prior to January 2014, both inheritances and gifts were subject to taxation in Norway and had to be reported to the tax authorities. Taxes were paid by the recipients on amounts received at

[6] More information can be found in Black *et al*. (2021)

[7] Taxable transfer income includes pensions (including old age, disability, and service pensions), unemployment benefits and sickness benefits. Non-taxable transfer income includes housing support, social assistance, scholarships, and child support benefits.

inheritance and on all gifts received from living donors, and the tax rates varied depending on the relationship of the donor to the recipient. Transfers to spouses were exempt from this tax.[8]

Information on inheritances and gifts (I) is taken from administrative registers and is available from 1995 to 2013. For these years, we know the value of inheritances or gifts received. We also know the taxes paid, the timing of receipt, and the identity of the donor; we use this information to calculate the total value of gifts and inheritances received net of taxes. Inheritances are reported even if they are below the tax thresholds, and both donor and recipient are legally required to report all gifts above a low threshold.[9] In our data, about 55% of total gifts and inheritances come from inheritances and about 45% come from inter-vivos gifts, suggesting that people are in fact reporting gifts. Black *et al.* (2021) provide much evidence as to the accuracy and reliability of these data.

Sample

Our sample is a balanced panel of all individuals born between 1928 and 1974 and registered as Norwegian residents in each year between 1994 and 2013. Our analysis thus includes individuals aged 21 to 66 in 1994 and, hence, 40 to 85 in 2013. We exclude persons aged less than 21 as, prior to age 21, it is difficult to distinguish what should be counted as "gifts or inheritances" from standard investments parents make in their children while raising the child. In addition, very few individuals receive gifts or inheritances before age 21.

II. Results

Gender differences in Total Inflows and in gifts and inheritances

[8] For the closest relatives (parents and children), the 2013 tax rate was 0% for the first 470,000 NOK, 6% from 470,000 NOK to 800,000 NOK and 10% for 800,000 NOK and above. For other relatives, the rates were 0%, 8% and 15%, respectively. The exemption thresholds refer to the total amount transferred even if it is transferred over many years. The tax rates and exemption thresholds have varied over the 1994-2013 period.

[9] Until January 1. 2008, the exceptions were small gifts for birthdays, Christmas etc. From 2008 this rule changed to require reporting of gifts of above 30,000 NOK per annum (Inheritance law §4). In addition, for administrative reasons, gifts or inheritance amounts below 5000 NOK were not digitized.

We begin by showing descriptive statistics for capitalized gifts and inheritances received between 1995 and 2013 and for Total Inflows received over the same time period, separately by gender. As we start at age 21 in 1994, people are aged 40 and over in 2013. Table 1 shows the mean, median, and other features of the distributions of these two variables for men and for women.[10] We see that the distribution of gifts and inheritances differs little by gender, but men have much higher levels of Total Inflows on average. Figure 1 shows the proportion of women across the distribution of total gifts and inheritances and the distribution of Total Inflows. Consistent with the lack of gender differences in gifts and inheritances in Table 1, the proportion of women is approximately 0.5 at all percentiles of the gifts and inheritances distribution. In contrast, the proportion of women falls from 0.8 to 0.1 as we move across the distribution of Total Inflows.

Gender differences in the ratio of gifts and inheritances to Total Inflows

Figure 1 implies that gifts and inheritances are a more important component of Total Inflows for women than for men. We now examine this finding in more detail by calculating the ratio of capitalized gifts and inheritances received between 1995 and 2013 to Total Inflows received over the same time period. Henceforth, we refer to this as the GI (gifts and inheritance-to-Total Inflows) ratio.

Figure 2 shows male-female differences in the GI ratio by selected percentiles of Total Inflows as of 2013 (panel (a)) and of net wealth in 2013 (panel (b)). These percentiles (the bottom 20%, 20% to 40%, 40% to 60%, 60% to 80%, 80% to 90%, 90% to 99%, 99% to 99.9%, top 0.1%)

[10] While legally all children must receive some inheritance benefits, there is discretion above a relatively low minimum requirement per child. Children have the right to 2/3 of the value of their parents' estate up to 1,135, 000 NOK in 2010. Therefore, it is not mechanically the case that, within a particular family, female children receive gifts and inheritances equal to that of their brothers.

are calculated by age but not by gender.[11] A clear finding from panel (a) is that the GI ratio is higher for women than for men; this is particularly true in the upper tails of the Total Inflows distribution. Amongst people with very high Total Inflows, women are much more likely than men to have a large proportion come from gifts or inheritances. The findings by net wealth percentile are very similar, with capitalized gifts and inheritances accounting for over 50% of total inflows for women in the top 0.1% of the 2013 net wealth distribution; the equivalent for men in the top 0.1% of net wealth is 10%.

Effect of inheritances on gender differences in Total Inflows

A further question is how gifts and inheritances affect the gender gap in Total Inflows. We saw earlier that gifts and inheritances are relatively more important for women than for men; thus, we would expect that taking out gifts and inheritances would decrease the average position of women in the distribution of Total Inflows. Therefore, for each individual, we calculate their counterfactual Total Inflows after subtracting capitalized inheritances and gifts received. Table 2 shows that the counterfactual distribution of Total Inflows is relatively worse for women, but the effect is generally not large. However, at the top 0.1% of the Total Inflows distribution, the proportion of women falls from 0.09 to 0.06, small in absolute terms but substantial in relative terms given the small proportion of women in the upper tail.

III. Conclusions

We find that, relative to other sources of income, gifts and inheritances are more important for women than for men. This occurs because, although men and women receive intergenerational transfers of similar value, other sources of income are lower on average for women. Differences

[11] We calculate the GI ratio for each cell (a cell includes all individuals who belong to the same selected percentiles of Total Inflows or net wealth in 2013) by dividing the sum of total gifts and inheritances for all cell members by the sum of Total Inflows for all cell members.

are particularly apparent at the top of the distributions of Total Inflows and net wealth – women in the top 1% (and, in particular, in the top 0.1%) are much more likely than men to have received a large proportion of their Total Inflows from gifts and inheritances. Consistent with this, when we create a counterfactual distribution by taking away the effects of gifts and inheritances, the proportion of women in the upper tail of the Total Inflows distribution falls. Our findings suggest that any increase in inheritance taxes will tend to exacerbate existing gender gaps in the proportion of women in the upper tails of the distributions of Total Inflows and net wealth.

References

Black, S., Devereux, P., Landaud, F., and Salvanes, K. G., (2021). "The (Un)Importance of Inheritance." Unpublished working paper.

Edlund, L. and Kopczuk, W. (2009). ''Women, Wealth and Mobility,'' *American Economic Review*, 99: 146–178.

Fagereng, A., Guiso, L., Malacrino, D., & Pistaferri, L. (2020). Heterogeneity and persistence in returns to wealth. *Econometrica*, *88*(1), 115-170.

Feiveson, L., & Sabelhaus, J. (2019). Lifecycle patterns of saving and wealth accumulation. *Finance and Economics Discussion Series 2019-010*. Washington, DC: Board of Governors of the Federal Reserve System. https://doi.org/10.17016/FEDS.2019.010r1

Piketty, T. (2014). *Capital in the twenty-first century* (A. Goldhammer, Trans.). Cambridge: Belknap Press.

Piketty, T., Postel-Vinay, G., & Rosenthal, J. -L. (2014). Inherited vs self-made wealth: Theory and evidence from a rentier society (Paris 1872–1927). *Explorations in Economic History*, *51*, 21–40. https://doi.org/10.1016/j.eeh.2013.07.004

Schneebaum, A., Rehm, M., & Mader, K. (2018). The gender wealth gap across European countries. *The Review of Income and Wealth*, 64(2), 295–331.

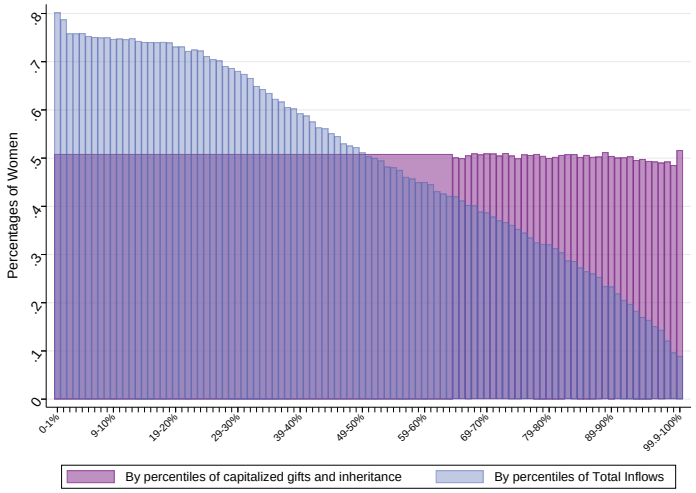

Figure 1 – Proportion of women along the distribution of capitalized gifts and inheritance, and Total Inflows

Notes: The figure uses the same sample as Figure 1. The figure shows the proportion of women among selected percentiles of the distribution of capitalized gifts and inheritance or Total Inflows. The selected percentiles are age-specific but not gender-specific.

(a) By percentiles of Total Inflows

(b) By percentiles of net wealth

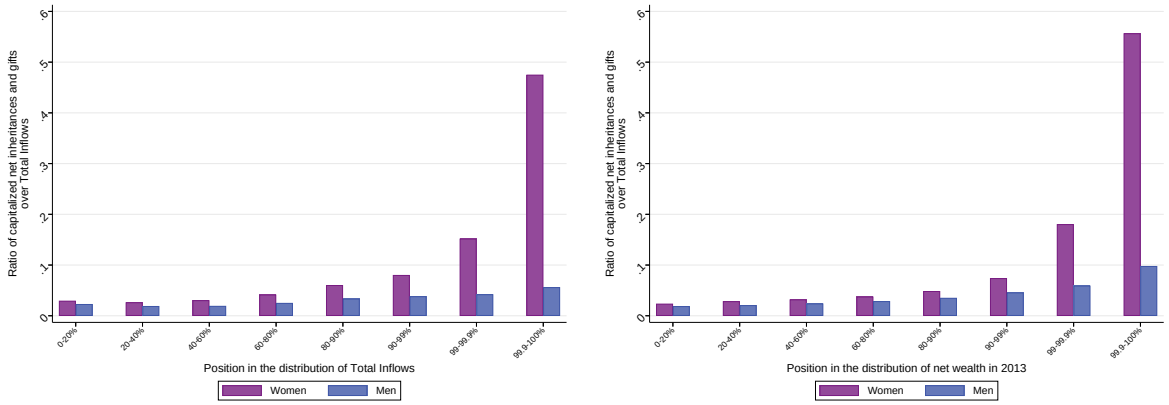

Figure 2 – Average value of the gifts and inheritance-to-Total Inflows ratio by gender and position in the distribution of Total Inflows or net wealth in 2013

Notes: The figure uses a balanced panel of all individuals born between 1928 and 1973, and registered as Norwegian residents in each year between 1994 and 2013. For each gender, we compute total capitalized gifts and inheritances received during 1995-2013, and the sum of Total Inflows for individuals located in the bottom 20%, 20% to 40%, 40% to 60%, 60% to 80%, 80% to 90%, 90% to 99%, 99% to 99.9%, or top 0.1% of the distribution of Total Inflows (Figure 1a) or net wealth in 2013 (Figure 1b). The selected percentiles are age-specific but not gender-specific. For each gender and each selected percentile, the figure plots the ratio between aggregated total capitalized gifts and inheritances, and aggregated Total Inflows.

Table 1 – Gifts and inheritances, and Total Inflows by gender

Variables	Mean	Median	75th percentile	90th percentile	99th percentile	SD	Observations
Panel A: women							
Capitalized net inheritance and gifts received	443,469	0	380,823	1,418,773	4,891,004	2,262,751	1,103,090
Total Inflows	11,552,613	11,398,472	141,08,111	16,813,541	24,926,700	5,070,580	1,103,090
Panel B: men							
Capitalized net inheritance and gifts received	458,037	0	402,709	1,477,670	5,036,886	1,706,390	1,075,588
Total Inflows	15,846,508	14,824,409	18,153,919	22,893,710	39,038,185	8,503,909	1,075,588

Notes: The table uses a balanced panel of all individuals born between 1928 and 1973, and registered as Norwegian residents in each year between 1994 and 2013. Panel A corresponds to the subsample of women, and Panel B to the subsample of men. For each subsample, the first rows report descriptive statistics on individuals' capitalized net inheritance and gifts received between 1995 and 2013, and the second rows indicate individuals' Total Inflows. All amounts are in Norwegian Kroner.

Table 2 – Shares of women along the distribution of Total Inflows, and Total Inflows without capitalized inheritances and gifts

	Total Inflows	Total Inflows without Capitalized Inhe./gifts
0-40	0.71	0.72
40-80	0.45	0.45
80-90	0.27	0.26
90-95	0.20	0.18
95-99	0.15	0.13
99-99.9	0.10	0.08
99.9-100	0.09	0.06

Notes: The table uses the same sample as Table 1. The table shows the proportion of women among selected percentiles of the distribution of Total Inflows, and among its counterfactual distribution where individuals' capitalized gifts and inheritance are set to zero.