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# Earned, Owned, or Transferred: Are Donations Sensitive to the Composition of Income and Wealth?

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**Abstract**

We investigate the effects of different forms and sources of income (labor, asset, welfare, and other transfers) and wealth (home equity and other wealth) on household charitable donations (total, religious, secular, combined causes, and the needy) using data from the philanthropy module of the PSID. There are significant differences among income and wealth elasticities from each source. Thus we reject fungibility and find that traditional estimates of price and income elasticities are misleading. We also find that it is important to distinguish the effect of the presence of a source from the amount of that source – inframarginal effects are therefore important. Finally, we find that past receipt of inheritances increases current giving after holding income and wealth sources constant, a result that is difficult to reconcile with *homo economicus*.

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# I. INTRODUCTION

One central assumption of neoclassical economics is that demand is determined by budget sets and preferences; the source of an individual's purchasing power does not matter. This "fungibility hypothesis" has been questioned on three grounds. First, within neoclassical economics, it matters whether income is permanent or transitory, whether income and wealth changes are expected or unexpected, and whether wealth is held in liquid or illiquid forms. For example, non-welfare transfer payments (largely social security) are more stable and predictable than, say, asset income; wealth as home equity has different liquidity properties from wealth held in other forms. Income elasticities and marginal propensities to consume out of these sources may differ accordingly. Second, findings in behavioral economics, psychology, and sociology suggest that different forms of income and wealth come with different social meanings and norms and are placed in different mental accounts. Any of these factors can cause the marginal propensity to consume to differ across sources. Third, unobserved heterogeneity can cause econometric estimates of income effects to differ even if money for charity is fully fungible. The receipt of asset income or welfare payments may be correlated with omitted variables that impart differing biases to econometric estimates across sources of purchasing power. Differing levels of measurement error also contribute to unequal estimated marginal propensities to consume.

In this paper, we extensively analyze data from the PSID (Panel Study of Income Dynamics) and its PPS (Philanthropy Panel Study) module to shed light on several questions concerning income and wealth effects on household charitable giving – overall, to religious or secular causes, to combined causes, and to help people in need. First, we divide income into payments for labor, asset holdings, welfare, and other transfers and divide wealth into home equity and other wealth and robustly reject the fungibility hypothesis.

Second, we look at the econometric implications of our finding for those who employ giving data. The robustness of our findings suggests that even with the best available data and a large number of control variables to limit various biases, information is lost when aggregating income and wealth into single measures. This suggests that regardless of the truth of the

fungibility hypothesis, applied econometricians should disaggregate income and wealth by source. We show that traditional (aggregated) estimates of price and income elasticities are sometimes misleading. We also identify inframarginal effects of income and wealth sources that should be incorporated where possible.

Third, we provide new evidence on a behavioral influence inconsistent with optimizing by *homo economicus*. We find that holding all measures of current income and wealth constant, past receipt of any inheritance reduces current giving and the total present value of past inheritances increases total giving. Past inheritance is spent or turned into our wealth measures, so the liquidity and stability properties of home equity and other wealth cannot explain inheritance's independent effect.

We select charitable giving as our consumption good because it is interesting in its own right. Empirical studies of charitable giving have a long tradition in public economics because regardless of donor motives, donations provide private support for collective goods. Donatively financed collective goods serve as substitutes for, complements to (or in some cases are expressly designed to oppose) governmentally financed collective goods. Careful estimation of the demand for giving is of particular interest in an era of increasingly challenged government budgets. Understanding how the composition of income and wealth affects donations in times of economic flux is important: bubbles, ongoing and burst, dramatically alter the proportions of household wealth held in home equity and stock market accounts, and labor market conditions affect the share of household income that comes from earnings.

The bulk of donations are not targeted towards distributional justice, but our data includes "donations to organizations that help people in need of food, shelter, or other basic necessities," an explicitly redistributive activity. Amidst worldwide concerns for growing within-country inequality, our estimates will shed some light on the determinants of voluntary transfers to the anonymous poor and other needy people.

Although we do not attempt structural estimation, our reduced form estimates provide useful information for nonprofit managers and other practitioners forecasting the effects of

changing income and wealth profiles on donations. The information should also be useful for choosing the rules used to target groups for solicitation. Our estimates may also prove useful to policymakers considering tax reforms.

We use data from the PSID and the 2001, 2003, and 2005 waves of the PPS, a module appended to the PSID since 2001. PPS data allows us to study donations by all donors, regardless of itemization status, and to look separately at total giving, religious vs. secular giving, and giving to combined causes and to people in need.[1] Two papers by Wilhelm (2006; 2007) speak to the quality of the COPPS data, showing that COPPS has a far lower item-nonresponse rate than other giving surveys and that reported levels of giving track those in the "gold standard" cross-sectional study (the 1974 National Survey of Philanthropy) very well up to the 90th percentile of the income distribution.

In the next section of this paper, we review the various relevant literatures on income and wealth effects on consumption in general and donations in particular. Section three discusses data, four presents our econometric considerations, and section five contains our results. We offer concluding remarks in the final section.

## II. LITERATURE

Life-cycle models of consumption dominate neoclassical economics. These models predict that consumption will be smoothed over time, based on anticipated income. Transitory income shocks have no effect on consumption, whereas permanent shocks change consumption to a new smoothed level. Stocks of assets affect consumption to the extent they represent accessible additions to permanent income. This basic model is complicated when binding liquidity constraints lead to incomplete smoothing of consumption, or when uncertainty about future flows of income reduces current consumption by risk-averse agents. Thus, standard models suggest that income source fungibility is violated only if the sources differ in predictability or liquidity.

Behavioral economics suggests other reasons for non-fungibility of income. Cartwright

(2011) summarizes the mental accounting literature, where income is placed into different categories for spending based on its source. Ostrower (1995) theorizes that the propensity to give to charity might be higher when assets derive from the generous acts of others. Large lumps of income, such as inheritances, attract the attention of prospect researchers, professional fundraisers who specialize in finding potentially major donors. The "ask" is a major determinant of contributions (Yörük, 2009; Andreoni and Rao, 2011). 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 give donors all the information they need to decide the merits of particular causes and tax-wise vehicles for supporting those causes. Soliciting funds from this group is likely to be effective, particularly if the ability to donate a large lump of income appeals to the status-competition motive for giving (Glazer and Konrad, 1996; Harbaugh, 1998).

Numerous empirical studies find cases of non-fungibility. Poterba (2000) reviews the literature on the effects of stock market wealth on consumption. Bostic et al. (2009) review studies that compare the wealth effects of housing and financial wealth on consumption. It is by now well documented that U.S. consumption is more closely linked to current income than the permanent income hypothesis suggests (e.g. Wilcox, 1989; Shea, 1995; Imbens et al., 2001; Hori and Shimizutani, 2009). Some of these papers provide evidence consistent with the view of Thaler (1990) that people tend to treat small windfalls as income to be spent and large windfalls as assets to be saved.

Several papers analyze the effect of receiving an inheritance, using data from the PSID. Joulfaian and Wilhelm (1994) find that labor supply has a minimal response to the receipt of an inheritance, whereas food consumption rises upon receipt (but not in anticipation of that receipt). Weil (1994) finds that both the expectation and receipt of an inheritance are insignificant in his regressions that control for wealth. But none of these look at the effect of past inheritances on current consumption. In contrast, 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 earnings.

Charitable giving is a particularly interesting component of consumption for the study of wealth effects. One set of considerations comes from the special status of charitable giving in the personal income tax. The tax code treats charitable gifts as an itemizable deduction, and the value of the favorable tax treatment of charitable gifts varies with both the timing of gifts and the forms in which they are given. Several studies find that giving is sensitive to the timing as well as level of tax relief (e.g., Barrett et al., 1997; Bakija and Heim, 2011). Auten et al. (2002) and Randolph (1995) decompose income and tax-price elasticities into permanent and temporary components, and find greater responsiveness of charitable donations to permanent than transitory income. Auten and Rudney's (2000) analysis of a five-year panel of donors revealed that many donors, particularly the richest ones, make large occasional gifts rather than smaller gifts every year, perhaps as a way to gain public recognition and influence over the recipient. Finally, Hughes and Luksetich (2008) find that giving increases with wealth but decreases with volatility in household income, which they take as a proxy for uncertainty.

Only a few papers test for fungibility with respect to charitable donations, none as comprehensively as the present study. Brooks (2002) finds that income from welfare is negatively correlated with charitable giving, perhaps because welfare alienates recipients from caring about society. Daneshvary and Luksetich (1997) find that donations increase with the proportion of disposable income derived from wages and dividends rather than from capital gains, interest, or pensions.

Two papers by Cherry, Frykblom, and Shogren (2002a, b) examine the impact of framing income as earned or unearned using laboratory experiments. They find that earned income leads to significantly more selfish behavior in the dictator game, but there are no differences in a voluntary contributions mechanism game. 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. He reports that "[W]e 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 wealthiness." Sociologist Francie Ostrower conducted extensive interviews with ninety-eight wealthy donors from the New York City area, concluding (1995, 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."

## III. DATA

We use data from the nationally-representative (Survey Research Center) subsample of the PSID from the 2001, 2003, and 2005 waves to construct most of our variables. Our measure of the current value of inheritances received goes back to the 1984 wave, the first year PSID collected inheritance data. Financial and giving data are reported at the household level, whereas many control variables are reported separately for the household Head and Wife/ "wife" as classified by the PSID. We dropped observations when the 2001 or 2003 family Heads left the sample by 2005, or when information on key variables like income components and charitable giving was missing.[2] We dropped an additional 13 observations for convenience (see fn. 9). In most cases, data gathered in one wave refer to the previous calendar year.[3] Inheritance is reported at the family level, so when we include inheritance variables in our estimation, we restrict the sample to intact families. Otherwise, we could not accurately tally past inheritances for families experiencing divorce or separation. Specifically, we omit families experiencing any disruptions between 1984 and 2005 and include new families formed between 1984 and 2005 only if they did not experience any divorce or separation since formation. All dollar values are converted to 2004 levels using the CPI-U deflator. Table 1 displays summary statistics for the 4111 households and 12,239 observations constituting our baseline sample.

**Table 1 about here**

About 72% of family/year observations report making a donation. About 84% of families made a gift in at least one of the years 2001, 2003, and 2005, and among those families, 83% gave in all three years. Including nondonors in the calculation, as done in table 1, average total giving is $1,584; among donors this average rises to $2214. One advantage of the PPS is that it queries a respondent about her family's donations to different purposes. As dependent variables, we include religious donations[4] and construct secular donations as the sum of other categories of giving. In addition, we use two categories of secular giving – giving for combined purposes,[5] and giving to the needy.[6] Within our sample, people are less likely to give to religious than to secular purposes (49% vs. 61%), however, the average amount given to religious purposes is higher than the average amount given to secular purposes over the whole sample ($994 vs. $590) or among donors to each cause ($2214 vs. $971).

Total family income is broken into four different sources: labor, asset, welfare, and other transfer income. Labor income combines Head's and Wife's earned income components including wages and salaries, bonuses, overtime, tips, commissions, income from professional practice or trade or market gardening, additional job income, and the labor portion of business and farm income. "OFUM" (other family unit members) labor income is also included, though it is constructed from less detailed queries. Asset income, which includes rent, dividends, interests, trusts/royalties, *etc*., is the taxable income of the Head and Wife and OFUM minus labor earnings. Welfare income is the sum of TANF, SSI, and other welfare programs received by Head and Wife and OFUM. Other transfer income, including social security, unemployment compensation, worker's compensation, child support, *etc*., is the difference between PSID-constructed total transfer income and the welfare income variable.

We construct two wealth variables, representing home equity and other wealth. Other wealth is the sum of equity in other real estate, businesses, vehicles, stocks, individual retirement accounts, and other assets; money in transaction accounts; and the value of debt aside from mortgage on the main home or vehicle loans.[7] The PSID imputes home equity by subtracting the

remaining mortgage from home value. The value of inheritances received is the sum of prior year family inheritances, appreciated to 2004 equivalents at a 2.5% real rate. After dropping observations with missing amounts or years of inheritance, about 23 percent of our intact families sample received at least one inheritance, a level compatible with other cross-sectional survey reports.[8] The average appreciated inheritance across the full sample is $52,085; among heirs, this average rises to $182,844.

Religious affiliation is surveyed when a family first enters the PSID and occasionally refreshed – we bring forward the most recent classification. Then, the large number of religious denominations distinguished by PSID are recoded according to Steensland et al.'s (2000) religious tradition (RELTRAD) taxonomy.[9] Descriptions of the other demographic variables we construct are provided as notes to Table 1.

## IV. SPECIFICATION

Our basic model is:

DON = f(**INCOME**, **DINCOME**, **WEALTH**, **DWEALTH**, **X**)

where:

DON is Household Donations.

**INCOME** is a vector containing variables for labor income, asset income, welfare payments, and other transfer payments.

**DINCOME** is a vector of dummy variables equaling 1 if the corresponding component of income is non-zero, whether positive or negative.

**WEALTH** is a vector containing variables for home equity and other wealth.

**DWEALTH** is a vector of dummy variables equaling 1 if the corresponding component of wealth is non-zero, whether positive or negative.

**X** is a vector of demographic and other variables

Our baseline results treat the data as three pooled cross-sections. We account for censorship (donations are inherently non-negative) using Tobit,[10] which assumes there is a latent dependent variable that can take positive or negative values, and an observable dependent variable that is the larger of the latent variable and zero. Although Tobit estimates are biased and inconsistent when the error term is heteroskedastic and nonnormal, we rely on Wilhelm's (2008) finding that this bias has little substantive impact on estimated coefficients from PPS data.[11] Tobit allows direct comparison with the bulk of existing studies of charitable giving. Errors are clustered by extended family in all our estimates.[12]

We selected baseline estimates through the following process. First, we accounted for those components of income and wealth that sometimes take negative values – asset income, home equity, and other wealth. Rather than omitting these observations, which might lead to selectivity bias, we include both dummy variables such as NASSET, which equals 1 if ASSET is strictly negative, and interactions between the dummy and the level of the corresponding component (e.g. -NASSET*ASSET). In effect, this divides the Engel curve into three parts. One part covers negative values for the component, with its own slope (from the interaction) and limit intercept (NASSET) as the component approaches zero from below. Another is the intercept estimated for the strictly zero observations,[13] and the third covers strictly positive values, with its own slope and limit intercept as the component approaches zero from above. This allows inframarginal effects and asymmetry in the marginal response to, say, negative home equity and positive home equity.

Next we performed poolability tests to determine whether it was necessary to allow the coefficients to vary over time.[14] We added interaction terms to the specification only when we could reject parameter constancy, then compared the double log and linear functional forms.[15] We selected double log for our baseline estimates because this functional form fit the data better using a heuristic test to choose between non-nested forms.[16] Then we tested whether we could

simplify the treatment of components that could be positive or negative. We could only reject the simplifications for some determinants of some kinds of giving, so stuck with the more cumbersome but flexible specification in all cases.[17]

We contrasted our baseline results with several alternative specifications. For the pooled cross-sectional alternative, we experimented with a double-hurdle model to distinguish censored donations resulting from latent heterogeneity from those resulting from covariate values that lead to corner solutions. However, we could not obtain convergence for the specification closest to our baseline, so results are not reported here.[18] Next, we used the semiparametric fixed-effects censored regression (FE Censored) estimator developed by Honore (1992). This model extends the cross-sectional censored LAD estimator of Powell (1986) and the distribution of the error term is unspecified, unlike the normal Tobit model, where the normality of the error term is imposed. The data are artificially trimmed so that the fixed effect can be eliminated by appropriate differencing. Unfortunately, there is still no consensus regarding whether the semiparametric censored regression delivers marginal effects comparable to the ones that can be computed in the normal Tobit model, especially when X and the error term are correlated, as in our fixed-effects model (See Honore (2008), Greene (1999)). Recognizing the advantages (robustness to non-normality and heteroskedasticity and control for fixed effects) and disadvantages (sensitivity to measurement errors that are small relative to the level of covariates but large relative to the change in levels, inability to compute marginal effects for observable donations) of FE Censored estimates, we present mostly Tobit results but highlight variables for which the estimates are substantially different.[19]

## V. RESULTS

First we present our baseline estimates and contrast them with FE Censored estimates. Next we compare the baseline estimates to a series of simpler specifications common in previous work. Then we explore the robustness of inframarginal effects, comparing results with presence-of-source dummy variables to those from a spline specification with knots at the 10$^{th}$ percentile

of each source. Our final robustness check relaxes poolability in a different way. We estimate the model for a set of subsamples defined by the presence of each component of income and wealth. Next, we report results from models that include the stock and presence of past inheritances, to see whether the original source matters regardless of how the inheritance is later spent or saved. Finally, we report baseline estimates for selected other covariates.

**Baseline Estimates**

Table 2 presents our baseline results for the income and wealth variables. Except as noted, parameter values in this and subsequent tables are converted and reported as marginal elasticities or incremental percentage impacts on observable donations averaged over sample members. Our calculated values are not conditional on donations being uncensored, and so incorporate the marginal probability that nondonors will become donors when the income or wealth variable changes.

The first column reports results for our principal dependent variable, total giving. Levels of income and wealth components are highly significant and positive, with the exceptions of positive and negative asset income and negative home equity. Except for negative levels of home equity, the dummy variables for presence of each income component and some wealth components are highly significant, allowing us to reject the joint hypothesis that pairs of level and presence variables are zero. We soundly reject the fungibility hypotheses that different income components have the same effect on giving and that different wealth components have the same effect on giving.[20]

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To interpret the incremental effect of increasing the dummy variables from 0 to 1 as the percentage change in the dependent variable is complicated. I think I know what it is, but I want my coauthors to check my work. The issues – Halvorsen and Palmquist (1980) showed that the

coefficient on a dummy variable multiplied by 100 is not the proper estimate of the percentage impact on the dependent variable, suggesting instead that the dummy coefficient be exponentiated and then 1 should be subtracted. Kennedy (1981) noted that the Halvorsen and Palmquist transformation does not correct for stochastic bias (bias when a stochastic variable is transformed nonlinearly) and provides an alternative transformation that is less biased when the original error term is approximately lognormal. However, coauthor Steinberg believes that the formula does not account for the special feature of our specification, that the presence dummy is inherently correlated with the level variable. That is, when, say, labor income goes from absent to present, the continuous variable representing the amount of labor income has to change. As a result, a different formula should be used, but Steinberg wants to check his work before going public with it. Here are the (possibly inappropriate) estimates produced by Kennedy's method:

| Variable | Percentage Change in Donations *a la* Kennedy |
|---|---|
| labor income | -89.5 |
| positive asset income | +84.2 |
| negative asset income | +291.2 |
| welfare income | -85.7 |
| other transfer income | -41.8 |
| positive home equity | -39.0 |
| negative home equity | -67.4 |
| positive other wealth | +13.4 |

These are point estimates, and note that the coefficients on presence of negative home equity and positive or negative other wealth are not statistically different from zero.

**Table 2 About Here**

The remaining columns of Table 2 display results for components of total giving. For gifts to religion, income level variables are generally insignificant, except for labor income and,

marginally, for negative asset income. However, many of the income presence variables are significant, so that income has a jointly significant (level and presence) impact on gifts to religion for seven of the 10 income variables. Levels of wealth in home equity have no significant effect, but (positive) other wealth has a significantly positive effect on gifts to religion. Except for negative home equity, all the wealth components have jointly significant effects. Once again, the fungibility hypotheses for income and wealth are soundly rejected.

The effects of income and wealth variables on gifts to secular causes mirror those on total gifts, with the same signs and levels of significance except that the level of negative asset income becomes insignificant. (IN LIGHT OF THE ABOVE DIFFICULTIES INTERPRETING THE COEFFICIENTS ON PRESENCE OF SOURCE, THEY ARE NOT DISCUSSED FURTHER IN THIS DRAFT). Gifts to combined funds have a similar pattern, but the level of positive assets now has a significant negative effect, and two variables lose significance (positive home equity and negative other wealth). Gifts to the needy mirror overall giving except that once again positive assets have a significantly negative effect on giving and negative assets lose significance. In all cases we can confidently reject the fungibility hypotheses.

Table 3 reports comparisons between the baseline and fixed-effect censored specifications. In order to facilitate comparisons of magnitudes, we report raw Tobit coefficients and standard errors from the baseline estimates in this table.[21]

**Table 3 Goes About Here, but not til Re-estimated. The re-estimation is minor, and it is expected that the discussion below will still hold.**

With tradeoffs between measurement error and excluded variable bias, there is no strong reason to prefer FE Censored over pooled Tobit estimates. Estimates from either specification are moderately similar for total giving. Statistical significance levels are higher in the pooled Tobits for nine variables, but the presences of positive and negative other wealth are only significant for FE Censored. There is one statistically significant sign flip, but this is for

presence of labor income. This flip is less troubling in full context – pooled estimates have a lower (and negative) intercept and greater slope than FE estimates. Across types of giving, there are many differences but no other significant sign flips. Regardless of these differences, our conclusion that neither income nor wealth components are fungible is fairly robust. We reject the joint hypothesis that the coefficients on levels of income are equal to each other and the coefficients on presence of income are equal to each other in every case, although the level of significance is lower for the FE than pooled specification for gifts to religion and to the needy. The corresponding joint hypothesis for wealth is also rejected in every case except the FE specification for giving to the needy.

**Baseline vs. Traditional Specifications**

Here we consider three alternatives to our baseline estimates for total giving, displayed as Table 4. First we drop observations with negative income or wealth components and omit the corresponding covariates. Other than reducing the sample size, this has no important effects on the remaining estimates, so unless the application requires estimates for the effect of negative income and wealth components, one can safely drop these observations.[22] Next, we omit the dummy variables showing the presence of each component of income and wealth. The welfare income elasticity shifts from significant and positive to significant and negative, perhaps explaining the difference between our baseline results and those of Brooks (2002). In addition, omission of these dummy variables causes the labor-income elasticity to fall substantially, the asset-income elasticity to rise and become statistically significant, the other-transfer-income to become smaller and statistically insignificant, and the home equity elasticity to fall.[23] Evidently, the presence of dummy variables have important effects on estimates. But even without them, we continue to reject the fungibility hypothesis.

**Table 4 goes about here**

When the various components are integrated into summary measures of total income and wealth, the estimated income and wealth elasticities are about 0.38 and 0.20 respectively, both highly significant. Our final specification is the most traditional one, particularly in regressions using individual income tax data, where a comprehensive measure of wealth cannot be obtained and income is typically aggregated as AGI (adjusted gross income). Our point estimate for the aggregate income elasticity is about 0.53,[24] similar to other published estimates despite the variety of ways in which total income is measured.

**Inframarginal Effects**

Our baseline estimates in effect credit the first epsilon of income or wealth with an outsized effect on giving. As an alternative to the "presence" dummy variables, we allowed the slope for the bottom 10 percent of each income source (bottom slope) to differ from the top 90 percent (top slope) using linear splines, connected line segments, as our functional form. In the first two columns of table 5, we include both splines and presence variables, allowing the first epsilon to have an effect distinct from the bottom slope. Accounting for this nonlinearity, most of the presence of income variables lose their statistical significance, but the negative bottom slope for the level of other transfers statistically differs from zero. The picture is different for wealth, where both the levels and presence of positive home equity are statistically significant (and of opposite sign), the bottom slope is significantly positive and presence insignificant for positive other wealth, and the presence variables but not bottom slopes are statistically significant for the other two wealth variables. We cannot reject fungibility for the bottom income and wealth slopes, but can at better than the 0.001 level for top slopes. These patterns suggest that although something different is happening at lower levels of income and wealth, it is unclear whether this is due to inframarginal effects or nonlinearities.

The final two columns of table 5 include splines but omit the presence variables. Omission of the presence variables affects bottom slopes in an intuitive way. Consider positive assets. In the baseline estimates, these have a positive but statistically insignificant slope, but the

presence of positive assets has a highly significant positive effect. When splines and presence variables are both included, neither is statistically significant. When the presence variable is omitted, the bottom slope retains its positive sign, increases in value, and becomes highly significant. We can reject fungibility at better than the 0.001 level for bottom slopes and the top slope for income, and can reject fungibility at the 0.01 level for top wealth.

**Table 5 about here**

**Inheritances and Giving**

One of our most interesting findings concerns the effect of inheritances on charitable giving, because of the social meanings attached to the bequestor's decisions, the coming intergenerational wealth transfer, and the attractiveness of those receiving inheritances to prospect researchers and fundraisers. We construct variables for the presence and level of inheritances received by the family head and spouse between 1984 and 2005. Because an inheritance brought into a family through marriage may have different effects than those received during the marriage, we restrict the sample to those who did not change marital status during this period, reducing the sample size to 8218. After verifying that the baseline specification applied to the inheritance sample produces very similar results to the baseline specification for the full sample, we add the two inheritance variables to our set of regressors.

We find that the elasticity of giving with respect to the appreciated stock of inheritances is 0.0171 ($p=0.002$), but that the presence of an appreciated stock of inheritances decreases giving by 12.22% ($p=0.011$). Please note that the elasticity of giving with respect to the stock of past inheritances tells us nothing about income elasticities, as every measure of income and wealth is held constant when we estimate this parameter. The proper interpretation of our positive coefficient here is that current income and wealth held constant, an increase in the proportion of current wealth coming from an inheritance is associated with an increase in charitable giving. This result is consistent with the hypothesis that larger bequests are seen as a

boon that should be repeatedly repaid through charitable donations and is inconsistent with the hypothesis that "my parents gave it to me so I have to give it to my children," but that for smaller bequests, some combination of the latter hypothesis and fear of intense solicitation from prospect researchers provides a consistent explanation. Something behavioral seems to be going on – exactly what requires further investigation, perhaps by experimental methods.

**Disaggregation and the Price Elasticity of Giving**

The most studied variable in economic analyses of giving is the tax price of giving, the amount of after-tax income which must be sacrificed to transfer a dollar to charity. In the simplest case (cash gifts, made by living individuals not subject to the alternative minimum tax to eligible charities, amounting to less than 50% of adjusted gross income computed without any net operating loss carrybacks), the price is $1 for nonitemizers and $(1 - m), where m is the donor's marginal tax rate. However, the PSID does not report very many tax details and in particular doesn't report the actual marginal tax rate. The NBER's TAXSIM program enables us to simulate the price of giving from a set of input variables tailored to tax-return data. PSID data doesn't fit the bill precisely, but with suitable imputations and approximations, we can use TAXSIM to generate prices for our respondents.[25] We have the advantage over most published estimates, as they use tax data that do not allow one to estimate different price elasticities for different kinds of giving. In addition, we do not need to exclude non-itemizers from our sample. We report results in table 6.

**Table 6 goes about here**

The most interesting statistical test concerns whether giving is elastic or inelastic, and so we report whether we can reject the hypothesis that giving is unit elastic. Subsidies like the charitable deduction are "treasury efficient" if they cause a greater increase in donations than decrease in tax revenues, and subsidies are treasury efficient if and only if giving is price elastic

(e.g., Clotfelter 1985). Like all price studies, we face the problem that the price of giving is endogenous because a sufficiently large donation can make the difference between itemizing or not and can affect the marginal tax rate for itemizers. We address this problem in two traditional ways. First, we employ "first-dollar"price instead of the actual ("last-dollar") price of giving. First-dollar price is the price the donor would have faced if he or she had donated a dollar, and so does not depend on the donor's actual amount of giving. This is the price variable we have included in all our other regressions. Second, we report IV Tobit results, in which the first-dollar price is used as an instrument for the actual "last-dollar price," the approach recommended by Feenberg (1987).

Our point estimates suggest that total giving and giving to secular nonprofits are price elastic, significantly so except for the first-dollar price estimate for total giving. Like others (e.g., McClelland and Kokoski, 1994 or Bradley, Holden, and McClelland, 2005; NEED TO ADD latest), we find that religious giving is inelastic when first-dollar price is used, although we don't establish statistical significance for this result. Unlike others, our point estimate using the last-dollar price is elastic, but not significantly so. Giving to combined funds also appears to be inelastic, significantly so for the first-dollar price specification, and giving to the needy appears to be inelastic, but not significantly so.[26] Although superior in some ways to published estimates, this paper is not primarily about the price elasticity of giving and so we have not employed the more sophisticated techniques of recent papers. We put more stock in our findings regarding differences across types of giving than our findings on the magnitude of elasticity for each type of giving.

We also examine how our disaggregation of income and wealth affects price elasticities, contrasting our results with those from a traditional specification that includes aggregate income as the sole measure. The first and second row of table 6 compare the two when first dollar price is used, and the third and fourth rows do the same for last dollar price. Some differences emerge. In all cases, the point estimates are larger in magnitude under the traditional specification. The first dollar estimates for total giving illustrate the potential importance of these differences – we

cannot reject treasury inefficiency but the traditional approach can. However, without more sophisticated panel estimators, this remains a warning and not a proof.

**Selected Control Variables in the Baseline Estimates**

Table 7 reports the estimated average marginal or incremental impact for selected control variables (full results are available from the authors). Many of our results are qualitatively consistent with those found by other studies, as summarized in Bekkers and Wiepking (2007), so disaggregation of income and wealth is less important here. But some of the other coefficients contribute to the wider literature on charitable giving, which will be of interest to many readers. We focus here on the most interesting covariates, for variables that have rarely or never been included elsewhere or for variables that have qualitatively different impacts across donations to different causes. NOTE THAT WE HAVE NOT YET EMPLOYED THE KENNEDY TRANSFORMATION FOR DICHOTOMOUS VARIABLES, TAKING THE DUMMY VARIABLE ESTIMATES AT FACE VALUE FOR THIS DRAFT. EXPECT A CORRECTION BEFORE THE SEMINAR.

**Table 7 about here**

Most other studies find that total giving increases with the age of the Head. We replicate that, but also enter the age of the Wife. It appears that the most generous households have old Heads and young Wives, particularly for giving to religion. Female-headed households are more generous, particularly for gifts to secular charities and to the needy. Like other studies, we find that if the Head reports being in poor or fair health, giving is lower (particularly to religion). Health status of the Wife has no significant effect on any kind of giving.

Studies that look at the impact of religious denomination use varying classification schemes that make them less comparable to ours, and some come from samples effectively restricted to Christian denominations. Like others, we find large and significant effects of religious denomination. All else equal, families headed by affiliates of Christian conservative

nontraditional denominations make the largest total donations, with evangelical Christians second and affiliates of Black Protestant churches third. Every religious affiliation variable is significantly positive, implying higher average giving relative to the excluded category (no religion or atheist). When we look at giving specific to religion, rather than in total, we have the same top three and the same pattern of significance. Although many studies point to the positive effect of religious affiliation on giving to secular causes, they lack our denominational breakdown and extensive set of covariates. Our finding that only Jews and (with less significance) affiliates of Christian Conservative Nontraditional and Eastern Religions give significantly more than the excluded group to secular causes runs counter to this traditional understanding. Jews are the biggest givers to combined causes, followed by Catholics and Christian Conservative Nontraditional, Catholics. No denomination gives significantly more than the excluded group for gifts to the needy, whereas Evangelicals give significantly less and Mainline Protestants give borderline significantly less. One innovation we make is to include a dummy variable equaling one if respondent is married and the head and wife have different religious affiliations. Not surprisingly, religiously-mixed couples give substantially less in total and to religion than other respondents.

One should be cautious about interpreting any of these religious effects literally. Denominations differ in what is considered a donation as opposed to a membership fee (perhaps explaining the relatively low reported religious giving by Jews, who typically pay a large fee to their temple to cover attendance on the high holy days). Unknown and varying portions of religious donations are dedicated or forwarded to secular causes. Some combined funds are religiously affiliated but donations to these funds are reported as gifts to combined funds. Of these, some are primarily or exclusively for secular causes (e.g., Catholic Charities) and some are more mixed (e.g., United Jewish Appeal local federations).

We find, like Steinberg and Wilhelm (2005) that when wealth is included, there is no statistically-significant difference attributable to race between total giving by black- and white-headed households, although blacks give significantly more to religion. We didn't find any

significantly different giving between racially-mixed and unmixed households. We also find that households where both spouses report Hispanic ethnicity do not give significantly less than all-Anglo households except for gifts to combined funds and to the needy. Finally, households with Hispanic Heads and Anglo Wives donate significantly more to religion and significantly less to secular and to the needy than unmixed Anglo households.[27]

## VI. CONCLUSIONS

In this paper, we investigate the effects of different forms and sources of income and wealth on total charitable donations and donations to specified causes. We find that it is important to disaggregate income and wealth and to distinguish the effect of an increase in the level of each component from the effect of the component's presence. We confidently reject the fungibility hypothesis for income, that the income level effects are jointly equal and that the income presence effects are jointly equal for every type of giving examined. We confidently reject the fungibility hypothesis for wealth as well for every type of giving examined, and both these results are robust to a variety of alternative specifications. The lone exception is that we cannot reject fungibility of wealth components for gifts to the needy using the FE Censored estimator, although we can reject the same in our baseline specification and other variants.

In particular, we find that the receipt of positive asset income increases giving by 84%, whereas the receipt of labor income decreases giving by 89% and receipt of welfare income decreases giving by 86%. Giving appears to be insensitive to the amount of positive asset income, but the elasticity of giving with respect to labor income is about +0.23 and that for welfare income is about +0.29. The presence of positive home equity decreases giving by 39%, but the elasticity of giving with respect to the level of positive home equity is +0.06. These and other results suggest that estimates derived from aggregate measures will fail to predict giving whenever structural change in the composition of family income and wealth occurs. For example, the recent decrease in home ownership rates (from a peak of 69% in the fourth quarter of 2005 to 66.9% in the second quarter of 2010) appears to be a factor in the recent decline in

aggregate giving (Census Bureau, 2010; Center on Philanthropy, 2010).

Our results are not structural, so the primary implication of our results is that income and wealth should be disaggregated, regardless of whether non-fungibility stems from economic factors, behavioral factors, or econometric artifacts. Disaggregation leads to different and, we think, better estimates of price and income effects on giving. But our findings on inheritance are intriguing, because we hold the current level and composition of income and wealth constant and still find significant effects of past receipt of inheritances on current giving.

We also contribute to the broader literature on determinants of charitable giving. We add to the evidence that overall giving is more price elastic than giving to religion. We find that it is important to disaggregate socio-demographic variables to the spousal, rather than family level. We find that total and religious giving are each substantially lower in mixed-religion households, that the education of both spouses matters, that racially-mixed households are not significantly different from single-race households, and that ethnically-mixed households have significantly different levels of some kinds of giving than single-ethnicity households.

These last results add to the literature on household bargaining and decisionmaking and suggest future research. This literature already suggests that marginal propensities to consume depend on which member of the household controls various sources of income and stocks of wealth (e.g., Lundberg and Ward-Batts, 2000). PSID data allows one to separate labor income, some welfare income, other transfer income, and most asset income by spouse. Some elements of wealth can be separated, and we know which spouse brought inheritance money to the family. We leave this extension to future work.

## REFERENCES

Andreoni, James and Justin M. Rao. (2011). The Power of Asking: How Communication Affects Selfishness, Empathy, and Altruism. *Journal of Public Economics*, 95(7-8): 513-520.

Arrondel, Luc, Andre Masson, and Pierre Pestieau (1997). Bequest and Inheritance: Empirical

Issues and French-U.S. Comparison. In G. Erreygers and T. Vandevelde, eds., *Is Inheritance Legitimate?* Heidelberg: Springer-Verlag.

Auten, Gerald E. and Rudney, Gabriel (1990). The Variability of Individual Charitable Giving in the U.S. *Voluntas*, 1, pp. 80-97.

Auten, G. E., Sieg, H., & Clotfelter, C. T. (2002). Charitable Giving, Income, and Taxes: An Analysis of Panel Data. *American Economic Review*. 92: 371-82.

Avery, Robert (1994). The Pending Intergenerational Transfer. *Philanthropy*, VIII#1, a publication of The Philanthropic Roundtable. p. 5, 28-29.

Bakija, J., & Heim, B. (2011). How Does Charitable Giving Respond to Incentives and Income? New Estimates from Panel Data. *National Tax Journal*, 64 (2, Part 2): 615–650.

Barrett, K. S., McGuirk, A. M., & Steinberg, R. (1997). Further Evidence on the Dynamic Impact of Taxes on Charitable Giving. *National Tax Journal*. *v50*(n2), 321-34.

Bekkers, René and Pamala Wiepking. (2007) Generosity and Philanthropy: A Literature Review. Available at SSRN: http://ssrn.com/abstract=1015507

Bostic, R., Gabriel, S., & Painter, G. (2009). Housing Wealth, Financial Wealth, and Consumption: New Evidence from Micro Data. *Regional Science and Urban Economics*. *v39*(n1), 79-89.

Bradley, R., S. Holden, R. McClelland (2005). A robust estimation of the effects of taxation on charitable contributions. *Contemporary Economic Policy*, 23, 545-554.

Brooks, A. C. (2002). Welfare Receipt and Private Charity. *Public Budgeting and Finance*. *v22*(n3), 101-14.

Cartwright, Edward (2011). *Behavioral Economics*. London: Routledge.

Case, K. E., Quigley, J. M., & Shiller, R. J. (2005). Comparing Wealth Effects: The Stock Market versus the Housing Market. *B.E. Journal of Macroeconomics: Advances in Macroeconomics*. *v5*(n1), 1-32.

Census Bureau, U.S. (2010). Housing Vacancies and Ownership (CPS/HVS). Accessed 8/28/2010 from http://www.census.gov/hhes/www/housing/hvs/qtr210/q210ind.html.

Center on Philanthropy at Indiana University. (2010). *Giving USA 2010: The Annual Report on Philanthropy for 2009*. Online: Giving USA Foundation.

Cherry, Todd L., Peter Frykblom, and Jason F. Shogren. 2002a. Hardnose the Dictator. *American Economic Review*.

Cherry, Todd L., Peter Frykblom, and Jason F. Shogren. 2002b. Does the Origin of Endowments Impact Contributions in Public Good Games? Working paper.

Clotfelter, Charles T. 1985. *Federal Tax Policy and Charitable Giving*. Chicago: University of Chicago Press.

Daneshvary, N., & Luksetich, W. (1997). Income sources and declared charitable tax deductions. *Applied Economics Letters, 1466-4291. v.4*(n5), 271 – 274

Feenberg, Daniel R. 1987. "Are Tax Price Models Really Identified? The Case of Charitable Giving." *National Tax Journal* 40(4): 629-633.

Greene, W. (1999): Marginal effects in the censored regression model, Economics Letters,64(1), 43-49.

Glazer, Amihai and Kai A. Konrad. 1996. A Signalling Explanation for Private Charity *American Economic Review*, 86#4, pp. 1019-1028.

Harbaugh, W. 1998. What do Donations Buy? *Journal of Public Economics, 67*, pp. 269-284.

Honore, B. E. (1992): Trimmed LAD and Least Squares Estimation of Truncated and Censored Regression Models with Fixed Effects, Econometrica, 60, 533-565.

Honore, B. E. (2008): On Marginal Effects in Semiparametric Censored Regression Models, Princeton University Working Paper.

Hori, Masahiro & Satoshi Shimizutani, 2009. The Response of Household Expenditure to Anticipated Income Changes: Bonus Payments and the Seasonality of Consumption in Japan. *The B.E. Journal of Macroeconomics*, 9(1).

Hrung, W. B. (2002). Parental Housing Values and Children's Consumption. *Regional Science and Urban Economics. v32*(n4), 521-29.

Hughes, P., & Luksetich, W. (2008). Income Volatility and Wealth: The Effect on Charitable

Giving. *Nonprofit and Voluntary Sector Quarterly*. *v37*(n2), 264-80.

Imbens, G. W., Rubin, D. B., & Sacerdote, B. I. (2001). Estimating the Effect of Unearned Income on Labor Earnings, Savings, and Consumption: Evidence from a Survey of Lottery Players. *American Economic Review*. *v91*(n4), 778-94.

Joulfaian, D., & Wilhelm, M. O. (1994). Inheritance and Labor Supply. *Journal of Human Resources*. *v29*(n4), 1205-34.

Kennedy, P. (1981). Estimation with Correctly Interpreted Dummy Variables in Semilogarithmic Equations. *American Economic Review* 71: 801-801.

Kishor, N. K. (2007). Does Consumption Respond More to Housing Wealth Than to Financial Market Wealth? If So, Why? *Journal of Real Estate Finance and Economics*. *v35*(n4), 427-48.

Lundberg, Shelly, and Ward-Batts, Jennifer. (2000). Saving for Retirement: Household Bargaining and Household Net Worth. *Econometric Society World Congress 2000 Contributed Papers,* 1414, Econometric Society.

McClelland R. and M.F. Kokoski. (1994). Econometric issues in the analysis of charitable giving. *Public Finance Review*, 22, 498-517.

Osili, U. and D. Du (2005). Immigrant Assimilation and Charitable Giving. In P. Rooney and L. Sherman, eds., *Exploring Black Philanthropy: New Directions for Philanthropic Fundraising* (Vol. 48: 89-104 in *New Directions for Philanthropic Fundraising, a Quarterly Sourcebook*).

Ostrower, Francie. 1995. *Why the Wealthy Give: The Culture of Elite Philanthropy*. Princeton, NJ: Princeton University Press.

Poterba, J. M. (2000). Stock Market Wealth and Consumption. *Journal of Economic Perspectives*. *v14*(n2), 99-118.

Randolph, W. C. (1995). Dynamic Income, Progressive Taxes, and the Timing of Charitable Contributions. *Journal of Political Economy*. *v103*(n4), 709-38.

Shea, John. (1995). Union Contracts and Life-Cycle/Permanent-Income Hypothesis. *American*

*Economic Review, 85(1)*, 186-200.

Slacalek, Jiri (2009), What Drives Personal Consumption? The Role of Housing and FinancialWealth. *The B.E. Journal ofMacroeconomics, 9(1)*, article 37.

Steensland, Brian, Jerry Z. Park, Mark D. Regnerus, Lynn D. Robinson, W. Bradford Wilcox & Robert D. Woodberry. 2000. "The measure of American religion: Toward improving the state of the art." *Social Forces 79(1)*: 291-318.

Steinberg, R. and M. O. Wilhelm (2005). Religious and Secular Giving, by Race and Ethnicity. In P. Rooney and L. Sherman, eds., *Exploring Black Philanthropy: New Directions for Philanthropic Fundraising* (Vol. 48:57-66 in *New Directions for Philanthropic Fundraising, a Quarterly Sourcebook*).

Thaler, R. H. (1990). Saving, Fungibility, and Mental Accounts. *Journal of Economic Perspectives*. *v4*(n1), 193-205.

Weil, D., 1994. The saving of the elderly in micro and macro data. *The Quarterly Journal of Economics*. *v109*, 55–81.

Wilcox, David W., 1989. Social Security Benefits, Consumption Expenditure, and the Life Cycle Hypothesis. *Journal of Political Economy*. *v97*, 288-304.

Wilhelm, Mark O. 2006. New Data on Charitable Giving in the PSID. *Economics Letters 92(1)*, 26-31.

Wilhelm, Mark O. 2007. "The Quality and Comparability of Survey Data on Charitable Giving." *Nonprofit and Voluntary Sector Quarterly*, 36:65-84.

Wilhelm, Mark O. (2008). Practical Considerations for Choosing Between Tobit and SCLS or CLAD Estimators for Censored Regression Models with an Application to Charitable Giving. *Oxford Bulletin of Economics and Statistics 70 (4)*, 559-582.

Yörük, Bariş K. (2009). How responsive are charitable donors to requests to give? *Journal of Public Economics, 93*, 1111-1117.

## TABLE 1: Descriptive Statistics

| Variable | Mean | Standard Deviation | Variable | Mean | Standard Deviation |
|---|---|---|---|---|---|
| **Income from** | | | **Characteristics of Head** | | |
| Labor | $52,085 | $92,124 | Hispanic | 0.021 | 0.143 |
| Assets | $6,021 | $41,231 | Missing Hispanicity | 0.074 | 0.262 |
| Welfare | $64 | $831 | Evangelical Protestant | 0.29 | 0.45 |
| Other Transfers | $8,061 | $22,159 | Mainline Protestant | 0.20 | 0.40 |
| **Wealth** | | | Black Protestant | 0.050 | 0.218 |
| Home Equity | $86,571 | $152,382 | Conservative Nontrad. | 0.016 | 0.125 |
| Other Wealth | $207,965 | $1.0445M | Christian, NonDenom | 0.046 | 0.209 |
| Appreciated Inheritance | $52,085 | $433,927 | Catholic | 0.21 | 0.41 |
| **Family Demographics** | | | Jewish | 0.027 | 0.163 |
| Any Children | 0.40 | 0.49 | Eastern | 0.011 | 0.104 |
| Number of Children | 0.74 | 1.07 | Religion Missing | 0.032 | 0.175 |
| Married | 0.63 | 0.48 | **Characteristics of Wife** | | |
| Mixed Religion[a] | 0.24 | 0.43 | Age | 28.77 | 23.70 |
| Mixed Race, Head B[b] | 0.004 | 0.064 | Health Poor or Fair | 0.073 | 0.260 |
| Mixed Race, Wife B[c] | 0.002 | 0.044 | High School Grad | 0.22 | 0.41 |
| Mixed Ethnic, Head H[d] | 0.008 | 0.091 | Some College | 0.18 | 0.38 |
| Mixed Ethnic, Wife H[e] | 0.006 | 0.080 | College Grad | 0.11 | 0.31 |
| Big Metro[f] | 0.36 | 0.48 | | | |
| **Characteristics of Head** | | | Grad School | 0.065 | 0.246 |
| Age | 46 | 16 | Education Missing | 0.038 | 0.191 |
| Female | 0.22 | 0.42 | Working | 0.44 | 0.50 |
| Health Poor or Fair | 0.13 | 0.34 | Retired | 0.058 | 0.233 |
| High School Grad | 0.33 | 0.47 | Disabled | 0.012 | 0.11 |
| Some College | 0.24 | 0.43 | **Giving** | | |
| College Graduate | 0.16 | 0.36 | Total | $1,584 | $3,864 |
| Graduate Education | 0.11 | 0.31 | To Religion | $994 | $2,944 |
| Education Missing | 0.04 | 0.19 | To Secular | $590 | $1,938 |
| Working | 0.76 | 0.43 | To Combined Funds | $172 | $864 |
| Retired | 0.15 | 0.36 | To Needy | $155 | $711 |
| Disabled | 0.027 | 0.162 | First-dollar Price | $0.90 | $0 |
| African American | 0.081 | 0.273 | | | |

Notes: Unweighted data

[a]Coded as 1 if married and spouses have different religions/denominations, 0 otherwise

[b]Coded as 1 if married, Head is African American and Wife is Caucasian, 0 otherwise

[c]Coded as 1 if married, Head is Caucasian and Wife is African American, 0 otherwise

[d]Coded as 1 if married, Head is Hispanic and Wife is not Hispanic, 0 otherwise

[e]Coded as 1 if married, Head is not Hispanic and Wife is Hispanic

[f]Coded as 1 if resides in a metropolitan area with a population of at least 1,000,000

## TABLE 2
## Baseline Elasticities

| | Total Giving | Giving to Religion | Giving to Secular Causes | Giving to Combined Funds | Giving to Needy |
|---|---|---|---|---|---|
| **Levels of Income from** | | | | | |
| Labor | 0.2363*** (0.0281) | 0.1278** (0.0545) | 0.4192*** (0.0503) | 0.3630*** (0.0463) | 0.1501*** (0.0394) |
| Positive Assets | -0.151 (0.0105) | -0.0256 (0.0216) | -0.0549 (0.0175) | -0.0516*** (0.0154) | -0.0372** (0.0149) |
| Negative Assets | -0.1362* (0.0821) | -0.3405* (0.1768) | -0.0564 (0.1454) | -0.0431 (0.1188) | 0.0736 (0.1201) |
| Welfare | 0.2870*** (0.0906) | 0.2440 (0.1857) | 0.6035*** (0.1516) | 0.4870*** (0.1529) | 0.2712* (0.1426) |
| Other Transfers | 0.0688*** (0.0206) | 0.0319 (0.0432) | 0.1427*** (0.0350) | 0.0568* (0.0326) | 0.0637** (0.0306) |
| **Presence of Income from** | | | | | |
| Labor | -2.2037*** (0.3128) | -1.2829** (0.6124) | -4.1696*** (0.6031) | -4.6166*** (0.9068) | -1.7261*** (0.5899) |
| Positive Assets | 0.6141*** (0.0803) | 0.8596*** (0.1604) | 1.1944*** (0.1339) | 0.6861*** (0.1131) | 0.5761*** (0.1083) |
| Negative Assets | 1.6879** (0.8048) | -4.3179*** (2.2250) | 0.8541 (1.3994) | -0.6810 (1.3429) | -0.2888 (0.9141) |
| Welfare | -1.8999*** (0.2976) | -1.9572*** (0.6782) | -3.0479*** (0.2776) | -1.5681*** (0.1242) | -1.3410*** (0.2370) |
| Other Transfers | -0.5257*** (0.1781) | -0.2402 (0.3719) | -1.0124*** (0.3031) | -0.4552 (0.2804) | -0.4116 (0.2662) |
| **Level of Wealth in** | | | | | |
| Positive Home Equity | 0.0634*** (0.0219) | 0.0260 (0.0451) | 0.1197*** (0.0368) | 0.0075 (0.0319) | 0.0566* (0.0307) |
| Negative Home Equity | 0.0788 (0.1148) | -0.0621 (0.2226) | -0.0230 (0.2330) | -0.0575 (0.1775) | -0.0726 (0.1620) |
| Positive Other Forms | 0.1440*** (0.0134) | 0.1294*** (0.0274) | 0.2324*** (0.0224) | 0.1177*** (0.0200) | 0.1493*** (0.0195) |
| Negative Other Forms | 0.0946*** (0.0355) | 0.1203 (0.0801) | 0.1111* (0.0621) | -0.0097 (0.0542) | 0.0824* (0.0499) |
| **Presence of Wealth in** | | | | | |
| Positive Home Equity | -0.4655** (0.2369) | 0.0293 (0.4884) | -0.9292** (0.4114) | 0.1266 (0.3352) | -0.3070 (0.3573) |
| Negative Home Equity | -0.7337 (0.8786) | 0.4095 (2.1585) | 0.1602 (2.1103) | 0.1999 (1.7182) | 0.8909 (1.9904) |
| Positive Other Forms | 0.1477 (0.2113) | 0.8912*** (0.3710) | 0.1239 (0.3957) | 0.2704 (0.3648) | 0.0543 (0.3178) |
| Negative Other Forms | 0.5707 (0.3845) | 0.9954 (0.9017) | 1.3026* (0.7292) | 1.6279 (0.9039) | 0.9736 (0.6384) |
| **Reject Reject $H_0$ that:** | | | | | |
| *By Source* | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Labor income level and presence = 0 | *** | * | *** | *** | *** |
| Positive Asset level and presence = 0 | *** | *** | *** | *** | *** |
| Negative Asset level and presence = 0 | ** | n.s. | n.s. | n.s. | n.s. |
| Welfare level and presence = 0 | *** | *** | *** | *** | *** |
| Other transfer level and presence = 0 | *** | n.s. | *** | n.s. | *** |
| Positive Home Eq. level and presence = 0 | *** | ** | *** | ** | *** |
| Negative Home Eq. level and presence = 0 | n.s. | n.s. | n.s. | n.s. | n.s. |
| Pos. Oth. Wealth level and presence = 0 | *** | *** | *** | *** | *** |
| Neg. Oth. Wealth level and presence = 0 | *** | *** | *** | ** | *** |
| *Equality across positive components* | | | | | |
| Income elasticities equal each other | *** | ** | *** | *** | *** |
| Wealth elasticities equal each other | *** | * | ** | *** | ** |
| **Pseudo-$R^2$** | 0.1320 | 0.0822 | 0.0871 | 0.0591 | 0.0502 |
| **# censored observations** | 3520 | 6201 | 4800 | 8287 | 8388 |

For variables representing levels, these are the estimated average marginal elasticities with respect to observable donations (rather than the latent variable), unconditional with respect to censoring. For variables representing presence, we report incremental effects on observable giving but further transformation is necessary to interpret results as a percentage change in the dependent variables. Standard errors, calculated by the delta method, are in parentheses below parameter estimates. Additional control variables displayed in a separate table.

**Significance of Average Marginal Effects:** * = sig. at 0.10; ** = sig. at 0.05; *** = sig. at 0.01

## Table 3: FE Censored Panel Estimates:

is not in service at this time. Please, make a note of it. (Under re-estimation).

## TABLE 4: Baseline vs. Traditional Specifications, Total Giving

| | Baseline | Exclude those with Negative Income/Wlth Components | Also Omit Presence Dummies | Total Income & Wealth Only[a] | Total Income Only[b] |
|---|---|---|---|---|---|
| **Levels of Income from** | | | | | |
| Labor | 0.2363*** (0.0281) | 0.2014*** (0.0297) | 0.0318*** (0.0094) | | |
| Positive Assets | -0.151 (0.0105) | -0.0176 (0.0112) | 0.0514*** (0.0060) | | |
| Welfare | 0.2870*** (0.0906) | 0.2807** (0.1109) | -0.0750*** (0.0279) | | |
| Other Transfers | 0.0688*** (0.0206) | 0.0665*** (0.0230) | 0.0028 (0.0051) | | |
| Total Income | | | | 0.3799*** (0.0454) | 0.5346*** (0.0472) |
| **Presence of Income from** | | | | | |
| Labor | -2.2037*** (0.3128) | -1.8525*** (0.3213) | | | |
| Positive Assets | 0.6141*** (0.0803) | 0.6331*** (0.0863) | | | |
| Welfare | -1.8999*** (0.2976) | -1.9495*** (0.3868) | | | |
| Other Transfers | -0.5257*** (0.1781) | -0.5132** (0.2014) | | | |
| **Level of Wealth in** | | | | | |
| Positive Home Equity | 0.0634*** (0.0219) | 0.0695*** (0.0240) | 0.0194*** (0.0060) | | |
| Positive Other Forms | 0.1440*** (0.0134) | 0.1599*** (0.0143) | 0.1704*** (0.0114) | | |
| Total Positive Wealth | | | | 0.1955*** (0.0133) | |
| **Presence of Wealth in** | | | | | |
| Positive Home Equity | -0.4655** (0.2369) | -0.5815** (0.2637) | | | |
| Positive Other Forms | 0.1477 (0.2113) | 0.0480 (0.2189) | | | |
| **Reject $H_0$ that** | | | | | |
| Income elasticities equal | *** | *** | *** | | |
| Wealth elasticities equal | *** | *** | *** | | |
| **Pseudo- $R^2$** | 0.1320 | 0.1312 | 0.1277 | 0.1234 | 0.1187 |
| N | 12,239 | 10,287 | 10,287 | 11,048 | 12,223 |

For variables representing levels, these are the estimated average marginal elasticities with respect to observable donations (rather than the latent variable), unconditional with respect to censoring. For variables representing presence, we report incremental effects on observable giving but further transformation is necessary to interpret results as a percentage change in the dependent variables. Standard errors, calculated by the delta method, are in parentheses below parameter estimates. Coefficients for the baseline list of additional variables are not displayed.

**Significance of Average Marginal Effects:** * = sig. at 0.10; ** = sig. at 0.05; *** = sig. at 0.01

**Table Notes**

[a]Some observations had negative income or wealth components while having positive total income and wealth. These observations are included here. The total income variable is faminc as constructed by PSID, rather than the sum of the components we employ.

[b]Includes all observations where total income is positive.

## TABLE 5
## Separate Slopes for the bottom 10th and top 90th Percentiles of Sources, Total Giving

| | Total Giving with Presence Dummies | | Total Giving without Presence Dummies | |
|---|---|---|---|---|
| **Levels of Income** | **below 10th percentile** | **above 10th percentile** | **below 10th percentile** | **above 10th percentile** |
| Labor | -0.0390<br>(0.0469) | 0.4303***<br>(0.0405) | 0.0005<br>(0.0097) | 0.4191***<br>(0.0394) |
| Positive Assets | 0.0810<br>(0.0631) | -0.0186<br>(0.0119) | 0.1538***<br>(0.0143) | -0.0224*<br>(0.0118) |
| Negative Assets | -0.3203<br>(0.2457) | -0.1085<br>(0.1082) | 0.1063***<br>(0.0378) | -0.1477<br>(0.1031) |
| Welfare | 0.0827<br>(0.5194) | 0.3111***<br>(0.0986) | -0.2244***<br>(0.0446) | 0.3233***<br>(0.0961) |
| Other Transfers | -0.1468**<br>(0.0733) | 0.1216***<br>(0.0256) | -0.0147*<br>(0.0087) | 0.1064***<br>(0.0246) |
| **Presence of Income from** | | | | |
| Labor | 0.3501<br>(0.4033) | | | |
| Positive Assets | 0.2592<br>(0.2292) | | | |
| Negative Assets | 3.0604*<br>(1.8032) | | | |
| Welfare | -1.3207<br>(1.8198) | | | |
| Other Transfers | 0.8617*<br>(0.4717) | | | |
| **Level of Wealth** | | | | |
| Positive Home Equity | 0.2292***<br>(0.0732) | 0.0152<br>(0.0269) | 0.0192***<br>(0.0069) | 0.0391<br>(0.0260) |
| Negative Home Equity | 0.3923<br>(0.3932) | 0.0660<br>(0.1312) | -0.0334<br>(0.0435) | 0.0830<br>(0.1284) |
| Positive Other Forms | 0.1778***<br>(0.0453) | 0.1338***<br>(0.0160) | 0.1616***<br>(0.0202) | 0.1347***<br>(0.0157) |
| Negative Other Forms | -0.1466<br>(0.1483) | 0.1271***<br>(0.0424) | 0.1677***<br>(0.0251) | 0.1003**<br>(0.0408) |
| **Presence of Wealth from** | | | | |
| Positive Home Equity | -1.9300***<br>(0.6527) | | | |
| Negative Home Equity | -2.0363**<br>(0.9732) | | | |
| Positive Other Forms | -0.1070<br>(0.3937) | | | |
| Negative Other Forms | 2.3991**<br>(1.1667) | | | |
| **Pseudo- $R^2$** | 0.1337 | | 0.1332 | |

Linear splines (in natural logs), with knot points at the 10$^{th}$ percentile (excluding zeros) of each income and wealth source. The 10$^{th}$ percentile occurs for these values: labor income: $13,407; positive asset income: $3675; negative asset income $1150; welfare income $179; transfer income $1000; positive home equity: $13,866; negative home equity: $1067; positive other wealth: $3520; and negative other wealth: $1493.

For variables representing levels, these are the estimated average marginal elasticities with respect to observable donations (rather than the latent variable), unconditional with respect to censoring. For variables representing presence, we report incremental effects on observable giving but further transformation is necessary to interpret results as a percentage change in the dependent variables. Standard errors, calculated by the delta method, are in parentheses below parameter estimates. Coefficients for the baseline list of additional variables are not displayed.

**Significance of Average Marginal Effects:** * = sig. at 0.10; ** = sig. at 0.05; *** = sig. at 0.01

## TABLE 6: Compendium of Price Elasticities

| | Total Giving | Giving to Religion | Giving to Secular Nonprofits | Giving to Combined Funds | Giving to Needy |
|---|---|---|---|---|---|
| First Dollar Price, Pooled Tobit (Baseline) | -1.1167*** (0.1441) Reject $H_0$: ns | -0.5866** (0.2962) Reject $H_0$: ns | -1.5922*** (0.2365) Reject $H_0$:** | -0.4684** (0.2120) Reject $H_0$:** | -0.7379*** (0.2040) Reject $H_0$: ns |
| First Dollar Price, Pooled Tobit (Just Aggregate Income) | -1.4092*** (0.1609) Reject $H_0$:** | -0.8670*** (0.2935) Reject $H_0$: ns | -2.0400*** (0.2673) Reject $H_0$:*** | -0.7795*** (0.2128) Reject $H_0$: ns | -0.8165*** (0.1971) Reject $H_0$: ns |
| Last dollar Price, Pooled IV Tobit (Baseline) | -1.4405*** (.1715) Reject $H_0$:** | -1.0418*** (0.3584) Reject $H_0$: ns | -2.0041*** (0 .2855) Reject $H_0$:*** | -0.7634*** (0 .2561) Reject $H_0$: ns | -0.9890*** (0.2474) Reject $H_0$: ns |
| Last dollar Price, Pooled IV Tobit (Just Aggregate Income) | -1.8051*** (0.1775) Reject $H_0$:*** | -1.3761*** (0.3368) Reject $H_0$: ns | -2.5403*** (0.3042) Reject $H_0$:*** | -1.1405*** (0.2480) Reject $H_0$: ns | -1.0963*** (0.2299) Reject $H_0$: ns |

Coefficients are the estimated average marginal elasticities with respect to observable donations (rather than the latent variable), unconditional with respect to censoring. Standard errors, calculated by the delta method, are in parentheses below parameter estimates. The significance level at which we can reject the null hypothesis that the price elasticity equals -1 is below that. Coefficients for the baseline list of additional variables are not displayed. The first-dollar price is used as an instrument for the last dollar price in the IV Tobits.

**Significance of Average Marginal Effects:** * = sig. at 0.10; ** = sig. at 0.05; *** = sig. at 0.01

## TABLE 7
## Effects of Selected Control Variables on Giving, Baseline Specification

| | Total Giving | Giving to Religion | Giving to Secular Nonprofits | Giving to Combined Funds | Giving to Needy |
|---|---|---|---|---|---|
| ln(Age H) | 1.3162*** | 2.6645*** | 1.0998*** | 0.9095*** | 0.5238*** |
| | (0.0960) | (0.2002) | (0.1599) | (0.1369) | (0.1290) |
| ln(AgeW) | -0.1446*** | -0.2925*** | -0.1652** | -0.2598*** | 0.0530 |
| | (0.0464) | (0.1007) | (0.0748) | (0.0646) | (0.0614) |
| FemaleH | 0.1448*** | 0.2448 | 0.3898*** | 0.1033 | 0.5863*** |
| | (0.0464) | (0.1759) | (0.1394) | (0.1227) | (0.1261) |
| Married H | 0.7896*** | 1.9152*** | 0.4060** | 0.3282** | 0.2436* |
| | (0.1065) | (0.2213) | (0.1833) | (0.1465) | (0.1454) |
| Health Poor/Fair H | -0.2202*** | -0.3781*** | -0.2364** | -0.1980** | -0.1164 |
| | (0.0629) | (0.1184) | (0.1066) | (0.0900) | (0.0856) |
| Evangelical H | 0.7614*** | 3.0143*** | 0.0129 | 0.3622*** | -0.1984** |
| | (0.0800) | (0.2265) | (0.1245) | (0.1188) | (0.0938) |
| Mainline H | 0.2500*** | 1.8258*** | 0.0411 | 0.3618*** | -0.1855* |
| | (0.0811) | (0.2413) | (0.1286) | (0.1264) | (0.0954) |
| Black Protestant H | 0.4947*** | 2.3351*** | 0.0640 | 0.3855 | -0.1287 |
| | (0.1912) | (0.4722) | (0.3161) | (0.2987) | (0.2048) |
| Conservative Nontraditional H | 1.5517*** | 4.4593*** | 0.4875* | 0.6688** | -0.0935 |
| | (0.1856) | (0.5036) | (0.2721) | (0.2771) | (0.2227) |
| Catholic H | 0.2033*** | 2.0912*** | 0.1994 | 0.7122*** | -0.1203 |
| | (0.0781) | (0.2357) | (0.1268) | (0.1316) | (0.0970) |
| Jewish H | 0.4026*** | 1.1038*** | 0.8408*** | 1.3921*** | 0.2127 |
| | (0.1162) | (0.3791) | (0.1840) | (0.2543) | (0.1837) |
| Eastern Rel. H | 0.3759** | 1.4747*** | 0.5709* | 0.1115 | 0.4710 |
| | (0.1895) | (0.5190) | (0.3321) | (0.3329) | (0.2988) |
| Relig. Mixed Marriage | -0.2662*** | -0.7508*** | 0.0555 | -0.0133 | -0.0865 |
| | (0.0504) | (0.1045) | (0.0833) | (0.0730) | (0.0690) |
| Afr/Am. H | 0.1803 | 0.8800*** | -0.0722 | 0.3216 | -0.0220 |
| | (0.1460) | (0.3063) | (0.2509) | (0.2394) | (0.1678) |
| Anglo H, Hisp. W | 0.3145 | 1.1107** | -0.6842** | -0.2738 | -0.5203** |
| | (0.2294) | (0.5465) | (0.2772) | (0.2595) | (0.2464) |

For continuous variables, coefficients are the estimated average marginal elasticities with respect to observable donations (rather than the latent variable), unconditional with respect to censoring. For dichotomous variables, we report incremental effects on observable giving but further transformation is necessary to interpret results as a percentage change in the dependent variable. Standard errors, calculated by the delta method, are in parentheses below parameter estimates.

H is the abbreviation for household head, and W for wife/"wife" as defined by the PSID. Covariates not displayed include whether there are children in the household, number of kids, health poor/fair W, no/non denomination H, missing religion H, big metro, education dummies (HS Grad, Some College, Grad School, Missing) for H and W, dummies for employment status (Working, Retired, Disabled) for H and W, H Afr./Am. W White, H White W Afr. Am., Hispanic H, Hispanic H Anglo W, Hispanicity Missing for H and W, dummies for the 2003 and 2005 subsamples, and interacts between year and high school grad W, big metro, and religiously mixed marriage. The marginal for religiously mixed marriage incorporates both direct and interaction effects. The excluded category for religion is no religion or atheist.

**Significance of Average Marginal Effects:** * = sig. at 0.10; ** = sig. at 0.05; *** = sig. at 0.01

# NOTES

1. COPPS 2005 divides secular giving into additional categories of health or medical research; education; youth or family services; the arts; culture or ethnic awareness; neighborhoods; environment, international, other, and tsunami-related. We chose not to include these types of giving separately due to lower cell counts (e.g., the number of welfare recipients giving to international is quite small).

2.We use a different approach for education, religion, and ethnicity. Rather than omit observations with missing values for these variables, we set the values to zero and include a series of dummy variables taking the value of 1 when the corresponding continuous variable has a missing value.

3. Respondents were asked to report the wealth variables at the point in time when they were surveyed, rather than for the previous year.

4. The survey wording is relevant: "Did you make any donations specifically for religious purposes or spiritual development, for example to a church, synagogue, mosque, TV or radio ministry? Please do not include donations to schools, hospitals, and other charities run by religious organizations." Respondents are prompted to include the total cash value of gifts of cash, assets, and property before answering any of the giving-amount questions.

5. "Did you [or anyone in your family] donate to any organization that served a combination of purposes? For example, the United Way, the United Jewish Appeal, the Catholic Charities, or your local community foundation?"

6. "Did you [or anyone in your family] make any donations to organizations that help people in need of food, shelter, or other basic necessities?"

7. Although the PSID contains extensive questions about pension wealth, the wealth measure they construct omits pension wealth due to the difficulty in computing expected present value for a variety of pension vehicles. Following their example, we omit the present value of private defined-contribution and defined-benefit plans and the present value of rights to Social Security

payments.

8. Morgan et al. (1962) report that 18 percent of their sample received an inheritance.

9. Dummy variables for the family Head and Wife are created for the RELTRAD categories of Black Protestant, Evangelical Protestant, Mainline Protestant, Conservative Nontraditional (which includes, among others, Mormons, Christian Scientists, and Jehovah's Witnesses), Liberal Nontraditional (e.g., New Age, Unitarian), Catholic, Jewish, Eastern/Other (e.g., Buddhist, Hindu, Muslim, Eastern Orthodox, Native American), No/Non Denominational who does not attend services, and Missing (the excluded category is no affiliation/atheist). Because the thirteen observations where Head or Wife was Liberal Nontraditional could not be easily merged with any other category, these observations were deleted from the final sample.

10. Total Donations are censored at $25 because the variable is only collected if respondent first says that household donations total at least $25. When we estimate the model for specific types of donation, we set the censoring threshold at zero because there is no minimum for reporting specific types of donation.

11. Specifically, Wilhelm (2008) developed a Hausman test with bootstrapped standard errors for determining whether the formal rejection of normality and homoskedasticity has substantive impact on parameter estimates. After validating the properties of this test through Monte Carlo simulations, he applied the test to two data sets, one of which was COPPS; both passed the test. He found that Tobit estimates using COPPS data closely approximate those produced by CLAD (Censored Least Absolute Deviation), a procedure that is robust to heteroskedasticity and non-normality.

12. The PSID uses genealogical sampling, which means that if an original sample member family has children who later split off to form their own families, the latter are permanently added to the sample as a distinct family. We cluster errors for all observations that stem from the original 1968 sample family because genetics, common environments and socialization, and parental efforts to transmit generosity may affect giving.

13. There were 402 observations where asset income was recorded as a tiny fraction of positive

or negative one. Assuming these values were erroneous, we reset them to exactly zero and coded the presence of asset income dummy variable accordingly.

14. We used an unbalanced panel containing 12,239 observations from the three waves of COPPS. For the double-log functional form, Wald tests for parameter constancy revealed that year-variable interaction terms were not necessary except for mixed religion households, big metro location, and one category of education (Wife is high school dropout).

15. For the double log formulation, we created variables such as LN_LABOR equaling ln(LABOR + $1) for the nonnegative components of income. For components that could be positive or negative, we created variables like LN_ASSET equaling ln(ASSET + $1) if ASSET $\geq 0$, zero otherwise. We also created variables like LN_NEG_ASSET equaling ln(-ASSET + $1) if ASSET $< 0$, zero otherwise. We also added $1 to our dependent variable before taking its log. In results not reported here, we confirmed that results are qualitatively similar if instead we add $10 or $25 before logging.

16. First, we antilogged the predicted values from the double-log specification, correcting for bias by generating:

$$\hat{y} = \exp(predicted + \text{var}(error))$$

and then computed the squared correlation between predicted and actual donations (this $R^2$-like measure seems more meaningful than the McFadden's pseudo-$R^2$ reported by Stata for Tobit estimates). We then compared this value to the squared correlation between actual and predicted levels of donations from the linear specification. For both, we used the predicted value for the observable donations, rather than the latent Tobit variable. By this measure, the double log specification was substantially superior in explaining total donations – with a squared correlation of 0.3750 vs. 0.2261 for linear.

17. There is some disagreement over the use of weights in regressions on survey data. Our baseline model is unweighted, which is appropriate if the specification is correct as we impose uniformity on the income and wealth coefficients regardless of demographics. But if misspecified, population weights may be more appropriate. In results available from the authors,

we replicated the baseline model using PSID-constructed weights that make the sample nationally-representative on a slightly different sample (the sample before asset values between -1 and +1 were assumed to result from roundoff errors and so were recoded to be exactly zero). There was little difference between the two in that sample, so we report only unweighted results here.

18. We obtained convergence by dropping some of the dummies for presence of income and wealth components, and results looked a little different from our baseline estimates. But when we dropped the same dummies from the Tobit, there were no qualitative differences in results between the two estimators. These results are available from the authors on request.

19. The FE censored estimates need to be re-estimated to account for the recent recoding of near-zero asset values.

20. The table reports, e.g., ability to reject the joint hypothesis that the coefficients on labor, positive asset, negative asset, welfare, and other transfers are mutually equal. Nondisplayed pairwise comparisons reveal the sources of rejection – in terms of levels we reject equality at better than the 0.001 level for 4 of the 10 pairs of income components (labor and positive asset income, labor and transfer income, positive asset and welfare income, and positive asset and transfer income) and at better than the 0.05 level for two more (welfare and transfer income, negative asset and transfer income) and 1 of the 6 pairs of wealth components (positive home equity and positive other wealth) at the 0.01 level.

21. Results should be interpreted as elasticities with respect to latent measures of giving, which is not particularly enlightening. However, if the conversion of FE Censored coefficients to elasticities with respect to observable donations is anything like that for Tobit (proportional), the comparisons presented inform us of differences in the magnitude, sign, and statistical significance of the more interesting elasticities.

22. Omitting these observations has more impact on FE Censored estimates. Although the point estimates are close, the welfare level and presence and asset presence effects become statistically insignificant. The statistical significance level drops for presence of labor income and level of

other wealth. We can reject fungibility for income components at the 0.05 level, but cannot reject fungibility for the wealth components.

23. For the FE Censored estimates, omission of these dummies causes a reduction in the estimated labor income elasticity, an increase in the other-wealth elasticity, and the other transfer-income elasticity becomes statistically significant. We can reject fungibility of income and wealth components at better than the 0.01 level.

24. When the components are aggregated into total income and wealth, the FE Censored estimates are 0.38 and 0.17. When aggregate total income is used and wealth is excluded, the estimate is 0.40.

25. No approximation was required for tax year, state, marital status, wage and salary income of taxpayer and spouse, dividend income, gross social security benefits, rent, real estate taxes, and unemployment compensation. We use number of children in family unit to approximate dependents exemptions, and age of head and wife >65 to approximate elderly taxpayers. Other property income is approximated by the sum of head and wife's rental income, farm income, asset income from business, interest income, and alimony received. Taxable pensions are approximated by the sum of head's non-VA retirement income and wife's annuities income. Other non-taxable transfer income was approximated by the sum of head plus wife's SSI, VA pension, worker's compensation, TANF, other welfare, and child support income. We use itemized medical expenses to approximate itemized deductions that are a preference for the AMT, calculate dependents' age from the PSID individual files for dependents under age 17, and (remaining principle x mortgage interest rate) + charitable giving to approximate deductions that do not qualify as preference items for the AMT. With no information on short- or long-term capital gains, these TAXSIM-required variables were set to zero. We also set income variables to zero when respondents didn't know, or refused to answer.

26. Some additional results not reported in detail – the price elasticity for those with below-median income (-1.8075) is significantly greater than for those with above-median income (-1.0185) with $p<0.05$. Results are similar for IV Tobit estimates, but the respective elasticities

are larger (-2.1055 vs. -1.3800, $p<0.10$). The same is true when the sample is split by wealth (pooled: -1.5059 vs. -1.0942; IV Tobit: -1.8364 vs. -1.4477, but neither are significant).

27. It is premature, at best, to interpret these results as indicating that Hispanics are less generous than others. Hispanics may think of their gifts as helping rather than donating, under-reporting their giving. Hispanic generosity may be directed to remittances and informal giving, which are not included in our data. Finally, the category Hispanic confounds the effect of immigration with that of ethnicity. Osili and Du (2005) find that Hispanic differences in giving behavior wash out quickly with duration in the U.S.A.