Religion and Volunteerism

Abstract

This paper uses a standard Tobit to explore the effects of religion on volunteerism. It analyzes cross-sectional data from a representative sample of about 3,000 American heads of household contained in the 2005 Panel Study of Income Dynamics. The results do not indicate a significant connection between religious preference and volunteerism. However, they do indicate that more frequent attendance at religious services increases both an individual's total level of volunteering and level of religious volunteering. Most of the gains in total volunteering appear to come from increases in the religious volunteering category. Far more significant determinants for increasing volunteerism are one's sex (namely, being a female) and education level.

Ben Labe
University of North Carolina
Department of Economics

May 5, 2013

Data

The data for this analysis is from the Panel Study of Income Dynamics (PSID), a nationally representative survey that has followed 5000 families encompassing 18,000 people since 1963. Every other year[1], a member from each participating family completes an extensive survey requesting information about their demographic information, economic status, health, philanthropic efforts, and other topics.

Data for this paper is taken from the year 2005. This is the first year in which PSID has collected information about individual volunteering. While the original data set contains 8,002 observations, in the data cleaning process I have removed observations that are ambiguous along a variable of interest or do not apply to a head of households. This process has stripped the number of observations to 3,003. The remaining individuals in the sample are therefore heads of household who reported information along each of the following dimensions: personal and family demographics, income, religion, and philanthropy (charitable giving and volunteerism).

Table 1[2] contains summary demographic and income statistics, Table 2 contains summary religious statistics, Table 3 contains summary statistics on charitable giving, and Table 4 contains summary statistics on volunteering for the sample of interest.

The tables indicate how the study breaks down each of the primary variables of interest. For religion, respondents may identify as Catholic, Jewish, Protestant, Non-Christian ("NonChrist-") yet still religious, Orthodox, "Other", and None/Atheist/Agnostic, which will be treated as the base case. They may also report the frequency with which they attend religious services.

Meanwhile, the types of philanthropy in which respondents can report engagement are as follows: for charitable giving, respondents may include donations to religious ("Relig-") organizations, combo purpose (religion plus general charity) organizations, organizations for the needy, organizations devoted to improving health care, organizations focusing on education ("Edu-"), youth organizations, cultural ("Cult-") organizations, community ("Comm-") organizations, environmental ("Env-") organizations, organizations devoted to international peace ("IntPeace-), organizations helping the victims of the 2004 Asian tsunami, and "others";

[1] Until 1997, it was every year.
[2] All tables can be found in the Appendix.

for volunteering, they may include that which is for one's religion or church, youth programs, programs for seniors, health care, the needy, social change ("SocChange-"), or some "other" program.[3]

Model

To motivate the econometric model, I consider an extension of theoretical model of Bergstrom, Blume, & Varian (1986). Assume a private provision public goods model where agents value private consumption (x_i), public good consumption, and leisure (l_i). Further, there are two types of public goods; those provided through charitable donations (denoted by $G = (G_1, \dots, G_K)$ to account for K such goods) and those provided through volunteerism (denoted by $V = (V_1, \dots, V_J)$ to account for the J goods produced through volunteering). Individual i's utility function is given by

$$U_i = u(x_i, G, l_i, V; y_i),$$

where u is strictly concave and increasing in all of its arguments. y_i represents a vector personal characteristics related to individual i. Thus, we assume that the functional form of U_i is completely determined by individual i's personal characteristics.

For each monetary public good G_k, production is determined by simply summing over all of the agents contributions:

$$G_k \equiv \sum_{i=1}^{I} g_{i,k},$$

where $g_{i,k}$ is individual i's contribution to G_k. The production technology for each temporal public good V_j is defined similarly:

$$V_j \equiv \sum_{i=1}^{I} v_{i,j},$$

[3] Whenever a variable begins with "WRT-", it denotes a dummy variable corresponding to the variable to which the rest of its title refers. It will always equal 1 when the corresponding variable's value is positive and zero otherwise, except in the case or "WRTDonated," whose threshold is 25.

where $v_{i,j}$ is individual i's contribution to V_j.

After a common transformation, we can finally define the utility maximization problem for individual i as

$$\max_{x_i,\{G_k\},l_i,\{V_j\}} u(x_i, G, l_i, V; y_i)$$

subject to

$$x_i + \sum_{k=1}^{K} G_k \leq \left(1 - l_i - \sum_{j=1}^{J} v_{i,j}\right) w_i + \sum_{k=1}^{K} G_{-i,k},$$

$$l_i + \sum_{j=1}^{J} V_j \leq 1 + \sum_{j=1}^{J} V_{-i,j},$$

$$G_k \geq G_{-i,k} \text{ for all } k,$$

$$V_j \geq V_{-i,j} \text{ for all } j.$$

where $G_{-i,k}$ and $V_{-i,j}$ represent the sum of the contributions to G_k and V_j by individuals other than i, e_i and w_i represent the endowment and outside wage option corresponding individual i, all prices are normalized to 1, and the time endowment for the individual has been normalized to 1. The first two inequalities are the individual's budget constraints with respect to money and time, respectively, while the last two inequalities encapsulate the notion that the individual is not allowed to contribute negative amount to any public good.

Denote by $g_{i,k}^*$ and $v_{i,j}^*$ the Nash Equilibrium solutions for $g_{i,k}$ and $v_{i,j}$ when ignoring the non-negativity constraints. Then clearly,

$$g_{i,k}^* = g_{i,k}^*(y_i, w_i, G_{-i}, V_{-i}; e_i),$$

$$v_{i,j}^* = v_{i,j}^*(y_i, w_i, G_{-i}, V_{-i}; e_i),$$

where $G_{-i} \equiv \sum_{k=1}^{K} G_{-i,k}$ and $V_{-i} \equiv \sum_{j=1}^{J} V_{-i,j}$. Solutions for the individual contribution levels when we reinstate the non-negativity constraints are therefore given by

$$g_{i,k} = \max\{0, g_{i,k}^*\},$$

$$v_{i,j} = \max\{0, v_{i,j}^*\}.$$

There are two things to note at this point. The first is that if we treat $g_{i,k}^*$ and $v_{i,j}^*$ as latent variables, then $g_{i,k}$ and $v_{i,j}$ become obvious candidates for a Tobit analysis. This becomes more obvious if you rewrite the above contribution rules in the following way:

$$g_{i,k} = \begin{cases} g_{i,k}^* \; if \; g_{i,k}^* \geq 0, \\ 0 \quad if \; g_{i,k}^* < 0. \end{cases}$$

$$v_{i,j} = \begin{cases} v_{i,j}^* \; if \; v_{i,j}^* \geq 0, \\ 0 \quad if \; v_{i,j}^* < 0. \end{cases}$$

Any data collected on $g_{i,k}$ and $v_{i,j}$ directly is therefore likely to be left-censored at zero.

The second point to notice from the solution formulas is that the variables upon which $g_{i,k}^*$ and $v_{i,j}^*$ depend are not all included in the data for my sample. G_{-i}, V_{-i}, and e_i are more or less explicitly excluded[4] from the data, while it is unclear whether all of the relevant variables of y_i hare being chosen as regressors.

Suppose that the data generating process is incomplete, so that there exists some y_n which has not been included in the data for each individual. Denote the vector y_i with the n^{th} element missing as $y_{i,-n}$. Assuming additive separability of $g_{i,k}^*(\cdot)$ and $v_{i,j}^*(\cdot)$ with respect to the missing variables, we may rewrite $g_{i,k}^*$ and $v_{i,j}^*$ as functions of the included information plus an error term. Thus,

$$g_{i,k}^* = g_{i,k}'(y_{i,-n}, w_i) + \epsilon_{i,k}^g(G_{-i}, V_{-i}, e_i, y_{i,n}),$$

$$v_{i,j}^* = v_{i,j}'(y_{i,-n}, w_i) + \epsilon_{i,k}^v(G_{-i}, V_{-i}, e_i, y_{i,n}).$$

To proceed with the Tobit model, we must make a few more assumptions. First of all, since each philanthropic category contained in the PSID is large, I will assume that each individual's contribution has only a negligible effect on the total level of a given charity at equilibrium. As a result, I assume zero variation in G_{-i} and V_{-i}. Second, I assume that e_i has no effect on the distributions of the error terms $\epsilon_{i,k}^g$ and $\epsilon_{i,k}^v$. This is probably the most suspect assumption of the paper, but for the purpose of the paper it lets us ignore e_i. Third, I assume that $g_{i,k}'(\cdot)$ and $v_{i,j}'(\cdot)$ are both linear in their arguments. Without this, a linear regression of the latent variables would not be appropriate. Finally, I assume that $\epsilon_{i,k}^g(y_{i,n})$ and $\epsilon_{i,j}^v(y_{i,n})$ are normally distributed with means of zero. Mathematically, this is equivalent to assuming a correct data generating process with non-deterministic contribution amounts.

[4] It is possible to find e_i in the data as a measure of aggregate wealth, but I have decided to exclude it for the time being.

Results

To obtain estimates of the effects of an individual's religiosity on their levels of volunteering, I use the procedure developed by Tobin (1958).

In the first series of regressions, I include variables for demography and religion as regressors. Demographic variables include age, a dummy for sex, a dummy for having a child in the household, the number of children in the household, dummies for marital status (married, widowed, divorced, and separated, with never married as the base group), dummies for employment status (working, temporary leave, retired, disabled, housekeeper, student, and "other employment", with unemployed as the base group), a dummy for being in good health, family income, a dummy for attending any college, and years of education. Religious variables include dummies for religious preference (Catholic, Jewish, Protestant, Non-Christian, Orthodox, and "other religion," with none/Atheist/Agnostic as the base group) and the frequency of attendance at religious services.

In the second series, I do the same thing as in the first, but replace the religion dummies with a single "religious" dummy.

In both series, I estimate the total amount of volunteering, amount of religious volunteering, and amount of non-religious volunteering as distinct dependent variables. The results are displayed in Tables 5-10.

Table 5 shows the results of a series 1 regression on an individual's total annual volunteer hours. The statistically significant variables leading to an increase in hours are being employed as a housekeeper, having attended college, years of education, and the frequency of attendance at religious services. The significant variables leading to a decrease in hours are being male, being Catholic, and being Protestant.

Table 6 shows the results of a series 1 regression on an individual's religious volunteer hours. The statistically significant variables leading to an increase in hours are years of education and the frequency of attendance at religious services, while the only significant variable leading to a decrease in hours is being male.

Table 7 shows the results of a series 1 regression on an individual's non-religious volunteer hours. The only statistically significant variable leading to an increase in hours is years of education, while the only significant variable leading to a decrease in hours is being male.

Table 8 shows the results of a series 2 regression on an individual's total volunteer hours. The statistically significant variables leading to an increase in hours are being employed as a housekeeper, having attended some college, years of education, and the frequency of attendance at religious services. The significant variables leading to a decrease in hours are being male and being religious.

Table 9 shows the results of a series 2 regression on an individual's religious volunteer hours. The statistically significant variables leading to an increase in hours are years of education and the frequency of attendance at religious services, while the only significant variable leading to a decrease in hours is being male.

Table 10 shows the results of a series 2 regression on an individual's non-religious volunteer hours. The only statistically significant variable leading to an increase in hours is years of education, while the only significant variable leading to a decrease in hours is being male.

Overall, there is not much to be said about the effects of religion of volunteerism. It appears that more frequent attendance at religious services generally leads to an increase in both total volunteering and religious volunteering. However, since in both series the coefficient on attendance frequency in the religious volunteering regression is approximately double the coefficient in the total volunteering regression, it appears that the majority in total volunteering gains from attendance at religious services is occurring through the increase in religious volunteering. This seems to be corroborated by the quite small and insignificant coefficients on religious attendance in the non-religious volunteering regressions. Nonetheless, the results do not indicate that the extra religious volunteering cuts into people's non-religious volunteering.

Despite the significance of attending religious services, there does not appear to be much of an effect from being religious or having a particular religious preference. It appears that what is vastly more important in increasing a person's proclivity to volunteering in both categories is whether that person is female or is educated.

Appendix

Table 1. Demographic Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
AgeHD	3003	43.40526	17.13475	16	99
SexHD	3003	.3293373	.4700509	0	1
Married	3003	.011655	.1073453	0	1
WRTChild	3003	.3499833	.4770438	0	1
NumChild	3003	.6709957	1.124932	0	8
Working	3003	.6756577	.4682066	0	1
FamInc	3003	35304.8	105419	-1000	5500000
College	3003	.4299034	.4951445	0	1
GoodHealth	3003	.5351315	.4988473	0	1

Table 2. Summary Statistics on Religiosity

Variable	Obs	Mean	Std. Dev.	Min	Max
Religious	3003	.8624709	.3444625	0	1
Catholic	3003	.1448551	.3520133	0	1
Jewish	3003	.011322	.1058185	0	1
Protestant	3003	.6889777	.462989	0	1
NonChrist	3003	.009657	.0978107	0	1
Orthodox	3003	.001998	.0446618	0	1
OtherRelig	3003	.005661	.0750389	0	1
FreqReligA~n	3003	3.454212	8.400066	0	75

Table 3. Summary Statistics on Charitable Giving

Variable	Obs	Mean	Std. Dev.	Min	Max
WRTDonated	3003	.4818515	.4997537	0	1
TotalDon	3003	597.8238	2180.163	0	82700
WRTReligDon	3003	.3106893	.4628529	0	1
ReligDon	3003	346.6287	1522.615	0	65000
WRTNonReli~n	3003	.4378954	.4962107	0	1
NonReligDon	3003	251.1951	1054.754	0	34450
WRTComboDon	3003	.1754912	.38045	0	1
ComboDon	3003	63.7982	383.0658	0	10000
WRTNeedyDon	3003	.1871462	.3900938	0	1
NeedyDon	3003	67.08125	346.5504	0	7500
WRTHealthDon	3003	.1292041	.3354816	0	1
HealthDon	3003	27.17982	236.6205	0	8000
WRTEduDon	3003	.0845821	.2783051	0	1
EduDon	3003	31.82984	580.929	0	29000
WRTYouthDon	3003	.0695971	.2545091	0	1
YouthDon	3003	9.897769	98.43991	0	3500
WRTCultDon	3003	.042291	.2012859	0	1
CultDon	3003	9.40293	188.4722	0	10000
WRTCommDon	3003	.037296	.1895178	0	1
CommDon	3003	5.030969	58.67554	0	2400
WRTEnvDon	3003	.045621	.2086966	0	1
EnvDon	3003	6.545455	70.06342	0	2583
WRTIntPeac~n	3003	.026973	.1620316	0	1
IntPeaceDon	3003	5.578089	75.73921	0	2800
WRTOtherDon	3003	.0529471	.2239651	0	1
OtherDon	3003	10.34332	82.00931	0	2000
WRTTsunami~n	3003	.1688312	.3746651	0	1
TsunamiDon	3003	14.50749	80.2155	0	2000

Table 4. Summary Statistics on Volunteering

Variable	Obs	Mean	Std. Dev.	Min	Max
WRTVolunteer	3003	.2497502	.4329405	0	1
TotVolHrs	3003	71.99667	679.2034	0	31200
ReligVolHrs	3003	32.58275	631.8676	0	31200
NonReligVo~s	3003	39.41392	242.192	0	6570
YouthVolHrs	3003	14.87945	110.0001	0	2920
SeniorVolHrs	3003	3.578089	36.86345	0	780
HealthVolHrs	3003	3.731269	53.80374	0	2090
NeedyVolHrs	3003	5.871795	123.4823	0	5840
SocChangeV~s	3003	2.860806	36.78539	0	1170
OtherVolHrs	3003	8.492507	147.438	0	6570

Table 5. Total Volunteer Hours (Series 1)

Tobit regression — Number of obs = 3003
LR chi2(26) = 177.20
Prob > chi2 = 0.0000
Log likelihood = -6950.1923 — Pseudo R2 = 0.0126

TotVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	.1401224	3.867949	0.04	0.971	-7.444002	7.724247
SexHD	-353.3387	93.27752	-3.79	0.000	-536.2336	-170.4437
WRTChild	6.418985	144.4718	0.04	0.965	-276.8556	289.6936
NumChild	32.13008	59.97357	0.54	0.592	-85.46377	149.7239
Married	-896.1198	491.7482	-1.82	0.069	-1860.321	68.08094
Widowed	-29.33455	178.4909	-0.16	0.869	-379.3125	320.6434
Divorced	103.7472	103.0794	1.01	0.314	-98.36678	305.8612
Separated	10.2335	146.5172	0.07	0.944	-277.0517	297.5187
Working	94.46677	154.8946	0.61	0.542	-209.2445	398.178
TempLeave	-640.9076	584.8604	-1.10	0.273	-1787.679	505.8641
Retired	354.3125	228.1414	1.55	0.121	-93.01833	801.6434
Disabled	-443.3752	262.8558	-1.69	0.092	-958.7727	72.02224
Housekeeper	489.6674	234.4522	2.09	0.037	29.96275	949.3721
Student	441.7291	332.6775	1.33	0.184	-210.572	1094.03
OtherEmp	476.0534	586.7685	0.81	0.417	-674.4596	1626.566
GoodHealth	-137.9276	81.80134	-1.69	0.092	-298.3205	22.46527
College	292.8736	127.6341	2.29	0.022	42.61356	543.1336
Education	119.1871	28.63545	4.16	0.000	63.03978	175.3343
FamInc	.0000272	.0004122	0.07	0.947	-.0007811	.0008354
Catholic	-388.3318	148.041	-2.62	0.009	-678.6049	-98.05868
Jewish	-675.4438	382.7152	-1.76	0.078	-1425.857	74.96932
Protestant	-251.0382	114.9071	-2.18	0.029	-476.3436	-25.7329
NonChrist	-570.5536	432.2749	-1.32	0.187	-1418.142	277.0342
Orthodox	-203.3422	778.1543	-0.26	0.794	-1729.117	1322.433
OtherRelig	-1069.038	659.1942	-1.62	0.105	-2361.56	223.4845
FreqReligAtten	9.681014	4.239125	2.28	0.022	1.369102	17.99293
_cons	-2817.11	394.352	-7.14	0.000	-3590.34	-2043.879
/sigma	1510.662	41.9592			1428.39	1592.934

Obs. summary: 2293 left-censored observations at TotVolHrs<=0
710 uncensored observations
0 right-censored observations

Table 6. Religious Volunteer Hours (Series 1)

Tobit regression — Number of obs = 3003; LR chi2(24) = 128.64; Prob > chi2 = 0.0000; Log likelihood = -3566.7755; Pseudo R2 = 0.0177

ReligVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	8.363478	6.505888	1.29	0.199	-4.393011	21.11997
SexHD	-612.7582	163.4736	-3.75	0.000	-933.2909	-292.2256
WRTChild	-33.09798	242.32	-0.14	0.891	-508.2296	442.0336
NumChild	-2.088949	102.0958	-0.02	0.984	-202.2744	198.0965
Married	-11163.87	.	.	.	.	.
Widowed	-87.57336	290.3371	-0.30	0.763	-656.8549	481.7082
Divorced	160.5643	174.2649	0.92	0.357	-181.1274	502.2561
Separated	69.03718	248.2634	0.28	0.781	-417.7479	555.8222
Working	-21.37335	263.8807	-0.08	0.935	-538.7803	496.0335
TempLeave	-826.58	1011.136	-0.82	0.414	-2809.177	1156.017
Retired	415.666	373.5956	1.11	0.266	-316.8655	1148.198
Disabled	-467.3209	427.2603	-1.09	0.274	-1305.076	370.4342
Housekeeper	429.3187	393.85	1.09	0.276	-342.9268	1201.564
Student	-99.59952	623.2827	-0.16	0.873	-1321.708	1122.509
OtherEmp	346.5212	1012.194	0.34	0.732	-1638.148	2331.191
GoodHealth	-164.523	138.2349	-1.19	0.234	-435.5685	106.5225
College	385.3584	213.2233	1.81	0.071	-32.72143	803.4382
Education	127.5486	47.21417	2.70	0.007	34.97287	220.1243
FamInc	-.0003763	.0015407	-0.24	0.807	-.0033972	.0026447
Catholic	-394.2482	286.695	-1.38	0.169	-956.3885	167.892
Jewish	-10961.52	.	.	.	.	.
Protestant	330.4202	221.5683	1.49	0.136	-104.0223	764.8627
NonChrist	-781.4386	904.9341	-0.86	0.388	-2555.798	992.9206
Orthodox	1037.547	1059.873	0.98	0.328	-1040.611	3115.705
OtherRelig	-742.6893	1121.928	-0.66	0.508	-2942.522	1457.143
FreqReligAtten	17.39013	6.485316	2.68	0.007	4.673982	30.10629
_cons	-4963.421	680.6555	-7.29	0.000	-6298.023	-3628.818
/sigma	2044.946	82.74202			1882.709	2207.183

Obs. summary: 2667 left-censored observations at ReligVolHrs<=0
336 uncensored observations
0 right-censored observations

Table 7. Non-Religious Volunteer Hours (Series 1)

Tobit regression — Number of obs = 3003; LR chi2(26) = 172.35; Prob > chi2 = 0.0000; Log likelihood = -5244.7443; Pseudo R2 = 0.0162

NonReligVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	-3.329994	1.802758	-1.85	0.065	-6.864772	.2047845
SexHD	-131.5273	42.90769	-3.07	0.002	-215.6591	-47.39559
WRTChild	.5502994	66.08375	0.01	0.993	-129.0242	130.1248
NumChild	34.70146	27.22841	1.27	0.203	-18.68696	88.08987
Married	-249.6341	212.0307	-1.18	0.239	-665.3756	166.1074
Widowed	64.97135	84.93281	0.76	0.444	-101.5616	231.5043
Divorced	75.28576	47.3086	1.59	0.112	-17.47511	168.0466
Separated	35.9352	66.71366	0.54	0.590	-94.87436	166.7448
Working	43.13318	70.27183	0.61	0.539	-94.6531	180.9195
TempLeave	-452.5194	312.8637	-1.45	0.148	-1065.97	160.9317
Retired	140.9319	106.6552	1.32	0.186	-68.19357	350.0573
Disabled	-240.7544	126.8147	-1.90	0.058	-489.4079	7.898983
Housekeeper	55.5543	110.6497	0.50	0.616	-161.4033	272.5119
Student	242.9012	147.1437	1.65	0.099	-45.61251	531.4149
OtherEmp	14.10084	302.515	0.05	0.963	-579.0589	607.2606
GoodHealth	-33.97757	37.58019	-0.90	0.366	-107.6633	39.70821
College	56.98594	59.99631	0.95	0.342	-60.65249	174.6244
Education	70.52052	13.90228	5.07	0.000	43.26148	97.77957
FamInc	.0000348	.0001754	0.20	0.843	-.0003091	.0003786
Catholic	-99.20054	66.57373	-1.49	0.136	-229.7357	31.33465
Jewish	-206.0349	167.3249	-1.23	0.218	-534.1191	122.0493
Protestant	-94.98182	52.02387	-1.83	0.068	-196.9882	7.024569
NonChrist	-121.9481	187.7445	-0.65	0.516	-490.0702	246.174
Orthodox	52.9943	347.9585	0.15	0.879	-629.2692	735.2578
OtherRelig	-328.8153	282.0263	-1.17	0.244	-881.8015	224.1709
FreqReligAtten	2.163516	2.010737	1.08	0.282	-1.77906	6.106092
_cons	-1415.87	189.9437	-7.45	0.000	-1788.304	-1043.435
/sigma	659.2175	21.24707			617.5571	700.878

Obs. summary: 2431 left-censored observations at NonReligVo~s<=0
572 uncensored observations
0 right-censored observations

Table 8. Total Volunteer Hours (Series 2)

Tobit regression — Number of obs = 3003; LR chi2(21) = 172.41; Prob > chi2 = 0.0000; Log likelihood = -6952.5876; Pseudo R2 = 0.0122

TotVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	.0910235	3.865462	0.02	0.981	-7.488219	7.670266
SexHD	-359.5631	93.03661	-3.86	0.000	-541.9855	-177.1406
WRTChild	21.76665	144.2926	0.15	0.880	-261.1564	304.6897
NumChild	30.71906	59.91972	0.51	0.608	-86.76913	148.2072
Married	-908.9412	492.3329	-1.85	0.065	-1874.288	56.40547
Widowed	-41.18417	178.3835	-0.23	0.817	-390.9514	308.583
Divorced	101.6833	102.9892	0.99	0.324	-100.2538	303.6204
Separated	11.99882	146.2392	0.08	0.935	-274.7412	298.7388
Working	91.23465	154.7229	0.59	0.555	-212.1397	394.609
TempLeave	-640.2486	587.1865	-1.09	0.276	-1791.58	511.083
Retired	352.8312	227.9069	1.55	0.122	-94.03952	799.7019
Disabled	-441.6872	262.8716	-1.68	0.093	-957.1151	73.74083
Housekeeper	482.4004	233.9185	2.06	0.039	23.74253	941.0583
Student	433.998	332.6571	1.30	0.192	-218.2627	1086.259
OtherEmp	477.4682	585.1892	0.82	0.415	-669.9473	1624.884
GoodHealth	-136.6498	81.71079	-1.67	0.095	-296.865	23.56547
College	290.688	127.4788	2.28	0.023	40.73262	540.6433
Education	116.8975	28.43431	4.11	0.000	61.14463	172.6504
FamInc	.0000133	.0004199	0.03	0.975	-.00081	.0008366
Religious	-286.7895	113.146	-2.53	0.011	-508.6417	-64.93724
FreqReligAtten	9.883012	4.236168	2.33	0.020	1.576903	18.18912
_cons	-2783.299	391.8458	-7.10	0.000	-3551.614	-2014.984
/sigma	1512.037	42.00914			1429.667	1594.407

Obs. summary: 2293 left-censored observations at TotVolHrs<=0
710 uncensored observations
0 right-censored observations

Table 9. Religious Volunteer Hours (Series 2)

Tobit regression — Number of obs = 3003; LR chi2(20) = 104.06; Prob > chi2 = 0.0000; Log likelihood = -3579.0683; Pseudo R2 = 0.0143

ReligVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	7.843773	6.463728	1.21	0.225	-4.830044	20.51759
SexHD	-638.1407	161.9482	-3.94	0.000	-955.6821	-320.5993
WRTChild	14.71351	241.117	0.06	0.951	-458.059	487.486
NumChild	-5.74101	101.5872	-0.06	0.955	-204.9292	193.4472
Married	-11247.19	.	.	.	.	.
Widowed	-114.7002	288.4373	-0.40	0.691	-680.2564	450.856
Divorced	160.9688	173.7581	0.93	0.354	-179.7291	501.6666
Separated	86.59138	246.5626	0.35	0.725	-396.8586	570.0413
Working	-36.18115	263.601	-0.14	0.891	-553.0392	480.677
TempLeave	-783.5329	1007.84	-0.78	0.437	-2759.666	1192.6
Retired	384.225	371.6424	1.03	0.301	-344.4765	1112.926
Disabled	-466.189	426.9743	-1.09	0.275	-1303.383	371.0049
Housekeeper	426.7328	391.1187	1.09	0.275	-340.1569	1193.623
Student	-169.5872	623.1818	-0.27	0.786	-1391.497	1052.322
OtherEmp	385.9241	998.3512	0.39	0.699	-1571.603	2343.451
GoodHealth	-155.8395	137.3877	-1.13	0.257	-425.2236	113.5447
College	370.6496	211.6887	1.75	0.080	-44.42103	785.7203
Education	123.4698	46.59906	2.65	0.008	32.10023	214.8393
FamInc	-.0006177	.0019322	-0.32	0.749	-.0044064	.0031709
Religious	206.9746	219.7221	0.94	0.346	-223.8476	637.7968
FreqReligAtten	18.0924	6.441412	2.81	0.005	5.46234	30.72246
_cons	-4879.891	673.1442	-7.25	0.000	-6199.765	-3560.017
/sigma	2050.01	83.02535			1887.217	2212.803

Obs. summary: 2667 left-censored observations at ReligVolHrs<=0
336 uncensored observations
0 right-censored observations

Table 10. Non-Religious Volunteer Hours (Series 2)

Tobit regression — Number of obs = 3003; LR chi2(21) = 170.91; Prob > chi2 = 0.0000; Log likelihood = -5245.464; Pseudo R2 = 0.0160

NonReligVolHrs	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
AgeHD	-3.306078	1.802205	-1.83	0.067	-6.839769	.2276128
SexHD	-131.7545	42.77133	-3.08	0.002	-215.6188	-47.89021
WRTChild	3.103861	66.0215	0.05	0.963	-126.3484	132.5562
NumChild	34.13072	27.22372	1.25	0.210	-19.24845	87.50989
Married	-252.2661	211.8426	-1.19	0.234	-667.6385	163.1063
Widowed	62.17153	84.85709	0.73	0.464	-104.2128	228.5559
Divorced	73.99924	47.26554	1.57	0.118	-18.67713	166.6756
Separated	37.87224	66.60682	0.57	0.570	-92.72774	168.4722
Working	43.64228	70.21016	0.62	0.534	-94.02298	181.3075
TempLeave	-450.9277	313.0554	-1.44	0.150	-1064.754	162.8988
Retired	142.4205	106.5238	1.34	0.181	-66.44699	351.288
Disabled	-240.8736	126.743	-1.90	0.057	-489.3861	7.638907
Housekeeper	56.22601	110.4429	0.51	0.611	-160.3261	272.7781
Student	243.2072	147.0792	1.65	0.098	-45.17978	531.5941
OtherEmp	15.25388	302.4154	0.05	0.960	-577.7102	608.2179
GoodHealth	-34.84691	37.5323	-0.93	0.353	-108.4387	38.74492
College	57.38228	59.96139	0.96	0.339	-60.1876	174.9522
Education	69.88367	13.82626	5.05	0.000	42.77368	96.99365
FamInc	.0000315	.0001769	0.18	0.859	-.0003153	.0003783
Religious	-98.55488	51.09286	-1.93	0.054	-198.7357	1.625951
FreqReligAtten	2.162012	2.010134	1.08	0.282	-1.779378	6.103403
_cons	-1408.736	188.8947	-7.46	0.000	-1779.113	-1038.359
/sigma	659.4978	21.25714			617.8177	701.1779

Obs. summary: 2431 left-censored observations at NonReligVo~s<=0
572 uncensored observations
0 right-censored observations

References

Bergstrom, T., Blume, L., & Varian, H. (1986). On the Private Provision of Public Goods. *Journal of Public Economics*(29), 25-49.

Panel Study of Income Dynamics, public use dataset. Produced and distributed by the Institute for Social Research, Survey Research Center, University of Michigan, Ann Arbor, MI (2013).

Tobin, J. (1958). Estimation of Relationships for Limited Dependent Variables. *Econometrica*, *26*(1), 24-36.