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Why Parents Play Favorites: Explanations for Unequal Bequests

By AUDREY LIGHT AND KATHLEEN MCGARRY*

Parents often appear to “play favorites” when distributing financial resources among their adult children. Recent studies indicate that in any given year, approximately 75 percent of parents who make inter vivos transfers to their children give unequal amounts. Even when making bequests—where equal division is the norm—as many as 20 percent of parents treat their children unequally.¹ Evidence of unequal transfers is consistent with a number of models of optimizing behavior, each of which predicts parents will favor certain children in allocating resources. The altruism model (Robert J. Barro, 1974; Gary S. Becker, 1974; Becker and Nigel Tomes, 1979) assumes parents want to equalize marginal utilities across family members—a goal they achieve by giving the largest transfers to their least well-off children. The exchange model (B. Douglas Bernheim et al., 1985; Donald Cox, 1987; Cox and Mark R. Rank, 1992) assumes parental transfers are payments for such child-provided services as affection and household help. The model predicts an unequal distribution of transfers because the price of these services varies with such child-specific

factors as income or care-giving aptitude. Cox (2003) argues that parents may make transfers to promote the survival of their genes. If parents are driven by evolutionary motives, they should favor biological children over adopted children and stepchildren, and they should give more to children who produce (or are likely to produce) grandchildren.

Efforts to determine which motive dominates parental decisions to treat their children unequally have met with decidedly mixed results (e.g., Joseph G. Altonji et al., 1992, 1997; Maria G. Perozek, 1998). Moreover, all three theoretical models fail decisively when faced with the prevalence of equal bequests. This gap between theory and evidence has prompted researchers to develop alternative models that justify the equal distribution of transfers (James Andreoni, 1989) or explain why parents differentiate among their children with inter vivos transfers but not bequests (Bernheim and Sergei Severinov, 2003; McGarry, 1999; Mark O. Wilhelm, 1996).

While these additional theoretical insights may prove useful, it is apparent that richer data are needed as well. Tests of the altruism, exchange, and evolutionary models would gain considerable power if data were available on *lifetime* incomes and transfers. Parents may alter their patterns of giving over time if, for example, their children’s economic circumstances change or if there is “lumpiness” in the flow of transfers. Such intertemporal fluctuations may be consistent with the standard models, yet they could lead researchers to misinterpret parental motives when examining cross-sectional snapshots of transfer allocations. It is unlikely that we will ever succeed in measuring cumulative, lifetime transfers, but the advent of panel data on parent-to-child transfers presents one promising, new avenue for empirical research (Stefan Hochguertel and Henry Ohlsson, 2000; McGarry, 2000).

An alternative strategy is to collect new data that allow researchers to uncover motives with

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¹ The transfer figure is from an analysis of data from the Asset and Health Dynamic Study reported in McGarry and Robert F. Schoeni (1997). Using the same data source, McGarry (1999) finds that 17 percent of parents aged 70 and older who name children in a will intend to divide their estates unequally. Using federal estate tax data, Wilhelm (1996) finds that 23 percent of estates are divided unequally, meaning not all children receive a bequest within 2 percent of the family mean.

cross-sectional observations. In the current study, we take this approach and draw on newly available self-reported explanations for the allocation of transfers. In 1999, respondents in the National Longitudinal Surveys of Young Women and Mature Women reported detailed information about each of their children, recent transfers between themselves and their children, and their intended bequests. One feature of the data is particularly novel: mothers who report that they intend to divide their estates unequally among their children were asked to explain the reason for their intentions. While only 8 percent of mothers fall into the “unequal bequests” category, their verbatim responses are the first direct evidence of parental motives for allocating resources among their children.²

In analyzing these new data, we ask whether mothers’ self-reported explanations for intended unequal bequests conform to ideas of altruism, exchange, or evolution. That is, we look for responses along the lines of “I plan to give more to my poor children,” “I plan to give more to the child who takes care of me,” and “I plan to favor my biological children.” Remarkably, the majority of verbatim responses fit reasonably neatly into one of these three categories although, as we caution below, each response may be consistent with more than one motive. Among mothers who intend to divide their estates unequally, 25 percent provide an explanation that conforms to altruistic behavior, 25 percent give an exchange-related response, and 10 percent refer to the biological status of their children. The remaining mothers are evenly divided between those who, based on their explanation, appear to intend an *equal* division of their estate (or who may have misunderstood the question), and those who give a “nonexplanation” (e.g., “It’s nobody’s business why”).

² Although economists have traditionally been skeptical about the value of self-reported expectations and intentions, recent studies suggest such data can provide important insights (Charles F. Manski, 1990; John Laitner and F. Thomas Juster, 1996; Jeffrey Dominitz, 1998; Michael D. Hurd and McGarry, 2002). William F. Basset and Robin L. Lumsdaine (2003) cite the growing list of surveys collecting expectations data as evidence of a “resurgent interest” in qualitative data (page 2). We view the data analyzed here as complementary to reports on actual giving that have been analyzed in the past.

No mother provides an explicit explanation that fails to conform to motives of altruism, exchange, or evolution.

We also find that mothers’ observed characteristics are correlated with their bequest intentions in a manner largely consistent with all three theories. The probability that a mother intends unequal bequests is significantly higher if she is in poor health (which may reflect her need for children’s “services” and willingness to pay), if she has nonbiological children, and if her children’s predicted incomes are especially different from each other (which suggests she intends to favor the least affluent). Moreover, these observable proxies for altruistic, exchange, and evolutionary motives prove to be correlated with the self-reported explanations. We find that mothers in poor health are more likely than other mothers to provide an exchange-related explanation for their intended unequal bequests. Similarly, mothers with adopted children or stepchildren often refer to their children’s biological status in explaining their intended bequests. Our results suggest that motives for intra-family transfers differ across mothers. Altruism, exchange, and a preference for biological children all appear to be empirically important reasons for mothers’ plans to distribute their estates unequally among their children.

I. Data

A. Samples

Our data are from the National Longitudinal Surveys (NLS) of Mature Women and Young Women. The NLS of Mature Women began in 1967 with a sample of 5,083 women born between 1922 and 1937. The Young Women survey began in 1968 with a sample of 5,159 women born between 1943 and 1953. Each original sample is representative of the civilian, noninstitutionalized population of women who lived in the United States when the survey began and who belonged to the relevant birth cohorts; each sample also includes an oversample of black women.

We use data from the 1999 interview because an extensive module on transfers between respondents and their children was fielded that year. Respondents were asked detailed ques-

tions about the characteristics of each of their children, money and time transfers to and from each child, and their intended bequests. We have identical information for Young Woman and Mature Woman respondents so we pool the two cohorts for our entire analysis.³ By 1999, attrition reduced the sample to 2,467 Mature Women respondents and 2,900 Young Women respondents.

From the 5,367 respondents, we select the 3,491 women with at least 2 children age 18 or over; and we focus on adult children to abstract from child-rearing costs. We then exclude 111 mothers for whom the existence of a will is unknown, and another 60 who intend to exclude all children from their will; we make the latter restriction because it is unclear whether mothers who exclude children from their wills intend to divide resources equally by giving nothing to each child, or whether they would prefer unequal division involving *negative* transfers. Next, we eliminate 20 mothers who report having wills but who do not indicate whether they intend to divide their estate equally among their children. This leaves us with a sample of 3,300 mothers; 1,682 report having no will, while 1,618 claim to have a will and also report their plans to distribute their estate among their children.

In the first step of our analysis, we model the probability that a mother intends unequal bequests. The 1,682 women without wills pose difficulties because their intentions regarding estate division are ambiguous. It is unclear whether they prefer unequal, negative transfers, or whether they intentionally forego writing a will because they expect state law to mandate an equal division.⁴ Rather than make the latter assumption, we focus on the bequest intentions for the subsample of 1,618 mothers who report having a will. We then repeat the analysis after adding the "no will" mothers to the sample and treating them as equal dividers.

³ From 1995 onward, the same survey instrument was used for the two cohorts and the fielding effort was conducted simultaneously. The 1999 interview is the nineteenth for the Mature Women and twentieth for the Young Women.

⁴ Intestate laws differ across states in their relative treatment of spouses and children but call for divisions that treat children equally.

B. Explanatory Variables

Table 1 reports summary statistics for the explanatory variables used to model the probabilities of unequal bequests. We report summary statistic for the sample of 1,618 mothers who have wills, and for the broader sample that includes mothers without wills.

Our covariates include measures of annual family income, total assets, home ownership, and mothers' highest grade completed. These variables include husbands' resources, where applicable, and are intended to control for heterogeneity in the resources available for transfer. We also include standard controls for mothers' age, race, and marital status. To investigate exchange motives for mother-to-child transfers, we control for each mother's self-reported health status and whether she receives help from any of her children. The "poor/fair health" indicator equals one for women who report that compared to other women their age, their health is in the bottom two of four categories (poor, fair, good, excellent). The "receives help" variable equals one for women who report receiving help with personal care, household chores, or errands from any of their children during the last year.

The remaining variables measure the characteristics of each woman's children—especially the differences in children's circumstances that are likely to be related to mothers' unequal transfer allocations. We control for the total number of children as well as the sex composition (whether she has both boys and girls) because the evolutionary model predicts greater transfers to daughters due to the more certain genetic ties. Furthermore, previous research consistently reveals that daughters are more likely than sons to provide care (Raymond T. Coward and Jeffrey W. Dwyer, 1990; Eleanor Palo Stoller et al., 1992), so the "mixed sex" indicator may also reveal patterns consistent with exchange models. Because parents are predicted to distinguish between biological children, adopted children, and stepchildren in allocating resources, we include these child characteristics as well. We also control for whether the woman has coresident children (who may be needier than others, provide services to the mother at a lower cost, and/or have stronger maternal bonds) and whether her chil-

TABLE 1—SUMMARY STATISTICS FOR SELECTED MOTHER-SPECIFIC VARIABLES

Variables	Mothers with wills		All mothers	
	Mean	S.E.	Mean	S.E.
Financial status				
Family income (\$1,000s)	41.30	1.14	35.52	0.71
(median)	(25.38)		(21.00)	
Family assets (\$10,000s)	33.21	1.36	22.22	0.77
(median)	(18.75)		(10.03)	
1 if own home	0.92		0.81	
Highest grade completed	13.05	0.06	12.29	0.05
Demographics				
Age	62.04	0.24	60.28	0.17
1 if nonwhite	0.11		0.24	
1 if married	0.70		0.61	
1 if widowed	0.18		0.19	
1 if divorced	0.12		0.18	
1 if never married	0.00		0.02	
Health status				
1 if in poor/fair health	0.20		0.28	
1 if receives help from child(ren)	0.37		0.38	
Child variables				
Number of children	3.39	0.04	3.70	0.03
1 if has only boys	0.14		0.13	
1 if has only girls	0.15		0.13	
1 if has both boys and girls	0.71		0.74	
Number of biological children	3.04	0.04	3.33	0.03
1 if has only biological children	0.84		0.83	
1 if has bio and stepchildren	0.11		0.12	
1 if has bio and adopted children	0.03		0.02	
1 if has other combinations of nonbiological children*	0.02		0.02	
Number of coresident children	0.31	0.01	0.39	0.01
1 if has coresident child(ren)	0.24		0.30	
Number of grandchildren	4.46	0.11	5.14	0.09
1 if has grandchild(ren)	0.81		0.84	
1 if some children have child(ren)	0.51		0.55	
1 if all children have child(ren)	0.30		0.29	
Coefficient of within-family variation for children's predicted income	41.30	1.14	33.52	0.37
Number of mothers	1,618		3,300	

Notes: Both samples are restricted to mothers with at least two children age 18 or older, who report the necessary information about their wills. See text for details.

* Includes women with both adopted children and stepchildren, and women with no biological children.

dren are “mixed” in having children of their own (i.e., whether some, as opposed to all or none, of her children have children).

If parents are altruistic, transfers are expected to be inversely related to the incomes of their children. When parents engage in exchange, transfers depend on the price of the services purchased from the children, which may be a function of child income. In light of these motives, it is important that we include a measure

of child financial well-being. Because NLS respondents are not asked to report their children's income directly, we predict each child's income using observed characteristics.⁵ We

⁵ We predict family income for each child using estimated parameters from income models that we fit to data from the 2000 annual demographic (March) supplement of the Current Population Survey (CPS). Our sample consists of all CPS respondents in the same age range as the children

then use these predictions to compute the coefficient of variation (the within-family standard deviation as a percent of the within-family mean) for each mother in our sample. We believe predicted income is a better control than current income because intended bequests are likely to be determined with a “smoothed” view of children’s relative incomes. (This is in contrast to *inter vivos* transfers, which may be made in response to liquidity constraints.) If, however, this view is incorrect—that is, if mothers intend to reward children who experience negative income shocks *conditional* on schooling, marital status, age, and the other controls in our income model—then our use of predicted incomes will understate the relevant within-family variation.

Table 1 reveals that among mothers who have wills, the average age is 62 (the range is 45 to 80), 70 percent are married, 18 percent are widowed, and 12 percent are divorced.⁶ Relative to the larger sample of mothers with or without wills, women in the subsample are better off financially, more likely to be white, less likely to be in poor health, and have slightly fewer children. These patterns are unsurprising, for they indicate that mothers who have a will have more resources to distribute to their children than do mothers in general, or are perhaps more comfortable making financial and legal arrangements.

II. Intended Bequests

A. Probability of Unequal Bequests

We model the probability that mothers intend to make unequal bequests to their children, using both samples summarized in Table 1. For mothers who report having wills, we use as our “unequal bequest” indicator each woman’s di-

rect response to the question, “Will your estate be divided equally among your children?”⁷ Among the 1,618 mothers with wills, 1,490 (92.1 percent) say “yes” and the remaining 128 say “no.” We obtain a second set of estimates by adding the 1,682 “no will” mothers to the sample and assume the lack of a will means they intend to divide their estate equally among their children. For each sample, we model the probability of unequal division as a function of the explanatory variables defined in the proceeding section. This exercise reveals whether observed characteristics that are consistent with altruism, exchange, and evolutionary motives are correlated with women’s intentions to divide their estate unequally; we do not ascribe causality to these estimates.

Table 2 presents logit estimates of the probability that mothers intend to distribute their estates unequally among their children. Focusing first on estimates for the sample of mothers with wills, Table 2 reveals that the probability of intending unequal bequests does not differ by financial status. The estimated coefficients for both income and wealth are statistically indistinguishable from zero. Similarly, the coefficients for indicators of home ownership and mother’s schooling levels are estimated very imprecisely. Several factors relating to maternal health and child characteristics are estimated more precisely than financial characteristics and also have greater marginal effects. Being in fair or poor health is associated with a two-percentage-point increase in the probability of unequal intended division for mothers with mean values of all other characteristics. Because only 8 percent of the sample intends to make unequal bequests, this two-percentage-point change is equal to a 25-percent change in the predicted outcome. In contrast, the “receives care” variable does not have a significant effect.⁸ Unlike the “receives care” variable, which refers to exchanges made in the past year, the poor health indicator may reflect mothers’ long-term need for child assistance. If so, our findings suggest that mothers

of our NLS mothers. We estimate separate income models for men and women using as regressors a constant, a quartic in age, seven dummy variables indicating schooling attainment (degrees earned), and dummy variables indicating race, marital status, number of children, whether the individual resides with his/her parents (or spouse’s parents), and whether the individual owns a home.

⁶ Only six mothers with wills and 62 mothers in the larger sample are never married. We combine them with the married women throughout our analysis; our estimates are invariant to how we treat these cases.

⁷ For married respondents who report that they are leaving everything to their husband, the phrase “if your husband dies before you or with you” is added to the question.

⁸ Care received includes help with personal care, household chores, and errands. If we limit the measure to personal care, the results remain the same.

TABLE 2—LOGIT ESTIMATES OF THE PROBABILITY THAT A MOTHER INTENDS TO DIVIDE HER ESTATE UNEQUALLY AMONG HER CHILDREN

Variable	Mothers with wills			All mothers		
	Coeff.	S.E.	Marg. effect	Coeff.	S.E.	Marg. effect
Intercept	-3.833	0.538		-4.774	0.521	
Family income (\$1,000s)	0.003	0.002	0.000	0.004	0.002	0.000
Family assets (\$10,000s)	-0.000	0.002	-0.000	0.001	0.002	0.000
1 if owns home	-0.061	0.338	-0.004	0.668	0.328	0.015
1 if highest grade completed <12	0.271	0.286	0.015	-0.124	0.274	-0.004
highest grade = 13-15	0.263	0.243	0.014	0.364	0.236	0.009
highest grade = 16+	-0.226	0.287	-0.015	0.024	0.283	0.001
1 if age = 45-54	0.158	0.294	0.009	-0.174	0.279	-0.006
age = 65-74	0.132	0.281	0.008	0.319	0.273	0.008
age = 75+	0.379	0.396	0.020	0.600	0.385	0.014
1 if nonwhite	0.187	0.290	0.011	-0.463	0.276	-0.017
1 if widowed	0.230	0.267	0.013	0.241	0.261	0.006
divorced	0.422	0.312	0.022	0.175	0.302	0.005
1 if in poor/fair health	0.383	0.230	0.020	0.221	0.223	0.006
1 if receives help from child(ren)	-0.199	0.238	-0.013	-0.007	0.225	-0.000
Number of children	-0.045	0.064	-0.003	-0.092	0.062	-0.003
1 if has both boys and girls	0.139	0.234	0.008	0.122	0.227	0.003
1 if has bio and stepchild(ren)	0.745	0.279	0.034	0.748	0.265	0.016
1 if has bio and adopted child(ren)	0.843	0.468	0.036	1.012	0.454	0.019
1 if has other combos of children*	1.691	0.399	0.053	1.684	0.365	0.025
1 if has coresident child(ren)	0.077	0.265	0.005	-0.093	0.254	-0.003
1 if some children have child(ren)	0.334	0.208	0.018	0.296	0.201	0.008
Coefficient of variation for children's predicted income	0.017	0.005	0.001	0.013	0.004	0.000
Log likelihood		-417.329			-1082.88	
Number of observations		1,618			3,300	
Number (percent) with unequal = 1		128 (7.9%)			128 (3.9%)	

Notes: Estimated coefficients in bold face are statistically different from zero at a 10-percent significance level. Marginal effects are computed at the sample mean.

* See Table 1 for definition; women with only biological children form the omitted group.

may use intended, future transfers—which, presumably, they make known to their children—to elicit a long-term flow of services rather than current, short-term care. This type of behavior is predicted by Bernheim et al. (1985), who emphasize the strategic use of bequests to influence child behavior over the remainder of the parent's life.

Table 2 also demonstrates that larger within-family variation in children's income is associated with a higher probability of unequal intended bequests. Consider a two-child family in which one child's income is \$25,000 and the other's income is \$50,000. The coefficient of variation for this family is 47 (i.e., the standard deviation is 47 percent of the mean). If this hypothetical mother is "average" in all other respects, our estimates predict that her proba-

bility of intending unequal bequests is 4.7 percentage points higher than it would be if her children had the same income—an increase of nearly 60 percent. This finding is consistent with altruistic behavior if we assume that she intends to give more to the low-income child. It is also consistent with exchange motives if the mother intends to give more to the low-income child (low-cost) child.⁹

⁹ Alternatively, an exchange-motivated mother could plan to give more to a high-income child. The parent is expected to purchase fewer services at a higher "per-unit" price from her high-income child; the total cost of those services (which is the transfer amount) depends on price elasticities of child-specific supply and parent-specific demand for services.

We find that mothers with only biological children (the omitted category) are significantly less likely to plan unequal bequests than those with adopted children and/or stepchildren. Having at least one biological child and one stepchild (but no adopted children) increases the probability of intended unequal treatment by 3.4 percentage points, or nearly 50 percent. Having both biological and *adopted* children (but no stepchildren) is associated with a nearly identical increase, while other combinations of non-biological children (i.e., biological, step, and adopted, or just step and adopted) are associated with a slightly larger increase of 5.3 percentage points. Altruistically motivated mothers may favor biological children over stepchildren in making bequests if they expect their stepchildren to receive benefits from their own biological mothers.¹⁰ The finding that mothers with adopted children are as likely as mothers with stepchildren to intend unequal bequests, however, suggests that more may be going on. For example, mothers may favor their biological children over *all* nonbiological children, as the evolutionary behavior suggests; this behavior is also consistent with altruism, for mothers may simply love their biological children more than their other children. While we cannot determine these women's intended distribution schemes, our data indicate that mothers with nonbiological children exhibit strikingly different behavior from mothers with only biological children.

The final covariate for which we estimate a statistically significant coefficient is the dummy variable indicating that some of the mother's children have children of their own; the omitted group consists of mothers with no grandchildren and those for whom all children have children of their own. The positive estimate shown in Table 2 reveals that mothers with children who are "mixed" in this regard are more likely to intend unequal bequests. We do not know that they will bequeath more to those children with children of their own, but such intentions

would be consistent with altruistic behavior insofar as families with children have the greatest financial need. They are also consistent with exchange motives if grandchildren supply affection and other "services" that parents purchase (Donald Cox and Oded Stark, 1999) and with evolutionary motives, given that biological grandchildren will carry on the family genes.

The second set of estimates in Table 2 repeats this exercise for the sample that includes mothers who do not have a will. We assume these mothers intend to divide their estates equally among their children—that is, they intend to rely on intestate laws that call for equal division among children rather than incur the psychic and financial cost of writing a will. Table 2 reveals that our conclusions are quite robust to this assumption. The only coefficient estimates that differ substantially across samples are for the two dummy variables indicating home ownership and race. The significance of home ownership reflects the fact that mothers who own a home are more likely to have a will than are nonhomeowners, and thus less likely to be assumed to desire equal division. Similarly, nonwhites are less likely than whites to have a will and thus more likely to be assigned to the equal category by default. The sample means in Table 1 confirm that nonhomeowners and nonwhites are disproportionately represented in the larger sample that includes women without wills.

B. *Self-Reported Reasons for Intended Unequal Bequests*

We now turn to verbatim responses to the question, "Why will your estate *not* be divided equally among your children?" This question is asked of the 128 mothers who report having a will and who answer "no" to the equal/unequal question described at the outset of this section. The interviewer records their actual responses, so we have the mothers' own words rather than their selections from a list of possible responses. The explanations should thus be free from suggestion bias.

In interpreting each verbatim response as corresponding to exchange, altruism, or evolutionary behavior, we must contend with an inevitable level of ambiguity. In all cases, we choose the category that appears to be the most plausible. We also check responses against

¹⁰ The data reported by our sample members do not necessarily reflect their husbands' bequest motives. It is possible that women with stepchildren intend to favor their biological children, while their husbands intend to favor *their* biological children. In the absence of data on husbands' intentions, we may be overstating the desire to favor biological children at the household level.

TABLE 3—EXAMPLES OF REASONS FOR INTENDED UNEQUAL BEQUESTS

Verbatim response	No. of cases
Altruism	33
Refer to children's needs, e.g., oldest son has more assets than youngest son; daughter will be living in house and needs it.	(22)
Refer to children in group home and/or with disability, e.g., daughter can't have over \$2,000 or she'll lose her state benefits.	(11)
Exchange	33
Refer to quality of relationship with children, e.g., because we are estranged from our daughter; some of them don't know how to act.	(17)
Refer to children caring for or contributing to mother, e.g., have gotten more from two children than from the third; XXX will be the executor; XXX takes care of me.	(8)
Refer to children's contribution to house, farm, or business, e.g., leaving more to son who helped build and maintain the property; farm goes to son who is working on the farm now.	(8)
Evolutionary	13
Refer to plan to favor biological children and/or disfavor stepchildren, e.g., will be divided between biological children; not leaving anything to stepchildren; because XXX is really not our child.	(13)
Equal division	25
Refer to inclusion of nonchildren in will,* e.g., grandchildren are sharing; will be divided equally between XXX and children.	(13)
Refer to intentions to favor minor children, e.g., one child is a minor.	(4)
Other references to dividing estate equally, e.g., my husband first, then my children.	(8)
Reason unclassified	24
Describe intended division without explanation, e.g., just one son gets it all; XXX will not receive anything.	(16)
Other unclassified responses, e.g., nobody's business why; not very much after bills are paid.	(8)

Notes: These are verbatim responses (paraphrased for brevity) to the question: Why will your estate not be divided equally among your children? It is asked of 128 respondents with more than one child who report that they (a) have a will, (b) intend to leave something to their children, and (c) intend not to divide their estate equally among their children.

* 7 of the 13 cases refer exclusively to grandchildren. Grandchildren are also referred to in 3 responses classified under exchange and 1 response classified as altruism.

other data (e.g., the number, sex composition, and biological status of the children) to ensure that we are not misinterpreting respondents' remarks. Although several responses could logically be placed in a different category than the one we choose, our inferences are not sensitive to these reclassifications.

Table 3 gives examples of the verbatim responses and a summary of our efforts to classify them as reflecting exchange, altruism, or evolu-

tionary motives. Among the 128 mothers providing a response, 22 refer to their children's financial needs in explaining why some will receive a larger bequest than others (e.g., "the oldest son has more assets than the youngest son"). These mothers' motives clearly conform to the altruism model. We include an additional 11 mothers who mention a child's disability (e.g., "my daughter can't have over \$2,000 or she will lose her state benefits") in this category

as well.¹¹ We classify 33 responses under “exchange” because the mother refers to caregiving or attention provided by the child (e.g., “she takes care of me”) or indicates that a child has displeased the parents (e.g., “because we are estranged from our daughter”). Another 13 responses directly refer to the child(ren)’s status as biological, adopted, or step. We classify these responses as “evolutionary,” although they can also reflect altruism (because the mother might expect the child’s birth parents to provide for him/her, or simply prefers her biological children) or exchange (if, for example, biological children interact more extensively with the mother and can thus provide care more efficiently).

Finally, we determine that another 25 mothers may not belong in the “unequal” sample at all. Despite initially reporting that their wills do *not* call for equal division of their estates, eight mothers provide an explanation indicating that, in fact, an equal division is intended. Typically the confusion arises when the children are beneficiaries only if the husband predeceases his wife (e.g., “my husband first and then my children”). Another 13 mothers explain that other people (including grandchildren) are beneficiaries as well as their children; these women apparently intend to treat their children equally while giving them less than 100 percent of their estates (e.g., “it will be divided equally between ___ and my children”). Four mothers indicate that they intend to leave more for a minor child (e.g., to allow him/her to finish school), but they are likely to change their wills as their children age.¹²

¹¹ The example in Table 3 reflects classic altruistic behavior where transfers are made to the child with the highest marginal utility of the additional dollar. The mother is saying that once a \$2,000 cap is reached, the marginal utility of a dollar given to her disabled child is zero because it “crowds out” public benefits. At the same time, this behavior contradicts the most commonly tested prediction of the altruistic model: that children with the lowest income (including, presumably, most disabled children) receive the *largest* transfer. In the absence of such an explicit explanation, we would be unable to rule out the possibility that an exchange-motivated mother intends to give less to her disabled child because the child is unable to assist her. This example highlights the potential gains from these data.

¹² Our results do not change significantly if we reestimate the logit summarized in Table 2 after reclassifying

We leave the remaining 24 cases unclassified. One of these remaining respondents provides a long, detailed explanation that we cannot interpret, but the remaining 23 cases fall under the heading of “nonanswers.” A few women decline to provide a reason (one respondent tells the interviewer “that’s a terrible question”), while others describe their intended distribution without explanation (e.g., “just one son gets it all”).

We believe the verbatim responses are noteworthy for several reasons. First, 79 out of 128 mothers (62 percent) give explanations that clearly suggest they are driven by exchange, altruism, and/or evolutionary motives. *No* mother explicitly describes motives that are inconsistent with these theoretical models: while several verbatim responses remain unclassified because they are along the lines of “I am leaving it all to XXX,” no mother indicates that the chosen recipient is the oldest, wealthiest, or least favorite of her children. Second, mothers appear to be equally likely to be driven by altruism and exchange motives. We place 33 responses into each category, but even if we eliminate or reclassify the most ambiguous cases (such as those where the mother intends to favor the child who will serve as executor of the will) the breakdown between altruism and exchange is roughly equal. Third, mothers with a disabled or institutionalized child form a large share (33 percent) of the cases classified as altruism. Just as the altruism model predicts, families whose children differ dramatically in their innate abilities or outcomes have a strong incentive to differentiate among their children in transferring resources.

We have shown how characteristics of mothers and their children relate to the probability of intending unequal bequests, and we have examined mothers’ self-reported reasons for their intentions. We now ask how these characteristics and reported reasons relate to each other. If “poor health” and “receives help from children” are proxies for exchange motives, we expect the reasons reported by women with these characteristics to fall into the exchange category more often than not. Similarly, women whose chil-

these 25 cases as equal bequests. See Light and McGarry (2003) for these additional results.

TABLE 4—DISTRIBUTION OF REASONS FOR INTENDED UNEQUAL BEQUESTS, BY SELECTED CHARACTERISTICS
(Sample Is Mothers Who Intend to Divide Their Estates Unequally)

	No. of mothers	Reason for intended unequal bequest				χ^2 test stat. ^a	P-value
		Altruism	Exchange	Evolutionary	Not classif.		
All mothers	103	0.32	0.32	0.13	0.23		
1 if highest grade completed = 16 +	12	0.25	0.50	0.17	0.08	3.06	0.383 ^b
highest grade completed < 16	91	0.33	0.30	0.12	0.25		
1 if age = 75+	13	0.23	0.38	0.15	0.23	0.66	0.884 ^b
age < 75	99	0.33	0.31	0.12	0.23		
1 if married	64	0.31	0.30	0.16	0.23	1.53	0.674
widowed or divorced	39	0.33	0.36	0.08	0.23		
1 if in poor/fair health	29	0.21	0.45	0.10	0.24	3.86	0.277
not in poor/fair health	74	0.36	0.27	0.14	0.23		
1 if receives care from children	37	0.35	0.41	0.03	0.22	6.05	0.109
receives no care from children	66	0.30	0.27	0.18	0.24		
1 if number of children ≤ 4	81	0.36	0.33	0.09	0.22	6.82	0.078
number of children > 4	22	0.18	0.27	0.27	0.27		
1 if all children are biological	68	0.44	0.34	0	0.22	34.70	0.001
have step/adopted children	35	0.09	0.29	0.37	0.26		
1 if some children have children	67	0.33	0.36	0.12	0.19	2.21	0.529
all/no children have children	36	0.31	0.25	0.14	0.31		
1 if c.v. for childrens' income is ≤ median ^c	38	0.34	0.29	0.05	0.32	4.62	0.202
c.v. for childrens' income is > median ^c	65	0.31	0.34	0.17	0.18		

Notes: ^a χ^2 statistic for a test of the null hypothesis that the distribution of reported reasons is the same for each pair of independent subsamples.

^b Expected frequencies for some cells are less than five.

^c The sample median is computed for the sample of 1,618 mothers who report having a will.

dren's incomes vary considerably should report altruism-related reasons, and women with non-biological children should be the *only* ones whose reasons suggest they are favoring biological children.

In Table 4, we show how the reported frequency of alternative explanations—altruism, exchange, evolutionary, or unclassified—varies by selected observed characteristics. For this analysis, we eliminate from the sample the 25 mothers whose responses fall in the “equal division” category (Table 3). Table 4 reveals that among older mothers (age 75 and older) who intend to divide their estate unequally, 23 percent give a reason that is consistent with altruism, 38 percent cite exchange, 15 percent refer to the biological status of their children, and 23 percent give a reason that we cannot classify. In comparison, a larger percentage (33 percent) of their younger counterparts give a reason related to altruism while fewer of them (31 percent) give an exchange motive. Similarly, mothers in “fair or poor” health are much less likely to provide an altruism-related reason than to provide an exchange-related reason (21 percent vs.

45 percent), while the opposite is true for mothers in better health. The same pattern is seen when we compare mothers who receive care from their children to mothers who do not. Because we are working with such small samples, chi-squared test statistics reveal that the difference in each pair of distributions is statistically significant at a 10-percent level only for the breakdown by “receives care” (a result that is due to a large difference in the fraction reporting an evolutionary explanation). Nonetheless, the data suggest that mothers whose characteristics suggest they might need care from their children are the most likely to cite exchange-related motives for intending unequal bequests.

The most striking contrasts in Table 4 are related to the biological status of the children. Among mothers with only biological children, 44 percent report an altruistic reason, 34 percent report a reason related to exchange, and, of course, none indicates that they intend to favor their biological children with their bequests. In contrast, only 9 percent of mothers with stepchildren or adopted children report an altruistic

reason, while 29 percent report an exchange motive, and 37 percent report an evolutionary motive. A chi-squared test reveals the difference between these two distributions to be highly significant. We also find statistically significant differences between small and large families. Women with relatively few children are far more likely than their counterparts to report a reason related to altruism (36 percent vs. 18 percent) and far less likely to report an evolutionary reason (9 percent vs. 27 percent). Mothers with many children are more likely to have at least one nonbiological child, at least one child in difficult financial straits (altruism), and at least one child with whom she has a distant relationship (exchange), so on a priori grounds it would be difficult to predict this particular pattern.

The one anomaly in Table 4 concerns our measure of children's financial need. When we compare mothers for whom the coefficient of variation in children's predicted income is above and below the median, we find the two groups are equally likely to provide an altruistic motive.¹³ The logit estimates in Table 2 reveal this variable to be positively correlated with the probability that the mother intends unequal bequests. We now find it is uncorrelated with the probability that the mother *explains* her intentions in a manner that we classify as altruism. As we noted earlier, however, the exchange model also predicts a potential relationship between transfers and within-family variation in child income, although it does not predict whether high- or low-income children receive greater transfers. Table 4 shows that mothers with high-variation children have a *slightly* greater tendency than others to report an exchange motive. It is possible that the expected relationship is obscured by the interplay of both altruistic and exchange-related motives.

III. Concluding Remarks

Researchers have examined a wide variety of data sources in their attempts to assess the rel-

ative importance of alternative motives for parental transfers. Our contribution is to use innovative, new data for a sample of 45- to 80-year-old mothers who participate in the NSL of Young Women and Mature Women. These data include a feature not available in other surveys: verbatim explanations of why mothers intend to divide their estates unequally among their children.

Our analysis indicates that a variety of motives highlighted in the literature come into play when mothers determine the allocation of their estates. Relatively few mothers intend to differentiate among their children in making bequests, but those who do are equally likely to provide explanations that are consistent with altruism and explanations that suggest exchange. Among mothers with adopted children or stepchildren, a surprisingly large number refer to their children's biological status in their response. We term these responses "evolutionary" (in keeping with the idea that mothers invest more in children who share their genes), although we recognize that mothers who favor their biological children may be motivated by altruism or exchange rather than genetic links.

When we bring observed characteristics of mothers and their children into the analysis, the evidence continues to support a variety of motives for mother-to-child transfers. Such factors as poor maternal health, the presence of nonbiological children, and increased within-family variation in children's predicted income are associated with a higher probability of intended unequal bequests. These patterns are consistent to varying degrees with altruistic, exchange, and evolutionary motives for unequal giving. For example, mothers in poor health are more likely than others to give an exchange-related explanation for their intended unequal bequests.

The patterns seen in our data indicate that the motive for mothers' bequest intentions differ across families. The finding that each theoretical explanation—altruism, exchange, and evolution—plays a potentially important empirical role has practical as well as theoretical interest. For example, the extent to which income inequality changes across generations depends on whether parents favor their low-income children when transferring resources. Similarly, the ability of intra-family transfers to offset or crowd out government spending

¹³ Even when we use a more extreme breakdown—coefficient of variation of children's income in the top quartile versus the bottom three quartiles—we find little difference in the percentage of mothers expressing an altruistic motive.

depends on whether families are altruistic. Addressing these longstanding policy issues requires models that can incorporate alternative motives as well as empirical evidence on when and for whom the alternative motives drive intra-family transfer decisions.

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