

# *The Effect of Tax Simplification on Educational and Charitable Organizations*

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The tax code in the United States historically has provided quite a favorable environment for nonprofit institutions. Not only are such institutions usually exempt from taxation, but contributions made to them are deductible in the individual, corporate, and estate taxes. Other tax provisions, such as the exclusion of scholarships and certain fringe benefits from income, the use of tax-exempt bond financing, and tax credits for research support, have also aided educational and other nonprofit organizations. Although there has been no comprehensive analysis comparing the impact of these various provisions, it is clear that the charitable deductions in federal taxes provide a subsidy for contributions and that private donations constitute a very important source of support for nonprofit institutions. Table 1 shows the relative importance of private donations to the nonprofit sector by type of organization. Educational and research institutions in 1980 received 15.5 percent of their operating revenues from contributions and another 5.5 percent from endowments, most of which were created by private gifts. Religious organizations, with some 90 percent of their revenues from these two sources, were most dependent on private giving; health services, with only about 10 percent, were least dependent by this measure.

Most tax reform and simplification proposals currently being discussed would alter the favorable treatment of charitable contributions and nonprofit institutions. Motivated by dissatisfaction with the complexity and high rates of the present income tax, most proposals would

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Table 1  
Receipts of Nonprofit Organizations, by Source, 1980

Type of Organization	Total (Billions)	Percentage Distribution of Receipts by Source				
		Contributions	Dues, fees, charges	Endowments	Other Private	Government
Health Services	\$74.3	8.9	48.7	1.4	6.7	34.3
Education/Research	36.7	15.5	53.0	5.5	9.5	16.4
Religious Organizations	18.0	86.1	—	4.4	9.4	—
Social Services	15.9	30.2	25.2	3.8	6.9	34.0
Civic, Social and Fraternal Organizations	5.5	25.2	27.3	3.6	7.3	36.4
Arts/Culture	5.0	62.0	10.0	2.0	2.0	24.0
Foundations	4.2	19.0	—	81.0	—	—
Legal Services	0.3	33.3	—	—	—	66.7
	\$159.9					

Note: Percentages may not add to 100.0 due to rounding.

Source: Hodgkinson and Weitzman (1984, p. 45).

replace the current system with a structure featuring a broader tax base, fewer deductions, and lower tax rates. However, the same tax rate cuts that promise improved economic incentives and taxpayer compliance would also bring reductions in subsidies for expenditures now favored by the income tax, such as contributions. Owing to the deduction for charitable contributions, the current income tax effectively subsidizes gifts at the rate of a taxpayer's marginal tax rate in much the same way that some of the costs of homeownership and certain other activities are subsidized. Any change in the income tax that includes a reduction in rates of taxation will likewise tend to reduce the rate of subsidy. Any restriction or elimination of the deduction would also cut the subsidy rate. Similar changes in the corporate or estate taxes would have comparable impacts on subsidy rates. While it remains to consider the magnitude of the impact of such changes in subsidy rates, it is certainly clear that tax simplification as currently envisioned could have a marked impact on rates of tax subsidy for charitable giving.

This paper examines the likely impact of tax simplification on educational and other nonprofit institutions eligible to receive tax-deductible contributions. Among the areas of possible impact, private contributions receive most of the attention largely because of their importance as a source of support, but also partly because our understanding of other effects is not well developed. Contributions by individuals are by far the most important form of giving, accounting for over four-fifths of the total,<sup>1</sup> so giving by individuals is dealt with first and at

<sup>1</sup>Individuals accounted for about 88 percent of contributions made by corporations, estates and individuals in 1984, according to estimates in American Association of Fund-Raising Counsel (1985, p.7).

greatest length. The first section of the paper discusses the impact that taxes in general have on charitable contributions by individuals. There is a very brief review of previous econometric analyses of charitable giving, followed by a consideration of the impact of the 1981 tax cut. The next section presents simulations showing the likely impacts of several tax proposals on contributions by individuals, based on an econometric model of giving. These simulations suggest that the reduction in subsidy rates implicit in most current tax reform proposals will have a significant impact on the level of individual giving. The following section focuses on one aspect of individual giving that is especially important to educational and cultural institutions: gifts of appreciated property. The paper goes on to consider other likely effects of tax simplification, including the impact on corporate gifts, volunteering, and other aspects of non-profit institutions. There is a brief concluding section.

### *Tax Policy and Individual Giving*

Few would argue that taxes are the most important influence on charitable giving. There is considerable evidence, however, to indicate that taxes can have a significant effect on contributions. Economists identify two separate effects. First, taxes obviously affect after-tax income, and the level of after-tax income is highly correlated with the level of contributions. Other things equal, an increase in an individual's tax liability will tend to depress giving by decreasing net income. Second, taxes affect the net cost per dollar, or price, of giving. If contributions are deductible in calculating taxes, then making a gift reduces tax liability, and the after-tax cost of giving a dollar becomes less than a dollar. For example, a taxpayer in the 35 percent bracket enjoys a tax reduction of 35 cents for each dollar contributed. The net cost is therefore only 65 cents per dollar of contributions.

Econometric analyses indicate that both net income and the net cost per dollar are significant factors in explaining giving patterns of individuals. Specifically, an increase in net income of 10 percent is associated with increases in giving on the order of 7 to 8 percent. A 10 percent increase in the net cost per dollar is usually associated with declines in contributions of more than 10 percent, often between 12 and 13 percent. On the assumption that two hypothetical situations differ only by the prevailing tax regime, the effect of changes in tax law can be simulated

by applying the changes in net income and net cost per dollar implied by each law.<sup>2</sup>

The income and price elasticities underlying these magnitudes clearly are of critical importance in determining the size of the impact of any change in tax law. When revenue-neutral proposals are compared, the effects of changes in after-tax income among taxpayers tend to cancel out in the aggregate, leaving the price effects as the dominant tax influence on contributions. Accordingly, a great deal of effort has been devoted to econometric estimates of the price elasticity of charitable giving. In assessing the implications of this econometric evidence for tax changes, policy analysts have paid particular attention to the magnitude of this price elasticity and to the possibility that it might vary by income class.<sup>3</sup>

As a measure of overall price responsiveness, an elasticity on the order of  $-1.3$  seems to be a representative value based on what is now a rather large number of empirical studies. An elasticity on this order is representative of studies that focus on low-income and middle-income households as well as studies focused on the wealthy.<sup>4</sup> There is, of course, variation among studies in actual point estimates, just as each individual estimate is subject to statistical error. Furthermore, there is considerably more uncertainty concerning the price responsiveness of households at lower income levels than those at middle and upper incomes. If the price elasticity does in fact vary by income, there seems to be more evidence to suggest that the elasticity grows (in absolute value) as income rises, rather than vice versa.<sup>5</sup> For this reason, the simulations presented below are based on two alternative econometric models, one assuming a constant price elasticity (and income elasticity) and one assuming variable elasticities. In the variable elasticity model, both the income and price elasticities rise in absolute value with income. The price elasticity, for example, is  $-0.3$  for the average taxpayer in the \$5000–\$10,000 class and  $-2.7$  for the average taxpayer with over \$1 million in income.<sup>6</sup> The basic price elasticity used in the constant elastic-

<sup>2</sup>Consider a simple constant-elasticity model of giving:  $G = AY^aP^bX^c e^v$ , where  $G$  is contributions,  $Y$  is net income,  $P$  is the price of giving,  $X$  is a set of other factors influencing contributions (such as attitudes, age, family composition, factors that influence the perceived need of charitable organizations and other non-tax factors),  $v$  is an error term, and  $A$ ,  $a$ ,  $b$ , and  $c$  are constants. The model can be used to predict giving in any period 2 based on giving in a base period 1 and changes in explanatory variables from one period to the next:  $G_2 = G_1(Y_2/Y_1)^a (P_2/P_1)^b (X_2/X_1)^c$ . If the other factors, denoted by the  $X$ 's, are assumed not to change over time (the *ceteris paribus* assumption), the change in giving is then a function of tax-induced changes in price and net income.

<sup>3</sup>For a review of this literature, see Clotfelter (1985a, Chapter 2).

<sup>4</sup>For a comparison of estimated elasticities, see Clotfelter (1985a, pp.56–63; and 1985c, p. 1276). For a critique of constant-elasticity models, see Rudney (1985).

<sup>5</sup>For a discussion of the variation in the price elasticity by income, see Clotfelter (1985a, pp. 66–71).

<sup>6</sup>See appendix table A-1 for representative price and income elasticities by income level.

ity model is  $-1.27$ , based on estimates of Clotfelter and Steuerle (1981). As one way of reflecting the uncertainty about this parameter, overall simulations using extreme low and high values of the price elasticity are also presented for comparison.<sup>7</sup>

Another way in which the price elasticity might vary was suggested recently in the Treasury Department's explanation of its proposed floor for the charitable deduction:

The proposal would have some effect on charitable giving, but the impact is not expected to be significant. It is doubtful that the first dollars of giving, or the giving of those who give only modest amounts, are affected significantly by tax considerations. Rather, contributions also depend on factors such as financial ability to give, membership in charitable or philanthropic organizations and general donative desire. As potential giving becomes large relative to income, however, taxes are more likely to affect the actual level of donations. Under the proposal, the current incentive would be maintained for the most tax sensitive group—taxpayers who give above-average amounts. (U.S. Treasury Department 1984, Vol. II, p. 70).

This argument would be consistent with two hypotheses. First, it might imply that the price elasticity grows for any individual as his contributions increase (with income fixed). In other words, the price elasticity would not be constant even for a given individual. Alternatively, the statement would be consistent with the notion that there are systematic differences in price sensitivity between big givers and small givers at any income level. While either possibility is plausible, existing econometric work does not provide evidence by which they may be judged.

Despite the relatively high degree of consensus among econometric studies of charitable giving regarding the effects of taxes, it is useful to ask how well the resulting estimates predict actual trends in contributions. As noted above, most estimated models explicitly account for only a few of the possible influences on giving, including taxes. Thus, these models are seldom appropriate for assessing changes in giving due to factors other than taxes. Given that rather important proviso, one can apply the basic model used in the simulations below to predict the effect of one recent tax change, the 1981 tax cut. Because of the reduction from 70 to 50 percent in the top marginal tax rate enacted in 1981, the price of giving increased substantially for upper-income taxpayers. Assuming that there had been no change in any determinants of contributions other than price and after-tax income, one can use estimated price and

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<sup>7</sup>Excluding the extreme highest and lowest price elasticity estimates among 14 studies summarized in Clotfelter (1985a, Table 2.12) yields approximate upper- and lower-bound values of  $-0.9$  and  $-2.3$ .

income elasticities to calculate a predicted change in contributions.

Table 2 shows actual and predicted changes in average giving by income class between 1980, the year before the tax bill was passed, and 1983, the second full year following passage.<sup>8</sup> Predicted contributions declined in all income classes and declined markedly for incomes of \$100,000 and over, the latter as a result of the sharp increases in the price of giving for these taxpayers. In comparison, actual contributions rose in two of the first six income classes and declined sharply in the highest three classes. While not predicting changes precisely, the model does provide a useful set of predictions regarding the pattern of changes across income groups. Contributions for the top income classes are predicted to fall the most, and this in fact was the case. The predicted values tend to underestimate giving at lower incomes, and this could well indicate the influences of other, nontax effects. For the top four income classes together, the model predicts a decline in average contributions of 19.7 percent; the actual decline was 18.4 percent.

### *The Impact of Current Proposals*

Current tax reform proposals seek to lower tax rates by broadening the tax base, thus keeping revenues approximately constant. Table 3 shows the extent of tax rate reduction implied by four of the most prominent proposals. Compared to the current maximum rate of 50 percent, these tax proposals have maximum rates that range from 25 to 35 percent. In general, tax reform proposals can affect giving in four ways. First, reform proposals can eliminate the deduction or restrict it to taxpayers who itemize their deductions. If no tax credit is substituted, the elimination of the deduction can result in a significant increase in the net cost per dollar of giving. The provisions affecting the deductibility of contributions for each proposal are noted in table 3. Less obviously, changes that make itemization less attractive may also affect the number of taxpayers who receive an incentive. Second, any change in the rate of tax will affect the net cost. A reduction in rates—specifically the rate at which gifts are deducted—will tend to increase the net cost of giving. Third, reform proposals may affect the attractiveness of contributing appreciated assets. Currently, a taxpayer who makes a gift of appreciat-

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<sup>8</sup>The first year, 1982, could well have been affected by decisions of taxpayers to accelerate planned 1982 gifts into 1981 in order to take advantage of the higher tax rates.

In addition, a constant 50 percent gain-to-value ratio was assumed and predicted contributions were adjusted for the likely incomplete adjustment in giving behavior between 1981 and 1983.

Table 2  
Actual and Predicted Changes in Contributions between 1980 and 1983

Income	Average Contributions (1980 dollars)		Percentage Change in:			
	1980 actual	1983 actual <sup>a</sup>	Net Income <sup>b</sup>	Price <sup>c</sup>	Actual Contribu- tions	Predicted Contribu- tions <sup>d</sup>
Under \$5,000	173	137	-15	0	-21	-7
\$5,000 under \$10,000	436	415	-16	+3	-5	-10
\$10,000 under \$15,000	513	532	-15	+5	+4	-11
\$15,000 under \$20,000	523	559	-16	+5	+7	-11
\$20,000 under \$25,000	565	551	-6	+7	-2	-8
\$25,000 under \$30,000	624	605	-15	+9	-3	-13
\$30,000 under \$50,000	858	767	-13	+13	-11	-15
\$50,000 under \$100,000	1,725	1,427	-13	+23	-17	-20
\$100,000 under \$200,000	4,668	3,929	-8	+47	-16	-28
\$200,000 under \$500,000	13,808	10,025	-9	+57	-27	-32
\$500,000 under \$1,000,000	47,433	27,735	-7	+61	-42	-33
\$1,000,000 and over	207,089	104,330	-1	+88	-50	-38

<sup>a</sup> 1983 values were deflated using the GNP price deflator, which rose 20.7 percent between 1980 and 1983. *Economic Report of The President 1985*, p. 236.

<sup>b</sup> Net income = adjusted gross income - taxes after credits.

<sup>c</sup> Price =  $C(1-m) + (1-C)(1-m-0.5mc)$ , where C = proportion of contributions in cash, m = marginal tax rate, and mc = marginal tax rate on capital gains income. The marginal tax rate for 1980 is adjusted for the effect of the maximum tax on earned income. See Clotfelter and Salamon (1982). Prices of giving were computed for the first dollar of contributions for joint and single taxpayers separately in each class; then a weighted average was calculated based on the number of taxpayers in each filing category.

<sup>d</sup> The model used was  $G_{83}^* = G_{80} (Y_{83}/Y_{80})^{.78} (P_{83}/P_{80})^{-1.27}$  and  $G_{83} = (G_{83}^*)^{.60} (G_{80})^{.40}$ , where G is actual contributions, G\* is the long-run level of contributions, Y is net income, and P is price.

Data sources: U.S. Internal Revenue Service, *Statistics of Income—1980, Individual Income Tax Returns* and Hosteller and Holik (1984–85).

Table 3  
Maximum Tax Rate and Provisions for Contributions:  
Current Law and Selected Tax Proposals

Law or Proposal	Maximum Tax Rate	Provisions for Individual Contributions
1985 law	50%	Itemized deduction; 50% deduction for nonitemizers
Treasury I	35	Itemized deduction over 2% of AGI; constructive realization for appreciated gifts
Treasury II	35	Itemized deduction; constructive realization for appreciated gifts in minimum tax
Bradley-Gephardt	30	Deduction (at 14%)
Kemp-Kasten	25	Deduction

Table 4  
Factors Affecting Itemization: Current Law and Selected Proposals

Law or Proposal	Zero Bracket Amount for Couples	Allowable Deductions as Percent of Current	Estimated Percentage of Taxpayers Itemizing
1985 law	\$3567 <sup>a</sup>	100	39
Treasury I	3800	60	29
Treasury II	4000	57	27
Bradley-Gephardt	6000	86	27
Kemp-Kasten	3500	75	33

<sup>a</sup> \$3400 in 1984, indexed using annual GNP price deflator, not rounded.

ed assets not only receives the benefit of the deduction for the market value but in addition does not have to pay the capital gains tax on the contributed property which would have been due if indeed the gain had been realized. This added advantage is eliminated by any proposal that limits the deductible amount to basis or requires capital gains tax to be paid for such gifts. Finally, contributions can be influenced by floors or ceilings that limit the deductibility of contributions.

Table 4 focuses on one aspect affecting the incentive to contribute, namely, the proportion of taxpayers who itemize their deductions. This proportion depends on the number of deductions a particular proposal allows as well as the threshold level for itemization. Among these proposals, the threshold level ranges from \$3,500 to \$6,000. The average value of allowable deductions falls between 14 and 43 percent as compared to current deductions. The estimated percentage of taxpayers who itemize ranges from 39 percent under current law to 27 percent under

the President's tax proposals (hereafter, Treasury II) and the Bradley-Gephardt proposal.<sup>9</sup>

Before turning to the simulation results, it is useful to summarize the major provisions in the Treasury I and Treasury II proposals. The Treasury I plan would, first, repeal the above-the-line charitable deduction for nonitemizers. Second, contributions by itemizers would be deductible only to the extent that they exceeded 2 percent of adjusted gross income (AGI). For taxpayers whose contributions fall under this threshold, there would be no tax incentive for giving. Third, the special benefit of donating gifts of appreciated assets, presently in the tax law, would be eliminated. The deduction in such cases would be limited to the inflated basis of the asset or market value, whichever is less. In the case of appreciated assets, this treatment is equivalent to a requirement that capital gains be realized before gifts are made. Fourth, the reduction in allowable itemized deductions under the Treasury I proposal would reduce the number of itemizers, as shown in table 4, thus reducing the number of taxpayers who receive an incentive to give. The Treasury II proposal would also repeal the charitable deduction for nonitemizers and reduce the number of taxpayers who itemize. It drops the 2 percent floor and relegates the constructive realization of appreciated gifts to the minimum tax.<sup>10</sup> Both proposals, by virtue of their cuts in tax rates, would raise the net cost of giving for most of those who were still eligible to deduct contributions.

### *The Model*

In order to estimate the effect of these and other proposals on charitable giving, I incorporated the economic model of giving described above in a computer simulation model that embodies a number of assumptions regarding the growth of income and other economic variables into the future. The data that formed the basis of the simulations are

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<sup>9</sup>As described in Clotfelter (1985b), the calculation of taxes and tax rates is designed to reflect the most important features of each proposal without incorporating all changes. In addition, some approximations are used where necessary data are not available. In the case of the Treasury I and Treasury II plans the \$5,000 interest ceiling was applied simply to all non-mortgage interest, though in fact it is to be applied to interest other than mortgage on the principal residence and interest over investment income. Under the Treasury II plan, miscellaneous deductions are added to employee business expenses and made an above-the-line adjustment subject to a 1 percent floor. I assumed that 75 percent of such expenses, prorated over all taxpayers, would be deductible.

The proportion of taxpayers predicted to itemize for any given income class in the simulation model depends in part on the aggregate ratio of allowable deductions under the proposal in question to deductions under existing law. The estimated value of this ratio under the Treasury II proposal was 0.57, compared to a ratio of 0.60 under the Treasury I plan. See Clotfelter (1985b, Appendix).

<sup>10</sup>See below for a discussion of gifts of appreciated assets.

published tax return information for 1982. Income and other dollar amounts were "aged" to 1985 using per capita nominal rates of growth of GNP. The resulting income and other dollar quantities at each income level and for each of four types of tax returns were subjected to the definitions and tax rates of the various proposals in order to calculate tax liability and tax rates. Where the proposals called for indexation, such changes were made based on projected rates of inflation. The simulations of tax liability do not account for all aspects of each proposal due to the need for unpublished data. In each case, however, the most important aspects of each proposal are reflected in the simulations as well as all of the major provisions directly affecting charitable giving. Using these proposals, net income and the net cost of contributions per dollar were calculated for four representative households in each of 14 income classes, or 56 representative households per proposal. For each representative unit, the parameters from an econometric model of contributions were applied to contributions in 1982 to project a giving level under the proposal in 1985.

As with other simulations, the numbers produced by this model are point estimates subject to statistical and other errors common to econometric simulation in general. The estimates refer to the likely long-run level of contributions that would have been observed if the proposal in question had already been in effect for several years prior to 1985 as has the present law. Finally, these simulations employ an automatic revenue adjustment so that the tax plans considered, with the exception of the Treasury I and II plans, will be revenue-neutral. In most cases, tax rates are adjusted proportionately so that each proposal will raise the same revenue as actual law in 1985. The Treasury I plan was designed to raise 8.5 percent less revenue than current law and the Treasury II proposal 7 percent less, with increases in the corporate income tax making each entire package revenue-neutral.

Table 5 summarizes the simulation results for the two basic models. The estimate of total contributions in 1985 is on the order of \$60 billion. By comparison, the *Giving U.S.A.* (1985, p.7) estimate for contributions by individuals in 1984 is \$61.55 billion. Since there is no detailed description of the methodology used by *Giving U.S.A.* it is impossible to know the reason for this difference, but one possible explanation is that my estimates cover taxpayers only and exclude nonfilers.<sup>11</sup> The third line in the table shows the likely level of contributions under Treasury II. Using the constant elasticity model, contributions are predicted to be \$49.5 billion under that proposal, compared to \$60.4 billion under current law, for a difference of \$10.9 billion, or 18 percent in total giving. The variable

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<sup>11</sup>The GAO (1979, pp.5,7) reported that, out of the 68 million taxpayers required to file, over 5 million did not file returns.

Table 5  
 Predicted Contributions in 1985: Current Law and Various Alternatives

Law or Proposal	Constant Elasticity Model		Variable Elasticity Model	
	Amount (Billions)	Percentage Change from 1985 Law	Amount (Billions)	Percentage Change from 1985 Law
1985 law	\$60.4	—	\$58.7	—
Treasury I	48.1	-20	47.6	-19
Treasury II	49.5	-18	48.7	-17
Bradley-Gephardt	46.7	-23	45.4	-23
Kemp-Kasten	52.6	-13	49.8	-15
Treasury II with 100% Nonitemizer Deduction	55.7	-8	52.0	-11

elasticity model predicts much the same degree of decline, with total giving under the Treasury II plan \$10 billion below the actual 1985 level. While sizable, these predicted declines are smaller than those associated with the Treasury I proposal of 1984, which imply declines of 19 to 20 percent in giving. The Treasury II plan's less severe effect is the result of its restoration of the current favorable treatment of gifts of appreciated assets and its elimination of the 2 percent floor on the charitable deduction.

For comparison, table 5 also shows the predicted effects of other widely discussed tax proposals. The Bradley-Gephardt bill, which would allow all taxpayers to deduct contributions at a basic tax rate of 14 percent, would cause giving to fall by about 23 percent relative to current levels. The Kemp-Kasten bill would, like Bradley-Gephardt, retain the deduction for all taxpayers, though tax rates would be cut; contributions would fall on the order of 13 to 15 percent. A modification of Treasury II in which nonitemizers are allowed a full charitable deduction would cause total giving to fall on the order of 8 to 11 percent—much less than under the actual proposal. Using the Treasury II proposal as a base, the simulations indicate that the addition of a full deduction for nonitemizers would increase *total* contributions by individuals by 7 to 13 percent.

To illustrate the pivotal role played by the price elasticity, table 6 shows calculated total giving for smaller and larger values of the parameter.<sup>12</sup> Under the assumption of an inelastic response, the two Treasury proposals imply declines of 16 and 15 percent, compared to the 18 and 19 percent in the basic constant elasticity case. By contrast, a large elasticity such as -2.3 implies much bigger declines, of 30 and 26 percent, respec-

<sup>12</sup>See appendix table A-1 for representative price and income elasticities by income level.

Table 6  
 Predicted Contributions under Alternative Constant Price Elasticity Assumptions  
 Dollar Amounts in Billions

Law or Proposal	Price Elasticity		
	-.9	-1.27	-2.3
1985 law	\$60.4	\$60.4	\$60.5
Treasury I	\$50.5	\$47.6	\$42.6
Percentage Change from 1985 Law	(-16)	(-19)	(-30)
Treasury II	\$51.5	\$49.5	\$44.7
Percentage Change from 1985 Law	(-15)	(-18)	(-26)

tively. Although the econometric work on this question tends to support a single elasticity of about  $-1.3$  or a variable elasticity such as that used in this paper, it is important to emphasize that there is still uncertainty concerning the precise specification of economic models of giving.

Using survey data on the pattern of contributions by income level, one can calculate the likely impact of tax proposals by type of organization. Proposals that reduce contributions from wealthy taxpayers, for example, will tend to have a disproportionate impact on gifts to educational and cultural institutions because such taxpayers tend to favor those organizations in their giving.<sup>13</sup> Due to the reduction in the top marginal tax rate, the Treasury II proposal would probably cause the largest percentage reductions in giving at upper income levels. Accordingly, as table 7 shows, the largest percentage declines under that proposal are in gifts to higher educational and cultural institutions. The smallest impact is in religious giving. Despite the loss of deductibility at lower income levels, the increase in price there has a smaller impact, even with the constant elasticity model, than that felt at higher incomes. Table 8 shows a similar pattern for most of the other proposals. Where the rate of subsidy for gifts falls the most—to 14 percent in Bradley-Gephardt—gifts to higher education and cultural institutions fall the most. Adding a full charitable deduction for nonitemizers to the Treasury II proposal would have its major impact on contributions to religious organizations.

### *Limitations of the Analysis*

In concluding this section it is important to reemphasize the limitations of the present analysis. There are a number of sources of possible

<sup>13</sup>The assumed distribution of giving by type of organization over the income range is given in appendix table A-2. It was calculated by combining the proportion of religious gifts reported in the Gallup survey (Gallup Omnibus 1979, p.8) for incomes below \$50,000, with the distribution reported in Morgan et al. (1977, Table 38, p. 208) for incomes above \$50,000 and a prorated distribution based on the latter for incomes under \$50,000.

Table 7  
Projected Impact of Treasury II, by Type of Organization

Type of Organization	Estimated Contributions in 1985 <sup>a</sup> (\$ billions)	Percentage Change in Giving from 1985 Law <sup>b</sup>	
		Constant Elasticity Model	Variable Elasticity Model
Religious	37.4	-17	-15
Higher Education	3.7	-22	-27
Other Education	1.0	-22	-25
Combined Appeals	5.1	-19	-18
Medical	5.4	-19	-18
Cultural	.8	-25	-34
Other	6.9	-18	-18
Total	60.4	-18	-17

<sup>a</sup> Estimates use constant elasticity model. (See text.)

<sup>b</sup> Simulations adjusted revenues to be 7 percent below 1985 level.

error in these simulation estimates: statistical errors in estimating coefficients used in the econometric models; errors in estimating the proportion of itemizing taxpayers; errors in estimating the contributions by nonitemizers based on 1973 survey data; probable changes in the distribution of giving by type of organization over the last decade; errors arising from our limited knowledge of gifts of appreciated assets; and forecast errors in the underlying economic variables used, among others. In addition, the tax proposals are not simulated exactly in every detail, although the revenue adjustment tends to mitigate the effect of any errors in calculating tax liabilities. The current data are aggregated, and thus are less appropriate in examining behavior with respect to thresholds such as percentage floors in contribution deductions. Using aggregate data also makes it impossible to reflect the impact of changes in the distribution of tax prices. If tax reform caused many high-income taxpayers to begin having significant tax liabilities, for example, the price of giving for such taxpayers would fall. Furthermore, the underlying models relate to long-run levels of giving, that is, levels that would be reached over a period of years under a given tax regime.

Finally, models such as those used here may fail to reflect fully the range of possible taxpayer reaction to tax changes. One example is the possibility that, faced with a floor for the deductibility of charitable contributions, taxpayers might well choose to "bunch" their giving in alternate years in order to have more of their contribution dollars deducted. The greater this bunching behavior, the less significant would be the effect of a floor. A more important variation in taxpayer behavior would

Table 8  
 Estimated Individual Contributions by Type of Organization, Current Law and Selected Proposals, 1985  
 Billions of Dollars

Type of Organization	1985 law	Treasury I	Treasury II	Bradley-Gephardt	Kemp-Kasten	Treasury II with 100% Nonitemizer Deduction
Religious	37.4	30.4	31.0	30.2	33.9	35.2
Higher Education	3.7	2.7	2.9	2.4	2.8	3.1
Other Education	1.0	.7	.8	.6	.7	.8
Combined Appeals	5.1	4.0	4.2	3.8	4.3	4.7
Medical	5.4	4.3	4.4	4.2	4.7	5.0
Cultural	.8	.6	.6	.4	.5	.7
Other	6.9	5.4	5.6	5.1	5.8	6.3
Total	60.4	48.1	49.5	46.7	52.6	55.7

Note: Simulations use constant elasticities model. Revenue neutrality assumed except for Treasury II (7 percent reduction) and Treasury I (8.5 percent reduction).

be the possible response of donors to changes in the aggregate level of contributions in the economy. If donors perceived that total contributions were declining and that nonprofit organizations were suffering as a result, a shift in the donations function might occur, implying a greater level of contributions for a given net cost and net income level for an individual. Although some speculation and research has addressed the question of whether public expenditures "crowd out" private giving, there is little hard evidence to go on in assessing the possible impact of a significant decline in overall giving on the contributions of individuals. If the income tax law changes drastically, as envisioned in many of these proposals, it is not inconceivable that charities would redouble their efforts to raise money by pointing out the increased need for gifts. Such "systems effects" cannot readily be built into existing models of charitable giving, but they cannot be dismissed as possibilities affecting future giving.

### *Gifts of Appreciated Assets*

Gifts of appreciated assets merit special attention because of their importance for certain types of organizations, especially educational and cultural institutions. The current treatment of such gifts allows the donor an additional tax advantage on top of the charitable deduction in that no tax is levied on the accrued capital gains of such assets. For example, a taxpayer in the 50 percent bracket who gives away stock with a basis of \$200 and a market value of \$1000 reduces his tax liability by \$500 through the deduction and also avoids a capital gains tax of \$160 ( $.5 \times .4 \times \$800$ ). In comparison to selling the asset, making the deductible gift reduces his potential consumption by only \$340 ( $\$1000 - 500 - 160$ ). In discussions of tax reform, this treatment encounters two objections. First, it allows some capital gains income to go untaxed, even though the donor receives a deduction for the full market value of the asset. Because most of its advantage accrues to higher income individuals, this provision reduces the progressivity of the income tax. Second, the overvaluation of donated assets has been a persistent problem for tax administrators. Nonprofit organizations, for their part, stress the value of the current favorable treatment, noting the importance of large "leadership" gifts in fund drives as well as the sheer magnitude of large gifts made in the form of appreciated assets.

Two prominent tax reform plans, Treasury I and Treasury II, seek to eliminate or reduce the current favorable treatment for gifts of appreciated assets. Under Treasury I, donors would be able to deduct no more than the adjusted basis of a donated appreciated property, a treatment that is equivalent to constructive realization of the capital gain. The

Treasury II proposal removes this provision from the normal tax calculation but places a similar provision into the minimum tax: unrealized gains on such gifts would be counted as a "preference item." For taxpayers with preference items in excess of \$10,000, this feature offsets the exclusion of capital gains on the asset.

Due to the importance of appreciated assets in giving to nonprofit organizations, this section focuses on the impact of various provisions on the net cost of making such gifts. In addition, it considers the implications of current knowledge about capital gains and appreciated asset giving for econometric models of charitable contributions.

### *Calculating the Price of Giving Appreciated Assets*

The net cost to a taxpayer of donating an asset is the potential consumption forgone due to the gift after the effects of taxes are taken into account. It is useful to distinguish four components that go into the calculation. First, the value of the asset itself is the gross cost, the forgone potential consumption in the absence of taxes. If one assumes that the rate of return on assets is equal to the discount rate and that bequests are valued the same as consumption, then the present value of the forgone consumption for an asset—the gross cost—will be its market value. The impact of this gross cost is of course reduced by the second component of net cost, the value of the tax deduction. Where  $V$  is the asset's market value and  $m$  is the taxpayer's marginal tax rate, this reduction is  $-mV$ . A third component is the present value of any capital gains tax that would otherwise have been paid if the asset had not been contributed; this also reduces the cost of giving. Since capital gains are taxed only when realized, this cost reduction applies only if the taxpayer would otherwise have realized the gain. Finally, there may be an explicit tax penalty on gifts of appreciated assets, which would increase the net cost of the gift.

These components are shown in table 9 under different tax regimes, where  $B$  is the asset's basis,  $G(=V - B)$  is the gain,  $r$  is the rate of return and discount rate, and  $x$  is the ratio of the current price level to that prevailing when the asset was purchased. If the asset had not been donated, it could have been held for  $T$  years and then realized ( $R=1$ ) or passed on as a bequest without realizing it ( $R=0$ ). The first line of the table shows that only two of the four components of net cost are involved for a gift of cash. The net cost for a gift that does not cause the marginal tax rate to change is  $V(1 - m)$ ; the net cost of the last dollar is  $1 - m$ . For an appreciated asset gift, current tax treatment allows an additional reduction in cost equal to the present value of the capital gains tax if the asset would otherwise have been sold.

Table 9  
Net Cost of Giving \$ V: Cash and Appreciated Assets

Type of Gift and Tax Regime	Components of Cost				Net Cost
	Gross Cost	- Tax savings due to deduction	- Tax that would have been paid to realize gain (present value)	+ Tax penalty for gifts of appreciated assets	
Cash					
Deduction	V	-mV			V(1 - m)
Appreciated assets					
Current Law	V	-mV	$-.4mR(V(1+r)^T - B)/(1+r)^T$		$V(1 - m - .4mRg^*)$
Constructive Realization (with Current Law)	V	-mV	$-.4mR(V(1+r)^T - B)/(1+r)^T$	+ .4mG	$V(1 - m + .4m(g - Rg^*))$
Treasury I	V	-mx <sub>T</sub> B	$-mR(V(1+r)^T - x_T B)/(1+r)^T$		$V(1 - mx_b - mR(1 - x_T(1 - g^*)))$
Treasury II	V	-mV	$-.5mR(V(1+r)^T - B)/(1+r)^T$		$V(1 - m - .5mRg^*)$
Current Minimum Tax	V	-.2V	$-.2R(V(1+r)^T - B)/(1+r)^T$		$V(.8 - .2Rg^*)$
Treasury II Proposal Minimum Tax	V	-.2V	$-.2R(V(1+r)^T - B)/(1+r)^T$	+ .2G	$V(.8 - .2Rg^* + .2g)$

V = value of asset in year 0  
 G = gain in year 0  
 B = basis in year 0 (b + g = 1)  
 b = B/V  
 g = G/V  
 x = price inflation from purchase to year 0  
 x<sub>T</sub> = price inflation from purchase to year T  
 m = marginal tax rate on ordinary income  
 R = 1 if alternative disposition is to realize asset  
     = 0 if alternative disposition is not to realize asset  
 r = rate of return and discount rate  
 g\* =  $1 - b/(1+r)^T$

An explicit penalty would be levied on gifts of appreciated property under a constructive realization provision, as shown in the third line. In the case that the asset would otherwise have been sold immediately, this provision makes the price of donating the asset equivalent to the price of giving cash. If the asset would not have been sold otherwise, however, constructive realization makes it *more* expensive to give the asset than to give cash. The Treasury II proposal's treatment of appreciated asset gifts in the minimum tax has a similar explicit penalty. The same effect is also obtained implicitly in the Treasury I treatment.<sup>14</sup>

Table 10 illustrates the calculation of the net cost of giving appreciated assets under six tax regimes for various combination of gain-to-value ratios and alternative disposition assumptions. For the purpose of these calculations, the expected rate of return is assumed to be 10 percent. For the Treasury I calculation, prices are assumed to have risen by 30 percent since the asset was purchased, and the expected future rate of inflation is assumed to be 7 percent. Three gain-to-value ratios are illustrated: 0.2, 0.5, and 1.0. Assumptions regarding alternative disposition include immediate realization, realization after 1, 10 and 20 years, and holding the asset for bequest. Prices under current law range for these cases from 0.3 to 0.5. If an asset would have been sold otherwise, the price is reduced the higher the gain-to-value ratio, a ratio that tends to rise over time. If the asset would never have been sold, the gain-to-value ratio is irrelevant, and the price is equal to the price of giving cash.

In comparison to their treatment under current law, gifts of appreciated assets would be more costly under constructive realization, the Treasury II proposal, or the Treasury I plan. The difference is particularly striking for the Treasury I plan in the all-appreciation case. The price of giving such assets would rise from 0.3 to 0.65 if the alternative were realization and from 0.5 to 1.0 if the alternative were bequest. The table also allows a comparison between the current alternative minimum tax and the minimum tax proposed under Treasury II. The constructive realization penalty in the latter has the effect of increasing the cost as a function of the amount of unrealized capital gains.

### *Likely Values*

The preceding calculations indicate, under various specific assumptions, that there are clear differences in the price of giving appreciated assets among various tax regimes. But which of these various assumptions are most realistic? In order to simulate the likely effects of a tax change, or for that matter to estimate the effect of taxes on giving, it is necessary to make rather definite assumptions regarding the asset's al-

<sup>14</sup>Auten and Rudney (1985, p. 535) also make this point.

Table 10  
Price of Giving an Appreciated Asset under Alternative Tax Treatment:  
Top Bracket Taxpayer

Tax Regime and Top Tax Rate	Alternative Disposition	Initial Gain-to-Value Ratio		
		.2	.5	1.0
Current Law ( $m = .5$ )	Sell immediately	.46	.40	.3
	in 1 year	.45	.44	.3
	in 10 years	.36	.34	.3
	in 20 years	.32	.31	.3
	Bequeath	.5	.5	.5
Constructive Realization ( $m = .5$ )	Sell immediately	.5	.5	.5
	in 1 year	.49	.49	.5
	in 10 years	.40	.44	.5
	in 20 years	.36	.41	.5
	Bequeath	.54	.60	.7
Treasury I Proposal ( $m = .35$ )	Sell immediately	.65	.65	.65
	in 1 year	.64	.64	.65
	in 10 years	.56	.59	.65
	in 20 years	.50	.55	.65
	Bequeath	.64	.77	1.0
Treasury II Proposal ( $m = .35$ )	Sell immediately	.62	.56	.48
	in 1 year	.60	.55	.48
	in 10 years	.53	.51	.48
	in 20 years	.50	.49	.48
	Bequeath	.65	.65	.65
Current Minimum Tax	Sell immediately	.76	.70	.6
	in 1 year	.75	.69	.6
	in 10 years	.66	.64	.6
	in 20 years	.62	.61	.6
	Bequeath	.8	.8	.8
Treasury II Proposal Minimum Tax	Sell immediately	.8	.8	.8
	in 1 year	.79	.79	.8
	in 10 years	.70	.74	.8
	in 20 years	.66	.71	.8
	Bequeath	.84	.90	1.0

Note: For these calculations,  $r = .10$ ,  $x = 1.3$ ,  $x_T = x(1.07)^T$ . See appendix tables A-3 and A-4 for calculations of the ratio of gain in the year of sale to value in the base year.

ternative disposition and its gain-to-value ratio, among other variables. The first of these is of course counterfactual by its very nature, and perhaps the best that can be hoped for is a well-informed guess. If  $R$  is taken to be the probability that an asset will eventually be sold, then the expressions given in table 9 become the expected price of giving an asset. Thus estimates of that probability are needed in order to calculate

the price.

Gain-to-value ratios of donated assets are in principle measurable, but such data have not been collected in any systematic way. We do, however, have some circumstantial evidence indicating that the average ratio is well over zero and that it probably rises with income. It is clear from published tax return data that the portion of contributions made in noncash form rises with income. Common observation suggests that the bulk of these noncash gifts at lower and middle incomes consists of used household articles, not appreciated assets. This impression is supported by table 11, which compares survey responses on gifts of stock to tax

Table 11  
Noncash Contributions, by Income, 1973

Income	Percentage of Contributions Other Than in Cash <sup>a</sup>	Percentage of Givers of \$100 or More Whose Largest Gift Included Corporate Stock <sup>b</sup>
Below \$50,000	7	0
\$50,000 under 100,000	15	6
\$100,000 under 200,000	26	16
\$200,000 under 500,000	40	20
\$500,000 and over	55	31

Sources: (a) U.S. Internal Revenue Service, *Statistics of Income—1973, Individual Income Tax Returns* (Washington: Government Printing Office, 1976), Table 2.5, p. 53.

(b) Morgan, Dye and Hybels (1977, p. 187).

return data on noncash gifts. Whereas noncash contributions accounted for 7 percent of total giving for itemizers with incomes below \$50,000, none of those surveyed in that income class had given stock as a part of their largest gift. By comparison, almost a third of contributors with income over \$500,000 gave stock as a part of their largest gift.

Further indication of the size and variation of gain-to-value ratios has recently been provided by Auten and Rudney (1985), who present data from a sample of tax returns on the basis and gain for two classes of assets that were *sold*, rather than donated. Arrayed by income level in table 12, these data indicate that average gain-to-value ratios tend to rise with income. For corporate stock, the average ratio rises from 0.29 to 0.71 from the bottom to the top class. The rise for real estate is less, 0.30 to 0.46. As indicators of gain-to-value ratios for *donated* assets, these ratios must be taken as lower-bound estimates. In choosing which assets to sell and which to donate, taxpayers clearly benefit under current law by picking those with the highest gain ratios to give away.

What then can one conclude about the parameter values necessary to compute the price of giving assets? First, the average gain-to-value

Table 12  
Ratio of Gain to Sales Price for Assets Sold, 1971–1975

Adjusted Gross Income	Corporate Stock	Real Estate
Less than zero	.29	.30
\$1–20,000	.32	.32
\$20,000–50,000	.30	.38
\$50,000–100,000	.30	.37
\$100,000–200,000	.43	.42
\$200,000–500,000	.51	.48
\$500,000 and over	.71	.46

Source: Auten and Rudney (1985, Table 4).

ratio for donated property almost certainly rises with income. Not only does the share of appreciable assets among all donated property rise with income, but the average gain-to-value ratios of those assets also appear to increase with income. Still, the value of these ratios cannot be determined except by direct examination of gifts of property.<sup>15</sup> As to the question of alternative disposition, it is very likely that the probability that a donated asset would otherwise have been sold is a decreasing function of its gain-to-value ratio.<sup>16</sup> These two factors thus tend to offset one another, to what degree it is impossible to say.

For purposes of illustration, it is useful to consider the specific function  $R = (1 - g^*)^c$ , where  $R$  is the probability that an asset would otherwise have been sold,  $g^*$  is the gain-to-value ratio when the asset is sold ( $g^* = 1 - b/(1 + r)^T$ ), and  $c$  is a constant parameter. As  $g^*$  increases, the probability of eventual sale declines. Table 13 illustrates this relationship for an assumed distribution of average gain ratios and two values of the parameter  $c$ . For example, a ratio of 0.9 is assumed for assets donated by the top income class. The two parameter values imply probabilities for the asset otherwise being sold of about 0.6 and 0.3 in this class. Using these illustrative assumptions, the expected gain-to-value ratio  $Rg^*$  is roughly constant under each parameter value for the top four income groups.

Although it is not possible to calculate definite values in this case, the available evidence suggests two tentative conclusions. First, it is probably unrealistic to base policy judgments on calculations assuming both a high gain-to-value ratio *and* a high probability of sale. Assuming

<sup>15</sup>A recent survey of Harvard alumni may yield such information relevant to contributions to higher education.

<sup>16</sup>In correspondence, Gerald Auten has suggested, however, one exception to this general proposition. In the case of an entrepreneur who founds a company and then decides to sell most or all of his or her interest in the firm, both the gain-to-value ratio and the probability of realization would tend to be high.

Table 13  
Illustrative Gain-to-Value Ratios and Probabilities of Sale

Income (\$1000)	Assumed Gain- to-Value Ratio of Donated Noncash Property ( $g^*$ )	Probability of Sale $R = (1-g^*)^c$		Expected Gain-to-Value Ratio $Rg^*$	
		$c = .25$	$c = .50$	$c = .25$	$c = .50$
Under 20	.2	.95	.89	.19	.18
20-50	.4	.88	.77	.35	.31
50-100	.6	.80	.63	.48	.38
100-200	.7	.74	.55	.52	.39
200-500	.8	.67	.45	.53	.36
500 and over	.9	.56	.32	.51	.28

Note:  $g^* = 1 - b/(1+r)^T$ . See table 9.

that appreciated property gifts have virtually no basis may be accurate for many high-income taxpayers, but the likely alternative for these taxpayers is bequest, not sale. Second, an assumption of a constant expected gain-to-value ratio may not be an unreasonable approach. Most econometric studies have in fact used the assumption of an expected gain-to-value ratio of 0.5, basing that value on statistical fit in estimated giving equations.<sup>17</sup> This assumption was also employed in the simulations presented in the current paper.<sup>18</sup> For comparison, two sets of simulations were carried out using the illustrative distributions of expected gain-to-value ratios given in table 13, and they yielded estimates quite close to the baseline constant ratio case. For example, the decline in estimated total giving occasioned by the Treasury II proposal was 18 percent for both values of the parameter  $c$ , just as in the basic simulation. Contributions by taxpayers with incomes over \$75,000 (in 1982 dollars) are estimated to decline by 24 percent if  $c = .25$  and 23 percent if  $c = .50$ , as compared to a 24 percent decline in the basic simulation.

Based on these two tentative conclusions, table 14 recapitulates the comparison of alternative proposals using two "likely" cases of donations of appreciated property: a 50 percent gain-to-value ratio with the alternative of immediate sale and a 90 percent ratio with the alternative of bequest. For a taxpayer at the top tax bracket, the Treasury II proposal would raise the price of giving such assets 40 and 30 percent, respectively. The Treasury I proposal would be much less favorable, increasing the price 63 and 90 percent. Finally, the Treasury II minimum tax proposal would raise the price 14 and 22 percent.<sup>19</sup>

<sup>17</sup>See Feldstein (1975) for an example or Clotfelter (1985a, pp. 52-53) for a summary.

<sup>18</sup>For the Treasury I proposal, immediate realization is also assumed.

<sup>19</sup>By comparison, the percentage increase due to the Treasury II minimum tax for the less likely case of no basis and alternative sale, noted by Lindsey (1985, table 1 and pp. 8-9) is 33 percent.

Table 14  
Price to High-Income Taxpayers Donating Appreciated Asset:  
Current Law and Alternative Proposals

Law or Proposal	Price	Gain-to-Value Ratio (g)	
		Alternative Disposition	Alternative Disposition
		.5	.9
		Immediate Sale	Bequest
		Percentage increase from current law	Percentage increase from current law
Current Law	.40	—	—
Treasury I	.65	+63	+90
Treasury II	.56	+40	+30
Current Minimum Tax	.70	—	—
Treasury II Minimum Tax	.80	+14	+22

<sup>a</sup> Assumes 30% inflation from basis year.

## *Other Effects of Tax Reform*

Tax reform proposals would likely have effects on the nonprofit sector that would go well beyond the impact on contributions by individuals. Proposals that would alter the structure of the corporate taxes would have effects qualitatively similar to those expected to result from changes in the personal tax. In addition, changes in personal taxation are likely to influence volunteer behavior. Finally, apart from effects on such charitable activity, tax reform may well bring other changes in the treatment of nonprofit institutions, their employees, and those they serve.

## *Corporate Contributions*

The corporate tax, like the individual income tax, provides for a charitable deduction. Although it is subject to a ceiling, this deductibility has in practice been virtually universal. A number of econometric studies have addressed the relationship between corporate tax rates under deductibility and the level of corporate giving. In comparison to studies of individual giving, studies of corporate contributions are less numerous and subject to more severe data limitations. The work that has examined the role of taxation indicates that contributions tend to increase as the net cost declines, as is the case with personal donations. The price elasticity appears to be markedly smaller in absolute magnitude, however, the range of most likely values being between  $-0.2$  to  $-0.5$ . Income elasticities tend to be close to unity, but the effect of income is

likely to be small in revenue-neutral proposals.<sup>20</sup>

Focusing just on the price effect, one can use the existing elasticity estimates to assess the likely impact of various tax proposals. For current law and four alternative proposals, table 15 gives the maximum marginal

Table 15  
Range of Likely Price Effects of Tax Proposals on Contributions by Corporations Paying the Highest Tax Rate

	Maximum Corporate Tax Rate	Provision for Charitable Contributions <sup>a</sup>	Percentage Reduction Due to Price Effect with Price Elasticity of: <sup>b</sup>	
			-.2	-.5
Current Law	46	Deduction	—	—
Treasury I	33	Deduction	- 4	- 10
Treasury II	33	Deduction	- 4	- 10
Bradley-Gephardt	30	50% Deduction	- 9	- 20
Kemp-Kasten	30	Deduction	- 5	- 12

<sup>a</sup> Provisions for ceilings and carryovers not included.

<sup>b</sup> Percentage change is  $100(1 - ((1 - jm)/(1 - m_0))^h)$ , where  $m$  and  $m_0$  are the maximum marginal tax rates in the proposal and in the current law, respectively,  $j$  is the percentage of contributions that may be deducted under the proposal, and  $h$  is the assumed price elasticity.

corporate tax rate and describes the treatment of corporate contributions. These provisions vary as widely as do the comparable features of the corresponding personal tax proposals. Top rates vary from 30 percent to the current 46 percent. The charitable deduction is limited to 50 percent in Bradley-Gephardt. These various provisions translate into a net cost of corporate giving at top rates that ranges from 54 to 85 cents per dollar contributed. Applying a lower-bound elasticity of  $-0.2$  to these differences implies that corporate giving would drop by roughly 4 percent under the Treasury II proposal and 9 percent under Bradley-Gephardt. The reductions would be correspondingly larger if the elasticity were  $-0.5$ : 10 and 20 percent, respectively. Even at this upper bound, however, the percentage declines in corporate giving are unlikely to approach the magnitude of those for individual contributions.

### Volunteering

The few econometric analyses of volunteering that have included tax variables suggest that donating money and volunteering time are complementary goods. If the price of donating money falls, an individual is likely to increase the amount of volunteered time. This finding is

<sup>20</sup>See Clotfelter (1985a, Chapter 5), for a discussion and extension of this empirical work.

consistent with the common observation that generous donors tend to be active volunteers, and vice versa. The difficulties encountered in econometric analysis of volunteering are even more severe than those for corporate giving. Consequently, there are few estimates of the relevant parameters, and those estimates are not very precise.<sup>21</sup> For the purpose of illustrating the approximate magnitude of the impact of tax reform on volunteering, it is useful to use an estimate of the cross-price elasticity between volunteering and the price of making deductible gifts. Estimates in Clotfelter (1985a) imply an elasticity on the order of  $-0.25$  for women. To illustrate the likely magnitude of this effect, the Treasury II proposal would raise the average price of giving (weighted by the number of taxpayers) from 0.86 under current law to 0.94, or about 9 percent. This elasticity implies a reduction in volunteering hours of only about 2 percent. Therefore, while the likely effect of tax reform would be to reduce volunteering, the size of the effect would probably not be great.

### *Other Consequences*

Recent tax reform plans, both proposed and enacted plans, have contained provisions with specific effects on education and other non-profit organizations apart from any impact on charitable giving. One set of provisions affects the compensation of employees. The taxation of certain fringe benefits and the limitation on the deductibility of expenses have been two devices used in tax reform proposals to broaden the tax base and improve horizontal equity. For example, the provision in a number of current tax reform plans that would tax all or part of employer-provided health and life insurance would raise the cost to employers of providing a given level of compensation and also encourage more compensation in salaries rather than fringe benefits. A more dramatic impact would be produced by provisions affecting the compensation of employees in educational or nonprofit institutions. The 1984 tax law, for example, made most tuition remission programs taxable to faculty and staff. A similar effect would be achieved by limiting the deductibility of educational travel, often used by faculty members. Provisions such as these tend to raise the cost to educational institutions of attracting faculty members, many of whom ultimately have job options in other industries unaffected by such provisions. To the extent that job mobility in the short run is limited, the effect will be a reduction in real income of professors. While the elimination of tax-free compensation can usually be defended on the basis of horizontal equity or economic efficiency,

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<sup>21</sup>For a discussion of this topic, see Clotfelter (1985a, Chapter 4).

provisions such as these have the familiar transitional inequities that appear when markets have adjusted to the pre-existing tax law.

Tax reform provisions can raise the costs of operation in other ways as well. For example, Treasury II would limit the use of tax-exempt bonds for construction at private colleges and universities. And, the cost to students would be raised by taxing as income the amount of scholarships that exceed tuition.<sup>22</sup> Like the provisions having a differential impact on faculty, these features will have the effect of raising costs, decreasing demand, or lowering the real income of its employees and students.

In considering these possible effects on nonprofit organizations, it is useful to keep in mind the enormous potential for reallocation that might result from fundamental tax reform. For example, if tax reform has the effect of drastically reducing investments in tax shelter activity, significant reallocation of resources could occur among sectors in the economy that might well benefit many nonprofit institutions.

## Conclusion

In assessing the impact of tax reform and simplification proposals on educational and nonprofit organizations, this paper has devoted most of its attention to contributions by individuals to those institutions. The relative attention paid to charitable contributions suggests, however, less about the relative importance of various effects than it does about the amount of research that has gone into assessing those effects. This said, the impact of tax reform on charitable giving is likely to be sizable. Reductions in long-run giving of 15 percent and more are projected for the major tax plans currently under discussion. Reductions are likely to be even more severe for institutions that depend on gifts from high-income taxpayers, such as colleges and universities. In concluding, it is important to reemphasize the limitations enumerated in the section "Limitations of the Analysis" and elsewhere in the paper. Not only are the estimates subject to various measurement and statistical errors, but the possibility remains that, faced with a dramatic decrease in the incentive to give, nonprofit institutions would solicit harder and donors would become more receptive, at given price and income levels. Such "shifts in demand" cannot be simulated based on past behavior. Whether they are likely is an open question.

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<sup>22</sup>For a summary of the impact of Treasury II on higher education, see "How President's Tax Proposal Would Affect Higher Education," *Chronicle of Higher Education* (June 5, 1985), p.1.

Table A-1  
Illustrative Elasticities Used for Variable Elasticity Model: Joint Taxpayers

1982 Income (000)	Price	Elasticity Value	Income
\$ 0 under 5	0		.50
5 under 10	-.28		.47
10 under 15	-.46		.54
15 under 20	-.61		.54
20 under 25	-.73		.55
25 under 30	-.78		.59
30 under 40	-.86		.61
40 under 50	-.95		.64
50 under 75	-1.04		.68
75 under 100	-1.17		.71
100 under 200	-1.31		.78
200 under 500	-1.64		.79
500 under 1,000	-2.07		.78
1,000 +	-2.70		.75

Table A-2  
Percentage Distribution of Contributions, by Income of Donor  
and by Type of Organization

Donor Income <sup>a</sup> (000)	Type of Organization						
	Religion	Higher Education	Other Education	Combined Appeals	Medical & Health	Cultural	Other
\$ 0 under 5	72.0	3.5	0	7.1	11.6	0	7.1
5 under 10	71.0	3.7	0	7.3	11.0	0	7.3
10 under 15	69.8	3.8	0	7.6	11.4	0	7.6
15 under 20	76.7	3.0	0	6.0	8.5	0	6.2
20 under 25	76.1	2.2	0	6.5	6.5	0	8.7
25 under 30	70.3	2.7	0	8.0	8.0	0	10.8
30 under 40	64.3	3.3	.2	9.4	9.2	0	13.5
40 under 50	64.3	3.3	1.6	8.1	6.4	0	16.1
50 under 75	63.4	5.4	6.7	7.6	4.4	2.7	9.6
75 under 100	55.1	7.4	9.0	8.8	5.2	4.3	10.0
100 under 200	22.7	13.3	1.7	14.3	15.7	5.8	26.4
200 under 500	14.6	27.9	8.3	14.5	16.0	8.3	10.3
500 under 1,000	10.5	35.5	7.9	13.2	14.5	7.9	10.5
1,000+	12.3	32.9	4.1	8.2	8.2	12.3	21.9

<sup>a</sup> 1982 dollars

Source: Gallup (1979) and Morgan, Dye, and Hybels (1977).

Table A-3  
 Ratio of Present Value of Gain in Year T to Value of Asset in Year 0  
 (Equivalent to gain-to-value ratio in year T)

$$g^* = 1 - b/(1+r)^T$$

		Initial gain-to-value ratio ( $g = 1 - b$ )		
		.2	.5	1.0
Year of Sale	0	.2	.5	1.0
	1	.27	.55	1.0
	10	.69	.81	1.0
	20	.88	.93	1.0

$$\text{Present value of gain} = \frac{V(1+r)^T - B}{(1+r)^T} = V(1 - b/(1+r)^T)$$

$$= V - B/(1+r)^T$$

Table A-4  
 Ratio of Present Value of Adjusted Gain in Year T to Value of Asset in Year 0

$$(1 - x_T b / (1+r)^T), \quad x_T = x(1.07)^T, \quad x = 1.3$$

		g			
		$x_T$	.2	.5	1.0
Year of Sale	0	1.3	-.4	.35	1.0
	1	1.39	-.1	.37	1.0
	10	2.56	.21	.51	1.0
	20	5.03	.40	.63	1.0

## References

- American Association of Fund-Raising Counsel, Inc. *Giving U.S.A.* New York: AAFRC, 1985.
- Auten, Gerald and Gabriel Rudney. "Tax Policy and Its Impact on the High Income Giver," in *1985 Spring Research Forum Working Papers*. Washington: Independent Sector and United Way Institute, 1985, pp. 525-47.
- Clotfelter, Charles T. *Federal Tax Policy and Charitable Giving*. Chicago: University of Chicago Press, 1985a.
- \_\_\_\_\_. "Tax Reform and Charitable Giving in 1985," *Tax Notes* (February 4, 1985b), pp. 477-87.
- \_\_\_\_\_. "Tax Reform and Contributions: Reply to Rudney and Davie," *Tax Notes* (March 25, 1985c), pp. 1275-78.
- Clotfelter, Charles T., and C. Eugene Steuerle. "Charitable Contributions," in Henry J. Aaron and Joseph A. Pechman (eds.), *How Taxes Affect Economic Behavior*. Washington: Brookings Institution, 1981.
- Davie, Bruce F. "Tax Rate Changes and Charitable Contributions," *Tax Notes* (March 11, 1985), pp. 1037-40.
- Feldstein, Martin. "The Income Tax and Charitable Contributions: Part I—Aggregate and Distributional Effects," *National Tax Journal*, vol. 28 (March 1975), pp. 81-100.
- Gallup Omnibus. *Survey of Public's Recollection of 1978 Charitable Donations*, July 1979.
- Hodgkinson, Virginia Ann and Murray S. Weitzman. *Dimensions of the Independent Sector: A Statistical Profile*. Washington: Independent Section, 1984.
- Hosteller, Susan and Dan Holik. "Preliminary Income and Tax Statistics for 1983 Individual Income Tax Returns," *SOI Bulletin*, vol. 4 (Winter 1984-85), pp. 19-30.
- Lindsey, Lawrence. "The Proposed Minimum Tax and Gifts of Appreciated Property." Unpublished paper, 1985.
- Morgan, James N., Richard F. Dye, and Judith H. Hybels. "Results from Two National Surveys on Philanthropic Activity," in Commission of Private Philanthropy and Public Needs, *Research Papers I*. Washington, D.C.: Treasury Department, 1977, pp. 157-323.
- Rudney, Gabriel. "Charitable Deductions and Tax Reform: New Evidence on Giving Behavior," *Tax Notes* (January 28, 1985), pp. 367-68.
- U.S. General Accounting Office. *Who's Not Filing Income Tax Returns? IRS Needs Better Ways to Find Them and Collect Taxes*. July 11, 1979.
- U.S. Department of the Treasury. *Tax Reform for Fairness, Simplicity, and Economic Growth*. Washington: Government Printing Office, November 1984.

# *Discussion*

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*C. Eugene Steuerle\**

Since 1917 special treatment for charitable contributions has been allowed in the individual income tax. Although there has been much research since that time on the interaction between the tax system and charitable contributions, in the last decade this research has tended to emphasize the impact of the existing treatment of charitable deductions, and changes in that treatment, upon total contributions.

Charles Clotfelter's recent paper is an extension of this later literature. Although the paper does not present any new evidence on the effect of price or income changes on charitable giving, it does simulate the effect on charitable contributions of various changes in the tax law under certain assumptions about the responsiveness (or elasticity) of giving to changes in price and income. As is usual, Dr. Clotfelter should be commended for performing his task well; his several papers on major tax reform represent an important contribution to the recent debate on that issue.

My comments will focus on four issues. In many cases, these comments relate as much to the recent literature on charitable contributions as to Dr. Clotfelter's excellent extension of that work.

First, we must constantly remind ourselves that what we don't know about charitable giving dominates what we do know. We still explain only a small portion of the variance in patterns of giving across individuals. Moreover, one has to be very careful in using existing data, especially simulation results, given the mixed nature of the econometric evidence.

Second, recent simulations of changes in current law provide us

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with only a small part of the evidence we need to address the tax reform question. Even if the reported results are correct, additional attention needs to be given to examining other social costs and benefits of policy changes.

Third, the existing literature often fails to establish certain efficiency or equity goals or targets and then focus upon which sets of policies can best or most efficiently meet those standards. Achieving efficiency or maximizing social welfare is at the very heart of policy research. To be more specific, if our standard is to aid a certain group, then our focus as scholars should be extended from measuring the impact of a particular policy upon that group to asking which policies are most targeted to the goal at hand. This type of focus would enhance recent examinations of changes in the treatment of appreciated property and of a floor on itemized contributions, for instance.

Finally, there is a significant probability that the failure of major tax reform will actually result in a weaker, not a stronger, charitable sector.

### *Caution in Interpreting the Empirical Data*

My first point is one that is often made when limited econometric evidence is used to simulate major effects in the economy. We simply must be cautious.

In the area of research on charitable contributions, such caution is required on several accounts. First, research to date tells us only a little about incentives to give. Only a modest amount of the variance in giving is explained by regressions. Even what is explained opens up some important questions. For instance, why does a population with a high price elasticity demonstrate an income elasticity that indicates that the more a person earns, the smaller the percentage of his income he will give to charity?

Second, to the extent there is a consensus on elasticities and responsiveness, it derives primarily from the use of cross-sectional data. Time series data do not generally support the high elasticities found in cross-sectional data, although the two results can be reconciled if one assumes that persons respond to changed incentives only with a lag of many years. If there is a lag, however, then we must be even more careful in trying to interpret the one-time 1981–83 evidence which shows selective income classes, but not the population as a whole, decreasing their rates of giving after the passage of the 1981 tax act. Findings of certain survey questionnaires also have not supported the standard cross-sectional evidence, and while we must exercise great caution with data from surveys, I do not believe they can be ignored totally.

Third, there is strong multicollinearity between independent varia-

bles in the regressions upon which recent simulations have been performed. Moreover, if tax rates differ among persons with similar incomes, it is not usually because they face different tax structures, but rather because they take different amounts of other deductions and exemptions. Much behavior, such as use of IRA accounts, is actually determined simultaneously with the choice of the level of charitable contributions.

Fourth, there are difficulties with both the measure of income and the measure of price in most of these studies. The income variable is very poorly measured for the wealthy, an issue to which I will return later. As for the price variable, it is usually not the price of the last dollar of contributions but, because of other problems, is often the price of the first dollar of contributions. I could go on, but let me emphasize that these cautionary remarks apply to most of the recent work on charitable contributions, including my own.

### *Evaluating Tax Reform in the Aggregate*

While simulations are useful, they provide us with only minimal information by which to judge the value of tax reform. Since Clotfelter has himself made this observation, my comments are merely an extension of his own remarks. When comparing the trade-off between base broadening and rate reduction, almost everyone will admit that the issue of charitable deductions is only a small part of the broader tax reform issue. A similar limitation applies with respect to those provisions more directly affecting charitable deductions. We can simulate, for instance, the responsiveness of taxpayers who give small amounts of money to charity. How do we deal with the fact that no administrative arm of the government has any feasible way of checking on the validity of the claims of those deducting such small amounts of money? Taxpayer compliance data indicate that auditors detect overstatements of contributions on over one-third of all returns claiming charitable contributions. The value of any tax incentive must be judged in part by its administrability.

A related concern is that measuring changes at one point in time may be misleading. Why do we measure the impact on charity of reducing the number of itemizers, while no mention is made of periods in which the number of itemizers has increased? Should current proposals with respect to non-itemizers be compared to a law that provides significant incentives only in 1985 and 1986, or to the law that applies before and after those years? Absent a theoretical basis for choosing comparisons, we at least need a more historical view of costs and benefits from tax reform; changes in the law must be viewed in an historical context in

the same way that changes in stock market values must be related to cyclical troughs as well as peaks.

### *Measures of Efficiency*

Analyzing the relative efficiency of particular approaches to charitable giving would be an especially useful addition to the recent literature, especially when floors on giving and limitations on gifts of appreciated property are discussed. Actually, the initial work here has tended to show little effect from those two proposed changes in the tax laws.

For proposals containing floors and limitations on gifts of appreciated property, of course, there likely will be some response to change in price. If special treatment of appreciated property is opposed, the argument is usually that such treatment is inequitable. Suppose, however, that our standard was efficiency. Since the measure of efficiency usually proposed is the change in charitable contributions per dollar of revenue cost, could the special treatment of appreciated property be argued as efficient by this standard? No, not at all. For instance, if we need to give additional incentives to high-income taxpayers because they are likely to have higher price elasticities, then why give special treatment to capital gains property? Since a variety of alternative mechanisms would target the incentive even better, the current rule violates the efficiency standard.

The floor on contributions presents a better case. Let us suppose once again that the efficiency standard is to maximize charitable contributions per dollar of revenue cost. Then I contend that a floor, whether at 1 percent of income, 2 percent of income, or some other level, is one of the most efficient mechanisms for achieving that result. Under certain fairly weak hypotheses, it can be proven that if there is any independent source of price elasticity among taxpayers, then persons giving charitable gifts above a floor amount would be more likely to have higher price elasticities. One does not need the stronger hypotheses put forward in Clotfelter's paper: a price elasticity that grows with the income of the individual, or systematic differences in price sensitivity between big-givers and small-givers. Thus, when a floor on the deduction for charitable giving is being examined, the assumption that all persons at a given income level have the same price elasticity tends to set an upper bound on the absolute value of a decline in charitable giving.

### *The Charitable Sector As Winner or Loser*

A final and most important issue is whether the charitable sector

will come out ahead by the failure of the proposed tax reform. I cannot reach a definite conclusion with existing information, but I can offer two pieces of evidence that suggest the results may be just the opposite of what is usually argued.

First, I believe that the failure to deal with the steady erosion of the tax base for individual and corporate taxes will inevitably mean a decline in tax incentives for charitable giving. In recent years, there has been a strong tendency to replace income taxation with social security taxation, and there are very strong pushes today to substitute excise and value-added taxation. With the existing tax code, I do not expect these tendencies to abate, nor do I think that the charitable sector can count on future increases in marginal tax rates to compensate for declines in the income tax base. Recall that there are no charitable incentives whatsoever in existing excise, value-added, and social security tax structures. A failure to build a viable income tax system almost inevitably means a long-term decline in incentives for charitable giving.

Second, my own research on giving patterns of the wealthy shows clearly that most wealthy persons do not realize much in the way of capital income. More recent data published by the Treasury Department have also shown that the majority of taxpayers with \$250,000 or more in total positive income are now also owners of partnerships generating sizable losses for tax purposes. The income tax incentive simply does not apply to most of the economic income of the wealthy.

As a simple example, someone with \$2,000,000 of wealth recognizing 2 percent of that wealth, or \$40,000 in income, only has an incentive under current law to give up to \$20,000 in cash or \$12,000 in appreciated property to charity. Someone recognizing no income has no incentive. Obviously, the very wealthy are only a minority of taxpayers, but so are those who give appreciated property. If educational institutions receive most of their contributions from wealthy persons, these institutions might well be better off in a system in which recognition of income was a more normal event than they are in the current system. As I have indicated before, the line of causation is not from tax rates to charitable contributions, but rather from tax rates to decisions to recognize income and take a multitude of deductions. In this type of world, much of the incentive for charitable contributions can already be lost by the time such an incentive applies to the remaining tax base.

*References*

- Auten, Gerald and Rudney, Gabriel, "Tax Policy and its Impact on the High Income Giver," in *1985 Spring Research Forum Working Papers* (Washington: Independent Sector and United Way Institute, 1985), pp. 525-47.
- Bristol, Ralph, "Tax Cuts and Charitable Giving," *Tax Notes* (July 15, 1985), pp. 323-26.
- Clotfelter, Charles T. and C. Eugene Steuerle, "Charitable Contributions," in Henry J. Aaron and Joseph A. Pechman (eds.), *How Taxes Affect Economic Behavior* (Washington: Brookings Institution, 1981).
- Lindsey, Lawrence B., "Giving and Tax Cuts: Recent Experience," *Tax Notes* (September 16, 1985), pp. 1399-1402.
- Steuerle, C. Eugene, "Wealth, Realized Income and the Measure of Well-Being," in Martin David and Timothy M. Smeeding (eds.), *Horizontal Equity, and Measures of Well-Being* (New York: National Bureau of Economic Research, 1985).