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Crowding –Out and Fundraising Efforts: The impact of government grants on Symphony Orchestras

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Title:

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Abstract:

The crowding-out of private donations by government grants is an integral element in designing an efficient method of financing nonprofit activity. This paper looks at elements of crowd-out, both the direct impact on donors and the indirect impact due to the response of nonprofits. We include both a theoretical and empirical analysis of the reactions by donors and nonprofits to an increase in government funding based on data from the League of American Orchestras' annual reports from 2004-2007. To combat indirect crowd-out, renewed emphasis should be placed on grant design; for direct crowd-out, theories of collective action are appropriate.

I. Introduction

The crowding-out of private donations by government grants is an important element in the financing of nonprofit activity by tax incentives and/or government grants. At one possible extreme, if crowd-out is complete, tax deductibility for donations is superior to direct government provision. If crowd-out is zero, tax breaks are efficient as long as the price elasticity of donations is greater than one. If crowd-out is partial, the efficiency of tax breaks versus direct government funding is dependent on the level of crowd-out and the price elasticity of donations. A higher elasticity and/or higher crowd-out will favor tax breaks over direct government support.

The degree of crowd-out depends on the direct reaction of donors to the alternative funding, and the indirect reaction of donors based on the response of the nonprofit. The direct reaction of donors is dependent on the substitutability of government funding for donations, the complementarities of government and private funding, the status afforded the organization receiving the grant (signal of quality creating crowd-in), the amount of warm-glow or prestige that is derived from donations, and other factors that arise as a direct response to a change in government support. The indirect crowd-out is a result of the reaction of the nonprofit to a change in government grants that influences donations. Nonprofit responses include the impact of government funding on program output mix, commercial activity, and fundraising efforts. An identification of the scope and source of crowd-out is an important element in both policy design and nonprofit efforts in supporting collective action.

The paper proceeds with a review of the literature on the crowd-out of government transfers on private support, highlighting papers by Payne (1998) and Andreoni and Payne (2003). These papers lay the foundation for the theoretical framework described in section three. Section four presents the empirical estimation of the model using data on symphony orchestras. Section five ends with an overview of the results and concluding remarks.

II.   Literature Review

Previous studies, both theoretical and empirical, find various levels of crowd-out depending on model specification, estimation methods, and industry specification. Abrams and Schmitz (1978) test three alternative models of crowd-out: the ultra rational case (complete crowd-out), interdependent utility functions (partial crowd-out), and the better-to-give-than-receive hypothesis (minimal crowd-out). Empirical results using a pooled times series of cross-

sectional tax return data (Statistics of Income) indicate partial crowd-out, most consistent with the interdependent utility model. Abrams and Schmitz (1985) provide a further test of the interdependence of the utility functions between donor and recipient using cross-sectional itemized tax return data. The significance of recipient need (poverty level) and government transfers again support the interdependence theory. Cornes and Sandler (1984) demonstrate the possibility that an individual's charitable contribution may increase in response to an increase in public support when the good displays both public and private characteristics.

Adding to the possibilities, Schiff's (1985) theoretical framework provides for partial crowd-out of private contributions by government support, and also the possibility of crowd-in of charitable contributions. The impact of government support on private contributions depends on whether government and private support are viewed as substitutes or complements, and whether the individual is satisfied with the current level of the public good. Government support will unambiguously crowd-out private support only if the two types of support are substitutes and the individual is just satisfied or over-satisfied with the level of support. Empirical results indicate that different types of government expenditures have different impacts on giving. In particular, local government spending crowds-out charitable giving while state spending crowds-in charitable giving. Likewise, cash transfers crowd-out private charitable giving while welfare spending stimulates giving.

Steinberg's (1987) unified model of nonprofit organizational support includes the effect of federal government on local government and private donations when all interactions are included. Donors receive both a public and private benefit from donating to charity. Federal government is exogenous while local government is endogenous. The sign and magnitude of changes in federal support on private donations are ambiguous, depending on whether

government and private support are complements or substitutes, and whether the individuals are satisfied with the current level of provision. Including the endogeneity of local government funding in the equation, the most likely outcome of an increase in federal support is partial crowd-out of the combined private and local government support, regardless of the impact on private support.

Steinberg (1991) provides a survey of the previous estimates of crowd-out in the context of the level of government. If local government is viewed as endogenous, structural models including local government as a regressor will produce biased estimators. An alternative specification is to estimate the reduced form equation of private giving including only federal support, providing an estimate of the joint crowd-out from both federal and local government sources. The entire reduced form system can be estimated, with the structural coefficients a function of the reduced form parameters. The structural model can be estimated using instrumental variables for local government. If it is the case that information lags result in the current local government being truly exogenous, then the structural model of giving can be estimated directly. From a variety of studies Steinberg draws three major conclusions. First, crowd-out does occur. Second, crowd-out is relatively small. Third, state government tends to mirror federal government, enhancing nonprofit support in spite of donative crowd-out.

Kingma (1989) considers the problem of crowd-out from the perspective of the substitutability of government funding for private contributions. Measures that use aggregate data measure the substitutability of government for private funds, with so much of private giving focused on religious organizations. Measures of crowd-out, as opposed to substitutability, require industry level data. Using individual donor data for public radio, his results support the

impure public good model of giving, with little differentiation made by the donor between alternative sources of support.

Brooks (2000) and Borgonovi (2006) test for crowding-out or crowding-in using data from the performing arts industry. Brooks (2000) considers the possibility of crowd-in due to leveraging at low levels of government funding, and crowd-out of private donations as government support increases. A quadratic specification of private support dependent on government support is estimated using symphony orchestra data, supporting this relationship. He argues that while it is in the long run interest for organizations to limit their dependence on government grants, the habitual behavior of private donations may result in an excessive reliance on government that is not easily corrected.

Borgonovi (2006) hypothesizes that the relationship between the level of private and public support for American theatres follows the quadratic function as described by Brooks. In addition, changes in public support exert a separate influence on private support that is strictly positive (and linear). Disaggregating public support into federal, state, and local, the empirical results indicate that the impact on private support varies by the level of government. Because of the size and allocation procedure, both federal and state experience a crowd-in effect, while local support includes both a crowd-out effect based on the level of support, and a positive impact due to increases in funding.

While most studies of crowd-out focus on the demand side of the problem, Ferris and West (2003) demonstrate that the observed patterns of giving and government support can also be explained by supply side cost differentials. If the cost of delivering assistance is higher for the public sector than the private sector, then the observation of partial crowd-out can be explained by the difference in the relative cost of delivery.

Smith (2007) tests the crowd-out hypothesis on a balanced panel of nonprofit performing arts organizations under a variety of estimation techniques. These include Tobit to deal with the truncation of donations at zero, fixed effects to deal with the unmeasurable organizational characteristics, and instrumental variables to correct for the endogeneity of government funding. On average, there is evidence of crowd-in, although the impact varies significantly by the type of organization. The results tend to be very sensitive to the panel construction and estimation technique, but yield little evidence of crowd-out by government funding.

In addition to the crowd-out literature, there is substantial work on the impact of government grants on nonprofit behavior relating to fundraising, pricing, commercial activity, organizational goals, and output mix. Examples include Driessen (1984), Rose-Ackerman (1987), Luksetich and Lange (1995), Payne and Andreoni (2003), Horne, Johnson and VanSlyke (2005), and Dokko (2009).

Our paper focuses on the direct crowd-out of government grants and the indirect crowd-out due to reduced fundraising, most closely following the work of Payne (1998) and Andreoni and Payne (2003). Payne (1998) models the relationship between government grants and private donations to nonprofit organizations, focusing on whether government grants crowd-out private donations. If donations and government grants are jointly determined, rather that sequentially determined, then government is endogenous and the single equation OLS estimator for crowd-out is biased. In this case 2SLS will provide a consistent estimator, dependent on finding an instrument that is highly correlated with government grants but not with private donations. Based on 430 nonprofit social service organizations, Payne finds no significant crowd-out under the OLS specification, and significant crowd-out ($.50 per $1.00) under 2SLS.

Andreoni and Payne (2003) follow up on the issue of crowd-out by including not only the donor's response but also the nonprofit's response to an increase in government grants. They hypothesize that an increase in government grants will crowd-out private donations. In addition, an increase in government grants will cause fundraising to decrease. Considering both the reaction of donors and fundraisers, an increase in government grants will increase the revenue of nonprofits, but by less than the amount of the grant.

Andreoni and Payne (2003) test the proposition that an increase in government grants will cause fundraising to decrease using data from arts and social service organizations. The initial results indicate a positive relationship between government grants and fundraising expenditures. As with Payne's (1998) analysis, if it is the case that government grants and fundraising are simultaneously determined, or that omitted variables are influencing both fundraising and government grants, the OLS results may be biased. Using 2SLS the results indicate a negative relationship between government grants and fundraising expenditures, significantly larger for the arts organizations than the social service organizations. The results support the proposition that government support reduces the level of private support indirectly through reduced fund-raising activity. As is suggested in the paper, the next step is to consider the impact of government grants on private donations through the combination of the direct crowd-out and the indirect impact of reduced fundraising.

III. Theoretical Framework

Following Payne (1998) and Andreoni and Payne (2003), we model donor behavior based on utility maximization:

$U_i = U_i (X_i, D_i, C)$ subject to: $Y_i = X_i + D_i + T_i$

X_i ~ Private good consumption

D_i ~ Individual donation

C ~ Charitable public good

Y_i ~ Individual income

T_i ~ Individual tax share

i ~ individual.

The behavior of the nonprofit organizations is described by the following maximization problem, specifically allowing that nonprofits will adjust their fundraising in response to a change in government funding:

$C_j = C_j (F_j; G_j,O_j)$ subject to: $C_j = \sum_{i=1}^{n} D_{ij} + G_j + O_j - F_j$

F ~ Fundraising expenditures.

G ~ Government Grants

O ~ Other funding and expenditures

$\sum_{i=1}^{n} D_{ij}$ equals the sum of individual donations i to organization j

j ~ organization.

The individual derives utility from the donation itself and the resulting public good. The level of the donation will be affected by the level of fundraising, alternative funding sources, and demographic, economic, and firm specific characteristics. This gives rise to a demand function such that:

$D_i = D_i(G_j, O_j, F_j, Y_i)$

The maximization problem for the nonprofit organization results in a fundraising demand function such that:

$F_j = F_j (G_j, O_j)$.

Assuming that planned expenditures are based on budget projections from the previous year's budget, we can substitute O_{t-1} for O_t yielding

$$F_{jt} = F_j (G_{jt}, O_{jt-1})$$

$t \sim$ time.

This implies a recursive system, such that the level of fundraising is based on last year's budget and current grant opportunities. The level of donations is then influenced by the level of fundraising, the current level of government grants, and demographic, economic, and firm specific characteristics. The recursive system allows for identification of the direct impact of government grants on the level of donations, and the indirect impact of the fundraising efforts on the level of donations.

Utilizing a linear specification results in:

$$F_{jt} = \alpha_0 + \alpha_1 G_{jt} + \alpha_2 O_{jt-1} + \mu_{jt}$$

$$D_{jt} = \beta_0 + \beta_1 G_{jt} + \beta_2 O_{jt} + \beta_3 F_{jt} + \beta_4 Z_{jt} + \varepsilon_{jt}$$

$Z \sim$ population demographics.

The simultaneous system is recursive, and there is theoretical support for the hypothesis that the error terms are correlated across equations. In this case fundraising is endogenous and estimation of the donation function using OLS will result in biased estimators. With the recursive model, an estimate of fundraising can be used as an instrument in the donation equation to produce consistent estimators, adjusting the standard errors to account for the inclusion of a predicted regressor.

The direct crowd-out of government grants on donations is equal to β_1 and the indirect effect of government grants on donations due to reduced fundraising is equal to $\alpha_1 \beta_3$. Assuming that government funding is exogenous, the fundraising equation can be efficiently estimated using

OLS. Using the estimated value of fundraising as a regressor, the donation function can be consistently estimated using OLS and adjusting the standard errors. There is still the question of whether government funding is exogenous, in which case the OLS estimators will be biased. While we have done some preliminary work in this area, it is not clear that the endogeneity of government support is as much a problem in the arts funding as it is in other sectors of nonprofit activity. Borgonovi (2006) argues that government support of the arts in the United States is exogenous, as various panels at all levels of government make allocation decisions based on organizational quality or funding priorities, with private funding unlikely to affect the decision. As Smith (2007) points out, if the government allocation process uses criteria that also affect donations, and these criteria are not included in the donation equation, the measure of crowd-out will again be biased. Andreoni and Payne note that the bias may be more a problem within social service organizations where "there may be shocks that affect government funding and private donations to the organizations similarly for which the other measures have not controlled in the OLS specification." (2003, p.805) In any case, it is very difficult to find an instrument that is highly correlated with government support yet independent of private support.

IV. Data and Empirical Results

Based on data from the League of American Orchestras' annual reports from 2004-2007, we estimate the impact of government grants on both nonprofit and donor behavior. The orchestra data is supplemented with ACS data from the census for the corresponding MSA relating to population demographics. The estimation utilizes instrumental variables to account for the simultaneous determination of organizational investments in fundraising and private donations. Given the recursive structure of the equations, we first estimate the impact of government grants

on the level of fundraising. The predicted value of fundraising is used as a regressor in the private support equation to estimate the direct impact of government funding on donations and the indirect impact of changes in fundraising on the level of donations[1]. All models are estimated using fixed effects to account for characteristics unique to the community and orchestra that do not change over the survey period.

Table 1 provides the descriptive statistics for selected areas of orchestra revenue, fundraising, and total expenditures. Government funding is measured as unrestricted revenue from federal, state, or local government. Private support is unrestricted revenue from individuals, business, independent foundations, and "other" (UA funds, voluntary associations, special projects, in-kind, and miscellaneous). The League of American Orchestras groups the orchestras by total expenditures; we have divided the orchestras into two subsections with the large orchestras (43 total) comprising the largest two groupings and the small orchestras (96 total) the remaining groupings. The large orchestras are those most commonly referred to as the "major" orchestras, having received the most attention in the literature. The statistics are shown for the entire group of orchestras, and separately for the large and small orchestras over the period 2004-2007 to see if there are any major differences in funding behavior by orchestra size. Studies such as Luksetich and Lange (1995) have demonstrated that the size of the orchestra has an impact on the organizational goals and also the effectiveness of fundraising activities. The averages for the groups reveal that symphony orchestras receive very little funding from government sources; federal government support amounts to less than one percent of the average budget. The smaller orchestras are much more reliant on private donations than the larger orchestras, and the larger

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[1] These models correct the standard error for the inclusion of the predicted value of fundraising expenditures.

orchestras receive much greater support from investment income. Fundraising expenditures

absorb about an equal portion of the budget between the large and small orchestras.

<Insert Table 1 Approximately Here>

Table 2 displays the results of regressing fundraising expenditures on government

support, highlighting the separate levels of support from local, state, and federal sources.

Previous research indicates that the level of government support matters, although the

differences are highly dependent on the particular sector, the amount of support, the type of

support, and the allocation procedure used by each level of government. Although the

coefficients on federal and local government expenditures are insignificant, the coefficient on

state government support is negative and significant indicating a negative impact on fundraising.

Investment income is also associated with a negative and significant impact on fundraising

expenditures. Last year's fundraising expenditures are a significant predictor of this year's for

the smaller orchestras, although surprisingly insignificant for the larger orchestras.

<Insert Table 2 Approximately Here>

Table 3 presents the results of regressing total private support on government grants,

investment income, fundraising expenditures, and local demographics. The column labeled 4-

year includes actual fundraising expenditures over the sample period 2004-2007. The column

labeled 3-year includes actual fundraising expenditures over the period 2005-2007 for

comparison to the IV estimation. The IV-equation uses the estimated value of fundraising from

table 1 over the period 2005-2007, the year 2004 is excluded due to the lagged value of

expenditures used in the fundraising equation.

<Insert Table 3 Approximately Here>

Comparing 3-year and IV-expfund, the results are very similar when taking account both the direct and indirect impact of government and investment income on private support. The 3-year results and the results from the IV estimates are, in each case, the same sign and the same order of magnitude.

Impact of <u>federal government</u> support on private support:

3-Year Sample Results: Combined impact = 2.32733

IV-Expfund: Direct + Indirect = 1.807 + (.007)(-4.098) = 1.778

Impact of <u>state government</u> support on private support:

3-Year Sample Results: Combined Impact = 0.282494

IV-Expfund: Direct + Indirect = -0.341 + (-.155)(-4.098) = 0.295

Impact of <u>local government</u> support on private support:

3-Year Sample Results: Combined impact = 2.198038

IV-Expfund: Direct + Indirect = 2.302 + (.023)(-4.098) = 2.207

Impact of <u>investment income</u> on private support:

3-Year Sample Results: Combined impact = -.04349

IV-Expfund: Direct + Indirect = -.075 + (-.005)(-4.098) = -0.051

The direct impact of local government support on private support is positive, indicating a crowd-in effect, while the direct impact of investment income on private support is negative, indicating a crowd-out effect. The combined impact on private support results in crowd-in for government support and crowd-out for investment income. If investment income is great and growing the charity and its board and donors may see fundraising as less of an imperative and put less time and energy into it from the charity's perspective and less gifts into it from the donor's perspective.

Table 4 presents estimates of the impact of government support on private support, separating the larger and the smaller orchestras in the estimation. The League of American Orchestras groups the orchestras by total expenditures, the "larger" orchestras include the top two groupings containing the largest 43 orchestras by total expenditure. The "small" orchestra grouping contains the remaining 96 orchestras.

<Insert Table 4 Approximately Here>

The impact of government funding on private support is significantly different for large orchestras versus small orchestras. Larger orchestras appear to experience more of a crowding-in effect, while smaller orchestras more of a crowding-out effect. Local government funding has a positive and significant effect on large orchestras. For small orchestras, federal support shows a significant and negative impact. For all orchestras, investment income is inversely related to fundraising success. This suggests that the charities with successful investment income streams either scale back their fundraising efforts and/or their donors are skeptical that the charities need their philanthropic support.

Tables 5a and 5b present the impact of government support on private support, disaggregating private support into the categories of individual, business, foundation, and other private sources. The models are run separately for large and small orchestras based on the differences observed in Table 4. The columns corresponding to total private support in tables 5a and 5b correspond to the IV-Expend columns in table 4; these are duplicated for an easier comparison to the individual categories of support displayed in tables 5a and 5b.

Table 6 shows the full impact of government and investment income on each of the categories of private support, combining the direct effect on funders and the indirect effect through changes in fundraising as estimated in tables 2, 5a, and 5b.

<Insert Table 5a, 5b, 6 Approximately Here>

Individual support most closely mirrors the results of total support in terms of crowd-out, particularly for the larger orchestras. Government support has a positive effect on individual giving to the larger orchestras, especially true for local government. The direct crowd-in is 2.61:1, and the combined impact is only slightly less. Foundation giving to the larger orchestras experiences crowding-out by local government, with a direct negative impact of (0.5):1 and an overall negative impact of (0.67):1. While the impact of investment income is negative for total private giving, it is only significant for private foundation giving.

The impact of government support on private support for smaller orchestras shows a mixture of crowd-out and crowd-in depending on the level of government and type of private support. In general, federal tends to have more of a crowd-out effect, state more of a crowd-in effect, and local much more mixed. The business sector responds favorably to government support; the direct impact of state funding on business support is positive and significant, 0.3:1. Foundations also respond favorably to state support, 1.43:1, but negatively to federal support (3.73):1. The direct impact of investment income is consistently negative (with the exception of "other" support), although significant only in the case of individual support.

V.   Conclusion

The importance of crowd-out involves the financial security and policy alternatives to support nonprofit collective action. The ability of nonprofits to adjust to cuts in government grants relies heavily on an increase in private support. Particularly in recessionary periods, decreases in government support may need to be supplemented by financial buffers in the form of net asset balances and investments.

If crowding-out of private support by government support is severely negating the intended stimulus to nonprofit organizations, then understanding the source of the crowd-out is necessary to overcome the problem. If crowding-out is due to the internal reactions of the nonprofit, some aspect of grant redesign may be appropriate, such as stipulating matching requirements or other restrictions. If the crowd-out is a direct response of individuals to the increased government support, it may be more appropriate to focus on theories of fund-raising, social pressure, and individual preferences as it concerns the aspect of free-riding.

Our results indicate that the direct impact of government spending on orchestra finances varies substantially by the level of government. For larger orchestras the direct impact of federal and local government support is positive, and for state support negative. For smaller orchestras it is the opposite; federal and local have a negative direct impact, and state a positive direct impact on total private giving.

Referring back to table 2, the indirect effect of government support on private support is a significant issue in regards to state support for smaller orchestras. This is the one area that government support has a significant and negative impact on fundraising. This would make sense in that the direct impact of state support positively impacts private giving, lessening the need for fundraising. The decrease in fundraising causes the impact of state support on private giving to fall from $1.01 to $.46 for each dollar of support (See tables 5.b and 6).

For the larger orchestras, investment income has a significant impact on fundraising, causing the indirect crowd-out. The reliance on investment income is much greater for the larger orchestras than the smaller orchestras (20% vs. 7.7%) and seems to lessen the need for fundraising. As with the smaller orchestras government support is a small part of the budget; in this case its impact on fundraising is insignificant.

The impact of government support on private giving also varies significantly by the source of private giving. For the larger orchestras, local government support reinforces individual giving by a factor of 2.6:1, but crowds-out foundation giving by a factor of (0.5):1. Business support does not seem to be significantly affected by government support. With the exception of "other" private support, neither federal nor state support has a direct impact on private support from individuals, business, or foundations.

For the smaller orchestras, the impact of government support on the various components of private giving is much different. The only significant influences are associated with business and foundation giving. For business support, there is a direct crowd-in of 0.3:1 from state government support. Foundation giving also experiences crowd-in from state giving by a factor of 1.43:1. There is a significant negative crowd-out of foundation giving from federal government of (3.73):1, however. Local government has no significant impact on any areas of private support for the smaller orchestras.

The above discussion illustrates the intricacies involved in the funding relationships for nonprofit organizations. One thing is clear: the crowd out debate for orchestras is complex. The reality is that crowding in/out varies by the size of the orchestra, by the source of philanthropic support (total, individuals, businesses, foundations, and all other), and perhaps most importantly by the type of government funding. Given the extent of crowding-in that is occurring orchestras have been relatively successful at combating the crowding-out and reinforcing the positive funding relationships that exist. The one exception tends to be with foundation giving, which experiences some significant crowding-out from government support. The impact on fundraising from investment income and/or state support is also a source of indirect crowd-out, which may in fact be viewed favorably. By lessening the need for fundraising, nonprofits can dedicate more of

their time and resources to promoting the mission of the organization. They may not be working

as hard to raise funds, but instead working harder to promote the interests of society.

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Table 1: Descriptive Statistics 2004-2007

All orchestras

Variable	Obs	Mean	Std.	Min	Max	%Exptot Mean
Total Expenditures	502	9454357	1.60E+07	19270	8.85E+07	
Govt Support (GS) - local	502	170634.5	432307.1	0	5405691	1.80%
Govt. Support (GS) - state	502	168162.9	467511	0	2906000	1.78%
Govt. Support (GS) - federal	502	31663.78	153691.6	0	1763848	0.33%
Investment Income	502	1752810	6125664	-2.83E+07	5.14E+07	18.54%
Total Private Support (PS)	502	3494544	4878702	18100	2.54E+07	36.96%
PS - Individual	502	1587367	2526659	1565	1.57E+07	16.79%
PS - Business	502	547742.1	787910.2	0	4742418	5.79%
PS - Foundation	502	495625.1	921941.4	0	1.09E+07	5.24%
PS- Other	502	863810	1468076	0	1.18E+07	9.14%
Fundraising Expenditure	502	528833.8	945238	0	6478152	5.59%

Large orchestras

Variable	Obs	Mean	Std.	Min	Max	%Exptot Mean
Total Expenditures	164	2.51E+07	2.03E+07	5629936	8.85E+07	
Govt Support (GS) - local	164	445010.4	672574.7	0	5405691	1.77%
Govt. Support (GS) - state	164	438162.6	747713.8	0	2906000	1.75%
Govt. Support (GS) - federal	164	87770.87	260283.7	0	1763848	0.35%
Investment Income	164	5072868	9936150	-2.83E+07	5.14E+07	20.21%
Total Private Support (PS)	164	8862290	5393930	1873000	2.54E+07	35.31%
PS - Individual	164	4138914	3108107	620523	1.57E+07	16.49%
PS - Business	164	1341498	965600.3	0	4742418	5.34%
PS - Foundation	164	1264264	1294479	0	1.09E+07	5.04%
PS - Other	164	2117613	2032536	125000	1.18E+07	8.44%
Fundraising Expenditure	164	1400467	1260175	0	6478152	5.58%

Small orchestras

Variable	Obs	Mean	Std.	Min	Max	%Exptot Mean
Total Expenditures	338	1841920	1459827	19270	6982035	
Govt Support (GS) - local	338	37505.34	68052.8	0	400280	2.04%
Govt. Support (GS) - state	338	37157.04	42752.5	0	400280	2.02%
Govt. Support (GS) - federal	338	4440.216	8535.394	0	65000	0.24%
Investment Income	338	141895	255663.6	-179302	2842562	7.70%
Total Private Support (PS)	338	890075.6	698125.7	18100	5023183	48.32%
PS - Individual	338	349337.4	335759.1	1565	1894344	18.97%
PS - Business	338	162605.9	128676.3	2565	980326	8.83%
PS - Foundation	338	122676.2	161576.8	0	1030036	6.66%
PS - Other	338	255456	264011.6	0	2968766	13.87%
Fundraising Expenditure	338	105911.3	105156.5	0	734614	5.75%

Table 2: Regression Fundraising Expenditures

Fundraising Expenditure	Combined		Large Orchestras		Small Orchestras	
	Coef.	Std. error	Coef.	Std. error	Coef.	Std. error
Lag(Fundraising Expend.)	-0.07614	0.088095	-0.10606	0.146968	**0.300825**	0.116009
Change(Investment Income)	**-0.00561**	0.001325	**-0.0056**	0.002127	-0.023	0.020644
Change(GS – federal)	0.007185	0.243047	0.017636	0.3999	0.378035	0.409826
Change(GS – state)	**-0.15522**	0.054434	-0.15589	0.09061	**-0.16917**	0.078416
Change(GS – local)	0.023127	0.019622	0.023684	0.031507	0.096007	0.210995
Constant	619144.3	48854.65	1582860	204152.7	86758.73	12052.79
R-sq: within	0.129		0.138		0.106	
R-sq: between	0.943		0.947		0.923	
R-sq: overall	0.611		0.632		0.754	
Number of obs.	344		120		224	
Number of groups	138		43		96	

Table 3: Regression Total Private Support

PS - Total	4-year		3-year		IV-expfund	
	Coef.	Std. error	Coef.	Std. error	Coef.	Std. error
GS - federal	-1.451449	1.595289	2.32733	2.734013	1.807725	3.607537
GS - state	0.3113283	0.3001389	0.2824944	0.5448659	0.3414974	0.8271594
GS - local	**2.312219**	0.1643265	**2.198038**	0.183904	**2.302161**	0.2520087
Investment Income	**0.0503038**	0.0091249	**0.0434931**	0.0100368	**0.0740894**	0.0252021
Fundraising Expend.	0.2432754	0.3249933	0.0160494	0.3953001	-4.098584	2.778366
Attendance	**14.66107**	5.74041	11.28099	7.53597	16.12693	10.79935
% over age65	-1738412	1.20E+07	-3022142	2.24E+07	105270.2	3.22E+07
% with MA degree	1050265	7406903	1170798	1.03E+07	2969654	1.54E+07
Median income	**62.11839**	17.38572	**93.14911**	26.90709	**103.9271**	37.64441
% free tickets	13826.51	303633.4	-71202.17	365670.9	-23733.58	556029.6
Constant	-571045.1	1366693	-1899830	2528377	-540636.5	3900547
R-sq: within	0.462		0.469		0.4826	
R-sq: between	0.576		0.514		0.4688	
R-sq: overall	0.556		0.504		0.4157	
Number of obs.	497		374		341	
Number of groups	138		138		138	

Table 4: Regression Large Orchestras vs. Small Orchestras

	Large Orchestras				Small Orchestras			
	3-year		IV-expfund		3-year		IV-expfund	
PS - Total	Coef.	Std. error	Coef.	Std. error	Coef.	Std. error	Coef.	Std. error
GS - federal	3.956061	4.70745	3.197753	7.398184	-2.69484	3.475631	**-8.99621**	4.537096
GS - state	0.335483	0.9352207	-0.616705	1.66785	0.079671	0.7047014	1.012427	1.018521
GS - local	**2.16683**	0.3067383	**2.296986**	0.4948255	-0.57624	1.333088	-1.97896	1.760061
Investment Income	-0.028822	0.017516	-0.07928	0.0501862	**-0.33292**	0.1581629	-0.23182	0.247
Fundraising Expend.	-0.013118	0.7346766	-6.496526	5.465723	-0.1301	0.5048461	3.261772	2.233374
Attendance	9.013215	13.30919	20.02862	22.63007	8.205796	7.2803	-13.4014	10.96744
% over age65	-3.80E+07	8.09E+07	-5.53E+07	1.28E+08	-5223693	8668356	-453552	1.17E+07
% with MA degree	-2.42E+07	5.94E+07	-2.07E+07	9.28E+07	1770599	3758363	1081113	5156520
Median income	**298.1406**	99.75405	**319.6422**	158.4332	**25.92592**	11.12045	12.53615	14.66435
% free tickets	-1127958	1535625	-678396.8	2387859	100458.8	140989	180255.1	204606.8
Constant	-2325402	9026268	7178468	1.64E+07	52431.64	1053503	101840.9	1372015
R-sq: within	0.551		0.574		0.092		0.163	
R-sq: between	0.322		0.523		0.0004		0.08	
R-sq: overall	0.335		0.533		0.0017		0.076	
Number of obs.	121		119		253		222	
Number of groups	43		43		96		96	

Table 5A: Private Support from various sources - Large Orchestras

	Total		Individuals		Business		Foundations		Other	
	Coef.	Std. error	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
GS - federal	3.19775	7.398184	1.106285	3.12719	-1.12396	1.146233	-1.89782	7.09839	**5.113245**	2.572555
GS - state	**-0.61671**	1.66785	0.152883	0.70499	-0.15471	0.258407	-0.68269	1.60026	0.06781	0.579958
GS - local	**2.296987**	0.494826	**2.609164**	0.20916	0.03359	0.076666	**-0.495**	0.47477	0.149232	0.172065
Investment Inc.	-0.07928	0.050186	-0.018063	0.02121	-0.00237	0.007776	**-0.06216**	0.04815	0.003311	0.017451
Fundraising Exp.	-6.49654	5.465723	-1.104306	2.31034	0.040369	0.846828	**-7.26772**	5.24423	1.835115	1.900584
Attendance	20.02864	22.63007	5.957171	9.56565	0.227747	3.506175	**27.15927**	21.713	**-13.3155**	7.869107
% over age65	-5.53E+07	1.28E+08	-5.18E+07	5.39E+07	-1.21E+07	1.98E+07	1.33E+07	1.22E+08	-4684281	4.44E+07
% with MA	-2.07E+07	9.28E+07	1.42E+07	3.92E+07	1.00E+07	1.44E+07	3966966	8.90E+07	-4.88E+07	3.23E+07
Median income	**319.6422**	158.4332	**154.1528**	66.9692	32.35194	24.54674	25.32134	152.013	**107.8161**	55.09163
% free tickets	-678396	2387859	919687.6	1009340	**655385.9**	369961.3	**-3560178**	2291095	1306709	830325
Constant	7176187	1.64E+07	-211084.2	6943839	-183915	2545180	7429568	1.58E+07	141618.3	5712293
R-sq: within	5.74E-01		0.7673		0.1614		0.3849		0.3327	
R-sq: between	3.32E-01		0.0001		0.0981		0.2113		0.3594	
R-sq: overall	2.66E-01		0.0089		0.1141		0.1173		0.3634	
Number of obs.	119		119		119		119		119	
Number groups	43		43		43		43		43	

Table 5B: Private Support from various sources - Small Orchestras

	Total		Individuals		Business		Foundations		Other	
	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.	Coef.	Std. err.
GS - federal	**-8.99621**	4.537096	-3.040811	2.15671	0.288467	0.575763	**-3.728847**	1.16936	-2.515	3.1572
GS - state	1.012427	1.018521	0.1444331	0.48416	**0.300386**	0.129252	**1.425055**	0.26251	-0.8574	0.70875
GS - local	-1.97896	1.760061	-0.201938	0.83665	0.052631	0.223354	-0.659635	0.45363	-1.17	1.22476
Investment Income	-0.23182	0.247	**-0.207553**	0.11741	-0.03674	0.031345	-0.023322	0.06366	0.0358	0.17188
Fundraising Expend.	3.261772	2.233374	**2.124708**	1.06164	-0.04611	0.283418	0.403954	0.57561	0.77922	1.55412
Attendance	-13.4014	10.96744	5.26496	5.21339	-0.2924	1.391781	2.242721	2.82667	**-20.617**	7.63183
% over age65	-453552	1.17E+07	-229832.2	5577633	-342108	1489022	-318677.5	3024163	437065	8165050
% with MA	1081113	5156520	2472401	2451158	287042.6	654368.6	-338665	1329005	-1E+06	3588229
Median income	12.53615	14.66435	5.56391	6.97072	-0.80759	1.860924	5.20687	3.77949	2.57296	10.2044
% free tickets	180255.1	204606.8	**162581.8**	97260.1	-8625.76	25964.85	-42088.79	52733.9	68387.9	142378
Constant	101840.9	1372015	-438654.9	652189	221561.8	174110.4	-129405.4	353613	448340	954734
R-sq: within	0.1629		0.2511		0.0885		0.3334		0.1103	
R-sq: between	0.2952		0.5099		0.0047		0.1868		0.1317	
R-sq: overall	0.2387		0.4408		0.0037		0.2246		0.0589	
Number of obs.	222		222		222		222		222	
Number of groups	96		96		96		96		96	

Table 6: Impact of Government Support on Private Support - Direct + Indirect

Large Orchestras

	Total	IND	BUS	FND	OTH
GS - federal	3.083176	1.086809	-1.12325	-2.026	5.145609
GS - state	0.396046	0.325035	-0.161	0.450281	-0.21827
GS - local	2.143126	2.58301	0.034546	-0.66713	0.192694
Investment Income	-0.04291	-0.01188	-0.00259	-0.02148	-0.00696

Small Orchestras

	Total	IND	BUS	FND	OTH
GS - federal	-7.76315	-2.2376	0.271034	-3.57614	-2.22044
GS - state	0.460617	-0.21501	0.308187	1.356716	-0.98927
GS - local	-1.6658	0.002048	0.048204	-0.62085	-1.0952
Investment Income	-0.30684	-0.25642	-0.03568	-0.03261	0.017876