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# Do Cultural Tax Districts Buttress Revenue Growth for Budding Arts Organizations?

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What role should public funding play in financing the arts in America? A wealth of research has assessed whether lump sum government transfers to nonprofit organizations "crowd out" private giving. However, less attention has been paid to the incidence of local voter-approved cultural sales tax districts in the US and the effect they have on the success and sustainability of participating organizations. This study uses a natural experiment approach to evaluate the effect that the Scientific and Cultural Facilities District (SCFD)—the largest cultural tax district in the US—has on private and program-related revenues. Overall, results indicate that there is no significant difference in the average amount of revenues that organizations inside the SCFD collect relative to organizations located outside the district, meaning that SCFD grants to these organizations can be taken purely at face value. These results, though not definitive, suggest that cultural tax districts may be an effective policy tool for strengthening and expanding local arts communities.

**Can Local Option Taxes Influence Local Change?**

In 1988, voters in the Denver metropolitan area overwhelmingly decided to increase sales taxes in the area to support arts and cultural organizations through the creation of one of the United States' first regional tax districts. Today, the Scientific and Cultural Facilities District (SCFD) distributes approximately $40 million in annual support to over 300 organizations. Its creation has inspired other cities—Pittsburgh, Kansas City, and Salt Lake City, among others—to create similar cultural districts that are tailored to the unique resources and needs of their respective regions.[1]

[1] Hansberry (2000). See also Maloney and Wassal in this volume for a discussion of cultural tax districts in Massachusetts.

The U.S. does not have a centralized government agency to coordinate the policies of individual cultural institutions and provide funding. Instead, arts funding is a mixture of public, private, and earned revenues, with roughly 43% coming from private donations, 13% from the government, and 44% from earned income.[2] This "dynamic and decentralized" mixed-market system engenders a diverse landscape of arts organizations where new growth is fostered alongside established institutions.[3] Nevertheless, despite the fresh and innovative atmosphere this creates, the turbulence of the system can be destabilizing, and many organizations struggle to gain the secure financial footing that is necessary to grow and prosper.

This system's challenges are all the more apparent during rough economic times when both private and public funding for the arts is often dramatically scaled back. To help mitigate this funding volatility, and to preserve long-standing cultural institutions, voters in a number of localities have created cultural tax districts. The taxes from these districts are often earmarked for a specific institution, as in the case of the Minneapolis Institute of Arts and the St. Louis Art Museum. More recently, Detroit voters in three Michigan counties saved the Detroit Institute of Arts from devastating budget cuts through a property tax increase.[4]

In the wake of the 1982 economic downturn, hefty cuts to Colorado's arts budget prompted the region's four largest cultural institutions to band together and push through legislation that established a Denver metro-area local option sales tax to fund the arts. The genesis of the SCFD sales tax—modeled after the St. Louis Metropolitan Zoological Park and Museum District founded in 1971—was unique in that it sought to provide a broader regional base of support that would fund large and small organizations in Denver and the surrounding suburban counties. In 1988, citizens of urban and rural counties voted three-to-one to increase

[2] Gioia (2007, p. 1)
[3] ibid (p. vii)
[4] Patricia Cohen, "Suburban Taxpayers Vote to Support Detroit Museum," New York Times, August 8, 2012.

sales taxes and create the SCFD. As a result, SCFD claims that the arts landscape has been dramatically altered and Colorado residents enjoy a much richer and more diversified selection of cultural alternatives.[5]

The continued relevance of the SCFD in Colorado gives it a stamp of legitimacy that other centralized funding mechanisms may lack, and makes it an interesting case study for observing how local option sales taxes may influence local change. Since the tax was enacted, participation in the arts has increased significantly, and the cultural community, boosted by SCFD funds, has worked to supplement arts and science education in schools with more free days, school performances, and after-school programs.[6] In 2010 alone, students in the Denver-metro area participated in an average of nine arts and cultural events—a 20% increase from 2007.[7] These results have led proponents of the tax to believe that the SCFD plays an important role in both stimulating and maintaining local economic growth: investments in local culture have not only increased direct local spending on the arts, but have helped develop and attract an educated workforce. [8,9]

If economic growth is a function of investments in human capital and innovation—as "new growth theory" contends—then policies like the SCFD that encourage the development and sustainability of the cultural sector are vital in stimulating local economic activity and broader revitalization efforts. Therefore, this chapter attempts to explore the direct impact of the SCFD on the success and sustainability of the arts community itself. Economists have devoted considerable research to investigating whether public lump sum transfers to nonprofit

[5] Scientific and Cultural Facilities District, "About SCFD" (http://scfd.org/?page=about&sub=1).
[6] Hansberry (2000, p. 15).
[7] Scientific and Cultural Facilities District (2011, p. 4).
[8] See Root-Bernstein in this volume for a more in depth discussion of the role arts education plays in the development of STEM professionals.
[9] Hansberry (2000, p. 15)

organizations “crowd out” or reduce private funding; however, less attention has been paid to the effect of local-level policies on the other revenues of arts organizations.

To examine the effect of the SCFD tax, this study uses an econometric technique that compares how organizations inside the SCFD are faring relative to those that are not eligible for funding, or are outside the district. This approach is used to both circumvent the noise in a standard regression that results from the influence that other revenue streams have on SCFD funding and because the unique design and location of the SCFD lends itself to a natural experiment approach that has not been explored in other studies of crowd out.

Initial results indicate that organizations that reside within the boundaries of the SCFD have less average total revenue and private giving than organizations outside the district. However, further analysis reveals that these results vary depending on the size of the organization. Large organizations inside the district have less total and earned revenue than comparable organizations outside the boundaries of the SCFD, a result that may in large part be due to the substantial amount of free days that these SCFD organizations provide to the general public.

On the other hand, there does not seem to be any significant difference in the average amount of total revenue that small organizations collect inside and outside the district, meaning that SCFD grants to these organizations do not reduce overall revenues. Smaller organizations inside the district do have less average revenue from private giving, but this seems to be offset by higher average earned revenues (e.g. revenues from ticket sales and membership dues); thus, the grants’ overall impact on other revenues is neutral. These results, though not definitive, suggest that cultural tax districts may be an effective policy tool for strengthening and expanding local arts communities.

The following section will take a closer look at the SCFD tax and relevant elements of its statute for the purposes of this study. Section 3 will highlight the most significant studies in the crowd out literature, and Section 4 describes the model, data set and empirical findings. Finally, Section 5 provides a conclusion and discussion of policy implications.

**A Crash Course in SCFD Governance and Funding**

Instituted by Colorado voters in 1988, and put into effect in 1989, the tax is the only district of its kind in the country created to support nonprofit organizations and agencies of local government that serve the public through the promotion of art, dance, music, theatre, zoology, botany, natural history, and cultural history. [10] The tax is a sales and use tax of one-tenth of one-percent (or one penny for every ten-dollar purchase) within the seven-county Denver metropolitan area. Currently, this includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties, but could extend to other counties if voters within a county approve the tax.[11] The annual per capita tax contribution was $15.17 in 2007.[12]

SCFD funds are allocated among three funding tiers, as detailed in Table 1. Each tier receives a different proportion of the tax revenue and is subject to separate policies concerning how funds are awarded.

[10] Scientific and Cultural Facilities District, "Home" (http://scfd.org/?page=home&sub=1)
[11] ibid.
[12] Scientific and Cultural Facilities District, "About SCFD" (http://scfd.org/?page=about&sub=1).

Table 1. Summary of SCFD Funding Tiers, 2011 [a]

| *Funding tier* | *Number of organizations* | *Range of total operating income* | *Percent of SCFD funding received* | *Distribution process and governance* |
|---|---|---|---|---|
| *Tier I* | 5 [b] | $13.8-$33.3 million | 65.5% for tax revenues up to and including $38 million and 64% for revenues over $38 million, or $25,962,117 in 2010. | Each organization is earmarked a set percentage of funds ranging from around $3.2-$6.8 million. SCFD staff and the Board of Directors (BOD) administer funding.[c] |
| *Tier II* | 26 [d] | $1.3-$11.7 million | 21% for tax revenues up to and including $38 million and 22% for revenues over $38 million, or $8,357,406 in 2010. | Funds are distributed based on a weighted average of the organization's qualifying annual income and audited paid attendance. SCFD staff and the BOD administer funding. |
| *Tier III* | 348 [e] | $10,000 to $1.4 million | 13.5% for tax revenues up to and including $38 million and 14% for taxes over $38 million, or $5,025,476 for all seven counties in 2010. | County cultural councils appointed by county commissioners or the local city council in each of the seven SCFD counties annually read grants, conduct interviews, and make funding decisions. [f] Staff oversees this process and the BOD approves the annual allocations. |

[a] Source: Author's summary of information from the SCFD website (www.scfd.org) and from public information requested form the SCFD on August, 13, 2012. All data is from fiscal year 2011.

[b] Between 1996 and 2006 there were four Tier I organizations. In 2006, a fifth organization was moved to Tier I from Tier II as part of the tax's renewal because of its longevity and size.

[c] The eleven-member Board of Directors is representative of all seven counties and members are appointed by local city councils, county commissioners, or the governor. The SCFD also employs four staff members: Executive Director, two Program Managers and an Office Administrator.

[d] This number varies from year. To qualify for Tier II, an organization must have been in existence for at least five years and must meet the annual qualifying income threshold, which is adjusted each year based on the previous year's Consumer Price Index. In 2012, the qualifying income threshold was set at $1,42,930.42.

[e] In order to qualify for funding, Tier III organizations must have IRS 501(c)(3) in state status, have local incorporation, be governed by a local board, show proof of individual 990 tax filings, and have been actively in existence for at least three years. They must also have an overall purpose that is in alignment with the SCFD statute's commitment to the advancement of Colorado culture. Organizations must reapply to receive funding every year through a rigorous process that includes a lengthy grant application and an interview.

[f] The portion of Tier III funds received by each county is proportional to the amount of sales tax collected in each county.

SCFD distributed over $41 million to 278 cultural organizations in 2010[13] and has distributed over $660 million since its enactment in 1989. [14] Supporters of the tax include rural, suburban, and urban voters. Voters reaffirmed their support of the SCFD statute in 1994, and most recently in November 2004 with 65% approval.[15] SCFD will now sunset on June 30, 2018 without subsequent re-approval.[16]

**Existing research on "crowd out"**

In the economic literature, the original crowding out hypothesis models the effect of a lump sum tax on private contributions to a public good and concludes that, under certain circumstances, donors treat their contributions as perfect substitutes for government contributions.[17] The finding raised considerable doubt on the role of government spending on social services. Subsequent studies have shown that crowd out is incomplete if individual preferences are different from those assumed in traditional pure public goods models.[18] If one assumes some private satisfaction, such as receiving a "warm-glow" from the act of giving, [19] neutrality between publicly or privately provided goods breaks down, and government contributions to charity will incompletely crowd out private contributions.

With respect to the arts, several studies have examined the relationship between private and public donations for various types of cultural organizations. Kingma's 1989 study of public

[13] Information obtained from the Scientific and Cultural Facilities District by special request, August 13, 2012.
[14] Scientific and Cultural Facilities District (2011, p. 2).
[15] Scientific and Cultural Facilities District, "About SCFD" (http://scfd.org/?page=about&sub=1).
[16] ibid.
[17] Warr (1982); Roberts (1984); see also Steinberg (1991) for a more in depth literature review.
[18] If donors are motivated by the public goods model they view their donation as a perfect substitute for a government financed or taxed donation, leading to "perfect crowd out" (Warr 1982; Roberts 1984). On the other hand, the "impure altruist model", as explored by Abrams and Schmitz (1978) and developed in Feldstein (1980), Cornes and Sandler (1984), and Steinberg (1987), presumes partial crowd out. In this model agents receive utility from personal consumption, their individual contribution, and the overall supply of a given charity, but treat the contributions of others and government funds as perfect substitutes.
[19] Andreoni (2004) identifies "warm-glow" as a theoretical proposition whereby (as opposed to altruism where gifts are made solely to benefit others or society) people give because they enjoy the gratification and/or recognition and prestige that results.

radio stations finds that for every $10,000 increase in government funding, private support for public radio decreased by $0.15 per contributing member. Okten and Weisbrod (2000) look at a range of nonprofit organizations, including art galleries, and find no significant relationship between public and private donations. Brooks (2000, 2003) and Borgonovi (2006) find that the relationship between public support and private transfers to arts organizations follows an "inverted U shape", meaning that low levels of public support crowd in private donations while higher levels may displace them.

Brooks (1999) looks specifically at large symphony orchestras, arguing that a measurement of crowd out for the nonprofit industry as a whole is not possible due to the unique constituencies and funding characteristics of each sub sector. His results show that there is no definitive link between public and private transfers; public transfers do not decrease or increase private funding. Smith (2003) examines the impact of National Endowment for the Arts funding on dance companies and finds crowd in around $3 for every $1 of NEA funding. Smith (2007) also finds crowd in between $0.14 and $1.15 depending on model specification and the type of art organization; symphony and music companies experience crowd in while dance and ballet companies experience crowd out.

To incorporate the behavioral response of arts organizations, Andreoni and Payne (2003) investigate the demand side of the funding market, revealing a second possible reason for crowding-out: the strategic response of an arts organization will be to reduce fund-raising efforts after receiving a grant. Their empirical results confirm that government grants cause significant reductions in fund-raising. Dokko (2008) also looks at the relationship between government giving, fundraising, and private giving and estimates that private charitable contributions to arts organizations increased by 60 cents to a dollar as a result of major funding cuts to the National

Endowment for the Arts (NEA) funding during the mid-1990s. Moreover, these increases coincided with an average 25-cent increase in fund-raising expenditures by arts organizations for every dollar decrease in government grants.

In sum, the majority of the empirical studies of crowd out in the arts have found partial to no crowd out as a result of government transfers. The difficulty in estimating the extent of crowd out and the diversity of results leaves a good deal of ambiguity and points to the need for more specific regional and institutional assessments. To date no study has examined the effect that receiving grants from a cultural tax district has on private and program-related revenues. The existence of the SCFD in Colorado for over twenty years makes it possible to collect data on the organizations that participate in the tax district and compare them with control groups that are not eligible for funding or are outside of the tax district, limiting the effect of other unobserved real-world factors that may have offset the degree of crowd in or out in other studies.

**Estimating the SCFD's Impact**

This study uses a difference-in-difference (DD) econometric technique to evaluate how organizations inside the district are faring relative to those outside the district. A quasi-natural experiment approach is used primarily because it corrects for problems of endogeneity, or the bias that results from SCFD funding not being assigned randomly and on the basis of the dependent variable.

A standard regression model would regress private funding on SCFD funding to assess the impact of SCFD funding on private giving. However, this is a problem if private giving influences SCFD funding: SCFD funding is awarded based on the other private and public funding an organization receives or other variables correlated with an organization's funding. To

circumvent this problem, the DD approach estimates the impact of being inside the district on private funding by comparing organizations inside and outside of the district. Assuming the level of private funding or the receipt of SCFD funds does not impact the choice of location, the problematic reverse causality problem is avoided.[20]

Furthermore, the unique design and location of the SCFD in Colorado lends itself to a natural experiment approach that has not been explored in other studies of crowd out. DD estimation exploits the natural variation in untreated comparison groups that is easily observable and credibly exogenous.[21] In this case, arts organizations that receive SCFD funding have been coexisting alongside other arts and non-arts organizations within similar geographic bounds for over twenty years. Changes in state laws, labor-market conditions, or other economic or social fluctuations whose impact, if not specified, will confound standard results can be reduced by the use of untreated comparison groups.

Traditionally, DD estimation captures the effects of a policy change utilizing a treatment and control group and two time periods, or before and after the policy was enacted.[22] The logic behind this is that any unobserved variables that remain constant over time that are correlated with being in the treatment group will be "differenced" out.[23] As such, the key underlying assumption of the DD model is that the average change in the outcome is presumed to be the same for both the non-participants and, counterfactually, for participants if they had never received the treatment.

[20] If organizations from outside the district move inside the district to take advantage of SCFD funds, estimated effects would be biased upward; i.e. if the control group also receives a form of the treatment, then gains from inside the district are occurring at the expense of resources being drained from outside the district. While this paper does not deal directly with any potential problems of spatial-autocorrelation, the SCFD does not have any strong evidence of organizations re-locating from outside the district.

[21] See Meyer (1995) for an overview regarding DD estimation and its potential to bypass endogeneity problems that arise when making comparisons between heterogeneous agents.

[22] Ashenfelter (1978); Ashenfelter and Card (1985).

[23] Buckley and Shang (2003).

Since the IRS did not at the time of this study have Form 990s available prior to the year 2000, and the SCFD tax was enacted in 1989, an additional comparison group is used in place of a time dimension. Arts and non-arts organizations in the geographical boundaries of the tax district[24] are compared to arts and non-arts (i.e. social service) organizations outside the tax district.[25] Or, arts organizations in the SCFD are the treatment group, while the other three groups (in district non-arts, out district arts, and out district non-arts organizations) serve as control groups. In theory, this removes any other trends that may be present in the data due differences in geography, mission, or other social or cultural-specific tendencies while insuring a degree of comparability.

The quality of the control groups used is crucial to the quality of the estimates obtained from DD analysis; good control groups must evolve similarly to the group experiencing the policy change and react similarly to other changes in the environment that drive policies to change.[26] For this study, the control groups used vary from the treatment group on several dimensions but are influenced by the same elements that affect arts organizations in the district. Mission aside, nonprofit organizations inside and outside the district are subject to similar institutional rules governing their financing, management, and operations and thus respond similarly to observable changes in economic and political forces.

At the same time, the difference in the types of goods and services that arts and social service organizations provide to different sectors of the population controls for problems of unobserved variation in the sample that bias results. These could include, for example,

[24] Counties within the SCFD include Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson counties. Out district counties include Eagle, El Paso, Larimer, Pitkin, Pueblo, and San Miguel. See section 3.2 for a more detailed discussion of the data.
[25] See Besley and Case (2000) for a discussion on the selection of control groups when using DD estimation to examine the incidence of endogenous policies.
[26] Besley and Case (2000).

differences in the type of private donor that is attracted to giving to these organizations, mission-related differences that effect reliance on government funding and/or private donations and the scale of day-to-day operations that can influence levels of general operating support or discretionary funding.

Though more accurate than a standard (OLS) regression, this approach still has some drawbacks. For example, systematic changes to the arts financing environment, and other broader historical changes cannot be accurately controlled for without data from before the policy was enacted. As such, this study does not definitively prove causality. Rather, results provide a snapshot of how arts organizations inside the district were faring relative to those outside of the district in 2005.

*The Colorado Nonprofit Dataset*

Data on nonprofit revenues and expenses were collected from individual federal tax returns filed by IRS Section 501(c)(3) organizations in the year 2005. The Form 990 tax returns identify the amount of private giving (PG), government grants (GG), earned revenue (ER), and total revenue (TR) filed by an organization. PG may come from individuals, estates, corporations, and/or other nonprofit organizations. GG include grants received from all levels of government, excluding reimbursements for services provided by the nonprofit under government contract. ER refers to all revenue generated by an organization through program services, membership dues and assessments, interests, or other rents. SCFD grants are excluded from this measure and reported separately in the data.

Individual tax returns were obtained from GuideStar, a nonprofit organization that has IRS 990 forms for nonprofit organizations on their website, www.guidestar.org. Data on arts

organizations were collected by entering "dance", "theater", "music", "museum", or "art" for both in district cities (Aurora, Boulder, Brighton, Denver, Broomfield, Littleton, Lakewood, Parker, Northglenn, or Evergreen) and out district cities (Aspen, Colorado Springs, Pueblo, Ft. Collins, Greely, Vail, or Telluride) into the "Advanced Search" option. Similarly, data for non-arts organizations were collected by typing in "poverty", "youth services", "natural resource conservation and protection", "advocacy", or "animal protection". Each keyword can be located in either the organization's name, the type of organization, or the organization's mission statement as posted on GuideStar.[27] The total amount of SCFD funding for each in district arts organization in 2005 was also recorded.

This study uses a cross-section from 2005 with firm-level data both due to the historical inconsistency of organizations' 990 reports and the lack of household-level data on individual contributions to specific organizations, although ideally, one would want to match household donations to specific arts organizations over time to measure crowd out.[28] Data from 2005 is used because it captures a relatively neutral period in the macroeconomic business cycle; nonprofit revenues and donor behavior were not subject to sharp fluctuations in national income that characterized the beginning and end of the decade. The final cross-sectional data set contains 526 nonprofit organizations in Colorado and breaks down into four subsamples:

- *In district arts organizations*: includes a sample of arts organizations that reside within one of the seven counties (Adams, Arapahoe, Broomfield, Boulder, Denver, Douglas and

[27] GuideStar uses the National Taxonomy of Exempt Entities (NTEE) coding system to classify organizations.
[28] Manzoor and Straub (2004).

Jefferson) that have the SCFD tax. This subsample also contains arts organizations that did not receive SCFD funding but are located within the district.[29]

- *In district non-arts organizations*: includes a sample of non-arts organizations that reside within one of seven in district counties mentioned above. These organizations are not eligible for SCFD funding.
- *Out district arts organizations*: includes a sample of arts organizations that reside within one of seven counties (Eagle, El Paso, Larimer, Pitkin, Pueblo, San Miguel, and Weld) that do not have the SCFD tax.
- *Out district non-arts organizations*: includes a sample of non-arts organizations that reside within one of the seven out district counties mentioned above.

The in district and out district arts data sets are representative of the following arts organizations: art museums, other types of museums (e.g. cultural history), performing arts groups (theater and dance) and music groups. The in district and out district non-arts data sets cover social service organizations that are concerned with family or children, poor or homeless, elderly or disabled, crime or delinquents, employment issues, the environment, and other types of basic human and housing related services.

Table 2 reports summary statistics for the amount of total revenue (TR), private giving (PG), government grants (GG), earned revenue (ER), and SCFD funding received by each subsample.

[29] Arts organizations inside the district may not receive funding from SCFD due to eligibility rules or in the case of Tier III organizations, local County Cultural Councils may deny funding to an organization in a given year even if they are eligible. The presence of these organizations also ensures variability in the sample.

Table 2. Summary statistics by organization type and location, 2005 (in thousands of $)[a]

| Group | Variable | N | Mean | Standard Deviation | Median | Minimum | Maximum |
|---|---|---|---|---|---|---|---|
| *In District Arts* | TR | 151 | 1,051.85 | 4,007.20 | 131.80 | 0.76 | 28,678.43 |
| | PG | 151 | 357.44 | 1,198.82 | 35.01 | 0.00 | 9,829.42 |
| | GG | 151 | 74.11 | 387.99 | 0.00 | 0.00 | 2,943.59 |
| | ER | 151 | 446.53 | 1,754.19 | 58.57 | 0.00 | 14,480.04 |
| | SCFD | 151 | 180.71 | 940.41 | 5.24 | 0.00 | 7,466.92 |
| *In District Non-Arts* | TR | 228 | 1,800.53 | 5,571.41 | 348.48 | 0.40 | 64,625.84 |
| | PG | 228 | 927.84 | 4,732.65 | 84.93 | 0.00 | 64,420.75 |
| | GG | 228 | 262.86 | 1,204.98 | 0.00 | 0.00 | 15,016.14 |
| | ER | 228 | 616.20 | 2,151.91 | 67.34 | 0.00 | 15,492.75 |
| | SCFD | 228 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Out District Arts* | TR | 52 | 1,099.32 | 3,099.81 | 105.12 | 6.10 | 18,035.63 |
| | PG | 52 | 369.30 | 1,292.48 | 37.08 | 0.00 | 7,934.20 |
| | GG | 52 | 28.51 | 73.00 | 0.00 | 0.00 | 318.65 |
| | ER | 52 | 701.52 | 2,183.94 | 41.12 | 0.00 | 12,868.37 |
| | SCFD | 52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Out District Non-Arts* | TR | 95 | 1,512.44 | 3,810.38 | 255.94 | 1.98 | 26,084.51 |
| | PG | 95 | 552.56 | 1,799.33 | 82.00 | 0.00 | 13,186.52 |
| | GG | 95 | 324.12 | 1,402.55 | 0.00 | 0.00 | 10,397.97 |
| | ER | 95 | 641.01 | 1,985.54 | 60.12 | 0.00 | 13,928.99 |
| | SCFD | 95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

*Source:* Author's calculations from 2005 990 Tax filings.

[a] TR=total revenue, PG=private giving, GG=government grants (less SCFD), ER=earned revenue, and SCFD=Scientific and Cultural Facilities District funding.

There are more arts organizations inside the district (151) than outside the district (52). As a result, arts organizations outside the district receive more funding on average compared to arts organizations inside the district, where funding appears to be more spread out. This may be partially attributable to SCFD funding, which has been instrumental in expanding the arts community in the Denver-metro area. Since 1989, the number of organizations that receive funding has nearly doubled to over 300.[30]

[30] Hansberry (2000, p. 15).

Arts organizations inside the district receive an average of 34% of their TR from PG, where average TR and PG are $1,051,850 and $357,440, respectively. ER makes up another 42% of TR, averaging $446,530. GG accounts for 7% of total revenue—$74,110 on average—and SCFD funding makes up the remaining 17% of funds, averaging $180,710 per organization. Arts organizations outside the district receive the same percentage (34%) of TR from PG; however, they average $369,300 and $1,099,320 in PG and TR, respectively. GG represent only 3% of TR ($28,510), and ER makes up the remaining 64% ($701,520).

For non-arts organizations within the district, PG accounts for 52% ($927,840) of TR ($1,800,530). GG only make up 15% ($262,860) of TR and ER account for the remaining 34% ($616,200). Finally, the 96 non-arts organizations outside the district bring in an average of 37% of their revenues from PG ($552,560), 21% from GG ($324,120), and 42% from ER ($641,010).

Of interest is the particularly large share of average ER for small arts organizations inside the SCFD (see Table 6 in the Appendix for summary statistics by firm size). The ratio of ER to PG for these organizations is 1.83, compared to a ratio of 1.33 for small arts organizations outside the district.

Table 3 illustrates the differences between in district, out district, art and non-arts organization variable means. With the exception of population (organizations outside the SCFD are located in areas that have almost half the population of those in the district on average) all four groups have similar levels of educational attainment, income, incidence of poverty, and race. Average TR, PG, ER and GG (less SCFD funding) is comparable between districts, although in district organizations have higher average levels of TR and PG than out district organizations.

Table 3. Treatment and comparison group variable means, 2005

| Variable | In District (N=379) | Out District (N=147) | Arts (N=203) | Non-Arts (N=323) |
|---|---|---|---|---|
| Total Revenue (millions of $) | 1.502 (5.014) | 1.366 (3.570) | 1.064 (3.788) | 1.715 (5.112) |
| Private Giving (millions of $) | 0.700 (3.754) | 0.487 (1.636) | 0.360 (1.220) | 0.817 (4.094) |
| Earned Revenue (millions of $) | 0.548 (2.002) | 0. 662 (2.051) | 0.512 (1.871) | 0.623 (2.101) |
| Government Grants (less SCFD) (millions of $) | 0.187 (0. 969) | 0.220 (1.135) | 0.062 (0.336) | 0.281 (1.264) |
| Population | 0.280 (0.234) | 0.120 (0.137) | 0.259 (0.238) | 0.221 (0.212) |
| Percent of Population with a High School Diploma | 0 .865 (0.073) | 0.899 (0.071) | 0.871 (0.078) | 0.877 (0.072) |
| Percent of Population with a Bachelors Degree | 0.421 (0.150) | 0.399 (0.173) | 0.429 (0.155) | 0.406 (0.158) |
| Income (millions of $) | 0.047 (0.010) | 0.045 (0.010) | 0.046 (0.010) | 0.047 (0.01) |
| Percent in Poverty | 0.118 (0 .048) | 0.112 (0.046) | 0.121 (0.046) | 0.113 (0.049) |
| Percent Caucasian | 0.781 (0.121) | 0.859 (0.078) | 0.795 (0.122) | 0.808 (0.112) |

*Source:* Author's calculations from 2005 990 Tax filings and US Census Bureau Data. Standard deviations are in parentheses.

The majority of variation in the sample is by organization type; arts organizations have lower levels of funding than Non-Arts organizations, which is not surprising given that social service organizations are generally larger than arts organizations. However, these differences are desirable if they help capture unobserved variation across comparison groups that are difficult to control for in a regression but will bias results, e.g. differences in donor behavior that may also affect levels of funding.

*The Impact of the SCFD: Regression Results*

In Table 4, four variables of interest for each nonprofit organization—total revenue, private giving, earned revenue, and government grants (less funding from the SCFD)—are regressed on the following variables of interest:[31]

- Whether the organization is inside the SCFD ("Inside District")
- Whether the organization is an arts organization ("Arts")
- An interaction term ("Inside District Arts")
- A number of control variables, including city population, race, percent of population with a high school diploma, percent of population with a bachelor's degree, income, and percent of population living in poverty ("Controls")

Finally, after each of the above individual treatment effects are estimated, the total effect of being an arts organization inside the SCFD is also calculated for each of the four funding streams ("Total Inside District Effect").[32]

[31] The DD and DDD models use the ordinary least squares (OLS) estimator, and as such are susceptible to the usual violations of the Gauss-Markov assumptions. Because the treatment and comparison groups exploit the variation in organizational type, location, and size rather than time, problems with serial correlation—a potential weakness of DD estimation that has been documented by Bertrand, Duflo, and Mullainathan (2004)—are avoided. Robust standard errors are used to correct for heteroskedasticity. Additional covariates, including city population, race, income, education level, and the percentage of citizens living in poverty are used to control for other compositional changes between the observed groups.

[32] This total effect is estimated by taking a post-estimation linear combination of all the individual treatment effects for arts organizations inside the district and subtracting them from the individual effects for organizations outside the district, i.e. "Inside District" + "Arts" + "Inside District Arts" - "Arts"= "Inside District" + "Inside District Arts". This is done for each of the dependent variables.

Table 4. Impact of SCFD funding on total revenue, earned revenue, private giving, and government funding [a]

| *Independent Variable* | *Dependent Variable* | | | |
|---|---|---|---|---|
| | Total Revenue | Earned Revenue | Private Giving | Government Grants (less SCFD) |
| Inside District | -0.176 | -0.0876 | -0.00520 | -0.00248 |
| | (0.226) | (0.0737) | (0.0790) | (0.0327) |
| Arts | -0.498* | -0.146 | -0.0439 | -0.0515* |
| | (0.240) | (0.0901) | (0.0991) | (0.0251) |
| Inside District Arts | -0.255 | 0.0687 | -0.292 | -0.00545 |
| | (0.291) | (0.119) | (0.167) | (0.0447) |
| Constant | -0.156 | -0.613 | 2.756 | 0.393 |
| | (3.897) | (1.342) | (1.473) | (0.385) |
| Controls | Yes | Yes | Yes | Yes |
| *Summary Statistic* | | | | |
| N | 507 | 511 | 519 | 517 |
| $R^2$ | 0.096 | 0.049 | 0.090 | 0.037 |
| *Total Inside District Effect* | -0.431* | -0.0189 | -0.297* | -0.008 |
| | (0.191) | (0.077) | (0.143) | (0.029) |

Source: Author's calculations based on data from 2005 990 Tax Filings and US Census Bureau data.

a. Each column of this table reports a separate OLS regression using data from 2005. The unit of analysis is a nonprofit firm. The dependent variables are measured in millions of dollars. Standard errors are in parentheses. The "Total Inside District Effect" is estimated by taking a post-estimation linear combination of all the individual treatment effects inside the district less those outside of the district. Controls include population, race, percent of population with a high school diploma, percent of population with a bachelor's degree, income, and percent of population in poverty. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

The results of the DD estimation show that arts organizations inside the district have on average $297,000 less in private giving and $431,000 less in total revenue compared to arts and non-arts organizations inside and outside the district.

However, it is important to note that the final sample used in these regressions omits a few large outliers that had substantial leverage on the results.[33] Because of the small sample size, these unique organizations (i.e. those making upwards of $20 million a year) skew the

[33] Results were dropped if the value of their Cook's Distance was greater than 4/N, or greater than 0.0076 (4/526). Doing so reduced the sample size from 526 to 507, 511, 519, or 517 for regressions on total revenue, earned revenue, private giving, and other government funding, respectively.

impact of the SCFD on the majority of organizations in the sample. Results from regressions that include these organizations (see Appendix) are not significant, implying that the SCFD neither crowds in nor crowds out other funds.

Nevertheless, the fact that these extreme observations do skew coefficient estimates highlights a crucial limitation of the DD model: apparent treatment effects cannot vary by firm size. There is no reason to assume that a "large" organization who receives SCFD funding will be confronted with the same outcome as a "small" organization. To accommodate for differences in firm size, a difference-in-difference-in-differences (DDD) model is used, with results presented in Table 5 (see Appendix for details on model specification).

In this estimation, the following terms are added to those already included in the Table 4 estimates:

- Whether the organization has total revenues below $700,000 per year ("Small")[34]
- Interaction terms for all variables:
    - "Inside District Small"
    - "Inside District Arts"
    - "Small Arts"
    - "Inside District Small Arts"

[34] $700,000 is chosen as the cut-off point between small and large organizations because the majority of Tier 3 organizations—the SCFD tier containing small to mid-size organizations—reported earnings below $700,000 in 2005. $700,000 was also the original threshold that organizations had to meet to qualify for Tier II.

Table 5. Impact of SCFD funding on total revenue, earned revenue, private giving, and government funding for small and large organizations [a]

| | *Dependent Variable* | | | |
|---|---|---|---|---|
| *Independent Variable* | Total Revenue | Earned Revenue | Private Giving | Government Grants (less SCFD) |
| Inside District | 0.125 | -0.238 | 0.648* | 0.119 |
| | (0.701) | (0.219) | (0.265) | (0.102) |
| Small | -2.650*** | -0.895*** | -0.564*** | -0.169* |
| | (0.560) | (0.181) | (0.136) | (0.0815) |
| Inside District Small | -0.0996 | 0.234 | -0.766** | -0.135 |
| | (0.685) | (0.226) | (0.278) | (0.105) |
| Arts | 2.871** | 3.614*** | 0.0390 | -0.0993 |
| | (0.936) | (0.316) | (0.369) | (0.0862) |
| Inside District Arts | -3.916*** | -3.423*** | -0.0942 | -0.127 |
| | (1.080) | (0.435) | (0.575) | (0.131) |
| Small Arts | -2.872** | -3.598*** | -0.0635 | 0.0795 |
| | (0.937) | (0.318) | (0.370) | (0.0886) |
| Inside District Small Arts | 3.811*** | 3.384*** | 0.00266 | 0.126 |
| | (1.077) | (0.435) | (0.571) | (0.133) |
| Constant | 0.549 | 1.256 | 0.948 | 0.843 |
| | (3.093) | (0.881) | (1.222) | (0.526) |
| Controls | Yes | Yes | Yes | Yes |
| *Summary statistic* | | | | |
| N | 507 | 508 | 517 | 515 |
| $R^2$ | 0.437 | 0.388 | 0.299 | 0.187 |
| *Total Inside District Small Effect* | -0.079 | -0.043 | -0.210*** | -0.018 |
| | (0.118) | (0.038) | (0.060) | (0.020) |
| *Total Inside District Large Effect* | -3.791*** | -3.661*** | 0.554 | -0.008 |
| | (0.847) | (0.362) | (0.496) | (0.086) |

Source: Author's calculations based on data from 2005 990 Tax Filings and US Census Bureau data.

a. Each column of this table reports a separate OLS regression using data from 2005. The unit of analysis is a nonprofit firm. The dependent variables are measured in millions of dollars. Standard errors are in parentheses. The "Total Inside District Small Effect" and "Total Inside District Large Effect" are estimated by taking a post-estimation linear combination of all the individual treatment effects inside the district for small and large organizations less those outside of the district. Controls include population, race, percent of population with a high school diploma, percent of population with a bachelor's degree, income, and percent of population in poverty. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

The results in Table 5 show that organizations experience very different outcomes depending on their size. In this regression, large organizations have less revenue than large arts and non-arts organizations inside and outside the boundaries of the SCFD (possible crowd out of funds). Large organizations have on average $3.79 million less in total revenue, largely due to an average of $3.66 million less in earned revenues. This may be because one condition for receiving SCFD funds is that larger organizations must provide a certain number of free days to the general public. In 2009 alone, 7.1 million visitors took advantage of free or reduced rate visits to arts and cultural activities, compared to only 4 million paid visits.[35] However, any possible immediate losses to earned revenue from the substantial volume of free visits to these large institutions need to be balanced against potential long-term gains in community support. Finally, the impact on private giving appears to be neutral: SCFD funding does not seem to influence the amount of contributions large organizations receive from individuals.

Notably, there does not seem to be any significant difference, in total, between the average amount of total revenue and earned revenue that small organizations collect inside and outside the district. In fact, holding all else constant, the marginal impact of the SCFD shows that small arts organizations inside the district enjoy an average of $3.81 million more in total revenue and $3.38 million more in earned revenues. The results for small organizations are more robust because of the larger sample size.

On the other hand, small arts organizations seem to receive $210,000 less on average in contributions from individual donors. However, because there is no significant difference in total revenue between small organizations inside and outside of the district, larger increases in earned revenue seem to offset any losses in private giving. Lastly, residing inside the district does not seem to have any effect on the amount of other government grants that either small or

[35] Scientific and Cultural Facilities District (2011, p. 3).

large firms receive, and once again results from the full sample (see Appendix) find no significant crowd-in or out of funds for small or large organizations.

**Encouraging Results for the Future of Cultural Tax Districts**

Results from this study provide some encouraging, though not definitive, evidence that local option sales taxes may be an effective policy tool for expanding local arts communities. Cultural tax districts may benefit the arts community as a whole by complementing and perhaps even enhancing, rather than replacing, other sources of revenue. Smaller organizations in particular may want to leverage the possible crowd in effect of SCFD funds on earned revenues by spending their awards more on programming, advertisement, and fundraising to increase private donations and enhance their future standing in the community.

Given the current paucity of research on the effect that cultural tax districts have on the fiscal health and future growth of participating organizations, additional research on similar tax policies would be a beneficial contribution to the literature on government transfers and private giving in the US. In particular, studies that compile data from before and after the creation of a cultural tax district would be ideal. Research that uses other econometric techniques to investigate crowd out, such as Instrumental Variables (IV), may also be helpful. Another approach would involve looking at spending on fundraising by the organizations themselves to see if any interesting patterns emerge.[36]

Moreover, further research on whether or not a strong and vibrant cultural community can stimulate positive economic growth, as new growth theory would predict, would be a beneficial contribution to future policy efforts seeking to expand or revitalize local economies. Though further research is still needed, what is clear is that the direct economic impact that

[36] See for example Andreoni and Payne (2003), for more research on the demand side of fundraising markets.

SCFD organizations themselves have on the local economy is quite substantial. In 2009, SCFD-funded organizations employed 8,718 workers— a 7% increase since 2007 and more than the 6,649 employed in the health and personal care industry. [37] SCFD organizations also made contact with 4.17 million schoolchildren and paid 18.4 million in payroll, seat and sales taxes.[38] These economic and cultural contributions go a long way towards making Denver a more attractive place to work and play.

## Appendix

*The Difference-in-Differences (DD) Model*

The DD model is estimated using the following econometric specification:

$$y = \beta_0 + \beta_1 dI + \delta_0 dA + \delta_1 dI \cdot dA + u \quad (1)$$

Where *y* is the outcome of interest, $dA$ is typically a dichotomous variable for the second time period, but in the case of this study will represent the second control (i.e. arts versus non-arts organizations), and $dI$ captures the possible difference between the treatment and control groups (i.e. organizations inside the SCFD district and organizations outside the SCFD district) and $u$ is the random error term. The coefficient of interest is $\delta_1$, which measures the degree of crowd in or out of the dependent variable as a result of being a SCFD funded organization. The analysis hinges on the assumption that arts organizations in the SCFD would have comparable levels of average private giving and other revenues to arts and non-arts organizations outside the district and non-arts organizations within the district if the tax district had never been created. In other words, in the absence of treatment, $\delta_1$ would be zero, or $E[u|dI \cdot dA] = 0$. The OLS estimate of $\delta_1$can also be written as follows:

[37] Colorado Business Committee on the Arts, "2010 Economic Activity Study of Metro Denver Culture", (http://cbca.org/wp-content/uploads/2011/11/2010-EAS-final-study-final-lo-res.pdf).
[38] ibid.

$$\hat{\delta}_1 = (\bar{y}_{IA} - \bar{y}_{IN}) - (\bar{y}_{OA} - \bar{y}_{ON}) \quad (2)$$

Where *N* and *O* represent non-arts organizations and organizations outside the district, respectively. The population analog of the DD estimate can be obtained by taking the expected value of each of the four groups above.

*The Difference-in-Difference-in-Differences (DDD) model:*

If the level of public support vary nonlinearly with the amount of private donations received, the degree of crowd in or out experienced may change depending on an organization's size or the relative amount of SCFD funding they are receiving as a percentage of their overall budget. In this case, higher-order interactions, or the interaction of more than two variables, may be necessary to capture the effect of the treatment. To incorporate the possibility that organizations in the treatment group are being affected differently depending on their size, a third comparison between groups, or a difference-in-difference-in-differences (DDD) model, is also estimated:

$$y = \beta_0 + \beta_1 dI + \beta_2 dR + \beta_3 dI \cdot dR + \delta_0 dA + \delta_1 dA \cdot dI + \delta_2 dA \cdot dR + \delta_3 dA \cdot dI \cdot dR + u \quad (3)$$

Where *y* is the outcome of interest, $dI$ is the dummy variable for organizations in the SCFD, $dR$ is the dummy variable for small organizations, or those making $700,000 or less in annual revenues, and $dA$ is the dummy variable for arts organizations. It is important to include the first-order interactions when testing for the presence of second-order effects to eliminate any bias that may occur from the second-order effects being confounded with the omitted first-order effects (Meyer, p. 157). The coefficient of interest is $\delta_3$, the coefficient on the triple interaction term $dA \cdot dI \cdot dR$, which captures the effect of being an arts organization in the SCFD with annual total revenue below $700,000. The OLS estimate of $\delta_3$ can also be expressed as follows:

$$\hat{\delta}_3 = \left(\bar{y}_{I,R,A} - \bar{y}_{I,R,N}\right) - \left(\bar{y}_{O,R,A} - \bar{y}_{O,R,N}\right) - \left(\bar{y}_{I,L,A} - \bar{y}_{I,L,N}\right) \quad (4)$$

Where the *L* subscripts represents large organizations, or those bringing in over $700,000 in revenues annually.

*Additional Summary Statistics*

Table 6. Summary statistics on revenues by organization type, size, and location, 2005 (thousands of $)

| Group | Variable | N | Mean | Standard Deviation | Median | Minimum | Maximum |
|---|---|---|---|---|---|---|---|
| *Small In District Arts* | TR | 125 | 145.24 | 151.36 | 93.01 | 0.76 | 669.28 |
| | PG | 125 | 46.17 | 62.38 | 22.70 | 0.00 | 294.60 |
| | GG | 125 | 6.41 | 22.04 | 0.00 | 0.00 | 187.88 |
| | ER | 125 | 84.48 | 105.22 | 42.14 | 0.00 | 569.13 |
| | SCFD | 125 | 13.61 | 23.41 | 3.58 | 0.00 | 151.32 |
| *Small In District Non-Arts* | TR | 156 | 208.16 | 208.57 | 105.38 | 0.40 | 687.02 |
| | PG | 156 | 96.76 | 136.17 | 35.75 | 0.00 | 660.22 |
| | GG | 156 | 26.09 | 79.65 | 0.00 | 0.00 | 608.05 |
| | ER | 156 | 85.43 | 129.29 | 31.53 | 0.00 | 635.30 |
| | SCFD | 156 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Large In District Arts* | TR | 26 | 5,410.55 | 8,506.72 | 1,420.95 | 700.11 | 28,678.43 |
| | PG | 26 | 1,853.93 | 2,406.30 | 739.52 | 74.66 | 9,829.42 |
| | GG | 26 | 399.60 | 876.19 | 0.00 | 0.00 | 2,943.59 |
| | ER | 26 | 2,187.12 | 3,821.26 | 610.45 | 39.12 | 14,480.04 |
| | SCFD | 26 | 984.08 | 2,119.60 | 99.21 | 0.00 | 7,466.92 |
| *Large In District Non Arts* | TR | 72 | 5,250.68 | 9,028.01 | 2,007.64 | 733.01 | 64,625.84 |
| | PG | 72 | 2,728.52 | 8,170.94 | 754.75 | 0.00 | 64,420.75 |
| | GG | 72 | 775.87 | 2,058.72 | 116.42 | 0.00 | 15,016.14 |
| | ER | 72 | 1,766.21 | 3,578.92 | 375.90 | 0.00 | 15,492.75 |
| | SCFD | 72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Small Out District Arts* | TR | 44 | 155.61 | 181.78 | 91.48 | 6.10 | 687.90 |
| | PG | 44 | 59.98 | 71.12 | 31.26 | 0.00 | 318.72 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | GG | 44 | 16.08 | 49.24 | 0.00 | 0.00 | 256.29 |
| | ER | 44 | 79.56 | 118.71 | 35.91 | 0.00 | 504.26 |
| | SCFD | 44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Small Out District Non Arts* | TR | 66 | 182.91 | 166.82 | 141.15 | 1.98 | 684.34 |
| | PG | 66 | 86.99 | 124.46 | 41.04 | 0.00 | 727.95 |
| | GG | 66 | 39.02 | 102.69 | 0.00 | 0.00 | 539.19 |
| | ER | 66 | 64.44 | 91.72 | 23.22 | 0.00 | 401.88 |
| | SCFD | 66 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Large Out District Arts* | TR | 8 | 6,289.68 | 5,780.80 | 4,933.68 | 807.58 | 18,035.63 |
| | PG | 8 | 2,070.56 | 2,868.89 | 962.00 | 0.00 | 7,934.20 |
| | GG | 8 | 96.86 | 132.74 | 21.52 | 0.00 | 318.65 |
| | ER | 8 | 4,122.30 | 4,342.61 | 3,523.42 | 0.00 | 12,868.37 |
| | SCFD | 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| *Large Out District Non Arts* | TR | 29 | 4,538.29 | 5,918.48 | 1,983.74 | 700.48 | 26,084.51 |
| | PG | 29 | 1,612.13 | 3,026.44 | 476.84 | 0.00 | 13,186.52 |
| | GG | 29 | 972.96 | 2,439.65 | 0.00 | 0.00 | 10,397.97 |
| | ER | 29 | 1,953.20 | 3,263.24 | 774.58 | 31.42 | 13,928.99 |
| | SCFD | 29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

*Source:* Author's calculations from 2005 990 Tax filings.

[a] TR=total revenue, PG=private giving, GG=government grants (less SCFD), ER=earned revenue, and SCFD=Scientific and Cultural Facilities District funding. Small organizations are defined as those making $700,000 or less in total revenue; large organizations are those making more than $700,000.

*Regression Results from the Full Sample*

Table 7. Impact of SCFD funding on total revenue, earned revenue, private giving, and government funding (full sample) [a]

| | *Dependent Variable* | | | |
|---|---|---|---|---|
| *Independent Variable* | Total Revenue | Earned Revenue | Private Giving | Government Grants (less SCFD) |
| Inside District | 0.357 | -0.0859 | 0.553 | -0.0481 |
| | (0.823) | (0.242) | (0.760) | (0.131) |
| Arts | -0.154 | 0.124 | -0.0482 | -0.236* |
| | (0.532) | (0.331) | (0.267) | (0.120) |
| Inside District Arts | -0.819 | -0.357 | -0.621 | 0.00430 |
| | (0.735) | (0.383) | (0.458) | (0.158) |

| | | | | |
|---|---|---|---|---|
| Constant | -11.44 | -1.755 | -7.852 | -2.663 |
| | (10.23) | (4.608) | (7.749) | (2.281) |
| Controls | Yes | Yes | Yes | Yes |
| *Summary statistic* | | | | |
| N | 526 | 526 | 526 | 526 |
| $R^2$ | 0.046 | 0.024 | 0.026 | 0.043 |
| *Total Inside District Effect* | -0.462 | -0.443 | -0.068 | -0.044 |
| | (0.664) | (0.347) | (0.463) | (0.086) |

Source: Author's calculations based on data from 2005 990 Tax Filings and US Census Bureau data.

a. Each column of this table reports a separate OLS regression using data from 2005. The unit of analysis is a nonprofit firm. The dependent variables are measured in millions of dollars. Standard errors are in parentheses. The "Total Inside District Effect" is estimated by taking a post-estimation linear combination of all the individual treatment effects inside the district for small and large organizations less those outside of the district. Controls include population, race, percent of population with a high school diploma, percent of population with a bachelor's degree, income, and percent of population in poverty. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

Table 8. Impact of SCFD funding on total revenue, earned revenue, private giving, and government funding for small and large organizations (full sample) [a]

| | *Dependent Variable* | | | |
|---|---|---|---|---|
| *Independent Variable* | Total Revenue | Earned Revenue | Private Giving | Government Grants (less SCFD) |
| Inside District | 1.342 | -0.0757 | 1.620 | -0.132 |
| | (1.883) | (0.719) | (1.685) | (0.464) |
| Small | -3.940*** | -1.788** | -1.296* | -0.849* |
| | (0.985) | (0.557) | (0.533) | (0.407) |
| Inside District Small | -1.067 | 0.121 | -1.367 | 0.130 |
| | (1.616) | (0.723) | (1.325) | (0.474) |
| Arts | 2.152 | 2.293 | 0.659 | -0.794 |
| | (2.111) | (1.520) | (1.093) | (0.423) |
| Inside District Arts | -2.099 | -1.890 | -1.568 | 0.377 |
| | (2.896) | (1.739) | (1.578) | (0.523) |
| Small Arts | -2.055 | -2.252 | -0.612 | 0.797 |
| | (2.128) | (1.532) | (1.082) | (0.430) |
| Inside District Small Arts | 1.936 | 1.858 | 1.487 | -0.416 |
| | (2.931) | (1.757) | (1.598) | (0.523) |
| Constant | -7.788 | -0.525 | -6.722 | -1.171 |
| | (8.378) | (3.350) | (7.657) | (1.637) |
| Controls | Yes | Yes | Yes | Yes |
| *Summary statistic* | | | | |
| N | 526 | 526 | 526 | 526 |
| $R^2$ | 0.237 | 0.201 | 0.102 | 0.115 |

| | | | | |
|---|---|---|---|---|
| *Small Inside District Effect* | 0.111 | 0.013 | 0.172 | -0.041 |
| | (0.479) | (0.122) | (0.468) | (0.069) |
| *Large Inside District Effect* | -0.757 | -1.966 | 0 .051 | 0.245 |
| | (2.556) | (1.627) | ( 1.187) | (0.202) |

Source: Author's calculations based on data from 2005 990 Tax Filings and US Census Bureau data.

a. Each column of this table reports a separate OLS regression using data from 2005. The unit of analysis is a nonprofit firm. The dependent variables are measured in millions of dollars. Standard errors are in parentheses. The "Total Inside District Small Effect" and "Total Inside District Large Effect" are estimated by taking a post-estimation linear combination of all the individual treatment effects inside the district for small and large organizations less those outside of the district. Controls include population, race, percent of population with a high school diploma, percent of population with a bachelor's degree, income, and percent of population in poverty. ***, **, and * represent significance at the 0.1%, 1%, and 5% levels, respectively.

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