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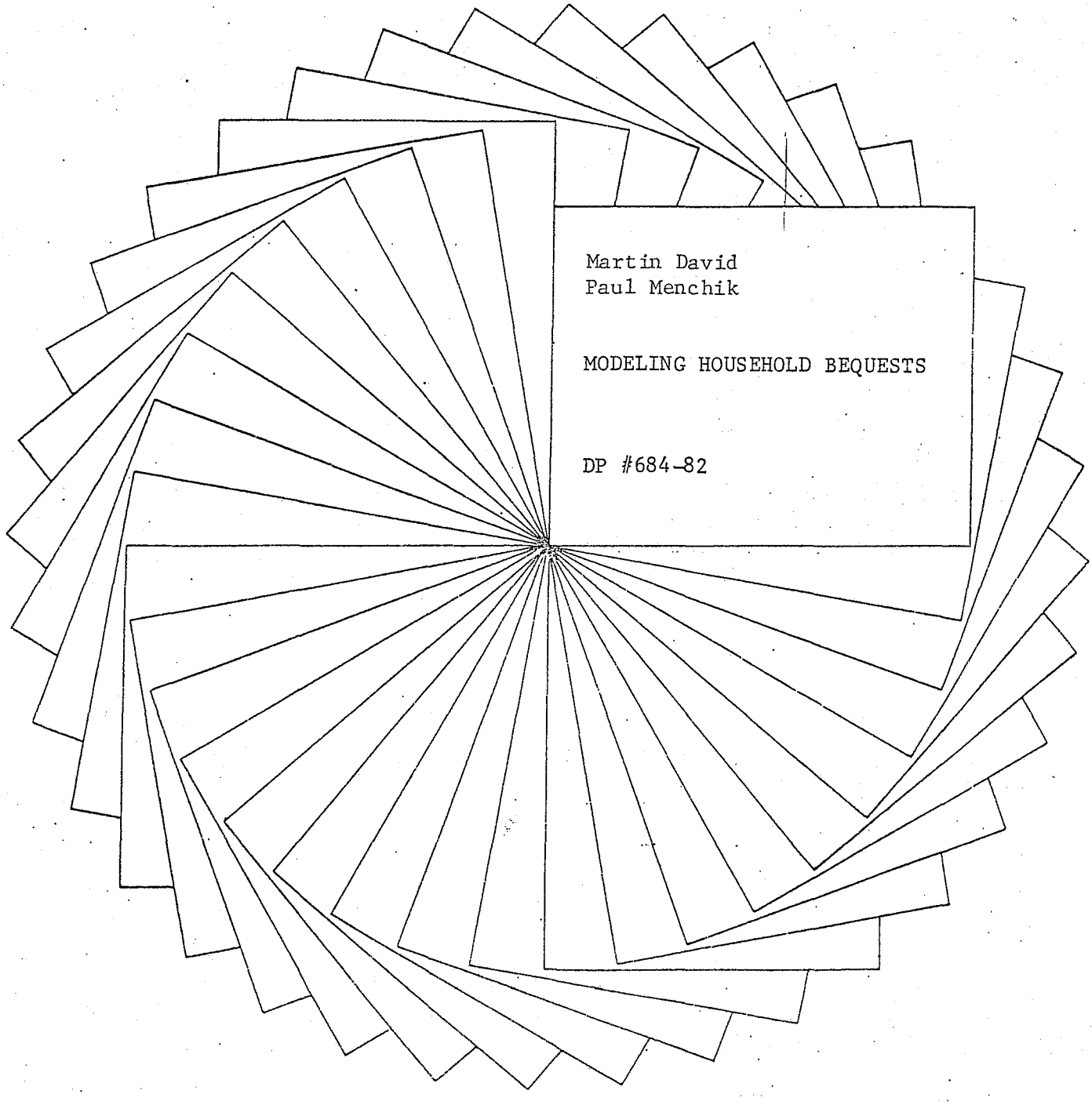

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MODELING HOUSEHOLD BEQUESTS

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ABSTRACT

The joint distribution of estates of husbands and wives is analyzed to determine the wealth of couples, the process by which wealth is transferred outside the marital unit, and the extent of transfers to children. The data are obtained from a representative sample of Wisconsin taxpayers who died in the period 1948-78. The data available for these persons includes tax return data on earnings and probate data related to the estate. The combination of these data permits analysis of the propensity to bequeath in relation to the earnings of the husband and wife.

Additional material collected from Cleveland probates documents the fact that most couples divide their wealth equally among their children. This finding undermines the assertion by Kotlikoff and Spivak that wealth transfers are contracts for support, not motivated by altruism, or an accidental phenomenon associated with uncertain life span.

The paper finds a surprising stability in the proportion of household wealth that is bequeathed to children across estates of widely different magnitudes. It also finds that most wealth reaches children through a roundabout process in which wealth is first transferred to the spouse and is then passed to the children. Contrary to lifecycle theories, wealth is not dissaved by older persons and, on average, interspousal bequests are not consumed.

Modeling Household Bequests

1. INTRODUCTION--DEFINITIONS AND ISSUES

The transfer of assets from the dead to the living excites curiosity and speculation. The process invites research because it is one of the rare opportunities that economists have to observe the net wealth of individuals, and observations of that wealth provide a basis for inferring wealth distribution. Economists would also like to draw inferences about lifetime saving and the intergenerational transmission of net wealth from the transfers at death. The profession is closer to such inferences because we have collected data from probated estates of a random sample of Wisconsin taxpayers and are able to distribute the value of the estate to several types of beneficiaries.

The interpretation of estate wealth and its relation to income earned during the lifetime of the decedent pose issues that have not been carefully addressed by the profession. In this paper we attempt to make a beginning by presenting data on pairs of estates--the husbands and the wives of couples who married only once during their lifetimes. It appears necessary to consider the joint distribution of estates by husbands and wives because the motives for transferring wealth differ between the predeceasing spouse and the surviving spouse. The former has a desire to provide the spouse with continuing consumption; both may have motives to endow persons outside the household with wealth, particularly their own children. This appears

to make it necessary to divide the estate into three categories: inter-spousal transfers, bequests to children, and bequests to others. In aggregating over couples, only bequests to children and others can be considered a transfer of wealth from one decision-making unit to another.

Not only do motives differ between the marriage partners, the sources of lifetime income differ as well. The couple is likely to include a dominant earner who determines the labor market in which the couple offers services; the secondary earner is likely to accept some compromises to a career in exchange for the sharing of earnings within the marriage. This poses problems for the measurement of lifetime income.

By focusing on couples and their transfers to children and others (household bequests) we can finesse both the problem of motivation and the problem of lifetime earnings measurement, at least to some extent.

It is less clear whether one can interpret household bequests as net lifetime saving. First, one would like to subtract inheritance received from the wealth transferred at death. Second, one might wish to account for contingent support from other family members that imply a portion of the estate should be considered as the purchase of an annuity. That issue will be discussed in detail in the following section. The relationship of household bequests to traditionally observed net estates of individuals is explored in Section 3. The final section of the paper applies a slightly modified version of an individual bequest model (Menchik and David, 1979) to the behavior of households.

2. SAVINGS AND BEQUESTS

Theoretical Developments

In recent years there has been an increase in interest in modeling the bequests of households. Blinder (1975) has shown that properties of the function relating lifetime earnings and bequests are critical in determining the effect of income distribution on saving in an economy. Darby (1979) and Kotlikoff and Summers (1981) show that saving for bequests constitutes an important share of total saving; the determinants of bequests consequently acquire macro-economic importance. Barro (1974) questions the efficacy of monetary and fiscal policy with his overlapping-generations model of bequests. Barro's model implies different effects of Social Security on private savings than Feldstein's (1974) no-bequest life-cycle model.

Bequeathing patterns are also important in models of the distribution of income and wealth. As pointed out by Sheshinski and Weiss (1979) and Behrman, Pollak, and Taubman (1979), resource allocation decisions of the family can reinforce, attenuate, or have a neutral effect on inequality within a family and in an economy. The model advanced by Becker and Tomes (1976) predicts that parents will use financial wealth transfers (bequests and gifts) to attenuate differences in earnings abilities among children. If this is true, efforts to restrict the inheritance of wealth (e.g., imposition of inheritance taxation) may exacerbate wealth inequality within the family, although it may attenuate inequality between families (see Menchik, 1979). An appropriate test of the Becker-Tomes hypothesis is

simply to determine how frequently unequal divisions of estates are made. If estates tend to be divided equally, Becker and Tomes must be wrong.

A recent paper by Kotlikoff and Spivak (1981) suggests that bequests need not be net saving. They assume individuals do not derive utility from making bequests, but only from their own consumption. Risk averse individuals, not knowing how long they will live, have an incentive to purchase annuities to insure themselves against the risk of living "too long" and becoming penniless. Such an arrangement will allow them to consume all their wealth instead of dying with an "unintended bequest" due to their risk aversion. Kotlikoff and Spivak (1981) argue that the family will construct its own annuity market if the annuity market is imperfect owing to asymmetric information and adverse selection. Parents will "purchase" annuities from their children with the price, a bequest at death, paid in return for lifetime support of the elderly parent. The bequest appears to be savings in a micro sense, but on average the parents "consume" all their resources.

The prevalence of this family-annuity behavior can be tested. Consider the case of a widowed parent of two or more children. Is there anything in the model that predicts that the children would offer equal size annuities and receive equal bequests? Not at all! If children have unequal earning abilities (or unequal lifetime wealth) and exhibit decreasing absolute risk aversion (a very weak condition), the wealthier child will be more willing to engage in a gamble of a fixed size than the less wealthy child (Arrow,

1971, p. 96).[1] The wealthier child will receive a bigger payment--a larger bequest--than his poorer siblings. Since the wealthier child is less likely to default on a given-sized annuity contract than his siblings, the parent wants to contract for a larger annuity from the wealthy child. For both of these reasons (both demand and supply reasons), the Kotlikoff-Spivak model predicts unequal bequests among children.

An alternative line of argument points out that children support parents with contributions of time as well as money. If so, the theory of comparative advantage predicts that the low-wage child will spend the bulk of time with the parent. Again, unequal division is implied, this time with the lowest-wage child receiving the largest share of the bequest. Only in the knife-edged case, in which the wealthy child contributes money and the low-wage child contributes time of equal value, would the observation of equal estate division fail to belie the Kotlikoff-Spivak hypothesis.[2]

To summarize, both the Becker-Tomes and Kotlikoff-Spivak models of household wealth transfer predict unequal estate division among children. Consequently, empirical findings of equal division would fail to support either of these hypotheses. The appropriate question to ask now is, What does the evidence show?

Estate Division--The Evidence

Two recent studies of inheritance appear to come to different conclusions on the frequency of unequal estate division. Menchik's (1980) study of large Connecticut estates finds a strong tendency towards equal

division. Among two-children families (173 cases), 62.5 percent received exactly equal estates and 70.5 percent received almost equal (within one percent of equality) estates. A similar degree of equality is found when inter-vivos gifts are included in the bequest definition (p. 311). The coefficient of variation of within-family bequests is quite small, 0.178. Hence equal sharing among children is the rule. Using the data on Cleveland estates generated by Sussman, Cates, and Smith (1970), Nigel Tomes (1981) reports that among all the multi-child families, exactly equal estate division is observed in 41.6 percent of the cases. However, this figure includes many cases in which all children received no bequest. If such cases are excluded, exactly equal division is observed in only 21.1 percent of the cases, although in 30.4 percent the children received approximately the same bequests (e.g., within $500 of the mean). Among two-children families, Tomes reports that 22.2 percent of the estate divisions were exactly equal and 44.4 percent were approximately equal, concluding that in the Cleveland sample equal division is <u>not</u> the rule.

Why do these two studies come to such different conclusions? One possible explanation is the way in which the data were generated. The Connecticut study reports bequests (and gifts) made as recorded in the probate records. The Cleveland study records interviewee responses on the amount the subject recalls receiving. If siblings are bequeathed the same amount, but their responses contain some recall or response error, an estate that was divided equally will appear to be divided unequally. Consequently what may appear to be unequal division may simply be noise.

A Replicate Sample

In order to determine if the Tomes findings are noise, we drew a random sample of Cleveland probate records from the same period as the Sussman sample--November 9, 1964, to August 8, 1965.[3] An exact match (e.g., comparing John Doe's questionnaire response on inheritance received to the probate record of the amount his parent bequeathed to him) was impossible, since the links between name and data record number for the original Cleveland sample were destroyed. Therefore an independent random sample of 509 estates was selected from the probate files. The decedent had more than one child in 269 cases.[4] In the Sussman sample 659 estates were selected, but owing to a 55 percent response rate, only 137 families provided inheritance information for more than one child. Of the 269 estates in the replicate study, equal division was observed in 251 (over 93 percent). If we only consider the 115 cases in which a positive amount was bequeathed to children, 84.3 percent of the cases exhibited exactly equal division and 87.8 approximate equality, using the Tomes definition. About 30 percent of the 269 estates were not associated with a will. In such cases intestacy laws require equal division, and it may be argued that only the testate decedents should be studied. Among the testate decedents, 75 percent divided the estate exactly equally and 80.8 percent approximately equally. Hence equal division is more the rule in Cleveland than in Connecticut.

Although equal division was found in most of the replicate Cleveland sample it may be useful to examine departures from equality to see how

often the Becker-Tomes or Kotlikoff-Spivak hypotheses are supported. To do this one of us read the wills. When parents bequeath unequally they often say why. (They never say why they bequeathed equally.) One decedent left more to one child than others stipulating that he was providing for his grandson. Another bequeathed less to one son who was a "mental incompetent" confined to a state mental hospital. A third bequeathed equal amounts of cash to two daughters but divided property--a ring and silverware--unequally. A shred of support for the Kotlikoff-Spivak hypothesis emerged (5 cases out of 73 testate and 115 total cases). In one case the parent bequeathed the most to the son who supported him. In another case, the favored beneficiary was a daughter who had lived with the decedent. In a third case a daughter was favored "for the kindness and care which she extended to me during my stay at home." In another case two children were favored, each "for the kindness and care which she extended to me during my stay at her home." In another case two children were favored over the others, "in consideration of the care and companionship shown to me and my deceased wife." Based upon a reading of the wills, there was no evidence of the Becker-Tomes altruistic hypothesis. Even in case number 665,361, the widow bequeathed equally to Irwyn and Howard Metzenbaum, the latter the senior U.S. Senator from Ohio.

To summarize, two theories of household bequests are considered, and plausible assumptions can be tested using inheritance data. The available evidence supports neither. Given the paucity of evidence in support of the Kotlikoff-Spivak hypothesis, estimation of the determinants of bequests adds to our knowledge about the determinants of macro saving.

3. HOUSEHOLD BEQUESTS

Two features of the analysis that follows distinguish it from earlier work: (1) The measures of bequests that we study are net of interspousal transfers; (2) the data are a sample of couples with exactly one marriage. Both features require some discussion.

The Aggregate Household Bequest

For each individual we may define a lifetime wealth constraint as

$$I_i + S_j + E_i = C_i + B_i + S_i \qquad \begin{matrix} i = 1,2 \\ j = 3 - i \end{matrix} \qquad (1)$$

where I_i is inheritances received from outside the marital unit, S_j is the interspousal transfer received from the predeceasing spouse, E_i is the lifetime earnings of the person, C_i is lifetime consumption, B_i is wealth transfers outside the marital unit, and S_i is the interspousal transfer. All quantities are discounted to a common point in time. The constraint illuminates the limitations of our data. Information on I_i and C_i is lacking, and our measure of assets transferred at death is a lower bound to the value of inter-household transfers of wealth.

When the lifetime wealth constraint is aggregated over husband and wife, (1) becomes

$$I_1 + I_2 + E_1 + E_2 = C_1 + C_2 + B_1 + B_2, \qquad (2)$$

since the interspousal transfer of the predeceasing spouse is the transfer received by the surviving spouse. This aggregation makes clear that the

household bequest to persons other than the partners to the marriage is less than the sum of the net estates of husband and wife by the amount of interspousal transfers. Equation (2) also makes clear that if a theory of consumption behavior relates to marital units as the decision-making unit, it is the aggregate household bequest that is the choice variable. One more definition is needed: Intergenerational bequests are the portion of household bequests allocated to children.

The aggregation of individual wealth constraints to a household constraint requires the choice of a common origin for the discounting consumption. We discount in two ways. In the tables that follow, household bequests are discounted to the date of death of the predeceasing spouse; in the regressions in Section 4, both earnings and household bequests are discounted the year in which the husband is age 65. The former relates household bequests to an important real date in the household's life; the latter relates bequests to an age that may be considered significant for ex ante retirement planning.

The Universe under Study

The population of decedents can be partitioned into three sets: those who never marry, those who married more than once, and those who marry exactly once. The data that follow report on household bequests only for those couples in which both husband and wife were married only once. Limiting the universe of study in this fashion makes it possible to delete interspousal transfers from the aggregation in (2). It also

sharpens the inferences about bequests to children, since both marriage partners have the same children as potential beneficiaries of wealth transfers.[5]

If household bequests can be demonstrated to be large relative to interspousal transfers for the population of once-married couples, the bequest motive in allocation of lifetime wealth would appear to be clearly substantiated. Understanding the more complex behavior of persons with several marriages is clearly important, but beyond this paper.

We confine our attention to couples in which both persons died in the State of Wisconsin, giving us a sample of 377 couples. This additional restriction on the universe biases the results because those who move out of state are probably wealthier, but allows us to impute wealth information in cases where estates were not probated.

Wealth Data Available

Table 1 makes clear the nature of the wealth data available for once-married couples. Probate data are complete for slightly over half of the couples. In the remaining cases the estate of one (or both) of the marriage partners was too small to require the filing of a probate. Prior to 1973 the filing requirement was a gross estate of $3000 or more; thereafter filing of probate was required for estates of $10,000 or more. Thus it is possible to place definite bounds on the net wealth of persons for whom no probate report is available.

Table 2 shows the distribution by size of the net estate of husbands and wives in the sample. Most of the cases where no estate is observed

Table 1

Probability of Observing Probated Estates
(Percentage)

Husband's Estate Probated	Wife's Estate Probated		
	Yes	No	Total
Yes	54.9%	19.9%	74.8%
No	12.2	13.0	25.2
Total	67.1	32.9	100.0

Note: Once-married couples earning income during the period 1947-64 in the State of Wisconsin and dying in Wisconsin in the period 1947-78. N = 377.

Table 2

Size Distribution of Net Estates

Variable	No Estate Observed[a]	$0-5,000	$5,000-10,000	$10,000-20,000	$20,000-50,000	$50,000 or More	Total
Husband's net estate	25.2%	12.7%	14.6%	23.1%	16.7%	7.7%	100.0%
Wife's net estate	32.9	12.7	13.3	18.0	16.7	6.1	100.0
Predeceasing spouse	28.5	11.7	18.4	24.2	11.7	5.6	100.0
Surviving spouse	29.8	13.8	9.3	17.2	21.8	8.2	100.0

[a]The filing requirement is on gross estates before the payment of claims. See text page 11.

would fall in the second column because of the filing requirements. The third and fourth rows of the table suggest that it is possible to gain a better understanding of the bequest process by organizing estate information according to the marital status of the decedent--those married at death predecease their spouse, those not married are the survivors. The estates of surviving spouses are characterized by greater variance than those of predeceasing spouses.

Table 3 displays the joint distribution of interspousal transfers and household bequests. Entries above the diagonal reflect dissaving out of the interspousal transfer by the surviving spouse. Entries below the diagonal connote some degree of bequest motive to provide wealth to others outside the household. The relatively small number of households who report no household bequest or dissaving out of the interspousal transfer attests to the strength of the bequest motive.

More insight can be obtained by concentrating on bequests to children (i.e., intergenerational bequests). The process by which intergenerational bequests are made to the children of a couple is illustrated by Table 4. A portion of the predeceasing spouse's estate is committed to the inter-spousal transfer. The level of such transfers is higher for men, reflecting both legal title to the assets of the couple and larger amounts of insurance. The number of predeceasing spouses who allocate a portion of their estate to children is small; as a consequence, the average amount of such bequests is small and the ratio of bequests to children to the intra-spousal transfer is extremely small. (See Part B of the table.) The evidence supports the hypothesis that the primary objective of the predeceasing spouse is to

Table 3

Joint Distribution of Household Bequests and Interspousal Transfers of Wealth

Household Bequest	Interspousal Transfers						
	0	$1-5,000	$5,000-10,000	$10,000-20,000	$20,000-30,000	$30,000 or more	Total
No probate data	13.0%	--	--	--	--	--	13.0%
Interspousal transfer only	--	4%	4%	4%	a	1%	12.5
$1-5,000	6	3	4	2	a	0	14.8
$5,000-10,000	4	2	4	1	a	0	11.7
$10,000-20,000	4	3	5	5	a	a	17.2
$20,000-50,000	3	1	1	10	6%	2	22.0
$50,000 or more	1	0	a	2	a	5	8.5
Total	31.8	12.7	17.8	23.1	6.9	7.7	100.0

[a]Less than 0.5 percent.

Table 4

Size of Interspousal Transfer by Sex of Predeceasing Spouse

Sex of Predeceasing Spouse	Interspousal Transfer, s						
	0	$1–5,000	$5,000–10,000	$10,000–20,000	$20,000–50,000	$50,000 or more	Total
			A. Percentage of Total				
Husband	29	13%	17%	24%	12%	6%	100%
Wife	36	13	20	21	8	2	100
All	31.9[b]	12.7	17.8	23.1	10.3	4.2	100.0
			B. Predeceasing Spouse Amount of bequest to children, $\bar{x}_1$				
Husband	$ 610	$1,300	$1,210	$2,050	$2,550	$13,910	$2,110
Wife	3,210	1,825	320	1,540	0	a	7,245
			(Bequest to children)/(Interspousal transfer), $\bar{x}_1/\bar{s}$				
Husband	∞	.50	.16	.14	.09	.11	.14
Wife	∞	.69	.04	.11	.0	a	.08
			C. Surviving Spouse Amount of bequest to children, $\bar{x}_2$				
Husband	$ 5,450	$1,840	$5,360	$12,240	$23,000	$69,750	$12,220
Wife	16,480	4,420	6,640	17,370	16,340	a	19,400
			(Bequest to children)/(Interspousal transfer), $\bar{x}_2/\bar{s}$				
Husband	∞	.71	.72	.84	.80	.57	.80
Wife	∞	1.67	.87	1.26	.56	a	1.82

[a] Less than 10 cases.

[b] Of the 31.9% shown, 3.4% reported a $0 net estate on probate records; the remaining 28.5% are those for whom no probate could be located.

provide for his/her mate. When that obligation is no longer present for the surviving spouse, amounts of wealth that are large in comparison to interspousal transfers are bequeathed to children.

Table 5 gives a summary of what we have learned about household and intergenerational bequests. Three-quarters of all couples have some household bequest. Comparison of columns 2 and 3 indicates that about 60% of bequests are intergenerational bequests, both for those with large and for those with small household bequests. The amount of interspousal transfer is less than intergenerational transfers, on average, reflecting either an unwillingness or an inability to consume wealth during the lifetime of the household.

4. A MODEL OF BEQUESTS

In earlier work we developed a model of the net estates of men (Menchik and David, 1979). The most salient feature of the model is that increasing elasticity of bequests with respect to changes in lifetime earnings should be observed as the level of earnings rises. That hypothesis was strongly confirmed for a cohort of men born 1890-1924. As the earlier result encompasses both saving for interspousal transfers and motivation for transfers of wealth outside the household, we felt it would be useful to extend the model and apply it to household and intergenerational bequests. The principal extension that is necessary is to incorporate the wife's earned income as an explanatory variable. Unfortunately that extension is not conceptually straightforward. As Gronau (1973) has

Table 5

Allocation of Household Wealth at Death

Size of Household Bequest	(1) Percentage of Households	(2) Mean Inter-generational Bequests	(3) Mean Household Bequest	(4) Mean Interspousal Transfer
0	25.5%	0	0	$4,720
$1-5,000	14.8	1,770	2,510	4,190
$5,000-10,000	11.7	4,370	7,320	5,220
$10,000-20,000	17.2	10,070	14,480	7,480
$20,000-50,000	22.0	21,740	32,110	16,020
$50,000 or more	8.5	125,730	233,110	73,240
All	100.0	17,970	30,660	13,490

observed, the contribution of a woman to the total income of a family may be either larger or smaller than what is implied by earnings during years of participation in the labor market. It is larger if home production during periods of less than full-time effort yields greater value per hour than the wage rate; it is smaller if periods of less than full-time effort are involuntary underemployment or unemployment.

Because of this ambiguity, it is not clear how to use observations on earnings for the wife. We adopt a pragmatic approach, in which the marginal propensity to bequeathe may differ between husband and wife even though identical measures of average annual earnings are derived from the income tax data available for each person. In addition we retain women who report no taxable earnings in the period 1947-64 in the sample by assigning them zero earnings and a dummy variable, N = 1.

Observations on men born 1890-1924 must be subsampled from the 377 couples shown in Tables 1-5 to parallel our earlier findings. Of the 171 couples defined by that selection, 101 include probate data on both spouses. This sub-group is the sample for regression analysis. To correct for the potentially large selection bias, we adopt the procedure advocated by Heckman (1976), estimating the Mill's ratio from a side equation in which membership in the selected sample is determined by a probit function.

Results are reported in two regression models (Tables 6 and 7). Each model is tested for both household bequests and intergenerational bequests, and for both linear and semi-logarithmic versions of the model. The linear version of the model tests for increasing elasticity of bequests by the use of a spline on the earnings of the husband. The semi-logarithmic form

Table 6

Regression Analysis of Household Bequests and Intergenerational Bequests (Couples with One Marriage and Complete Wisconsin Probate Data)

	Linear		Semi-Logarithmic	
Variable	Household	Intergenerational	Household	Intergenerational
HE_1	1.489	.922	.0001028	.0001631
	(0.71)	(0.66)	(1.67)	(1.53)
HE_2	14.67	7.74		
	(17.1)	(13.6)		
Z	5000	7920	-.429	.819
	(0.43)	(1.02)	(0.48)	(0.52)
DS	3440	2140	.871	1.469
	(0.40)	(0.32)	(1.23)	(1.20)
λ	3590	10770	-1.603	1.244
	(0.25)	(1.16)	(1.48)	
Dependents	-5690	2870	-.0512	1.070
	(2.38)	(1.80)	(0.26)	(3.19)
Constant	24640	-10210	9.461	1.278
	(1.43)	(0.88)	(8.34)	(0.65)
R^2	.79	.70	.08	13

Note: Numbers in parentheses are t-ratios. N = 101.

Description of Variables:

HE_1 = Amounts of husband's average earnings up to the 80th percentile of earnings, adjusted for the birth year of the husband.

HE_2 = Amount of husband's average earnings in excess of the 80th percentile of earnings.

Z = Share of total earnings from husband's self-employment income.

DS = 1, if husband has any self-employment income.

λ = The Heckman correction for sample selectivity.

Dependents = The largest number of dependents reported on tax returns reported during 1947-64.

Table 7

Regression Analysis of Household Bequests and Intergenerational Bequests (Couples with One Marriage and Complete Wisconsin Probate Data)

	Linear Model		Semi-Logarithmic Model	
Variables	Household	Intergenerational	Household	Intergenerational
HE_1	1.877	1.287	.0001158	.0001473
	(0.88)	(0.90)	(1.89)	(1.37)
HE_2	14.819	7.630		
	(17.1)	(13.1)		
Z	10920	10070	-.3300	.6500
	(0.88)	(1.20)	(0.35)	(0.40)
DS	1920	1030	.8963	1.469
	(0.22)	(0.17)	(1.24)	(1.17)
N	-7570	-4720	.08513	.01618
	(1.02)	(0.94)	(0.15)	(0.02)
WE_1	5.593	-3.635	.0003977	-.0004523
	(1.05)	(1.01)	(1.76)	(1.15)
WE_2	1.905	-.378		
	(0.62)	(0.18)		
λ	11040	12390	-1.620	1.198
	(0.72)	(1.20)	(1.44)	(0.61)
Dependents	-5120	2830	-.003938	1.012
	(2.13)	(1.75)	(0.02)	(2.98)
Constant	17240	-10280	8.913	1.913
	(0.98)	(0.87)	(7.68)	(0.94)
R^2	.79	.70	.09	.13

Note: Numbers in parentheses are t-ratios.

Definitions of Variables:

HE_1 = Amounts of husband's average earnings up to the 80th percentile of earnings, adjusted for the birth year of the husband.

HE_2 = Amount of husband's average earnings in excess of the 80th percentile of earnings.

Z = Share of total earnings from husband's self-employment income.

Table Continued . . .

Table 7 (Continued)

Definitions of Variables

DS = 1, if husband has any self-employment income.

N = 1, if the wife reports less than 3 years of tax returns.

WE_1 = Amount of wife's earnings if the husband's earnings all fall below the 80th percentile.

WE_2 = Amount of wife's earnings if the husband's earnings exceed the 80th percentile.

λ = The Heckman correction for sample selectivity.

Dependents = The largest number of dependents reported on tax returns reported during 1947-64.

automatically generates an increasing elasticity, and has the conceptual advantage of describing a world in which the stochastic processes generating household bequests have a lognormal distribution.

The first of the regression models contains only earnings data for the husband. The second includes three earnings variables for the wife, the dummy mentioned earlier, and separate coefficients estimated for couples in which the husband's earnings exceed the spline point and the couples in which the husband's earnings do not exceed the spline point. One finding is common to both regression models and both forms of the dependent variable. The number of dependents reported on income tax records is negatively associated with household bequests and positively associated with intergenerational bequests. The difference in sign is significant. Having more dependents appears to increase the proportion of lifetime wealth that is consumed and transferred to children as lifetime gifts, at the same time that it creates a greater priority for the distribution of wealth to children at death in preference to distribution to others.

For both linear regression models the effect of husband's earnings is much higher in the top quintile. The slope for household bequests is about 50% larger than the slope observed for the net estates of men in that earnings quintile in our earlier work; the slope for intergenerational bequests is about 80% of the value observed for the net estates of men (cf. Table 8). This is a confirmation of the fact that little of the interspousal transfer is consumed by persons in the top earnings quintile.

For the semi-logarithmic model, the effect of husband's earnings is less clear. For household bequests the slope is smaller than the slope

Table 8

Comparisons of Net Estate and Household Bequest Regressions

Variable	Linear Model		Semi-Logarithmic	
	Household Bequest	Net Estate	Household Bequest	Net Estate
HE_1	3.03	2.404		
	(1.33)	(3.78)	.000130	.0001416
HE_2	14.9	9.357	(2.06)	(11.24)
	(17.2)	(19.3)		
Z	19,800	12,392	.073	.5034
	(1.46)	(3.37)	(0.07)	(3.61)
DS	266	2,435	.599	.1956
	(0.03)	(0.81)	(0.79)	(1.71)
Cohort	1,060	660.0	.0201	.0478
	(1.26)	(2.97)	(0.29)	(5.66)
A_1	1,040	734.2	-	.03890
	(0.77)	(2.89)		(3.99)
A_2	1,220	83.54	-	.03078
	(1.30)	(0.31)		(2.95)
λ	25,200	-3,429	-.467	.6131
	(1.37)	(1.20)	(0.36)	(5.57)
Dependents	-5,430	-1,057	.212	-.1310
	(1.97)	(1.67)	(0.94)	(5.24)
Dependent N.A.	-	-1,539	-	-.525
		(0.12)		(1.07)
Diff	-90.2	-	-.020	-
	(0.15)		(0.42)	
N	12,500	-	-.0947	
	(1.55)		(0.15)	
WE_1	6.06	-		
	(1.11)			
WE_2	.0106	-	.000395	-
	(0.03)		(1.69)	

Table Continued . . .

Table 8 (Continued)

Variable	Linear Model		Semi-Logarithmic	
	Household Bequest	Net Estate	Household Bequest	Net Estate
Constant	75,700 (0.76)	-42,990 (2.51)	-5.02 (0.63)	6.021 (9.13)
$\bar{R}^2$	.789	.322	.097	.174
N	101	1,064	101	1,064
σ_ε	28,430	35,310	2.346	1.37

Note: Numbers in parentheses are t-ratios.

Definitions of Variables:

A_1 = Age at death, up to 64 years.

A_2 = Excess of age at death over 64, if husband died at a later age, zero otherwise.

Dependent N.A. = No data on tax return dependents = 1; zero otherwise.

Cohort = Birth year less 1899.

Diff = Birth year of husband less birth year of wife.

See Table 7 for definitions of other variables.

observed for the net estate of men in earlier work, while for intergenerational bequests the slope is larger. The results are indicative of an increasing ratio of intergenerational to household bequests as earnings rise.

The inclusion of measures of earnings for the wife does not contribute significantly to the explanation. We are still struggling for a better conceptualization of the lifetime earnings of the household, and we welcome comments and improvements upon the average earnings measure that we have included.

5. CONCLUSIONS

The evidence from this small sample of couples confirms relationships derived earlier for the net estate of men. While the small size of the sample necessarily makes such a conclusion tentative, it suggests that a large portion of interspousal transfers is not consumed by the surviving spouse and is subsequently transferred outside of the household. When that evidence is added to the tendency for equal division of estates--which appears to be the rule in allocation of estate wealth to children--a strong case is made for substantial bequest motives. A substantial portion of estate wealth appears to be intentional lifetime saving, and this evidence is consistent with an increasing elasticity to bequeathe with increasing earnings.

NOTES

[1]Olneck (1977) finds that the average difference in earnings between brothers is 87 percent as large as the difference between random individuals.

[2]Such an event would be about as likely as flipping a coin and having it land on its edge.

[3]The names of the heirs in the Sussman study were obtained from probate records, while the inheritance data itself came from interviews of the heirs.

[4]Ohio law requires a listing of next of kin in probate records whether or not the decedent had a will. This information was used to determine family size.

[5]When one of the marriage partners has been married more than once, the possibilities arise for multiple interspousal transfers, for differences in the natural children of each partner, and for transfers of lifetime wealth through child support and alimony.

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