

**Providing Public Services without Relying Heavily on Government Funding:
How do Nonprofits Respond to Government Budget Cuts?**

Yuan (Daniel) Cheng^a

Lang (Kate) Yang^b

^a Author names are in alphabetical order to represent equal authorship.

Humphrey School of Public Affairs, University of Minnesota.

301 19th Ave S, Minneapolis, MN 55455. cheng838@umn.edu

Bio: Yuan (Daniel) Cheng is an assistant professor in the Humphrey School of Public Affairs at the University of Minnesota. His research focuses on a range of theoretical and managerial questions lying at the nexus of governance, government-nonprofit relationships, coproduction, and the distributional and performance implications of cross-sectoral collaboration.

^b Trachtenberg School of Public Policy and Public Administration, George Washington University. 805 21st Street NW, Washington, DC 20052. langyang@guwu.edu

Bio: Lang (Kate) Yang is assistant professor at George Washington University. Her research focuses on public finance and financial management in state and local governments.

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Abstract

Existing studies of government-nonprofit relationships have largely treated government funding as a revenue stream of nonprofit organizations. However, there is limited empirical research on how nonprofits respond to government spending changes in a public service subsector where they provide public services without relying heavily on government funding. In such public service subsectors, government spending cuts thus represent a reduction in governmental service provision rather than a revenue shock to nonprofits in the sector. Utilizing a unique panel dataset of park-supporting nonprofits in large U.S. cities, this study examines how these nonprofits adjust financial management strategies in response to incremental and dramatic changes in the overall government spending on parks and recreation services in a city. The findings suggest that nonprofits increase fundraising efforts and diversify revenue portfolios in response to incremental changes in the government spending environment. Facing a dramatic government budget cut on parks and recreation, nonprofits are more likely to reduce administrative expenses and spend more on programs to fill in the gap of service needs. Borrowing and using reserves seem not to be strategies nonprofits pursue in such circumstances.

Keywords: government-nonprofit relationships, nonprofit financial management, government budget cuts, parks and recreation services

Introduction

Over the last twenty years, there is a surge of academic interest in the role of nonprofits in public service provision and the relationships between governments and nonprofits (Smith & Grønbjerg, 2006; Boris & Steuerle, 2017; Smith & Lipsky, 1993; Gazley & Guo, 2015). Sector-based investigation treats governments and nonprofits as two separate sectors in a mixed economy (Young, 2000), and answers questions such as how the size of the government sector influences the size and density of the nonprofit sector (Lecy & Van Slyke, 2013; Salamon, 2002; Grønbjerg & Paarlberg, 2001) and why nonprofits are in place to provide certain kinds of collective goods (Weisbrod, 1975; Steinberg, 2006). Specifically, the market niche model suggests that government failure and market failure create the demand and space for the nonprofit sector to step in and fill the gap (Weisbrod, 1975). However, empirical evidence lacks on what strategies individual nonprofits take to fill the gap, when facing a rise of unmet service needs created by government failure. Existing organizational level investigation does not answer this question directly. This is partly due to its focus on human services nonprofits where government spending reduction inevitably means decreased financial resources to the nonprofits as they rely heavily on governmental grants and contracts. Therefore, current organizational level investigation tells us how the receipt of government funding influences nonprofits' governance structure, financial vulnerability, independence, and mission attainment (Guo, 2007; Gazley & Brudney, 2007; Marwell & Calabrese, 2014). However, government-nonprofit relationships often illustrate different patterns when funding sources for public service provision vary across subsectors (Cheng, 2018a). What remains unclear is how individual nonprofits with less reliance on government funding respond to changes in the total government spending on a public service subsector.

This new angle of understanding is especially important when government spending cuts not only reduce funding for nonprofits but also create unmet community needs for nonprofit service providers to fulfill (O’Connell, 1996; Young, 2000). Governments may at times suffer from fiscal stress and look for nongovernmental revenue sources and service providers (Gazley, Cheng & LaFontant, 2015; Nelson & Gazley, 2014; Paarlberg & Gen, 2009; Schatteman & Bingle, 2015; Yandle et al., 2016). In the meantime, nonprofits operate under increased financial pressure and a high expectation of accountability and improved performance (Smith, 2010; Salamon, 2015). The tension between resources and expectations challenges nonprofits in performing their desirable social functions in the community, especially in policy subsectors such as parks, education, and art where direct government funding to nonprofits is limited and nonprofits are expected to raise private capital to fund public services. Brecher and Wise (2008) raised the concern of “the inequalities in the availability and quality of services” (p.146) as nonprofits supplement the resources and responsibilities of public agencies. Facing such challenges, it is imperative for scholars and policymakers to understand how the overall government spending environment impacts nonprofit partners and how nonprofits make strategic financial management decisions to cope with a tightening government spending environment and unmet demand for public services.

Informed by literature on the strategic response of nonprofit organizations to uncertainties, this study identifies several financial management strategies nonprofits may take facing government budget cuts in a public service subsector. Each of these strategies is examined in the context of more than 200 city park-supporting nonprofits in large U.S. cities. Besides providing an organizational level investigation of the well-known sectoral relationship between governments and nonprofits, this study contributes to the literature on government-nonprofit

relationships and nonprofit finance on empirical grounds. First, this study extends the inquiry of nonprofit organizations' response to funding uncertainties to a new context where nonprofits play important roles in supporting and providing public services without receiving significant government support for public service delivery. Further, the parks and recreation subsector experiences ample changes in the government spending environment because it is often first in line to be cut during times of government fiscal stress (Skidmore & Scorsone, 2011).

Second, by differentiating between incremental and dramatic government spending changes, this study captures both the linear and non-linear impact of government spending cuts on nonprofit financial management strategies. Nonprofits may respond to these two types of government spending changes differently. For example, dramatic government budget cuts may pose an acute threat to local service provision, which could prompt nonprofits to make management decisions intended to achieve an immediate increase in service provision as opposed to gradual adjustments in resource attainment.

Context and Background

Government Budget Cuts in Parks and Recreation

Local governments fund a wide range of services, including public safety, public works, health and welfare, economic development, and parks and recreation. Due to factors such as market cyclical pressure, industrial structure changes, demographic shifts, and increasing pension costs, real local government general revenue rose by only \$3 per \$1,000 of personal income from 1977 to 2004 (Chapman, 2008). Facing fiscal imbalances, local governments often respond by cutting budgets and reducing expenditures (Buettner & Wildasin, 2006; Yang, 2017).

Public finance literature found that local budget components are differentially prone to expenditure cuts during times of fiscal stress: functions unrelated to day-to-day services and “non-essential,” which often include parks and recreation, are more likely to suffer. Surveys of municipal personnel directors in West and Davis (1988) showed that parks and recreation was the most targeted program for expenditure reduction. Jordan (2003) found that developmental functions targeted at long-term community development, including parks and recreation, were more likely to be interrupted by local policy agenda shifts and non-incremental changes in government expenditure. Among the largest 38 U.S. cities, government spending on parks and recreation experienced non-incremental changes 20.8 percent of the time, and budget cuts were also more likely than increases. More recent research provides corroborating findings. For example, Skidmore and Scorsone (2011) found that stronger budgetary responses to the Great Recession occurred in parks and recreation than other local government functions. Local public park and recreation facilities throughout the nation share commonalities but could differ in their specific designs (The Trust for Public Land, 2018). For example, playgrounds are the most popular kind of facilities in city parks, while facilities that are more costly to build and operate (swimming pools and golf courses) are less common. Some cities, such as Newark, NY, have parklands completely created, constructed, and managed for human use, while others have opened natural areas to the public.

The Emergence of Park-Supporting Nonprofits

Facing a turbulent budgeting environment, city parks and recreation departments may attempt to find alternative funding sources and develop cross-sectoral or intergovernmental partnerships. In this context, the nonprofit sector is important in helping parks departments for

the construction and maintenance of parks and recreation facilities, providing recreational and educational programs, fundraising, volunteer mobilization and management, and the planning and design of these services (Cheng, 2018b; Harnik & Martin, 2015; Murray, 2010; Pincetl, 2003; Walls, 2014). The Trust for Public Land (2018) found that park-supporting nonprofits spent nearly \$500 million on city parks in the 100 largest U.S. cities in 2017, making up more than 6 percent of total spending on public parks. Philanthropy and nonprofit support for parks and recreation services have become indispensable in the context of unstable government spending environment and rising costs of maintaining and managing public parks (Murray, 2010).

To fulfill their service provision roles, park-supporting nonprofits rely primarily on private donations and grants as opposed to direct government funding as seen in social and human services nonprofits. A survey by Walls (2014) showed that park conservancies and advocacy organizations received 63 percent of their revenue from private donations and grants, but less than 20 percent from governments. We also identified park-supporting nonprofits in the NCCS-GuideStar National Nonprofit Research Database (the “Digitized Data”) which separates private contributions and government grants but covers only years 1998 to 2003. The government grant ratio as a percentage of total revenue for park-supporting nonprofits is 7.18%, and program service ratio is 14.9% (including government contracts and commercial incomes). Those numbers are considerably lower than the nonprofit sector average and the subsectors such as social and human services where nonprofits rely heavily on government funding (McKeever, 2015). When local governments cut the budget on parks and recreation during times of fiscal stress, services previously funded by the governments will be affected. Because park-supporting nonprofits do not rely significantly on funding from local governments, the impact of

government budget cuts on nonprofit revenue will be limited but these nonprofits need to decide whether to step up to ensure service continuity in the community. Previous case studies found that the volatility in public spending and the service vacuum left by government budget cuts prompt nonprofits to fill in the gap (Walls, 2014). An important management and policy question, therefore, is what financial management strategies park-supporting nonprofits take to fulfill their service provision roles in a turbulent government spending environment and the implications of such strategies for a sustainable provision of parks and recreation services.

Finally, park-supporting nonprofits fall into two broad categories: park unit-supporting and park system-supporting nonprofits. Park unit-supporting nonprofits are more common and typically are set up by citizens in the community to support a single park or greenway through providing assistance to or sharing daily management responsibilities with local parks departments. Central Park Conservancy in the New York City is a good example of park unit-supporting nonprofits as the main mission of the conservancy is to support the Central Park. Park system-supporting nonprofits, on the other hand, exist to raise the quality and quantity of parks and green spaces in the entire city area. The role played by park system-supporting nonprofits may be fundamentally different compared with park unit-supporting nonprofits (Madden et al., 2000). The main reason is that system-supporting nonprofits usually focus on providing technical assistance to neighborhoods or other unit-supporting nonprofits that operate in different park units. Therefore, they are not directly involved in improving the conditions of specific park units. Park Pride, for example, aims at engaging communities to activate the power of parks across Atlanta. This intermediary role may push park system-supporting nonprofits to employ different strategies compared with park groups that operate in individual parks. For example, facing a budget cut, park system-supporting nonprofits may focus on advocacy to bring in more funding

for the whole system. Park unit-supporting nonprofits, on the other hand, may focus on raising more philanthropic resources for direct service provision for the particular park of interest. In addition, unit-supporting nonprofits may respond more actively to government budget cuts because the benefits of individual park units are more concentrated and enjoyed by neighborhood residents (Foster, 2011). Based on the above reasons, we separate park unit-supporting and system-supporting nonprofits in our analysis to explore how they may respond to government budget cuts differently.

Sectoral and Organizational Perspectives of Government-Nonprofit Relationships

Sector-based examination of government-nonprofit relationships has laid out two broad views regarding whether the nonprofit sector will expand or shrink in response to a receding government sector: the market niche model (Smith & Grønbjerg, 2006) and the interdependence model (Salamon, 1987). Informed by the three failures theory, the market niche model suggests that government failure and market failure create the demand and space for nonprofit organizations to step in and fill the gap (Weisbrod, 1975). However, strategic management decisions made by individual nonprofits in response to the rise of service needs created by government and market failure remain largely unknown. The interdependence model points to the fact that the nonprofit sector relies extensively on government funding for service provision, especially in social and human services. Therefore, when governments cut spending on public services, nonprofits would not only fail to fill in the gap but also become more financially vulnerable. Empirical evidence supporting the interdependence model shows that the nonprofit and government sectors grow and decline at the same time (Lecy & Van Slyke, 2013; Paarlberg & Yoshioka, 2016). However, much of the empirical evidence is from the social and human

services sector in which nonprofits rely heavily on government funding; in other nonprofit subsectors, such as education, art, and environment, the pattern of government-nonprofit sector funding interactions may be different (Lecy & Van Slyke, 2013).

The organization-based understanding of government-nonprofit relationships focuses on individual nonprofits as opposed to the sector as a whole. This approach has its roots in the interdependence model, examining how the receipt of government contracts and grants influences individual nonprofit service provision capacity and independence. Marwell and Calabrese (2014) developed a deficit model of collaborative governance to depict a scenario in which “nonprofits have been deputized by the state to secure children’s social rights but do not receive sufficient resources to cover the costs of securing those rights” (p.1031). Because of the insufficient funding provided through government contracts, child welfare nonprofits have to borrow more, tap into reserves, and reduce overhead costs, which are ultimately associated with lower service quality and organizational longevity.

What is missing in the sectoral and organizational perspectives of government-nonprofit relationships is that, due to a heavy focus on social and human services organizations, the conceptualization of public service provision is limited to a view that governments directly provide or fund nonprofits to provide these services. However, many nonprofits provide and support public services without relying heavily on government funding (Nelson & Gazley, 2014). How these nonprofits respond to broader government budget cuts is missing in the existing literature. From a practical perspective, although the market niche and independence theories may seem distinct in explaining how government funding influences nonprofits, they could work simultaneously within one organization. Nonprofits sometimes feel pressure both to offset government cuts that affect their own funding as well as make up for broader government

cuts that increase the demand for their services. Which pressure is more pronounced would depend on the extent to which nonprofits rely on government funding. Unlike social and human service organizations, park-supporting nonprofits play important roles in providing public services without relying heavily on government funding. Therefore, the pressure to fill in the service gap may be more pronounced in this context than the pressure from reduced funding due to government budget cuts. This study attempts to answer how nonprofits make financial management decisions in response to broader government budget cuts when they provide public services without relying heavily on government funding.

Choice of Financial Management Strategies

Literature on the response of nonprofits to environmental and economic uncertainty identifies several strategies nonprofits could take to cope with government budget cuts (Bielefeld, 1992; Galaskiewicz & Bielefeld, 1998; Mosley, Maronick, & Katz, 2012; Never, 2011). Although these studies were mostly conducted in contexts where nonprofits relied heavily on government funding, their insights can contribute to understanding how nonprofits fill the service gap left by government budget cuts. In terms of financial management strategies, two broad approaches have been identified: new revenue strategies and reallocation strategies.

New revenue strategies refer to actions intended to “generate new sources of revenue from specific potential funders” (Bielefeld, 1992, p.390). These strategies may enlarge the financial pie so that more resources can be devoted to programming and service provision. New revenue strategies may include raising more private donations, borrowing and using accumulated reserves, or diversifying revenue portfolios. Increasing earned income through the sale of goods

and service fees is another type of new revenue strategies (Dees, 1998). However, data used in this study do not separate government contracts from other earned income, which precludes us from empirically testing whether nonprofits increase earned income other than government contracts in response to government budget cuts (decreasing government contracts due to budget cuts and increasing fee revenue from non-governmental sources may cancel each other out in total program service revenues). In addition, increasing sales and fees may lead to limited new resources given that they represent only a very small portion of park-supporting nonprofits' revenue (Wall 2014). Increasing earned income from non-governmental sources is, therefore, not explicitly presented in the framework of nonprofit financial management responses to government budget cuts. Empirically testing this earned revenue strategy requires additional data that separate governmental and non-governmental earned revenues, which could be a line of promising future research.

Reallocation strategies are efforts to make more resources available for service provision, through increased use of volunteers and part-time staff, or reduced staff support and benefits. Reallocation strategies are a type of retrenchment strategies described in previous literature where nonprofits reduce internal costs to buffer the actual or potential loss of funding (Bielefeld 1992, p.390). In the context of nonprofits filling the gap created by government budget cuts, because these nonprofits do not rely significantly on direct government funding, the major objective is not to buffer financial losses but to reallocate resources for additional service provision. Therefore, we focus on reallocation strategies where nonprofits underinvest in administrative and organizational support services, thus leaving more funds for programs and services. Figure 1 depicts this framework of nonprofit financial management responses to government budget cuts. Based on this analytical framework, four testable hypotheses are

articulated below, with the first three related to new revenue strategies while the last related to reallocation strategies.

[Figure 1 here]

Tactic 1: Increasing Fundraising Effort

Raising more private donations is an obvious option for nonprofits when governments cut spending on parks and recreation. Using the 1998 to 2003 National Center for Charitable Statistics (NCCS) digitized data, Chikoto and Neely (2014) found that more fundraising efforts were positively associated with nonprofit financial revenue growth, thus partially justifying the strategy of increasing expenses in fundraising. Young and Steinberg (1995) also suggested that nonprofits should continue spending in fundraising as long as one additional dollar spent generates at least one additional dollar in donations.

Although nonprofits may choose to increase fundraising efforts in response to a decline in government spending, they must first have the resource to do so. Marwell and Calabrese (2014) found that child welfare nonprofits actually reduced fundraising efforts after a decline in government contract funding, and they attributed this finding to the overreliance of these nonprofits on government funding and lack of resources beyond what is available through government contracts. Secondly, there are risks involved in seeking donations. Growing fundraising expenses may send a signal to potential donors that the organization is inefficient in raising revenues to achieve its mission, thus decreasing future contributions or grants (Steinberg, 1983; Greenlee & Brown, 1999; Ashley & Faulk, 2010). Empirical results regarding this proposition are mixed, however. Frumkin and Kim (2001) found that operational and managerial

efficiency is not necessarily rewarded in the contributions marketplace; what matters most to donors is instead how well the nonprofit markets itself and communicates its mission.

Hypothesis 1: Park-supporting nonprofits will increase fundraising efforts in response to government parks and recreation budget cuts.

Tactic 2: Borrowing and Using Reserves

Borrowing or using reserves is another type of new revenue strategy nonprofits could take. Although debt financing is often for smoothing out the cash flow associated with capital projects, nonprofits may support operational expenses through extending a line of credit (Denison, 2009). Yan et al. (2009) found that nonprofits with more diversified revenue structure are more likely to borrow. Reserves or savings provide a cushion for financial downturns and alternative resources nonprofits may draw upon. Reflected in financial figures, both borrowing for operation and using reserves will decrease the net assets of nonprofit organizations.¹

Borrowing and using reserves, nevertheless, seem to be much less popular practices in the nonprofit sector than the government and business sectors. Calabrese (2013) found that many nonprofits maintain no operating reserves at all, possibly because they are evaluated on spending instead of reserves. In terms of debt financing, Yetman (2007) found that relatively few nonprofits borrow to cover service needs, as they are very cautious about the financial and nonfinancial costs associated with using debt. Yetman (2007, p.257 – p.259) articulated those costs to include interest costs of the debt, crowding out of future donations, and the nonfinancial risk of involving other parties in the managerial decision-making process of the organization. Despite the above obstacles nonprofits may face in terms of debt financing, borrowing and using

reserves could, theoretically, bring additional cash to the organization facing a government budget cut.

Hypothesis 2: Park-supporting nonprofits will be more likely to borrow or use reserves in response to government parks and recreation budget cuts. However, such strategies may not be as prevalent as other financial management strategies.

Tactic 3: Diversifying Revenue Sources

In addition to financial management strategies that focus on raising more revenues or resources for service provision, nonprofits may also seek financial sustainability when they sense a more unstable and uncertain external environment. Revenue diversification represents an important strategy for nonprofit managers and social entrepreneurs to build a strong financial base for their organizations and to “devote their attention to the core task of fulfilling the organization’s mission and producing benefits for the public” (Frumkin & Keating, 2011, p. 152). Existing empirical research has consistently identified a negative relationship between revenue diversification and revenue volatility (Carroll & Stater, 2009; Frumkin & Keating, 2011; Mayer et al., 2014; Wicker et al., 2015), which provides support for the effectiveness of revenue diversification in stabilizing revenues and maintain desired service levels.

Researchers, including Markowitz (1952), have asserted that there is a trade-off between expected returns and revenue stability: relying on a single source of revenue may generate a higher expected return at the cost of revenue stability. However, empirical research either did not find a statistically significant relationship between revenue diversification and revenue growth (Frumkin & Keating, 2011), or found that the effect of diversification on revenue size to be

mixed and depend on which revenue stream is replaced in the portfolio (Mayer et al., 2014). In other words, although the revenue diversification strategy may not generate more revenue, it brings stability to a nonprofit's existing funding base.

Hypothesis 3: Park-supporting nonprofits will diversify their revenue portfolio in response to government parks and recreation budget cuts.

Tactic 4: Shifting Costs from Administrative Expenses

Instead of seeking and stabilizing revenue for service provision as seen in new revenue strategies, reallocation strategies aim at shifting expenses from administrative and organizational support services, such as personnel training and employee compensation, to core programs for additional service provision needed due to government budget cuts (Bielefeld, 1992; Marwell & Calabrese, 2014; Mosley, Maronick, & Katz, 2012). Although such cost-shifting is an effective short-term strategy to increase the level of service outputs, scholars have raised concerns over the possible detrimental effects on nonprofit service delivery capacity and growth in the long term (e.g., Chikoto & Neely, 2014; Tuckman & Chang, 1991). Wing and Hager (2004) developed the notion of “nonprofit starvation cycle” to describe the phenomenon that nonprofits continue to reduce overhead in response to the competitive pressure in the donor markets, therefore eroding their administrative capacity and continuous organizational development. Lecy and Searing (2015) empirically validated this concern using 25 years of nonprofit data. Because of the potential risk of applying this strategy, nonprofits may be very cautious and only choose to reduce administrative costs when the unmet service demand is severe and acute, as seen in cases of dramatic government spending cuts.

Hypothesis 4: Park-supporting nonprofits will shift costs from administrative expenses in response to government parks and recreation budget cuts, especially dramatic cuts.

Data and Methodology

Data Source and Sample

This study uses several data sources to construct a unique panel dataset that contains information on nonprofit finance, government finance, and community characteristics. Data on government expenditure and city population come from the Lincoln Institute of Land Policy's Fiscally Standardized Cities (FiSC) database, covering local government finance for the 150 largest U.S. cities during the past three decades (Lincoln Institute of Land Policy, 2016). We exclude Washington D.C. because the U.S. Congress ultimately approves its budget. Because most cities share the responsibility of public service provision with a variety of overlapping independent governments, such as counties and special districts, a key advantage of the FiSC database is that it incorporates the portion of revenues and expenditures of the overlapping governments within the city boundary to calculate citywide public finance data. Therefore, the measure of public expenditure on parks and recreation in each city includes all local governmental entities and provides a full picture of the public spending environment faced by nonprofits in the city. A tradeoff, however, is that we must limit our sample of nonprofits to those located within the 149 large cities.

Data on nonprofit finance and organizational characteristics from 1990 to 2012 come from the National Center for Charitable Statistics. A combined effort of using keywords search and the National Taxonomy of Exempt Entities (NTEE) codes was taken to identify a

comprehensive list of possible park-supporting nonprofits in 77 of the 149 large cities that have such nonprofits². Those organizations were verified through their websites or 990 forms to make sure that they meet the criteria of park-supporting nonprofits: nonprofits that are set up with a main purpose of supporting local public park units or public systems. Sports or recreation clubs are not included in the sample of this study as they are groups with a main purpose of using facilities in parks, not supporting these parks. This process also enables us to code whether a nonprofit serves specific city park units or the whole city park system. We then follow the standard 990 form data cleaning practice applicable to this paper (Bowman et al., 2012; Calabrese, 2013), including dropping organizations with nonpositive total revenue, expense or asset, and when the sum of expense components is bigger than the reported total. Table 1 provides a summary of organization counts from this process; the final analysis includes 225 park-supporting nonprofits in 76 cities.

[Table 1 here]

Data on community characteristics and demographics come from the 1990, 2000, and 2010 Census and are measured at the city level, except for the voting data measured at the county level. Data for missing years are linearly interpolated or extrapolated. The three data sources are merged based on city and year. All monetary variables are inflation-adjusted to 2012 dollars.

Empirical Strategy

Regarding the dependent variables, three new revenue strategies are tested here. First, to measure fundraising efforts, we calculate a fundraising ratio as the proportion of total expenses spent on fundraising activities. Fundraising expenses serve as a better proxy for fundraising

efforts compared with donations received. Nonprofits may try to increase donations through increasing fundraising expenses, but they do not have full control over the amount of donations they can get. Second, to measure borrowing and using reserves for operational purposes, although ideally, we want to focus on changes in unrestricted net assets and exclude net assets that cannot be easily spent on operation, such information is not available from our data sources. Instead, we use the ratio between end-of-year total net asset and total expense (net asset ratio). If the restricted net asset is not systematically associated with the external public spending environment, this dependent variable would generate a consistent estimate of the association between the government budget cuts and nonprofit strategies to draw down savings or borrowing for operational needs. Third, we follow Carroll and Stater (2009)'s categorization of revenue streams and calculate a Hirschman-Herfindahl Index-based revenue diversification measure. Three revenue categories are used to develop the diversification score ranging from 0 to 1 with a higher value indicating a more diversified portfolio: donative income (including contribution and income from special events), earned income (including program revenue, dues, and other earned income), and investment income (including sales of securities, interest, and other investment income). The diversification score equals $(1 - \sum_{i=1}^3 R_i^2) * \frac{3}{2}$ where R_i is the fraction of total revenue generated by each of the three categories. The second class of dependent variable focuses on reallocation strategies and includes the administrative ratio: administrative costs, including salaries, compensations, and taxes, as a proportion of the total expense.

The independent variables of interest capture the citywide public spending environment for parks and recreation, including spending from all layers of local governments. We include two variables to differentiate incremental and dramatic changes in the overall government spending environment. First, government operational spending on parks and recreation is logged

and included in its lagged form to overcome the potential endogeneity caused by a reversed causal relationship.³ We focus only on the government operational expenditure because capital expenditures are likely to fluctuate and concentrate in years when investments happen, and such fluctuations do not necessarily reflect a defunding of parks and recreation services by the governments. Second, we construct a variable to measure big decreases, relative to the “norm,” following Jordan (2003). For each city, we first calculate the average annual percentage change in parks and recreation operational expenditure over the sample period to represent the expected norm of government spending. A budget cut by 25 percentage points or more below this average is considered a punctuation and big decrease (Jordan, 2003).^{4, 5} The first independent variable estimates how nonprofits react to a continuous change in the public spending environment, while the second independent variable, also lagged, tells us how a big, discrete decrease in public spending shifts nonprofit financial management strategies.

Finally, we control for two groups of covariates. The first type is organizational factors commonly included in the literature that may systematically influence nonprofits’ financial management strategies. Log of total assets controls for organization sizes as big organizations may have different resources and management practices (Guo & Zhang, 2014; Child & Grønbjerg, 2007). Age controls for the impact of organizational experience and history (Gazley, 2010). The second group of covariates captures the external community environment. The log of median household income, the log of median housing value, and the homeownership rate provide proxies for local wealth and demand for parks and recreation services. Demographic variables, include the log of city population, the percentage of white residents, the percentage of residents with a college education or above, the percentage of family households, and the percentage of residents voted for the Democratic candidate in the most recent presidential election. These are

factors explaining not only the demand for nonprofit services, but also the level of resources nonprofits can draw from the local community, or the supply of community philanthropy (Paarlberg & Yoshioka, 2016). The level of community-based philanthropy will determine the funding strategies of local park-supporting nonprofits, such as their fundraising efforts. All control variables other than organization age have a one-year lag as the management response of nonprofits to the external environment may take time and organizational decisions are often based on historical data.

We employ a standard two-way fixed effects model to estimate the association between nonprofit financial management strategies and the external public spending environment. Controlling for time-invariant organizational characteristics is important because factors related to organizational type, location, and history could all affect the dependent variables of interest and bias our estimates if omitted from the regression. Controlling for a secular trend through including year fixed effects is equally important, as common nonprofit management practices in the 1990s may be very different from now. Hausman’s specification test results also indicate that fixed effects are more appropriate here than random effects models. Finally, we cluster standard errors at the nonprofit level to adjust for heteroscedasticity and autocorrelation within the organization over the years.

For nonprofit i located in city c in year t , the fixed effects regression can be expressed as follows:

$$Y_{i,c,t} = \alpha_0 + \beta_1 GovExp_{c,t-1} + \beta_2 GovExpCut_{c,t-1} + \alpha_1 X_{i,c,t-1} + \alpha_2 Z_{c,t-1} + \mu_i + \tau_t + e_{it}$$

where Y represents respectively the four dependent variables: fundraising ratio, net asset ratio, revenue diversification score, and administrative ratio. $GovExp$ is the continuous measure of public spending on parks and recreation, while $GovExpCut$ measures the downward punctuation

or big decreases in government expenditures. \mathbf{X} represents organizational factors including asset and age, and \mathbf{Z} is the vector of community characteristics. The nonprofit and year fixed effects are represented by μ_i and τ_t .

Table 2 provides summary statistics for all dependent and independent variables. The sample covers 225 nonprofits from 1990 to 2012. Because not all nonprofits existed or filed the 990 form every year, there are 1,716 nonprofit-year observations. On average, parks and recreation nonprofits spend three percent of total expenses on fundraising-related activities and 16 percent on administrative activities.⁶ Their net assets are 15 times of total expenses, and the mean revenue diversification score is 0.34. Local governments in these cities spent a significant amount on parks and recreation services, averaging 103 million dollars a year (thus a log value of 18.45). But for about six percent of the years, an average nonprofit sees the government spending being significantly cut.

[Table 2 here]

Regression Results

Fixed effects regression results are reported in Table 3 for the four dependent variables. Overall, we find empirical evidence that park-supporting nonprofits make new revenue strategies including increasing fundraising ratio and revenue diversification when government spending on parks and recreation in the city declines incrementally; they pursue reallocation strategy by reducing the administrative ratio when observing a big cut in the government spending environment.

[Table 3 here]

When government spending on parks and recreation increases and local service demands are likely met by such an increase, the statistically significant coefficient estimate of government spending suggests that nonprofits reduce their fundraising effort, thus providing support to Hypothesis 1. A one percent increase in government spending is associated with a 1.71 percentage point decrease in fundraising ratio. Given that the mean of fundraising ratio in our sample is 3 percent, a 1.71 percentage point change represents roughly a 57 percent change rate, indicating that these nonprofits make economically significant adjustments in their fundraising investment in response to incremental changes in government budget. An improved external spending environment also seems to be statistically significantly associated with nonprofits reducing revenue diversification, which provides evidence for Hypothesis 3. A one percent increase in government spending is associated with a 0.09 unit decrease in the diversification score. Given a mean diversification score of 0.34, the 0.09-unit decrease represents a 26 percent change rate. The negative coefficient estimate of government spending for the dependent variable net asset ratio is not statistically significant, indicating that we cannot conclude if nonprofits increase savings or borrow less when government spending environment improves and thus Hypothesis 2 is not supported. This is not surprising since it is consistent with the findings from existing literature that nonprofits often do not use debt financing or maintain operating reserves (Calabrese, 2013; Yetman, 2007).

The reallocation-related dependent variable, administrative ratio, is not statistically significantly associated with the continuous measure of government spending. However, when government spending experiences significant cuts, the ratio decreases by 0.02. Given a mean administrative ratio of 0.16, the 0.02 coefficient estimate translates to a 12 percent change rate. That is, when local governments in the city area dramatically cut their parks and recreation

budgets, park-supporting nonprofits reduce the proportion of expenses dedicated to administrative purposes by 12 percent. This finding provides support for Hypothesis 4. Strategies to reduce administrative costs and spare resources for program expenses, such as cutting compensation and salary or reducing the workforce, are difficult decisions to make and may compromise the long-term sustainability and performance of the organization. Therefore, it is unsurprising that we find a statistically significant association between the administrative ratio and big government spending cuts, but not with the continuous measure of the public spending environment. Contrasting this finding with the previous three dependent variables, we argue that nonprofits prioritize different coping strategies depending on the intensity of changes in the external public spending environment. They are likely to first consider new revenue strategies such as increasing fundraising effort and diversifying revenue portfolio for smaller decreases in government spending. When the public spending significantly declines and acute service needs emerge, they implement reallocation strategies, which are more painful management decisions but could lead to immediate improvements in program service capacity.

Control variables with statistically significant coefficient estimates are briefly discussed here. Organizations with growing assets have more diversified revenue streams: bigger organizations may be better at pursuing diversification strategies such as improving investment management and reducing reliance on donation. Older organizations spend more on administrative costs; they are likely to be more established and more able to maintain a strong administrative capacity. Interestingly, older organizations are less diversified, possibly because they have settled into a stable revenue portfolio. Community characteristics are largely not associated with the four management strategies in a statistically significant way. The exception is that nonprofits located in cities with a higher percentage of family households spend a smaller

proportion of total expenses on fundraising, which suggest that organizations in communities with higher demand for parks and recreation services and plausibly a stronger donor base need not allocate as much resource to tap the donor base.

Finally, we conduct subsample analysis using the same fixed effects regression to explore the potential heterogeneous responses of different types of park-supporting nonprofits. Among the 225 organizations included in the overall analysis, 71 organizations are system-support nonprofits while the rest 154 organizations focus only on selective park units. Park-unit supporting nonprofits on average have larger revenues than park system-supporting nonprofits, but also a larger standard deviation. Table 4 presents results from the subsample analysis. Main findings from the overall sample that nonprofits respond to governmental spending decreases by increasing fundraising ratio, improving revenue diversification, and reducing administrative ratio, can be largely attributed to the statistically significant reactions of park unit-support nonprofits. This finding confirms our previous propositions that park unit-supporting nonprofits may respond more actively to government budget cuts than park system-supporting nonprofits, because the former are more active in direct service provision while the latter serve as intermediaries (Madden et al., 2000), and the benefits provided by individual parks are more concentrated compared with the park system (Foster, 2011). Admittedly, the lack of statistically significant estimates from system-supporting nonprofits could be due to the smaller number of observations and thus reduced statistical power of this subgroup, but the results are suggestive that park unit-supporting nonprofits are more responsive to government budget cuts. The results may also be driven by the fact that park unit-supporting nonprofits and park system-supporting nonprofits (city park foundations) rely on different levels of local governments funding. Because of the data constraints we have in this study, specific mechanisms are hard to evaluate in this

study. Future research with more data on the functional activities and direct government funding differences between the two groups can shed light on the differing mechanisms at play here.

[Table 4 here]

Discussion and Implications

This study seeks to bridge the sector-based and organization-based understanding of government-nonprofit relationships and to understand how nonprofits respond to government budget cuts when they provide public services without relying heavily on government funding. Utilizing a unique panel dataset of park-supporting nonprofit organizations in large U.S. cities, this study empirically tests how these nonprofits adjust financial management strategies in response to incremental and dramatic changes in the overall government spending on parks and recreation in a city. Our findings suggest that nonprofits may have prioritized among different coping strategies given the severity of government budget cuts. They pursue new revenue strategies such as increasing fundraising efforts and diversifying revenue portfolios in response to incremental declines in public spending on parks; borrowing and using reserves seem not to be strategies adopted possibly due to the costs and risk involved. Facing a dramatic government budget cut, they are more likely to reduce administrative expenses and spend more on programs to fill in the gap of service needs. Finally, nonprofits that support individual park units are more responsive to the overall government spending environment compared with park foundations that are set up to support the entire park system in a city.

This study focuses on park-supporting nonprofits and the subsector of parks and recreation because these nonprofits do not rely heavily on government funding for service

provision and are most likely to step up for service needs left unmet by government retrenchments. Our findings suggest that these nonprofits are more than an agent of the government and adopt coping strategies to increase service provision when local governments cut back due to fiscal stress. In-depth qualitative case studies may shed light on how nonprofit managers evaluate the challenges of incremental versus dramatic government budget cuts differently, and strategies they pursue other than the financial management-related ones explored in this paper, such as lobbying and coalition building. In addition, due to data availability constraints, this study focuses only on park-supporting nonprofits in large U.S. cities, and the findings may not extend to informal park-supporting volunteer groups and nonprofits in smaller cities. Finally, although we have anecdotal evidence that park-supporting nonprofits do not rely heavily on government funding, due to the constraint of nonprofit tax return data, we cannot separate government funding from other revenue sources. Findings should, therefore, be interpreted with caution. As this subsector continues to evolve, contracting may become more popular in parks and recreation services. Additional data sources, such as government contracts with nonprofits, may be needed to better disentangle government-nonprofit funding interactions (Marwell & Gullickson, 2013).

From a public policy perspective, the types of coping strategies pursued by park-supporting nonprofits have organizational development implications and raise the question whether nonprofits are a sustainable complement or supplement to the government provision in the long run. Our findings suggest that nonprofits pursue new revenue strategies when the cuts in the public spending environment are incremental and these strategies may gradually deliver additional resources for service provision. Facing dramatic cuts in government parks and recreation budgets, park-supporting nonprofits reduce administrative expenses, which may

immediately bring additional resources for program needs to fill in the gap left by big government retrenchments. However, such reallocation strategies improve service provision at the expense of long-term organizational sustainability and performance, as the administrative capacity is essential for organizational development. Therefore, local governments that cherish the long-run sustainability and quality of parks and recreation services provided by the voluntary sector in their jurisdiction should try to avoid dramatic budget cuts in this function, despite the political difficulties associated with such decisions. As we celebrate the important role of nonprofit organizations in service provision, scholars and policymakers are tasked to understand the struggles faced by nonprofits and develop better policies to help them fulfill that role, especially when governmental providers suffer from fiscal stress and budget cuts.

Endnotes

1. Net assets equal assets minus liabilities. Borrowing for operational purposes increases liabilities without bringing in offsetting assets, and thus reduces net assets. Reserves are essentially the unrestricted portion of net assets that can be used for any purpose deemed appropriate by the management, and thus using reserves is associated with reductions in net assets as well.
2. The keywords we used to search the NCCS dataset under NTEE code C for Environment and NTEE code D for Recreation & Sports include park, friend, foundation, conservancy, alliance, fund, and trust. We also searched the full NCCS dataset (all NTEE categories) using phrases including park friend, park foundation, park conservancy, park alliance, park fund, and park trust.
3. We also estimate models where incremental changes in government operational spending is measured on a per capita basis. The findings remain robust to this alternative measure.
4. Alternatively, we define a big budget cut to be a decrease in government parks and recreation spending that is one standard deviation or more from the average annual parks and recreation expenditure in a city. The findings remain robust to this alternative measure.
5. We also identify big budget increases as operationalized in Jordan (2003) and include this variable along with the big budget cut variable in the regressions. The findings remain robust to this alternative specification.
6. Because of the pressure nonprofits face to keep their fundraising expenses low, they may understate their real fundraising expenses or even report zero fundraising costs in the 990

forms (Hager, 2003). Therefore, the descriptive statistics regarding fundraising costs need to be interpreted with caution. However, the fixed effects model will control for such reporting bias, as the tendency for a nonprofit to understate its fundraising expenses may not significantly vary across different years.

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Table 1. Number of Nonprofits Included in the Analysis

Starting sample (77 cities):	<i>232 nonprofit organizations, 2083 observations</i>
Drop due to negative revenue, expense, and asset:	<i>6 organizations, 258 observations</i>
Drop due to sum of expense components bigger than total expense	<i>94 observations</i>
Drop due to no organization age information:	<i>1 organization, 15 observations</i>

Final sample (76 cities):	<i>225 organizations, 1716 observations</i>
Max. number of nonprofits in a city:	<i>19</i>
Min. number of nonprofits in a city:	<i>1</i>

Table 2. Summary Statistics

	Mean	Std. Dev.	Min	Max
Fundraising ratio	0.03	0.08	0	0.77
Net asset ratio	15.11	150.03	-1.22	3393.29
Diversification score	0.34	0.30	0	1
Administrative ratio	0.16	0.20	0	0.97
Govn't spending on park & rec (log \$)	18.45	1.28	11.71	21.04
Govn't park & rec big budget cut (Y/N)	0.06	0.23	0	1
Nonprofit asset (log \$)	13.13	1.95	6.72	19.21
Nonprofit age (year)	13.99	9.43	0	59
City median income (log \$)	10.75	0.18	10.16	11.46
City median housing value (log \$)	12.08	0.54	10.90	13.63
City homeownership rate (%)	47.11	9.63	21.94	70.09
City % white	55.79	16.44	10.74	95.89
City % college education+	29.18	7.69	10.97	55.09
City % family households	56.84	5.96	41.66	77.48
County % voted Democrat	60.25	15.61	23.05	88.40
City population (log)	13.45	1.20	10.33	15.92
N	1716			

Notes: Big budget cuts refer to an annual decrease in government parks and recreation spending that is lower than the average annual change experienced by a city by 25 percentage points or more.

Table 3. Two-Way Fixed Effects Regression Results

	Fundraising Ratio (1)	Net Asset Ratio (2)	Diversification Score (3)	Administrative Ratio (4)
Govn't spending on park & rec (log \$)	-0.0171** (0.0079)	-2.425 (3.857)	-0.0919** (0.0393)	0.0016 (0.0154)
Govn't park & rec big budget cut (Y/N)	-0.0041 (0.0058)	1.911 (3.737)	-0.0124 (0.0268)	-0.0219** (0.0108)
Nonprofit asset (log \$)	-0.0077 (0.0058)	2.592 (2.916)	0.0276*** (0.0102)	0.0040 (0.007)
Nonprofit age (year)	-0.0009 (0.0005)	-0.281 (0.447)	-0.0210*** (0.0016)	0.0095*** (0.0013)
County median income (log \$)	0.0897 (0.101)	26.15 (72.84)	0.196 (0.526)	0.324 (0.275)
County median housing value (log \$)	0.0374 (0.0323)	-67.25 (77.09)	-0.170 (0.167)	-0.127 (0.109)
County homeownership rate (%)	0.0003 (0.0029)	-2.901 (4.226)	-0.00975 (0.0153)	-0.0027 (0.0065)
County % white	-0.0016 (0.0015)	0.746 (1.055)	0.0093 (0.0061)	-0.0006 (0.0023)
County % college education+	0.0004 (0.0022)	1.061 (1.362)	0.0180 (0.0128)	0.0035 (0.0057)
City % family households	-0.0045** (0.0025)	-2.918 (3.268)	-0.0088 (0.0171)	0.0009 (0.0066)
County % voted Democrat	-0.0007 (0.0014)	0.547 (1.073)	-0.0028 (0.0042)	0.0004 (0.0023)
City population (log)	0.0317 (0.0284)	25.57 (19.98)	0.182 (0.187)	-0.0625 (0.0621)
Organization Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
N of Observation	1,716	225	225	225
N of Organization	225	225	225	225
Within R-Squared	0.151	0.015	0.088	0.070

Notes: Big budget cuts refer to an annual decrease in government parks and recreation spending that is lower than the average annual change experienced by a city by 25 percentage points or more. Organizational cluster-robust standard errors are reported in the parentheses. ** p<0.05, *** p<0.01.

Table 4. Fixed Effects Regression Results, by Type of Nonprofits

	Fundraising Ratio		Net Asset Ratio		Diversification		Administrative Ratio	
	Park Unit-Support Nonprofits	Park System-Support Nonprofits						
Govn't spending on park & rec (log \$)	-0.0376*** (0.0123)	0.0128 (0.0097)	-9.467 (11.12)	0.803 (4.344)	-0.0884** (0.0388)	-0.0812 (0.0996)	0.0231 (0.0195)	-0.0231 (0.0257)
Govn't park & rec big budget cut (Y/N)	-0.0019 (0.0094)	-0.0065 (0.0062)	-0.107 (2.771)	1.101 (6.730)	-0.0386 (0.0359)	0.0290 (0.0446)	-0.0292* (0.0152)	-0.0115 (0.0145)
Organization Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N of Observation	1,055	661	1,055	661	1,055	661	1,055	661
N of Organization	154	71	154	71	154	71	154	71
Within R-Squared	0.204	0.137	0.023	0.040	0.081	0.148	0.153	0.079

Notes: Big budget cuts refer to an annual decrease in government parks and recreation spending that is lower than the average annual change experienced by a city by 25 percentage points or more. Organizational cluster-robust standard errors are reported in the parentheses. Coefficient estimates of the covariates are not reported due to space constraints but are available upon request from the authors. * p<0.1, ** p<0.05, *** p<0.01.

Figure 1. Analytical Framework of Nonprofit Response to Government Budget Cuts

