

## Inheritance and Charitable Donations

by

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### Abstract

In this paper, we employ a unique new data set (the *Philanthropy Panel Study* (PPS), a module within the *Panel Study of Income Dynamics* (PSID)) to test whether the propensity to donate out of inherited wealth is equal to the propensities to donate out of other wealth, earned income, and transfer payments. We find that the elasticity of giving from non-inherited wealth is much greater than from inherited wealth for total giving and gifts to religion, combined causes, people in need, health, education, and other causes. The effects of income derived from inherited wealth and labor income are similar in terms of elasticities, although inherited wealth creates a higher marginal propensity to donate. Transfer income has either a small or no apparent effect on donations.

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## **I) Introduction**

Economists generally assume that household behavior depends on household income and household wealth, without reference to the manner in which these resources have been acquired. It doesn't matter whether income comes from labor or capital, whether it is earned or transferred, or whether it represents current earnings or pension payments. This assumption is usually untested; in particular, it has rarely been tested with respect to charitable donations. In this paper, we employ a unique new data set to test whether the propensity to donate out of inherited wealth is equal to the propensities to donate out of other resources, specifically other wealth, earned income, and regular transfer payments.

While the relation between source of income and consumption decisions is intrinsically interesting, a deeper understanding of the determinants of charitable giving is particularly germane to an assessment of the future health of the nonprofit sector and its role as an alternative to government for providing public goods. Havens and Schervish (1999) estimate that over the next 55 years there will be an enormous transfer of wealth from one generation to the next. Depending upon the assumed real growth rate of the economy, they project that the transfer will range from \$41 trillion to \$136 trillion. Most of this sum will be transferred to heirs, but a small fraction amounting to an enormous sum will be left to charity – between \$6 trillion and \$25 trillion dollars. Their estimates reflect the allocations of estates in the past, where tax-wise decisions recognized the impact of estate taxation and the deduction for charitable bequests. Since then, a temporary phasing-out of federal estate taxes has been enacted, and this phase-out may be made permanent. If so, charitable bequests would be much lower. However, heirs are donors too. As Avery (1994, p. 5) puts it, “the economic impact of these bequests will hinge on whether the behavior of those who receive the money is different from those who give it.” Regardless of estate taxation, the bulk of the wealth will be transferred to heirs and so what matters is whether inherited wealth is donated to a greater or lesser extent than earned income.

Our results are clear in terms of elasticities, but clouded in terms of the marginal propensity to donate out of each source. In terms of elasticity, earned income and inherited wealth have similar effects, non-inherited wealth has a much larger effect, and transfer income has a small or zero effect on each kind of giving. In terms of marginal propensities to give, the difference between inherited and non-inherited wealth shrinks and those between inherited wealth and earned or transfer income grows when evaluated for some plausible values of the sample distribution.

In the next section, we present evidence from a variety of sources that the source of income might matter to donors. Then, we discuss related literature, the empirical specification, the data, and the results. We follow this with a discussion of planned future research and a set of concluding remarks.

## **II. Why might the source of income matter to donors?**

There are several reasons to suspect that the source of purchasing power matters. Case, Quigley, and Shiller (2002, p.3) state the case succinctly:

“First, increases in measured wealth of different kinds may be viewed by households as temporary or uncertain. Second, households may have a bequest motive which is strengthened by tax laws that favor holding appreciated assets until death. Third, households may view the accumulation of some kinds of wealth as an end in and of itself. Fourth households may not find it easy to measure their wealth, and may not even know what it is from time to time. The unrealized capital gains held by households in asset markets may be transitory, but they can be measured with far more precision in thick markets with many active traders. Fifth, people may segregate different kinds of wealth into separate “mental accounts,” which are then framed quite differently. The psychology of framing may dictate that certain assets are more appropriate to use for current expenditures while others are earmarked for long-term savings (Shefrin and Thaler, 1988).”

In particular, there are hints that psychological framing matters for consumption out of income (Arkes et al., 1995 and for giving decisions (Andreoni, 1995). We don't know precisely how the decision to contribute various sorts of income is framed by donors and charitable solicitors, but it is plausible that inherited wealth is viewed differently from earned income or that different social constraints attach to these sources of income. Those who inherit wealth may feel that the income is theirs to spend on their own well-being. Alternatively, they may feel entrusted as stewards to devote that wealth to public purposes or the family dynasty. Inheritors may feel guilty or embarrassed if they live off inherited wealth, fearful that their moral character will be denigrated by friends and associates. Two papers by Cherry, Frykblom, and Shogren (2002a, b) report evidence from laboratory experiments on human subjects that speak to some of these issues. In the first, some subjects play a standard dictator game in which they are given a sum of money to divide between themselves and another subject. If these subjects act according to the standard selfish model of economics (with self-regarding utility functions) then they will keep the entire sum of money for themselves, but only 19% (when the sum was \$10) and 15% (when it was \$40) did so. Other subjects “earned” their money, earning \$40 if they could answer at least 10 out of 17 questions taken from the GMAT correctly and \$10 otherwise. When dictators earned their money in this way, and the word “earnings” was used to frame subject decisions, they kept the entire sum for themselves in 79% and 70% of the cases. The difference in outcomes is highly statistically significant, and the authors conclude that self-regarding behavior arises when “the legitimacy of assets in a bargain [is] sufficient.” In their second paper, where subjects contribute towards a public good, they come to a different conclusion – that there is no difference between contributions from earned and windfall income.

Sociologist Francie Ostrower conducted extensive interviews with ninety-eight wealthy donors from the New York City area, finding support for these conjectures. She concludes (p.

170) that :

“Some donors distinguished between the freedom one has to use inherited wealth as opposed to earned wealth. One person said that someone who earns money is “much more free to do whatever he or she wants,” but “money inherited should stay in the family.” Another said she would have “no business” leaving all her money to charity, because it was her husband’s money and he expected it to go to their children. One donor felt that “if it came from someone else, you kind of owe it to that person to think about what they would have liked you to do with it.” These comments also indicate that for some donors, inheritors’ wealth is not viewed as being theirs in the same way as wealth that is earned. ... [M]oney assumes meanings for these donors that go beyond the economic.”

She finds mixed support for the concept that inheritors would feel ashamed to rely upon their inheritance for personal consumption. One respondent whose wealth was self-made, opined that (p. 104):

“[A]ny inheritance that goes beyond providing for the basic security ... of the next generation should either be taxed ... or provide for giving. I see no justification for self-respecting people to expect to survive on what their forbears have done.”

However, recipients can choose to view themselves favorably regardless (p. 107):

“While they acknowledged that they had inherited funds, there was some tendency for inheritors to stress their own accomplishments or to downplay the importance of what they had inherited.”

Religion provides a powerful set of beliefs and social constraints that encourage giving and define what is to be given. For example, many religions emphasize tithing – the giving of one tenth part of one’s income – but vary in their description of what is to count as income for this purpose. The Church of Jesus Christ of Latter-Day Saints (commonly known as the Mormons) has been particularly successful in eliciting tithing, which is used to support education, missionary, and welfare programs as well as church construction and operations (Swainston, 1992). Mormon official policy does not define tithable income, as Dahl and Ransom explain (1999, p. 705):

“Church leaders teach that payment of an honest tenth is necessary to be right with God, but that such matters are between the individual and God. While the rate of 10 percent is immutable, precisely which items to tithe is not laid out in detail. Bishops do not ask members for an accounting of what income sources were tithed; rather, in a yearly interview, each member simply declares to the bishop whether or not he has paid a full tithe.”

Dahl and Ransom explored the views of Church members through a telephone interview of 1,200 Mormons living in Utah in 1996. They asked about five broad categories of income – gifts and inheritances, housing capital gains, stock investments, miscellaneous deductions, and retirement savings. For example, 61.9% of respondents said that they would pay a tithe on \$500 given as a Christmas gift by the respondent’s parents, whereas only 33.2% of respondents would pay a tithe on the value of a \$500 sofa given to them by their parents on Christmas. About half of respondents expressing an opinion would tithe an inheritance of farm land worth \$700,000 if they continue to farm the land, whereas almost all would pay a tithe if that same inherited farm land were sold rather than farmed. Overall, they conclude (p. 708):

“Respondents apparently think about income as the amount of cash available for immediate consumption, but do not seem to impute income from in-kind transfers when figuring their tithing base. Latter-Day Saints’ perceptions on how to treat housing capital gains indicate that the source and subsequent use of the gain strongly impact tithing beliefs.”

They also find that some beliefs about what should be tithed are independent of the potential for personal financial gain, whereas others are not. For example, those that received a sizable gift or inheritance had the same views as those who did not on whether gifts and inheritances should be tithed, and those who were unemployed expressed the same view on whether unemployment compensation should be tithed as those who remained employed. However, homeowners were less likely than renters to state that they would tithe capital gains from sale of a house.

Brooks (2002) argues that both the administrative practices of welfare bureaucrats and social pressures cause welfare recipients to feel socially isolated. This social isolation reduces social capital, and, he hypothesizes, charitable donations made by the welfare recipient. He confirms this prediction using data from the Consumer Expenditure Survey, finding that a marginal dollar of income from welfare is associated with a decrease in giving of 57 cents, controlling for current or permanent income and non-housing wealth.

Second, some forms of purchasing power accrue smoothly, others appear in lumps. A large gift or inheritance may attract the attention of prospect researchers, professional fundraisers who specialize in locating candidate donors on whom special efforts should be targeted. The “ask” is a major determinant of contributions. For example, the Giving and Volunteering in the U.S. 1996 survey found that “respondents were nearly twice as likely to give if they were asked to contribute than if they were not asked (Independent Sector, 1996, p. 4-107). In addition, receipt of a lump sum reduces the transactions costs of major gifts. The donor does not have to incur the planning costs of intentional savings, and charitable fundraisers will provide donors with all the information they need to decide on the merits of particular causes and tax-wise vehicles for supporting those causes. Lump sum income may become particularly important for those donors that are motivated by status competitions such as those provided by “giving clubs” (where donations exceeding some threshold confer special recognition on the giver) or naming opportunities (Glazer and Konrad, 1996; Harbaugh, 1998).

Auten and Rudney's (2000) analysis of a five-year panel of donors revealed that many donors, particularly the richest ones, make large gifts irregularly rather than smaller gifts every year. They point out that (p. 91):

“Giving a large sum of money once every five years may provide a donor more recognition and influence with the recipient institution than giving the same amount each year over the five years. This consideration would suggest that only the wealthy would make large enough gifts for it to matter.”

Receipt of a one-time lump of income, such as that provided by an inheritance, would provide a similar opportunity for donors. Note that this argument stands in contrast to the usual conclusion that rational consumers would want to smooth their consumption over time. The difference comes about because a large one-time gift creates increasing marginal benefits for the donor.

Finally, different sources of income may vary in well-understood economic properties that are unobserved in particular data sets. For example, consumers may regard income from particular sources as more likely to be expected or unexpected, permanent or transitory, risky or risk-free, liquid or illiquid, taxable or untaxed. Income sources have differing time profiles, and so some may prove more useful than others for alleviating capital constraints. In addition, the types of people who chose to earn particular types of income may differ in measured and unmeasured ways from those who chose to earn other types of income, and these differences may also affect giving. For example, Schervish et al. (2001) find that ‘high-tech wealth holders’ have a distinctive set of giving behaviors, perhaps due to their desire for control and independence, insecurity, reliance on distinctive business networks rather than family (most are unmarried), young age, frequent relocations, and lack of religiosity. Thus, the assumption that all sources of income have equivalent effects on consumption is perhaps overly restrictive given the omissions in most real-world data.

## **Related Literature**

Several papers look at inheritance and other behaviors. Joulfaian and Wilhelm (1994) find that inheritors do not substantially reduce their labor supply but do increase consumption expenditures by a small amount (also see Holtz-Eakin, Joulfaian and Rosen, 1993). Holtz-Eakin, Joulfaian and Rosen (1994a, b) find that inheritance is associated with increased self-employment. Arrondel, Masson and Pestieau (1997) conclude that the marginal propensity to bequeath out of an inheritance received is greater than the marginal propensity to bequeath out of “human resources” (earnings). In general, they find that children adopt similar behaviors as did their parents when they decide whether to leave a bequest, make a will, or loan money to their own children.

The much larger empirical literature on donations has mostly concerned the effects of taxes, government spending, income, and wealth on donations. Most use U.S. tax data, which

limits analysis in two ways. First, one cannot disaggregate giving into gifts to specific charitable subsectors, nor can one obtain data on aggregate gifts by non-itemizers or on non-deductible gifts. Second, information on income and wealth are deficient. There is no attempt to gather comprehensive information on wealth, as the tax pertains to income defined in a particular way, leaving authors to rely on various proxies such as mortgage interest payments and realized capital gains. Income data pertains to taxable income, excluding many forms of transfer income. On the other hand, tax data are well suited to the construction of panel data sets, allowing the decomposition of income and tax rates into permanent and transitory components (e.g. Randolph, 1995, Auten, Sieg, and Clotfelter, 2002).

A few studies have used data from other sources, and two are most relevant here. First, as previously mentioned, Brooks (2002) used Consumer Expenditure Survey data to estimate the effect of welfare receipts on giving. Second, Avery (1994), reporting on work with Michael Rendall, used the 1989 Survey of Consumer Finances to estimate the effects of income, inherited wealth, and non-inherited wealth on giving to all causes. Avery hypothesizes that the propensity to give out of inheritances may be higher than propensities to give from other income sources (p. 29):

“Since [inheritors] have not anticipated this inheritance – and therefore haven’t earmarked it for savings or a college fund – it is a windfall, and philanthropy is one of the interests people pursue with windfalls. Uncertainty about life expectancy may therefore bode well for philanthropy in the long run because it creates these windfalls.”

Contrary to expectations, however, Avery reports that (p. 29):

“Relative to income, wealth was an important factor only for those people between the ages of 45 and 64. For other age groups, income was a much more significant predictor. Moreover, only for those age 45 to 54 was inherited wealth important. For the population as a whole, we predict that the average person would give \$4.56 to charity each year for every \$1,000 in non-inherited wealth, but only \$0.76 out of inherited wealth. Thus, an increase in inheritance may not create a new generation of philanthropists. Indeed, it is the original creators of wealth who appear to be the most giving.”

### **III. Empirical Methods**

Our approach is to estimate models of the following form, where all variables relate to characteristics of heirs or families that have not received inheritances:

$$\text{Giving} = f(\text{Earned Income, Transfer Income, Annuitized Wealth, Annuitized Inheritance, Controls}) + \varepsilon$$

Following the tradition for estimates of giving demand, we estimate all equations in log-log form. This functional form has become traditional, in part, because of the results of Lankford and Wyckoff (1991), who found that the best estimates from a more flexible functional form (the Box-Cox Tobit) were derived from a functional form that was approximately linear in logs. We then test whether the coefficients on the various income and annuitized wealth variables are equal in order to determine whether they have different effects on giving. More specifically, we face the following complications:

a) Giving cannot take negative values, so truncation bias is a real possibility. In our main results, which include 3444 observations, total giving was reported as less than \$25 or zero in 911 cases, religious giving in 1662 cases, combined causes in 2209 cases, gifts to the needy in 2374 cases, health giving in 2652 cases, education giving in 2865 cases, and giving to other causes in 2710 cases. For now, we assume that giving represents an underlying latent variable that can take negative values, but that that variable is censored at \$25. If we also assume the error term is normal and homoskedastic, then tobit is the proper estimating procedure. However, because there are strong indications that the error term is neither normally distributed nor homoskedastic, all results here should be interpreted with caution until planned future work explores alternative models.

b) PSID data follows a genealogical sampling approach, wherein all families created by the children of sample families are also included in the sample. Thus, our data contains observations from split-off families, whose heads were siblings in original sample families. Siblings are likely to have correlated error terms because of their common upbringing and heredity. For this version of the paper, no correction has been made for this correlation, and so our estimated standard errors are too small and reported levels of significance are too high.

c) Wealth and inheritances are reported, in PSID data, as stocks whereas earned income and transfers are flows. In effect, stocks and flows have a different scale, complicating the test for equivalence of their respective coefficients. In order to deal with this, we report estimates derived from “annuitized” wealth and inheritance – that is, from the flow of income that could be generated in perpetuity from these stocks. Assuming a 2% real rate of return, these annuitized values are simply the stock variables multiplied by 0.02. We do not adjust these values to reflect the finite lifetimes of recipients. This approach has real limitations – the coefficient on the stock variables becomes smaller if the assumed real rate of return becomes larger, whereas the coefficients on the flow variables are unaltered. Thus, statistical tests for equality of the earned and transfer income coefficients or the inheritance and wealth coefficients are (all else equal) persuasive, but one should not put credence into the formal tests of the equality of inheritance and earned income or transfer payment coefficients. Rather, one should look at the numerical estimates to see if they are the same order of magnitude.

d) Although data on the dependent variables concern giving in 2000, the data for all the independent income variables concerns 1998 and the non-inherited wealth variable concerns 1999. This is because the PSID data from the 2001 wave is not yet available. If the lag between



cause and effect is less than two years, as seems likely from some other panel analyses (e.g. Barrett, McGuirk, and Steinberg, 1997), then our estimates will suffer from measurement error biases.

## IV. Data

We estimate our models of giving as a function of the components of income with data from the *Philanthropy Panel Study* (PPS), a module within the *Panel Study of Income Dynamics* (PSID). The first wave of the PPS was fielded in 2001 (the thirty-second wave of the PSID) and asked respondents about their giving in calendar year 2000. Respondents were asked to recall gifts made by themselves and other members of their family residing with them; we assume that their responses pertain to their own gifts and, for married/cohabiting respondents, those of their partners. Giving was queried separately for several charitable purposes: to religious institutions (RELIGGIV) (excluding institutions run by religious entities but for non-religious purposes, such as schools, hospitals and other charities), to combined funds (COMBGIV) (e.g., United Way, Catholic Charities, United Jewish Appeal, etc.), to help people with basic needs (NEEDYGIV), for health care purposes (HLTHGIV), for educational purposes (EDUCGIV), and for “other” purposes (OTHERGIV) (youth and family services, improving neighborhoods, the arts, the environment, international aid, and other purposes the respondent could mention). Respondents were directed to report only those gifts made to charitable organizations. We report the sum of these forms of giving as TOTGIV. Finally, respondents were asked the detailed questions about giving to these purposes only if they first passed an introductory screen which asked them if they had given more than \$25 dollars.

There are 7,319 family units in the 2001 PSID. We do not yet have the charitable giving data for the 553 new split-off families nor for the 240 recontacts in this wave. We do not use the 404 families from the 1997 immigrant sample (any inheritances these families received prior to 1995 are missing) and the 1,659 families from the Survey of Equal Opportunity (SEO) low-income subsample. The 1999 weights that would allow us to combine the SEO subsample with the Survey Research Center (SRC) nationally representative cross-section have just recently become available; we will include these families in our subsequent work. This leaves 4,463 families from the SRC subsample. We exclude the 243 families that experienced a change in head between the 1999 and 2001 interviews. Such a change in family composition implies that family income from the 1999 wave is likely a poor proxy for the resources from which the 2001-wave giving data came. The resulting sample contains 4,220 families.

Only 1.5 percent of the PPS respondents have any missing data items concerning their charitable giving (Wilhelm 2002). Because missing charity data are so rare, we set the missing values to zero. Thus, strictly speaking, we analyze the lower bound on the giving data. Consistent with this choice, we set the giving level to zero for those who did not pass through the screening question and for a few family units that said they gave more than \$25 but the sum of reported giving to the various charitable purposes was less than \$25. Finally, because negative values for income (16 observations) and wealth (602 observations) are inconsistent with our

assumed functional form, we excluded such observations from our data, resulting in a final sample size of 3444.

Table 1 summarizes the means, medians, and extreme values of the variables included in this study {note: these means are not precisely correct – they do not remove the observations with negative earned income or wealth. Also, we added two control variables reflecting whether the wife worked and whether the wife was retired, and we deleted the variable reflecting whether the head was disabled, as it caused collinearity problems and the variable reflecting head’s health conveyed much the same information.}.

**Table 1 goes about here.**

### **Measures of Income and Wealth**

Earned income (EARN) is the sum of earned income of the head, spouse, and other family unit members (OFUM) during 1998. This measure includes wages and salaries, bonuses, overtime, tips, commissions, income from a professional practice or trade, and market gardening and the labor portion of income from farms and unincorporated businesses.<sup>1</sup> Unfortunately, the interview protocol does not ask whether income from farms and unincorporated businesses is derived from labor or assets. Instead, PSID analysts have constructed variables for the head and spouse that assume a 50-50 split, attributing 50% of such income to labor. Lacking confidence in this assumption, we attributed all business and farm income to labor.<sup>2</sup> In order to compute the log of earned income, which included some observations taking a zero value, we added \$1 to all observations.

Transfer income (TRANSFER) is the sum of PSID constructed variables representing the transfer income of the head and spouse, OFUM, and Social Security income. In turn, these variables included ADC/AFDC, supplemental security income, unemployment compensation, worker’s compensation, miscellaneous transfer income, child support payments, help from relatives, help from unrelated individuals, VA pensions, income from other retirement pay and pensions, annuity income, and IRA distributions. Again, we added \$1 to all observations in order to avoid taking the log of zero.

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<sup>1</sup>PSID has not yet released detailed data on OFUM income in 1998. Instead, they provide aggregate variables for OFUM taxable and transfer income, respectively. In turn, OFUM taxable income includes both labor and asset income, and there is no way at the present time to separate these two components. We assume that the majority of OFUM taxable income is from labor, and for this paper, include it all in our measure of earned income.

<sup>2</sup>We also experimented with a 50-50 assignment of farm and business income to labor. Results changed only trivially, and both variables fit the data equally well, so we arbitrarily selected the assignment in the text for regressions reported here.

Wealth (WEALTH) is computed as the annuitized value of the corresponding variable constructed by PSID analysts from the interview data, and includes the value of the family's equity in its primary place of residence.<sup>3</sup> Our measure of wealth is net of inheritances received, as we do not wish to double count this form of wealth, and we added 1 to all values to avoid taking the log of zero.

Our measure of inheritances received, INHERIT, is the annuitized sum of any "large gifts or inheritances of money or property worth \$10,000 or more" during the five years preceding the 1999 wave, as recalled in 1999. We use the simple sum of the three largest gifts or inheritances; 366 sample families received one gift or inheritance, 35 received two, and 5 received three. {These numbers are not exactly right. They were calculated before we excluded the negative income and wealth observations. After the deletion, 303 sample families received one or more inheritances.} We did not adjust the total in any way to reflect the year in which the respective inheritances were received, despite the fact that any unspent remainder will appreciate over time. However, any appreciation will be reflected in our measures of wealth, and so it is possible that some of the effect of the early inheritances will be attributed to later wealth.

## Other Variables

We also include a variety of demographic variables that are commonly used in estimates of giving demand – age of the head (AGE), age of the head squared (AGE\*\*2), sex of the head (SEX; female=1), number of children in the household (NUMKIDS), marital status of the head (MARRIED; yes=1), race of head (BLACK; African-American=1), ethnicity of head (HISPANIC; yes=1) and location of family unit (SOUTH; residence in a southern state=1). We also employ a few variables that are not commonly available in other data sets but which plausibly affect giving – employment status of head and spouse [(WORKINGH and WORKINGW; yes=1), (RETIREDH and RETIREDW; yes=1), (the excluded category represents those temporarily laid off, looking for work, keeping house, student, disabled, and other (workfare, prison, jail)], a variable reflecting whether the head's health is good (HEALTHH; no good=1), one reflecting whether the spouse's health is good (HEALTHW; no good=1), and one reflecting whether the family unit resides in a major metropolitan area (BIGMETRO; yes=1), defined as a metropolitan area where the core and fringe county populations total one million or more. We also include the age of the youngest child (AGEYOUNG), which plausibly affects giving to education and giving more generally, along with a dummy variable (NOKIDS; 1=yes) to ensure that the coefficient on AGEYOUNG is meaningful when the sample includes families with no resident children.

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<sup>3</sup>We also experimented with a measure of wealth that excluded the value of the family's equity in its primary place of residence. The coefficient on wealth changed a little, all other coefficients were essentially unchanged, and there was no real difference in fit, so we arbitrarily selected the broader measure including housing wealth. In future work, we plan on seeing whether home equity affects giving differently from other forms of wealth.

## V. Results And Proposed Extensions

Tables 2 through 4 report our results for the effects of the four income measures (earned, transfer, annuitized inheritance, and annuitized non-inherited wealth) on total giving and giving to six charitable purposes. Table 2 presents comparisons in elasticity form. These are unconditional elasticities, calculated from the tobit coefficients to reflect the fact that an increase in any of the respective regressors affects both the likelihood that any one individual will become a donor and the amount he or she would give conditional on a donation being made.

We would also like to know the marginal propensity to donate out of each source of income, expressed as a derivative rather than an elasticity. In order to do so, we multiply the unconditional elasticity by the ratio of the appropriate measure of giving to the appropriate measure of income. However, our selected functional form has constant elasticity, which means that the derivative varies from zero to infinite depending upon where it is evaluated. We choose to evaluate this derivative at both the mean (Table 3) and median (Table 4) sample ratios, after removing observations from family units that did not receive the specified kind of income. This exclusion is both a practical necessity (otherwise, we are averaging some infinite values with finite ones) and a reasonable compromise in dealing with the shortcoming of our assumed functional form. Although Lankford and Wyckoff (1991) validate the constant elasticity form for their sample (which contained a single measure of income that never took a zero value), our sample is different, and the elasticity need not remain constant as income tends to zero.<sup>4</sup> {We need to recalculate the ratios for giving to each purpose, which is why the derivatives are not reported in the table except for TOTGIV}

### **Tables 2, 3, and 4 go about here**

Results indicate that the source of earning power matters. Most measures of income and wealth have significant positive effects on giving to the various causes, and these effects are often different from each other in a numerical and statistical sense. INHERIT always has a positive effect, significant except for giving to religion and people in need. EARN also has a uniformly positive effect that is significant except for giving to religion. TRANSFER has an inconsistently-signed effect that is mildly significant (and positive) only for gifts to people in need and to health. WEALTH has a large positive effect which is overwhelmingly significant in all cases.

The picture is more complicated when we test whether the various types of income have equivalent effects on total giving. In terms of elasticities, the elasticity of each form of giving with respect to WEALTH is always much larger (in both a statistical and numerical sense) than the corresponding elasticity with respect to INHERIT, TRANSFER, and EARN. The elasticity

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<sup>4</sup>We are not entirely satisfied with this approach, and will explore alternative functional forms in our future research.

with respect to TRANSFER is always numerically the smallest, although it is significantly smaller than the next-to-smallest in only four of the seven cases. EARN has a larger effect than INHERIT for total giving, combined causes, people in need, health, and education, whereas INHERIT has a larger effect for religion and other. These differences are not significant except for giving to combined causes.

Some of these tests are sensitive to the assumed real rate of return, but the comparison between WEALTH and INHERIT is not. The WEALTH elasticity is between 4.5 and 13.3 times larger than the INHERIT elasticity, providing strong evidence that the source of income matters. The evidence is weaker when we compare the elasticities with respect to WEALTH and EARN because of its dependence on the real rate of return used to annuitize WEALTH, but in many cases, it would take an implausibly high real rate of return to make the respective point estimates equal. The two elasticities would be equal for giving to combined causes if the real rate of return equals 4.75%, but it would take a real rate of return of 21.5% to equalize the elasticities for gifts to religion. The required rate of return in other cases ranges between 8% and 15.7%.

The complicated picture arises when we compare marginal propensities rather than elasticities. Here, we find that an amount of wealth sufficient to generate \$1 of income each year results in about 81 cents of additional total giving per year, whereas an inheritance sufficient to generate \$1 of income per year results in about 25 cents of giving when we use the mean ratio of giving to wealth for those with positive wealth and the mean ratio of giving to inheritance for those with a positive inheritance to compute the marginal propensities. Put another way, a dollar of wealth appears to generate about 1.6 cents of additional giving per year and a dollar of inheritance appears to generate about 0.5 cents of giving. This difference is huge, in both a numerical and statistical sense. However, if we instead evaluate the marginal propensities to give at the median ratios, both effects are smaller and the difference is insignificant. Similar patterns hold for giving to specified charitable causes, although the numbers are less dramatic and many of the median ratios were zero. Clearly, more research is needed before we can come to a firm conclusion in terms of marginal propensities.

#### **Table 5 goes about here**

Some of the demographic variables have interesting effects on giving, although this is not the primary focus of the present paper. Female-headed households make larger average donations to most causes, but this effect is numerically and statistically most significant for religious giving and gifts to the needy. The number of children in the household has a statistically significant positive effect except for giving to health and other (borderline significant for gifts to combined causes). Households in which the head is married have much higher levels of total giving than households with unmarried heads, but this effect seems to be exclusively due to religious giving.

Other studies {add cite} find that households headed by African Americans give less than other households but that this difference is not statistically significant once one controls for

income and education. Our variables reflecting giving to various charitable causes allow us to say more. African-American households apparently give more to religion and less to health and “other” than households headed by those from other races, although this effect is only significant at the 10% level for religion and health. In contrast, Hispanics appear to give less across the board. This effect is large and highly significant for overall giving, but it is also strong for gifts to religion and “other” and moderately significant for health, education, and people in need. This result is provocative, but perhaps Hispanics interpret the questions differently or give in ways not captured by the survey (such as sending remittances to their country of origin, or giving and volunteering informally through family and community networks).

Families whose head works appear to give more than the excluded category (laid off, looking for work, etc.), and this effect is significant for overall giving, giving to religion, and giving to combined funds. However, a bigger and more statistically-significant positive effect occurs for total giving and giving to religion by families with a retired head. In contrast, the work status of the spouse is not a factor except marginally for gifts to help persons in need by working spouses.

Not surprisingly, households give significantly less to almost all causes if the health of the head or spouse is no good. The estimated effect was always negative, but the effect of HEALTHH was not significant for gifts to the needy or education, and the effect of HEALTHW was not significant for gifts to health and education. We are unaware of any previous studies that have investigated the effect of health measures on giving.

Finally, large metropolitan areas have significantly higher amounts of total giving, giving to religion, and gifts to combined causes. There is also a positive effect, of lesser statistical significance, for gifts to the needy and to education. This is somewhat surprising in light of expectations that residents of large cities can each contribute less to a public good and yet enjoy a greater aggregate quantity of that good, and perhaps speaks to theories of alienation, social capital, and community attachment. The finding is in contrast to that of Hochman and Rodgers {add cite}, who found that giving is highest in small- to medium-size cities. {Check also studies by Wilson and by Wolpert on this point} Region also seems to have an effect. Although itemized gifts per taxpayer are lower in the southern states {add cite}, this appears largely to be due to the lack of control for important covariates. We find that overall giving is higher for southern respondents, and this effect is largely due to gifts to religion. Southern giving is lower than elsewhere for most other causes, significantly so for health and “other.”

## **Planned Future Research**

This paper represents an early stage of an ongoing research project, and we share our ideas for future research in the hopes that readers will share their ideas with us.

First, we will explore further disaggregating our measures of income. Transfer income, in particular, combines welfare payments, intrafamily transfers, and social security into one

category despite their plausibly different effects on giving. In particular, this disaggregation will allow us to compare our results more directly with those of Brooks (2002). In addition, there is some indication from other literatures that the recipient of income matters. Income given to male spouses results in a different pattern of behavior than income given to female spouses {add a cite}, and we have the data to explore whether similar differences arise in giving. This point is related to, but distinct from the question of which spouse decides on the allocation of charitable gifts (Andreoni, Brown, and Rischall, forthcoming).

Second, we will incorporate additional control variables. In particular, we can determine the religious preference of respondents, and see whether, e.g., Mormons treat the sources of income differently as suggested in Dahl and Ransom (1999). Measures of educational attainment will also be added.

Third, we will experiment with alternative measures of inheritance. The questions about inheritances received during the last five years has been asked in previous waves, and an alternative question on inheritances received during the last year can be used instead of this variable. In addition, we will explore various ways to account for the year in which the inheritance is received. We will also account for contemporaneous income and wealth when the data from the 2001 wave of the PSID become fully available.

Fourth, we will improve the econometrics by explicitly accounting for the correlation in error terms between siblings and for the censored, non-normal, and heteroskedastic nature of the error term. We will also explore alternative functional forms. Finally, we will try to account for cross-equation restrictions arising from the fact that gifts to the various charitable subsectors must add up to total gifts, so that the various estimated marginal effects of income, wealth, and other variables must add up as well.

## **VI. Discussion**

Our results indicate that the source of income matters. Non-inherited wealth has an effect on giving that is larger than that of inherited wealth, earned income, or transfer income and this difference is usually substantial. In terms of elasticities, non-inherited wealth has between 4.5 and 13.3 times the effect of inherited wealth. Thus, we provide further support to Avery's (1994) conclusion that the creators of wealth are considerably more generous than the recipients of wealth. However, that conclusion should really be derived from a comparison of marginal propensities to donate, rather than elasticities, and this conclusion becomes murky when the appropriate conversions are made. In contrast, there is little apparent difference between the elasticities of giving from inherited wealth or from labor income, but the latter appears to create a significantly larger marginal propensity to donate. Finally, we find that transfers have no apparent effect on total gifts and gifts to religion, combined funds, education, and other, with a small but significant positive effect on giving to people in need and to health.

Why does non-inherited wealth have such a large impact? Is it because of the windfall

nature of unexpected capital gains, unobservable determinants of both savings and giving, differences in the timing of the wealth, inheritance, and income measures, or differences in the perceived permanence or riskiness of income flows? Is the difference understandable in traditional economic models, or does it demonstrate that framing effects are pervasive? Does the result represent a real difference in behavior, or the impact of unmeasured taste variables that are correlated with the mixtures of income and wealth held by respondents? The result is provocative, and requires more research. As future waves of the PPS generate panels of both giving and wealth, we can learn more about this phenomenon.

If our results are to be taken at face value, they paint a potentially dire portrait for the future of donative nonprofits (those that derive most of their revenues from donations, as opposed to commercial activities). Those now possessing the wealth are giving out of non-inherited wealth. Upon their passing away, their children will give out of inherited wealth. Using the marginal propensities to give evaluated at the mean, the children will be about 3.2 times less generous with the money they receive than were their parents prior to death, and so annual giving would fall each year of the transfer process, *ceteris paribus*. Retention of estate taxation with a deduction for charitable bequests would help counteract this decline; permanent repeal would accentuate it. Even at face value, the picture is less dire if marginal propensities to give are evaluated at the median, for here heirs are only slightly less generous with inherited wealth than their benefactors were.

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**Table 1: Descriptive Statistics**

Variable	Mean	Median	Maximum	Minimum
TOTGIV	\$1,579.00	\$400.00	\$491,500.00	\$0.00
RELIGGIV	\$892.00	\$0.00	\$67,000.00	\$0.00
COMBGIV	\$180.00	\$0.00	\$38,824.00	\$0.00
NEEDYGIV	\$142.00	\$0.00	\$24,500.00	\$0.00
HLTHGIV	\$187.00	\$0.00	\$490,000.00	\$0.00
EDUCGIV	\$84.00	\$0.00	\$50,000.00	\$0.00
OTHERGIV	\$94.00	\$0.00	\$26,500.00	\$0.00
EARN	\$50,398.00	\$39,000.00	\$2,049,000.00	-\$82,020.00
TRANSFER	\$7,341.00	\$285.00	\$569,880.00	\$0.00
INHERIT	\$6,252.00	\$0.00	\$5,000,000.00	\$0.00
WEALTH	\$241,565.00	\$68,000.00	\$27,700,000.00	-\$196,500
AGE	46	44	97	17
SEX	0.22	na	na	na
NUMKIDS	0.76	0	7	0
MARRIED	0.61	na	na	na
BLACK	0.08	na	na	na
HISPANIC	0.02	na	na	na
SOUTH	0.32	na	na	na
BIGMETRO	0.54	na	na	na
WORKINGH	0.78	na	na	na
RETIREDH	0.14	na	na	na
DISABLEDH	0.02	na	na	na
HEALTHH	0.11	na	na	na
HEALTHW	0.06	na	na	na

**Table 2: Income Elasticities of Giving**

Variable	TOTGIV	RELIG	COMB	NEEDY	HEALTH	EDUC	OTHER
INHERIT	0.0451 *** (.0173)	0.0270 (.0174)	0.0201* (.0100)	0.0108 (.0092)	0.0120* (.0053)	0.0150** (.0048)	0.0199** (.0063)
EARN	0.0815 *** (.0156)	0.0206 (.0158)	0.0572 *** (.0101)	0.0182* (.0087)	0.0121* (.0051)	0.0224 *** (.0054)	0.0182** (.0063)
TRANSFER	0.0111 (.0087)	-0.0071 (.0089)	-0.0018 (.0052)	0.0091# (.0048)	0.0051# (.0029)	-0.0011 (.0027)	0.0007 (.0035)
WEALTH	0.3837 *** (.0212)	0.2213 *** (.0219)	0.1359 *** (.0136)	0.1431 *** (.0130)	0.0936 *** (.0084)	0.0898 *** (.0082)	0.0891 *** (.0097)
INHER=EARN?	ns	ns	**	ns	ns	ns	ns
INHER=TRNSFR?	#	#	#	ns	ns	**	**
INHER=WLTH?	***	***	***	***	***	***	***
EARN=TRNSFR?	***	ns	***	ns	ns	***	*
EARN=WLTH?	***	***	***	***	***	***	***
TRNSFR=WLTH?	***	***	***	***	***	***	***
Pseudo - R <sup>2</sup>	0.0896	0.0577	0.0535	0.0465	0.0714	0.0832	0.0613

ns = not significant; # = sig. at 0.10; \* = sig. at 0.05; \*\* = sig. at 0.01; \*\*\* = sig. at 0.001

Notes:

1) All regressions estimated by tobit. Cells contain estimated unconditional elasticities.

2) Wealth and inheritance variables have been annuitized to make their coefficients comparable to those on the various income variables. Rows labeled in the form "A=B?" report on Wald tests for the equality of the coefficients on A and B. The symbols in these cells indicate the level at which the null is rejected.

3) Other control variables include AGE, AGE\*\*2, SEX, KIDS, MARRIED, BLACK, HISPANIC, SOUTH, WORKINGH, RETIREDH, WORKINGW, RETIREDW, HEALTHH, HEALTHW, BIGMETRO, AGEYOUNGEST, and NOKIDS.

**Table 3: Marginal Propensity to Give Evaluated at Mean**

Variable	TOTGIV	RELIG	COMB	NEEDY	HEALTH	EDUC	OTHER
INHERIT	0.2532***	0.0931	0.0110*	0.0076	0.0039*	0.0042**	0.0061**
EARN	0.0064***	0.0012	0.0003***	0.0001*	0.0000*	0.0000***	0.0001**
TRANSFER	0.0217	-0.0108	-0.0004	0.0010#	0.0002#	-0.0000	0.0000
WEALTH	0.8098***	0.3413***	0.0255***	0.0235***	0.0039***	0.0059***	0.0104***
INHER=EARN?	*	ns	#	ns	*	**	**
INHER=TRNSFR?	*	#	*	ns	*	**	**
INHER=WLTH?	***	***	*	***	ns	ns	#
EARN=TRNSFR?	ns	ns	ns	#	ns	ns	ns
EARN=WLTH?	***	***	***	***	***	***	***
TRNSFR=WLTH?	***	***	***	***	***	***	***

**Table 4: Marginal Propensity to Give, Evaluated at Median**

Variable	TOTGIV	RELIG	COMB	NEEDY	HEALTH	EDUC	OTHER
INHERIT	0.0679***	0.0090	–	–	–	–	–
EARN	0.0007***	0.0000	–	–	–	–	–
TRANSFER	0.0005	-0.0000	–	–	–	–	–
WEALTH	0.0784***	0.0049***	–	–	–	–	–
INHER=EARN?	**	ns	–	–	–	–	–
INHER=TRNSFR?	*	ns	–	–	–	–	–
INHER=WLTH?	ns	ns	–	–	–	–	–
EARN=TRNSFR?	ns	ns	–	–	–	–	–
EARN=WLTH?	***	***	–	–	–	–	–
TRNSFR=WLTH?	***	***	–	–	–	–	–

ns = not significant; # = sig. at 0.10; \* = sig. at 0.05; \*\* = sig. at 0.01; \*\*\* = sig. at 0.001

Notes:

- 1) See notes to Table 2.
- 2) Hypothesis tests treat giving/income as fixed in repeated samples.
- 3) – indicates could not be calculated because the median ratio was zero.

**Table 5: Effects of Other Variables on Giving**

Variable	TOTGIV	RELIG	COMB	NEEDY	HEALTH	EDUC	OTHER
AGE	0.0556 *** (.0141)	0.0457 ** (0.0147)	0.0085 (0.0090)	0.0050 (0.0081)	0.0055 (0.0050)	-0.0017 (0.0050)	0.0115# (0.0061)
AGE**2	-0.0003* (0.0001)	-0.0002 (0.0001)	-0.0000 (0.0001)	-0.000 (0.0001)	-0.0000 (0.0000)	0.0000 (0.0000)	-0.0001 (0.0001)
SEX	0.1335 (0.1158)	0.3228 ** (0.1235)	-0.0547 (0.0722)	0.1197# (0.0670)	0.0235 (0.0415)	-0.0265 (0.0404)	0.0634 (0.0493)
NUMKIDS	0.1527 ** (0.0591)	0.1262* (0.0595)	0.0653# (0.0356)	0.0892 ** (0.0323)	0.0071 (0.0203)	0.0523 ** (0.0173)	0.0355 (0.0240)
AGEYOUNGEST	0.0055 (0.0108)	0.0020 (0.0110)	0.0119# (0.0064)	0.0055 (0.0060)	0.0001 (0.0037)	0.0035 (0.0033)	-0.0058 (0.0049)
NOKID	0.1711 (0.1740)	-0.0610 (0.1787)	*0.2299 (0.1060)	0.1055 (0.0980)	0.0061 (0.0610)	-0.0212 (0.0552)	0.0571 (0.0731)
MARRIED	0.7050 *** (0.1131)	0.9763 *** (0.1200)	0.0704 (0.0694)	0.0657 (0.0647)	0.0375 (0.0400)	-0.0225 (0.0377)	0.0253 (0.0477)
BLACK	0.0264 (0.1384)	0.2656# (0.1406)	-0.0875 (0.0897)	-0.0913 (0.0849)	-0.0973# (0.0576)	-0.0447 (0.0530)	-0.1642* (0.0717)
HISPANIC	-0.8021 *** (0.2308)	-0.4861 ** (0.2406)	-0.1415 (0.1420)	-0.2413# (0.1371)	-0.1795* (0.0915)	-0.1702# (0.0891)	-0.4043 ** (0.1353)
SOUTH	0.1828 ** (0.0703)	0.3477 *** (0.0715)	0.0164 (0.0426)	-0.0622 (0.0397)	-0.0418# (0.0240)	-0.0132 (0.0227)	-0.0667* (0.0292)
WORKINGH	0.4932 ** (0.1564)	0.4807 ** (0.1643)	0.2555* (0.1035)	0.0939 (0.0906)	0.0840 (0.0581)	0.0525 (0.0569)	0.0207 (0.0675)
RETIREDH	0.5681 *** (0.1786)	0.5303 ** (0.1829)	0.1888 (0.1193)	0.0832 (0.1018)	0.0994 (0.0631)	0.1068 (0.0664)	0.0052 (0.0753)
WORKINGW	0.0144 (0.0887)	-0.0850 (0.0905)	0.0412 (0.0533)	0.0890# (0.0495)	0.0077 (0.0299)	-0.0028 (0.0274)	0.0551 (0.0361)
RETIREDW	-0.1131 (0.1669)	-0.2182 (0.1663)	0.0215 (0.1021)	0.1406 (0.0902)	0.0454 (0.0512)	0.0004 (0.0522)	0.0577 (0.0661)
HEALTHH	-0.5240 *** (0.1158)	-0.4065 *** (0.1186)	-0.1493* (0.0740)	-0.0581 (0.0661)	-0.0890* (0.0410)	-0.0366 (0.0407)	-0.1087* (0.0510)
HEALTHW	-0.4772 *** (0.1426)	-0.2753# (0.1441)	-0.1668# (0.0881)	-0.2291 ** (0.0830)	-0.0569 (0.0478)	-0.0657 (0.0481)	-0.2494 *** (0.0609)
BIGMETRO	0.2518 *** (0.0646)	0.1815 ** (0.0661)	0.0838* (0.0390)	0.0606# (0.0361)	0.0217 (0.0217)	0.0393# (0.0206)	0.0492 (0.0263)

ns = not significant; # = sig. at 0.10; \* = sig. at 0.05; \*\* = sig. at 0.01; \*\*\* = sig. at 0.001

Notes:

1) All regressions estimated by tobit. Cells contain the unconditional expected marginal effects on actual giving. For dummy variables, this represents the change in ln giving due to a discrete change from zero to one. Asymptotic standard errors in parentheses below parameter estimates.

2) All regressions also include EARN, INHERIT, TRANSFER, AND WEALTH