Anatomy of the Nonprofit Starvation Cycle: An Analysis of Falling Overhead Ratios in the Nonprofit Sector

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Abstract
The nonprofit starvation cycle is a debilitating trend of under-investment in organizational infrastructure that is fed by potentially misleading financial reporting and donor expectations of increasingly low overhead expenses. Since its original reporting in 2004, the phenomenon has been referenced several times, but seldom explored empirically. This study uses 25 years of nonprofit data to examine the existence, duration, and mechanics behind the nonprofit starvation cycle. Our results show a definite downward trend in reported overhead costs, reflecting a deep cut in administrative expenses partially offset by an increase in fundraising expenses. The organization’s size is instrumental to its behavior, with a sharp rise in reported overhead occurring when revenues equal $100,000, but diminishing at $550,000. Finally, the brunt of the cuts have fallen on nonexecutive staff wages and professional fees, which heightens the concern of potentially ill effects derived from a fixation on overhead cost reduction.

Keywords
starvation cycle, overhead costs, accountability, expense ratios

Introduction
As fiscal stewards of public funds and private donations, nonprofits have a responsibility to direct expenses toward mission-related activities in an efficient and effective manner. Unfortunately, high profile nonprofit scandals have rocked the confidence of

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donors, such as the fraud committed by William Aramony from United Way America that amounted to hundreds of thousands of dollars (Shepard & Miller, 1994; Simross, 1992) and the New Era Ponzi scheme which collapsed after raising $500 million from donors (Gibelman, Gelman, & Pollack, 1997; Moore, Rocque, & Williams, 1995). The need for better transparency led to the creation of The National Center for Charitable Statistics in 1982, Guidestar in 1996, and Charity Navigator in 2002. Through the work of these prominent watchdog organizations and efforts of many others, nonprofit financial data have become easily accessible to the general public. As a result, financial transparency has been a powerful tool for the governance of the nonprofit sector by making Internal Revenue Service (IRS) 990 tax data readily available.

This data transparency has made it easy to use financial information to calculate financial ratios that are often used to succinctly summarize nonprofit activities. The overhead ratio, a measure of overhead expenditures as a percentage of total expenses, has been one of the most prominent metrics. The popularity of the ratio has proved useful for guarding against some flagrant abuses of public trust by unscrupulous nonprofits. For example, the Cancer Fund of America was recently found to be spending more than two thirds of its budget on fundraising and 13 times more on high staff salaries for family members of the founder than on programs (Cohen, 2013). But the reliance on overhead ratios also creates the condition for an excessive pursuit of administrative efficiency that may cause a steady and self-perpetuating practice of cost-cutting, which in turn may harm the nonprofit. This process has been described in the literature as the “nonprofit starvation cycle” (Gregory & Howard, 2009).

The starvation cycle was first noted by the Nonprofit Overhead Cost Study (Wing & Hager, 2004) and popularized by Gregory and Howard (2009); since then it has been referenced with regularity (Gregory & Howard, 2009; Huggett, 2012; Silloway, 2010; Tiller, 2012). The starvation cycle occurs when an organization reduces overhead expenditures (in reality or through creative accounting) to gain a competitive edge in donor markets. Over time, donor expectations become more unrealistic and nonprofits spend even less on overhead, resulting in the erosion of administrative infrastructure and starving productive capacity (Bruno-van Vijfeijken & Schmitz, 2011; Haycock & Scanlon, 1992; Pollak & Lampkin, 2001). Despite the attention, most evidence of the existence and severity of the cycle has been primarily anecdotal (such as Pallotta, 2008) and there is no empirical work dedicated to establishing the existence and mechanics of the phenomenon. This research addresses that deficiency in the literature through a careful empirical examination of trends in overhead expenditures over the past 25 years.

In the following sections, we first present evidence for a general downward trend in reported overhead expenditures over the last 25 years, a result that supports the starvation cycle hypothesis. Second, we examine the role of nonprofit size in determining levels of overhead expenditures. Small nonprofits with revenues of less than $100,000 often have volunteer staff and very low reported overhead; however, as they professionalize, reported overhead ratios increase for organizations between sizes of $100,000 and $550,000, then decline gradually for organizations with revenues over $550,000. Finally, we explore how nonprofits cut costs by examining nonprofit line
item expense categories over time. We discover that nonprofits are spending more on executive salaries and fundraising while spending less on staff wages. Policy implications of these findings are discussed.

The Rise in Use of Overhead Cost Ratios

Overhead costs refer to expenses incurred from operations not directly related to programs; generally, this is considered administrative costs such as legal fees, accounting fees, and executive salaries in addition to fundraising costs (Bowman, 2006). Occasionally, overhead costs include special events (Bedsworth, Gregory, & Howard, 2008) or depreciation (Krishnan & Yetman, 2011). These expenses are often represented as an overhead ratio, with the numerator being the total overhead costs and the denominator either total expenses (Bowman, 2006) or total revenue (Bedsworth et al., 2008). Complementary research uses the program expense ratio, which is simply one minus the overhead ratio (Jacobs & Marudas, 2009; Tinkelman & Donabedian, 2007).

These financial ratios have been used as a substitute for true measures of the output efficiency of a nonprofit and can be used to ensure that resources go primarily to programs, presumably to maximize impact. In theory, donors can compare overhead spending across organizations to identify those making the most efficient use of resources. The reliance on financial measures to track managerial effectiveness and the adoption of other management practices from for-profit companies has been part of a number of changes that have occurred as a result of the professionalization of the sector (Anthony, 1991; Frumkin, 2005; Frumkin & Kim, 2001; Salamon, 2012), or what Hwang and Powell (2009) have called the “rationalization” of management practices in nonprofits. The trend has brought pressures to adopt more formal accounting tools and modern financial management techniques. Nonprofits have developed highly professional staffs with internal management techniques and performance metrics, often to please funders (Smith & Lipsky, 1995). As an example of the pervasiveness of this shift, the Financial Times reports that many nonprofit staff members are returning to school to earn a MBA to satisfy the industry’s new quantitative management practices (Murray, 2008).

By the late 1990s, the availability of financial information, the increased professionalization of the nonprofit sector, and the increasing demand for nonprofits to justify financial expenditures led to a reliance on overhead ratios as a proxy for effectiveness. The practice provides a check on potentially harmful or wasteful decisions on behalf of the nonprofit management by overspending on fundraising or administrative expenses (including in some cases executive salaries). However, some scholars and practitioners argue that, in reality, the incentives to report low overhead costs may cause a myriad of unhealthy behaviors that are detrimental to the health and productive capacity of the nonprofit in the long run (Gregory & Howard, 2009), and others have noted that reported numbers do not always accurately reflect true spending (Froelich & Knoepfle, 1996; Froelich, Knoepfle, & Pollak, 2000). Despite these concerns, the appearance of charity watchdogs has increased the reliance on financial indicators for grant and donation decisions (Bruno-van Vijfeijken & Schmitz, 2011).
Although the ratio has not been shown to predict success of an organization, the wide use of the metric gives it credence with potential donors (Tinkelman & Donabedian, 2007).

**A Theory of Falling Overhead: The Nonprofit Starvation Cycle**

Motivated by a concern with donor preoccupation on low overhead expenses, the National Center for Charitable Statistics and the Center for Philanthropy at Indiana University conducted a comprehensive analysis of overhead costs in 2004 (Hager & Flack, 2004; Pollak, 2004; Wing & Hager, 2004; Wing, Hager, Rooney, & Pollak, 2004). Several surveys, case studies, and analyses of tax form data were completed and distilled into a series of reports describing poor reporting accuracy, low levels of fundraising efficiency, and unsustainably low overhead support by donors. This work has led to the theory of the nonprofit starvation cycle (Gregory & Howard, 2009; Wing & Hager, 2004), the self-reinforcing feedback loop of competitive pressures, misleading reporting, and donor expectations that place a steady downward pressure on overhead. Figure 1 demonstrates the overall downward trend in overhead ratios.

There is strong evidence that nonprofit markets are becoming more competitive. Nonprofit resources are becoming harder to secure (Kerlin & Pollak, 2011; Kharas, 2007), and despite favorable tax policy (Liu & Weinberg, 2004) and strategies of differentiation (Barman, 2002; Oster, 2010), nonprofits have been losing market share in
many mixed markets over the past decade (Salamon, 2012). Increasingly, nonprofits must also demonstrate effectiveness to secure resources (Waters, 2011). These shifts have intensified competitive pressures, which in some circumstances have caused nonprofits to cut expenses such as personnel development and other forms of overhead to appear efficient to potential donors (Curran & Bonilla, 2010). As Bill Drayton, the founder of Ashoka, noted, “once you go from non-competitive to competitive, organizations have to join in the party or they’ll be eaten alive” (Murray, 2008).

As competitive pressure increases, so does misreporting on overhead. Several studies have noted that misreporting fundraising and administrative expenses is rampant (Froelich & Knoepfle, 1996; Froelich et al., 2000; Hager, 2003; Wing, Gordon, Hager, Pollak, & Rooney, 2006). Trussel (2003) reports that firms facing lower surplus or delayed revenue (indicators of a tight market) had a higher likelihood to misreport their expense ratios. Krishnan and Yetman (2011) found that as the normative pressures from donors intensified, so did the shifting of costs from overhead to program; this trend was reversed when regulatory oversight increased. Calabrese (2011) similarly found that the threat of detection by attorney generals or potential donors has a strong impact on whether nonprofits used the proper accounting format. Adding to the problem of inaccurate overhead reporting, a high number of organizations claim that no funds are spent on fundraising (Krishnan, Yetman, & Yetman, 2006; Urban Institute & Indiana University Center on Philanthropy, 2004). Some organizations claim that 100% of donations are dedicated to programs by using an accounting practice where money from board members or private funders covers overhead so that donations are all used on programs (Charity: Water, 2006; Ploughshares Fund, 2012), a misleading tactic because they do in fact spend on overhead at similar levels as other nonprofits.

Whether the reduction of overhead expenses is actual or fabricated, this sets an expectation for donors that such numbers are achievable and sustainable by other nonprofits. Like a price war, if one nonprofit in a market segment signals that they are able to achieve a low overhead ratio, there is a race to the bottom to match those numbers to appear competitive (see Figure 2). Gregory and Howard (2009) liken cost-cutting behaviors to a prisoner’s dilemma game in which everyone has an incentive to act in a way that results in socially sub-optimal outcomes. Each cycle causes additional pressures in the industry to decrease overhead, which causes more overhead reduction or misreporting, which further reinforces the funder bias toward low overhead costs. In a world where overhead affects nonprofit competitiveness in donor and grant markets, each nonprofit will have a choice to make: reduce your infrastructure, fudge the numbers, or take your chances that the donor would not care about your overhead costs because you have differentiated your organization’s services enough to command a premium.

The nonprofit starvation cycle leads to one important testable hypothesis. If the process is truly pervasive (Gregory & Howard, 2009; Wing & Hager, 2004), then we expect to see an overall decline in nonprofit overhead expenditures over time; this study seeks to establish the existence and size of this trend. Despite the fact that the cycle has been referenced regularly in the literature (Gregory & Howard, 2009; Huggett, 2012; Silloway, 2010; Tiller, 2012), the trend has yet to receive serious
empirical consideration. We track changes in overhead ratios over time to show that the downward trend does exist and is fairly consistent over nonprofit subsectors. We also examine nonprofit size as an important mediating factor for overhead expenses.

**Method**

**Data**

The data used for this study come from the Statistics of Income (SOI) sample and the “Digitized Database” assembled by the National Center for Charitable Statistics (NCCS). Both data sets are drawn from the required annual filings of 990 forms by organizations in the United States that have filed for tax-exempt status with the IRS. These filings are not a perfect method to sample the nonprofit industry: most religious organizations and any with less than $25,000 in annual revenue are not required to file. Furthermore, the information on the tax forms often shows significant discrepancies between the information provided on the 990 and accurate numbers, such as findings from audits (Abramson, 1995; Froelich et al., 2000; Gordon, Khumawala, Kraut, & Meade, 2007; Keating & Frumkin, 2003); one of the main observations of this study is that the numbers reported for overhead expenses may not be, and need not be, accurate to cause damage. However, the 990 has been generally accepted as the best information source available, subject to caveats (Froelich et al., 2000; Krishnan et al., 2006).

The bulk of the analysis uses the IRS SOI sample data set, which contains detailed records from 990 tax filings over a period beginning in 1983, for a sample of nonprofit organizations. For the purposes of this study, we limit the analysis to filers only of the

Figure 2. The nonprofit starvation cycle: The three self-reinforcing pressures on downward overhead expenditures.
full form, who both reported non-negative revenues on their tax return and had non-zero expense filings. The sample includes data from 1985 through 2007 (see Table 1 for the sample size reported by year).\(^3\)

Despite the richness in detail and breadth, the SOI is limited in its ability to generalize to the sector due to the oversampling of larger organizations. The weighting strata for the SOI have been altered twice, with the uppermost strata being wholly included in the sample and the lower being randomly sampled according to a schema that changes annually (Arnsberger, 2007). Therefore, in addition to including organization size as a covariate, we use the NCCS-GuideStar National Nonprofit Research Database (commonly called the “Digitized Data”). It is a comprehensive 6-year panel of public tax-exempt charities that filed the 990 and 990EZ tax forms. The database is comprehensive, but the panel is short: 1998 through 2003. Nonprofits with revenues below $25,000 were also not required to file so this segment of the population is mostly missing from the data set.

### Dependent Variable

Our dependent variable is the overhead ratio in an organization as determined by the reported functional expenses listed in their annual 990 filing (see Figure 3). We consider overhead to contain both management and fundraising expenses, which is consistent with the literature (Frumkin & Keating, 2001; Frumkin & Kim, 2001; Gregory & Howard, 2009). These are compared with the total functional expenses reported. We concur with Bowman (2006) that the overhead ratio should contain expenses in the

| Table 1. The Sample Size Available for Each Year in the SOI Data Sets. |
|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|---------------------------------|------|------|------|------|------|------|------|------|
| Total SOI sample                | 6,168| 6,795| 10,634| 12,746| 10,910| 11,351| 10,408| 11,006|
| Report positive revenues and expenses | 6,124| 6,716| 10,531| 12,641| 10,842| 11,285| 10,355| 10,951|
| Report Overhead = 0             | 782  | 980  | 1,378 | 1,584 | 1,243 | 1,167 | 965  | 894  |
| Report Overhead = 1             | 215  | 329  | 522  | 590  | 397  | 360  | 291  | 291  |
|                                |      |      |      |      |      |      |      |      |
| Total SOI sample                | 11,458| 10,788| 11,553| 12,474| 13,058| 13,953| 14,386| 15,669|
| Report positive revenues and expenses | 11,412| 10,741| 11,504| 12,408| 12,981| 13,884| 14,326| 15,594|
| Report Overhead = 0             | 895  | 789  | 789  | 797  | 899  | 934  | 960  | 995  |
| Report Overhead = 1             | 263  | 233  | 240  | 268  | 279  | 295  | 289  | 315  |
|                                |      |      |      |      |      |      |      |      |
| Total SOI sample                | 16,303| 16,923| 13,633| 14,213| 14,968| 15,941| 15,397| 15,334|
| Report positive revenues and expenses | 16,236| 16,854| 13,579| 14,156| 14,903| 15,887| 15,334| 15,334|
| Report Overhead = 0             | 1,046| 1,023| 877  | 855  | 887  | 938  | 809  |      |
| Report Overhead = 1             | 311  | 309  | 242  | 253  | 249  | 280  | 229  |      |

Note. SOI = Statistics of Income.
Figure 3. A histogram of overhead ratios calculated from the 2007 Statistics of Income (SOI) data.

Note. Most organizations report overhead expenditures under 30% with a median rate of 14.8% and a mean rate of 19.8%. There are 7.7% of the organizations in the sample that report no overhead spending and 2.4% that spend all their budget on overhead. Organizational size has a strong relationship with total overhead expenditures and explains why some nonprofits spend 5% on overhead, whereas others spend 25% (see the section Overhead as a Function of Organizational Size for details).

denominator to limit volatility. In addition, as we consider size based on revenues as an independent variable, using expenses in the denominator provides a cleaner comparison and better insight than using revenues. As overhead expenses are always a proportion of total expenses the overhead ratio is bounded between 0 and 1, inclusive. The list of specific line items used to construct the variables is available in Appendix A.

Independent and Control Variables

Our analysis focuses on the roles of three variables: organizational size, sector, and the year of study. The size of the nonprofit is measured by the total revenues reported for each year. The sector is based on the National Taxonomy of Exempt Entities classification system containing 10 subsectors of the nonprofit universe (NTEE10); the base category for the regression is Arts/Culture/Humanities. The year is a series of dummies, which allow us to control for macroeconomic and sector-wide conditions, with a base year of 1985. The year is provided by the designated filing year of the 990 tax return and will contain some degree of error due to the different fiscal years ascribed to the filing year. Controls which indicate whether the overhead ratio is either 1 or 0 are also included due to clustering at those values.

Results and Discussion

The regression model results using the SOI data confirms the sector trend presented graphically in Figure 1. Specifically, the coefficient associated with the dummy variable
for the year 2007 represents the change from the base year, 1985, and is statistically significant even after controlling for nonprofit size and differences across nonprofit subsectors (see Table 2). There are also significant differences across subsectors (Arts is the

### Table 2. Regression Results With Overhead Ratio as the Dependent Variable.

|                | Estimate | SE     | Pr(>|t|) |
|----------------|----------|--------|----------|
| Intercept      | 0.5303   | 0.0040 | .0000*** |
| Total revenues (log) | -0.0151   | 0.0002 | .0000*** |
| Year = 1986    | -0.0001  | 0.0035 | .9829    |
| Year = 1987    | 0.0071   | 0.0032 | .0270*   |
| Year = 1988    | 0.0039   | 0.0031 | .2090    |
| Year = 1989    | -0.0041  | 0.0032 | .1978    |
| Year = 1990    | -0.0091  | 0.0032 | .0040**  |
| Year = 1991    | -0.0127  | 0.0032 | .0001*** |
| Year = 1992    | -0.0122  | 0.0032 | .0001*** |
| Year = 1993    | -0.0188  | 0.0031 | .0000*** |
| Year = 1994    | -0.0175  | 0.0032 | .0000*** |
| Year = 1995    | -0.0158  | 0.0031 | .0000*** |
| Year = 1996    | -0.0142  | 0.0031 | .0000*** |
| Year = 1997    | -0.0206  | 0.0031 | .0000*** |
| Year = 1998    | -0.0230  | 0.0030 | .0000*** |
| Year = 1999    | -0.0232  | 0.0030 | .0000*** |
| Year = 2000    | -0.0235  | 0.0030 | .0000*** |
| Year = 2001    | -0.0261  | 0.0030 | .0000*** |
| Year = 2002    | -0.0288  | 0.0030 | .0000*** |
| Year = 2003    | -0.0297  | 0.0031 | .0000*** |
| Year = 2004    | -0.0285  | 0.0030 | .0000*** |
| Year = 2005    | -0.0282  | 0.0030 | .0000*** |
| Year = 2006    | -0.0264  | 0.0030 | .0000*** |
| Year = 2007    | -0.0253  | 0.0030 | .0000*** |
| Education      | -0.0729  | 0.0017 | .0000*** |
| Environmental  | -0.0486  | 0.0028 | .0000*** |
| Health         | -0.0722  | 0.0016 | .0000*** |
| Human services | -0.1125  | 0.0016 | .0000*** |
| International  | -0.0834  | 0.0036 | .0000*** |
| Mutual benefit | -0.1137  | 0.0046 | .0000*** |
| Public support | -0.0954  | 0.0019 | .0000*** |
| Religion       | -0.0624  | 0.0030 | .0000*** |


**Two other regressions were run, one with dummy variables for Overhead = 1 and Overhead = 0 to control for these outlier cases, and one with those observations dropped. The estimated coefficients are very consistent across all three models (they differ by less than a tenth a percent), so we report the simplest model here. Base categories are 1985 and the Arts subsector. Calculated using the Statistics of Income data sets available from the National Center for Charitable Statistics.**

*p < .05. **p < .01. ***p < .001
omitted reference group in the regression model). These differences represent the variety of activities in the nonprofit sector and the overhead needed to implement them (religious programs will be very different than human service programs, for example, as demonstrated by Figure 4) as well as variation in accounting practices across subsectors, especially the somewhat subjective decisions in apportioning expenses between programs and overhead on the 990 forms.

Since 1985, the reported average overhead costs of nonprofits have fallen by 2.6 percentage points. The primary hypothesis of the study is supported by this analysis—reported average overhead costs have been decreasing over time from 20.9% to 18.3%. For a nonprofit with $1 million in revenues, this is the equivalent of a reduction in overhead of $26,000 a year. The practical operational implications of this $26,000-shift in resources are not known. The SOI data is not a random sample of

Figure 4. Overhead cost across nonprofit subsectors.

Note. There are significant differences in reported overhead costs by subsector, but all subsectors experienced similar downward trends over the study period.
organizations—it over-samples larger nonprofits so the results will be most representative of changes we would expect in larger organizations.

The category of overhead expenses comprises two sub-categories: administrative expenses and fundraising expenses. Administrative expenses generally refer to operational costs not directly related to programming, such as accounting fees or postage. When these two components are examined individually, the overhead story becomes even more interesting. Administrative expenses fell from 19.1% to 15.3%, a change of 3.8 points. Fundraising increased from 1.8% to 3% over the same time, an increase of 1.2 points. So, although reported overhead has only fallen by 2.6 percentage points over the study period, actual administrative spending cuts are slightly deeper as some of the funds have been allocated to additional fundraising. Increased fundraising expenses are predicted in more competitive markets (Thornton, 2006). Figure 5 presents these changes graphically.

Overhead as a Function of Organizational Size

Organizational size plays a very important role in understanding nonprofit overhead (Pollak & Lampkin, 2001). Small, nonprofessional nonprofits are often run by volunteers who manage operations and put together fundraisers. As a result, these types of nonprofits have very low overhead. As nonprofits professionalize, they invest much
Figure 6. Overhead as a function of nonprofit size.

Note. The average nonprofit runs on little overhead until around $100,000 in annual revenue. Between $100,000 and $550,000, the nonprofits invest increasingly more in organizational capacity. After $550,000, median reported overhead declines steadily.

more in operations and as a result ramp up overhead spending. Once they begin to grow, however, it is possible to achieve economies of scale through consolidations or collaborations and thus, to begin lowering overhead. This pattern appears in the data when overhead is conditioned by nonprofit size (see Figure 6 or for a more nuanced view Appendix B).

We conducted analysis on nonprofit size using the NCCS Digitized Data set, which has an augmented set of variables from the NCCS Core Data files that include reported overhead expenses by line item. Whereas the SOI files contain a sample of several thousand nonprofits, the Digitized Data contains all of the nonprofits that filed 990 returns from 1998 to 2003. Figure 6 was made by splitting the 251,305 nonprofits in the 2003 data set into 50 equal-sized groups that were binned by their total revenue. Each point on the graph represents the median reported overhead ratio of roughly 5,000 organizations in each group. Note that the median reported overhead ratio is lower than the mean reported overhead ratio because of the influence of positive outliers and the truncation of overhead at zero.

In the previous section, we calculate a reduction in reported overhead by 2.6 percentage points over a 22-year period, using the SOI sample. One might worry about a change in the composition of the sample driving the results, rather than an actual sector shift in overhead cost structure. For example, we know that very small and very large nonprofits have small overhead ratios, so adding more of these two groups to the
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A sample could drive down the average without any real change in sector behavior. These effects are addressed using organizational size as a control variable in the model, but if there are changes in the sample that affect overhead but are uncorrelated with size it could complicate the interpretation of results. Many evaluation studies will control for sampling problems using panel methods that follow the same organizations over time, but panel analysis is not appropriate here because nonprofit size will be correlated with time. Consequently, it would be challenging to parse apart broad sector effects from changes in cost structure that result from maturation.

The Digitized Data set provides another control for issues that might arise because of sampling. The groups from 2003 can be matched to a similar sample from 1998, according to organizational size. Because the data set represents the population of reporting nonprofits, sample bias is no longer an issue.7 Matching was done by creating groups in equivalent revenue bins based on inflation-adjusted revenue for both time periods. The average reported overhead for each group in 1998 can then be compared with the average reported overhead for the equivalent group in 2003. These results are represented in Figure 7.

We see from Figure 7 that there is in fact a downward shift in reported overhead expenditures by nonprofits between 1998 and 2003, and this shift is statistically significant in the region denoted by the arrows. Note that the changes are smaller than 2.6 percentage points, but this is only 6 years of data compared with 22 years of data in the

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**Figure 7.** Changes in median overhead ratios between 1998 and 2003.

*Note.* For nonprofits with revenues above $100,000, there are consistent downward trends in reported overhead expenses across the sector. These changes are statistically significant.
previous section of the analysis using the SOI data (1985–2007). The magnitude of the changes represented here are not as important as establishing the downward trend in a way that eliminates the hypothesis concerning sampling problems driving the results in the previous section.

In examining both size and time considerations, it is clear that there has been a downward trend in reported overhead ratios within the nonprofit sector. When examining overhead, though, it is important to be aware of the larger influence that size has on the nonprofit cost structure. We turn now to a more detailed analysis of the categories of expenses that nonprofits report on the 990 forms to better understand how cost structures have evolved over the past two decades.

**Subcomponent Expense Analysis**

If reported nonprofit overhead has fallen by 2.6 percentage points over the past two decades, how are nonprofits restructuring their expenses to achieve these reductions? In this final section of the analysis we examine groups of nonprofit line item expenses that are reported on the IRS 990 forms using the SOI data. Though each line item can be subdivided into program expenses, fundraising, and administrative expenses (whose aggregates we analyzed in the previous section), we do not break them apart here. Instead, we are interested in how nonprofits have shifted expenses internally as the sector has changed over time. By examining the behavior of line item expenses over time, we can see more clearly any evidence of general shifts in cost structures; this sheds light on the behavioral response of nonprofits to competitive pressures.

The groups of line item expenses reported on the 990 forms include the following variables:

- **Officer Salaries and Wages**—compensation paid to directors and executives of the nonprofits;
- **Staff Wages**—all salaries and wages paid to employees that are not listed in the previous definition for officers;
- **Benefits**—insurance and retirement benefits paid for all employees without a distinction made between executive level and staff;
- **Professional Fees**—fees paid to accountants, lawyers, and professional fundraisers;
- **Operations**—fees paid for miscellaneous operating costs such as supplies, phone, postage, printing, travel, conferences, equipment rental, and occupancy charges. This measure does not include depreciation because the focus of this article is on the choices and pressures involved in the cycle, whereas depreciation charges represent capital charges from a previous time period.

Figure 8 represents trends in these groups of nonprofit line item expenses as a proportion of total expenses. All the sub-figures have the same y-axis scale so that changes can be compared across graphs. The graphs represent median ratios for each year in each subcategory.
The trends in the cost structure of nonprofits are clear. As a percentage of total expenses, nonprofits are paying their executive management staff more while cutting costs in staff wages and professional fees. Spending on benefits and operations has not changed dramatically over this period. Interpreting these trends is more subtle, however, as there are several plausible ways that the trends could occur. Officer wages, for example, will increase if executives were getting paid more but similarly if nonprofits designate more of their staff as management. The nonprofit sector is known for having limited opportunity for promotion within organizations because of small size and lengthy tenure of existing executives, so perhaps nonprofits have begun designating

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**Figure 8.** Changes in nonprofit cost structure over time. 
*Note.* Nonprofits are paying executives more while cutting back on staff compensation and professional fees. The trend in reported overhead ratios is present for comparison.
program managers as executives instead of staff for human resource purposes. More likely, it signs higher price tags on top management who are being recruited away from the corporate sector or top managers from other nonprofits who bring with them large professional networks from years of experience in the nonprofit sector. Professional fees, which include accountants, lawyers, and fundraising professionals, have also decreased. Perhaps these activities have been cut due to reductions in overhead costs as these tend to fall in that category, although some services like legal and accounting tend to be necessary expenditures. As the nonprofit sector has become increasingly professionalized perhaps more of these activities were brought in-house and would thus show up as staff or management expenses instead of professional fees. Perhaps nonprofits are better using pro bono services from large law and accounting firms. Many explanations for these cost shifts are plausible, but will require additional research to firmly establish the causes.

**Discussion**

Scholars have referred to the existence of a starvation cycle, but their analyses were based primarily on case studies and anecdotal evidence. In this article, we have empirically demonstrated a steady decline in reported overhead expenditures within the nonprofit sector. It is consistent across all nonprofit subsectors and most nonprofit size groups (except the smallest and very largest). Reported overhead ratios have declined by 2.6 percentage points since 1985. This decline can be broken down into an increase in fundraising expenses by 1.2 percentage points and a decrease in administrative costs of 3.8 percentage points. In addition to looking at the trends in overhead, we examined trends in expenses across line item categories. We find that nonprofits are paying executives more while cutting staff costs. We were not able to determine whether these cuts resulted from a reduction in staff numbers or whether nonprofit employees are earning less over time.

The implications of a nonprofit starvation cycle in the third sector are of significant concern. Tuckman and Chang (1991), the pioneers of financial ratio analysis for the nonprofit sector, find that organizations who fall into the lowest quintile of administrative costs are at risk of vulnerability from financial shock, a finding that has been empirically confirmed in future studies (Keating, Fischer, Gordon, & Greenlee, 2005). Rooney and Frederick (2007) find that human services organizations that depended on foundation grants were more likely to report underfunded infrastructure. Further, watchdog services provide a strong guard against egregious cases of financial inefficiency, but they do not protect against the most common types of fraud (Greenlee, Fischer, Gordon, & Keating, 2007). Donors rely on overhead information in lieu of the information they really desire—performance and impact metrics. Current conventions have evolved as a result of the influence of modern management theory, not as a result of a meaningful body of evidence that links lower overhead costs to greater nonprofit impact.

Quantitative financial management practices are useful in many regards, but management experts have highlighted problems similar to the nonprofit starvation cycle
occurring in corporate finance. Clayton Christensen, a celebrated Harvard business professor, recently described the harmful effects of the reliance on financial ratios in the corporate sector (Denning, 2011):

There is a pernicious methodology for calculating the internal rate of return on an investment. It causes you to focus on smaller and smaller wins. Because if you ever use your money for something that doesn’t pay off for years, the IRR is so crummy that people who focus on IRR focus their capital on shorter and shorter term wins . . . Why do we do it? The finance people have preached this almost like a gospel to the rest of us is that if you describe profitability by a ratio so that you can compare profitability in different industries. It “neutralizes” the measures so that you can apply them across sectors to every firm.

Christensen argues that these practices have severe long-term consequences for American firms by gradually depleting organizational capacity to make financial ratios look appealing to investors, an argument very similar to the starvation cycle. As the practices have limited firms’ abilities to grow and innovate over time, they have hurt America’s global competitive advantage. These effects are analogous to what happens to nonprofits as a result of the starvation cycle; Miller (2005) argues that The inability of nonprofits to invest in more efficient management systems, higher skilled managers, training, and program development over time means that as promising programs grow, they are going to be hollowed out, resulting in burned out staff, under-maintained buildings, out of date services, and many other symptoms of inadequately funded overhead. (p. 52)

Donors are asking nonprofits to do more with less and often under-funding overhead or paying insufficient amounts for the services that nonprofits perform. For example, in the National Study of Nonprofit-Government Contracting, Boris and Roeger (2010) find that 44% of nonprofits receiving government contracts report that the payments do not cover the full cost of services, forcing them to cover the remainder of costs through other sources. For-profit firms are often perceived to be more efficient than nonprofits, but they spend 25% of expenses on overhead compared to 18.3% by nonprofits. For corporate service industries, the closest analog to the social sector, the ratio is 34% (Gregory & Howard, 2009). It is not clear that donors have appropriate expectations about administrative costs. Increased efficiency is a laudable goal, but not at the expense of reduced nonprofit capacity and increased organizational vulnerability.

Our contribution in this article is a modest but necessary first step toward a better understanding of the starvation cycle. We can say with certainty that there has been a downward trend in reported overhead over the past two decades. What we cannot discern from our data is how much of this has resulted from tangible changes in nonprofit behavior (allocating more funds toward programs and away from administrative expenses) and how much is a result of changes in reporting practices (more sophisticated book-keeping or misleading and potentially dishonest reporting). There is evidence that poor reporting is widespread (Froelich & Knoepfle, 1996; Froelich et al., 2000; Hager, 2003; Wing et al., 2006), and misreporting worsens as competition for resources
increases (Trussel, 2003). Our assumption is that the reductions we observe represent some combination of both practices. We also show that administrative investments are in decline while fundraising expenditure ratios rise, and executive salaries increase while nonprofits spend less on staff.

Several implications for institutional and governmental policy exist. First, donor expectations should be aligned with a healthy commitment to overhead that provides the capital necessary for growth and sustainability of healthy nonprofits. As an example of an ongoing effort to align expectations, the “Overhead Myth” campaign (GuideStar, 2013) is a movement that includes large nonprofit leaders, experts, and scholars united in an effort to challenge conventions on overhead. Instead of asking, what is the lowest overhead for nonprofit survival, the campaign is pushing donors to ask, what do good outcomes cost? As part of this process, work is needed to understand the appropriate levels of overhead funding for different kinds of nonprofits. Our analysis here shows that nonprofits use different levels of overhead depending on nonprofit size, subsector, or stage of growth (Chikoto & Neely, 2013). A simple rule of thumb for all nonprofits is not sufficient. Resources on best practices could help donors make better grants without worrying about overspending on overhead. Second, nonprofits should work to standardize definitions of overhead and norms of reporting. Reports of zero overhead are misleading and should be discouraged to prevent distortions of donor expectation. Third, nonprofit interest groups should be mindful of large government or private donors that cover inadequate or no overhead costs. Because overhead is essential for operations, these types of grants and contracts force nonprofits to spend energy raising additional funds for back-office expenses. Forcing nonprofits to split efforts in this way may make them less effective in the long-term. Fourth, making available reputation information on the quality of donor policies and behaviors could help nonprofits be more discerning about the types of funding they accept.

Given the ubiquity of overhead measures as a performance metric, the absence of solid research linking low overhead and nonprofit performance should cause some concern. These are difficult research questions to answer; high performing organizations often embrace a full menu of recommended management practices such as strategic planning, recommended board practices, and financial efficiency (Mitchell, 2013; Shiva & Suar, 2012). Thus, it is challenging to isolate the effects of low overhead from other phenomenon. Furthermore, discerning the effects of overhead on performance can be tricky because they may emerge only over a long period of time. The field would greatly benefit from solid empirical scholarship that helps firmly establish a relationship between overhead funding and long-term organizational capacity, vulnerability, the ability to innovate, and between overhead ratios and competitiveness in grant and contract markets. We hope that this preliminary empirical work will help move the conversation in that direction.
## Appendix A

The 990 tax forms have changed over time. Appendix A presents variables from different nonprofit datasets used to calculate financial ratios in this paper and to encourage consistent definitions in future research.

<table>
<thead>
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<th></th>
<th></th>
<th></th>
<th></th>
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<td>Total expenses</td>
<td>EXPS</td>
<td>p1totexp</td>
<td>E052</td>
<td>X050</td>
<td>Line 17</td>
</tr>
<tr>
<td>Total functional expenses</td>
<td></td>
<td>p2totfot</td>
<td>E153</td>
<td>F930</td>
<td>Line 44a</td>
</tr>
<tr>
<td>Total revenue</td>
<td>TOTREV2</td>
<td>p1totrev</td>
<td>E047</td>
<td>R270</td>
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</tr>
<tr>
<td>Program service expenses</td>
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<td>p1pexp (p2ptot)</td>
<td>E048</td>
<td>X010</td>
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</tr>
<tr>
<td>Management and general expenses</td>
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<td>p1mExp (p2mtot)</td>
<td>(E154)</td>
<td>(F130)</td>
<td>Line 44b</td>
</tr>
<tr>
<td>Fundraising expenses</td>
<td>SOLICIT</td>
<td>p1frexp (p2fot)</td>
<td>E050</td>
<td>X030</td>
<td>Line 14</td>
</tr>
<tr>
<td>Officier salaries</td>
<td>COMPENS</td>
<td>p2tcomp</td>
<td>E060</td>
<td>F825</td>
<td>Line 25a</td>
</tr>
<tr>
<td>Non-officer wages</td>
<td>OTHSAL</td>
<td>p2twages</td>
<td>E064</td>
<td>F830</td>
<td>Line 25b</td>
</tr>
<tr>
<td>Employment benefits</td>
<td></td>
<td>p2tpensn + p2tembft</td>
<td>E068 + E072</td>
<td>F835 + F840</td>
<td>Line 25c</td>
</tr>
<tr>
<td>Professional fees</td>
<td>FUNDFEES (only fundraising)</td>
<td>p2tfree + p2tacfee + p2tlgfee</td>
<td>E080 + E081 + E085</td>
<td>F850 + F855 + F860</td>
<td>Line 25d</td>
</tr>
<tr>
<td>Subcomponents per function (example used: Officer salaries)</td>
<td></td>
<td></td>
<td>Total E060</td>
<td>Total F825</td>
<td>Line 25f</td>
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<td></td>
<td>p2tcomp</td>
<td>Prog E061</td>
<td>Prog F025</td>
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</table>

Note. SOI = Statistics of Income.

*From 2006, this contains only compensation of current officers; years prior to 2006 do not specify.

*Fundraising is unique: E080, E310, E311, E312. Years prior to 2003 do not split fundraising into functional categories.
Appendix B

The Distribution of Overhead Ratios by Nonprofit Size

The graph below represents the same data and analysis as Figure 6, but whereas that graphic emphasizes trends for the “average” (median) nonprofit, we present here some distributional considerations about the average. The x-axis represents nonprofit size measured by total revenue. The y axis represents reported overhead expenditures. The graph shows that the range of reported overhead ratios (the 10th to 90th percentiles here) varies significantly with nonprofit size. Nonprofits within the “professionalize” group ($100,000 to $550,000) spend the most on overhead, on average.

![Graph showing the relationship between nonprofit size and overhead.](image)

Figure B1. Relationship between nonprofit size and overhead.

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Notes

1. Salamon (2012) refers to this trend as “managerialism,” with “professionalism” referring to subject-specific skills.
2. Even if we were to assume that Bowman (2006) is correct and potential funders do not give a great deal of credence to the overhead ratio, it is the persistent belief that they do throughout the sector that is guiding the starvation.
3. Starting in 1998, a major change in the 990 tax form made variables incomparable with previous years.
4. In addition, expenses are used in the denominator for most charity ratings agencies such as Charity Navigator (administrative ratio), the Better Business Bureau Wise Giving Alliance (program ratio), and Charity Watch (charitable purpose ratio).
5. Organizations falling in the “Undecided (UN)” category have been excluded from the sample.
6. The analysis omitted 2,942 organizations that reported negative revenues.
7. The alternative mechanism would be for surviving organizations to change their overhead cost structure without exiting the sample.
8. Nonprofit and for-profit overhead ratios are calculated differently and as a result comparisons across sectors are not always straightforward; the for-profit overhead ratio quoted from Gregory and Howard (2009) includes selling expenses, for example.

References


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