

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Federal Tax Policy and Charitable Giving

Volume Author/Editor: Charles T. Clotfelter

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-11048-6

Volume URL: <http://www.nber.org/books/clot85-1>

Publication Date: 1985

Chapter Title: Appendix B: Means, Estimated Coefficients, Variances, and Covariances for Individual Giving Equations, 1975

Chapter Author: Charles T. Clotfelter

Chapter URL: <http://www.nber.org/chapters/c6781>

Chapter pages in book: (p. 290 - 291)

Census (1952–80) to measure federal spending in areas close to those in which many nonprofit organizations operate.

For estimation, all dollar figures were converted to 1972 dollars using the GNP price deflator. The means for the entire sample and a subsample based on classes with average incomes \$4000 and above are given below. Classes with average incomes below \$4000 were omitted because of the unusual circumstances that would typically be associated with very-low-income itemizers.

Appendix B

Means, Estimated Coefficients, Variances, and Covariances for Individual Giving Equations, 1975

Variable	Mean
$\ln Y$	10.4384
$\ln (G + 10)$	6.39861
$\ln P$	-0.551671
$(\ln Y)(\ln P)$	-6.06453
$(\ln P)^2$	0.431233
$(\ln Y)^2$	109.937

Constant-elasticity form

$$\ln G10 = -1.268 \ln P + 0.767 \ln Y + \dots$$

(0.052)	(0.018)
(1)	(2)

Relevant variances and covariances

	1	2
1	.00274055	—
2	.000810734	.000326516

Variable-elasticity form

$$\ln G10 = 0.706 \ln Y + 4.306 \ln P - 0.538 \ln Y \ln P$$

(0.266)	(0.629)	(0.067)
---------	---------	---------

$$- 0.247 (\ln P)^2 - 0.0140 (\ln Y)^2 + \dots$$

(0.124)	(0.0132)
---------	----------

Relevant variances and covariances

	1	2	3	4	5
1	.0705098				
2	.132290	.395040			
3	-.0123079	-.0408286	.00448628		
4	-.00783861	-.0462467	.00633514	.0152881	
5	-.00346019	-.00707766	.000686385	.000563653	.000173322

Appendix C

Volunteering and Giving in a Simple Model of Individual Behavior

The theory of labor supply provides a useful framework for incorporating decisions concerning giving and volunteering in the presence of an income tax. It is convenient to begin with an individual who values hours of leisure (H_l), hours spent volunteering (H_v), his monetary contributions (D), and the consumption of other goods (X):

$$(A1) \quad U = U(X, D, H_v, H_l).$$

If this individual has a wage w , faces a tax rate t , and can itemize his deductions in calculating taxable income, his budget constraint is

$$(A2) \quad X = [w(H^0 - H_l - H_v) + I - D](1 - t),$$

where H^0 is the total number of hours available and I is exogenous non-wage income. Where U_x is the marginal utility of X , U_v is the marginal utility of H_v , and so forth, the familiar first-order conditions assuming interior solutions are:

$$(A3) \quad U_x - \mu = 0,$$

$$(A4) \quad U_D - \mu(1 - t) = 0,$$

$$(A5) \quad U_v - \mu(1 - t)w = 0,$$

$$(A6) \quad U_l - \mu(1 - t)w = 0.$$

The tax's incentive effect on donations is shown by the fact that in equilibrium the marginal rate of substitution between dollars spent on consumption and dollars donated is $U_D/U_x = (1 - t)$ rather than one. The marginal rate of substitution between volunteering and donations is $U_v/U_D = w$, the same that it would be in the absence of taxation. For this