

Efficient Nonprofits?

Arthur C. Brooks

This article looks at efficiency as it relates to nonprofit activities. I argue that average return-on-investment measures are inadequate for nonprofit organizations, and that nonprofits should seek instead to measure marginal returns to investments in nonprogram areas, such as administration and fundraising. Using a national sample of approximately two hundred fifty thousand nonprofits from 2002, I find that some types of organizations spend their nonprogram funds efficiently, while other types do not. These findings have implications for nonprofit management.

Introduction

There are several reasons why we might expect nonprofits to appear “inefficient.” First, many nonprofits create public goods and services—arts, education, social services—which people want, but have limited incentive to pay for voluntarily with donations, and hence the ratio of costs to revenues can appear unfavorable. Second, nonprofits cannot distribute profits to firm owners under American tax law, which eliminates stakeholders with the most obvious stake in organizational efficiency. Finally, as many authors have noted, metrics for nonprofit efficiency are notoriously porous and imprecise, making it difficult to enforce organizational accountability (Keating & Frumkin, 2003).

Under traditional accounting measures, nonprofits in the United States might appear quite inefficient. For example, consider the data on the simple return on investment (ROI) for total spending by nonprofits in various subsectors from 2001. This measure, which is fairly standard to judge for-profit business practices, is calculated as revenues (TR) less expenditures (TC), as a percentage of net firm assets (A). That is,

$$ROI = \frac{TR - TC}{A} \quad (1)$$

Table 1 summarizes this calculation for the nonprofits in the United States in 2001 that filed an IRS Form 990, and which recorded positive expenditures.¹ These data show that nonprofit subsectors tend to see an ROI that is under three percent—and potentially even negative.

Table 1. Nonprofit Return on Investment, 2001

Subsector	Number of Organizations	Average ROI (%)
Arts	19,383	0.50
Education	31,918	2.46
Health	25,553	0.32
Social welfare	27,878	2.63
Environmental	4,058	3.41
International aid	1,707	-1.34
All nonprofits	187,944	2.33

Source: IRS Form 990 data (National Center for Charitable Statistics).
ROI, return on investment.

Compared to the ROI generated by for-profits, the figures in Table 1 are very low. Desai (2001) shows that the ROI enjoyed by American multinational for-profits tends to be about 17 percent, on average. For example, over the period 1982 to 1995, the annual ROI was 19 percent for chemical firms, 21 percent for food companies, 18 percent for machinery producers, and 23 percent for transport firms.

This discrepancy between for-profits and nonprofits might lead to the intuitive conclusion for many people that nonprofits are somehow “inefficient”: If they would just tighten up their operations, make smarter spending decisions, and be held more accountable to stakeholders, the reasoning goes, then they would achieve higher ROI levels, indicating a more “businesslike” stewardship of funds. Indeed, even some nonprofit insiders seem to share this view. For example, OpenConsult, a nonprofit e-commerce consulting firm, pitches its services with this statement: “Facing market pressure to become more efficient and less dependent on the government, nonprofit organizations today must find new ways to achieve a leaner, more businesslike operation.”²

Given this viewpoint, it is especially striking to find a number of scholars on the nonprofit sector who appear to assert that, on the contrary, nonprofits do *not* need to become more businesslike. Light (2001), for example, writes that

[j]ust because the nonprofit sector needs to improve its performance does not necessarily mean it has to become more businesslike. Unfortunately, absent a compelling vision of what being nonprofit-like means, it is hard to imagine that individual organizations will be able to resist the pressure to become less like nonprofits.

Similarly, Frumkin (2004) states that

[while] nonprofit and voluntary organizations appear weak, inefficient, and directionless, . . . nothing could be further from the truth. In reality, [nonprofits have] a set of unique advantages that position them to perform important societal functions neither government nor the market is able to match.

Are nonprofits inefficient, or are they not? Clearly, there is substantial ambiguity in the way we measure efficiency, the way we understand it intuitively for

nonprofits, or both. Two major trends in public administration and nonprofit management make this fact a significant potential problem. First, governments and other funders are increasingly insistent on tangible performance measures from nonprofit recipients of funds (Brooks, 2004). This is especially true as nonprofits become partners with the government in the provision of public services (Van Slyke, 2003). Second, nonprofits are enjoying lower public trust than they have in the past, especially in the wake of funding scandals involving the American Red Cross after the September 11, 2001 terrorist attacks.³ Both of these factors make it important that nonprofits be able to show tangible evidence that they are, in fact, operating within a reasonable concept of efficiency—if in fact they are.

The point of this article is to examine the applicability of traditional efficiency measures in the case of nonprofits, and to suggest better ways of gauging efficiency, which allow the all-important quantification of performance, while avoiding an inappropriate metric to do so. In effect, my aim is to join the economic concept of efficiency with the fact that nonprofits seek to pursue a social mission that does not necessarily enhance their financial bottom line. I will examine whether nonprofits are efficient in their spending in nonprogram areas such as administration and fundraising. Using data from a large sample of American nonprofits in 2002, I will introduce and demonstrate a method to measure efficiency, which is consistent with a nonprofit's dual goals of mission and financial solvency.

What is "Efficient"?

Economists define "efficiency" in a straightforward way: A firm is efficient if it uses the minimum inputs to produce a certain level of output, or, given a certain level of inputs, it produces the maximum output. In a nutshell, an efficient organization does the *most* with the *least*. This requires that organizations produce—or fundraise, pay wages, or engage in any activity—only up to the point that an extra dollar in expense generates an extra dollar in revenues. This is a condition economists call "equimarginality," and it is easy to understand conceptually: If the last dollar in expenses generates less than a dollar in revenues, it is inefficient to spend it. If, on the other hand, it generates more than a dollar, the organization is also inefficient in that it does not spend *enough*.

Marginal returns to spending are difficult to measure for individual organizations, unfortunately. What is the "last" dollar in a complex budget? For this reason, imperfect proxy measures of efficient behavior are often used, which rely on averages across dollars spent and raised. ROI is one such measure, but ones that are more common exist in the nonprofit world. For example, one frequently encounters measures of nonprofit health and efficiency such as the ratio of overhead to total costs, cash-on-hand to total revenues, nonfundraising expenses to total expenses, and donations to fundraising expenditures (e.g., Hager, 2001; Tuckman & Chang, 1991). Unfortunately, as several authors have shown (e.g., Brooks, 2004; Steinberg, 1986), ratios do not tend to give an accurate picture of true efficiency. For example, consider the ratio of donations to fundraising expenses

(D/F). While at first it might seem that a high value of D/F would indicate fundraising success, further reflection leads us to notice that a good score can be achieved simply by not fundraising (provided somebody makes a donation, no matter how small). Even worse, this ratio does not indicate whether a nonprofit is fundraising too much, too little, or at the right level.

True marginal measures, therefore, are preferable to ratios and other averages. However, nobody would actually argue that, just because nonprofits produce beyond the point of equimarginality, they are inefficient. Indeed, if commercial markets adequately produced charitable, cultural, and educational services in the first place, there would be no need for nonprofits. In fact, despite its influence over our thinking, equimarginality miscalculates the true level of a nonprofit's efficiency as badly as ROI does.

A Model of Nonprofit Efficiency

Nonprofits face a peculiar tension between net revenues and adherence to their missions. Assuming for the moment that, as is the case for most nonprofits, a nonprofit's "mission service" (e.g., feeding homeless people) is inherently a loss-making endeavor, the organization must divide its energies and resources between activities (such as selling a more profitable service or fundraising) that raise net revenues and core services that lower them.⁴ James (1983) argues that this is ubiquitous across the sector, and many scholars (e.g., Schiff & Weisbrod, 1991) have supported the point empirically. Furthermore, nonprofits must decide how much to spend on administration, such that operations are best equipped to bring in and use the highest possible level of net revenues for their core programs.

What nonprofits should achieve, to be appropriately efficient, is to maximize net revenues attributable to activities not related to their core programs (such as fundraising and administration), such that there is, as much as possible, left over to spend on their programs. Therefore, a nonprofit should spend money on administration and fundraising only up to the point of equimarginality, while program spending should not be bound by this constraint.

An empirical model of efficiency, estimated with regression analysis, is

$$TR_i = \alpha + \beta NP_i + \gamma P_i + \lambda' X_i + \varepsilon_i, \quad (2)$$

where α is a constant term, TR is the total revenues of nonprofit i , NP is nonprogram expenses, P is program expenses. X is a vector of organizational aspects for which we would like to control, and ε is a random disturbance. The coefficient $\hat{\beta}$ represents the marginal returns from nonprogram spending, while the coefficient $\hat{\gamma}$ is the return to program spending. If $\hat{\beta} > 1$, it means that nonprofits tend to spend too little on nonprogram expenses, neglecting net revenues that could be earned and spent on core programs. For example, they might be spending too little on fundraising, thus leading to insufficient returns. On the other hand, if $\hat{\beta} < 1$, it means that nonprofits tend to devote too much to nonprogram

expenditures, taking money away from their programs. For example, they may be spending too much on office space or salaries to justify their operations.

The data that I used to estimate equation (2) were collected from the IRS 990 information forms filed in 2002 by most 501(c)(3) nonprofit organizations in the United States with annual gross receipts above \$25,000. These data are compiled by the National Center for Charitable Statistics (NCCS) at the Urban Institute and are publicly available.⁵ These are the so-called “digitized” data, which include amounts and sources of both revenues and expenditures for each nonprofit.

The Form 990 data are far from unproblematic for research uses, as a number of authors (e.g., Abramson, 1995; Froelich & Knoepfle, 1996; Froelich, Knoepfle, & Pollak, 2000; Rose-Ackerman, 1987) and a major study by the Urban Institute have shown.⁶ Hodgkinson et al. (1993) show that the 990s provide a skewed view of the nonprofit world because about 70 percent of organizations are either too small to have to file or are among the majority of religious congregations that are not required to file. Another problem with the existing data concerns their completeness and accuracy (Abramson). As part of an effort to clean the 990 data of unreliable values, I have expunged obviously incorrect responses. These included negative revenues, negative expenses, and cases in which individual expense types were recorded as higher than total expenses. In all, less than one percent of cases were removed for these reasons, bringing the full sample for the data analysis to a bit fewer than one quarter million organizations.

The NCCS data allow us to look at once across many types of nonprofits, and to consider revenues in addition to costs. The data are broken down across 26 subsector-specific categories, organized according to the National Taxonomy of Exempt Enterprises (NTEE).⁷ Of these, I have constructed seven aggregated nonprofit groupings:

1. All nonprofits: 241,622 nonprofits.
2. Arts and culture organizations (NTEE category A): 24,789 nonprofits.
3. Educational organizations (NTEE category B): 42,189 nonprofits.
4. Environmental organizations (NTEE categories C and D): 8,926 nonprofits.
5. Health organizations (NTEE categories E, F, G, and H): 32,284 nonprofits.
6. Social welfare organizations (NTEE categories J, K, L, M, O, and P): 56,822 nonprofits.
7. Religious organizations, excluding houses of worship (NTEE category X): 12,762 nonprofits.

Together, the six subsectors represent 74 percent of all nonprofits in the full sample.

In these data, *NP* includes management and general expenses (Form 990 line 14), fundraising (line 15), payments to affiliates (line 16), and other expenses, net of program spending (line 13). To estimate equation (2), the variable *X* contains dummies for the subsector categories (in the case of the model using the full

Table 2. Descriptive Statistics for U.S. Arts Nonprofits

	Full sample	Arts	Education	Environment	Health	Social Welfare	Religion
Arts	10%	1	0	0	0	0	0
Education	17%	0	1	0	0	0	0
Environment	4%	0	0	1	0	0	0
Health	13%	0	0	0	1	0	0
Social welfare	24%	0	0	0	0	1	0
Religion	5%	0	0	0	0	0	1
TR	3.82 (53.23)	0.9 (7.31)	3.68 (43.89)	0.98 (11.46)	16.36 (129.62)	2 (25.44)	0.6 (3.8)
P	3.94 (53.89)	0.85 (6.75)	4.22 (43.22)	0.9 (7.6)	15.05 (125.72)	1.93 (21.77)	0.62 (3.68)
NP	0.71 (23.44)	0.25 (1.32)	0.75 (5.78)	0.21 (1.69)	2.46 (18.08)	0.47 (43.44)	0.14 (0.9)

Note: All figures (except proportions) are in millions of 2002 dollars. Standard deviations are in parentheses.

TR, total revenues; P, program expenses; NP, nonprogram expenses.

dataset), and controls for each state. The state dummies are intended to control for geographic fixed effects in the population.

The mean values for these data are summarized in Table 2, separated into the seven groupings described above.

Not surprisingly, the types of organizations with by far the highest revenue and cost levels are health organizations. The smallest organizations are in the arts and religion.

I employ ordinary least squares (OLS) to estimate equation (2).⁸ The positive skewness in revenues and costs among certain kinds of arts firms induces nonconstant variance (heteroskedasticity) into the data. To remedy this, I employ White's (1980) consistent variance-covariance estimator to derive the standard errors of the regression coefficient. After this correction, we can no longer reject the hypothesis of homoskedasticity using Breusch-Pagan Lagrange multiplier tests.

Results

Table 3 summarizes the regression results for equation (2). I control for subsector-specific variation in two ways. First, I estimate equation (2) with the full dataset, including dummy variables for each subsector (where the remaining organizations are caught in the constant term). Second, I estimate separate models for each of the subsectors. The coefficients for the state dummies are suppressed in this table for brevity.⁹ For each model, I test the hypothesis that the NP-coefficient equals one. Rejection of this hypothesis is indication of inefficient spending; failure to reject means that there is no evidence of inefficient spending.

For the full sample, we can reject the hypothesis that the coefficient on nonprogram spending is efficient: It is below unity by a large and statistically significant margin. In other words, the average nonprofit in 2002 spent too much (from an economic efficiency standpoint) on nonprogram items, such as administration and fundraising. This is consistent with some of the popular intuition on

Table 3. Ordinary Least Squares Regressions for Nonprofit Arts Organizations

	Full Sample	Arts	Education	Environment	Health	Social welfare	Religion
Constant	85,386 (94,056)	-3,625 (53,258)	320,316*** (117,487)	-299,670* (182,054)	192,948 (1,398,260)	-230,025*** (40,351)	129,218*** (41,763)
P	1.15*** (0.14)	1*** (0.03)	1.14*** (0.05)	1.39*** (0.18)	1.09*** (0.15)	1.25*** (0.01)	0.91*** (0.04)
NP	0.03 (0.04)	1.34*** (0.23)	0.44 (0.3)	1.39** (0.68)	0.39 (0.34)	-0.001*** (0.0004)	1.22*** (0.35)
Arts	53,913 (79,582)						
Education	192,265 (367,247)						
Environment	89,277 (81,815)						
Health	303,928 (1,656,450)						
Social welfare	-122,324 (76,437)						
Religion	-63,904 (87,760)						
N	190,865	18,326	29,691	6,705	29,162	50,136	9,092
R ²	0.98	0.92	0.97	0.94	0.99	0.99	0.88
T-statistics for the hypothesis that the NP coefficient equals unity	23.98***	1.5	1.86*	0.57	1.78*	2,844.01***	0.62

Notes: Standard errors in parentheses. *Coefficient is significant at the 0.10 level. **Coefficient is significant at the 0.05 level. ***Coefficient is significant at the 0.01 level.

P, program spending; NP, nonprogram spending.

nonprofits described earlier. Interestingly, however, it contrasts with other empirical findings on the efficient level of fundraising (one element of *NP* in these data) by nonprofits. Specifically, some research (e.g., Brooks, 2005; Steinberg, 1986) have found that many types of nonprofits tend to spend inefficiently little on raising funds. These findings are not contradictory to those in this article, although they suggest that the source of overspending might in fact lie in areas such as wages and administration.

The full model (all nonprofits) masks a good deal of subsectoral variation. For example, while average organizations in education, health, and social welfare exceed efficient nonprogram spending levels, those in the arts, environment, and religion yield coefficients that are statistically indistinguishable from unity. This means that, for these types of organizations, we cannot rule out the possibility that they do, in fact, spend their nonprogram funds efficiently.

Implications for Nonprofit and Public Management

The regression results in the last section lead to mixed conclusions about American nonprofits. Some types (education, health, social welfare) spend inefficiently, while others (arts, environment, religion) are efficient—or at least, there is no evidence to the contrary. The earlier discussion on efficiency and these empirical results hold several practical implications for nonprofit managers, as well as public administrators that regulate and contract with nonprofits.

First, many standard measures that gauge investment returns, such as ROI, misapprehend the mission of nonprofit organizations. Indeed, most nonprofits would be remiss if they were consistently to maximize net revenues from their core programs. On the contrary, efficient nonprofits should maximize the net revenues from nonprogram services, and then maximize the quantity and quality of core programs with the funds generated for this purpose. If programs also raise net revenues, it is so much the better for nonprofits—although this itself should not be the impetus behind choosing the scale of operations. (One clear exception to this rule is the case in which a nonprofit is trying to accumulate savings. For example, it may be the case that a university acts responsibly, over some limited period of time, if it seeks to raise more money than it spends, rolling the profits into an endowment.)

Second, ratios that look specifically at noncore spending (such as fundraising) are preferable to ROI, but still imperfect. Ratios such as *D/F* are average measures, and thus merely approximations of the true marginal measures of interest.

Finally, managers should seek equimarginal returns to spending. The results in this article demonstrate that efficiency is not a matter of average returns. It involves getting the “biggest bang for the buck,” which comes from spending on nonprogram services only up to the point that a dollar spent returns a dollar.

Arthur C. Brooks is professor of Public Administration and the director of the Nonprofit Studies Program at the Maxwell School at Syracuse University.

Notes

For their helpful suggestions, I am grateful to Richard Brewster, David Van Slyke, Jeff Straussman, and two anonymous referees.

1. The data are available from the National Center for Charitable Statistics at <http://www.nccs.urban.org/>.
2. See <http://www.openconsult.com/info/news3100.asp> (First accessed July 16, 2004).
3. Deborah Sontag, "Who Brought Bernadine Healy Down?" *New York Times*, December 23 2001.
4. Of course, there are some lucky nonprofits that produce a profitable core service. But even for those with high earned revenues (arts and culture organizations, universities, hospitals), the core service is not usually profitable.
5. See <http://nccsdataweb.urban.org/>.
6. See <http://www.coststudy.org/>.
7. See <http://www.guidestar.org/npo/ntee.jsp>.
8. In principle, a nontrivial percentage of nonprofits could have no revenues in the tax-filing year. Zeroes on the left hand side of the model could bias the regression results if least squares estimation techniques are used, necessitating nonlinear regression techniques. Fortunately, in this sample, more than 99 percent of *TR* values are positive, making OLS an appropriate specification.
9. The full set of coefficients is available from the author.

References

- Abramson, Allen J. 1995. "Sources of Data on Nonprofit Finance." *Nonprofit Management and Leadership* 5: 443–51.
- Brooks, Arthur C. 2004. "Evaluating the Effectiveness of Nonprofit Fundraising." *Policy Studies Journal* 32 (3): 363–74.
- . 2005. "What Do Nonprofit Organizations Seek? (and Why Should Policymakers Care?)." *Journal of Policy Analysis and Management* 24 (3): 543–58.
- Desai, Mihir A. 2001. "World-wide Capital Shares and Rates of Return to Corporate Capital: Evidence from U.S. Multinationals," Mimeo.
- Froelich, Karen, Terry Knoepfle, and Thomas Pollak. 2000. "Financial Measures in Nonprofit Organization Research: Comparing IRS 990 Return and Audited Financial Statement Data." *Nonprofit and Voluntary Sector Quarterly* 29 (2): 232–54.
- Froelich, Karen, and Terry Knoepfle. 1996. "Internal Revenue Service 990 Data: Fact or Fiction?" *Nonprofit and Voluntary Sector Quarterly* 25: 40–52.
- Frumkin, Peter. 2004. "On Being Nonprofit: The Bigger Picture." Working Paper. Harvard Business School [Online]. <http://hbsworkingknowledge.hbs.edu/item.jhtml?id=3087&t=nonprofit>. Accessed July 15, 2004.
- Hager, Mark A. 2001. "Financial Vulnerability among Arts Organizations: A Test of the Tuckman-Chang Measures." *Nonprofit and Voluntary Sector Quarterly* 30 (2): 376–92.
- Hodgkinson, Virginia, Murray Weitzman, Stephen Noga, and Heather Gorski. 1993. *A Portrait of the Independent Sector: The Activities and Finances of Charitable Organizations*. Washington, DC: Independent Sector.
- James, Estelle. 1983. "How Nonprofits Grow: A Model." *Journal of Policy Analysis and Management* 2 (3): 350–66.
- Keating, Elizabeth, and Peter Frumkin. 2003. "Reengineering Nonprofit Financial Accountability." *Public Administration Review* 63 (1): 3–15.
- Light, Paul C. 2001. "'Nonprofit-like': Tongue Twister or Aspiration?" *Nonprofit Quarterly* 8 (2) [Online]. <http://www.nonprofitquarterly.org/section/87.html>. Accessed July 16, 2004.

- Rose-Ackerman, Susan. 1987. "Ideals Versus Dollars: Donors, Charity Managers, and Government Grants." *The Journal of Political Economy* 95 (4): 810–23.
- Schiff, Jerald, and Burton Weisbrod. 1991. "Competition Between For-Profit and Non-Profit Organizations in Commercial Activities." *Annals of Public and Cooperative Economics* 62: 619–40.
- Steinberg, Richard. 1986. "The Revealed Objective Functions of Nonprofit Firms." *RAND Journal of Economics* 17 (4): 508–26.
- Tuckman, Howard P., and Cyril F. Chang. 1991. "A Methodology for Measuring the Vulnerability of Charitable Nonprofit Organizations." *Nonprofit and Voluntary Sector Quarterly* 20: 445–60.
- Van Slyke, David M. 2003. "The Myth of Privatization in Contracting for Social Services." *Public Administration Review* 63 (3): 296–315.
- White, Halbert. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." *Econometrica* 48 (4): 817–38.