

**Methodologies Used to Develop Estimates of the  
Sources of Giving and Contributions by Type of Recipient  
in *Giving USA 2001* for Charitable Contributions in 2000**

Melissa S. Brown  
Patrick M. Rooney, Ph.D.  
Kathryn M. Steinberg, Ph.D.

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The Center on Philanthropy at Indiana University  
550 West North Street, #301  
Indianapolis, IN 46202  
(317) 274-4200

Corresponding Author: Melissa S. Brown  
[msbrown@iupui.edu](mailto:msbrown@iupui.edu)  
(317) 684-8964  
address as above

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## SUMMARY

The AAFRC Trust for Philanthropy estimates charitable contributions using a number of resources, including tax return information provided by the Statistics of Income (SOI) division of the Internal Revenue Service and studies conducted by other organizations. To estimate the distribution of giving by type of recipient organization (by subsector), *Giving USA* surveys nonprofit organizations each year. This paper reviews the methodologies used for each source estimate and for the subsector estimates.

In general, steps used to develop the estimates are summarized here briefly for those wishing an overview and presented later in a more technical form in the order in which they are performed. The technical discussion enables someone using the same types of data to replicate the steps used to generate the estimate.

### **Individual and Corporate Estimating Models**

For individual and corporate contributions, information comes from the Statistics of Income division, which releases estimated amounts for charitable contributions claimed as deductions on tax returns. The SOI figures are supplemented with an estimate from John Havens at the Boston College Social Welfare Research Institute for giving by households that do not itemize contributions on a tax return.

In spring 2001, the SOI estimates were current through 1998 and formed the basis of *Giving USA*'s historical data for total personal giving from 1955 to 1998. For giving estimates for 1999 and 2000, *Giving USA* predicted in spring 2001 what the SOI figures will be when tax return data are available, using an econometric model. The econometric models for individual and corporate giving take into account the historical relationship between charitable giving (the dependent variable) and income (an independent variable). The econometric models also include independent variables that track recession and tax law changes. Both of these can affect the level of charitable contributions claimed by tax filers. In addition, for individual tax payers, the value of the stock market, as measured by the Standard & Poor's 500 index, is used as an independent variable, as wealth (represented by stock) is also a factor in household or individual giving.

### **Foundation Grantmaking from the Foundation Center**

Foundation giving estimates are prepared by the Foundation Center. *Giving USA* adjusts the figures reported by the Foundation Center to move corporate foundation grantmaking to the *Giving USA* estimate of corporate giving.

### **Bequest Gifts**

Bequest giving estimates are based on two sets of information. The first is the actual deductions claimed on estate tax returns for charitable bequests in the most recent year available (1999 for the estimate in 2000). The IRS figure is then adjusted to show a percentage rate of change that comes each year from *Giving USA*'s survey of nonprofit organizations. The second element estimates charitable bequests from estates below the federal estate tax filing threshold. This figure is derived using the number of deaths of adults (18 and over) in the year, subtracting the estimated number of those estates subject to estate tax at the federal level, and multiplying the result (non-filing decedents) that by 5.7 percent, which is the percentage of adults with a charitable bequest in their will. The share of adults with a charitable bequest is based on a survey conducted in 1992 by the National Committee on Planned Giving. The result, an estimate of all people below the federal filing level who did include a charitable bequest in their will, is multiplied by an estimated average bequest value. This average value is based on the mean percentage of an estate's value that is claimed as a charitable deduction by estates in the lowest range of the federal filing data (gross assets of \$600,000 to \$1 million).

### **Estimating Contributions by Type of Recipient**

*Giving USA* estimates the amount of contributions made to each of nine types of recipient. These estimates use two types of data. First, *Giving USA* bases its estimates on data from studies of contributions to a particular subsector at a given time, such as the Commission on Private Philanthropy and Public Needs (Filer Commission) of 1975, which studied giving to education, health, arts, and other subsectors. Estimates for giving to education and health also incorporate findings from studies released by other organizations, such as the Council for Aid to Education and the Association for Healthcare Philanthropy. Second, *Giving USA* derives an annual rate of change in giving to each subsector (except religion) from an annual survey of nonprofit organizations. The rate of change is then applied to the estimate of contributions to that subsector reported in prior years.

The survey research done for *Giving USA 2001* was conducted by the Public Opinion Laboratory at Indiana University-Purdue University Indianapolis with a sample provided by the National Center for Charitable Statistics (a unit of the Urban Institute). The analysis is based on responses from 1,365 organizations.

For religion, instead of surveying congregations directly, *Giving USA* uses data published each year about approximately 40 denominations that report contributions to the National Council of Churches of Christ, USA (NCCC). The base for religion is a study conducted by INDEPENDENT SECTOR about church finances in 1986. In 2001, historical data (back to 1991) for giving to religion were compiled by Joseph Claude Harris, an independent researcher who studies giving to the Catholic Church and has modeled giving to other faiths using his research and data from the NCCC. *Giving USA* adjusted its estimates from 1991 through 1999 based on his findings.

## METHODOLOGY FOR GIVING ESTIMATES, 1998, 1999, and 2000

The econometric models used to estimate individual and corporate giving for 1999 and 2000 are described below. The method used to forecast the change in giving from estates (bequest) and the adjustments made to the Foundation Center findings about foundation giving are also covered in this section. *Giving USA's* survey of nonprofit organizations and the findings for gifts received in 2000 are also discussed.

### Individual Giving

Data about itemized contributions as reported by the Statistics of Income division from the IRS became available late in 2000 for 1998 tax returns. With this data, *Giving USA 2001* revised the estimate of giving in 1998 as shown in Table 1.

Table 1

#### Estimate of Individual Charitable Giving, 1998

Estimate from Statistics of Income, IRS, itemized charitable contributions	\$109.24 billion
Number of nonitemizing households X average contribution*	<u>23.80 billion</u>
Estimated total personal giving by individuals	\$133.04 billion
Adjusted for inflation (2000=100)	\$140.55 billion

\* Estimate of average contribution per household that does not itemize: \$366.50<sup>1</sup>  
Estimated number of non-itemizing households: 64,806,000

With the revised amount for total personal giving in 1998 based on data from the IRS, *Giving USA* used a linear regression model to estimate changes in total personal giving for 1999, then for 2000. The regression is run in Excel. The dependent variable is the change in total personal giving based on *Giving USA's* estimates (as adjusted for inflation) from 1950 through 1998, the last year for which itemized contributions data from the SOI are available. The *Giving USA* estimates for 1950 through 1998 include itemized charitable contributions and estimated giving by non-itemizers, which historically ranges from 16 to 28 percent of the total. Using the mathematical model of the historical relationship between giving and other variables, giving in 1999 was re-estimated and giving in 2000 was estimated for the first release (and will be updated in 2002 and later).

First, the estimate for giving in 1999 was revised from the initial amount released in spring 2000, based on new data received during 2000 and early 2001. The revision was based on a linear regression using the following independent variables. All dollar variables (including the stock market index averages) were adjusted for inflation using rates found through the CPI calculator at the Bureau of Labor Statistics Web site.

- Change in personal income from the prior year as reported at the end of March 2001 for 1999 by the Bureau of Economic Analysis in the National Income and Product Accounts
- Change in the Standard and Poor's 500 stock market index, daily close, averaged for all trading days in May and June in 1999
- Change in the Standard and Poor's 500 stock market index, daily close, averaged for all trading days in November and December of 1999
- A dummy variable for years in which there was any month of recession according to the National Bureau of Economic Research (1953, 1954, 1957, 1958, 1960, 1961, 1969, 1970, 1973, 1974, 1975, 1980, 1981, 1982, 1990, 1991).
- A dummy variable for the year of a major tax code change affecting tax deductibility of gifts (1986).

- A dummy variable for the year the major tax code change was implemented (1987).

The regression for 1999 yielded the following coefficients. The indication of significance for each variable (p-value) is also shown.

Table 2  
Output from the Linear Regression, Total Personal Giving, 1999

<b>Variable</b>	<b>Coefficient</b>	<b>P-Value</b>
Intercept	-0.08842	0.93
Change in Personal Income	0.012049	0.04
Change in Stock Market, Nov-Dec	0.020686	0.05
Change in Stock Market, May-June	0.010263	0.26
Recession	0.379925	0.74
Tax Law Change Announced	8.950555	0.00
Tax Law Change Implemented	-4.27922	0.04
Adjusted R-square	0.56509	

With these coefficients and the values for each independent variable, the change in total personal giving for 1999 was estimated to be \$9.32 billion, adjusted for inflation to 2000 dollars.

The estimate of giving for 1999 was constructed as follows.

Estimate of total personal giving in 1998, in 2000 dollars	\$140.55 billion
Estimated change in giving from regression model, 2000 dollars	<u>9.32 billion</u>
Total estimated personal giving in 1999 in 2000 dollars	\$ 149.87 billion
Conversion factor (2000 value*factor/100 = 1999 value)	96.75
Estimate for total personal giving in 1999 dollars	\$145.00 billion

The regression was repeated for the same variables using data for 2000, again with adjustment for inflation so that 2000=100.

Table 2  
Output from the Linear Regression, Total Personal Giving, 2000

<b>Variable</b>	<b>Coefficient</b>	<b>P-Value</b>
Intercept	-0.08852	0.93
Change in Personal Income	0.012049	0.04
Change in Stock Market, Nov-Dec	0.020688	0.05
Change in Stock Market, May-June	0.010264	0.26
Recession	0.380061	0.73
Tax Law Change Announced	8.950389	0.00
Tax Law Change Implemented	-4.27926	0.04
Adjusted R-square	0.59259	

The estimating procedure yielded a change in giving of \$2.2 billion more in 2000. The estimate of total personal giving in 2000 is constructed as follows.

Estimate for 1999 in 2000 dollars	\$149.87 billion
Amount of change estimated in model in 2000 dollars	<u>2.20 billion</u>
Total estimate for 2000	\$152.07 billion. <sup>i</sup>

### Corporate Giving

In 2000, the SOI released data about itemized deductions claimed by corporations for charitable contributions in 1998. That data is used to construct an estimate of corporate giving in 1998 as shown in Table 4

Table 4  
Estimate of Corporate Giving, 1998

<u>Billions of Dollars</u>	
Tax-deductible contributions	8.667 *
Less gifts to corporate foundations	<u>2.654</u> **
Sub-total	6.013
Plus grants paid by corporate foundations	<u>2.450</u> ***
Total estimated corporate giving, 1998	\$8.463 :
 Rounded to	 \$8.46 billion

\* IRS, Statistics of Income estimates

\*\* Foundation Center report of gifts to corporate foundations, 1998

\*\*\* Foundation Center report of grants paid by corporate foundations, 1998

With data about corporate giving from SOI and the Foundation Center (for grants made by corporate foundations), *Giving USA* estimates corporate giving for 1999 and 2000 using a model based on the historical relationship between corporate tax-deductible contributions and corporate pretax income. The dependent variable is the corporate deductions claimed for charitable contributions less the amount given by corporations to their own corporate foundations. *Giving USA* has data for this variable from 1975 through 1998.

The independent variables are:

- Corporate pre-tax income as reported by the Bureau of Economic Analysis as of the end of March, 2001
- A dummy variable for recession years (1975, 1980, 1981, 1982, 1990, and 1991).
- A dummy variable for the year a major tax law change was announced (1986).

The dollar values were not adjusted for inflation in the regression models.

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<sup>i</sup> As more data become available about personal income in 1999 and 2000, and as 1999 tax data are released showing deductions for charitable contributions, the estimates for 2000 will change. Revisions to the giving estimate for 2000 can be expected in early 2002 reflecting changed data about personal income and incorporating the IRS estimate about charitable giving in 1999. In 2003, *Giving USA* will release a final estimate for 2000 showing the IRS amount for charitable deductions claimed and additional amounts for charitable gifts made by non-itemizers and by people who itemize other deductions but not their charitable contributions.

The linear regression in Excel was run first for 1999. The estimated corporate giving is net of gifts by corporations to their foundations. To the estimate was added grants made by corporate foundations. The regression coefficients and p-values are as shown in Table 4.

Table 4  
Output from the Linear Regression, Corporate Giving Less Gifts to Corporate Foundations, 1999

<b>Variable</b>	<b>Coefficient</b>	<b>P-Value</b>
Intercept	0.82281	
Pretax Income	0.00771	5.6E-09
Recession	-0.171312	0.63
Tax Law Change	1.491841	0.05
Adjusted R-square	0.823	

The estimate for corporate giving minus gifts to corporate foundations, for 1999, used the results of this regression as shown.

Estimate: Corporate contributions less corporate gifts to foundations, 1999	\$6.88 billion
<u>Corporate foundation grants, reported by the Foundation Center</u>	<u>\$2.81 billion</u> <sup>2</sup>
Total estimated corporate and corporate foundation giving, 1999	\$9.69 billion

With an estimate for 1999, the regression was run again for 2000, as shown in Table 5.

Table 5  
Output from Linear Regression for Corporate Giving Less Gifts to Corporate Foundations, 2000

<b>Variable</b>	<b>Coefficient</b>	<b>P-Value</b>
Intercept	0.53904	
Pre-tax income	0.00771	4.64E-10
Recession	-0.17132	0.62
Tax Law Change	1.491825	0.05
Adjusted R-square	0.850	

The regression yields an estimate of \$7.76 billion, to which was added an estimate of grants made by corporate foundations, as follows.

Estimate: Corporate contributions less corporate gifts to foundations, 2000	\$7.76 billion
<u>Corporate foundation grants, estimated by the Foundation Center</u>	<u>\$3.10 billion</u> <sup>3</sup>
Total estimated corporate and corporate foundation giving, 2000	\$10.86 billion

### **Bequest Giving**

The estimate of bequest giving was based on charitable deductions claimed on estate tax returns, plus an amount estimated for charitable gifts made through estates below the federal filing threshold. The amount claimed on estates for 1999 is obtained from the IRS.

For 2000, the amount of charitable deductions claimed by estates was estimated by using the 1999 figure and applying a rate of change for bequest receipts in 2000 compared to 1999. This rate was calculated

from data about bequest gifts provided on 427 of the 1,365 complete and analyzable responses to *Giving USA*'s survey nonprofit organizations throughout the United States. Bequests were received by more than 30 percent of responding organizations. From the survey data, the total bequest receipts reported for 1999 were \$788.4 million, compared with total bequest receipts of \$808.6 million reported by those same organizations for 2000. The rate of change was calculated for those organizations reporting bequest receipts in at least one of the two years covered in the survey. The rate of change found was an increase in bequest revenue between 1999 and 2000 of 2.6 percent.

This rate of change was applied to the amount itemized on estate tax returns for 1999 and then an estimate of giving by bequest for estates below the filing threshold was added.

The estimate for bequests by non-filers in 2000 was calculated as shown in Table 7.

Table 7	
Total number of adult decedents:	2,363,000 *
Less those filing estate tax return:	- <u>104,000</u>
Non-filing decedents	= 2,259,000
NCPG estimate of charitable bequests	x <u>5.7% **</u>
Total non-filers with bequest gift	= 128,800
Estimated average gift	x <u>\$ 8,250 ***</u>
Additional amount	= \$ 1.06 billion

\* Figures for decedents, estate tax returns filed, and nonfiling decedents are approximations using 1999 data from the Census Bureau for deaths and the IRS for estate tax returns filed.

\*\* The National Committee on Planned Giving Survey in 1992 showed that 5.7 percent of Americans had wills that included a charitable bequest. That survey was repeated in 2000 and the percentage is now higher (8 percent), but *Giving USA* uses the more conservative estimate pending methodological revisions anticipated in light of the estate tax law changes passed in 2001 and effective in 2002.

\*\*\* Median household net worth in 1998 was \$71,700.<sup>4</sup> Using the CPI to adjust for inflation (which is a conservative approach, as it does not reflect the stock market run-up of the late 1990s), that net worth would be approximately \$75,740 in 2000. There is little data about how much is donated to charity by estates below the federal filing threshold. To develop an estimate, *Giving USA* studied the percentage donated to charity by estates in the lowest asset class subject to the federal estate tax, those with gross assets of \$650,000 to \$1 million. In 1999, those estates showed an average asset level of \$780,765 and an average donation (for those that included charitable deductions) of just over \$170,000. Thus, the average contribution was, in 1999, 21.8 percent of the average gross assets for estates in that asset class. Again, taking a conservative approach, *Giving USA* estimated that estates below the federal filing threshold donated half the share of net worth that wealthier estates did, or 10.9 percent. Using an average estate value of \$75,740 and 10.9 percent donated to charity yields an average charitable donation per estate of \$8,255, rounded here to \$8,250.

*Giving USA 2001* reported a total estimated amount of bequest giving in 2000 of \$16.02 billion. This estimate was constructed as followed.

Amount claimed as a charitable deduction on estate tax returns for 1999	\$14.58 billion
Increased by 2.6 percent growth, found in the <i>Giving USA</i> survey	<u>.38 billion</u>
Sub-total	14.96 billion
Estimate for bequests realized through estates not required to file a return at the federal level	<u>1.06 billion</u>
Total	\$16.02 billion

## METHODOLOGY FOR ESTIMATING GIVING BY TYPE OF RECIPIENT ORGANIZATION

### Giving to Religion

Giving to religion is based on a study of congregational revenues conducted in 1986 by INDEPENDENT SECTOR.<sup>5</sup> The total given to religion as found in that study is used by *Giving USA*, which changes the estimate each year based on data reported by the National Council of Churches of Christ in its *Yearbook of American and Canadian Churches*. Data provided in the *Yearbook* are released the year after *Giving USA*'s initial estimate (the 2000 data will be available in 2002). For the current year, *Giving USA* uses an average rate of change as a proxy, awaiting the reported changes forthcoming in the next year's edition of the *Yearbook*.

The *Yearbook* data cover 40 or more Protestant denominations of all sizes. The average rate of change reported by the *Yearbook* for the period 1992 through 1999 is 4.4 percent. Among Catholic parishes studied, Joseph Claude Harris, an independent researcher working with the Center for Applied Research on the Apostolate at Georgetown University, found an average rate of change of 3.7 percent.<sup>6</sup>

Because some denominations that report to the National Council of Churches of Christ provide data in some years but not all years, *Giving USA* has reviewed its estimates for giving to religion in the decade 1990 through 1999. As a result of that analysis, the *Giving USA* figure for giving to religion in 2000 reflects accumulated downward adjustments reaching \$10.5 billion in 1999.

This change is based on recalculating the percentage change in giving to Protestant denominations for the period 1991 through 1999 using all available data for denominational giving. Each year from 1991 through 1999, *Giving USA* calculated a rate of change based on partial data, as printed in the *Yearbook of American and Canadian Churches*, published annually by National Council of Churches of Christ. The *Yearbook* reports contributions for denominations that respond to the NCCC annual survey. By using all the available reports for the 1991-1999 period,<sup>7</sup> *Giving USA* has developed a more complete model of the annual percentage change for giving to Protestant denominations. *Giving USA* uses the percentage change in Protestant giving as an approximation for the percentage change in giving to all religions in the U.S. each year. The revisions to the estimates of giving to religion are summarized in Table 8.

Table 8  
Revisions to the Estimate of Giving to Religion  
(Billions of Dollars)

Year	Percentage Increase Reported Originally in Giving USA	Estimated Giving to Religion	Revised Percentage Increase from NCCC Data	Revised Estimate of Giving to Religion	Cumulative Difference	Amount of Change Due to One Year's Difference	Percentage Difference Between Original and Revised
1991	0.4	50.00					
1992	1.2	54.91	1.9	<b>\$50.95</b>	\$3.96	\$3.96	7.2%
1993	3.6	56.29	3.8	<b>\$52.89</b>	\$3.40	-\$0.56	-1.0%
1994	6.8	60.21	6.7	<b>\$56.43</b>	\$3.78	\$0.38	0.6%
1995	2.3	66.26	2.9	<b>\$58.07</b>	\$8.19	\$4.41	6.7%
1996	6.6	70.66	6.6	<b>\$61.90</b>	\$8.76	\$0.57	0.8%
1997	2.9	72.69	4.5	<b>\$64.68</b>	\$8.01	-\$0.75	-1.0%
1998	6.6	77.49	5.5	<b>\$68.24</b>	\$9.25	\$1.24	1.6%
1999	5.5	81.78	4.4	<b>\$71.24</b>	\$10.54	\$1.29	1.6%
						<u>\$10.54</u>	

*Giving USA* estimates a rate of growth in giving to religion of 4.3 percent for 2000. This rate of change was applied to the revised estimate for giving to religion in 1999 of \$71.24 billion. The total estimated giving to religion in 2000 was \$ 74.31 billion, which will be adjusted as the National Council of Churches of Christ releases the data from its study participants for gifts received in 2000 (expected in spring 2002).

### **Giving to Nonprofit Organizations other than Religion**

*Giving USA* annually commissions a survey of nonprofit organizations within seven subsectors that are based on core codes in the National Taxonomy of Exempt Entities, as shown in Table 9. The results of this survey are used to estimate the rate of change in giving to organizations in each subsector except religion.

Subsector	NTEE Major Field Code(s)
Arts, Culture, and Humanities	A
Education	B
Environment/Wildlife	C, D
Health	E, F, D, H
Human Services	I, J, K, L, M, N, O, P
International	Q
Public/Society Benefit	R, S, T, U, V, W

The rate of change found in the survey is applied to the preceding year's estimated total for that subsector. In most subsectors, the base year for beginning the estimates is 1975, as reported in the study conducted by the Commission on Private Philanthropy and Public Needs (Filer Commission).<sup>8</sup>

Subsectors where the base year used by *Giving USA* is other than the Filer Commission report, are:

- Education, where the base is built, in part, on a series of annual surveys in higher education and private schools that ask about total contributions received, as conducted by the Council for Aid to Education, and
- Health, where the base includes data gathered from 1973 to 1997 by *Giving USA* from leading health organizations supplemented with data from surveys about charitable receipts from 1986 to 1997 by the Association for Healthcare Philanthropy).

Subsectors not included in the Filer Commission study include environment and international. For each of these, *Giving USA* first published a separate estimate in 1991 (for giving beginning in 1987). The environmental giving estimate is based on a survey of leading groups in the subsector, a survey of individual giving sponsored by INDEPENDENT SECTOR, a survey of foundation giving by The Foundation Center and a survey of corporate giving by The Conference Board. The international giving estimate is based on a survey of leading international organizations and data supplied by other leading research organizations.<sup>9</sup>

*Giving USA* does not survey foundations, although foundations are included in the major field "Philanthropy and Voluntarism" (T in the NTEE). Gifts to these organizations are reported by the Foundation Center in the spring of the year following *Giving USA's* initial estimates for a calendar year (the 2000 gifts to foundations will be reported in spring 2002). When the Foundation Center releases its data, *Giving USA* revises its estimate for unallocated giving and reports gifts to foundations separately.

## Survey of Nonprofit Organizations, 2001, for Charitable Gifts in 2000

The *Giving USA* survey for giving in 2000 was conducted by the Public Opinion Laboratory at Indiana University-Purdue University Indianapolis, with assistance from the National Center for Charitable Statistics at the Urban Institute to identify the sample of 5,934 organizations. The overall response rate (before adjustment for incomplete responses and outliers) was 33.3 percent. The questionnaire appears in Attachment A.

### Sampling Method

Charitable revenue for each organization was compared with the total charitable revenue for that subsector. The sample was drawn to include survey recipients with low, medium, or high levels of charitable revenue.<sup>10</sup> For each subsector, the survey sample included all organizations whose revenue constituted the top 25 percent of charitable revenue for the subsector, approximately 150 organizations whose revenue fell into the middle of the range, and approximately 400 organizations with charitable revenue that was a small percentage of the total for that subsector. By including all the high-revenue organizations, the survey sought to reach organizations whose gifts form a significant share of all giving in the U.S., excluding churches.

### Response Rate

The survey was “mixed mode,” with the Public Opinion Laboratory contacting organizations by telephone, mail, and, when requested, fax. Overall response rates appear in Table 10.

Table 10  
Sample Size and Responses, *Giving USA 2001* Survey

Sample Size	Number Undeliverable	Responses Received via			Total Response	Response Rate*
		Phone	Mail	Fax		
5,934	1,211	371	474	720	1,565	33.3 percent

\*percentage is calculated on the original number less undeliverables. An additional 12 surveys were returned after analysis was started. Had they been received in time to be included, the response rate would have been 33.5 percent.

### Identification of Incomplete or Inconsistent Responses

Several steps were taken to process the data and generate charitable revenue estimates. The first step was to be sure that only complete responses were included in the final set of responses analyzed.

If charitable revenue figures were supplied for only one of the years, the response was considered incomplete. If the other year’s estimate could not be obtained through follow-up with the organization, the organization was dropped from further analysis.

Next, all the figures supplied on the surveys were compared to make sure that total revenue for any year was not smaller than charitable revenue, and charitable revenue was not smaller than bequests. If the inconsistent responses could not be clarified through follow-up, the organization was dropped from the final set. A total of 153 surveys had to be eliminated from the analysis as incomplete or internally inconsistent.

### Calculation of Outliers and the Final Data Set

Of the remaining 1,432 surveys after removal of incomplete responses, the research team at the Center on Philanthropy used a statistical procedure to identify organizations whose change in charitable revenue had a disproportionate impact on the change in charitable revenue for the group of organizations of that size component of the subsector. For example, if one organization’s change in charitable revenue accounted

for 50 percent of the total change in charitable revenue reported by all survey respondents classified as low-revenue arts organizations, it would not be appropriate to retain that exceptional organization in the analysis. That one organization would skew the estimate for arts organizations. A total of 47 organizations met the statistical criteria for outliers.

Table 11 shows the sample for each subsector, responses received, and those used in analysis, with standard errors shown for each subsector based on useable responses.

Table 11  
Responses Received by Subsector and Those Included in Analysis

	Adjusted Sample*	Responses Received	Illegible or Incomplete	Outliers	Used in Analysis	Percentage of Sample Analyzed	Standard Errors
<b>Total</b>	4,711	1,565	153	47	1,365	29.0	3%
Education	707	196	20	4	172	24.3	8%
Health	713	199	10	12	177	24.8	8%
Human Services	725	235	24	4	207	28.6	7%
Arts, Culture and Humanities	717	307	30	5	272	37.9	6%
Public/Society Benefit	659	208	24	8	176	26.7	8%
Environment	759	288	34	9	245	32.3	6%
International	431	132	11	5	116	26.9	9%

The standard errors, based on the number of responses analyzed, help measure the likelihood that the *Giving USA* survey respondents accurately reflect the change in giving to the subsector. The rate of change in giving from 1999 to 2000 as determined by the survey for a subsector is accurate plus or minus 1.96 times the standard error. Thus, if the standard error is 9, the point estimate from the survey would be the same, plus or minus 17.64, for 95 times out of 100 if we had been able to draw other samples from the same population at the same time and surveyed them. Because the sample size increased in 2000 and the number of responses received increased, the standard errors for 2000 are among the lowest achieved in the history of the *Giving USA* survey.

The steps for determining outliers are as follows:

- Calculate the dollar amount of each organization's change in charitable revenue— charitable revenue in 2000 less charitable revenue in 1999;
- Convert all changed amounts to an absolute value (no negative changes), represented in the formula as the value between vertical lines;
- Sum the absolute value of all the changes of charitable revenue for all organizations in the same size/subsector stratum, represented in the formula by the Greek Sigma ( $\Sigma$ ) and
- Divide each organization's absolute value of change in charitable revenue by the sum for the absolute value of changes in the size/subsector, to get a percentage showing the amount of total change attributable to one organization's change.

This is dcharrev, expressed as a formula: 
$$Dcharrev = \frac{|\text{charrev00} - \text{charrev 99}|}{\Sigma |\text{charrev00} - \text{charrev 99}|}$$

- With a value for dcharrev for each organization, determine the mean dcharrev for each size/sector stratum (low-revenue arts, medium-revenue arts, high-revenue arts and so on);
- Identify as outliers organizations whose dcharrev fell more than 2 standard deviations from the mean for the size and sector (those organizations that had an unusually large effect on the size/sector totals)
- Exclude outliers from the analysis.

### Data Analysis

For the survey responses in each size-subsector group (low-revenue arts, medium-revenue arts, high-revenue arts and so on through the seven subsectors), the research team calculated: Total reported charitable revenue, 1999 and Total reported charitable revenue, 2000. The charitable revenue reported is only a portion of the total charitable revenue for all organizations registered with the IRS and fitting into the subsector-size group. Unweighted results are in Table 12

Table 12  
*Giving USA 2000* Summary of Survey Responses – Not Weighted

	Effective* Number Mailed	Number of Replies Analyzed**	Charitable Revenue Reported (Millions of Dollars)			Percentage Change
			1999	2000	Change	
High-revenue Art	47	9	127	135	8	6
Medium-revenue Art	294	143	471	493	22	5
Low-revenue Art	376	121	20	24	3	16
<b>TOTAL ART</b>	<b>717</b>	<b>273</b>	<b>618</b>	<b>651</b>	<b>33</b>	<b>5</b>
High-revenue Education	49	22	846	922	76	9
Medium-revenue education	286	99	343	356	13	4
Low-revenue Education	372	51	15	15	0	2
<b>TOTAL EDUCATION</b>	<b>707</b>	<b>172</b>	<b>1,204</b>	<b>1,293</b>	<b>89</b>	<b>7</b>
High-revenue Environment	147	63	605	651	46	8
Medium-revenue Environment	257	91	109	131	22	20
Low-revenue Environment	355	91	16	17	1	5
<b>TOTAL ENVIRONMENT</b>	<b>759</b>	<b>245</b>	<b>730</b>	<b>798</b>	<b>69</b>	<b>9</b>
High-revenue Health	33	6	1,644	1,854	209	13
Medium-revenue Health	298	84	322	484	162	50
Low-revenue Health	382	87	26	27	1	4
<b>TOTAL HEALTH</b>	<b>713</b>	<b>177</b>	<b>1,993</b>	<b>2,364</b>	<b>372</b>	<b>19</b>
High-revenue Human Services	32	10	35	37	2	6
Medium-revenue Human Services	312	119	142	157	15	11
Low-revenue Human Services	381	79	14	15	0	3
<b>TOTAL HUMAN SERVICES</b>	<b>725</b>	<b>208</b>	<b>191</b>	<b>209</b>	<b>18</b>	<b>9</b>
High-revenue International	35	10	548	569	21	4
Medium-revenue International	81	27	218	233	15	7
Low-revenue International	315	79	22	23	2	7
<b>TOTAL INTERNATIONAL</b>	<b>431</b>	<b>116</b>	<b>788</b>	<b>826</b>	<b>38</b>	<b>5</b>
High-revenue Public/Societal Benefit	43	10	538	676	138	26
Medium-rev. Public/Societal Benefit	263	92	974	1,089	116	12
Low-revenue Public/Societal Benefit	353	72	37	38	1	3
<b>TOTAL PUBLIC/SOC. BENEFIT</b>	<b>659</b>	<b>174</b>	<b>1,548</b>	<b>1,803</b>	<b>255</b>	<b>16</b>
<b>TOTAL OVERALL</b>	<b>4,711</b>	<b>1,365</b>	<b>7,071</b>	<b>7,944</b>	<b>873</b>	<b>12</b>

\* after receipt and tabulation of undeliverable mail

\*\* after removal of outliers and incomplete responses

## **Weighting**

Because the sample of organizations surveyed included all the organizations in the top quartile of charitable revenue for a subsector and a small percentage of organizations in the lowest quartile, the analysis used weighting to adjust the responses. This technique allows the responses to reflect more accurately the actual distribution of charitable revenue across each of the size-subsector groups. If no weights were used, the percentage change in giving calculated directly from survey responses would be based disproportionately on a small number of high-revenue organizations.

Because the survey seeks information about change in charitable revenue, weights were computed based on charitable revenue. The 1998 total charitable revenue for a size-subsector group as reported by the National Center for Charitable Statistics was divided by the 1999 charitable revenue reported by respondents in that size-subsector group. This yielded the weights used in the analysis. An example of calculating weights is shown in Table 13.

The lowest weight was 0.52 for high revenue-health organizations, where six respondents in that category reported charitable revenues that constituted nearly one-half the 1998 charitable revenue for the 33 high-revenue health organizations. The highest weight was 221, where 79 Low-revenue human services organizations responding to the survey reported charitable revenues totaling less than one-half of one percent of charitable revenues from more than 71,600 Low-revenue human services organizations registered with the IRS.

An alternative method would be calculating weights based on the number of organizations in a size-subsector group. However, the research team at the Center on Philanthropy, recognizing that many more organizations are registered with the IRS than are active, found that using the number of registrations was likely to distort the survey findings to emphasize inappropriately the role of low-revenue nonprofit organizations in the distribution of charitable revenue. Had the analysis used weights based on the number of organizations in size-subsector groups, the high-revenue health group weight would have been 6.67 and the low-revenue human services group weight would have been 906. Calculated weights are shown in Table 13 (on page 15).

## **Rate of Change Calculated from Weighted Responses**

For the rate of change in giving by subsector, each subsector-size group's charitable revenue for 1999 was multiplied by the weight found for that subsector-size group. The weighted 1999 charitable revenues for high-, medium-, and low-revenue organizations for 1999 were summed. Because the weighting was based on 1998 subsector totals divided by 1999 charitable revenues of respondents, the 1999 weighted sum is the same as the 1998 subsector total.

For 2000, charitable revenues for each subsector-size group were multiplied by the weight for that subsector-size. The weighted values for 2000 for each subsector were summed, with high-, medium-, and low-revenue organizations combined.

The difference between the subsector total weighted value for 1998/1999 and the weighted value for 2000 was divided by the weighted value for 1999/1998 to get a percentage change. Because the weights were based on 1998 charitable revenues, the result was then divided by two to estimate a value for change in giving in 2000. An example follows in Table 14 (on page 16).

A summary of the findings for total estimated percentage change for each subsector is in Table 15 (on page 17).

Table 13  
Calculation of Weights Used in the Analysis of data from the Giving USA 2000 Survey  
Dollar values in millions

	Total Charitable Revenue, 1998*	Reported Charitable Revenue	Weight is calculated <u>Total Charitable Rev 98</u> Reported char Rev 99
High-revenue Art	1,560	127	12.30
Medium-revenue Art	3,664	471	7.79
Low-revenue Art	1,644	20	80.63
<b>TOTAL ART</b>	<b>5,308</b>	<b>618</b>	
High-revenue Education	2,249	846	2.66
Medium-revenue Education	4,435	343	12.94
Low-revenue Education	2,447	15	161.67
<b>TOTAL EDUCATION</b>	<b>6,882</b>	<b>1,204</b>	
High-revenue Environment	1,119	605	1.85
Medium-revenue Environment	882	109	8.08
Low-revenue Environment	575	16	36.16
<b>TOTAL ENVIRONMENT</b>	<b>1,457</b>	<b>730</b>	
High-revenue Health	851	1,644	0.52
Medium-revenue Health	7,014	320	21.90
Low-revenue Health	3,872	26	148.07
<b>TOTAL HEALTH</b>	<b>10,886</b>	<b>1,991</b>	
High-revenue Human Services	2,255	35	64.78
Medium-revenue Human Services	4,986	142	35.21
Low-revenue Human Services	3,187	14	221.53
<b>TOTAL HUMAN SERVICES</b>	<b>8,173</b>	<b>191</b>	
High-revenue International	1,530	548	2.79
Medium-revenue International	607	218	2.78
Low-revenue International	501	22	23.02
<b>TOTAL INTERNATIONAL</b>	<b>1,108</b>	<b>788</b>	
High-revenue Public/Societal Benefit	1,819	538	3.38
Medium-revenue Public Societal Benefit	5,284	959	5.51
Low-revenue Public/Societal Benefit	2,991	37	81.53
<b>TOTAL PUBLIC/SOCIETAL BENEFIT</b>	<b>8,275</b>	<b>1,533</b>	
<b>TOTAL OVERALL</b>	<b>47,396</b>	<b>7,672</b>	

\* Total reported by the National Center for Charitable Statistics for the organizations included in the universe from which the *Giving USA* survey sample was drawn. That universe excluded organizations classified in religion, high-revenue education institutions, and foundations. Gifts to those types of organizations form a large percentage of total giving in the United States each year. The total reported here used for the weighting process is NOT the total charitable revenue in the U.S. for 1998.

**Table 14**  
**Example of Analysis**  
**ENVIRONMENT**

**Step 1:**  
**Calculate Weights based on respondents' 1999 charitable revenue and Total 1998 subsector-size group charitable revenue**

	Charitable Rev. Subsector Total,98 <b>98 ch t</b>	Charitable Rev. Respondents, 99 <b>99 ch r</b>	Weight (98 ch t)/(99 ch r) <b>w</b>	(99 ch r) * w <b>= 98 ch t</b>
High revenue organizations	\$1,119,240,506	\$604,574,987	1.85	\$1,119,240,506
Medium revenue organizations	\$882,440,190	\$109,187,972	8.08	\$882,440,190
Low revenue organizations	<u>\$574,677,809</u>	<u>\$15,894,631</u>	36.16	<u>\$574,677,809</u>
<b>TOTALS</b>	<b>2,576,358,505</b>	<b>729,657,590</b>		<b>\$2,576,358,505</b>

**Step 2: Weight Respondents' 2000 charitable revenue**

	Charitable Rev. Respondents,00 <b>00 ch r</b>	Weights as above <b>w</b>	(00 chr) * w <b>00 ch w</b>
High revenue organizations	\$650,507,114	1.85	\$1,204,273,956
Medium revenue organizations	\$131,200,166	8.08	\$1,060,339,315
Low revenue organizations	<u>\$16,681,332</u>	36.16	<u>\$603,121,351</u>
<b>TOTALS</b>	<b>\$798,388,612</b>		<b>\$2,867,734,622</b>

**Step 3: Subtract weighted 1999 charitable revenue (which equals 1998 total revenue) from 2000 weighted charitable revenue to calculate the 1998-2000 rate of change, divide by 2 for change from 1999 to 2000**

	<b>00 ch w</b>	<b>98 ch t</b>	Difference <b>00 ch w - 98 ch t</b>	<b>% change 98 - 00</b>	<b>% change 99 - 00</b>
High revenue organizations	\$1,204,273,956	\$1,119,240,506	\$85,033,450	7.6%	3.8%
Medium revenue organizations	\$1,060,339,315	\$882,440,190	\$177,899,125	20.2%	10.1%
Low revenue organizations	<u>\$603,121,351</u>	<u>\$574,677,809</u>	<u>\$28,443,542</u>	4.9%	2.5%
<b>TOTALS</b>	<b>\$2,867,734,622</b>	<b>\$2,576,358,505</b>	<b>\$291,376,117</b>	<b>11.3%</b>	<b>5.7%</b>

Table 15  
Results for All Subsectors and Size Groups  
Totals Used in the *Giving USA* Estimates

Size and Subsector	Weighted Percentage Change
High-Revenue Art	3.2
Medium-Revenue Art	2.3
Low-Revenue Art	8.1
<b>TOTAL ART</b>	<b>3.9</b>
High-revenue Education	8.9
Medium-revenue Education	3.8
Low-revenue Education	1.7
<b>TOTAL EDUCATION</b>	<b>2.3</b>
High-revenue Environment	7.6
Medium-revenue Environment	20.2
Low-revenue Environment	4.9
<b>TOTAL ENVIRONMENT</b>	<b>5.7</b>
High-revenue Health	12.7
Medium-revenue Health	12.7
Low-revenue Health	3.7
<b>TOTAL HEALTH</b>	<b>4.8</b>
High-revenue Human Services	6.0
Medium-revenue Human Services	10.8
Low-revenue Human Services	2.7
<b>TOTAL HUMAN SERVICES</b>	<b>3.6</b>
High-revenue International	3.9
Medium-revenue International	6.7
Low-revenue International	7.2
<b>TOTAL INTERNATIONAL</b>	<b>2.6</b>
High-revenue Public/Societal Benefit	25.7
Medium-revenue Public Societal Benefit	12.1
Low-revenue Public/Societal Benefit	2.9
<b>TOTAL PUBLIC/SOCIETAL BENEFIT</b>	<b>5.9</b>
<b>TOTAL OVERALL</b>	<b>4.2</b>

### Comparison of Respondents and Nonrespondents

In a survey, there is always the possibility that those who return the questionnaire are different from those who do not in a way that would affect the estimates overall. To test for this possibility, the Center on Philanthropy gathered publicly available information about total charitable revenue from IRS Form 990 for 1999 and 2000 for 491 organizations drawn randomly from the list of high- and medium-revenue nonrespondents, that is, the organizations who were sent the survey but did not return it.

This analysis was done in Spring 2002 for high- and medium-revenue organizations only, as they typically file Form 990, which shows direct public support (charitable contributions) as a separate item from indirect public support (allocations from combined fundraising entities, such as United Way) and government grants. Small organizations use Form 990 EZ, in which all forms of public support are reported together (charitable contributions, United Way allocations and other such distributions, and government grants).

Table 16 summarizes the results. The difference in the means, with the occasionally low numbers of respondents and nonrespondents tested, was significant only for high-revenue environmental organizations ( $p=0.028$ ) and medium-revenue environmental organizations ( $p=0.026$ ) and approached significance for medium-revenue human services organizations ( $p=0.068$ ).

Table 16  
Mean Change in Charitable Revenue, 1999 to 2000  
Respondents Compared to Nonrespondents to the Giving USA 2001 Survey

	Respondents			Nonrespondents		
	Revenue Level	n=	Mean Change	n=	Mean Change	ANOVA Significance
Art	High	9	889,644	12	2,614,768	0.752
	Medium	142	155,682	58	602,623	0.444
Education	High	22	3,432,993	10	2,144,061	0.787
	Medium	99	132,518	83	808,233	0.159
Environment	High	63	729,081	24	4,375,122	0.028 **
	Medium	91	241,892	54	-3,151,714	0.026 **
Health	High	7	29,906,484	3	35,241,738	0.858
	Medium	85	1,900,130	65	215,375	0.237
Human Services	High	10	208,484	7	61,840	0.749
	Medium	118	129,225	62	420,106	0.068 *
International	High	10	2,138,053	10	8,392,935	0.641
	Medium	27	541,079	15	2,690,044	0.361
Public-Society Benefit	High	10	13,818,817	9	30,715,372	0.566
	Medium	94	1,229,199	56	1,194,439	0.977
Total	High	131	3,820,333	75	8,324,621	0.207
	Medium	656	555,109	393	291,098	0.91

For future issues of *Giving USA*, efforts will be made to boost response rates among all subsectors, with emphasis on these three areas. Effort will also be made to validate *Giving USA*'s estimates against IRS Form 990s and adjust *Giving USA* estimates as deemed appropriate by the *Giving USA* Advisory Council on Methodology.

## Notes

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- <sup>1</sup> John Havens, Boston College Social Welfare Research Institute, personal communication, April 24, 2001, using data about the average household contribution for nonitemizing households is an estimate based on findings from the INDEPENDENT SECTOR survey of giving and volunteering conducted in 1998 for giving in 1997, and adjusted for inflation.
- <sup>2</sup> Loren Renz and Steven Lawrence, *Foundation Growth and Giving Estimates*, 2001. The corporate foundation grant figure for 1999 is based on Form 990-PFs filed.
- <sup>3</sup> Loren Renz and Steven Lawrence, *Foundation Growth and Giving Estimates*, 2001. The corporate foundation grant figure for 2000 is based on a survey of corporate foundations.
- <sup>4</sup> Appears in Catherine P. Montalto, "Wealth of American Households: Evidence from the Survey of Consumer Finances: A Report to the Consumer Federation of America," February 13, 2001, available at <http://www.consumerfed.org/evidence.pdf>. Dr. Montalto is a professor at The Ohio State University.
- <sup>5</sup> INDEPENDENT SECTOR, *From Belief to Commitment: The Activities and Finances of Religious Congregations in the United States*, 1988.
- <sup>6</sup> Joseph Claude Harris, "A Summary of Church Contributions and Membership," an Excel worksheet provided to *Giving USA*, April 2001.
- <sup>7</sup> This series was developed by Joseph Claude Harris, an independent researcher based in Seattle, Washington who studies giving in Catholic parishes with the Center for Applied Research in the Apostolate at Georgetown University. *Giving USA* gratefully acknowledges Harris's assistance in carrying out the technical work needed to gather and analyze nine years of data about 40 reporting denominations.
- <sup>8</sup> Department of the Treasury, Research Papers, Washington, D.C.: The Commission on Private Philanthropy and Public Needs, 1977, Volume I.
- <sup>9</sup> Nathan Weber (editor), *Giving USA 1991*, AAFRC Trust for Philanthropy, pages 179, 185.
- <sup>10</sup> If you put all the charitable revenue amounts for organizations in a subsector in order from largest to smallest, the "High-revenue" organizations as defined by *Giving USA* would be that group of organizations at the top of the list that combined had the top 25 percent (or nearest percentage possible to 25) of the total; the low-revenue organizations are those whose charitable revenue combined accounted for the lowest 25 percent (or nearest possible percentage) and the medium-revenue organizations accounted for the remaining 50 percent – those above the bottom 25 percent but below the top 25 percent.

Attachments:

A: Giving USA 2001 survey form

**Attachment A**  
**2001 GIVING USA**

DUE: April 15, 2001

*NOTE: Financial information from this questionnaire will remain completely **confidential**.*

Organization Name: [NAME]

EIN #: [EIN]

Code for sector & size: [MAJCAT] [GROUP]

Please use calendar year information when possible. Where audited data are not available, please use unaudited figures or your best estimate.

**1999**

**2000**

**I. Total Revenue:**

\$ \_\_\_\_\_ \$ \_\_\_\_\_

*Total revenue can be pulled directly from Line 12 of IRS Form 990.*

Please include contributions, gift, grants, fees for services, dues, interest and dividend earnings, net rental income, other investment income, gain (or loss) from sale of assets, net income (or loss) from special events, gross profit (or loss) from sales of inventory, and other revenue.

**1999**

**2000**

**II. Charitable Revenue Only:** \$ \_\_\_\_\_ \$ \_\_\_\_\_

*Charitable revenue figures can be pulled directly from Line 1a of IRS Form 990.*

Please include only gifts or grants from individuals, bequests, foundations and corporations received by your organization. Please include charitable remainder trusts and unitrusts, charitable gift annuities, pooled income funds, and other life income contracts stated at their current book value. Do not include pledges which have not been paid. Do not include government funding or grants, earned income, or income from investments. Do not include the value of volunteer labor.

**1999**

**2000**

**III. Bequests:**

\$ \_\_\_\_\_ or % \_\_\_\_\_ \$ \_\_\_\_\_ or % \_\_\_\_\_

*Of the charitable revenue on line II, what amount OR what percentage was received from bequests (wills)?*

**Please return this survey in the enclosed postage paid envelope or FAX it to us toll-free at 1-877-262-4036.**

**Thank you.**