Wealth Distribution and Bequests

Prof. Lutz Hendricks

Econ821

February 9, 2016

Contents

Introduction

The questions:

- How important are bequests for wealth inequality?

- Do bequests increase or reduce inequality?

- Why do people leave bequests?

Data on bequests

Aggregate size:

- around 2% of GDP ($200 billion).
- estimates vary widely.

Size distribution:

- inheritances are probably more concentrated than wealth.
- 70% never inherit.
- top 2% account for 70% of inheritances.

Table 5. Size distribution of inheritances. Cumulative fractions.

Percentile class	70	80	90	95	98	100	Mean
SCF	0.0	1.8	9.4	18.9	30.8	100.0	1.3
PSID	0.0	0.2	5.6	15.4	33.2	100.0	0.5

Source: My calculations

Bequest motives

The literature proposes and tests several theories.
No consensus as to which motives are important.

Household problem:

$$U\left(k_1, ...\right) = \max \; E \sum_{t=1}^{T} \beta^t \; u\left(c_t\right) + \beta^T \; V\left(k_{T+1}, ...\right)$$

subject to

$$k_{t+1} = Rk_t + y_t - c_t$$

Bequest motives

Accidental bequests:

- $V(.) = 0$.

- Bequests arise because households do not hold annuities.

Joy of giving:

- $V(k_{T+1})$ is an *arbitrary* utility function.

- The amount given provides utility.

- Easy to implement, but vacuous unless the utility function is known.

Altruism:

- $V(k_{T+1}, ...) = U(k_{T+1}, ...)$.

- Parents derive utility from utility of their children.

- Theoretically appealing, but harder to compute.

- Problems if parents and children overlap: strategic interaction.

Two-sided altruism:

- Children also value utility of their parents.

- If all have the same discount factors: family behaves as if a single decision maker (Laitner).

Strategic / exchange motive:

- Parents derive utility from children's behavior (e.g. visiting the parents).

- Parents "buy" that behavior from the children by promising bequests or by giving inter-vivos transfers.

- Problem (in my view): the promise of bequests is not time-consistent.

Evidence on Bequest Motives

Intended bequests

Pro:

- Households often do not dissave in retirement.

Con:

- Households without children do not dissave faster than households with children (Hurd).

- Parents do not take advantage of tax-exempt inter-vivos transfers: Poterba (2001)

Altruism

Most bequests are divided equally between children.

- Richer children receive at most marginally smaller inheritances (Laitner and Ohlsson, 2001)

- Seems to contradict altruism (Wilhelm).

Parental income shocks have little effect on child consumption

- not consistent with full risk sharing implied by operative altruism

- Hayashi et al. (1996)

Exchange theories

Children who interact more with parents receive larger transfers.
Also consistent with altruism.

Summary

Results are very mixed.

> Each motive that has been tested has also been rejected. This suggests that households may be influenced by several motives, or that the importance of each may vary across households. (Gale and Perozek, 2001)

This suggests an alternative approach:

Use a CGE model to *measure* the relative importance of alternative bequest motives.

Bequests and wealth inequality

Findings in the literature are very diverse.

Accidental bequests:

- increase wealth inequality: Gokhale et al. (2001)

- reduce wealth inequality: Nishiyama (2002)

- have little effect on wealth inequality: Huggett (1996)

Intended bequests:

- increase wealth inequality: Castaneda et al. (2003), Laitner (2002), De Nardi (2004)

- findings disagree whether bequests help account for large wealth holdings.

De Nardi (2004)

De Nardi (2004) finds: bequests greatly improve the model's ability to account for top 1% of wealth holdings.

Key model features:

1. Stochastic mortality

2. Joy of giving bequest motive:

$$\phi\left(b\right) = \phi_1 \ \left(1 + b/\phi_2\right)^{1-\sigma}$$

3. Parents and children overlap

4. Chilren's earnings are correlated with parental earnings at age 40.

Calibration

1. Model period is 5 years.

2. Earnings approximate an AR(1) with 3 states.

3. Var of initial earnings matches earnings Gini.

4. ϕ_1: matches transfer wealth ratio of 60%

5. ϕ_2: matches (small) size of bottom 30% of estates (about 7% of average earnings)

Transfer wealth = the amount of wealth that a person holds that is "due to" inheritances and inter-vivos gifts.

- not clear how it is defined here

- simply not a useful calibration target

Results

Capital–output ratio	Transfer wealth ratio	Wealth Gini	Percentage wealth in the top					Percentage with negative or zero wealth
			1%	5%	20%	40%	60%	
U.S. data								
3·0	0·60	0·78	29	53	80	93	98	5·8–15·0
No intergenerational links, equal bequests to all								
3·0	0·67	0·67	7	27	69	90	98	17
No intergenerational links, unequal bequests to children								
3·0	0·38	0·68	7	27	69	91	99	17
One link: productivity inheritance								
3·0	0·38	0·69	8	29	70	92	99	17
One link: parent's bequest motive								
3·0	0·55	0·74	14	37	76	95	100	19
Both links: parent's bequest motive and productivity inheritance								
3·0	0·60	0·76	18	42	79	95	100	19

Bequests increase fraction of wealth held by top 1% from 8% to 18%.

Still quite a bit short of the data (29%)

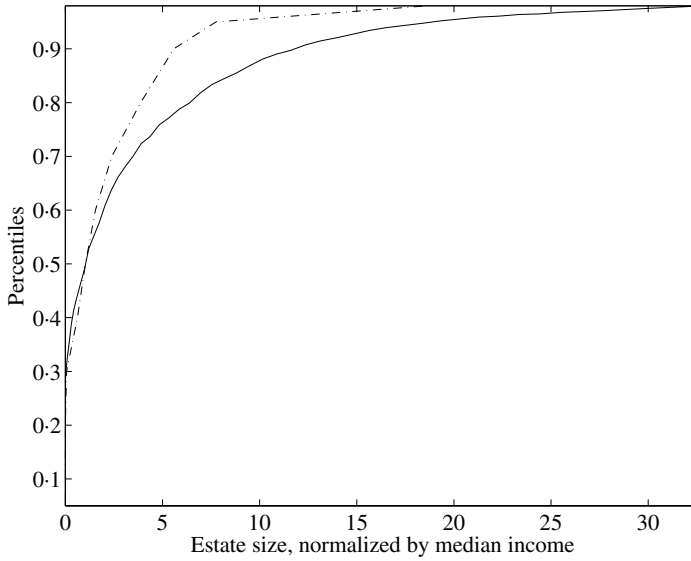## Size distribution of estates

FIGURE 3

Cumulative distribution of estates, solid = model, dash–dot = AHEAD data

The model matches the 30th percentile by construction.

The top 10% of estates are far too large

Importance of Inheritances

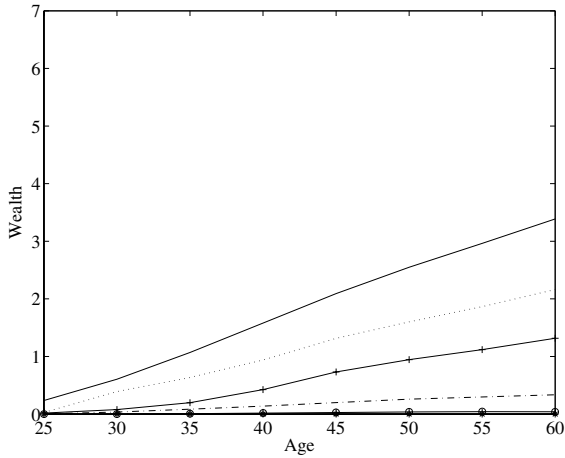There are no rich households without inheritances.

FIGURE 7

U.S. calibration. Wealth quantiles: 0·1, 0·25, 0·5, 0·75, 0·85, 0·95, conditional on not having inherited
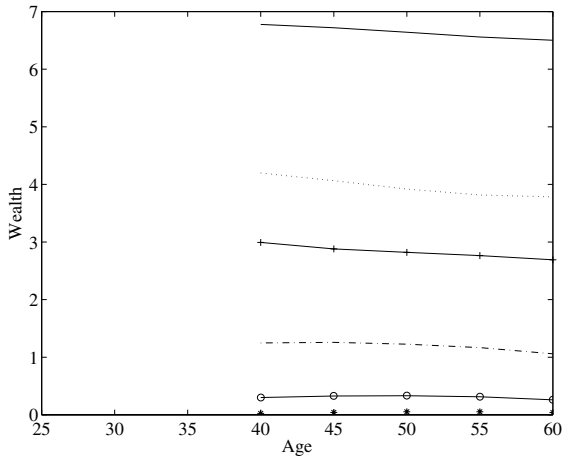

FIGURE 8

U.S. calibration. Wealth quantiles: 0·1, 0·25, 0·5, 0·75, 0·85, 0·95, conditional on having inherited

Comments

1. The paper could use more data on inheritances.

   (a) especially on correlation with earnings / wealth
   (b) what fraction of high wealth holders in the data did not inherit?

2. The paper should use a better measure of aggregate bequests

Overall: the question remains open.

Research Ideas

Use more data

1. match size distribution of inheritances (SCF)

2. match inheritances of the wealth rich

3. account for the fact that estates are split between multiple children + charities (estate tax data)

To motivate: some data from SCF and PSID

Table 6. Lifetime inheritances by family income (SCF)

Percentile	20	40	60	80	100
Fraction of total inheritance	3.6	3.9	9.4	14.1	69.0
Mean inheritance	0.2	0.3	0.7	0.9	5.0
Mean family income	0.1	0.3	0.5	0.7	2.5
Ratio inheritance / family income	164%	93%	160%	131%	200%

Notes: Based on 1989 Survey of Consumer Finances. Inheritances and family incomes are expressed as multiples of mean earnings per civilian employee.

Table 7. Lifetime inheritance by family lifetime earnings (PSID)

Percentile	20	40	60	80	100
Fraction of total inheritance	13.9	19.9	42.1	58.7	100.0
Mean inheritance	0.6%	0.2%	0.9%	0.7%	1.7%
Mean family lifetime earnings	0.3	0.6	0.9	1.2	2.0
Ratio inheritance / family lifetime earnings	2.0%	0.3%	1.0%	0.6%	0.9%

Notes: $N = 888$. Based on sample of PSID households with at most one surviving parent. Inheritances and family lifetime earnings are discounted to age 50 and expressed as multiples of mean lifetime earnings.

Source: my calculations

The point: inheritances are, on average, a small fraction of lifetime earnings.

Other Relevant Papers

A survey: Cagetti and De Nardi (2008)

Models with bequests: Ocampo and Yuki (2006), Cagetti and De Nardi (2009)

Data on bequests: Hurd and Smith (2001), Joulfaian (1994)

References

CAGETTI, M. AND M. DE NARDI (2008): "Wealth inequality: Data and models," *Macroeconomic Dynamics*, 12, 285–313.

——— (2009): "Estate Taxation, Entrepreneurship, and Wealth," *The American Economic Review*, 99, 85–111.

CASTANEDA, A., J. DIAZ-GIMENEZ, AND J. V. RIOS-RULL (2003): "Accounting for the US earnings and wealth inequality," *Journal of political economy*, 111, 818–857.

DE NARDI, M. (2004): "Wealth inequality and intergenerational links," *The Review of Economic Studies*, 71, 743–768.

GALE, W. G. AND M. G. PEROZEK (2001): "Do estate taxes reduce saving?" *Rethinking Estate and Gift Taxation*, 216, 217–218.

GOKHALE, J., L. J. KOTLIKOFF, J. SEFTON, AND M. WEALE (2001): "Simulating the transmission of wealth inequality via bequests," *Journal of Public economics*, 79, 93–128.

HAYASHI, F., J. ALTONJI, AND L. KOTLIKOFF (1996): "Risk-Sharing between and within Families," *Econometrica: Journal of the Econometric Society*, 261–294.

HUGGETT, M. (1996): "Wealth distribution in life-cycle economies," *Journal of Monetary Economics*, 38, 469–494.

HURD, M. D. AND J. P. SMITH (2001): "Anticipated and actual bequests," in *Themes in the Economics of Aging*, University of Chicago Press, 357–392.

JOULFAIAN, D. (1994): "The Distribution and Division of Bequests in the US: Evidence from the Collation Study," *OTA paper*, 71.

LAITNER, J. (2002): "Wealth Inequality and Altruistic Bequests," *The American Economic Review*, 92, pp. 270–273.

LAITNER, J. AND H. OHLSSON (2001): "Bequest motives: a comparison of Sweden and the United States," *Journal of Public Economics*, 79, 205–236.

NISHIYAMA, S. (2002): "Bequests, inter vivos transfers, and wealth distribution," *Review of Economic Dynamics*, 5, 892–931.

OCAMPO, I. P. AND K. YUKI (2006): "Savings, Intergenerational Transfers, and the Distribution of Wealth," *Macroeconomic Dynamics*, 10, 371–414.

POTERBA, J. (2001): "Estate and gift taxes and incentives for inter vivos giving in the US," *Journal of Public Economics*, 79, 237–264.