Exploring the Revenue Mix of Nonprofit Organizations – Does it relate to Publicness?

Robert L. Fischer, Case Western Reserve University
Amanda L. Wilsker, Andrew Young School, Georgia State University
Dennis R. Young, Andrew Young School, Georgia State University

September, 2007

Abstract

Nonprofit organizations offer a wide range of goods and services and seek funding from a variety of revenue sources. Our working theory n this paper is that the sources of funding are related to the services a nonprofit provides – specifically whether services are public, private, or mixed in the nature of their benefits. Using multiple subfields from three major fields in the National Taxonomy of Exempt Entities (NTEE), this study divides nonprofits according to service type, and estimates the impact of service character on particular revenue streams and overall level of revenue diversification. Generally, the proportion of revenues generated by program fees is lowest for the category deemed public, highest for those with mostly private benefits, and midway for "mixed" services which are private in character but entail substantial public benefits. Similarly, the more public a nonprofit's services, the greater the proportion of revenues it generates through donations. However, we also identify some puzzling results that suggest the need for continued investigation of the determinants of the sources and mixes of nonprofit income.

Introduction

Studies of the revenues of nonprofit organizations focus disproportionately on private donations, despite the fact that this source accounts, on average, for less than 20% of nonprofit income (Boris & Steuerle, 2006). Underlying much of this research is the notion that nonprofit organizations are essentially private suppliers of collective goods (Okten & Weisbrod 2000). However, insufficient attention has been paid to other streams of nonprofit revenue, including earned income, and to the various combinations

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of revenue streams supporting nonprofit organizations. Several scholars have studied

nonprofit revenue diversification but an overall theory, with explanatory and predictive

power, of nonprofit dependence on different sources and mixes of income remains to be

developed. In this paper we examine two related issues: the connection between

particular types of nonprofit revenue and the public/private nature of services provided by

nonprofit organizations; and the factors determining the degree of diversification of

nonprofit revenue.

Although nonprofits offer an alternative to governmental provision of goods and

services, to say that nonprofits offer only collective goods, or even goods that are similar

in their degrees of publicness, is an overstatement. Recognizing this fact, Weisbrod

(1988) proposed to capture the degree of publicness in a collectiveness index based on

the proportion of nonprofit revenues secured through private donations. In this study, we

take a different approach; rather than using proportion of revenues to indicate

collectiveness, we classify the services of nonprofits based directly on the public, private,

or mixed nature of the goods they provide. This classification of nonprofits then allows

us to predict the proportions of revenues from different sources. In addition, we

investigate why nonprofit organizations may further diversify their income beyond what

the nature of their services suggests. In sum, we address two key questions: First, *how

does the nature of the service provided affect the proportion of revenues earned from key

revenue streams such as program fees and donations?* Second, *what factors (in addition

to the public/private nature of the service) affect the overall level of revenue

diversification for nonprofit organizations?*

In the following section, we review earlier research and theory pertaining to the sources and mixes of nonprofit revenue. Then, we describe our theory, a set of hypotheses and a statistical model. The fourth section describes our data and the process of selecting a sample of nonprofits in particular fields and subfields of service corresponding to different degrees of publicness or privateness.   Next we review our results and juxtapose them with expectations from theory. We conclude with some implications of the findings and questions for future research.

Nonprofit Sector Context

Nonprofit organizations are distinct from for-profit businesses in various ways including their ability to collect revenue from a wide variety of sources.   Potential sources include those generally available to the private sector such as fees for service, returns on investment, and government contracts. However, nonprofit organizations are also capable of collecting charitable contributions from individuals, grants (from either the government or private foundations), and gifts in kind (as well as volunteer labor). The latter sources offer opportunities for income diversification generally unavailable to for-profit businesses.

Early research on nonprofit revenue often focused on charitable giving, paralleling the development of theory describing the nonprofit sector as a voluntary provider of essentially public goods (Kingma 1997; Weisbrod, 1977). The theory of nonprofits as producers of public goods does not explain why we do not observe more free-riding[1] with respect to supporting the sector, but it has been a foundation for

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[1] Free-riding occurs as a result of the non-excludable nature of public goods. Because all individuals are able to benefit from the good regardless of their own contributions, it becomes rational for an individual not

research on crowding-out[2] of one revenue source by another, involving concepts of impure altruism and warm glow[3] (Becker 1976; Andreoni 1989, Kingma 1997). This latter work suggests that individuals experience (private) satisfaction from helping others in need.

The forgoing ideas focus on why people donate, but nonprofit organizations have other streams they may pursue. In fact, the level of donations relative to other streams likely reflects choices by nonprofit organizations to actively pursue some streams over others. A seminal contribution to this thinking, formulated originally by James (1983) and further developed by Weisbrod and colleagues (1998) hypothesizes that nonprofit managers choose combinations of preferred (public) and non-preferred (private) services so as to maximize their own levels of satisfaction or to generate a combination of resources and outputs that best achieves the missions of their organizations. More recently, scholars in nonprofit studies have shown an increasing interest in the complexity of revenue choices faced by decision makers in nonprofit organizations (Young, 2006a).

A number of factors contribute to the relative dependence on alternative revenue streams and the degree to which nonprofits concentrate their dependence on a smaller or

to contribute and rely on the generosity of others. If everyone free-rides, however, theory predicts no production of the public good.

[2] As reliance on one source of revenue increases, crowding out theory predicts a decline in another stream. For example, government funding is often said to crowd-out private contributions. Some scholars attribute declines to substitution effects. The desired level of output remains constant, and with the public sector funding a larger portion of the expenses, private donors are required to contribute less to achieve the same baseline provision. Other scholars contend that the observed phenomenon is a result of changes in behavior of the nonprofit. Once government money is received, less effort is devoted to securing private donations. It is worth noting, however, that evidence of crowding out is mixed, with some studies finding the occurrence of crowding-in, where government contributions signal to the public that a nonprofit is worthy of greater levels private funding.

[3] The concepts of impure altruism and warm-glow are largely a means for economists to reconcile charitable giving (and donations to any public good) with basic economic assumptions of self-interest. The idea is that individuals donate money to causes because the act of giving makes the donor "feel good."

larger number of sources. Chang and Tuckman (1994) found that the general (NTEE)

service fields (such as Health, Education, or Housing) in which nonprofits operate

account for some of the variation in the composition of their revenue portfolios. Other

factors include the size of the nonprofit, as measured by its asset base, indicators of

financial health such as operating surpluses, and the "commercial" or "donative[4]"

character of a nonprofit as measured by its relative dependence on program fees versus

donations (Chang and Tuckman, 1994). Like Weisbrod's (1988) collectiveness index,

Chang's and Tuckman's (1994) measures reflect the proportion of revenues from

alternative sources rather than a direct characterization of the nature of service provided.

Some researchers have asked whether diversification is important to the

performance of a nonprofit organization. Frumkin and Keating (2002) concluded that

there are benefits to relying on a more concentrated revenue base, such as lower

administrative costs and fundraising expenses, and that it is unclear what effects

diversification has on a variety of other organizational outcomes. Nonetheless, most

nonprofits do try to diversify, and other scholars suggest that this is appropriate.

Galaskiewicz and Bielefeld (1998) assert that revenue diversification increases

community buy-in and organizational legitimacy. Scholars also find moderate and

significant correlations between diversification and indicators of financial health, such as

surplus accumulation and asset base, although there is wide variation when correlations

are estimated separately for different fields of service, including a few NTEE categories

for which correlations run counter to expectations (Chang and Tuckman, 1994). Some

researchers have found negative correlations between diversification and the level of

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[4] Chang and Tuckman (1994) classify nonprofits as donative if at least 60% of revenue is derived from
public and private contributions, gifts, and grants. Commercial nonprofits, also called program service
groups, are those in which 60% of revenues are from commercial sources such as user fees.

fiscal stress experienced by a nonprofit organization, supporting the notion that diversification is a risk-reducing strategy (Greenlee and Trussel 2000, 2002; Gronbjerg, 1993; Tuckman and Chang 1991).

Kearns (2006) reviewed several normative approaches to nonprofit revenue decision-making, positing that nonprofits are multi-stakeholder / multi-decision-maker organizations whose diverse constituents' preferences and concerns must be melded together in order to arrive at a satisfactory revenue mix. Such concerns include the appropriateness of income sources relative to the nonprofit's mission, the potential of a revenue stream to generate significant levels of support, the risks associated with particular streams, possible trade-offs among alternative sources (e.g. crowding-out), and the effects of a particular source on the organization's autonomy. Kearn's work is part of a larger project that explored both the factors that drive nonprofit decision makers to one source of revenue over another and the factors that influence the decision-makers to mix these streams in particular ways (Young, 2006a).

Categories of Nonprofit Services – Theory and Model

It is clear that nonprofits provide a wide spectrum of goods and services ranging in character from pure public goods to pure private goods. Public goods, defined by economists as "non-rival" and "non-excludable" (e.g., public green space) are a classic manifestation of private "market failure". Profit-maximizing firms fail to provide these goods (or to produce them in socially optimal quantities) because it is very difficult to charge individuals for consuming them. Non-excludability results in free-riding and a failure of consumers to reveal their preferences, resulting in under-provision (Samuelson

1954). The case of public goods is argued to justify government intervention in the market. However, government intervention is not inevitable if popular support is not forthcoming, leaving space for nonprofit provision (Weisbrod, 1977) and various possible strategies for support on a voluntary basis despite the free-rider problem (Olson, 1965).

For the same reason that for-profit firms are not able to charge users for public goods, nonprofits also have difficulty requiring users to pay amounts commensurate with the benefits gained from consuming the good. Goods that are not excludable by their vary nature require a source of support other than fees; nonprofits providing these services must therefore rely on gifts and grants or other income such as that generated from investments or commercial ventures.

In contrast, some nonprofits provide essentially private goods that are rival and excludable in nature, their services offering few benefits beyond the specific clientele served by the organization. These services presumably could be provided by the private market as well, helping to explain so-called "mixed industries" (Ben-Ner 2002). Nonprofits providing these private goods, therefore, are more likely to earn revenues through fees[5], although they may structure or supplement these fees to accommodate particular (e.g., low income) target groups.

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[5] Nonprofits in this category may not solely rely on program fees, especially those serving low income populations. Some may implement sliding scales, while others will have to rely on contributions from government, private donors, or other commercial endeavors to subsidize their programs.

Nonrival / Nonexcludable		Rival / Excludable

←——→

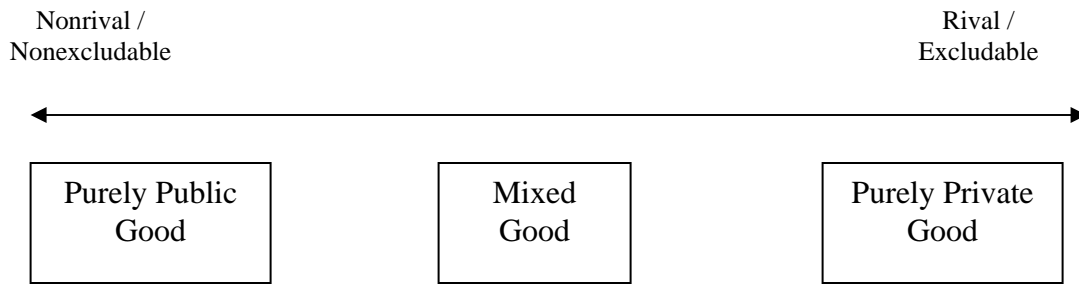| Purely Public Good		Mixed Good		Purely Private Good

Figure 1 Continuum of Nonprofit Service Provision

Most nonprofit services fall between these two extremes. They operate, for example, where there is market failure deriving from asymmetric information (Hansmann, 1987) or in areas featuring substantial externalities. Asymmetric information causes consumers to prefer nonprofits as a trustworthy alternative to for-profit providers. Externalities occur when the private market fails to internalize all the possible costs and benefits associated with a particular service, resulting in an insufficient level of service provision. In these (mixed) cases, nonprofits can be expected to offer services supported by fees supplemented by other sources of income such as contributions or government support.

We may also expect the degree of publicness of a nonprofit's services to influence its degree of revenue diversification. In particular, nonprofits that offer a mix of public and private goods may be expected to combine contributions and earned income to reflect the relative degrees of publicness and privateness of their services, and generally become more diversified than those offering strictly public or strictly private type goods or services.

In addition to the degree of publicness /privateness of their services, other characteristics of nonprofits are relevant to determining the proportion of revenues from any particular source, as well as overall level of diversification. For example, different fields of service are more or less sympathetic to the preferences of donors or the priorities of government funding. For example, social services attract more direct government support than private donations but the reverse is true for the arts. The geographic localities in which a nonprofit operates may reflect differences in residents' preferences and needs for services, with consequent variations in tax levels and government funding (Brooks, 2000). In addition, membership in a supportive network such as a regional or national association may also reduce risk (and hence the incentive to diversify), as suggested by Derryck's and Abzug's (2002) study of nonprofits in the New York region following the disaster of 9/11.

The maturity of a nonprofit organization is also likely to affect diversification decisions (Kimberly and Miles, 1980). New nonprofits confront the "liability of newness" (Chambre and Fatt 2002; Stinchcombe, 1965) and likely reflect the entrepreneurial risk taking and pragmatic cobbling together of resources of their founders (Young, 1985). Their capacity to manage multiple, complex streams is limited. Lack of experience may constrain the ability of young nonprofits to diversify revenues or generate income from investments or commercial ventures. In contrast, a mature nonprofit is more likely to have gradually differentiated its sources of income over time, including the building of endowments to generate investment income[6].

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[6] Investment returns are unique as an income stream because they are unrelated to levels of output and hence provide "fixed income," independent of an organization's productivity (Bowman, Keating, and Hager, 2006).

The size of a nonprofit organization may also influence its diversification behavior.   Larger organizations are likely to have greater "slack" in the form of reserve funds, endowments, and staff and infrastructure from which greater efficiencies can be squeezed in times of difficulty. Such slack can serve as a hedge against risk, possibly even mitigating the pressure to diversify revenue sources or generate new income streams. Finally, the overall field of service in which a nonprofit operates may affect its degree of diversification. Notably, some fields or subfields may be characterized by greater volatility in their principal sources of revenue, leading to greater emphasis on diversification in order to manage risk.

The forgoing theoretical foundations lead to two sets of hypotheses, the first concerning the particular sources of income on which a nonprofit depends, and the second concerning its degree of revenue diversification. A principal idea that we wish to test here is that the intrinsic public/private character of the goods or services provided by a nonprofit helps determine its dependence on particular sources of revenue. In this relationship we stipulate two principal hypotheses, as follows:

> *HS1: Nonprofits that produce public goods rely more on donations and less on program revenues (fees).*

> *HS2: Nonprofits that provide private goods rely more on program revenues and less on donations. .*

In addition, the literature suggests at least two additional hypotheses concerning reliance on donations versus fee revenues:

> *HS3: Nonprofits' reliance on particular revenue streams varies by field of service.*

> *HS4: Nonprofits' reliance on particular revenue streams varies by geographic location (i.e., political jurisdiction)*

Our reading of the literature also suggests that various factors, including the

public/private nature of their services, affect the degree to which nonprofit organizations

diversify their sources of revenue. In particular, we stipulate the following hypotheses:

HD1: Nonprofit organizations that offer mixed public/private type services are likely to have a more diversified revenue mix.

HD2: Nonprofit organizations affiliated with an umbrella organization are more protected from risk and hence less likely to diversify their revenues.

HD3: Nonprofits that are financially more healthy, according to indicators such as net worth or operating surplus or deficit have more diversified sources of income.

HD4: The age of a nonprofit organization is positively related to its degree of diversification.

HD5: The size of a nonprofit organization, reflecting its level of organizational slack, is related to its degree of diversification.

HD6: The field of service in which a nonprofit operates is associated with its degree of diversification.

The directionality of some of these hypothesized relationships is subject to alternative

theoretical arguments or measures, and hence may be somewhat ambiguous. In

particular, it may be argued (HD2) that affiliation with an umbrella organization may not

encourage a nonprofit to diversify its revenues, given a safety net if the initiative goes

awry. Alternatively, the umbrella organization may promote financial guidelines that

encourage diversification. Similarly, (HD3) financially healthy nonprofits may be

healthy because they have diversified, or they may feel that because they are healthy they

need not diversify. So too, (HD5) organizational slack may reduce an organization's

incentive to diversify in order to accommodate risk or it may have grown and built up

slack through a strategy of revenue diversification. The solutions to these puzzles are best addressed empirically.

Data and Methodology

To test our hypotheses, we analyze data from the National Center for Charitable Statistics (NCCS) which maintains a database of information from Form 990 filings by nonprofit organizations submitted to the Internal Revenue Service (for entities with revenues exceeding $25,000 in a given tax year). Specifically, we use data from the NCCS's 2003 core file which contains records on more than 289,000 nonprofits. We are aware of the limitations documented in previous research (Keating and Frumkin, 2003; Gordon et. al. 1999) but also recognize that these data are moderately reliable in fields relating to nonprofit revenue structure (Froelich, Knopfle, & Pollak, 2000).

As noted earlier, scholars have used the proportion of revenues derived from particular sources to classify nonprofits as providing public or private goods (or donative and commercial in the case of Chang and Tuckman (1994)). Here, however, we categorize nonprofits as public, private, or mixed based on their NTEE subfields. We began by searching NTEE codes for three broad categories of nonprofits which could provide multiple subfields that would fit each of the public, private, and mixed categories.

We chose the broad NTEE categories of Arts and Culture, Human Services, and Health. Appendix 1 displays the subfields chosen within these categories, along with their NTEE subfield codes, their representation in the sample, the category to which we assigned the subfield, and a brief explanation of our rationale. In total, our sample

contains information on 45,143 nonprofits, of which 13% are classified as essentially

public, 28% are essentially private, and the remaining 59% are mixed. Appendix 2

provides various summary statistics on this sample.

We next considered what sources of revenue should be included in the analysis,

focusing on seven streams of income that are identified in the 2003 Core File[7]. These

include program revenue[8], dues, net rental income, investment income, net income from

special events, other income, and contributions[9]. Approximately 90% of the nonprofits

in our sample received revenues from more than one of the above streams, similar to the

proportion of nonprofits with multiple streams in previous studies (Chang and Tuckman,

1994). In addition, we adjusted total revenues to be equal to the sum of the forgoing

components only, rather than the values given on the 990 forms which included changes

in assets and inventory. Because so few nonprofits rely substantially on changes in assets

for revenues, total revenue changed relatively little from this adjustment[10].

To calculate revenue concentration, the shares (proportions) of revenue from each

stream were calculated, squared, and summed to produce a Herfindahl index[11] for each

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[7] We emphasize the importance of focusing on income streams when choosing streams of revenue for a nonprofit organization. A basic familiarity with accounting is necessary to realize that the IRS Form 990 requires nonprofits to include changes in inventory and assets as part of their revenues for the year. The problem here is that the required form essentially mixes items on the balance sheets and income statements of nonprofits. For example, if a nonprofit sells a portion of its inventory, the nonprofit increases the amount of cash it has at its disposal. But this is more like a transfer from one account to another and does not represent new income to the organization. This is clearer when we consider the purchase of inventory or an increase in assets. Essentially, these are expenditures, and thus to include the net change in assets and inventory as part of the nonprofits' revenues is inappropriate.

[8] Program revenue includes government fees and contracts as well as payments by service users

[9] Contributions represent total public support, including direct and indirect support as well as government contributions and grants.

[10] There is, however, a significant difference in total revenues for those organizations with revenues in the bottom 1% of each category, but the difference between these two revenue estimates quickly declines. The difference between the two median values under the two approaches to total revenue is under 1%, at $238,633for revenues including changes in inventory and assets and $237,067when only the above streams are included.

[11] The Herfendahl Index, a common measure of diversification is the sum of individual revenue streams squared divided by the square of total revenues:

nonprofit in the sample[12]. While there are limitations to this index, it is one of the most commonly used tools for gauging diversification. The index assumes equal weights for each possible stream, and while bounded by 1 on the side of complete concentration in one source, the lower bound is a function of the number of streams considered. The minimum of the index approaches zero as the number of streams included in the calculations increases. The lower the index score, the greater is the diversification of revenues.

In our sample, the average index score is 0.754, with variation among the different categories of nonprofits. With an upper bound of one and a lower bound of .143 (1/7), an average of .754 indicates that while most nonprofits rely on multiple streams, the relative importance of these streams varies significantly. For most nonprofits in the sample, revenues are generated primarily through only a few key streams. For example, if a nonprofit receives 85% of revenues from one stream and 15% from another, the nonprofit would have an index of .745. Table 1 displays the average index score for each of the categories included in the study, along with average values across service sectors and degrees of publicness.

$$Index = \sum_{j} (\text{stream}_{ij}^2 / \text{total revenue}_i^2)$$

where i = Nonprofit 1, 2, …. , N and j = revenue stream 1, 2,…J.

[12] Recalculating total revenue also assures that the proportions of revenue from each stream sum to 1. Because so many of the changes in inventories were recorded as losses, proportions calculated using this revenue were often misleading.

Table 1: Average HHI by Sector and Level of Publicness

	Health	Arts	Human Services	All
Essentially Public	.814 (.202)	.732 (.221)	.867 (.175)	.780 (.215)
Mixed Public/Private	.857 (.167)	.645 (.228)	.780 (.201)	.787 (.210)
Essentially Private	.895 (.147)	.612 (.198)	.822 (.200)	.671 (.220)
All	.859 (.170)	.643 (.215)	.806 (.200)	.754 (.220)

Standard deviations in parentheses.

The numbers in Table 1 should be interpreted with caution for two reasons. First, the change in the index is nonlinear as the revenues of a nonprofit become more or less concentrated. For example, suppose we compare three non-profits each with two revenue sources. One nonprofit has revenue shares in the two streams equal to 0.7 and 0.3, while the remaining two have revenue mixes of 0.6 and 0.4, and 0.8 and 0.2, respectively. The resulting index scores are 0.58, 0.52, and 0.68. The average of the three indices, 0.593, is greater than the index had we used the average percentages for each stream and then calculated the index, suggesting that the index is skewed towards nonprofits with higher concentrations. For comparison, Table 2 presents the Herfindahl scores for nonprofits in each category with the average shares of revenue from each source, as opposed to the average index score presented in Table 1[13].

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[13] Tables presenting the shares of revenue from the major sources are presented in the Appendix. Only those revenue sources reported by more than half of the nonprofits are included in the tables, but all 7 streams previously listed are included in the calculations in Table 3.

Table 2: Herfindahl Index Scores for a nonprofit with revenue streams equal to the average stream, by category

	Health	Arts	Human Services	All
Essentially Public	0.485	0.370	0.682	0.444
Mixed Public/Private	0.511	0.340	0.429	0.396
Essentially Private	0..485	0.360	0.431	0.377
All	0.488	0.358	0.434	0.387

The index treats all revenue sources equally and does not reveal the specific sources in which particular categories of nonprofits may be concentrated. According to our theory, the particular mix – as well as the level of diversification – may be a function of the service field and the nature of the good.

Summary statistics for the pooled sample, along with disaggregated means for the three public/private categories and the major NTEE fields are provided in Appendix 2. On average, the nonprofits in the sample are 36 years old, and 95% are unaffiliated[14]. Average revenues exceed $10 million, with nonprofits holding an average of $12.7 million in assets and $6.2 million in liabilities. In the sample, 41.5% of revenues are earned, while 46% are received as contributions or gifts[15].

For each regression estimated below, we use a cluster-specific fixed effects method. This is equivalent to including dichotomous variables representing (n-1) of the 2698 counties in which sample nonprofits are located. This method accounts for correlation between unobservable variables for nonprofit organizations within a county,

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[14] Remember, this sample is only of nonprofits filing tax returns and earning $25,000 annually. Affiliation may also misrepresent the entire sector if some nonprofits are filing under the larger umbrella organizations.

[15] These figures include money from the government which we are unable to separate out based on the data available to us.

such as preferences and tax policies. This estimation procedure addresses hypothesis HS4 above.

Results

In this section, we present results from regression analyses involving three dependent variables: proportion of revenues from program fees, proportion of revenues from contributions, and the Herfindahl index of diversification. All tables below are presented in the same format: The first column represents the full sample. Each subsequent column presents estimates based on a different major NTEE category - Health (Column 2), Arts (Column 3), and Human Services (Column 4).

Table 3: Determinants of Earned Income (within county estimates)

	Pooled Sample	Health	Arts	Human services
Public	-0.163**	-0.336**	0.026**	-0.286**
	(27.58)	(19.54)	(3.00)	(35.84)
Private	0.083**	0.170**	0.161**	-0.040**
	(16.37)	(12.27)	(25.00)	(3.06)
Arts	-0.024**			
	(4.81)			
Health	0.251**			
	(35.59)			
Organization Age	0.000**	0.000	0.000	0.000**
	(3.94)	(0.75)	(1.80)	(2.84)
Unaffiliated	-0.058**	-0.088**	0.011	-0.028
	(7.00)	(6.06)	(0.65)	(1.83)
Assets – BOY	-0.000**	-0.000*	-0.000	-0.003**
(in millions)	(2.86)	(2.58)	(1.91)	(4.07)
Liabilities-BOY	0.000	0.000	0.001*	0.018**
(in millions)	(0.72)	(0.57)	(2.13)	(5.45)
Total Revenues	0.001**	0.001**	0.000	0.001
(in millions)	(9.59)	(8.85)	(0.25)	(0.85)
Constant	0.425**	0.720**	0.249**	0.408**
	(50.03)	(43.41)	(14.60)	(27.30)
Observations	45143	7867	16991	20285
R-squared	0.12	0.20	0.05	0.04

T-values are in parentheses; * is significant at the 5% level, ** significance at the 1% level.

Table 3 presents estimates of nonprofits' proportions of revenue generated through earned income, controlling for financial dimensions, characteristics of the service, age and affiliation, and location through the fixed effects variables. Most of the independent variables significantly explain variation in the proportion of revenues from program fees within a specific county. Compared to the reference group of Human Service nonprofits, Arts organizations rely slightly less on earned income on average, while Health nonprofits, on average, earn a significantly larger share of their revenues through payments for service provision. *Age* significantly affects the proportion of income earned for nonprofits, although the magnitude of this variable indicates that it is much less important in predicting a nonprofit's reliance on earned income. A similar story holds for the *assets (beginning of year)* and *total revenue (*adjusted*)*. While significant, an increase of $1 million in adjusted total revenue increases the proportion of revenues that are earned through program fees by only 1/10 of a percent. The same $1 million increase in assets decreases the proportion of revenues earned from program fees by less than 1/10 of one percent. *Liabilities (beginning of year)* does not have a significant impact on the proportion of revenues from program fees in the overall sample. Finally, firms that are unaffiliated with an umbrella organization rely less on earned income, on average, than their affiliated counterparts.

The first two variables in the regression, *public* and *private,* have the most important impacts. In our overall sample, a nonprofit classified as providing public goods earns on average 16.3% less of its revenues from program fees than does a similar nonprofit organization classified as mixed. Nonprofits classified as providing private

goods, on the other hand, exhibit a proportion of revenues from fees that is on average 8.3 percentage points greater than a mixed nonprofit of similar age, status, and size.

Columns 2-4 present results from each of the service categories estimated separately. For Health nonprofits, the pattern follows that of the overall sample. Relative to mixed nonprofits, the proportion of revenues generated through earned income is 33.6% lower for nonprofits classified as public, on average. Those nonprofits offering services more private in nature, on average, collect 17% more of their revenues from user fees than nonprofits whose services are mixed in character. A similar dependence on user fees is found for Arts nonprofits classified as private, although this proportion of revenues, on average, is only 16.1 percentage points greater than Arts nonprofits categorized as mixed. Surprisingly, we also find that Arts organizations classified as public earn slightly more of their revenues from program fees than do mixed nonprofits. The latter difference, while significant, is however small in magnitude. Finally, in the Human Services field, as in Health, nonprofits classified as public rely much less (28.6%) on program revenues, on average, than mixed nonprofits. Unlike Health, however, Human Services nonprofits categorized as providing essentially private goods also rely less on earned income than their mixed counterparts. While the latter difference is small, on average, it is also puzzling.

Table 4 presents parallel results for the proportions of revenues from contributions. While the proportions of revenue generated from the two largest streams of income for nonprofits, donations and earned income (program fees), are highly (negatively) correlated at .82,, there remains enough of a difference that estimates are not merely mirror images for the two dependent variables.

Table 4: Determinants of Contributions (within county estimates)

	Pooled Sample	Health	Arts	Human Services
Public	0.175**	0.435**	-0.039**	0.278**
	(28.30)	(27.51)	(4.22)	(28.53)
Private	-0.047**	-0.059**	-0.137**	0.030*
	(9.71)	(5.86)	(20.99)	(2.27)
Arts	-0.079**			
	(15.98)			
Health	-0.306**			
	(53.35)			
Organization Age	-0.000**	-0.000**	-0.000*	-0.000
	(4.17)	(2.70)	(2.08)	(1.95)
Unaffiliated	0.111**	0.052**	0.200**	0.085**
	(15.08)	(4.88)	(13.19)	(5.75)
Assets – BOY	0.000*	0.000*	-0.000	0.001
(in millions)	(2.55)	(2.43)	(0.45)	(1.74)
Liabilities-BOY	-0.000	-0.000	-0.001	-0.018**
(in millions)	(1.09)	(1.16)	(1.64)	(6.26)
Total Revenues	-0.000**	-0.000**	0.001**	0.003**
(in millions)	(9.70)	(8.22)	(2.88)	(3.17)
Constant	0.434**	0.132**	0.366**	0.447**
	(56.84)	(11.76)	(22.81)	(30.64)
Observations	45143	7867	16991	20285
R-squared	0.13	0.25	0.05	0.04

T-values are in parentheses; * is significant at the 5% level, ** significance at the 1% level.

For the overall sample (Column 1), we do find many of the results mirror those in Table 3. For example, Health nonprofits, which rely the most on earned revenues, rely the least on charitable donations, on average. Arts nonprofits, on average, depend less on charitable donations than Human Services nonprofits, although this difference is reasonably small, at less than 8 percent. Nonprofits that are not affiliated with an umbrella organization also rely more on contributions, and *assets* and *total revenues* are significant but small in their impact on contributions. Importantly, when controlling for the other factors, on average, those nonprofits classified as public receive a proportion of their revenues from contributions that is 17.5% percentage points higher than similar nonprofits classified as mixed. Moreover, the proportion of revenues received via

contributions for private nonprofits is 4.7% lower, on average, when compared to mixed nonprofits with similar characteristics.

The Health sample once again fits the expected pattern. The share of revenues generated through contributions is significantly higher (43.5%) for those nonprofits classified as public, relative to those classified as mixed. The difference between mixed and private nonprofits is much smaller, with nonprofits whose services are classified as private earning approximately 6% less from contributions, on average. In the case of Arts nonprofits, we again find that the public and mixed categories are much more similar than are private and mixed nonprofits. Public nonprofits actually rely slightly less (under 4%) on charitable contributions than mixed nonprofits, while the private Arts nonprofits receive 13.7% less of their revenues from private contributions than do mixed Arts nonprofits. Finally, in the case of Human Services, we find that those nonprofits classified as private and those that are mixed are much more similar to one another than are those classified as public and mixed. Human Service nonprofits classified as private actually receive 3% more of their revenues from contributions than those classified as mixed, although Human Service nonprofits classified as public receive 27.8% more of their revenues from contributions than those classified as mixed, on average.

Table 5: Herfendahl Index Scores (within county estimates)

	Pooled Sample	Health	Arts	Human services
Public	0.060** (17.58)	-0.018* (2.18)	0.076** (13.13)	0.066** (12.24)
Private	-0.012** (4.40)	0.040** (6.97)	-0.037** (8.18)	0.021** (3.26)
Arts	-0.164** (57.81)			
Health	0.049** (17.11)			
Organization Age	-0.000* (2.03)	0.000 (0.41)	-0.000* (2.31)	-0.000 (0.74)
Unaffiliated	0.018** (4.21)	-0.019** (2.90)	0.058** (5.70)	0.054** (6.81)
Assets – BOY (in millions)	-0.000** (3.06)	-0.000** (2.97)	-0.000* (2.16)	-0.004** (5.26)
Liabilities-BOY (in millions)	0.000 (1.19)	0.000 (0.36)	0.000 (0.40)	0.003* (2.10)
Total Revenues (in millions)	0.000** (6.43)	0.000** (6.85)	-0.000 (0.36)	0.003** (7.37)
Constant	0.785** (176.77)	0.864** (132.97)	0.594** (54.89)	0.747** (94.93)
Observations	45143	7867	16991	20285
R-squared	0.17	0.03	0.05	0.02

T-values are in parentheses; * is significant at the 5% level, ** significance at the 1% level.

Finally, Table 5 displays estimates of our measure of revenue diversification, the Herfindahl index. Recall that the lower the index, the more diversified the revenues. Negative coefficients, therefore, indicate greater diversification, while positive coefficients signify more concentration. Arts nonprofits are the most diversified when controlling for the other independent variables, with an index score that is .164 lower, on average, than Human Services nonprofits, and more than .21 lower, on average, than Health nonprofits. Again, variables including age, assets, and total revenues are significant, but small in impact. Contrary to expectations (HD2), organizations that are affiliated are also slightly more diversified than their unaffiliated counterparts. In the overall sample, (Column 1), we find that nonprofits classified as public are more concentrated than similar nonprofits categorized as mixed, while those nonprofits

categorized as private are slightly more diversified, on average. This is counter to expectations (HD1) as we would anticipate that nonprofits with mixed public/private goods would be more diversified than nonprofits classified as either public or private.

These results, however, are not robust across the general NTEE categories. For Health nonprofits, those that are private are the most concentrated, while those that are public are the most diversified. For the Arts, we find that public nonprofits are more concentrated, on average, with index scores .076 higher than mixed Arts nonprofits. Arts nonprofits classified as private exhibit greater diversification with scores .037 less than mixed Arts nonprofits, on average. Finally, for Human Services, nonprofits classified as public are the most concentrated, with nonprofits classified as private in the middle, and mixed nonprofits the most diversified. Only the latter category follows the hypothesized pattern.

Discussion

These results confirm a relationship between the nature of the services provided and the revenue streams on which nonprofits rely. In particular, we find a clear pattern that nonprofits providing services that are public in nature rely more on contributions for their revenue base than do nonprofits whose services are private. Alternatively, nonprofits offering private services rely more on earned sources of revenue.   These results offer general confirmation for the main hypotheses (HS1 and HS2) that a nonprofit organization's revenues reflect the nature of services and benefits it produces.

However, there are also some riddles requiring further inquiry and research. In particular, separate examination of the broad subfields of nonprofits did not always

preserve the expected order of private, mixed, and public. For example, we found that while private Arts nonprofits relied most on earned or program revenue, public nonprofits were slightly more reliant on this source than mixed nonprofits. In all cases where the expected order was not preserved, the differences between mixed and the category falling in the middle are relatively small. Still the results are puzzling. One possible explanation is that our classification scheme failed to adequately capture the public/private nature of services in certain nonprofit subfields. Further study of additional NTEE categories, along with a reexamination and classification of those in this study, might help establish a more accurate continuum for the public/private nature of service provision. Another explanation may pertain to the nature of particular fields of service and the coarseness of the data. For example, in Human Services, substantial proportions of program revenues are actually paid directly or indirectly by government, implying that there may be substantial externalities, or perhaps redistributive goals, associated with nonprofits offering apparently private services. Perhaps human services generate greater externalities or are unique due to the nature of their therapeutic goals or clientele, enabling them to rely on other sources as well as fees. In contrast, there is relatively little government funding involved in the arts, suggesting that arts institutions offering public goods also must find enterprising ways of supporting themselves through marketable services for which their constituents will pay. Better data that would permit the disentangling of government versus private fee support would help to investigate this riddle.

With respect to the diversification findings, results are consistently significant for the public and private variables, but there is no clear pattern, despite the expectation

(HD1) that mixed service nonprofits would be most diversified. It may be that the reliability of different sources of funds varies by field. For example, in the human services, funding for public type services may be reliably funded by government, requiring less diversification for nonprofits in this area of service, whereas in Health, private services are reliably funded by fees, requiring less diversification. Additional research could drill into each of these fields and attempt to disentangle the interactions between funding source reliability and diversification for the various public/private sub-categories of services.

Another puzzle is the direction of the affiliation variable as it relates to diversification. Our hypothesis (HD2) postulates that affiliation would reduce exposure to risk and hence moderate the impetus for diversification. However, our results suggest otherwise.   It is possible that umbrella organizations provide the knowledge and a foundation of support to enable nonprofits to diversify their revenue sources, despite the possible muting of incentives that affiliation provides for protection against risk.

Conclusion

The essential lesson of the research reported here is that the financing of nonprofit organizations is strongly related to the nature of the services and benefits that they provide. Given the extant diversity of nonprofit services, especially their variation along the spectrum of public and private goods, we can understand why nonprofits finance themselves through so many different sources and combinations of income. Our contribution here has been to connect the intrinsic character of a nonprofit's services, as indicated by its NTEE subfield, to its pattern of revenue support. This is important

because it confirms for the first time that previously suggested measurements of the collective nature of nonprofit output using ratios of contributed versus earned income do indeed reflect the underlying nature of services provided. It is also important because it affirms a basic tenet of nonprofit fund development that is probably not sufficiently appreciated or exploited in practice – that a nonprofit organization should base its revenue strategy on the nature of benefits it provides (and hence who may be willing to pay). This message may conflict with some nonprofits' desire to seek fashionable panaceas such as commercial ventures or building endowments through contributions. It may be that nonprofits are "leaving money on the table" by failing to fully connect their services and benefits to their sources of finance.

The results here also suggest that nonprofit revenue strategy is related to risk management, although the ways in which this process works remains somewhat mysterious. Certainly we are puzzled by the fact the mixed service nonprofits are the most diversified only the field of Human Services and not in Health or the Arts. Other factors appear to be at work that may overwhelm diversification in those fields according to the nature of benefits provided. Also especially puzzling is the strong but negative relationship between an organization's affiliation with an umbrella association and its degree of revenue diversification, a finding that runs counter to some previous research. This relationship may indicate that umbrella associations encourage their members to manage risk more effectively rather than dull their incentives by providing a safety net.

The empirical approach we have taken in this research is necessarily rudimentary and limited by the available data, which may help account for some of the remaining puzzles. An important question is why the ordering of public, mixed and private nature

of services is not preserved among all subfields in determining reliance on donations or program revenues. While the differences that upset this logical ordering are very small, they remain significant and troubling. Future efforts should replicate this research using other major NTEE categories and subfields and if possible, disaggregate further by classifying the public/private nature of output of individual nonprofits rather than subfields as a whole.

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Appendix 1:

Table A: Description of Subfields Chosen

Field	Code	Subfield	Number	Class.	Rationale
Arts and Culture (alternative to Animal)	A01	Advocacy	63	Public	Non-rival, non-excludable benefits
	A30 – 34	Film, TV, Radio	1963	Public	Radio is the classic public good; other forms of media similar in nature
	A23	Cultural and Ethnic Awareness	1279	Public	Non-rival, non-excludable benefits of public education
	A25	Arts Education in Schools	679	Mixed	Private benefits to students; externalities for society in the form of public art and productive citizens
	A50 – 57	Museums (Various)	2964	Mixed	Private benefits to visitors; externalities in arts promotion and preservation, quality of community life
	A60– A6E	Performing Arts	10130	Private	Rival and excludable benefits accrue disproportionately to individual attendees
Human Services	P01	Advocacy	119	Public	Non-rival, non-excludable benefits
	P60 - P62	Emergency Assistance	1285	Public	Intendedly non-excludable and non-rival in provision
	P33	Child day care	4872	Mixed	Private benefits to children and parents; externalities in the form of more productive citizens if children perform better in school and are less likely to become delinquents, and if a parents/guardians are able to participate in labor force
	P40 - P47	Family Services	4004	Mixed	Private therapeutic benefits for children and adults; external benefits to society in the form of healthier, more law-abiding and productive citizens
	P80 -	Independence	8844	Mixed	Direct private benefits to

	P88	of "fragile groups"			clients; externalities in the form of greater self-reliance and less burden on government and taxpayers.
	P50 - P52, P58	Personal Social Services	1234	Private	Primarily direct private benefits to clients; minimal external benefits to society in form healthier, more productive citizens
Health	E01	Advocacy	117	Public	Non-rival ,non-excludable benefits
	E70	Public Health	955	Public	Non-rival, non-excludable benefits for public at large
	E42	Family Planning	329	Mixed	Private benefits to families; external benefits for society from preventing unwanted pregnancies or placement of infants with couples wanting to adopt
	E20 - E24	Hospitals / Primary Care	4773	Mixed	Private benefits to individual patients; external benefits in form of reduction of communicable disease
	E90 & 91	Nursing, Home Health	1738	Private	Primarily private benefits to clients and their families, minor external benefits for other members of society in the form of assurance of availability of care.

Summary Statistics by Category and Classification

	Pooled Sample	Health	Arts	Human services	Public	Mixed	Private
Earned Income	.415 (.399)	.665 (.417)	.357 (.330)	.366 (.409)	.235 (.343)	.426 (.420)	.471 (.354)
Contributions	.460 (.389)	.207 (.348)	.473 (.332)	.547 (.407)	.620 (.388)	.460 (.405)	.387 (.329)
Diversification	.754 (.212)	.859 (.170)	.643 (.215)	.806 (.200)	.780 (.215)	.787 (.210)	.671 (.220)
Public	.127 (.334)	.135 (.342)	.194 (.395)	.069 (.253)			
Mixed	.592 (.491)	.645 (.479)	.236 (.425)	.870 (.336)			
Private	.280 (.449)	.220 (.414)	.571 (.495)	.061 (.238)			
Organization Age	35.9 (181)	48.1 (201)	29.7 (152)	36.3 (194)	27.1 (157)	39.6 (194)	32.0 (160)
Unaffiliated	.948 (.223)	.868 (.338)	.972 (.166)	.958 (.200)	.972 (.164)	.944 (.229)	.943 (.231)
Assets – BOY (in millions)	12.7 (109)	42.0 (250)	2.79 (28.8)	1.09 (5.63)	1.47 (12.5)	20.0 (140)	2.44 (14.0)
Liabilities-BOY (in millions)	6.16 (60.6)	33.2 (141)	.520 (6.60)	.407 (3.36)	.534 (7.61)	9.77 (78.3)	1.12 (34.0)
Total Revenues (in millions)	10.7 (73.9)	55.2 (169)	1.01 (7.72)	1.60 (7.09)	1.29 (12.2)	17.0 (95.3)	1.76 (6.59)
Health	.175 (.380)				.185 (.389)	.190 (.392)	.136 (.343)
Arts	.377 (.485)				.572 (.495)	.150 (.357)	.766 (.423)
Human Services	.449 (.497)				.243 (.429)	.660 (.474)	.097 (.296)
Observations		7867 (17%)	16991 (38%)	20285 (45%)	5781 (13%)	26852 (59%)	12718 (28%)

Standard Deviation in Parentheses