Government Grants to Private Charities: Do They Crowd Out Giving or Fundraising?

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Abstract: When the government makes a grant to a private charitable organization, does it displace private giving? This is one of the fundamental policy questions in public finance, and much theoretical and empirical research has been devoted to understanding the relationship between private donations and government funding. Under the classic crowding-out hypothesis, donors let their involuntary tax contributions substitute for their voluntary contributions. This paper raises the prospect of a second reason: that the strategic response of the charity will be to pull back on its fundraising efforts after receiving a grant. We develop a theoretical model to show a charity that chooses its level of fundraising strategically will reduce fundraising in response to government grants. We then analyze data on tax returns of 474 social services organizations and 245 arts organizations between 1982 and 1996. These two types of charitable organizations differ in both the nature of the services they provide and in their reliance on private donations and government grants. We find evidence that government grants to nonprofits are causing significant reductions in fundraising efforts, after looking at different types of fundraising activities. This finding is important for two reasons. First, it means that the behavior of the nonprofit organizations is consistent with the predictions of an economic model within a strategic environment. Second, it adds an important new dimension to the policy discussions on the effectiveness of government grants to increase the services of charitable nonprofit organizations. Charities are not passive receptacles of contributions, as they have so often been treated in the past, but are active players in the market for donations. When the government gives a grant to charities, we should take into account the behavioral response of the charity itself, as well as the behavioral responses of the individual donors.

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When the government makes a grant to a private charitable organization, does it displace private giving? This is one of the fundamental policy questions in public finance, and much theoretical and empirical research has been devoted to understanding the relationship between private donations and government funding. The hypothesis underlying these studies is that givers, who are also taxpayers, will use their tax-financed donations as a substitute for their voluntary donations, thus reducing the net effectiveness of the grants. This has been called the crowding out hypothesis.[1] Recently, new research has begun to examine the role that fundraising plays on the solicitation and receipt of donations by studying the theoretical structure of fundraising and the marginal effectiveness of fundraising expenditures.[2] There is a natural question that falls between these two literatures, namely, what is the behavioral response by charitable fundraisers to receiving a government grant? Do they increase or decrease fundraising efforts? If they decrease these efforts, perhaps this behavioral effect by fundraisers, rather than a direct behavioral response by individuals, could be responsible for the crowding out observed. In other words, could grants to charities be crowding out the fundraisers rather than the givers?

We explore this question theoretically and empirically. The theoretical model examines the role that fundraising plays in attracting private donations and the effect that government grants have on the incentives, in equilibrium, to raise more donations. We predict that an increase in government funding should decrease fundraising efforts of the organizations, and that this alone could generate the incomplete crowding-out that has been observed.

We then examine this prediction with extensive empirical research. We analyze data on tax returns of 474 social services organizations and 245 arts organizations between 1982 and

[1] For recent contributions, see Okten and Weisbrod (1999), Payne (1998, 2001), Steinberg (1991), Khanna, Posnett, and Sandler (1995).

[2] See, e.g., Rose-Ackerman (1982), Steinberg (1986, 1994), Rooney (1999), Tuckman (1998), Weisbrod and Dominguez (1986), Andreoni (1998, 2001), and Straub (2001).

1996. These two types of charitable organizations differ in both the nature of the services they provide and in their reliance on private donations and government grants. The arts organizations, on average, rely more on private donations. The average annual level of private donations in constant dollars is $5.6 million whereas the average government grants are $1.2 million; average fundraising expenditures are $563,000. Grants to these organizations are likely to be tied to specific events, such as an exhibit or performance. Social service organizations are quite different. They rely far more on government grants. Average annual private donations are $1.7 million, average government grants are $2.7 million, and average fundraising expenditures are $361,000. Moreover, many grants to social service organizations often look quite similar to government contracts to serve certain needy populations. These organizations often have well-staffed fundraising offices to apply for and administer these extensive grants and contracts. By considering very different structures of these two types of nonprofit organizations, we can get a broader view of the questions at hand.

Our empirical results confirm the theory. We first look at the effect of government grants on aggregate fundraising expenditures. For the arts organizations, under a two stage least squares specification, the results suggest an additional $1000 in government grants decreases fundraising expenditures, on average, between $242 and $272 suggesting, an average maximum decline of nearly 58 percent. The results for the social services organizations, in contrast, suggest that $1000 in government grants actually increases aggregate fundraising expenditures by about $19, which is a small but statistically significant amount. Second, we disaggregate fundraising expenditures into three areas: fees paid to professional fundraising services, salaries of the organization's officers devoted to fundraising, and other fundraising staff and salaries. Looking at these three types of expenditures separately underscores the effects found for the arts

organizations and, in two of the three categories, reverses the finding in social services organizations. A $1000 increase in grants to social service organizations decreases spending on professional services by $32, decreases the cost attributed to officers by $10, but increases other salaries by $11. These results are consistent with the different organizational structures of the two types of nonprofits. In particular, grants reduce actual fundraising efforts by both arts and social service organizations, but in social service organizations—which rely heavily on government funding—the increased funding appears to be increasing the spending by other staff to manage and administer the grants received. Hence, contributions to charities may indeed fall when they receive a grant, but our results suggest that the reason may lie with the charities' fundraising efforts, not solely with the givers.

This paper is organized as follows. Next we present our theoretical model, showing the equilibrium response of charities to government grants. Section II describes the data and Section III sets out our empirical specification. Section IV presents the estimation and section V is a conclusion.

I. Theoretical Model

Models on crowding out have typically assumed that individuals have complete information on the menu of charities available and express their demands for the public goods through their donations.[3] In developing a theoretical model of fundraising, therefore, one must first ask why fundraisers are necessary. In the model we present below, we appeal to an often cited fundraising technique called "the power of the ask." That is, individuals and charities alike report that givers give primarily because they are asked. Stated differently, givers seem to have latent demands to donate. Until they are asked, this demand goes unexpressed.

[3] See, for instance, Bergstrom, Blume and Varian (1985), and Andreoni (1988).

The model we present is based on models of advertising that reduce or eliminate prohibitive search costs. In these models, when a salesperson calls or sends a solicitation, the search costs are eliminated and the purchase is made. In our framework, individuals who may have "always wanted to donate" but "didn't know the address" will be able to donate when solicited by the charity.

Suppose that charities differ qualitatively in the services they provide. For instance, one group that serves disaster victims may focus on providing more food than medicine and another may put more emphasis on medicine than food. Likewise, individuals differ in the quality of charity they prefer, with some preferring the charity that provides more medicine and the other preferring the charity that provides more food.

Next, we assume that individuals face high costs of finding the names and addresses and qualities of charities. Or, equivalently, they have good intentions to give to the charity but procrastinate in doing so.[4] When a charity solicits a contribution from an individual, it reduces this transaction (or procrastination) cost to zero for the giver. For the sake of modeling, we assume that individuals will not give unless they are solicited by the charity. If they are solicited then they will give, but how much they will give will depend on how close the charity is to their ideal quality. If they are solicited by more than one charity, we assume that they will give solely to the charity nearest to their ideal.[5] Note that we only preclude giving without being solicited as a convenience for modeling purposes. If some people give without being solicited, then this is

[4] This assumption has precedence in the literature on advertising, which often assumes that an individual will not exercise their demand for a good unless they receive an advertisement from a seller. This can also be justified from models of procrastination (O'Donoghue and Rabin 1999a, 1999b), since a commitment to a charity may yield a "warm-glow" to the giver before they actually mail the check. Hence the benefits can flow before the costs are paid, which is the prescription for procrastination identified by O'Donoghue and Rabin.

[5] This assumption is for simplicity. A giver with convex preferences could be better off giving to covex combination of all who solicit, but of course giving the most to the charity closest to his/her ideal. All the results presented here follow with the more complex and realistic assumption. The important aspect of the model is that more fundraising by one charity will reduce the effectiveness fundraising by other charities.

a windfall to the charity that can easily be absorbed into our model. Fundraising is needed as long as some people need to be asked.

We assume charities move first in setting their fundraising levels; that is, by selecting the number of households to solicit. Charities move simultaneously. Given the solicitations received, givers move second and play a standard Nash equilibrium giving game.

Let x_i be an individual's consumption of private goods, and let y_{ij} be i's contribution to charity j, where $y_{ij} \geq 0$ for all i and j. Let θ_j be the probability that an individual is solicited by charity j. We assume that higher θ costs more in fundraising expenditures and that the marginal cost is increasing. The costs of fundraising are designated as $F_j(\theta_j)$, where $F' > 0$ and $F'' > 0$. Finally, let G_j be the level of government grants received by charity j. Thus, we can define the level of the charitable services provided as

$$C_j = \sum_{i=1}^{n} y_{ij} + G_j - F_j(\theta_j) . \qquad (1)$$

We treat the quality indicator of a charity as a real number located along a line segment of length one. Use $L_j \in [0,1]$ to indicate the location of charity j. Individuals have a most favored quality, say $L_i^* \in [0,1]$. If $d(L_i^*, L_j)$ is some distance function, then we assume that the utility an individual i gets from giving to charity j will be increasing in $\ell_{ij}=1-d(L_i^*, L_j)$. In particular, we assume preferences are of the form

$$U_i = u_i(x_i, C_j; \ell_{ij}) , \qquad (2)$$

where utility exhibits the single crossing property with respect to ℓ_{ij}:

$$\frac{\partial u_i(x, C; \ell_{ij})/\partial C}{\partial u_i(x, C; \ell_{ij})/\partial x} \geq \frac{\partial u_i(x, C; \ell_{ik})/\partial C}{\partial u_i(x, C; \ell_{ik})/\partial x} \text{ if } \ell_{ij} \geq \ell_{ik} .$$

All else equal, this will imply that not only will an individual prefer to give to a charity that is closer to her ideal quality, but she will also want to give more to it than one farther away.[6]

Fundraising has two effects on donations. On the extensive margin, it increases the number of people who give to the charity by increasing the number of givers solicited. On the intensive margin, it increases the average value of ℓ among givers by matching them more closely to their ideal quality, thus tending to raise the amount given. We assume that, although charities do not know the L^* of any individual, they know the proportions of each type in society. Hence, we can think of fundraising as a random solicitation of individuals, such as through mailings or telephone calls, and so any individual is equally likely to be solicited by the charity.[7]

Next, what are the objectives of the fundraisers? If the providers of charity care about producing charitable services, then they may be net revenue maximizers, choosing θ to maximize C, taking as given the fundraising of other competing charities. On the other hand, managers of charities may see fundraising as a "necessary evil" that they need to endure to provide services they value. That is, the objectives of the charity may be better described by a function $V_j=v_j(C_j,\theta_j)$ where $\partial v/\partial C > 0$ and $\partial v/\partial \theta < 0$, so that charities may not choose the level of fundraising to maximize net revenues. There is evidence this model of fundraising aversion may be more appropriate for many organizations (Weisbrod 1988). We can simplify this expression by assuming that fundraisers maximize

[6] Notice also that (2) implies individuals only get utility from the charity they give to, not from the charities to which they do not give, despite the fact that all charities are public goods. If we assume preferences are separable in all charities, so that the marginal rate of substitution between the charity one gives to and those one doesn't is independent of the level of charity raised by the others, then all of the results that follow extend to this case as well. Nonetheless, this is an obvious avenue for generalization in later work.

[7] This is, of course, a simplification. We could alternatively assume that each individual is targeted by the charity to be solicited in a certain order and that this ordering is chosen strategically as well. This would complicate the analysis without providing any additional richness to our predictions.

$$V_j = C_j(\theta_j) - s_j\theta_j$$

where $s_j \geq 0$ represents the disutility to the charity managers of engaging in fundraising.

To simplify the exposition, assume there are only two charities, 1 and 2, and two types of individuals. For the n_1, type 1 individuals $\ell_{11}=1$ and for the n_2, type 2 individuals $\ell_{22}=1$. For a given (θ_1,θ_2) we know that the number of givers of type 1 to charity 1 will be $n_{11}(\theta_i,\theta_j)=\theta_1 n_1$ and the number of type 2 givers to charity 1 will be $n_{21}(\theta_1,\theta_2)=\theta_1(1-\theta_2)n_2$. Similarly, $n_{22}(\theta_2,\theta_1)=\theta_2 n_2$ and $n_{12}(\theta_2,\theta_1)=\theta_2(1-\theta_1)n_1$. Given these numbers, and their own solicitations received, individuals will maximize utility (2) subject to the budget constraint $x_i+p_i y_{ij}=m_i$, where $0 < p_i \leq 1$ is the price of a giving, which may be less than one due to the charitable deduction from income taxes, and m_i is i's after-tax income. Solving this maximization, and assuming identical individuals within types, it is easy to find equilibrium contribution levels of the form

$$y_{11}^* = f_{11}(\theta_1,\theta_2;G_1)$$
$$y_{21}^* = f_{21}(\theta_1,\theta_2;G_1)$$

where $\partial f_{i1}/\partial\theta_1 \geq 0$, $\partial f_{i1}/\partial\theta_2 \leq 0$, and $\partial f_{i1}/\partial G_1 \leq 0$ for i=1,2. Similar results hold for charity 2. That is, in equilibrium, own fundraising increases own revenues but decreases a competitor's revenues. Likewise, higher G will partially "crowd out" individual contributions.

We can turn next to the game among the charities. The total contributions received by a charity will be increasing in its own fundraising and decreasing in the fundraising of the competing charity. Thus, we assume that each charity will maximize

$$V_j = C_j(\theta_j,\theta_k;G_j) - s_j\theta_j\,, \qquad (3)$$

where $C_j(\theta_j,\theta_k;G_j)$ is the equilibrium outcome of the subgame among givers. This will lead to best reply functions by the charities of

$$\theta_j^* = \theta_j^*(\theta_k; G_j), \text{ with } \partial\theta_j^*/\partial\theta_k < 0, \text{ and } \partial\theta_j^*/\partial G_j \leq 0.$$

These derivatives of the best reply function can be gleaned from a total differentiation of (3). Note that

$$\frac{\partial \theta_j^*}{\partial \theta_k} = -\frac{\partial^2 C_j / \partial \theta_j \partial \theta_k}{\partial^2 C_j / \partial \theta_j^2}$$

By the second order conditions on maximizing (3), the denominator above is negative. What about the numerator? Recall that θ has two effects. First is the extensive margin, by bringing people into giving that otherwise would not give, and second in the intensive margin in moving givers from the other charity to their more favored charity. As the other charity solicits more, the extensive margin will become less important. As it becomes more likely that any one person is solicited by the other charity, it becomes less likely that they will give to your charity. Hence, any solicitation is less productive. Therefore, $\partial^2 C_j/\partial\theta_j\partial\theta_k \leq 0$ and $\partial\theta_j^*/\partial\theta_k < 0$. We will also assume that $-1 < \partial\theta_j^*/\partial\theta_k$. This is similar to the types of stability conditions often invoked in duopoly models. These assumptions lead to the existence of a unique subgame perfect Nash equilibrium. This is illustrated in Figure 1.

It is also easy to see that $\partial\theta j^*/\partial Gj \leq 0$. In particular, by total differentiation we know that

$$\frac{d\theta_j^*}{dG_j} = -\frac{\partial^2 C_j / \partial \theta_j \partial G_j}{\partial^2 C_j / \partial \theta_j^2}$$

Since individuals will be "crowded out" by government grants, we know that when they are solicited they will give less when G is higher. Hence, $\partial^2 Cj/\partial\theta j\partial Gj < 0$ and $d\theta j^*/dGj \leq 0$. This yields proposition 1.

Proposition 1. *As government grants to a charity increase, fundraising efforts by that charity will decrease.*

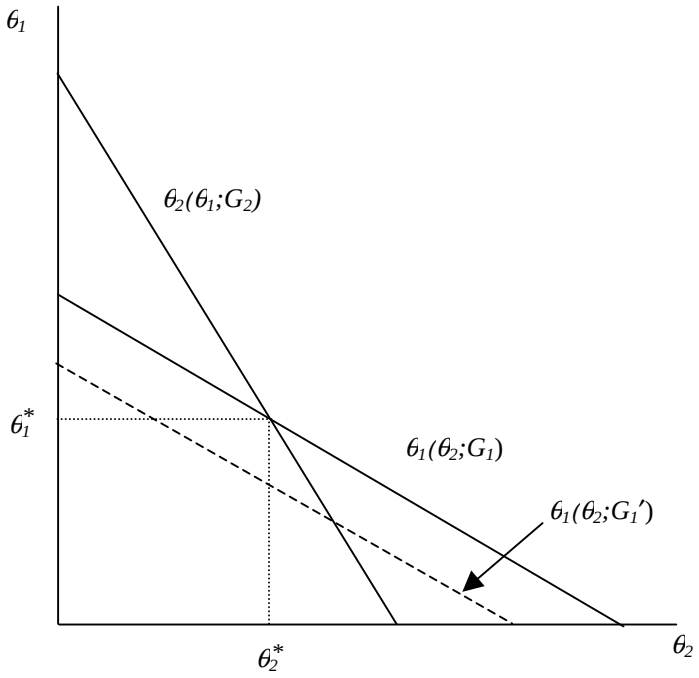

FIGURE 1: Equilibrium in a Model of Fundraising

This proposition is also illustrated in Figure 1. Here $G_1' > G_1$ and the best-reply function for firm 1 shifts toward the origin.[8] Will crowding out be complete or incomplete? Suppose that the charity kept its fundraising constant in response to a government grant. Then, because the grant is partially paid for by those who do not give to the charity, there will be an income effect that will increase the total supply of the public good (see Bergstrom, Blume and Varian, 1985). We just saw, however, that since marginal fundraising is less productive after the grant, the charity will reduce θ, leading to a decline in giving. Will the charity ever reduce θ so much that total C after the grant is lower than it was before the grant? The answer is no, and can be seen with a revealed-preference argument. In particular, it would have been possible for the charity to put less effort into fundraising before the grant, thus raising less charity, which it did not choose. So given an opportunity to get at least as much C with less effort θ, the charity will surely take it.

[8] If we were to add the realistic assumption that there is increasing disutility to fundraising by the charitable organization (since they prefer spending time providing the charitable services than fundraising), this shift would be accelerated. Hence, the greater this increasing disutility, the more fundraising will decline as grants go up.

Hence, government grants will be incompletely crowded out in the presence of fundraising. This gives us the following proposition:

Proposition 2. *If the government increases its grant to a charity, the total level of charitable services will always rise, although not by the full amount of the grant. This is due to a combination of reduced fundraising and classic crowding out.*

Note that we have assumed that there is no "warm-glow" from giving (Andreoni 1989, 1990). All the results generalize, however, to an assumption of impure altruism in which people give partly for the private pleasure of giving[9]

Finally we turn to the issue of what determines government grants. To complete this model we would need to present a formal political model of democracy and policy formation, such as Besley and Coate (1997). In such a model the political process would suggest that charities that are more in favor of the electorate are more likely to receive government grants. Given the greater demand, they are more likely to engage in fundraising. Hence, there should be a strong correlation between G_j and $\sum_i y_{ij}$ and F. This means that G, while exogenous to any one giver, is endogenous to the equilibrium level of C in the economy. This simultaneity will be a factor in the empirical work.

II. Nonprofit Data Set

The data on nonprofit revenues and expenses come from federal tax returns filed by IRS Section 501(c)(3) organizations for the period 1982 to 1996 (excluding 1984).[10] Representing

[9] Here we can see that the strategic responses of charities to government grants could lead to crowding out even if people care only for a warm-glow and, as a result, would not substitute involuntary for voluntary gifts. If the charities dislike the act of fundraising, then the income effect of a government grant means they can reduce the unpleasant fundraising efforts.

[10] The data may be obtained from the Urban Institute's National Center for Charitable Statistics. For a given year, the returns are for firms whose accounting period ended between November of that year and October of the following year. The sample is stratified based on the asset size of the non-profits. Most of the returns are tracked are for non-profits with assets that exceed $500,000. For each year, IRS randomly sampled the non-profit firms

the largest part of the nonprofit sector, 501(c)(3) nonprofits are those organizations whose purposes are religious, charitable, educational, scientific, or related to public safety testing.[11] The tax returns identify the amount the nonprofit received in private donations, government grants, and fundraising expenditures for the year for which the return was filed. Private donations may come from individuals, estates, corporations, and/or other nonprofit organization. Government grants include grants received from all levels of government, excluding reimbursements for services provided by the nonprofit under a government contract.[12]

The organizations have been classified in the National Taxonomy of Exempt Entities. We constructed two unbalanced panel data sets for organizations sampled by the IRS for more than 4 years located in the 48 contiguous United States. The first data set covers the following arts organizations: art museums, other types of museums, performing arts groups (theater, dance, etc.), and music groups. The second data set covers social service organizations that are concerned with: family or children, poor or homeless, elderly or disabled, crime or delinquents, employment issues, and other types of human services and housing related services. We picked these two groups of organizations for several reasons. First, they represent different types of charitable goods and services insofar as the sectors of the population served. As such, the type of private donor attracted to giving to these different goods may also differ. Second, the reliance on government funding and private donations differs across these types of organizations. Third, given the structure of the arts organizations in the United States, these organizations are more likely to be less multi-dimensional in their missions than many of the social service

within each asset level. As IRS's budget for this study increased, the number of non-profit organizations tracked for a given year also increased. Data for 1984 were not collected for budgetary reasons.

[11] An organization is required to file a tax return if its annual gross receipts are greater than $25,000 and it is not a religious organization.

[12] These types of payments are reported on a non-profit's tax return under program service revenue. Program service revenue, however, is not limited to payments by the government; it covers any payment received by the non-profit for the services provided.

organizations. For example, a dance troupe is concerned about performing dance and creating new dance pieces for the dance troupe to perform. A given social service organization may provide several types of services such as providing food, shelter, and some level of community reintegration for the homeless. Although all three services are complementary, the sources of funding for each of these services may be different. For example, in the area of social services, the government has become more involved in contracting out government provided services to nonprofit and other types of organizations. Thus, one of the activities for a social service organization may involve performing services under a government contract that may be more regulated than the services that would be provided if the organization received a government grant.

As other authors have found, the IRS sample of nonprofit tax returns requires extensive data cleaning. There are four major reasons for this need. First, there are many zeros reported in the measures of interest. Given we are incorporating organization fixed effects in the regression specification, it is important to have measures that change over time for each organization as we will be measuring the average within effect across the organizations. Moreover, we are interested in studying those organizations that actively seek private donations and government grants as well as report the expenditures associated with fundraising.

Second, there are divergent accounting practices among organizations that raise concern about the comparability of the tax returns. This stems from the fact that there is extensive heterogeneity in size and level of professionalism in charitable organizations. This also stems from the fact that despite a requirement to file a tax return, a nonprofit is not taxed on revenues raised primarily for the goods and services it provides. Thus, charitable organizations are treated differently by the IRS relative to for-profit organizations.

Third, even within the NTEE classification of the organizations, the types of organizations that are considered a 501(c)(3) organization varies dramatically. Thus, there are organizations that may not operate in the manner suggested by the theory by seeking grants and donations. For example, a professional society, although a nonprofit, is organized to provide goods and services for dues-paying members.

Fourth, as with any data set, there are anomalies in the data that must be addressed. Given the purpose of our study, we are interested in studying organizations that exhibit positive private donations, fundraising expenditures, and government funding during the sample period. We, therefore, used the following rules to exclude organizations from the sample:[13]

1. All organizations that report zero government grants for all years for which the organization is in the sample.

2. All organizations that report zero private donations and fundraising expenditures for all years for which the organization is in the sample.

3. All organizations that report zero fundraising expenditures during the sample period.

4. All organizations that report zero government grants, private donations, and fundraising expenditures for more than 75% of the years of data covered by the sample.

5. The first few years of organizations that report zero fundraising expenditures and government grants, suggesting these organizations may have recently started and take several years before seeking (or reporting) funding and government grants.

6. A few organizations with very few years of positive fundraising expenditures and/or government grants and other evidence of idiosyncratic accounting.

This leaves 2493 observations and 245 organizations for the arts data set and 4333 observations and 474 organizations for the social services data set. These organizations are located in the 48

[13] We also excluded organizations whose scope is national in purpose or is a national chapter of local organizations. We identified these organizations by searching for the word "national" or "America" in the name as well as identified other organizations that were believed by the authors to be national in scope. We then confirmed these organizations provided services nationally by reviewing their mission statements as obtained from their websites. We also excluded organizations identified as a "foundation" if the organization did not receive any private donations during the period under study.

contiguous states with the majority of organizations located in New York, California, Ohio, Illinois, Pennsylvania, Florida, and Texas.

Table 1 reports summary statistics for the arts and social services organizations, respectively. The amounts reported are in constant dollars (1996 is the base year). Across all organizations, the average fundraising expenditures represent an average of eight percent of average private donations.[14] For the arts organizations, average private donations received by the arts organizations are $5.6 million; art museums reported the highest average amount. Average government grants are $1.2 million; art museums reported the highest average amount. Average fundraising expenditures are $560,000; music organizations reported the highest average amount. In addition to private donations and government grants, program service revenue plays an important role in the financing of these organizations. Unfortunately, the tax returns do not identify the sources of the program service revenue. Our speculation regarding the source of these monies is that the bulk is derived from ticket sales and not from government contracts.

For the social service organizations, government grants play a bigger role in their funding than private donations. Average government grants are close to sixty percent greater than average private donations. Across all organizations, the average program service revenue is quite high, representing, on average, 92 percent more revenue than government grants and 200 percent more revenue than private donations. Given the nature of the nonprofit organizations under study, we speculate that a large percentage of these revenues are derived from government contracts. We also suspect that the organizations that rely heavily on program service revenue

[14] In recent years, it has become more common to use the relationship between fundraising expenditures and a nonprofit's total revenues as a measure of whether a nonprofit "efficiently" provides its goods or services. As such, this could result in the nonprofit underreporting its fundraising expenditures to keep this ratio low. To the extent the nonprofit adopts a consistent method of reporting its fundraising expenditures during the sample period, the

may offer several types of goods and services and that the goods provided using program service revenue are complementary to the goods provided using government grants and/or private donations. Thus, the role and source of program service revenue for the social service and arts organizations appear to be different.

Average private donations are $1.73 million; multi-purpose human service organizations reported the highest average amount. Average government grants are $2.71 million; employment related organizations reported the highest average amount. Average fundraising expenditures are $178,000; multi-purpose human service organizations reported the highest average amount.

Comparing the summary statistics for the arts and social service organizations, there are several salient points. First, the emphasis on private donations or government grants is different for these organizations. Second, although the emphasis on funding sources is different across the two types of organizations, the average total of these three sources of revenues for the arts organizations is not that different from the average for the social services organizations. The average for the arts organizations is $11 million and the average for the social services organizations is $9.6 million. The average of the sum of private donations and government grants is $6.8 million for the arts organizations and $4.4 million for the social services organizations. Thus, the reliance on private donations and government grants by arts organizations is slightly more than by the social service organizations. Third, with the exception of private donations, the coefficient of variation on the measures is greater for the social services organizations.[15]

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organization fixed effects will help to control for this anomaly. In future versions of this paper, we will explore this issue further.

[15] The coefficient of variation, defined as the standard deviation divided by the mean, measures the relative dispersion in the data.

Figures 2 and 3 depict the average level of fundraising expenditures, government funding, private donations, and program service revenue by year for the sample period for the arts and social services organizations, respectively. Given fundraising expenses are substantially lower than the other measures, fundraising expenses are reported on a different scale (along the right vertical axis). For the arts organizations, average private donations have grown over the sample period, whereas government grants have remained fairly flat. Average fundraising expenditures have also grown steadily over the sample period.

For the social service organizations**,** at the beginning of the sample period, all four measures were declining, reaching the lowest average level around the time of the 1986 tax reform. After the 1986 tax reform, average government grants increased, rising more sharply than private donations. Average private donations increased after the 1986 tax reform, but remained relatively flat for most of the period. The sharpest growth is seen in program service revenue. Average fundraising expenditures grew faster than government grants and private donations but not as fast as program service revenue.[16] For both figures, there is no strong evidence that as government grants have increased over time, fundraising expenditures have declined.

We have also collected data at the state and/or zip code level to proxy the political, economic, and demographic conditions under which the organizations operate. All measures are publicly available from various government publications. The measures reflecting the political conditions under which a nonprofit operates identifies the political party composition of the state legislature and U.S. Congress, as well as well as the political party of the state's governor and the number of members on the U.S. Congressional Appropriations committees (Senate and House)

[16] Figures 2 and 3 illustrate a potential difference in the reactions by donors and the government to the Tax Reform Act of 1986.

representing the area in which the nonprofit is located.[17] The political measures proxy the sentiment of the voters in a given state and are expected to address the distribution of government funding across the organizations. The state level economic and demographic measures identify such things as per capita income, the unemployment rate, the population, the percent of the population under 18, and the percent of the population over 65. These measures proxy the need for the goods and services provided by the organizations.

An additional set of measures we have collected identifies the level of government transfers to individuals or nonprofit organizations. The individual transfers reflect payments related to: retirement and disability, Medicare, Medicaid, income maintenance (SSI, AFDC, food stamps), unemployment insurance benefits, veterans benefits, and federal education and training programs. The transfers to nonprofit organizations reflect the payments by the federal and state governments to nonprofit organizations. The mean and standard deviation for these state level measures are reported in Appendix Table 1.

III. Empirical Specification

We use the data to test proposition 1. We utilize the following empirical model:

$$F_{ist} = \alpha_i + \gamma_t + \beta G_{ist} + \eta R_{ist} + \kappa D_{ist} + \lambda Z_{ist} + \varepsilon_{it} \qquad (4)$$

where F is the real level of fundraising expenditures spent in year *t* by nonprofit *i* located in state *s*, G is the real level of government grants in year *t* received by the nonprofit, R is the program service revenues and D are dues and fees of the nonprofit, and Z is the vector of economic, demographic, government transfers to individuals, and/or political measures for the state in which the nonprofit is located.

[17] We hand collected data on the membership of the appropriations committees for both chambers of the U.S. Congress. For the Senate, we use the state represented by the Senator to identify whether a nonprofit organization located within that state has a member on the committee. For the House of Representatives, we identify by zip code the areas within the congressional district represented by the representative and match this to the address of the

The parameter β captures the effects of government funding on fundraising expenditures. We allow government funding to be measured in the same period as the fundraising effort under the assumption that there is a lag between seeking government funding and actually receiving the funding. Because we have a panel data set, we included organization and year fixed effects. The organization fixed effects are designed to capture the time invariant heterogeneity in the organizations such as their reputation, age, type, and/or method of operation that affects the collection of funding and the use of fundraising expenditures. The year fixed effects control for macro level time varying shocks that affect all of the organizations similarly.

We also added values of program service revenue, R, and dues and assessments for the nonprofit organizations, D. These capture time varying characteristics that are not captured by the organization fixed effects, such as other potential sources of revenue available for use by the organization, other types of goods and services offered by the organization that may be complements with or substitutes for the goods and services provided using government grants and/or private donations, and the growth or down-sizing of the organization.

A. Measurement Issues

As other authors have noted, although the data set we are using in this paper is rich given the large number of firms we can study over time and the ability to segregate the organizations into types of goods provided, the data set is not without problems. There are four potential problems that we will address in our analysis. First is timing. The data are reported on a yearly basis. The timing of government funding, private donations, and the efforts expended towards fundraising, however, may not fall within the same one-year period. This raises the question of whether we should lag government funding or modify the data such as taking a moving average

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nonprofit organization to identify whether the nonprofit organization has a member on the House appropriations committee that is concerned with the area served by the nonprofit organization.

of the measures. Although we only report results using current dollars, the results are robust regardless of whether we use a lag or a two-year moving average in government funding.

A second issue concerns the uses of the organization's fundraising expenditures. To properly test the theory, the fundraising expenditures should only be used towards the collection of private donations or funding unrelated to government grants. The reporting instructions to charities, however, define fundraising as "the total expenses incurred in soliciting contributions, gifts, grants, etc." Hence, a nonprofit may include the costs associated with applying for government funding as a fundraising expenditure or, worse, the costs of reporting and complying with the conditions of the grants. If this is the case, the coefficient on the fundraising measure in equation (4) will have a positive bias. We can address this by looking separately at the components of fundraising costs reported by the charities. There are three main components. First are "professional fundraising fees" which are payments to outside organizations for conducting fundraising or for consulting on fundraising. These expenses most cleanly represent the notion of fundraising expenses intended in the theoretical model. Second is the portion of officers' salaries allocated to fundraising. We presume that the officers would prefer to spend effort on the nonprofits services rather than on fundraising. Hence, we expect this expense to decline as grants are received. Third is the portion of overall salaries and wages allocated to fundraising. If this item were measured accurately, we would expect this also to decline as grants are received. We fear, however, that this item may also include expenses related to maintaining a "grants office" that also administers grants once they are received. To the extent that these activities are included in this number, the coefficient may be biased in the positive direction.[18]

[18] To explore these issues further, we divided the data into three groups: those observations for which there are positive private donations but zero government grants; those observations for which there are positive government

A third issue concerns the fact that some government grants may be in the form of a matching grant, whereby the nonprofit organization is expected to raise funding from other sources to qualify for the government funding (or vice versa). Given the nature of the data set, we do not know if the government funding is tied to the charitable organization receiving a matching grant. To the extent that a given nonprofit organization consistently receives matching grants, the organization fixed effects would control for this type of phenomenon. In addition, to the extent that there is a uniform switch in grant awards by all government agencies during the period under study, the year fixed effects would control for this type of phenomenon. If there are matching grants that vary over time and within the firms, then the fixed effects will be of little use in this regard and the coefficient on the fundraising expenditures will have a positive bias.

Fourth, given the fundraising expenditures are skewed towards zero, an OLS framework may not be the best framework to use. We, therefore, also use a Tobit specification to control for this problem.

IV. Estimation

In estimating equation (4) we expect to encounter problems of endogeneity. In particular, if the services of an organization are in high demand, such as the Red Cross after a hurricane, we might expect demands for both private and public contributions to be high. And, naturally, if both demands are high, these organizations should increase pursuit of both public grants and private donations. In other words, unmeasured influences may be increasing both government grants and fundraising. To correct for this positive bias we will need to use instrumental

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grants but zero private donations; and those observations for which there are positive government grants and positive private donations. On average, of fundraising expenditures are higher for the observations that report no government funding than for the observations that report no private donations. Fundraising expenditures are only slightly higher for the observations that report both positive private donations and government funding. Across all three groups of observations, the ratio of fundraising expenditures to total revenues collected by the nonprofit is the same (.01).

variables. In this section we first report results without controlling for endogeneity, and then turn results for two-stage least squares regressions.

A. OLS and Tobit Regressions.

Table 2 reports estimate of equation (4) from the OLS regressions and the fixed effects Tobit specification for the arts organizations. In each specification reported, we regressed fundraising on a measure of government grants, program service revenue, dues assessments, state political, economic, demographic, and individual government transfer measures, year, and organization fixed effects. In columns (1) and (3) we report the results from an OLS specification. In column (2) and (4) we report the results from the Tobit specification. In all of the specifications, we divided government funding by one billion and fundraising expenditures by one million. Thus, the coefficient on government funding represents the dollar increase in fundraising expenditures per $1000 of government funding.

Across all four specifications, the results suggest that an increase in government funding increases fundraising expenditures. Depending on the specification, the results suggest, on average, a $1000 increase in government grants increase fundraising expenditures of about $4 to $5 for social service organizations and about $10 to $12 for arts organizations. Using the mean of government funding and fundraising expenditures across all organizations, these coefficients represents an average increase between one and three percent.

B. Two-Stage Least Squares Estimation

As discussed above, there are several issues that suggest the OLS results may be biased due to endogeneity or omitted variables in the specification. To address these issues, we estimate equation (4) using an instrumental variables ("IV") specification. Under IV, in the first stage, we predict the level of government funding based on a set of exogenous measures used as

instruments that are not directly correlated with the fundraising measures. In the second stage, we use the predicted level of government funding to measure β.

In searching for a set of instruments, one is interested in a set of measures that explain government grants directly but not fundraising. We identified several potential sources of instruments. The first set of instruments measures the transfers to all nonprofit organizations by state and federal governments, measured at the state level. These measures help control for the size of the government budget that has been spent on nonprofit activities, thus proxy the size of the pie for which a nonprofit organization competes. The second set of measures identifies whether the area in which the organization is located has a member on the United States Senate and/or House of Representatives appropriations committees. In the U.S. Congress, the appropriations committee is charged with developing the budget that must be approved by the entire Congress and the President. A member on the committee, thus, has some influence over the distribution of discretionary funding across the agencies. The third set of measures identifies the dollars spent on hotel lodging within a state. These dollars are a proxy for the level of tourism in the state, thus identifying the degree to which arts organizations could prosper from this activity. The fourth set of measures is government grants to state arts agencies. This measure is a proxy for the level of government funding devoted to supporting state arts agencies, which in turn help support arts organizations. Finally, we considered total research funding to the universities in the state from the National Institutes of Health, lagged by one year. This measure identifies government resources that are being devoted to things other than arts organizations, thus, providing a proxy for the level or resources that may be available for the arts. The measure also identifies the research intensity of universities in a state with respect to

health research and, thus, providing a proxy for a level of the population that may be more highly educated and, potentially, a patron of the arts.

To test whether these measures are suitable instruments we looked at the results of two tests. First, the F-statistic on the set of instruments in the first stage regression. This tests the strength of the instruments to predict government funding. Second, the over-identification test from the second stage regression. This tests the exogeneity of the instruments insofar as the test identifies whether the instruments can be used to help explain the dependent variable (fundraising expenditures) after the instruments have been used to predict the level of government funding. In addition, we examined whether the coefficient for the government grants term in the second stage regression was precisely measured using a Hausman (1978) test.

For both types of organizations, we interacted the various measures we tested as instruments with a set of dummy variables representing the type of organization. For the arts organizations, the strongest instruments, as measured by the F-statistic in the first stage regression, were those that identified the level of research funding to universities by the NIH and the government transfer payments to nonprofit organizations. The p-value from the over-identification test, however, is quite low, suggesting these instruments may belong in the second stage regression. Interestingly, across the different sets of instruments tested, the sign and magnitude of the coefficients on the government funding measure in the second stage regression were very similar despite these instruments proxy for different aspects of government funding.[19] For the social service organizations, the strongest sets of instruments are those that identify the level of government transfers to nonprofit organizations and the measures that identify whether

[19] Although not reported in the tables, if we used the level of government funding to state arts organizations, interacted with dummy variables for the type of organization, the p-value from the f-statistic is only .08. The over-identification test is satisfied (p-value is .80). The coefficient on the government grants term in the second stage regression is similar to those reported; however, it is only statistically significant at a p-value less than .10.

there is a member of Congress on the appropriations committee that represents the congressional district or state in which the nonprofit is located. We report, however, only those results that use the government transfers to nonprofit organizations in the tables.[20] For the IV regression, both the over-identification and Hausman (1978) tests are satisfied.

Table 3 reports the results from the IV and the Nelson-Olson Tobit IV regressions for the set of instruments that reflect the NIH funding to universities located in the same state as the organization, and federal grants to nonprofits in the state Columns (1) to (4) report the results for the arts organizations, while (5) and (6) report the results for the social service organizations. The top panel reports the results from the second stage regression. The middle panel reports F-statistic on the instruments from the first stage regression. The bottom panel reports the results from the over-identification and Hausman (1978) tests.

Looking first at the arts organizations, for both sets of instruments and across the two types of specifications, the results suggest a negative relationship between government funding and fundraising efforts. Notice that the coefficient estimates are quite similar across all specifications, for both instruments. Given the statistic for the Tobit specification is more significant than the statistic using the current specification, we will discuss these results. Using the government funding to state arts agencies as the instrument, the results suggest that, on average, a $1000 increase in government grants decreases fundraising expenses by $242. These results suggest that given the average government grant to an organization is $1.19 million, fundraising expenditures decrease, on average, by $289,000 representing a decline of 51 percent of average fundraising expenditures.

[20] If we use the congressional measures, because the regression specification utilizes organization fixed effects and member of Congress typically serve several years on the appropriations committee, we can only study those organizations for there is a member of Congress that represented the area in which the organization is located and moved on or off the committee during the period under study. As such, this reduces the number of organizations

Turning next to the social service organizations, the results for these organizations are reported in columns (5) and (6) of Table 3. The estimates continue to suggest a significant positive relationship between government grants and fundraising efforts. Moreover, the coefficients are larger than the results under the OLS specification. The coefficients suggest that an additional $1000 in government grants actually increases fundraising expenditures between $18 and $19. Given the average government grant is $2.7 million, this would represent an increase in fundraising expenditures by $50,000, or an increase in average fundraising expenditures by 28 percent.

What could explain both the positive coefficient on government grants for the social services groups and the drastic difference between social services and arts organizations? We explored several potential explanations for these results. First, we considered the choice to instrument only the government funding measure and not the program service revenue measure. If, however, we also instrument the program service revenue, the coefficient on the government grant measure does not change dramatically for the social service organizations. [21] Second, we explored whether using observations for the years around the 1986 tax reform affected the results. As Figure 3 suggests, around the time of the tax reform donor, government, and fundraising behavior for the social service organizations changed dramatically, presumably in anticipation of the reform. We, therefore, excluded those observations for the period 1986 and before, but the results do not change appreciably, suggesting the year effects in the specification adequately control for the changes in behavior that occurred around 1986. Third, we explored further the role of program service revenue on the relationship between government grants and

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that may be included in the IV regression to 285. The coefficient in the IV regression from this set of instruments is positive and bigger than that reported in Table 4.

fundraising efforts. We suspect that the organizations that rely heavily on program service revenue may offer several types of goods and services and that the goods provided using program service revenue may be complementary to the goods provided using government grants and/or private donations, hence generating a positive relation. Hence, we allowed the coefficient on the government grants term to be different if a nonprofit organization does not rely heavily on program service revenue relative to government grants. The results suggest there is a more positive coefficient for organizations that rely heavily on program service revenue, but the difference is not strong.

Finally, we hypothesized that the structure of the development offices of arts and social services firms may be quite different. We know that social service organizations rely far more heavily on government grants than do arts organizations. Moreover, the nature of these grants is different across the two organizations. Arts organizations primarily raise money for specific short-term project, such as an exhibit or a performance, while grants to social service organizations are sometimes the defining characteristic of their mission. Moreover, grants to social service organizations often look similar to contracts in which government restrictions and oversight apply. According to *The Nonprofit Handbook*[22], "Some federal 'grant' programs are really contracts for services and not 'granted' funds in the purest sense of the definition. Direct payments are provided to…private organizations to support a specific service or activity that the

[21] For the arts organizations, when we treat program service revenue (and/or dues and fees) as endogenous, the coefficients on the government funding and the program service revenue measures are imprecisely measured, providing no additional information about the relationship between fundraising and government grants.

[22] Greenfield, Ed., (2001), *The Nonprofit Handbook: Fundraising, Third Edition* (pp. 698-99). This publication is sponsored by the Association of Fundraising Professionals, and is a reference book for many administrators of nonprofits. It also describes "formula grants" that are awarded based on predetermined eligibility requirements. The nonprofit would report them as grants, but application would be more in the form of paperwork requirements. Examples of these are Community Service Block Grant Discretionary Awards, Community Food and Nutrition, Housing Opportunities for Persons with AIDS, HOME Investment Partnerships, and Special Programs for the Again.

federal government wants to provide to benefit the citizenry." It further states that, "Some of these direct payment programs are based on former successful competitive grant projects that have become institutionalized." Hence, social service organizations with larger grants may also have larger expenses for administration of these grants, and these expenses could be reported as costs of fundraising, even though they would not meet the definition intended in our theoretical model. This would lead to an artificially positive coefficient on grants in equation (4).

Fortunately, our data set allows us to separate the costs of fundraising into three component parts, representing, on average, more than 50 percent of total fundraising expenditures. First are fees paid to independent fundraisers and consultants. This is the purest form of fundraising expense and is clearly what was intended in the theory. Second is the portion of officers' salaries attributable to fundraising for accounting purposes. This number is prone to variation due to different reporting practices. Some nonprofits may keep a diary of each executive's time, or have officers whose sole task is fundraising, while others may apply a formula that is a function of the actual funds raised or other costs incurred.[23] Hence, this cost measure likely is less reliable than the first, but to the extent it is accurately measured it too should be negatively related to government grants. Third are the salaries and wages of others besides officers devoted to fundraising. This would be precisely measured if organizations maintained separate fundraising and development offices. This is where we expect the largest difference between arts and social service organizations. We expect many of the costs of administering and complying with government "grants" may be included here for social service organizations. If this is true, then government grants may have a positive influence this category for social service organizations.

[23] See Greenfield (2001), Ed., *The Nonprofit Handbook: Fundraising, Volume Three*, chapter 49 "Accounting for Contributions," and chapter 50 "Reading the Internal Revenue Service From 990."

Table 4 presents IV regressions for the arts organizations, using the three component parts of fundraising expenditures as the dependent variable. As expected, these three fundraising costs are negatively related to government grants. Both professional fundraising fees and other salaries are negatively and significantly related to government grants (but only for the Tobit in the former). The coefficient on officers' salaries, however, is small and imprecisely measured.

Table 5 presents similar regressions for the social services organizations. These results now confirm our predictions. First, professional fundraising fees are negatively and significantly related to government grants. A $1000 increase in government grants leads to decrease in professional fundraising expenses of between $15 and $31. Given average levels of grants and expenses, this represents a decline of more than 100 percent in professional fundraising expenses.[24] Second, the Tobit estimates indicate that expenses on officers' salaries also decline by about $10 per $1000 in grants. This, too, is a significant reduction, both statistically and practically. On the other hand, other salaries and wages are positively and significantly related to government grants. A $1000 increase in grants leads to a $10 increase in these costs. Thus, it appears that the positive effect of other salaries was swamping the negative effect of professional fees and officers' salaries in the prior regressions for social services.[25] Taking these three regressions together, the data are now consistent with a hypothesis that government grants to social service organizations do indeed crowd out true fundraising efforts of the organizations, as they do for arts organizations, but grants also increase the administrative costs of the fundraising offices of social services nonprofits.

[24] For those organizations that report at least one year of positive professional fundraising expenditures, the average government grant is $1.83 million. Given the average effect of a $1000 increase in government grants results in a decline of between $27,000 and $58,000 in professional fundraising expenditures, at the average, this would be a decline of more than the average professional fundraising expenditures of $16,000.

[25] Note that many firms reported zero expenses from professional fundraisers or from officers' salaries, but most socials services firms reported positive amounts for other salaries. Hence, even though the coefficients on grants in table 5 add up to a negative number, when weighted by the number of observations for each, the average is positive.

V. Conclusion

When a charitable nonprofit organization receives a grant from the government, contributions to charities could fall for two reasons. First, under the classic crowding-out hypothesis, donors let their involuntary tax contributions substitute for their voluntary contributions. This paper raises the prospect of a second reason; that the strategic response of the charity will be to pull back on its fundraising efforts after receiving a grant.

We explore this idea in two ways. First, we develop a theoretical model to show that a charity that chooses its level of fundraising strategically will reduce fundraising in response to government grants. If the charitable organizations find fundraising onerous, then the effect is heightened even more and can happen even if individuals themselves are not crowded out.

Second, we examine this hypothesis empirically. We use a rich panel data set of nonprofit organizations, observed for up to 15 years. We focus on two types of organizations: arts and social services. The arts organizations, such as museums or performances groups, get the majority of their funding from private donations and from program service revenue, such as ticket sales, and only a relatively small fraction from the government. The social service organizations are concerned with families, children, the elderly, the disabled, criminals, delinquents, and the poor. By contrast, these groups rely primarily on government grants to fund their operations, and much less on private donations. These two very different types of nonprofits provide anchors for our research into the question of whether government funding crowds out fundraising as well as giving.

When looking at the component parts of fundraising expenses, we find that indeed there is strong evidence that government grants to nonprofits are causing significant reductions in fundraising efforts. This finding is important for two reasons. First, it means that the behavior

of the nonprofit organizations is consistent with the predictions of an economic model within a strategic environment. This suggests that more sophisticated models of fundraising and competition in "charity markets" could bear fruit. Second, and more importantly, it adds an important new dimension to the policy discussions on the effectiveness of government grants to increase the services of charitable nonprofit organizations. Charities are not passive receptacles of contributions, as they have so often been treated in the past, but are active players in the market for donations. When the government gives charities a grant, we should take into account the behavioral response of the charity itself, as well as the behavioral responses of the individual donors.

What do our results suggest for policy? Our findings could provide a rationale for a policy of awarding so-called matching grants in which a recipient of a government grant is required to show increased fundraising revenue in order to qualify for additional funds. Such a policy could directly counteract the negative effects of the grants on fundraising. On the other hand, a conclusion that government dollars are allowing a reduction in fundraising expenses may be seen as socially beneficial. In particular, fundraising generates deadweight loss, much as advertising that does not generate demand but rather displaces it to competing brands might do. Depending on whether the deadweight loss of taxation is more or less than the deadweight loss of fundraising, then displacing fundraising could possibly improve efficiency.

How should our finding affect future study? The obvious next question is to ask how government grants affect donations both directly through classic crowding out and indirectly through reduced fundraising. Such a study would help inform theoretical models of giving and of charitable fundraising and would help formulate better policy toward both givers and nonprofit organizations. Also, what are the social costs and benefits of fundraising? Is

fundraising a purely wasteful activity or does it provide benefits, such as presenting information and education to an electorate? A deeper understanding of the costs and consequences fundraising could be quite valuable for scholars and policy makers.

References

Andreoni, James (1988) "Privately Provided Public Goods in a Large Economy: The Limits of Altrusim," *Journal of Public Economics*, v35 (February), 1988, 57-73.

Andreoni, James (1989) "Giving with Impure Altruism: Applications to Charity and Ricardian Equivalence," *Journal of Political Economy*, v97 (December), 1447-58.

Andreoni, James (1990), "Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving," *Economic Journal*, v100 (June), 464-77.

Andreoni, James (1998), "Toward a Theory of Charitable Fundraising." *Journal of Political Economy* v. 106, n6 (December), 1186-1213.

Andreoni, James (2001), "Leadership Giving as a Signal of Quality," working paper, University of Wisconsin.

Bergstrom, Theodore, Lawrence Blume, and Hal Varian, (1985), "On the Private Provision of Public Goods." *Journal of Public Economics*, v29, n1, 25-49

Besley and Coate (1997) "An Economic Model of Representative Democracy." *Quarterly Journal of Economics* v112, n1 (February 1997): 85-114

Greenfield, James M. (2001), Ed., *The Nonprofit Handbook: Fundraising, Third Edition*, John Wiley and Sons: New York

Hausman, J. (1978), "Specification Tests in Econometrics." *Econometrica* 46, 1251-1271.

Khanna, J., J. Posnett, and Todd Sandler. (1995). "Charity Donations in the UK: New Evidence Based on Panel Data." *Journal of Public Economics*, 56, 257-272.

O'Donoghue, Ted and Mathew Rabin, 1999a, "Incentives for Procrastinators." Quarterly Journal of Economics v114, n3 (August 1999): 769-816

O'Donoghue, Ted and Mathew Rabin, 1999b, "Doing It Now or Later," American Economic Review v89, n1 (March 1999): 103-24

Okten, Cagla and Burton A. Weisbrod. (2000). "Determinants of Donations in Private Nonprofit Markets." *Journal of Public Economics*, 75, 255-272.

Payne, A. Abigail. (1998). "Does the Government Crowd-Out Private Donations? New Evidence From a Sample of Non-Profit Firms." *Journal of Public Economics*, 69, 323-345.

Payne, A. Abigail. (2001). "Does the Government Crowd-Out Private Donations? New Evidence From a Sample of Non-Profit Firms." *International Tax and Public Finance*,.

Rooney, Patrick (1999), "A Better Method for Analyzing the Costs and Benefits of Fundraising at Universities." *Nonprofit Management and Leadership*, 10(1), 39-56.

Rose-Ackerman (1982), "Charitable Giving and 'Excessive' Fundraising," *Quarterly Journal of Economics* 97:195-212.

Steinberg, Richard. (1991). "Does Government Spending Crowd-Out Donations? Interpreting the Evidence." *Annals of Public and Cooperative Economics*, 62, 591-617.

Steinberg, Richard (1986), "Should Donors Care About Fundraising?" in *The Economics of Nonprofit Institutions*, Susan Rose-Ackerman, editor, Oxford: Cambridge, 347-364.

Steinberg, Richard (1994), "Economics and Philanthropy: A marriage of Necessity for Nonprofit Organizations." In J. M. Greenfield (ed.) *Financial Practices for Effective Fundraising.* New Directions for Philanthropic Fundraising, no. 3. San Francisco: Jossey-Bass.

Straub, John (2001), "Fundraising and Government Crowd-out of Private Contributions to Public Radio: An Empirical Study." working paper, Texas A&M University.

Tuckman, Howard (1998), "How pervasive are abuses in fundraising among nonprofits? A Research Report," *Nonprofit Management and Leadership*, 9(2), 211-221.

Weisbrod, Burton A. (1988) *The Nonprofit Economy,* Harvard University Press: Cambridge, MA.

Weisbrod, Burton A. and Nestor D. Dominguez (1986), "Demand for Collective Goods in Private Nonprofit Markets: Can Fundraising Expenditures Help Overcome Free-Rider Behavior?" *Journal of Public Economics*, 30(1), 83-96.

Figure 2: Arts Organizations

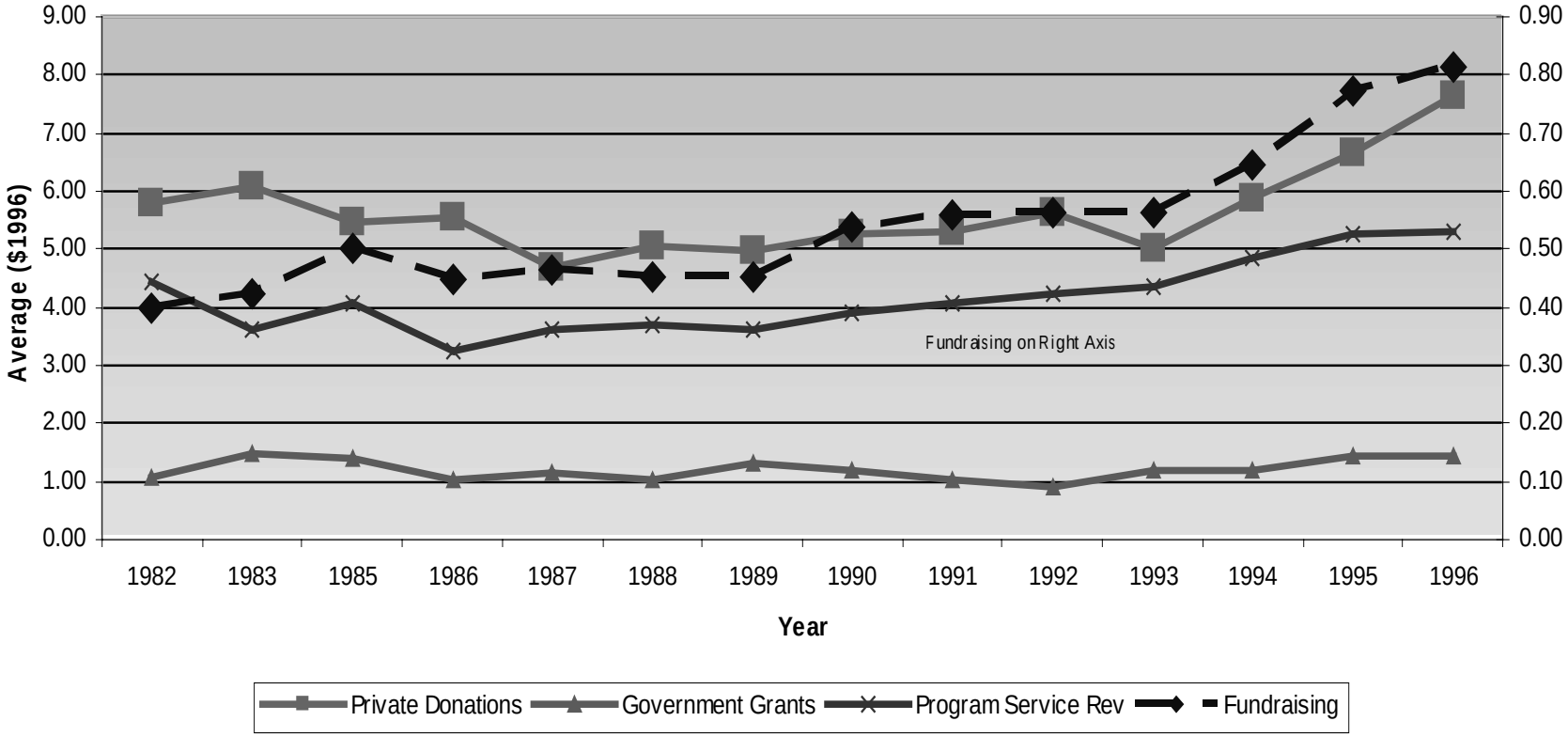

Figure 3: Social Services Types of Organizations

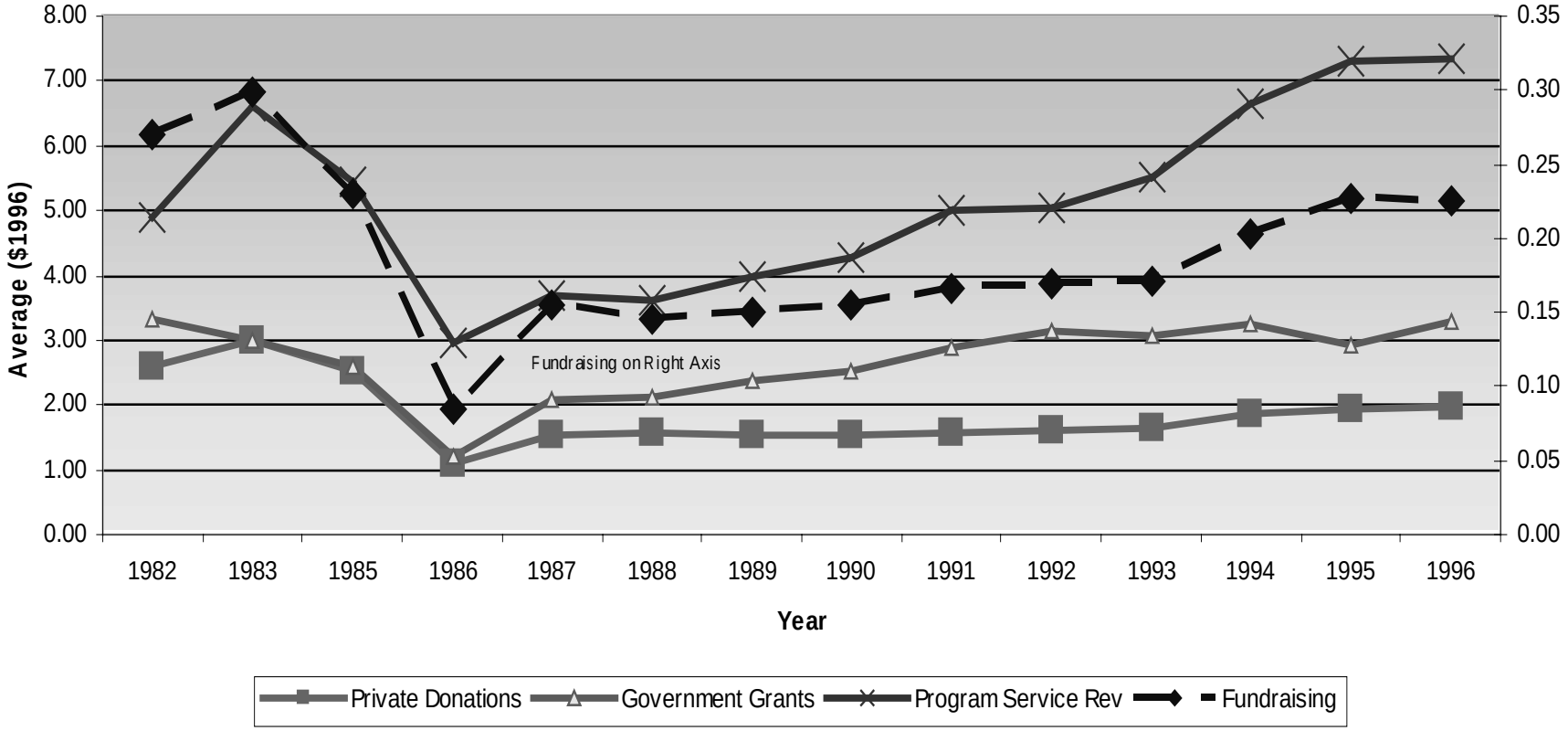

Table 1: Summary Statistics

	# Firms	# Obs	Mean ($millions)	Std. Dev	CV*	Median	75th %
Arts Organizations	245	2492					
Fundraising Expenditures			0.563	0.875	1.554	0.301	0.726
Professional Fundraising	157	1634	0.045	0.123	2.737	0.000	0.029
Officers' Salaries towards Fundraising	108	1178	0.029	0.056	1.922	0.000	0.035
Others' Salaries towards Fundraising	217	2272	0.231	0.293	1.269	0.143	0.318
Private Donations			5.625	9.972	1.773	2.656	6.809
Government Grants			1.193	2.932	2.458	0.309	0.939
Program service revenue			4.226	7.106	1.681	1.420	5.228
Dues and assessments			0.432	1.170	2.710	0.022	0.334
Donations + Grants			6.817	11.285	1.655	3.329	8.488
Donations + Grants + Service			11.044	15.976	1.447	6.084	13.871
Social Services Organizations	474	4333					
Fundraising Expenditures			0.178	0.361	2.025	0.040	0.179
Professional Fundraising	224	2113	0.016	0.051	3.069	0.000	0.003
Officers' Salaries towards Fundraising	143	1367	0.016	0.040	2.571	0.000	0.010
Others' Salaries towards Fundraising	368	3449	0.080	0.140	1.748	0.027	0.097
Private Donations			1.725	2.844	1.648	0.630	1.998
Government Grants			2.711	8.557	3.157	0.294	1.853
Program service revenue			5.171	10.843	2.097	1.125	5.457
Dues and assessments			0.553	1.850	3.346	0.000	0.002
Donations + Grants			4.436	9.151	2.063	1.714	4.475
Donations + Grants + Service			9.607	14.710	1.531	4.618	10.783

Note: All dollars are constant ($1996) and reported in millions. Private donations cover donations from all private sources; government grants cover grants from all levels of government (excludes monies received from government contracts)

Table 2: Relationship Between Fundraising and Government Grants, OLS

Dependent Variable	Arts		Social Services	
Fundraising Expenditures	OLS	Tobit	OLS	Tobit
	(1)	(2)	(3)	(4)
Government Grants	**9.83**	**11.70**	**4.59**	**4.82**
	(4.15)	(4.09)	(1.50)	(0.93)
Program Revenue	**14.79**	**14.59**	*1.70*	**1.75**
	(5.57)	(3.05)	(0.91)	(0.73)
Dues & Fees (1 yr lag)	**206.65**	**201.01**	-1.49	-5.96
	(42.81)	(18.25)	(7.78)	(4.42)
F-statistic on Economic Measures	1.50	0.91	0.95	0.42
(p-value)	(0.17)	(0.48)	(0.46)	(0.87)
F-statistic on Political Measures	0.65	0.90	1.57	2.20
(p-value)	(0.66)	(0.48)	(0.17)	(0.05)
F-statistic on Individual Transfers	3.70	3.52	3.35	4.97
(p-value)	(0.00)	(0.00)	(0.00)	(0.00)
R-square	0.8772		0.8680	
Fixed effects	Org & Year	Org & Year	Org & Year	Org & Year
# of observations	2492	2492	4333	4333
# of firms	330	330	474	474

Note: All regressions incorporate organization and year fixed effects. All numbers in parentheses are standard errors unless otherwise noted. A bold coefficient is significant at p<.05; a coefficient in italics is significant at a p<.10. Economic, political, and individual transfer measures are at the state level. Economic measures: real per capita income, state unemployment rate, percent of population in poverty, percent of population under 18, percent of population over 65, and state population. Political measures: percent of members in state upper legislature that are democratic, percent of members in state lower legislature that are democratic, dummy variable equal to one if governor is democratic, percent of members in U.S. House of Representatives that are democratic, number of U.S. Senators that are democratic. Individual transfer measures: payments to individuals for retirement and disability, Medicare, Medicaid, income maintenance (e.g. SSI, AFDC, food stamps), unemployment insurance, and veterans' benefits.

Table 3: Relationship Between Fundraising and Government Grants, IV

	Arts				Social Services	
Dependent Variable in 2nd Stage	IV	Nelson-Tobit	IV	Nelson-Tobit	IV	Nelson-Tobit
Fundraising Expenditures	(1)	(2)	(3)	(4)	(5)	(6)
Government funding	**-264.50**	**-242.43**	**-272.46**	**-242.78**	**17.91**	**19.34**
	(100.30)	(89.42)	(110.65)	(64.06)	(8.80)	(2.49)
Program Revenue	**24.58**	**23.75**	**24.86**	**23.69**	**5.52**	**5.83**
	(11.07)	(4.30)	(10.68)	(4.07)	(2.76)	(2.74)
Dues & Fees (1 yr lag)	**255.54**	**246.16**	**256.96**	**246.28**	0.20	-4.19
	(63.68)	(23.67)	(64.32)	(22.69)	(7.66)	(4.59)
R-square on 2nd Stage	0.6157		0.6003		0.8579	
Results from First Stage						
Instrument Set (used for both IV & Nelson-Tobit)	NIH Grants to Universities 1 year lag		Fed Transfers to Nonprofits 1 year lag		Fed Transfers To Nonprofits 1 year lag	
F-test on Instruments	5.08		2.81		3.7	
(p-value)	(0.00)		(0.00)		(0.00)	
Over-id Test	10.27		12.92		8.11	
(degrees of freedom)	(3)		(7)		(7)	
(p-value)	(0.02)		(0.07)		(0.32)	
Hausman Test	9.28		9.82		6.73	
(p-value)	(0.00)		(0.00)		(0.00)	
Fixed effects	Org & Year		Org & Year		Org & Year	Org & Year
# of observations	2492		2492		4333	4333
# of organizations	245		245		474	474

Note: standard errors are reported in parentheses. A coefficient in bold is significant at p<.05; a coefficient in italics is significant at p<.10. Other regressors include political, economic, and individual transfers measures at the state level (see notes to Table 2). The over-identification test tests the exogeneity of the instruments in the second stage regression. The Hausman test determines whether the coefficient from the second stage regression is statistically different from the coefficient in the first stage regression. The instruments are measured at the state level and are interacted with a set of dummy variables that indicate the type of organization within the group of organizations under study (e.g. art museum, theater, music organization). NIH grants to universities measures the average federal government grant awarded to the universities located within the state by the National Institutes of Health. The federal transfers to nonprofit organizations are total transfers by the federal and state government to all nonprofits located within the state.

Table 4: IV Regressions Using Fundraising Categories, Arts Organizations

Dependent Variable in 2nd Stage	Professional Fundraising		Fundraising for Officers		Fundraising Salaries	
	IV	Tobit	IV	Tobit	IV	tobit
	(1)	(2)	(3)	(4)	(3)	(4)
Government funding	-62.86	**-82.69**	2.14	-4.34	**-86.20**	**-71.39**
	(42.51)	(32.45)	(7.85)	(3.39)	(38.74)	(22.91)
Program Revenue	2.33	0.45	1.01	**21.33**	**7.19**	**7.19**
	(2.54)	(3.17)	(0.59)	(4.89)	(3.47)	(1.63)
Dues & Fees (1 yr lag)	9.33	9.22	-1.62	**316.94**	**68.48**	**65.84**
	(12.72)	(12.75)	(3.61)	(25.77)	(18.94)	(9.00)
Results from First Stage						
Instruments	Gov Transfers to Nonprofits 1 year lag		NIH Grants to Universities 1 year lag		Gov Transfers to Nonprofits 1 year lag	
F-statistic on Instruments	3.36		3.25		2.77	
(p-value)	(0.00)		(0.01)		(0.00)	
Over-id Test	8.43		14.67		15.95	
(degrees of freedom)	(3)		(3)		(3)	
(p-value)	(0.30)		(0.00)		(0.03)	
Hausman Test	1.36		0.81		12.39	
(p-value)	(0.26)		(0.45)		(0.00)	
Fixed effects	Org & Year		Org & Year	Org & Year	Org & Year	
# of observations	1634		1178		2272	
# of organizations	157		108		217	

Note: standard errors are reported in parentheses. A coefficient in bold is significant at p<.05; a coefficient in italics is significant at p<.10. Other regressors include political, economic, and individual transfers measures at the state level (see notes to Table 2). *See, also,* notes to Table 3.

Table 5: IV Regressions Using Fundraising Categories, Social Services Organizations

Social Services Organizations Dependent Variable in 2nd Stage	Professional Fundraising IV (1)	 Tobit (2)	Officer Salaries IV (3)	 Tobit (4)	Other Salaries IV (5)	 tobit (6)
Government funding	**-15.16**	**-31.55**	0.30	**-10.10**	**10.37**	**10.62**
	(5.80)	(3.50)	(2.95)	(1.77)	(3.74)	(1.36)
Program Revenue	**-3.72**	**-7.27**	-0.38	**-3.45**	**2.84**	**2.70**
	(1.57)	(2.63)	(0.81)	(1.96)	(1.18)	(1.28)
Dues & Fees (1 yr lag)	-1.78	-1.30	-1.13	*-3.29*	-1.12	-2.63
	(2.56)	(3.82)	(1.05)	(1.98)	(3.60)	(2.31)
Results from First Stage						
Instruments	Fed Transfers To Nonprofits lagged 1 year		Fed Transfers To Nonprofits lagged 1 year		FedTransfers To Nonprofits lagged 1 year	
F-statistic on Instruments	2.41		2.04		3.37	
(p-value)	(0.01)		(0.04)		(0.00)	
Over-id Test	4.42		2.27		7.26	
(degrees of freedom)	(7)		(7)		(7)	
(p-value)	(0.73)		(0.94)		(0.40)	
Hausman Test	6.68		1.08		6.7	
(p-value)	(0.00)		(0.34)		(0.00)	
Fixed effects	Org & Year	Org & Year	Org & Year	Org & Year	Org & Year	Org & Year
# of observations	2113	2113	1367	1367	3449	3449
# of organizations	224	224	143	143	368	368

Note: standard errors are reported in parentheses. A coefficient in bold is significant at p<.05; a coefficient in italics is significant at p<.10. Other regressors include political, economic, and individual transfers measures at the state level (see notes to Table 2). *See, also,* notes to Table 3.

Appendix Table 1: Summary Statistics for State Level Measures

State level variable	Mean	Standard deviation
Ratio of democratic to total, State Upper Legislature	0.65	0.16
Ratio of democratic to total, State Lower Legislature	0.64	0.16
Ratio of democratic to total, U.S. House of Representatives	0.56	0.26
Ratio of democratic to total, U.S. Senate	0.53	0.37
Democratic Governor (=1)	0.53	0.50
Real Per Capita Income ($1000s)	20.39	3.61
Unemployment rate (%)	6.39	2.16
% of population in poverty	13.73	4.23
% of population under 18	19.95	2.92
% of population above 65	12.62	1.71
Total state population (millions)	5.48	5.54
Payments for retirement and disability ($billions)	6.79	6.66
Medicare ($billions)	2.85	3.34
Medicaid ($billions)	2.22	3.35
Income maintenance (e.g. SSI, AFDC, food stamps) ($billions)	1.72	2.56
Unemployment insurance ($billions)	0.59	0.80
Veterans benefits ($billions)	0.47	0.42
Federal education and training programs ($billions)	0.18	0.19
Federal Government transfers to nonprofits ($billions)	0.11	0.12
State Government transfers to nonprofits ($billions)	0.21	0.26