

Giving Following a Crisis: An Historical Analysis

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ABSTRACT

While conventional wisdom in fundraising maintains that donors of all types give in response to need, analysis of contributions from 1939 to 1999, including years of 17 national crises ranging from war, natural disaster, political crisis, and terrorism, shows that economic variables are strongly associated with giving, whereas crisis is seldom a significant factor. Crisis seems to matter in bivariate (giving/crisis) analysis, but not after controlling for economic changes in multivariate analyses. Results are very robust to type of crisis, time period, sources of giving and specification of model.

INTRODUCTION

Giving in response to disaster occurring far from one's own home may be one of the most purely altruistic forms of charitable contribution. In fact, Ribar and Wilhelm (1995) selected giving for international relief and aid as a test for evaluating the impact of income and tax price on giving precisely because it permitted analysis without the confounding variables introduced when donors potentially benefit from the recipient organization.

Disasters of some type or another occur often. However, some crises or disasters are more severe than others, whether because of the number of lives lost, the value of the property damage done, or the long-term effects on the economy or political systems. In the U.S. during the past 60 years, a number of disaster and other events have occurred that, for their time, were unprecedented. These include war, natural disasters, economic crises, and other events.

The attacks of September 11, 2001, were immediately compared in the press to the attack on Pearl Harbor (Omicinski, 2001 as one example). The philanthropic response after the attacks of September 11, 2001, is nonetheless thought to be unprecedented, not matched by donations at America's entry to World War II or any other event. The total received after September 11 by the largest recipient organizations reached nearly \$2 billion by the end of 2001, with more pledged or contributed in 2002. Approximately two-thirds of the total donated by year's end arrived as donations from individuals and households. Institutional donors – corporations, foundations, and other organizations – contributed the balance (AAFRC Trust for Philanthropy, 2002).

Approximately 65 percent of U.S. households made a contribution to a September 11 relief fund (Steinberg and Rooney, 2001). The individuals who donated were found to be in general of higher income, education, and religious practice than the general population (Steinberg and Rooney, 2002).

To compare giving in response to September 11, 2001, with a "typical" year, it is helpful to examine prior studies of giving. For donations from individuals, a number of works have shown strong relationships between income, religious attendance, and education and charitable

giving. (e.g., Hodgkinson and Weitzman, 1986 and subsequent editions; Rooney, Steinberg and Schervish, 2001; Rooney, Steinberg and Schervish, 2002 and others). Some of the most recent surveys have enabled comparisons of methodology (Rooney, Steinberg and Schervish, 2001, Rooney, Steinberg and Schervish, 2002) yet the general findings hold: higher income correlates with higher levels of giving, when all other factors are held constant.

There are no known datasets of all giving in response to prior crises. However, the Internal Revenue Services (IRS) maintains time series of itemized tax deductions by individual and corporate tax payers. These are used by *Giving USA* to develop annual estimates of all giving. The IRS series can be examined to determine whether giving changed in times of crisis. The series allows some tests of the hypothesis that altruistic giving increases in times of urgent need. It also allows some assessment of giving after the crisis. How quickly does giving return to a pre-crisis level?

Among the four usual types of donors considered -- households or individuals; foundations; and corporations, and individuals making bequests -- all but bequest gifts may be considered as responsive to current events. That is, we do not believe that people time their deaths in order to affect the timing of their philanthropy.

METHODOLOGY

Giving USA, a publication of the AAFRC Trust for Philanthropy, has maintained the only known time series in the U.S. of estimated totals for charitable contributions from all four sources: individuals, corporations, bequests and foundation giving from 1959 to the present. The Center on Philanthropy has used the *Giving USA* series, supplemented with additional information obtained from the IRS, in order to examine charitable giving in years in which major events that might be thought to affect giving (war, terrorism, natural disasters, political crises, and economic crises) and the total contributions in one country, the United States. This analysis focuses on giving that might change in response to a crisis, including gifts from individuals and corporations and grants from foundations. It does not include charitable gifts made through bequest.

We performed the study in two stages. First, we conduct a simple review of rates of change in giving the year of a crisis and the year following a crisis compared to the year before the crisis. Second, we use of regressions to determine relationships between the various factors known and hypothesized to affect giving. For example, we are conscious of the fact that income and wealth are strong predictors of personal giving (e.g., Deb, et al., 2002). Then we use these variables to ascertain whether any impact of “crisis” remains after controlling for differences in income and wealth in a regression framework.

In the first stage, rates of change in giving were compared for the year before, the year of, and the year after an event. Thus, for the bombing of Pearl Harbor, the Center looked at the rate of change in giving in the year before (1940), the year of the event (1941), and the year after (1942). The disaster or crisis events considered fall into five groups: War, terrorism, political crises, economic crises, and natural disasters. Each type of event occurred between two and six times between 1938 and 1999, as follows.

War

- 1940 Fall of France
- 1941 Bombing of Pearl Harbor
- 1950 Korean War
- 1962 Cuban Missile Crisis
- 1970 U.S. Bombing of Cambodia
- 1991 Gulf War (U.S. involvement)

Terrorism in U.S. Borders

- 1993 Bombing of the World Trade Center
- 1995 Bombing of the Murrah Building

Political Crises

- 1963 Assassination of President Kennedy
- 1974 Resignation of President Nixon

Economic Crises

- 1973 Arab Oil Embargo
- 1980 Hunt Silver Crisis
- 1987 20% Drop in Stock Market in one day

Natural Disasters

- 1965 Hurricane Betsy
- 1989 Hurricane Hugo/San Francisco Earthquake
- 1992 Hurricane Andrew
- 1993 Midwestern Floods
- 1994 Loma Linda (LA Area) Earthquake

Bivariate Analysis

Rates of change in inflation-adjusted total giving from sources available (1938-2000 for individual and corporate giving plus foundation grantmaking for 1959-1999) were calculated for years around a crisis event: Y_{-1} (the year before an event), Y (the year of the crisis event), and Y_{+1} (the year after the event). We examined the rates of change in giving and compared them across the three years, Y_{-1} , Y and Y_{+1} . In Table 1, the direction of change and its frequency for each type of crisis is shown when comparing the rates of change in Y to rates of change in Y_{-1} . Overall, the rate of change in giving decreased in two of the six years with an act of war; stayed the same (+/-1 percent) for one year with an act of war; and increased in three years with an act of war. When all types of crisis are summed, for the 18 crises, the rate of change in giving increased in the year of a crisis in eight years, stayed the same in three crisis years, and decreased in seven crisis years. Again, we want to stress that these are comparisons of the annual rates of change—not levels—of giving.

Table 1
Number of Years by Direction of Change in Rate of Change in Giving
Comparing Crisis Year with Year Before the Crisis
(Rates of Change reflect inflation-adjusted totals for giving)

Direction of Change in Rate of Change	War (6)	Terrorism (2)	Politics (2)	Economic (3)	Natural Disaster (5)	Totals
Increase	3	1	1	0	3	8
No change	1	1	0	0	1	3
Decrease	2	0	1	3	1	7

Comparing the rate of change in the year following a crisis helps evaluate whether or not there is a lingering effect of crisis on contributions. It is also useful because some crises occurred late in a calendar year, so any philanthropic impulse may not have reached a measurable level until the following year. In Table 2, we see that a crisis year is more often followed by a year with an increased rate of change in giving. In years Y_{+1} the rate of change in giving was higher than in year Y in ten cases. The rate of change in giving was lower in seven post-crisis years: the Fall of France, Assassination of President Kennedy, Hurricane Betsy, Arab Oil Embargo, Hurricane Hugo/San Francisco Earthquake, Bombing of the World Trade Center and the Midwestern Floods. These results suggest that political and terrorism crises may have a destabilizing impact on philanthropy and that the philanthropic response to natural disasters tends to be short-lived. Conversely, Americans seem to be more persistent in their philanthropy in response to economic adversity and war.

Table 2
 Number of Years by Direction of Change in Rate of Change in Giving
 Comparing Year After Crisis with Year of Crisis
 (Inflation-adjusted totals for giving)

Direction of Change in Rate of	War (6)	Terrorism (2)	Politics (2)	Economic (3)	Natural Disaster (5)	Totals
Increase	5	1	1	2	1	10
No change	0	0	0	0	1	1
Decrease	1	1	1	1	3	7

Another comparison looks at the rates of change in giving in the year before the crisis (Year Y_{-1}) and the year after the crisis (Year Y_{+1}). Table 3 shows that for six years Y_{+1} , giving grew at a faster rate than it had during the year Y_{-1} (*before* the event). In eight years after a crisis year, giving grew more slowly than it had the year prior to the crisis year: Pearl Harbor, Resignation of President Nixon, Arab Oil Embargo, October 1987 Financial Panic, Hurricane Hugo/San Francisco Earthquake, Bombing of the World Trade Center, Midwestern Floods, and Loma Linda Earthquake. In three of those eight years, the year after a crisis was also a year of recession: Arab Oil Embargo, Resignation of President Nixon, and Hurricane Hugo/San Francisco Earthquake.

Table 3
 Number of Years by Direction of Change in Rate of Change in Giving
 Comparing Year After Crisis with Year Before Crisis
 (Inflation-adjusted totals for giving)

Direction of Change in Rate of Change	War (6)	Terrorism (2)	Politics (2)	Economic (3)	Natural Disaster (5)	Totals
Increase	4	1	0	0	1	6
No change	1	0	1	1	1	4
Decrease	1	1	1	2	3	8

Thus, it appears by comparing the rates of change in giving, that giving increases at a somewhat faster rate in crisis years compared to the prior year but is about equally likely to increase or to slow its rate of change the year after a crisis when compared to the year preceding the crisis as discussed above. Other research has shown such a strong effect from economic variables, therefore we wanted to see whether or not the impact of crisis on giving was still a factor after controlling for economic effects.

Correlations

To investigate this further, the authors considered economic factors and crises with giving. Because the *Giving USA* series is incomplete for the period 1938 to 1999, the authors worked with itemized deductions reported by Statistics of Income (SOI) for individual tax filers for this analysis. Using data from the SOI from 1938 to 1999 permitted examination of giving in 1941, with Pearl Harbor being the only comparable historical precedent for the September 11 attacks.

Individual itemized deductions for charitable gifts represent a large share of total giving. Since 1959, according to *Giving USA* records, itemized deductions have constituted an estimated 58 (1977) to 85 (1999) percent of all individual charitable contributions. Further, donations from individuals have been estimated at 75 to 85 percent of all contributions. Itemized charitable deductions thus constitute more than 48 percent (1977) to 67 percent (1985) of all giving.

Using the IRS reports of itemized charitable contributions only, the authors tested the relationship between crises event and charitable giving. In the statistical analysis, all dollar amounts were adjusted for inflation using the Consumer Price Index inflation-adjustment calculator at the Bureau of Labor Statistics. Dummy variables were introduced for the events (year of event = 1; no event = 0). In addition, as prior work has suggested that recessions affect giving and that significant changes in the tax law impact contributions (Kaplan, 1998), dummy variables for these were also introduced (recession = 1; tax law change = 1).

Correlation analysis, with the results in Table 4, shows that there are only weak significant correlations between events and giving, either when considering all types of events combined or each one of the six identified event types. The only significant correlations are between personal income and giving and the stock market (as measured by the Dow Jones Industrial Average) and giving. Examining the data in smaller increments of time also does not reveal any statistically significant correlations. Statistical significance is only reached at the 0.10 level for one period considered (1988-1999), and it suggests that crisis in the 1990's is negatively correlated with giving. It is possible that the six crisis events between 1988 and 1999 induced a domestic version of compassion fatigue (Moeller, 1998) or that changing perceptions in society about need, community and responsibility influenced contributions patterns as has been posited by Robert Putnam (2000).

Table 4
Correlation Analysis of Giving and Events, Giving and Income, Giving and the Stock Market
(All Values Adjusted for Inflation)

	Pearson	Prob
	Correlation	values
	Coefficient	(2-tailed)
All events	0.138	0.285
War	-0.152	0.237
Economic	0.078	0.544
Political	-0.008	0.949
Terrorism	0.226	0.078 *
Natural Disaster	0.202	0.173
Personal Income	0.963	0 ***
Dow Jones Industrial Average	0.783	0 ***
Recession	-0.180	0.16
Events (17) 1938-1999	0.138	0.285
Events (14) 1958-1999	0.021	0.897
Events (11) 1968-1999	-0.017	0.928
Events (8) 1978-1999	-0.080	0.725
Events (6) 1988-1999	-0.549	0.065 *
Events (6) 1938-1968	0.058	0.756
Year after event	0.179	0.165

*** significant to the 0.01 level
 ** significant to the 0.05 level
 * significant to the 0.10 level
 (Some years have more one event.)

Multivariate Analysis

The third level of analysis included multivariate-regression analysis of factors found earlier to be important predictors of individual or household giving (Nelson, 1993) – personal income, stock market values, recession, and tax law changes affecting the tax-deductibility of charitable contributions – in conjunction with a dummy variable introduced for the years in which disaster events occurred. In this analysis we did not test changes in the highest marginal tax rates, which have been shown to be a factor in estimating charitable deductions (Deb, Wilhelm, Rooney, and Brown, 2002).

After examining crisis events, we also examined twelve events or occasions that could be thought of as “unifying” nationally for reasons of relief, pride or achievement and considered them with and without crisis events to evaluate whether there are predictable affects on giving.

The twelve “unifying” events include:

End of International Conflict

1945 Cessation of war on both European and Asian fronts

1974 End of Vietnam War

1981 Release of the hostages held by Iran

1989 Fall of the Berlin Wall

Space Program

1958 First satellite launch

1961 First person to orbit Earth

1969 Moon landing

1983 Launch of the Challenger Space Shuttle

Unifying Group Experiences

1963 Martin Luther King, Jr. ’s March on Washington and “I have a Dream” speech

1995 Pope visited the U.S. and the first “Million Man” March.

National Pride

1959 Alaska and Hawaii become states

1976 Bicentennial

The dependent variable is the level of charitable giving itemized on individual tax returns as a deduction. Independent variables include: personal income, stock market values (Dow Jones Industrial Averages, monthly close in December), dummy variable for recession years, dummy variable for years of a tax code change affecting deductions for charitable contributions, dummy variable for year of a crisis event, and when a unifying event was considered, a dummy variable for those events. The economic variables are all expressed in constant 2000 dollars..

We performed the same analysis for corporate giving, using as the dependent variable the SOI reports of itemized deductions for charitable gifts on corporate income tax returns, 1939 to 1999. Independent variables were the same.

FINDINGS

We find that personal income and stock market values are strongly and positively associated with giving, whereas the occurrence of a crisis, even a war or major terrorist attack, lacks explanatory power for changes in giving. The occurrence of a positive, “unifying” event – alone or when analyzed with crisis variables – is also not predictive of giving.

This is true using individual giving from 1939 to 1999, as shown in Table 5, and for corporate giving (shown later). In the basic model, before introducing a dummy variable for a crisis event, and for the model with a crisis event, the only variables that show significance are income, the stock market, and the dummy variable for a tax code change (all significant at the .01 level).

Table 5
Individual itemized charitable contributions, 1939-1999

Variable	Basic Model	Crisis Event	Crisis + 1	Unifying Event	Crisis + Unifying
Personal Income	0.011 ^{0.000 ***}	0.011 ^{0.000 ***}	0.011 ^{0.000 ***}	0.011 ^{0.000 ***}	0.011 ^{0.000 ***}
DJIA (year end value)	0.004 ^{0.000 ***}	0.004 ^{0.000 ***}	0.004 ^{0.000 ***}	0.004 ^{0.000 ***}	0.004 ^{0.000 ***}
Recession	0.727 ^{0.558}	0.877 ^{0.479}	0.797 ^{0.525}	0.651 ^{0.605}	0.793 ^{0.528}
Tax Code Change	10.241 ^{0.002 ***}	10.465 ^{0.002 ***}	10.111 ^{0.003 ***}	10.357 ^{0.002 ***}	10.603 ^{0.002 ***}
Crisis Year	--	-1.614 ^{0.194}	-1.504 ^{0.235}	--	-1.648 ^{0.189}
Crisis Year + 1 year	--	--	-0.676 ^{0.600}	--	--
Unifying Event Year				0.646 ^{0.643}	0.741 ^{0.593}
Adjusted R-squared	0.978	0.978	0.978	0.977	0.956
Number of observations	61	61	61	61	61
Number with Crisis Event	0	17	17	0	17
Number with unifying event	0	0	0	12	12

(Some years have more than one event.)

Prob values and levels of significance are shown to the right of each coefficient.

Further, we considered whether the effects might be persistent and/or delayed so we examined the event year and Y+1. The same variables remain significant to the 0.01 level. Again, we find that economic variables (personal income, the stock market as measured by the Dow Jones Industrial Average, and tax code changes) are highly associated with giving, but that crises are not good predictors of giving.

When considering the potentially unifying events alone or in combination with crisis years, the results were the same. The dummy variable for the unifying event year has the expected sign but does not approach statistical significance.

We considered the possibility that some types of crisis would be more likely to cause a change in giving than would others. When using a dummy variable only for years that have the same type of event, these findings hold no matter which type of event is considered. The results for the economic variables are remarkably robust across all different types of disaster, which suggests that they truly are the real drivers in these models. Table 6 shows the results of the model when the dummy variable for crisis year is used only for years of a given type of crisis (war, terrorism, natural disaster, etc.).

Table 6
Individual itemized charitable contributions, 1939-1999, by Type of Crisis Event

Variable	War		Politics		Economy		Terrorism		Natural Disaster	
Personal Income	0.011	0.000 ***	0.011	0.000 ***	0.011	0.000 ***	0.011	0.000 ***	0.011	0.000 ***
DJIA (year end value)	0.004	0.000 ***	0.004	0.000 ***	0.004	0.000 ***	0.004	0.000 ***	0.004	0.000 ***
Recession	0.690	0.584	0.629	0.613	1.099	0.388	0.484	0.691	0.398	0.751
Tax Code Change	10.249	0.002 ***	10.289	0.002 ***	11.832	0.001 ***	9.610	0.003 ***	9.564	0.004 ***
Crisis Year	0.422	0.823	2.987	0.331	-3.451	0.224	-5.861	0.065 *	-2.820	0.187
Adjusted R-squared	0.977		0.978		0.978		0.979		0.978	
Number of observations	61		61		61		61		61	
Number with Crisis Event	6		2		3		2		5	

(Some years have more than one event.)

The findings are robust for individual giving across all specifications and models. Economic variables are associated with individual itemized charitable giving. Only in the case of terrorism is the dummy variable for a type of crisis associated with personal giving, (and that is only weakly significant). Our results suggest that acts of terrorism have a fairly large, negative effect on personal giving, *ceteris paribus*.

We then turned to another donor type, corporations. When considering the level of itemized contributions claimed on corporate tax returns the results are similar. We used a series from Statistics of Income for itemized charitable contributions by corporations for the period 1939 to 1999 with the same independent variables used for individual giving. Table 7 shows the results. Recession years are associated with a statistically significant decrease in corporate philanthropy in this model. Crisis is weakly statistically significant only in combination with the unifying events. It should be noted that “crisis” nearly attains significance in the other models, but only actually attains significance at conventional levels in the model that includes unifying events. Personal income and the stock market continue to have a highly significant, albeit small effect on corporate giving.

Table 7
Corporate Itemized Contributions
Statistics of Income Data, 1939-1999

	Basic Model			Crisis Only			Crisis + 1			Unifying			Crisis + Unifying		
Personal income	0.001	0.00	***	0.001	0.00	***	0.001	0.000	***	0.001	0.000	***	0.001	0.00	***
DJIA	0.000	0.00	***	0.000	0.00	***	0.000	0.001	***	0.000	0.000	***	0.000	0.00	***
Recession	-0.306	0.04	**	-0.305	0.04	**	-0.326	0.030	**	-0.321	0.033	**	-0.325	0.03	**
tax law change	1.341	0.00	***	1.363	0.00	***	1.301	0.001	***	1.364	0.001	***	1.396	0.00	***
Crisis event	--			-0.234	0.11		-0.228	0.119		--			-0.259	0.08	*
Crisis + 1				--			-0.108	0.478		--			--		
unifying event	--			--			--			0.129	0.430		0.175	0.28	
Adjusted R-squared	0.958			0.958			0.959			0.957			0.959		
Number of observations	61			61			61			61			61		
Number of crisis years	--			17			17			--			17		
Unifying event years	--			--			--			12			12		

(Some years have more than one event.)

When looking at the type of crisis and corporate giving (see Table 8), we continue to find that the economic variables are relatively small, but are highly statistically significant. Corporate giving is negatively associated with the crisis of war, but none of the other types of crisis.

Table 8
Corporate Itemized Contributions Examined by Type of Crisis Event, 1939-1999

Variable	War	Politics	Economic crisis	Terrorism	Natural Disaster
Personal income	0.0010 ^{0.00} ***	0.0010 ^{0.00} ***	0.0010 ^{0.00} ***	0.0010 ^{0.00} ***	0.0010 ^{0.00} ***
DJIA	0.0002 ^{0.00} ***	0.0002 ^{0.00} ***	0.0002 ^{0.00} ***	0.0002 ^{0.00} ***	0.0002 ^{0.00} ***
Recession	-0.2603 ^{0.07} *	-0.3061 ^{0.04} **	-0.2823 ^{0.07} *	-0.2982 ^{0.05} *	-0.3291 ^{0.03} **
Tax law change	1.3308 ^{0.00} ***	1.3406 ^{0.00} ***	1.4429 ^{0.00} ***	1.3615 ^{0.00} ***	1.2936 ^{0.00} ***
Crisis event	-0.5324 ^{0.01} ***	-0.0031 ^{0.99}	-0.2218 ^{0.51}	0.1933 ^{0.61}	-0.1958 ^{0.44}
Adjusted R-squared	0.9615	0.9570	0.9573	0.9572	0.9574
Number of observations	61	61	61	61	61
Number crisis years	6	2	3	2	5

It is particularly puzzling to note that the coefficient for natural disasters is negative (but nowhere near statistically significance). These events, which in this analysis included two major hurricanes, two earthquakes, and a flood, are often associated in the public's mind with large donations of goods for relief.

A recent paper testing the estimating procedure for giving by individuals found that using the changes in inflation-adjusted personal giving was more powerful than using the levels personal of giving (Deb, Wilhelm, Rooney and Brown, 2002). When we tested inflation-adjusted changes in individual giving, with the same independent variables (Personal Income, Dow Jones Industrial Average and dummy variables for recession, tax law change, crisis year and unifying year), we find that the economic variables remain statistically significant, but that crisis year and unifying event years had no significant impact on changes in personal giving (see Table 9).

Table 9
Changes in Individual Itemized Donations 1939-1999

	Basic	p=	Crisis (17)		Crisis + 1		Unifying		Crisis + Unifying	
Personal Income	0.013	0.006 ***	0.013	0.007 ***	0.012	0.008 ***	0.013	0.006 ***	0.013	0.007 ***
DJIA	0.003	0.000 ***	0.003	0.000 ***	0.003	0.000 ***	0.003	0.000 ***	0.003	0.000 ***
Recession	0.700	0.466	0.736	0.442	0.661	0.497	0.790	0.422	0.810	0.409
Tax Law	-3.864	0.068 *	-3.609	0.089 *	-3.787	0.080 *	-3.958	0.065 *	-3.695	0.085 *
Crisis	--		-0.993	0.234	-0.900	0.293	-0.494	0.606	-0.967	0.252
Crisis+1	--				-0.482	0.573				
Unifying	--						0.294	0.803	-0.414	0.665
Adj. R-squared	0.393		0.398		0.390		0.385		0.389	
Number of observations	60		60		60		60		60	
Number with crisis	--		17		17.000		--		17	
Number with unifying event	--		--		--		12		12	

(Some years have more than one event.)

When disaggregating the crises by type of crisis event, we find that crisis year is negatively and weakly significant for the three years of economic crisis. The income and wealth change variables are statistically significant for changes in giving across all types of crisis events. The tax law dummy variable is significant for all types of crisis except economic crisis – and one of the economic crises occurred in 1987, a year with that dummy variable.

Table 10
Changes in Individual Giving by Type of Crisis Event

	War	Politics	Economic crisis	Terrorism	Natural Disaster
Change Personal Income	0.013 0.006 ***	0.013 0.007 ***	0.013 0.004 ***	0.012 0.008 ***	0.013 0.006 ***
Change DJIA	0.003 0.000 ***	0.003 0.000 ***	0.003 0.000 ***	0.003 0.000 ***	0.003 0.000 ***
Recession	0.659 0.498	0.701 0.470	1.048 0.280	0.633 0.515	0.676 0.485
Tax Law	-3.818 0.074 **	3.863 0.071 *	2.279 0.314	3.916 0.067 *	3.950 0.065 *
Crisis	0.619 0.625	0.073 0.973	3.221 0.093 *	1.346 0.531	0.847 0.533
Adj. R-squared	0.385	0.382	0.413	0.386	0.386
Number of observations	60	60	60	60	60
Number with crisis	6	2	3	2	5

Using change in giving for corporate itemized contributions, the economic variable of personal income remains statistically significant. Recession is weakly statistically significant for the model with both crisis years and unifying events. Changes in corporate giving are positively associated with years in which terrorism occurred, but this relationship is only weakly significant.

Table 11
Changes in Corporate Itemized Contributions, 1939-1999

	Basic		Crisis only		Crisis + 1		Unifying		Crisis + Unifying	
Pers Inc	0.002	0.005 ***	0.002	0.005 ***	0.002	0.006 ***	0.002	0.007 ***	0.002	0.007 ***
DJIA	0.000	0.256	0.000	0.263	0.000	0.271	0.000	0.318	0.000	0.332
Recession	-0.219	0.140	-0.219	0.143	-0.228	0.131	-0.248	0.100	-0.250	0.099 *
Tax	-0.213	0.507	-0.202	0.534	-0.223	0.496	-0.182	0.570	-0.163	0.615
Crisis	---		-0.049	0.701	-0.052	0.688	---		-0.074	0.568
Crisis + 1	---				-0.101	0.489	---		---	
unifying	---		---				0.160	0.273	0.174	0.243
Adjusted R squared	0.267		0.256		0.249		0.270		0.261	
Number of observations	60		60		60		60		60	
Number with crisis	---		17		17		0		17	
Number with unifying event	---		---		0		12		12	

Table 12
Changes in Corporate Itemized Contributions, 1939-1999
By Type of Crisis

	War		Politics		Economic crisis		Terrorism		Natural Disaster	
Change Personal income	0.002	0.005 ***	0.002	0.005 ***	0.002	0.004 ***	0.002	0.003 ***	0.002	0.005 ***
Change DJIA	0.000	0.249	0.000	0.252	0.000	0.320	0.000	0.431	0.000	0.258
Recession	0.219	0.143	0.218	0.146	0.192	0.206	0.191	0.191	0.225	0.138
Tax law change	0.208	0.521	0.212	0.513	0.091	0.797	0.192	0.543	0.220	0.498
Crisis event	0.069	0.743	0.075	0.817	0.248	0.403	0.546	0.093 *	0.055	0.796
Adjusted R-squared	0.255		0.255		0.263		0.292		0.255	
Number of observations	60		60		60		60		60	
Number crisis years	6		2		3		2		5	

Summary of Findings Using SOI Series for Giving, by Levels and by Changes

In all specifications using the levels of giving from the Statistics of Income data for itemized contributions by individuals and for itemized contributions by corporations, the personal income variable is statistically significant, as is the variable for the Dow Jones Industrial Average. On analysis by type of event, for both individual and corporate giving, the dummy variable for crisis year is statistically significant (to the 0.01 level) for corporate giving in times of war and (to the 0.10 level) for individual giving in times of terrorism.

In examining changes in giving, personal income is statistically significant for all specifications for both individuals and corporations. The DJIA is statistically significant for individual donations but not for corporate giving. Recession year is significant for corporate giving but not for individual. The dummy variable for crisis year reaches significance (to the 0.10 level) when individual giving is examined with economic crisis. This could be due to the fact that an economic crisis occurred in 1987, the same year that the tax law change was implemented. The dummy variable for crisis year reaches statistical significance (to the 0.10 level) for corporate giving in years of terrorism (1993 and 1995).

Giving USA series

In addition to testing the relationship using the series of itemized individual contributions from 1938 through 1999, we also used as the giving variable a sum derived from *Giving USA* from 1959 through 2000, where giving includes estimated contributions from individuals, foundations, and corporations. Recall that we did not include bequest giving, as this type of giving is not likely to be affected by the timing of various crises. This series covers years with 14 crisis events and 10 "unifying" events. Personal income and stock market values are positive and weakly significant and the tax code change of 1986 has a large coefficient but is only weakly significant (0.10 level). Although unifying events are never close to attaining significance, the crisis events are associated with a negative affect on total giving (.04 level of significance). This implies that after holding income, wealth, tax code changes, and recession years constant, a crisis year is associated with a \$2.9 billion decrease in total giving. This suggests that our bivariate result which just looked at the rate of change for giving in crisis years, was somewhat flawed in that it did not control for key economic variables, which have an important impact on giving

Table 13
 Non-Bequest Giving estimates, *Giving USA* 1959-1999
 (Includes combined total for individual, corporate, and foundation giving)

	Basic Model			Crisis			Crisis +1			Unifying			Crisis + Unifying		
Personal Income	0.015	0.00	***	0.015	0.00	***	0.016	0.000	***	0.015	0.00	***	0.015	0.00	**
DJIA (year end value)	0.004	0.00	***	0.004	0.00	***	0.003	0.000	***	0.004	0.00	***	0.004	0.00	**
Recession	1.020	0.52		1.358	0.37		1.176	0.414		1.039	0.51		1.358	0.38	
Tax Code Change	5.126	0.12		5.543	0.08	*	4.125	0.176		5.072	0.13		5.545	0.08	*
Crisis Event	--			2.901	0.04	**	2.502	0.061	*	--			2.902	0.04	**
Unifying Event	--			--			2.861	0.036	**	-0.272	0.87		0.010	0.99	
Adjusted R-squared	0.982			0.983			0.985			0.981			0.983		
Number of observations	42			42			42			42			42		
Number with Dummy for Crisis Event	0			14			14			0			14		
Number with Dummy for Unifying Event	---			---						10			10		

(Some years have more than one event.)

Because different types of giving – individual donations, foundation giving, or corporate donations – may be differently affected by events, we also analyzed *Giving USA* estimates of contributions from each donor-type to find out if crisis or unifying events might be linked to giving levels. Individual giving, which includes an estimate of contributions from households that do not itemize giving on tax returns (approximately 70 to 80 percent of households annually), is associated with crisis years. In many cases, the nonitemizer estimate is based on survey findings, either from INDEPENDENT SECTOR (1986 and subsequent) or the Survey of Consumer Finances (Kaplan, 1998). Crisis years are associated with a decline in individual giving of almost \$3 billions (p=.04). Worse yet, the decline in giving seems to persist for the following the crisis (crisis year +1 year). Unifying events, at least as we have defined them, do not have any significant effect on individual giving.

Table 14
Giving by Individuals (Giving USA estimates) 1959-1999

	Basic Model			Crisis Event			Crisis +1			Unifying			Crisis + Unifying		
Personal Income	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***
DJIA (year end value)	0.002	0.000	***	0.002	0.000	***	0.002	0.000	***	0.002	0.000	***	0.002	0.000	***
Recession	0.748	0.608		1.116	0.419		0.953	0.460		0.758	0.610		1.108	0.431	
Tax Code Change	3.297	0.275		3.732	0.191		2.285	0.399		3.268	0.288		3.762	0.196	
Crisis Year	--			-2.985	0.021	**	-2.602	0.031	**	--			-2.995	0.023	**
Crisis Year + 1 year	--			--			-2.941	0.018	**	--			--		
Year of Unifying Event										-0.145	0.923		0.142	0.920	
Adjusted R-squared	0.973			0.976			0.979			0.972			0.976		
Number of observations	41			41			41			41			41		
Number with Crisis Event	0			14			14			14			14		
Number with unifying event										10			10		

(Some years have more than one event.)

Disaggregated by type of crisis event, the economic variables remain highly significant. Terrorism is associated with a large increase in personal giving (\$8.15 million) and is highly significant ($p=.005$). The other forms of crisis do not have a meaningful effect on individual giving.

Table 15
Individual giving, Giving USA series, 1959-1999 by Type of Crisis

	War			Politics			Economy			Terrorism			Natural Disaster		
Personal Income	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***	0.013	0.000	***
DJIA (year end value)	0.003	0.000	***	0.002	0.000	***	0.002	0.000	***	0.002	0.000	***	0.002	0.000	***
Recession	0.930	0.538		0.737	0.619		0.919	0.551		0.299	0.821		0.285	0.848	
Tax Code Change	3.289	0.281		3.302	0.281		3.806	0.253		2.368	0.387		2.622	0.387	
Crisis (specific type)	-1.354	0.585		0.369	0.901		-1.061	0.697		8.152	0.005	***	-2.555	0.206	
Adjusted R-squared	0.973			0.972			0.973			0.978			0.974		
Number of observations	41			41			41			41			41		
Number with Crisis Event	3			2			3			2			5		

(Some years have more than one event.)

The *Giving USA* series for corporate giving includes tax-deductible contributions as itemized on corporate tax returns – net of gifts made to corporate foundations – to which are

added grants made by corporate foundations. Economic variables are associated with giving for this donor type, including recession. By type of crisis, the recession dummy variable is statistically significant in years with a dummy variable for a political crisis or a terrorism crisis neither the crisis variable of the unifying events have a statistically significant impact on corporate giving either overall or when disaggregated by the type of crisis..

Table 16
Corporate Contributions + Corporate Foundation Grantmaking*, Giving USA 1959-1999

	Basic Model			Crisis Event			Crisis +1			Unifying			Crisis + Unifying		
Personal Income	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
DJIA (year end value)	0.000	0.008	***	0.000	0.010	***	0.000	0.012	***	0.000	0.008	***	0.000	0.010	***
Recession	-0.375	0.076	*	-0.359	0.093	*	-0.363	0.094	*	-0.384	0.072	*	-0.368	0.088	*
Tax Code Change	1.278	0.004	***	1.297	0.004	***	1.261	0.007	***	1.306	0.004	***	1.329	0.004	***
Crisis Year	--			-0.126	0.505		-0.117	0.546					-0.138	0.472	
Crisis Year + 1 year	--			--			-0.073	0.710		--					
Year of Unifying Event										0.140	0.510		0.153	0.476	
Adjusted R-squared	0.930			0.929			0.927			0.929			0.928		
Number of observations	41			41			41			41			41		
Number with Crisis Event	0			14			14			14			14		
Number with unifying event										10			10		

(Some years have more than one event.) * Data for corporate foundation grantmaking from the Foundation Center.

Table 17
Corporate Contributions + Corporate Foundation Grants*, Giving USA, 1959-1999
By type of crisis

	War			Politics			Economy			Terrorism			Natural Disaster		
Personal Income	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
DJIA (year end value)	0.000	0.008	***	0.000	0.009	***	0.000	0.010	***	0.000	0.009	***	0.000	0.008	***
Recession	-0.343	0.114		-0.367	0.085	*	-0.319	0.146		-0.371	0.085	*	-0.346	0.114	
Tax Code Change	1.277	0.005	***	1.275	0.005	***	1.446	0.003	***	1.287	0.005	***	1.321	0.004	***
Crisis (specific type)	-0.233	0.507		-0.262	0.532		-0.348	0.364		0.075	0.862		0.160	0.580	
Adjusted R-squared	0.929			0.929			0.930			0.928			0.929		
Number of observations	41			41			41			41			41		
Number with Crisis Event	3			2			3			2			5		

(Some years have more than one event.) *Data for corporate foundation grantmaking from the Foundation Center.

Foundation grantmaking (which excludes grantmaking by corporate foundations, at least from 1978 on) shows the same pattern: strong association with economic variables and little association with crisis or other events. Perhaps the most interesting result of the analysis of foundation giving is that our estimates suggest that holding everything else constant foundations provide a counter-cyclical force in the economy. During recessions, foundation giving increases by almost \$700 million, even after controlling for changes in personal income, and, more importantly, the stock market.

Table 18
Foundation Grantmaking,* *Giving USA* series, 1959-1999

Variable	Basic Model			Crisis Event			Crisis +1			Unifying			Crisis + Unifying		
Personal Income	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
DJIA (year end value)	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
Recession	0.665	0.059	*	0.653	0.069	*	0.653	0.073	*	0.687	0.053	*	0.672	0.063	*
Tax Code Change	0.593	0.404		0.578	0.422		0.580	0.439		0.530	0.458		0.509	0.483	
Crisis Year	---			0.101	0.748		0.101	0.755		---			0.126	0.691	
Crisis Year + 1 year	---			---			0.004	0.991		---			---		
Year of Unifying Event	---			---			---			0.316	0.370		-0.328	0.360	
Adjusted R-squared	0.937			0.943			0.933								
Number of observations	41			41			41			41			41		
Number with Crisis Event	0			14			14			14			14		
Number with unifying event										10			10		

(Some years have more than one event.)

*Data for foundation grantmaking are from the Foundation Center for 1959-1985 and 1988-1999. For 1986-1987, foundation grantmaking is estimated by *Giving USA* (Kaplan, 1998, page 178).

Table 19
Foundation Grantmaking* by Type of Crisis, 1959 to 1999

Type of crisis	War			Politics			Economy			Terrorism			Natural Disaster		
Personal Income	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
DJIA (year end value)	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***	0.001	0.000	***
Recession	0.651	0.075	*	0.651	0.067	*	0.645	0.082	*	0.666	0.064	*	0.670	0.069	**
Tax Code Change	0.594	0.410		0.600	0.402		0.534	0.496		0.594	0.413		0.600	0.412	
Crisis (specific type)	0.108	0.854		0.474	0.497		0.124	0.847		0.005	0.995		0.027	0.955	
Adjusted R-squared	0.935			0.936			0.935			0.935			0.935		
Number of observations	41			41			41			41			41		
Number with Crisis Event	3			2			3			2			5		

(Some years have more than one event.)

*Data for foundation grantmaking are from the Foundation Center for 1959 to 1985 and 1988-1999. For 1986-1987, foundation grantmaking is estimated by *Giving USA*. (Kaplan, 1998, p. 178).

Summary of findings using the *Giving USA* Series

Total nonbequest giving as reported by *Giving USA* from 1959 through 1999 is associated with a significant decrease during crisis years. When disaggregated by donor type, individual giving is associated with a large decline in crisis years. If we disaggregate further, this decline in individual giving seems to be spread across several different crises, but during periods of terrorism, individual giving is associated with a large increase in giving. Corporate and foundation giving are not affected by crises - at least not after controlling for economic factors.

The models used in this analysis are based on the methodology used by *Giving USA* for estimating individual and corporate giving in the editions of 1998 through 2001. Since then, the individual giving model has been somewhat revised (Deb et al. 2002) with new variables introduced (lagged income, lagged giving, and tax rate change). These variables, when used with changes in personal income and changes in the stock market, were found to be more useful in estimating changes in giving than were tax law changes and recession. We re-ran our tests using this model and found largely similar results, suggesting that the results are robust to differences in specification. The main result from these analyses is that total giving is negatively associated with crises and that the effects persist the following year. Disaggregating the data suggest that the total giving effect is attributable to changes in individual giving and that this negative effect is driven by terrorist events, historically (complete results available from authors).

Conclusions

Simple review of rates of change in giving shows that giving does go up during crisis years, often at a faster rate than had been seen in the prior year. However, in multivariate analysis, controlling for personal income and the stock market and other factors, giving in years of crisis is not statistically significant - except in a few instances. In every type of crisis analyzed, giving was strongly associated with economic factors. In only a few instances was giving associated with crisis events. The good news is that crises do not evoke erratic vacillations in giving. The bad news: crises do not seem to stimulate a strong philanthropic outpouring as was initially thought when examining only the bivariate and trend data. Rather,

our results confirm the dominating power of economic variables in determining philanthropic giving.

In the wake of the September 11, 2001, attacks many individuals, corporations, and foundations made large and small gifts, totaling approximately \$2.7 billion by August 2002 (Kasindorf, 2002). The amount contributed in 2001 was approximately one percent of total giving estimated for that year (AAFRC Trust, 2002). Overall, however, giving in 2001 may well have followed the pattern for giving in the wake of prior crisis – driven by economic factors more than by a national outpouring of support for those whose lives were damaged.

Further Research

A few results in this study suggest there might be stronger relationship between crisis and giving than was found here. Specifically, levels of individual giving in the series from 1939-99 reached statistical significance ($p=0.07$) in years of terrorism. Changes in giving by individuals reached statistical significance ($p=0.09$) when economic crisis was considered. Levels of corporate giving as tracked by the Internal Revenue Service reached statistical significance ($p=0.01$) in years of war and changes in corporate giving were weakly statistically significant in years of terrorism ($p=.09$). The *Giving USA* series showed crisis as statistically significant ($p=0.04$) and when disaggregated by type of donor and type of crisis, the only iteration that showed statistical significance was individual giving in years of terrorism ($p=0.005$). Further study, with better-defined terms for crisis, is needed. Ideally, a longer time frame would enable us to differentiate differences in fact from non-differences due to relatively short time series.

This paper has examined total giving and its components in times of crisis. It has not considered the impact of a crisis on giving to any of the eight subsectors, such as religion, health, education, etc. *Giving USA* has a series for 1959 to 2001 for estimates of giving to each of the subsectors (1987-2001 for giving to international and the environment). Further analysis may show which, if any, subsectors are more or less likely to be affected in times of crisis.

Examination of donors' responses to specific forms of appeal or to specific events (e.g., Schlegelmilch, Love, and Diamantopoulos, 1997) find that direct appeal (mail, personal request) is more often likely to generate a donation than indirect appeals, such as television or advertisements in the media. However, for giving in response to disaster, one study showed that the media play a crucial role, especially in portrayal of victims, showcasing an efficient relief

operation, and reporting local response to the charity (people helping themselves instead of waiting for aid) (Bennett and Kottasz, 2000). If giving for relief after September 11, 2001, is found to be different from giving in response to earlier crises, one avenue for further research would be to explore the media's role in reporting (and replaying) the attacks on the World Trade Center towers.

Citations and Data Sources

AAFRC Trust for Philanthropy 2001. Giving USA 2001. Data series for giving by individuals, corporations, and foundations supplemented with electronic files of *Giving USA* estimates for 1959-1970. (Indianapolis, IN: AAFRC Trust for Philanthropy).

Bennett, R. and Kottasz, R. 2000. "Emergency fund-raising for disaster relief." Disaster Prevention and Management, 9(5) 352-359.

Deb, P., Wilhelm, M., Rooney, P. and Brown, M. 2002. "Estimating Charitable Deductions" in *Giving USA*. Forthcoming, Nonprofit and Voluntary Sector Quarterly.

Department of Commerce, Bureau of Economic Analysis, data for personal income, National Income and Product Accounts Table 2.1, line 1. www.bea.gov.

Department of Commerce, Bureau of Labor Statistics, Consumer Price Inflation Calculator, available online at www.bls.gov.

Economagic.com. "Series of year-end closing figures for Dow Jones Industrial Average," www.economagic.com.

Factmonster.com. "Timelines of U.S. History, disasters." www.factmonster.com/spot/timelinearchive.html#history

Hall, M. 2001. "Measurement issues in surveys of giving and volunteering and strategies applied in the design of Canada's national survey of giving, volunteering and participating." Nonprofit and Voluntary Sector Quarterly. 30(3), 515-526.

Hodgkinson, V.A. and Weitzman, M.S. 1994. "Giving and Volunteering in the United States," Washington, D.C.: INDEPENDENT SECTOR.

INDEPENDENT SECTOR, 1999. GIUS executive summary. Washington, D.C.: INDEPENDENT SECTOR.

INDEPENDENT SECTOR 1986. Giving and Volunteering in the United States. Washington, D.C.:
INDEPENDENT SECTOR.

Internal Revenue Service, 1954 and subsequent editions, Statistics of income: Corporation
income tax returns. Washington, D.C.: U.S. Government Printing Office.

_____. 1996. Contributions Deductions 1917-1996 [data file for individual itemized
contributions]. Washington, D.C.: U.S. Government Printing Office.

_____. 2001. Individual Tax Returns [data file for individual itemized contributions, 1997-
1999]. Washington, D.C.: U.S. Government Printing Office. Available:
<http://www.irs.gov>.

Kaplan, A. 1998. Giving USA 1998. New York, NY: AAFRC Trust for Philanthropy.

Kasindorf, M. 2002. 1.5 B of 9/11 donations distributed. USA Today. August 19, 2002.
Accessed through Dow Jones Interactive, www.djnr.com.

Moeller, S. 1998. "Compassion Fatigue: How the media sell misery, war, and death" New York:
Routledge.

National Bureau of Economic Research, data for recessions, available at www.nber.org.

Nelson, R. 1993. "A Revised Methodology for Estimating Total Personal Giving in the United
States, with Preliminary Estimates for the Period 1984-1992. Voluntas 4(2): 233-249.

Omicinski, J. 2001. "Terrorist attacks worse than Pearl Harbor," Gannett News Service,
September 11, 2001, and others. Accessed through Dow Jones Interactive online search
engine at www.djnr.com.

- Putnam, R. D. 2000. Bowling Alone: The Collapse and Revival of American Community. New York, New York: Simon & Schuster.
- Ribar, D. and Wilhelm, M 1995. "Charitable contributions to international relief and development." National Tax Journal, 48(2), 229-44.
- Rooney, P.M. and Steinberg, K.S. 2001, "America Gives: Survey of Americans' Generosity After September 11 ", released January 2002.
www.philanthropy.iupui.edu/AmericaGivesReport.pdf. Accessed October 2, 2002.
- Rooney, P.M., Steinberg, K.S., and Schervish, P.G. 2001. "A methodological comparison of giving surveys: Indiana as a test case." Nonprofit and Voluntary Sector Quarterly, 30(3), 551-568.
- Rooney, P.M., Steinberg, K.S., and Schervish, P.G. 2002. "Methodology is destiny: An examination of differences in reported levels of giving and volunteering in the United States based on differences in survey methodologies." Prepared for the 31st Annual conference of the Association for Research on Nonprofit Organizations and Voluntary Action, November 2002.
- Schervish, P.G. & Havens, J.J. 1997. "Social Participation and charitable giving: A multivariate analysis." Voluntas: International Journal of Voluntary and Nonprofit Organizations, 8(3), 235-250.
- Schlegelmilch, B., Love, A., and Diamantopoulos, A. 1997. "Responses to different charity appeals: the impact of donor characteristics on the amount of donations." European Journal of Marketing, 21(8)547-560.
- Smith, V, Kehoe, M. and Cremer, M. 1995. "The private provision of public goods: Altruism and voluntary giving". Journal of Public Economics, 58 (), 107-126.

Steinberg, K. and Rooney, P. 2002. "America gives: A survey of Americans' generosity after September 11." Prepared for the 31st Annual Conference of the Association for Research on Nonprofit Organizations and Voluntary Associations. November 2002.