Equality of Opportunity and Inheritance: A Comparison of Sweden and the U.S.*

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1. Introduction

This paper studies inheritances in Sweden. We use panel data from the 1968–81 Swedish Level of Living Survey. In general, intergenerational transfers from parents to their children include (i) biological transfers of "natural talents" and abilities, (ii) purchases of education and other human capital, (iii) lifetime gifts (so-called *inter vivos* transfers), and (iv) bequests of tangible and financial property at a parent's death. Solon (1992), for example, studies a combination of channels (i)–(ii) and finds they carry economic status from one generation to the next quite efficiently: for the U.S., he finds a correlation between the permanent income of fathers and sons of about .4–.5. Corresponding work for Sweden by Björklund and Jäntti (1997) finds strong, but somewhat lower, intergenerational connections. Channel (iv) is the topic here. We try to begin to assess the magnitude and frequency of inheritances in Sweden, to begin to look at the possible motives Swedish households have in making bequests, and to compare the Swedish data with the U.S. Panel Study of Income Dynamics.

For the U.S., the magnitude and importance of bequests remains an unsettled issue. A well–known paper by Kotlikoff and Summers (1981) uses cross–sectional consumption data to determine indirectly the significance of intergenerational transfers. The authors end up attributing most of the U.S. stock of wealth (i.e., at least 80%) to estate building. Carroll and Summers (1994) generally support this finding. The simulation studies of Auerbach and Kotlikoff (1987), Mariger (1986), and Laitner (1992) also hint at, or show, a substantial role for bequests and other interhousehold transfers. On the other hand, direct evidence of sufficiently large private–sector transfers to bear out Kotlikoff and Summers seems to be lacking at this point — e.g., Modigliani (1986, 1988).

In terms of models of bequest behavior, probably the most famous is the so–called "altruistic model" of Becker (1974) and Barro (1974). In the Becker–Barro framework, parents care about the utility of their children and other descendants. A prosperous parent may build and leave an estate to share his good luck with his children; a non–prosperous parent may leave no estate at all, reasoning that his children may well have better consumption possibilities than he has even without his assistance. The model carries to an intergenerational context the idea of intertemporal consumption smoothing familiar from the permanent income hypothesis and the life–cycle saving model. It has the virtue of being able to integrate descriptions of parental provision of human capital for their children with other aspects of utility maximization (e.g., Becker and Tomes (1979), Drazen (1978)). It yields strong (and controversial!) policy implications: for example, Barro (1974)

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shows that government deficits may have no effect on an economy's ability to accumulate wealth, and Chamley (1986) shows that taxation of interest income may be undesirable in the long run. In terms of empirical evidence, regression results in Tomes (1981) strongly support the altruistic model; Laitner and Juster (1996) support it as well, though some of their findings are more ambiguous; but, Altonji et al. (1992) find at most mixed support.

A second theory of bequest behavior argues that people face uncertainty about the length of their life span, which, because of adverse selection in annuities markets, they cannot insure; thus, households must save for a very long retirement (e.g., Davies (1981)). If they die young, their unused resources become an "accidental bequest." If they live a long time, they may die with little or no estate. The implications of this model differ almost completely from the altruistic case: as bequests are accidents, they may be logical targets for heavy taxation; and, government programs which offer annuitization — such as social security — may be highly desirable from the standpoint of economic efficiency. In terms of evidence, Friedman and Warshawsky (1990) report rather ambivalent support.

In a third theory, bequests emerge as a delayed payment to heirs for services rendered (e.g., Bernheim et al. (1985)). A parent, for instance, might wish to have his children look after him in his old age. He might induce them to do so through an implicit promise of a bequest. We refer to this as the "exchange model."[1]

2. The Swedish Data

Our Swedish data comes from the Level of Living Survey (LLS) run by the Institute for Social Research at Stockholm University. The LLS consists of a panel with waves for 1968, 1974, 1981, and 1991. The basic data comes from interview surveys employing a wide variety of quantitative and qualitative questions (e.g., categories include situation when respondent grew up, current family composition, housing, education, health, employment hours, work environment, economic resources, crime, leisure time and recreation, and politics). The LLS supplements the interviews with government tax file (i.e., "register") information on respondent and spouse earnings, income, marital status, birthdate, birthdate of spouse, nationality, and gender. Our analysis is based on the 1968–1981 waves: while the economic–resource section of the interview covered inheritances in the first three years, unfortunately the 1991 wave omitted such questions. The sample sizes are .1% of the total Swedish population aged 16–76 (6522, 6593, 6987 in 1968, 74, and 81, respectively). The register data covers the entire sample. The response rate on the survey is quite high — numbers of respondents were 5922, 5616, and

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[1]See Laitner (1997), for example, for a survey of various models of bequest behavior.

5613 for 1968, 1974, and 1981.

Translations of the questions on inheritances from 1968, 74, and 81 for the respondent/respondent's spouse are:

(W377/380; V605/608; U580/583) Have you/your spouse ever received an inheritance of at least SEK 1,000 or corresponding value?

(W378/381; V606/609; U581/584) How much have you/your spouse inherited totally (approximate amount, estimated at the time of inheritance) — in SEK thousands)?

(W379/382; V607/610; U583/585) When (approximately which year) did you/your spouse receive the biggest inheritance?

As can be seen, later inheritance figures should include earlier amounts plus increments; thus, an individual's responses should be montone nondecreasing through time. Similarly, the date for an individual's largest inheritance should never decline. While the general intertemporal consistency of responses seems quite high, we attempted to eliminate deviant reports. Our underlying assumption is that information remembered for the shortest time is the most accurate. For example, if a respondent in 1968 lists the year of his largest inheritance as 1936 but remembers 1938 in 1974, we set both dates to 1936. An unpublished appendix details the cleaning steps and number of cases affected.

We made an effort to identify coding errors, hand checking all of the largest inheritance amounts against the original questionnaires. The LLS measures inheritances in thousands of SEK, and a computerize search identified suspicious cases in which an individual's record oscillated, say, between 5 and 5,000 SEK. The original questionnaires often enabled us to correct coding mistakes.

Nonresponse bias is a potential problem. In 1981, the figures above show that interviewers failed to make contact with 1372 people in the sampling frame of 6813. Of 5613 respondents, 11 failed to provide any information about inheritances, including whether they had received one or not, and another 88 answered affirmatively about receiving an inheritance but failed to provide an amount. In reporting about their spouse's inheritance, 35 respondents failed to provide any information, and 133 answered affirmatively that spouse had received an inheritance but neglected to provide an amount. The Institute for Social Research provides sample weights — though they are based exclusively on gender, age, marital status, type of locality, and social group.

Tables 3.1–3.2 present the distribution by age of inheritances in Sweden for 1981. We drop the nonrespondents, predict the inheritances for the 11 respondents and 35 spouses failing to report whether they received any amount with a Tobit, and impute the 88 respondents and 133 spouses who report receiving an inheritance but fail to specify the amount with an ordinary least squares re-

gression.[2] We convert all inheritance amounts to 1981 SEK using the Swedish CPI. Each wave of the LLS provides one cumulative inheritance amount for the respondent and a year of receipt for the largest component in the amount. In the price deflation step (and the present value computations below), we treat the entire 1968 amount as arriving at the year of its largest component; if the 1974 cumulative amount is larger, we treat the increment over 1968 as arriving at the date provided in 1974 (or 1971 if the 1974 year remains the same as the 1968 year); and, we repeat the last step for 1981. The respondent reports similar data for his/her spouse. If the spouse remains the same in all waves (i.e., if the respondent does not report a change in marital status and the birth date of the spouse remains unchanged), we process the spousal data just as we do the respondent data. Otherwise, we use only the cumulative spousal inheritance reported in 1981.

For consistency with the U.S. Panel Study of Income Dynamics (PSID), Tables 3.1–3.2 report household inheritances. As in the PSID, "age" refers to the respondent if the latter is single or a man, and otherwise it refers to the spouse. Several differences between the Swedish and U.S. data remain: a 16–year old living with his/her parents is counted as a single–adult household in the Swedish data — though not in the PSID; inheritances below 1,000 SEK are not reported to the LLS, while the PSID has no lower bound; and, because the unit of analysis in the PSID is the household, a widower/widow's inheritances through his/her deceased spouse count in total inheritances, whereas they do not appear at all in the Swedish data, for which individuals are the unit of analysis.[3]

3. Observations on the Swedish Data

Tables 3.1–3.10 summarize various aspects of the LLS data. Our initial observations are as follows.

(1) First, Tables 3.1–3.2 show that a very high percentage of Swedish households receive inheritances. Clearly the chance of ever having received one rises with age. The table shows that 70–75% of Swedish households eventually have an inheritance.

This observation is not inconsistent with any of the three theories of bequest behavior. It is perhaps most significant for the accidental model, however: if households self–insure against long life, one would expect that many would die not having total exhausted their savings.

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[2]We use the predicted and imputed values in the descriptive tables below, including Tables 3.1–3.2. However, we do not use them in the regressions of Table 3.11.

[3]The 1,000 SEK limit is, of course, more stringent for inheritances received in the distant past. For example, the 1981–value for a turn of the century inheritance at the constraint is about 20,000 SEK.

Table 3.1: Household Inheritances in Sweden. 1981 Present Values with 3 Percent Real Interest Rate

age of household head	number of house–holds	share married, weighted[b]	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	%	1981 SEK	1981 SEK
15-29	1,353	18.53	15.38	9,042	58,787
30-39	1,238	65.04	39.43	47,720	121,016
40-49	877	69.11	58.01	89,397	154,112
50-59	794	64.68	69.07	93,365	135,181
60-69	828	55.85	74.93	155,656	207,748
70-	523	44.25	71.10	164,875	231,898
total	5,613	48.34	47.20	75,766	160,523

Source: Swedish Level of Living Survey.
a. Amounts converted to 1981 SEK with the Swedish CPI.
b. The 1981 LLS weights adjust for gender, age, marital status, type of locality, and social group.

Table 3.2: Household Inheritances in Sweden. 1981 Present Values with 0 Percent Real Interest Rate

age of household head	number of house–holds	share married, weighted[b]	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	%	1981 SEK	1981 SEK
15-29	1,353	18.53	15.38	7,149	46,479
30-39	1,238	65.04	39.43	36,434	92,396
40-49	877	69.11	58.01	60,056	103,531
50-59	794	64.68	69.07	63,756	92,310
60-69	828	55.85	74.93	98,591	131,586
70-	523	44.25	71.10	90,429	127,189
total	5,613	48.34	47.20	49,216	104,271

Source: Swedish Level of Living Survey.
a. Amounts converted to 1981 SEK with the Swedish CPI.
b. The 1981 LLS weights adjust for gender, age, marital status, type of locality, and social group.

Table 3.3: Inheritances for Swedish Respondents with Both Parents Deceased, 1981 Present Values with 3 Percent Real Interest Rate.

age of respondent	number of respondents	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	1981 SEK	1981 SEK
15-29	7	24.63	69,469	242,272
30-39	24	60.18	63,127	94,352
40-49	45	53.32	239,339	412,759
50-59	168	69.26	64,866	95,250
60-69	449	71.34	119,475	165,487
70-76	362	66.91	135,233	206,692
total	1,055	68.16	119,685	175,476

Source: Swedish Level of Living Survey.
a. Amounts converted to 1981 SEK with the Swedish CPI.
b. The 1981 LLS weights adjust for gender, age, marital status, type of locality, and social group.

Tables 3.3–3.4 study frequencies in more detail. The LLS provides information on whether a respondent's parents are alive or not.[4] Table 3.3 considers respondents with both parents deceased; table 3.4 covers those with both parents living. One would presume that most bequests flow from parents to their children. It is therefore surprising to find fairly narrow differences between the tables. For example, about 40% of individuals aged 40–49 with neither parent deceased report inheritances, whereas 53% with both deceased do. Similarly, 60% aged 50–59 with both parents living have an inheritance, while 71% with both deceased do. The percentages with inheritances are virtually identical for the 60–69 age group (though the sample with living parents becomes small). Apparently Swedes often leave bequests to people other than their own children. There are a number of possible explanations. For example, (i) parents may bequeath to their grandchildren in order to avoid the double estate taxation of passing money to their children, who will subsequently pass it over again to grandchildren. (ii) Swedish taxation is based on inheritances rather than estates and is progressive; so, by distributing one's estate widely, one may be able to avoid high marginal tax rates. (iii) Perhaps by custom Swedes leave "tokens of remembrance" in their estates for their friends and distant relatives. The last may be generally supported by tables 3.3–3.4: the amounts of inheritance received are 2–3 times larger in almost all age brackets for heirs with deceased parents.

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[4]There is no corresponding information on the parents of the respondent's spouse; thus, Tables 3.3–3.4 consider individual respondents rather than households.

Table 3.4: Inheritances for Swedish Respondents with Both Parents Living, 1981 Present Values with 3 Percent Real Interest Rate.

age of respondent	number of respondents	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	1981 SEK	1981 SEK
15-29	1,355	12.08	5,441	46,139
30-39	1,029	25.50	26,767	101,615
40-49	574	40.25	41,883	102,018
50-59	276	59.86	45,171	81,097
60-69	63	70.99	50,655	75,127
70-76	7	75.63	60,251	83,401
total	3,304	26.40	22,711	86,471

Source: Swedish Level of Living Survey.
a. Amounts converted to 1981 SEK with the Swedish CPI.
b. The 1981 LLS weights adjust for gender, age, marital status, type of locality, and social group.

(2)   A second observation is that the inheritance amounts in Table 3.1 are neither insignificant nor overwhelmingly large. Households aged 60 and above are the most likely to have completed their receipt of inheritances. The average amount received is 150,000–160,000 SEK for that category. As average household 1981 earnings net of income taxes in the whole sample are 50,000 SEK, inheritances seem to provide about 3 years earnings on average.[5]

Table 3.2 shows that interest accruing on amounts inherited is nontrivial, especially for older households. In the literature, some authors advocate not counting interest in assessing inheritances (see Modigliani (1988)). We take the view that a 3% interest rate is conservative and that only present values with the same time base are comparable.

Tables 3.5–3.6 evaluate inheritance amounts in relative terms. Bringing wealth data from Statistics Sweden, Table 3.5 shows that as a fraction of household net worth, inheritances are very large. For the age group 60–69, for instance, average inheritances (plus interest) are 60–65% as large as average measured household net worth. It is important to realize, however, that the reported wealth figures are understated, as neither the Swedish nor the U.S. data below include capitalized future pension or social security flows. Furthermore, it is difficult to measure all components of nonpension net worth accurately. The ratio of average net worth to average net–of–tax current earnings is 2.96 for the LLS, but it is 5.55 for the PSID. Although social spending may leave Swedes less dependent on their own

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[5]Recall that amounts inherited themselves are net of taxes.

Table 3.5: Household Inheritances in Sweden as a Fraction of Household Wealth, 1981[a].

age of household head	average wealth 1984[a] 1984 SEK	average wealth 1981[b] 1981 SEK	inheritance/ wealth 1981[c]
15-29	19,784	14,521	.62
30-39	116,854	85,768	.56
40-49	244,358	179,353	.50
50-59	374,321	274,743	.34
60-69	334,151	245,259	.63
70-	264,390	194,056	.85
total	202,807	148,856	.51

Source: Household Income Survey, Statistics Sweden, and Table 3.1.
a. Household Income Survey, Statistics Sweden.
b. Divide col. 2 by the growth factor for the Swedish CPI 1981–84, 1.2774, and the same for real GDP per capita, 1.0666.
c. Present value of inheritance at 3% interest from col. 5, Table 3.1.

saving than are Americans, the difference in ratios makes us suspect that the Swedish net worth figures are too low. (As a second comparison, the ratio of net worth to lifetime earnings net of taxes, both discounted to the year the household head was age 50 — described below — for the age group 60–69 is .087 for Sweden, but .148 for the U.S.)

Table 3.6 relies exclusively on LLS data. Using the panel earnings data on respondents and their spouses, we estimate a standard earnings dynamics equation (e.g., Ahlroth et al. (1997)). In deference to the panel, we include an individual effect. Table .1 in the appendix presents our estimated coefficients. We ran the regression for men and women separately. Survey respondents provide enough information for the LLS to derive hourly wage rates, as well as yearly earnings from register data, and Table .1 also reports estimates based on wage rates.[6] As the latter are generally similar to the other results, we rely on the earnings equations. Using observations on each individual to derive a conditional estimate of his/her individual effect, we project each person's earnings at every age (from the maximum of school years+6 and 16, to age 65). As we have observations for only 3 years, we assume earnings growth mimics GDP per capita at other dates. Table 3.6 presents the present value of each household's lifetime earnings, discounted to age 50 for the household's head, derived in this way. Not all women (or men) work. Our procedure imputes earnings from market work for every year,

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[6]The wage data is available for employed, but not self–employed, respondents. It is not available for spouses.

Table 3.6: Swedish Household Inheritances as a Fraction of Lifetime Resources[a].

age house– hold head[b]	number of house– holds	lifetime earnings, weighted 1981 SEK	lifetime earnings net of taxes, weighted 1981 SEK	average inheritance, weighted 1981 SEK	average inheritance/ average net of tax lifetime earnings
15-29	1,352	6,627,788	4,248,660	20,050	.0047
30-39	1,235	7,512,904	4,789,646	79,634	.0166
40-49	874	6,952,687	4,484,191	104,782	.0234
50-59	790	5,361,260	3,692,513	83,424	.0226
60-69	828	3,809,611	2,826,861	101,693	.0360
70-	521	2,654,376	2,093,614	83,171	.0397
total	5,600	5,858,926	3,878,438	69,457	.0179

Source: Swedish Level of Living Survey.
a. Amounts converted to 1981 SEK with the Swedish CPI; all amounts in present
value at age 50 for household head, with 3 percent real interest rate.
b. For comparability with the U.S. data, the male
in a married couple is the household "head."

nevertheless.[7] In other words, Table 3.6's lifetime earnings figures impute a value for each woman's time whether she works in the market or not.

Table 3.6 shows that compared to lifetime earnings, inheritance amounts are small. For the oldest cohorts, where the cycle of inheritance is most nearly complete, inheritances are 3.5–4.0% as large as aftertax lifetime earnings. For single people, who tend to earn less, the corresponding figure is 5.5–6%. For single women alone, it is 8–8.5%.

(3)   Our third observation is that, as one perhaps would expect, the distribution of inheritance amounts is highly skewed. Table 3.7 shows that the top 1% of inheriting households in the LLS account for 43% of the total inheritance amount. The top 3% account for about 60%, and the top 10% for 80%. This degree of concentration is considerably greater than is the case for wealth in Bager-Sjögren and Klevmarken (1993, tab. 3), where the top 1% of Swedish wealth holders own 17% of the household total, the top 5% own about 35% of the total, the top 10% about 50%, and the top 20% about 70% of the total.

Table 3.8 shows the distribution of inheritances for households with positive amounts.

The skewness of the distribution of inheritances raises several issues. First, it is well known that the most properous households tend to be poorly represented

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[7]The estimates in table .1 use only data with positive earnings. We impute a 0 individual effect to persons with no usable earnings observations.

Table 3.7: Distribution of Inheritances in Sweden for All Households (Inheritances in 1981 Present Value with 3 Percent Real Interest Rate) [a].

Bracket	Smallest Inheritance in Bracket: 1981 SEK	Average Inheritance in Bracket: 1981 SEK	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	948,000	3,249,088	.43	.43
top 1–2%	545,000	720,377	.10	.52
top 2–3%	404,000	467,421	.06	.59
top 3–5%	265,000	324,325	.09	.67
top 5–10%	141,000	193,420	.13	.80
top 10–15%	87,000	109,736	.07	.87
top 15–20%	59,000	71,012	.05	.92
top 20–25%	40,000	49,169	.03	.95
top 25–50%	0	14,946	.05	1.00
bottom 50%	0	0	.00	1.00

Source: 1981 Swedish LLS.
a. Sample size=5613.

Table 3.8: Distribution of Inheritances in Sweden for Households with Positive Amounts (Inheritances in 1981 Present Value with 3 Percent Real Interest Rate)[a].

Bracket	Smallest Inheritance in Bracket: 1981 SEK	Average Inheritance in Bracket: 1981 SEK	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	2,147,000	5,281,607	.33	.33
top 1–2%	979,000	1,503,020	.09	.42
top 2–3%	748,000	865,051	.05	.48
top 3–5%	494,000	582,700	.07	.55
top 5–10%	274,000	361,600	.11	.66
top 10–15%	197,000	234,338	.07	.73
top 15–20%	150,000	173,105	.05	.79
top 20–25%	115,000	132,788	.04	.83
top 25–50%	45,000	72,548	.11	.94
bottom 50%	0	17,914	.06	1.00

Source: 1981 Swedish LLS.
a. Sample size=2847.

in data sets — they are few in number, and they tend to avoid participating in surveys. If, for example, top wealth holders are seriously underrepresented in the LLS, Table 3.7 warns that inheritance amounts might be severely understated. Second, Table 3.8 suggests that multiple motives may explain Swedish bequests. Inheritances in the bottom half of the distribution are quite small, perhaps resembling wedding gifts and graduation presents more than serious attempts to augment heirs' lifetime consumption possibilities. Amounts of money received by the top 5%, on the other hand, correspond to many years of (average) earnings. A single behavioral model may not fit the widely varying sums.

Table 3.9 recomputes the distribution of inheritances in terms of present value at age 50. An altruistic parent who cares about the lifetime resources of his child would presumably think about his prospective bequest in such a way. The table includes only households aged 60–69, for whom the life cycle of inheritances may be largely complete. As in Table 3.7, Table 3.9 encompasses all households in the age category, including those with 0 inheritance. Table 3.10 computes the distribution of aftertax lifetime labor earnings for the same sample. The contrast between Tables 3.9–3.10 is dramatic: the distribution of aftertax earnings is very, very equal compared with inheritances.[8]

(4) Most surveys fail to capture the richest segment of society (e.g., Davies and Shorrocks (1996)), and Table 3.11 hints that the LLS, while perhaps doing better than most, may have the same problem. There is tax record data on earnings (and birth date) for all 6987 individuals in the original sample. 1374 people did not respond to the mail survey (where, for instance, the questions on inheritances were). For different age groups, Table 3.11 orders male respondents by their 1981 earnings, and presents survey response rates. Response rates are quite high and very level until we reach the top earners, at which point the rates taper off noticeably.[9]

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[8]Several factors probably exaggerate the equality of earnings in Table 3.10 as follows. (i) Predictions based on a random effects model essentially average a person's residual with the sample average residual (which is 0), the person's residual getting more weight if it is based on more observations. Yet, we have at most 3 observations per person. (ii) We predict out of sample using GDP per capita — doing so in the same way for all people. (iii) As noted above, we attribute market work in every year to all women, whereas in practice some do not work.

[9]It is difficult to draw conclusions from Table 3.11 other than the suspicion that the most prosperous households are underrepresented. For example, the correlation coefficient between current earnings and inheritance amount for males aged 50–59 in the top 25% of the earnings distribution for this group is only .033, and the corresponding correlation for males aged 60–69 is .014.

Table 3.9: Distribution of Inheritances in Sweden for Households Ages 60–69 (Inheritances in Present Value at Each Household's 50th Birthday, with 3 Percent Real Interest Rate)[a].

Bracket	Smallest Inheritance in Bracket: 1981 SEK	Average Inheritance in Bracket: 1981 SEK	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	1,392,155	3,665,698	.36	.36
top 1–2%	669,685	1,008,029	.10	.46
top 2–3%	476,723	597,508	.06	.52
top 3–5%	352,733	423,397	.08	.60
top 5–10%	172,962	242,253	.12	.72
top 10–15%	112,358	144,160	.07	.79
top 15–20%	82,594	99,851	.05	.84
top 20–25%	63,328	72,889	.04	.88
top 25–50%	21,188	39,952	.10	.97
bottom 50%	0	5,022	.03	1.00

Source: 1981 Swedish LLS.

a. All households — not just those with positive inheritances. Sample size=828.

Table 3.10: Distribution of Aftertax Lifetime Earnings in Sweden for Households Ages 60–69 (Lifetime Earnings in Present Value at Household's 50th Birthday, with 3 Percent Real Interest Rate)[a].

Lifetime Earnings Bracket	Smallest Lifetime Earnings in Bracket, 1981 SEK	Average Lifetime Earnings in Bracket, 1981 SEK	Fraction of Total Lifetime Earnings in Bracket	Cumulative Fraction of Lifetime Earnings
top 1%	5,818,675	6,557,654	.02	.02
top 1–2%	5,543,012	5,694,660	.02	.04
top 2–3%	5,178,652	5,671,955	.02	.06
top 3–5%	4,958,921	5,286,509	.04	.10
top 5–10%	4,496,676	4,798,096	.08	.18
top 10–15%	4,249,619	4,414,444	.08	.26
top 15–20%	4,011,466	4,200,272	.07	.34
top 20–25%	3,822,017	3,951,873	.07	.41
top 25–50%	2,833,012	3,381,054	.30	.71
bottom 50%	0	1,623,915	.30	1.00

Source: 1981 Swedish LLS.

a. Sample size=828.

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Table 3.11: Fractions of Swedish Males Responding to the LLS Survey, by Current Earnings and Age[a].

Earnings Bracket	Ages 40–49	Ages 50–59	Ages 60–69
top 2.5%	.62	.50	.54
top 2.5–5%	.85	.81	.96
top 5–10%	1.00	.80	.82
top 10–20%	.87	.82	.78
top 20–30%	.85	.76	.80
top 30–40%	.91	.78	.86
top 40–50%	.82	.77	.77
top 50–60%	.85	.86	.56
top 60–70%	.76	.88	.77
top 70–80%	.65	.70	.83
top 80–90%	.68	.67	.77
bottom decile	.64	.81	.83

Source: 1981 Swedish LLS.

a. Recall that the LLS has register earnings for all households in the original sample, not just survey respondents.

4. Behavioral Models

The introduction notes that different theories of bequest behavior have very different policy implications. Thus, it is potentially important to distinguish among the models. This section attempts to use regression analysis to do so empirically.

The following is a simple reduced form description of inheritance behavior:

$$I_i = f(Y_i^p, Y_i, X_i), \tag{1}$$

where I_i is the 1981 present value of the cumulative inheritance of respondent i, Y_i^p is the present value at age 50 of the lifetime aftertax earnings of the respondent's parents, Y_i is the present value at age 50 of the respondent's lifetime aftertax earnings, and X_i is a vector of other variables such as respondent age, sex, etc. The model is easiest to interpret for single people who are late enough in life to have completed their cycle of inheritances. According to Barro and Becker, the partial derivative of $f(.)$ with respect to Y^p should be positive: a parent with more resources will want to share them with his descendants via a larger estate. If the parent knows his childrens' earnings early enough in his life to adjust his plans, he will want to share more the lower the childrens' earnings. That suggests a negative partial derivative for $f(.)$ with respect to Y. (Alternatively, if the parent does not know his childrens' earnings, or if he does not learn them long enough before his retirement to act, the partial derivative of $f(.)$ with respect to Y should be 0.) According to the accidental–bequest model, the partial with respect to Y^p

should again be positive, but the partial with respect to Y should be 0. In the exchange model, the partial with respect to Y^p is positive, but the partial for Y may be of either sign.

Unfortunately, if we limit ourselves to people who have never married, our sample becomes small. However, Laitner (1991)s analysis of assortative mating suggests that the essence of the altruistic model may carry over for married people analyzed as if they were single. The accidental and exchange models inherently allow us to treat heirs as individuals. We proceed using individuals as our unit of analysis.

To employ (1) in a regression, we append an error term:

$$I_i = f(Y_i^p, Y_i, X_i) + \eta_i + \epsilon_i. \tag{2}$$

Think of the error's first component, η_i, as registering the taste for altruism of respondent i's parents, and think of the second part, ϵ_i, as capturing, say, measurement error in I_i.

Table 4.1 reports very preliminary regressions. The sample is limited to respondents who are age 50 and above and both of whose parents are already decreased.[10] The sample size is 972. The dependent variable is the respondent's inheritance, in present value at age 50. In the first two columns the independent variables are: number of siblings; "were you poor when you grew up?" (1 yes, 0 no); father graduated from high school or college (1 yes, 0 no); father belonged to high economic status occupational group (1 yes, 0 no); mother graduated from high school or college; mother belonged to high occupational group; woman (1 yes, 0 no); married (1 yes, 0 no); widow (1 yes, 0 no); age; age squared; present value at age 50 of respondent's aftertax lifetime earnings; and, a constant.

The probit and the Tobit in columns 1–2 display similar results. All three of our theories predict a positive sign for the coefficient of Y^p in (1). Table 4.1 strongly supports that: the coefficient on growing up poor is negative and highly statistically significant; the father's (and sometimes the mother's) occupational status has a significant, positive coefficient. The altruistic model predicts a negative coefficient for Y, and the accidental model predicts a zero coefficient. The coefficient comes out negative in both the probit and Tobit, but it is not statistically significant in either case. Respondents with more siblings are not significantly less likely to receive an inheritance, but when they do receive one, it is likely to be smaller.

Taken literally, columns 1–2 support the exchange and accidental models, and they reject the altruistic model. However, this is very preliminary work, and there

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[10]Note that the LLS does not contain information about spouses' parents. Table 4.1 refers to inheritances of respondents — not of the households of respondents.

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Table 4.1: Swedish Data: Regression Models of Inheritance Behavior, Coefficients (absolute T–statistic).

Independent Variable[a]	Probit: Inheritance>0	Tobit: Inheritance Amount	Probit: Inheritance>0	Tobit: Inheritance Amount
number	-.025	-11.15	-.020	-9.04
siblings	(1.62)	(2.60)	(1.24)	(2.08)
poor when	-.54	-130.62	-.52	-123.94
growing up	(5.97)	(5.23)	(5.73)	(4.96)
father	-.13	84.15	-.28	41.29
h.s./college	(.54)	(1.47)	(1.15)	(.70)
father high	.38	67.41	.34	54.92
occ. group	(3.88)	(2.66)	(3.38)	(2.14)
mother	.25	-21.54	.16	-40.83
h.s./college	(.55)	(.21)	(.34)	(.41)
mother high	.38	49.80	.37	45.66
occ. group	(2.39)	(1.41)	(2.32)	(1.30)
woman	.0060	19.97	-.029	10.82
	(.05)	(.63)	(.23)	(.34)
married	.19	-27.44	.19	-26.13
	(1.66)	(.91)	(1.70)	(.87)
widow	-.037	5.73	-.015	9.23
	(.25)	(.14)	(.10)	(.23)
age	.13	29.99	.14	34.34
	(1.03)	(.94)	(1.16)	(1.07)
age	-.0010	-.24	-.0012	-.27
squared	(1.09)	(.95)	(1.22)	(1.09)
lifetime	-.000079	-.0040	-.00013	-.016
earnings	(1.08)	(.22)	(1.65)	(.88)
schooling	..	..	.049	12.86
years			(2.55)	(2.81)
constant	-3.11	-893.98	-3.95	-1121.39
	(.79)	(.87)	(.99)	(1.09)
observations	972	950	972	950
log likelihood	-556.72	-4807.59	-553.38	-4803.65
pseudo R^2	.084	.0078	.090	.0086

Source: LLS; both parents dead and respondent age 50 or over.

a. Unless explicitly noted, all variables refer to respondent.

are a number of potential problems. One is errors in variables in the constructed respondent lifetime earnings regressor, Y. Perhaps even more important, we have 5 proxies for Y^p rather than a direct measure. Existing work on intertemporal earnings relationships implies that our Y may be correlated with incompletely captured components of Y^p. This could lead to an upward bias on the coefficient of Y.

Another possible problem is as follows. The Becker model suggests that an altruistic parent first transfers human capital to his children. The parent turns to gifts and bequests of money only if he desires to make additional transfers after he provides enough human capital to reduce its marginal benefit to its marginal cost. This suggests that Y_i may be endogenous, say,

$$Y_i = Y(\eta_i), \tag{3}$$

where η_i is as in (2), and where $\partial Y/\partial \eta_i > 0$.[11]

The regressions of columns 3–4 of Table 4.1 attempt to eliminate the correlation between η_i and Y_i by adding the respondent's years of education as an independent variable. The coefficient on the heir's lifetime earnings is larger in absolute magnitude than in columns 1–2. In the probit, it is significantly negative at the 10% level.

5. U.S. Data

Our U.S. data comes from the Panel Study of Income Dynamics (PSID). The PSID consists of panel data on annual earnings from 1967 to the present, together with measurements of household net worth in 1984, 89, and 94. The 1984 wealth module included questions on cumulative inheritances. Later surveys asked about transfer flows after 1984, sometimes with modified wording. For conformity with the Swedish data, we restrict our attention to the wealth and inheritance figures for 1984.

Our 1984 sample starts with 6918 households. There are 3807 couples, of which we dropped 29 for missing birth dates; 1233 single males, of which we dropped 210 for missing birth dates; and, 1878 single females, of which we dropped 2 for missing birth dates. The final sample is 6677.

The 1984 questions about inheritances are:

(V10937) Now we're interested in where people's assets come from. Have you (or anyone in your family living there) ever inherited any money or property?

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[11]Although education is publicly funded to a higher degree in Sweden than, say, in the U.S., parents undoubtedly provide subsidies to students in both places.

(V10938) Total number of inheritances received.

(V10939) What year did you receive that? – first inheritance

(V10940) How much was it worth altogether, at that time? – first inheritance

(V10944) What year did you receive that? – second inheritance

(V10945) How much was it worth altogether, at that time? – all other inheritances

One difference from the Swedish data is that there is no lower bound on the inheritance amount. A second is that the PSID inheritance questions refer only to the household, rather than the respondent and spouse separately. A third difference is that the interviewer attempted to bracket missing inheritance amounts within [0,1000], [1000,10000], [10000,100000], or [100000,.) through follow–up questions. The PSID subsequently imputed missing amounts using conditional distributions within the brackets.[12]

We hand checked the three inheritance amounts over $1,000,000 against the original questionnaires. Checking only the largest amounts might, of course, lead to downward biases — though we certainly would have corrected coding errors in either direction. Two, it turns out, had been miscoded and the third was imputed, with the imputation changing after the coding errors were corrected. We then raised all inheritance amounts to 1984 dollars using the consumption deflator from the national income and products accounts. One very large inheritance emerged within the age group 80–89. Though it affects many of the tables, its size is entirely consistent with the household's net worth.

6. Comparisons with the Swedish Data

Tables 6.1–6.10 summarize the PSID data in various ways. Comparisons and contrasts with the Swedish data are as follows.

(1) Tables 6.1–6.2, giving inheritance amounts by age, show that the frequency of inheritances in the PSID data is less than half that in the Swedish LLS. In the age group 60–79, 30–35% of the PSID households report an inheritance, whereas 70–75% in the LLS do. Overall, 19% of the PSID households have received an inheritance, whereas 47% in the LLS have.

One might imagine that the PSID households simply neglect to report small inheritances. Superficially at least, Tables 3.8 and 6.8 belie this: conditional on receiving a positive inheritance, the PSID distribution is only slightly more concentrated.

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[12]Missing inheritance years are also fully imputed.

Table 6.1: Household Inheritances in the U.S., 1984 Present Values with 3 Percent Real Interest Rate[a].

age of household head	number of house– holds	share married, weighted[b]	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	%	1984 dollars	1984 dollars
15-29	1,933	40.44	6.75	1,300	19,271
30-39	1,901	61.85	13.64	7,553	55,360
40-49	856	66.83	15.01	8,972	59,774
50-59	839	66.83	28.28	26,465	93,573
60-69	652	51.51	34.07	23,444	68,809
70-79	398	34.40	28.69	31,474	109,705
80-89	90	19.82	37.72	215,822	572,117
90-	8	00.00	37.80	24,585	65,038
total	6,677	53.58	18.91	18,564	98,191

Source: Panel Study of Income Dynamics.
a. Amounts converted to 1984 dollars with the NIPA consumer expenditure deflator.
b. Weighted with 1984 PSID household weights.

Table 6.2: Household Inheritances in the U.S., 1984 Present Values with 0 Percent Real Interest Rate[a].

age of household head	number of house– holds	share married, weighted[b]	share with inheritance, weighted[b]	average inheritance, weighted[b]	conditional average inheritance, weighted[b]
		%	%	1984 dollars	1984 dollars
15-29	1,933	40.44	6.75	1,059	15,690
30-39	1,901	61.85	13.64	5,715	41,892
40-49	856	66.83	15.01	7,282	48,517
50-59	839	66.83	28.28	18,180	64,280
60-69	652	51.51	34.07	14,562	42,739
70-79	398	34.40	28.69	15,622	54,451
80-89	90	19.82	37.72	67,346	178,526
90-	8	00.00	37.80	12,916	34,170
total	6,677	53.58	18.91	10,277	54,355

Source: Panel Study of Income Dynamics.
a. Amounts converted to 1984 dollars with the NIPA consumer expenditure deflator.
b. Weighted with 1984 PSID household weights.

Table 6.3: Inheritances for PSID Households with All Four Parents Deceased, 1984 Present Values with 3 Percent Real Interest Rate.

age of respondent	number of respondents	share with inheritance, weighted	average inheritance, weighted	conditional average inheritance, weighted
		%	1984 $	1984 $
15-29	16	9.90	3,048	13,790
30-39	33	41.71	21,302	48,546
40-49	64	25.38	21,842	77,226
50-59	208	36.84	35,018	87,477
60-69	243	44.93	39,116	89,509
70-	204	43.73	84,779	213,910
total	768	39.92	47,179	118,217

Source: PSID.

The cell populations in Tables 6.3–6.4 are very small. In general, a larger fraction of children's inheritances seem to come from their parents in the U.S. than in Sweden.

(2) A second observation is that average inheritance amounts are smaller in the PSID relative to other economic variables than in the LLS.

Tables 3.5 and 6.5 allow us to compare inheritances and household net worth — though our earlier discussion suggests the Swedish net worth figures may be 50–100% understated. Overall, the 1984 present value, with a 3% real interest rate, of inheritances received as a fraction of 1984 net worth is .19 for the PSID; the corresponding 1981 fraction for Sweden is .51. The U.S. numbers are somewhat inflated by households over 80, who are excluded from the LLS. If we look at households 60–69, the PSID ratio is .18, while the LLS ratio is .63. For ages below 60, the U.S. data shows a ratio of about .10, whereas the Swedish ratios average about .50. The columns of PSID data conditional on receiving an inheritance are much more similar to the Swedish data than the overall PSID is.

We estimate the same earnings dynamics equations for men and women in the PSID as we used for Sweden. Our procedure is the same: we use all observations with positive earnings (from 1967 to 1992). Table .2 in the appendix presents the random–effects model estimates. Using the residuals for each individual to derive an estimate of his/her individual effect, we then impute earnings at all ages (from the maximum of 16 and years of education +6), deduct Federal and State income taxes, and discount to the year the household head is age 50 at 3%/yr.[13]

Table 6.6 presents results. Inheritances as a fraction of lifetime net–of–tax

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[13]Using their empirical distribution, we allow itemized deductions to vary with earnings level.

Table 6.4: Inheritances for PSID Households with All Four Parents Living, 1984 Present Values with 3 Percent Real Interest Rate.

age of respondent	number of respondents	share with inheritance, weighted	average inheritance, weighted	conditional average inheritance, weighted
		%	1984 $	1984
15-29	1,0057	4.14	501	11,605
30-39	736	8.54	4,177	45,790
40-49	172	11.78	13,020	138,986
50-59	31	20.90	4,436	25,603
60-69	3	0	0	0
70-	1	100.00	55,996	41,703
total	2,000	6.78	3,018	44,515

Source: PSID.

Table 6.5: U.S. Household Inheritances as a Fraction of Household Wealth in 1984.

age household head	number of households	all households average wealth 1984	inheritance/ wealth 1984[a]	conditional on positive inheritance average wealth 1984	inheritance/ wealth 1984[a]
15-29	1,933	15,247	.09	29,843	.65
30-39	1,901	69,481	.11	122,281	.45
40-49	856	126,556	.07	147,984	.40
50-59	839	215,710	.12	177,417	.53
60-69	652	132,140	.18	191,659	.36
70-79	398	96,410	.33	152,661	.72
80-89	90	194,869	1.11	401,141	1.43
90-	8	25,045	.98	46,727	1.39
total	6,677	100,021	.19	162,779	.60

Source: Panel Study of Income Dynamics.
a. 1984 present value of inheritance at 3% real interest rate.

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Table 6.6: U.S. Household Inheritances as a Fraction of Lifetime Resources[a].

age house–hold head[b]	number of house–holds	lifetime earnings, weighted 1984 $	lifetime earnings net of taxes, weighted 1984 $	average inheritance, weighted 1984 $	average inheritance/ average net of tax lifetime earnings
15-29	1,933	2,087,479	1,467,399	2,650	.0018
30-39	1,901	2,059,601	1,458,093	11,679	.0080
40-49	856	1,850,065	1,328,144	10,478	.0079
50-59	839	1,571,867	1,149,009	22,640	.0197
60-69	652	1,173,803	894,793	15,150	.0169
70-79	398	861,129	690,124	15,258	.0221
80-89	90	597,444	508,487	83,478	.1642
90-	8	278,829	261,312	6,430	.0246
total	6,677	1,709,820	1,233,212	13,678	.0111

Source: PSID.

a. Amounts converted to 1984 dollars with the NIPA consumer expenditure deflator; all amounts in present value at age 50 for household head, with 3 percent real interest rate.

b. Following the PSID convention, the male in a married couple is the "head."

earnings are 60% lower in the PSID than the LLS. The fraction is one–third less for the 60–69 age group. The overall (i.e., for all age groups) average inheritance in the PSID provides almost exactly one year's current net–of–tax earnings; in Sweden, the corresponding figure is 1.5 years.

As stated, the sample sizes in Tables 6.3–6.4 are very small. Nevertheless, in contrast to the Swedish data, the conditional average inheritance amounts for households with and without deceased parents seem quite similar (i.e., consider the first three age categories).

(3) The PSID data shows a distribution of inheritances more concentrated than the distribution of net worth, which, in turn, is more concentrated than the distribution of earnings. This is apparent for Tables 6.9–6.10, where we isolate the age group 60–69. The comparisons resemble the Swedish data, though the U.S. distributions are more unequal.

(4) It is well–known that the PSID does not provide a good representation of very wealthy households. For example, Hurst, Luoh, and Stafford [1996] argue that the 1994 PSID accurately characterizes the U.S. distribution of wealth up to amounts of $1,000,000, but not over. That leaves the top 2–3% of wealth holders — who seem to control about 40% of U.S. net worth — poorly characterized.[14]

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[14]The point is that the very rich may behave differently from the rest of population. (We can note that within the PSID sample, the raw correlation between wealth and inheritances received

Table 6.7: Distribution of Inheritances in the PSID for All Households (Inheritances in 1984 Present Value with 3 Percent Real Interest Rate)[a].

Bracket	Smallest Inheritance in Bracket: 1984 dollars	Average Inheritance in Bracket: 1984 dollars	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	287,639	1,059,954	.57	.57
top 1–2%	173,603	215,089	.12	.69
top 2–3%	115,062	148,145	.08	.77
top 3–5%	64,079	87,694	.09	.86
top 5–10%	19,260	38,337	.10	.96
top 10–15%	5,293	11,372	.03	1.00
top 15–20%	0	1,861	.01	1.00
top 20–25%	0	0	.00	1.00
top 25–50%	0	0	.00	1.00
bottom 50%	0	0	.00	1.00

Source: 1984 U.S. PSID.
a. Sample size=6677.

Table 6.8: Distribution of Inheritances in the PSID for Households Receiving Positive Amounts (Inheritances in 1984 Present Value with 3 Percent Real Interest Rate)[a].

Bracket	Smallest Inheritance in Bracket: 1984 dollars	Average Inheritance in Bracket: 1984 dollars	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	1,118,820	3,630,344	.37	.37
top 1–2%	540,236	816,113	.08	.45
top 2–3%	384,303	483,134	.05	.50
top 3–5%	294,046	331,086	.07	.57
top 5–10%	173,784	220,042	.11	.68
top 10–15%	125,398	149,408	.08	.76
top 15–20%	90,171	106,494	.05	.81
top 20–25%	70,042	79,083	.04	.85
top 25–50%	22,543	41,712	.11	.96
bottom 50%	0	8,027	.04	1.00

Source: 1984 U.S. PSID.
a. Sample size=921.

Table 6.9: Distribution of Inheritances in the U.S. for Households Ages 60–69 (Inheritances in Present Value at Each Household's 50th Birthday, with 3 Percent Real Interest Rate)[a].

Bracket	Smallest Inheritance in Bracket: 1984 dollars	Average Inheritance in Bracket: 1984 dollars	Fraction of Total Inheritances	Cumulative Fraction of Inheritances
top 1%	190,871	315,482	.21	.21
top 1–2%	167,946	198,887	.13	.34
top 2–3%	121,284	167,686	.11	.45
top 3–5%	92,980	114,120	.15	.60
top 5–10%	37,228	63,646	.21	.81
top 10–15%	20,155	29,304	.10	.91
top 15–20%	10,911	15,462	.05	.96
top 20–25%	6,622	8,618	.03	.99
top 25–50%	0	783	.01	1.00
bottom 50%	0	0	.00	1.00

Source: 1984 PSID.

a. All households — not just those with positive inheritances. Sample size=652.

Table 6.10: Distribution of Aftertax Lifetime Earnings in the U.S. for Households Ages 60–69 (Lifetime Earnings in Present Value at Household's 50th Birthday, with 3 Percent Real Interest Rate)[a].

Lifetime Earnings Bracket	Smallest Lifetime Earnings in Bracket, 1984 $	Average Lifetime Earnings in Bracket, 1984 $	Fraction of Total Lifetime Earnings in Bracket	Cumulative Fraction of Lifetime Earnings
top 1%	2,382,744	2,961,416	.03	.03
top 1–2%	2,166,875	2,761,246	.03	.06
top 2–3%	2,024,953	2,216,875	.02	.09
top 3–5%	1,866,338	2,037,435	.04	.13
top 5–10%	1,619,768	1,752,582	.10	.23
top 10–15%	1,476,384	1,553,193	.09	.32
top 15–20%	1,351,168	1,446,497	.08	.40
top 20–25%	1,263,819	1,328,697	.07	.47
top 25–50%	818,283	1,061,929	.30	.77
bottom 50%	0	402,192	.23	1.00

Source: PSID.

a. Sample size=652.

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7. Behavioral Model

Table 7.1 presents regression estimates of our behavioral model for the U.S. data. As in the Swedish case, we restrict the sample to people aged 50 and over, with both parents deceased. The reported regressions refer to single people. The sample for couples with all parents deceased is even smaller, we do not have the father's occupational group for wives, and results for couples are quite similar to those in Table 7.1.

As in the Swedish data, number of siblings has a negative effect on the probability of receiving any inheritance and on the amount received. Being "poor" when growing up had a significant, negative effect in all of the Swedish regressions, but it is insignificant in Table 7.1 — as is growing up "rich." The American sample grew up during the Great Depression and World War II, and perhaps the financial status of their parents during those years did not accurately predict their well–being later on. As in the Swedish data, in Table 7.1 high occupational status/high education parents are generally more likely to leave a bequest, and the bequest they leave is likely to be larger. However, education rather than occupational group is more significant in the U.S. data. As in the Swedish data, respondent education has a positive, highly significant coefficient.

The coefficient on the respondent's lifetime earnings is important in distinguishing among theories. In the Swedish data, the coefficient was negative, though generally insignificant. In Table 7.1, the coefficient is negative in 3 of 4 columns — though statistically significant at the 5% level in only one case. A negative coefficient is consistent with the altruistic model.

The dummy variable for being a woman has a negative coefficient in both Tobits of Table 7.1. Evidence suggests that siblings are treated equally in their parents estates. One possibility is, therefore, that our "woman" variable merely serves to offset in our regressions the difference between male and female lifetime earnings. In Table 7.1 we divide the household inheritance of a widow by 2 — for compatibility in per capita terms with people who never married. Nevertheless, a widow is more likely to have a positive inheritance. Somewhat surprisingly, widows are also likely to have larger inheritance amounts. Perhaps widows record legacies from their spouses.

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is weak: within the age group 50–59, for the wealthiest 25% of couples the correlation is -.043; for the age group 60–69, the same is .069.)

Table 7.1: U.S. Data: Regression Models of Inheritance Behavior, Coefficients (absolute T–statistic).

Independent Variable[a]	Probit: Inheritance>0	Tobit: Inheritance Amount	Probit: Inheritance>0	Tobit: Inheritance Amount
number siblings	-.085 (3.044)	-11641.32 (2.515)	-.080 (2.754)	-9865.19 (2.173)
poor when growing up	.130 (.660)	11910.32 (.369)	.217 (1.078)	21493.47 (.682)
rich when growing up	.291 (1.099)	15449.02 (.365)	.208 (.757)	5640.72 (.136)
father h.s./college	-.0089 (.037)	64253.44 (1.768)	-.060 (.240)	56576.88 (1.593)
father high occ. group	.131 (.573)	43814.76 (1.191)	-.051 (.215)	24565.29 (.687)
mother h.s./college	.699 (3.560)	46907.86 (1.509)	.422 (2.000)	-2067.90 (.065)
woman	.185 (.766)	-41087.27 (1.104)	-.018 (.071)	-73953.57 (1.994)
widow	.398 (2.225)	57167.31 (1.903)	.452 (2.424)	61132.21 (2.044)
age	.177 (1.367)	37075.4 (1.663)	.229 (1.709)	41926.93 (1.901)
age squared	-.0013 (1.329)	-285.75 (1.680)	-.0017 (1.650)	-319.47 (1.898)
lifetime earnings	-1.27e-07 (.489)	.00714 (.183)	-6.21e-07 (2.137)	-.061 (1.471)
schooling years	..	..	.132 (4.223)	19167.7 (4.102)
constant	-6.742 (1.596)	-1308876 (1.812)	-9.676 (2.184)	-1638079 (2.273)
observations	310	290	310	290
$\chi^2(11)$	38.95	26.87	58.17	45.59
log likelihood	-167.281	-1008.896	-157.671	-999.535
pseudo R^2	.104	.0141	.156	.0223

Source: PSID; single people, aged 50 and over, with both parents dead.
a. Unless explicitly noted, all variables refer to respondent.

8. Conclusion

Our data suggests that inheritances are far more prevalent in Sweden than in the U.S. The average amount inherited, relative to earnings, is also larger in Sweden, though not in proportion to incidence — as the American inheritances tend to be somewhat larger.

It seems likely that the U.S. data understates total inheritance amounts because our sample does not provide good coverage of the wealthiest households. There is less evidence on the quality of the Swedish data in this regard.

Our behavioral analysis is still at an early stage. Very preliminary evidence shows negative regression coefficients on respondent lifetime earnings, as would be consistent with altruistic models. However, the statistical significance of the negative coefficients is marginal at best — perhaps pointing to the accidental model (which predicts that the coefficients will be 0).

A. Appendix

Table A.1: Swedish Earnings and Hourly Wage Random Effects Models, Coefficients (absolute T–statistic).

Indep. Var.	Men		Women	
	Earnings	Wages	Earnings	Wages
age	.0046	.0040	.0607	.0118
	(.36)	(.60)	(2.86)	(1.33)
$age^2/100$	-.026	-.017	-.059	-.014
	(2.84)	(3.55)	(4.14)	(2.22)
education	.0019	-.0107	.0982	.0008
	(.04)	(.46)	(1.15)	(.02)
$education^2/100$	-.145	-.029	-.112	.130
	(1.30)	(.56)	(.52)	(1.58)
$(age \cdot education)^2/100$	.283	.231	-.133	.035
	(2.84)	(4.46)	(.75)	(.50)
$(age \cdot education)^2/10000$	-.0063	-.0074	-.0098	-.0004
	(1.43)	(3.09)	(1.12)	(.11)
dummy 1968	-.081	-.067	-.498	-.216
	(1.54)	(7.53)	(17.9)	(19.0)
dummy 1974	.063	.050	-.234	-.027
	(3.75)	(6.27)	(10.0)	(2.70)
constant	10.5	3.15	8.68	2.97
	(24.6)	(15.2)	(12.4)	(10.5)
σ_{u_i}	.673	.229	.642	.194
	(55.4)	(42.4)	(39.8)	(27.1)
$\sigma_{e_{it}}$	.489	.191	.672	.224
	(77.9)	(60.0)	(69.2)	(49.4)
$\chi^2(8)$	2,057.5	2,322.9	1,027.2	1,332.5
log likelihood	-6,881.4	-470.96	-6,886.5	-534.25
observations	6,404	4,564	5,398	3,407
people	3,086	2,500	2,820	2,038

Source: mle.

Table A.2: PSID Earnings and Hourly Wage Random Effects Models, Coefficients (absolute T–statistic).

Indep. Var.	Men		Women	
	Earnings	Wages	Earnings	Wages
age	.084	.013	.178	-.013
	(10.665)	(2.208)	(11.410)	(1.401)
$age^2/100$	-.126	-.036	-.157	-.0042
	(24.182)	(9.020)	(15.824)	(.734)
education	-.053	-.094	.446	-.156
	(1.602)	(3.755)	(6.782)	(4.252)
$education^2/100$	.323	.401	-.603	.826
	(3.364)	(5.632)	(3.294)	(8.499)
$(age \cdot education)^2/100$	.259	.331	-.645	.312
	(4.672)	(7.905)	(5.533)	(4.626)
$(age \cdot education)^2/10000$	-.0035	-.011	.029	-.014
	(1.422)	(5.900)	(5.476)	(4.404)
dummies 1967–91				
constant	7.468	1.426	2.034	1.648
	(25.466)	(6.472)	(3.553)	(5.088)
σ_{u_i}	.630	.461	.957	.452
	(87.077)	(89.092)	(89.458)	(87.642)
$\sigma_{e_{it}}$	.538	.408	.779	.464
	(344.819)	(345.526)	(321.249)	(322.197)
$\chi^2(30)$	46,557.18	50,803.03	34,808.34	34,067.79
log likelihood	-58,317.446	-40,245.411	-74,273.411	-43,299.450
observations	64,523	64,496	57,480	57,453

Source: mle.

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