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Increased Taxes or Charitable
Donations to Nonprofits?**

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***Funding for Disaster Recovery:
Increased Taxes or Charitable Donations to Nonprofits?***

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Abstract

Governments oftentimes fail to satisfy high demanders of public services, leaving room for the nonprofit sector. How can the government deal with this government failure? Must they resort to tax increases or should they engage the nonprofit sector? Using the public polls conducted just after Hurricane Katrina, this study aims to explore an empirical answer to this question. In particular, we contrast the determinants of the willingness of an individual to pay more tax with those of the willingness to make voluntary donations. The results show that attitudes on governments' roles in disaster recovery are not consistent with charitable giving behavior and are affected more by the survey respondents' political orientation than philanthropic motivation.

I. Government and Nonprofits in Disaster Recovery

Governments often fail to satisfy high demanders of collective goods, leaving the nonprofit sector to fill in where government leaves off (Weisbrod, 1977). When a catastrophic natural disaster occurs, the intensity of immediate needs usually exceeds the emergency resources managed by the government, which must then muster help from the public, local communities, and humanitarian aid organizations. Indeed, we frequently observe occasions of brisk and heroic activities of such nonprofit organizations as the Red Cross or Doctors Without Borders (Médecins Sans Frontières) during many international disasters. This raises the following questions: How can governments deal with this failure to adequately provide disaster relief services? Should they increase taxes and stockpile funds in order to handle major disasters? Alternatively, should nonprofit humanitarian aid organizations play a larger role in disaster recovery? More broadly, how can we design a better disaster response system by coordinating governments of multiple levels and nonprofits? Using the public polls conducted after Hurricane Katrina, this study offers some empirical answers to this pressing policy issue of striking a balance in the roles played by governments and nonprofits in disaster recovery processes. In particular, we contrast the determinants of individuals' willingness to pay more tax with those of the willingness to make voluntary donations for disaster recovery.

Emergency management scholars emphasize the necessity of cooperation between the public sector and the nonprofit and for-profit sectors, in order to enhance the effectiveness of emergency management (Haddow & Bullock, 2006; Mitchell, 2006; Waugh, 2000). In disaster recovery efforts both the government and the nonprofit sector typically play their respective roles to achieve the same goal. These roles, more often

than not, are distinctive. For example, infrastructure recovery is normally carried out by governments, local, state, or federal, but urgent on-site relief such as providing shelters and food is provided in most cases through collaboration between the government and nonprofit organizations such as the American Red Cross and The Salvation Army. Given the frequent major disasters of this decade, the need to efficiently maintain disaster-response capability by coordinating the two sectors has grown rapidly. Thus, in order to better and more efficiently design the disaster recovery system, a better understanding of the public's preference for the relative allocation of the roles and means in the recovery effort is crucial. Previous studies about charitable giving have revealed positive relationships between charitable donations and the demographic factors of age, income, educational levels, geographic location of residence, marital status, gender, and religion (Andreoni, Brown & Rischall, 2003; Clotfelter, 1997; Rooney, 2007; Rooney, Steinberg & Schervish, 2004; Steinberg, 1990). In regard to attitudes toward higher taxes, the welfare state/tax literature asserts that self-interest and political ideology are the most important determinants (Donahue & Miller, 2006; Simonsen & Robbins, 2003). According to this literature, a person's political orientation is critical in his or her perception of the appropriate role of the government. For example, Spratt (2005) found that Republicans would like to reduce government spending on hurricane relief as well as on welfare benefits. The public's attitudes toward nonprofits, on the other hand, are subject to different factors. Wolpert (1995) found that donation rates are higher for liberals, either politically or culturally, than in conservatives. Brooks and Lewis (2001), however, report that conservatives with lower trust in the government are more likely to make charitable donations than liberals with higher trust in the government.

Building upon these studies, this study analyzes the differences in the public's preferences between more taxes and more donations for the purposes of disaster recovery. We examine post-Katrina polls on this issue, and hypothesize that even for the same purposes, i.e., disaster recovery, public preferences on the relative allocation of responsibilities between government and nonprofits, as expressed by their willingness to bear the accompanying costs, will be different, depending on the poll respondents' demographic characteristics and, above all, their political ideologies. Analyzing two comparable public polls conducted after Hurricane Katrina by *CBS/New York Times* and *Pew/PSRAI*, we find evidence that people's attitudes toward tax increases and voluntary donations for disaster recovery differ significantly according to their political orientations. We also find that the number of years of education completed is positively associated with a willingness to donate, but not with a willingness to pay more tax.

In section II of this paper, we briefly review the previous studies on the determinants of charitable giving and attitudes on tax increases. In sections III–IV, we set up models and discuss our findings. The paper concludes with implications for reforming the national emergency management system, focusing on disaster recovery.

II. More Donations versus Higher Taxes

1. Determinants of Charitable Giving

Many studies have examined volunteering and charitable giving behavior (Govekar & Govekar, 2002; Smith, 1994). Most of the literature reports that psychological and economic motivations drive such behaviors. For example, Clary and Snyder (1999) identify six personal and social factors that may motivate individuals to participate in voluntary activity: values, understanding, enhancement, career, social

relationship, and protective desire. One's own or another's distress, civic responsibility, and the desire for support in a similar situation have also been cited as underlying motivations of voluntary behaviors (Pifieri, Jobe & Jones, 2006). Reviewing economic studies of volunteerism, Govekar and Govekar (2002) argue that motives to seek public and private goods such as skill development and influence play an important role in an individual's decision to participate in nonprofit associations.

Other studies examining the determining factors of charitable and voluntary behaviors have analyzed survey data on individual's political orientation and demographic characteristics. These studies have found that individuals' political ideologies affect their charitable giving, but the results are not consistent. Some found liberals donate more, while others reported the opposite (Brooks and Lewis, 2001; Wolpert, 1995).

Many studies reveal that demographic factors such as age, income, educational level, marital status, the importance of religion, and health affect the level of charitable donations (Andreoni, Brown & Rischall, 2003; Choi, 2003; Clotfelter, 1997; Grønberg & Never, 2004; Rooney, 2007; Rooney, Steinberg & Schervish, 2004; Steinberg & Rooney, 2005; Steinberg, 1990). Factors such as gender, race, and geographical location of residence are also known to be correlated with charitable giving. Wolff (1999) shows women are more altruistic than men. Rooney, Mesch, Steinberg, and Chin (2005) found whites are 41% more likely to make charitable contributions than minorities. Other studies also present evidence that whites give and volunteer more than blacks or ethnic minorities (Steinberg & Wilhelm, 2005). On the other hand, O'Neill (2001) fails to find any significant difference in giving and volunteering across different races. In general, living in the South is associated with a higher level of religious giving (Rooney, 2007).

Religious affiliation is also a predictor of charitable giving behavior (Hoge, 1995; Jackson, Wood & Craft, 1995; Rooney, 2007). For example, Jackson et al. (1995) found churchgoers contribute more money to charitable organizations than those who do not regularly attend religious services. However, when more direct measures of social capital (e.g., individuals' associational networks or trust in others) are controlled, the impact of education, income, and religion become tenuous (Brown & Ferris, 2007).

The relevant empirical evidence seems to indicate that while political ideology or orientation does not have a definitive impact on an individual's willingness to make charitable donations, non-political demographic influences such as income, religious affiliation, higher levels of education, and being female are positively associated with making charitable donations.

2. Willingness to Pay More Tax for Disaster Recovery

The public's willingness to pay more tax for specific policy purposes depends on multiple factors. For example, drawing upon public finance and psychology literature, Donahue and Miller (2006) present four distinctive dimensions of a taxpayer's willingness to pay higher taxes for public safety: the taxpayer's assessment of service providers, the level of trust in those service providers, his/her assessment of service quality, and the perceived importance of the service. Three of these factors (all but the importance of the service) were found to be closely related to political ideology or orientation. Republicans, for example, are generally perceived as having a higher level of mistrust in the government and in services provided by the government. They also tend to trust the government less than their Democratic counterparts. Accordingly, attitudes toward the government and its services may be a predictors of the public's willingness to

pay higher taxes (Simonsen, 2003). For example, liberals/Democrats are reported to be more willing to pay higher taxes to reduce child obesity (Cawley & Dunifon, 2006) than Republicans.

Various other studies have shown that non-political demographic factors are also relevant in attitudes toward paying taxes. Nielsen et al. (1974) found that individuals' support of the arts through taxation is dependent upon their income and education, holding the degree of liberalism-conservatism constant. Men and women are different in their attitudes toward tax depending upon their exposure to tax knowledge (Fallan, 1999). Individuals with a propensity for civic cooperation are willing to pay more taxes to protect the environment, controlling for income, age, and education (Owen & Videras, 2006). In a comparison of the public's perceived use of nonprofit social services with government-provided social services, Van Slyke and Roch (2004) hypothesized that conservative citizens would be more likely to use nonprofit services than government services. However, they found no supportive evidence for this hypothesis; nor did they find any differences in using nonprofit social services or government social services based on differences in education, race, or marital status.

From the literature, it is clear that willingness to pay higher taxes for specific purposes is affected by individuals' political orientations and thus by party affiliations. At the same time, it is not entirely unreasonable to expect the same with regard to disaster recovery efforts. Without much empirical evidence, however, it is not readily possible to predict specific relationships between non-political demographic variables and support for more taxes for disaster recovery, except that income, education, and civic engagement are positively associated with the willingness to pay higher taxes.

3. Hypotheses

As suggested above, empirical evidence on the relationship between political ideology and charitable donations is not straightforward. Given conflicting evidence on the direction of this relationship, we rely on the general notion of the difference between liberals and conservatives in their normative conception of the scope of government: conservatives tend to attribute the ultimate responsibilities of individual lives to the individuals themselves, while liberals prefer more active governmental roles in society. In the case of disaster recovery, conservatives might want to see more private initiatives, shying away from increased government involvement. The opposite applies to the liberals: they are expected to want more government involvement. Therefore, we tentatively hypothesize that of the respondents to the CBS/*New York Times* and Pew/PSRAI post-Katrina polls, conservatives are more likely to donate to nonprofit organizations for disaster recovery efforts than liberals are and that liberals are more likely to desire an expanded governmental role in disaster recovery efforts and thus are more willing to pay additional taxes for that purpose.

The difference in people's beliefs about what the appropriate scope of government should be is a factor of political ideology as well as of trust in the government. As pointed out by Donahue and Miller (2006), trust of the public service provider is a critical predictor of individuals' willingness to pay additional taxes. In the case of disaster recovery, if the survey respondents have higher trust in the Federal Emergency Management Agency (FEMA) and in local governments, if they feel that the recovery need is urgent, and if they consider the disaster recovery efforts to be well

organized and effective, then they are expected to be more willing to pay higher taxes to fund these efforts. On the other hand, if an individual trusts the government little in regard to disaster recovery efforts, he or she tends to resist paying additional taxes in favor of donating more to nonprofits.

Hypothesis 1: A politically liberal person will be less willing to make charitable donations to nonprofits for disaster recovery than a politically conservative person.

Hypothesis 2: A person whose confidence in the government's ability to respond to national emergencies has decreased will be more willing to make a charitable donation to a non-profit organization for disaster recovery.

Hypothesis 3: A politically liberal person will be more willing to pay more taxes for disaster recovery than a politically conservative person.

Hypothesis 4: A person whose confidence in the government's ability to respond to national emergencies has decreased will be less willing to pay more taxes for disaster recovery.

III. Data and Variables

This study relies on two public opinion polls conducted just after Hurricane Katrina. The CBS News/*New York Times* survey was conducted between September 9 and 13, 2005, and included questions about people's attitudes toward tax increases related to natural disasters, among others. The Pew/PSRAI poll was conducted on September 6 and 7 and asked whether a respondent made or was planning to make a donation to a nonprofit organization participating in the disaster recovery. The surveys drew their samples randomly based on telephone numbers of residents in the continental US and oversampled African American population. The sample size of the CBS/*NYT* survey was 1,167 and of the PEW/PSRAI survey was 1,000. After item non-responses for our

dependent and independent variables are removed, the final sample sizes for our analysis reduces to 899 for the CBS/*NYT* survey and 783 for the PEW/PSRAI survey. We tested item non-response bias using key variables and found no significant distortion between

Table 1. Description of Variables

Variables	Description	PEW/PSRAI (N=783)		CBS/ <i>NYT</i> (N=899)		t-test ¹
		Mean	Std. Dev.	Mean	Std. Dev.	
donation	1 = made a donation or planning to do so	0.890	0.313	NA		
tax	1 = willing to pay more tax	NA		0.585	0.493	
democrat	Political party affiliation dummy: Democrat	0.414	0.493	0.414	0.493	
indep	Political party affiliation dummy: Independent	0.312	0.463	0.305	0.461	
repub	Political party affiliation dummy: Republican	0.275	0.447	0.281	0.450	
liberal	Political Ideology dummy: Liberal	0.206	0.404	0.206	0.404	
moderate	Political Ideology dummy: Moderate	0.481	0.500	0.482	0.500	
conserv	Political Ideology dummy: Conservative	0.313	0.464	0.313	0.464	
confless	Katrina affect confidence in gov't: ⁱⁱ less confident	0.470	0.499	0.622	0.485	***
confsame	Katrina affect confidence in gov't: no effect	0.447	0.498	0.309	0.462	***
confmore	Katrina affect confidence in gov't: more confident	0.083	0.276	0.069	0.254	
prot	Religion: Protestant = 1	0.589	0.492	0.611	0.488	
male	Gender: Male = 1	0.427	0.495	0.414	0.493	
minority	Race: Minority = 1	0.290	0.454	0.237	0.425	
edysr	Years of education	14.115	2.434	14.420	2.366	***
age	Age: 18~93 for CBS and 18~95 for PEW	48.895	16.936	50.899	15.539	***
incomex	Family income: 1 = less than 30k; 2 = 30k~50k; 3 = 50k~75k; 4 = over 75k	2.416	1.151	2.519	1.158	**
urban	Residential location: urban	0.335	0.472	0.346	0.476	
suburban	Residential location: suburban	0.480	0.500	0.398	0.490	
rural	Residential location: rural	0.185	0.389	0.256	0.437	
west	Geographic region: West	0.188	0.391	0.208	0.406	
norcen	Geographic region: North-central	0.253	0.435	0.256	0.437	
south	Geographic region: South	0.363	0.481	0.309	0.462	**

the original sample and the final sample. We also compared means of independent and control variables between two surveys and found no significant differences in the

distribution of political ideology and political party between the two surveys (Table 1).

Also, most of the demographic variables (except age, income, and years of education) do not differ between surveys.

We have two dependent variables in our study: attitudes about tax increases from the CBS/*NYT* survey and donation experience from the PEW/PSRAI survey. The tax question reads “Would you be willing or not willing to pay more in taxes to help with the recovery from Hurricane Katrina?” and the donation question is “Have you or anyone in your household made a donation to help those affected by the hurricane, are you planning to do so, or is this something you don’t think you will do right now?” Since these are typical yes-or-no questions, we use logistic regression models with each of the variables as the dependent variable.

The key independent variables are party affiliation and political ideology. Since correlation coefficients between party affiliation and political ideology are low (Table 2), we have included both in the model.ⁱⁱⁱ In the sample, 41.4% of respondents reported their party affiliation as Democrat while about 28% reported themselves as Republican (from both the CBS and PEW polls). The distribution of the ideological spectrum of respondents of the two surveys is almost identical. In both surveys, 21% of respondents identified themselves as liberal while 31% identified themselves as conservative. We created dummy variables for these two sets of variables (i.e., Republican, Independent, Liberal, Conservative, and Moderate), as shown in Table 1.

Reports of the impact of the Hurricane Katrina recovery efforts on the respondents’ confidence in the government’s disaster-response ability are different in the two surveys. In the CBS survey, a solid majority (62.2%) of respondents answered that the Hurricane Katrina recovery efforts by the government made them less confident in its

responsiveness to a terrorist attack or natural disaster. However, in the PEW survey, only a marginally larger proportion of people answered that the disaster did negatively affect their confidence in the government's ability to respond to a terrorist attack (47% for "less confident" and 44.7% for "no effect"). This difference between the responses from the two surveys is statistically significant. This difference probably came from the different wording of the questions: the CBS poll includes the phrase "natural disaster," while the PEW poll uses only "terrorist attack." Because we cannot ensure that this variable is consistent across the two surveys, we will do the analysis first without this variable and then with it, paying close attention to its impact.

The rest of the variables capture demographic characteristics and the geographic locations of the respondents. The dummy variable *Protestant* is coded 1 for those who are affiliated with the Protestant religion and 0 for everyone else. *Male* is coded 1 for male and 0 for female. The variable *Minority* is coded 1 for non-white and 0 for white. For the race variable, we use two variables of *white* and *minority*. White is used as the reference group. The variable *edys* is the number of years of education. *Age* is measured in years. The *Income* variable is measured by four scale categories, ranging from under \$30,000 to over \$75,000. Four geographic regions (north, north-central, west, and south) are controlled in the model and the north-east dummy is used as the reference group.

IV. Analysis and Findings

1. Descriptive Statistics and Bivariate Analysis

We hypothesize that the relevant factors determining willingness to pay higher taxes will be different from those affecting individuals' proclivity to make donations to disaster relief efforts. In so doing, we have not made any predictions about the prevalence

of nonprofit donations, nor about the degree of willingness to pay extra amounts of taxes. Table 1 shows that the proportion of the respondents who have donated or are planning to do so is considerably higher than the proportion of individuals who are willing to pay higher taxes for disaster recovery. Only 58.5% of the CBS/*NYT* respondents revealed that they would agree to pay additional taxes for the earmarked purpose of disaster recovery. On the other hand, about 89% of valid respondents of the PEW/PSRAI poll reported that they have made donations or are planning to do so. From this it can be inferred that in general the public prefers nonprofit initiatives to the government's fiscal expansion with regard to relief efforts.

The experience of Hurricane Katrina has clearly lowered the public's confidence in the government's capability to effectively manage the response efforts. In both polls, less than 10% of the valid respondents reported heightened levels of confidence in such capability. In fact, more than four times as many respondents reported the opposite. With lower confidence in the government, what can be done to effectively cope with major disasters? Table 2 provides a summary of correlation coefficients (CCs) between the dependent and independent variables. It does not seem that a lower level of confidence in governmental disaster relief capacity leads to a higher probability of making disaster-related donations. Unexpectedly, respondents tend to feel more willing to empower the government through paying additional taxes.

One of the major findings from the bivariate analysis is that the respondents' willingness to pay higher taxes for disaster recovery is more sensitive to their demographic and political characteristics than their propensity to make voluntary donations to nonprofit organizations. Specifically, Democrats tend to be more willing to

Table 2. Correlation between Dependent and Independent Variables

Variables	donation	tax
democrat	-0.0375	0.1120 ***
indep	-0.0034	-0.0206
liberal	-0.0878 **	0.1340 ***
moderate	0.0314	-0.0502
confless	0.0116	0.1254 ***
confmore	.0021	-0.0065
prot	-0.0222	-0.0035
male	-0.0465	-0.0559 *
minority	0.0217	0.0790 **
edyrs	0.1752 ***	0.0942 ***
age	-0.0508	-0.0950 ***
incomex	0.2091	0.0682 **
urban	-0.0175	0.0830 **
suburban	0.0485	0.0034
west	-0.0608	0.0637*
norcen	0.0140	-0.0186
south	-0.0015	-0.0245

* = <0.1; ** = <0.05; and *** = <0.01

pay higher taxes than Republicans (CC: 0.11 at .01 level), but a comparable association is not found with the charitable donations. Second, the effect of political liberalism is divergent between donations and taxes: while political liberals are less likely to donate to the disaster recovery nonprofits than their conservative counterparts (CC: -0.09), they are more willing to pay more taxes for the purpose of disaster recovery (CC: 0.13). Third, years of education seems to contribute to a higher level of both voluntary donations and willingness to pay extra taxes for disaster relief, but education's impact on donation experience is about twice as much as that on the willingness to pay higher taxes. Fourth, the variables such as minority status, income, and residence location are found to impact respondents' willingness to pay additional taxes for disaster victims, but one not

associated with experiences and plans for disaster relief donations. For example, minorities, those with higher incomes, and urban residents tended to indicate that they would be more willing to pay additional taxes for disaster recovery.

2. Multivariate Analysis

Table 3 reports the results from logistic regressions. The first two columns are the results from the regressions of donation experiences, and the last two columns are the regressions for willingness to pay additional taxes. The odds ratios are reported with robust z statistics in parentheses. All the models fit well with the data, although the pseudo-R-squared of the models are small (0.09) for donation regressions and about 0.05 for tax regressions.

Democrats and liberals are significantly more favorable than Republicans and conservatives towards supporting disaster recovery by paying more taxes. However, donations behavior is clearly different. With the odds ratios smaller than 1, liberals are less likely to donate than conservatives, while no difference is found between Democrat and Republican donation activity. In model 3, the odds ratios on Democrats and liberals are both greater than 1 indicating willingness to pay more taxes. In model 3, holding all the independent variables at their means, Democrats are 11 percentage points more willing than Republicans to pay more taxes for disaster recovery and liberals are 10.5 percentage points more willing than conservatives to pay more taxes. For nonprofit charitable donations, however, the story is completely different. While party affiliation does not affect respondents' willingness to donate, political ideology does matter. In model 1, liberals are less likely than conservatives to donate. Being liberal reduces the odds of a person's being willing to donate 51%, holding other variables constant. Holding

all the independent variables at their means, liberals are 6.7 percentage points less likely than conservatives to donate.

Table 3. Logistic Regression Results: Determinants of Willingness to Pay More Taxes and Willingness to Donate for Disaster Recovery

	(1)	(2)	(3)	(4)
	donation		tax	
democrat	1.033 (0.09)	0.999 (0.00)	1.582 (2.23)**	1.438 (1.71)*
indep	0.926 (0.22)	0.907 (0.28)	1.209 (0.99)	1.129 (0.62)
liberal	0.493 (2.03)**	0.475 (2.07)**	1.563 (1.94)*	1.490 (1.69)*
moderate	0.869 (0.47)	0.864 (0.49)	0.891 (0.67)	0.853 (0.91)
confless		1.164 (0.55)		1.564 (2.70)**
confmore		1.434 (0.83)		1.917 (2.17)**
prot	0.963 (0.13)	0.973 (0.10)	1.218 (1.28)	1.219 (1.28)
male	0.696 (1.47)	0.694 (1.47)	0.811 (1.44)	0.850 (1.10)
minority	1.810 (1.80)*	1.765 (1.74)*	1.110 (0.54)	1.076 (0.38)
edyrs	1.121 (2.20)**	1.126 (2.23)**	1.034 (1.02)	1.033 (1.00)
age	0.994 (0.85)	0.994 (0.91)	0.989 (2.31)**	0.988 (2.52)**
incomex	1.656 (3.76)**	1.654 (3.72)**	1.142 (1.85)*	1.146 (1.89)*
urban	0.871 (0.41)	0.855 (0.46)	1.470 (2.06)**	1.475 (2.06)**
suburban	1.261 (0.73)	1.223 (0.63)	1.250 (1.24)	1.258 (1.27)
west	0.705 (0.92)	0.706 (0.91)	1.461 (1.74)*	1.480 (1.80)*
norcen	1.155 (0.36)	1.148 (0.34)	1.051 (0.24)	1.048 (0.22)
south	1.068 (0.17)	1.044 (0.11)	0.936 (0.32)	0.975 (0.12)
Observations	783	783	899	899
Log Likelihood	-246.38	-246.01	-583.79	-579.12
LR chi2	47.63	50.57	46.43	54.75
DoF	15.00	17.00	15.00	17.00
Pseudo R2	0.09	0.09	0.04	0.05

Odds ratios reported

Robust z statistics in parentheses

* = <0.1; ** = <0.05; and *** = <0.01

When we control the change of confidence level in the government's ability to cope with disaster before and after Hurricane Katrina, an interesting result comes up that is consistent with findings about the bivariate associations. In model 4, as expected, we found that willingness to pay more taxes of the respondents whose confidence in the government had increased after Katrina is greater than that of the reference group (whose confidence level was reported to remain unchanged). However, the willingness to pay more taxes of the respondents whose confidence in the government had decreased after Katrina is also greater than the reference group, although the impact is slightly less than the impact of increased confidence. The confidence level change does not have any effect on respondents' willingness to donate.^{iv}

Despite the fact that black communities were heavily damaged by Hurricane Katrina and these surveys were conducted a month after the hurricane, minorities (including blacks) do not differ from whites in their willingness to pay more taxes. They are found to be marginally more likely to donate to nonprofit organizations for disaster recovery than whites.

The number of years of education is positively associated with donation to nonprofit organizations for disaster recovery. As the level of education completed changes from high school (12 years) to college (16 years), willingness to donate increases by 2.2 percentage points, holding all other variables constant at their means. Years of education is only marginally associated with willingness to pay more taxes for disaster recovery, however. Age is negatively associated with willingness to pay more taxes, but the impact is modest. As respondents' ages increase by 15 years (one standard deviation) around 51 years (roughly the mean), the probability of willingness to pay more taxes for

disaster recovery decreases by 4.5 percentage points. Although the impact of age is negative in the donation regression, it is statistically insignificant.

Higher income is positively related to willingness to pay more taxes as well as willingness to donate. The difference in the probability between the highest income category and the lowest income category is only 12.4 percentage points for charitable donations to nonprofits and 10.5 percentage points for paying more taxes, holding all other variables at their means. With regard to region, respondents in Western states^y are more willing to pay more taxes for disaster recovery than those in the other regions. A comparable geographical difference is not found with regard to respondents' willingness to make disaster relief donations to nonprofits.

IV. Conclusions

Such variables as political ideology, minority status, years of education, and income are relevant in people's propensity to make nonprofit donations for disaster relief. On the other hand, political affiliation, political ideology, changes in confidence in government's capacity to deal with disasters, age, income, and residential location are driving forces for an expanded role of government financed by extra taxes. A conspicuous observation is that liberals are more likely to support the government's role in disaster recovery than conservatives but less likely to make donations to nonprofit organizations. Democrats support more taxes for the purpose of disaster relief compared to their Republican counterparts, but this difference does not apply to their donation behavior for the same cause. Older people are less likely to support the government's efforts for disaster recovery when they are financed by increased taxes. More educated people are more willing to donate money to nonprofit organizations than those less

educated. People with higher incomes are more willing to support both the government and nonprofit organizations through taxes or donations than lower-income earners. These results show that individuals' attitudes toward government's role in disaster recovery are affected more by their political orientation than are their attitudes toward philanthropic intervention.

In this study, we presented evidence that political ideology does matter in people's selecting a delivery mode for disaster recovery. A practical implication of this study is that the designers of disaster recovery systems should consider the political ideology of their constituents when designing the system. Considering that the fundamental resources for implementing disaster recovery services come from people (whether they are funded by tax money or donations), designers of a disaster recovery system should keep in mind what method of resource mobilization would be more effective. For example, in a conservative-dominant region it may be more effective for a local government to put more effort into bolstering nonprofit networks for emergency relief. In a more liberal-oriented region, in contrast, a local government might do better to be proactive in expanding its own role in disaster recovery.

This study also sheds new light on theory of the nonprofit sector. In particular, government failure has been argued as one of the most important rationales for the existence of nonprofit organizations. Apart from this demand-side rationale, the findings of this study suggest that the existence of the nonprofit sector can be attributed to the supply side as well: the effectiveness of resource mobilization. In an ideal world where the political ideology of an individual is revealed and assumed to be persistent, the designer of a disaster recovery system would try to choose the best mix between public

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and nonprofit delivery of disaster recovery according to the ideological and demographic composition of the target region.

However, our findings could not determine whether individuals want nonprofit organizations (not government agencies) to play a more active role in disaster recovery or if they simply regard disaster recovery as an individual's responsibility. Moreover, this study could not treat the issue in terms of the relationship between governmental initiative and nonprofit activities. Andreoni and Payne (2003) report that government grants to the private sector do not necessarily crowd out comparable amounts of private fundraising. This may indicate that if the government taxes more for the purpose of disaster recovery, there may still be room for private donations and interventions. Therefore, further study is needed to examine giving patterns to disaster-recovery-related nonprofit organizations, contingent on the level of governmental involvement in disaster response.

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ⁱ Unequal variance t-test. Only the significant difference is reported. * = <0.1; ** = <0.05; and *** = <0.01.

ⁱⁱ The actual statement for this variable in each survey is slightly different. The CBS survey asks “Has the government’s response to Hurricane Katrina made you more confident in the government’s ability to respond to a terrorist attack or natural disaster, less confident in the government’s ability to respond to a terrorist attack or natural disaster, or hasn’t it affected your opinion?” In the PEW survey it reads “Has the government’s response to this disaster affected your confidence in the government’s ability to handle a major terrorist attack, or not?” The former survey asks the respondents to assess the government’s ability in responding to a natural disaster as well as handling a terrorist attack.

ⁱⁱⁱ The average correlation coefficients are .277 between Democrat and Liberal (.259 in CBS and .285 in PEW) and .304 between Republican and Conservative (.377 in CBS and .319 in PEW).

^{iv} This deserves further consideration in that a lowered level of confidence is not necessarily contrasted with impressive activities of the nonprofit organizations. If it is, it might lead to a higher inclination of making nonprofit donations.

^v Western states include Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming (Roper Center 2005).