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Working Paper 08-03  
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Nonprofit Organizations – Does it  
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# ***Exploring the Revenue Mix of Nonprofit Organizations – Does it relate to Publicness?***

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## Abstract

By offering a variety of goods and services, nonprofits are capable of collecting funding from multiple revenue sources. We begin developing a theory that suggests the composition of revenues is a result of the nature of services provided – specifically whether services are public, private, or mixed in the nature of their benefits. Using 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 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 those classified as mixed. Similarly, the more public a nonprofit's services, the greater the reliance on donations. We also identify some puzzling results that suggest the need for continued investigation.

## **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 of revenue streams supporting nonprofit organizations. While several scholars have studied nonprofit revenue diversification, a comprehensive theory of nonprofit dependence on different sources and mixes of income remains largely undeveloped. In this paper we examine two related issues: (1) the connection between particular types of nonprofit revenue and the public/private nature of services provided by nonprofit organizations and (2) 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, whereby the index score was 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 generated by contributions 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**

The constraints on profit distribution for a nonprofit organization results in the availability of revenue sources that are unique to this sector. 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).

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). Using this as a foundation for building a body of research on nonprofits, scholars hypothesized that individuals, satisfied with existing levels of service provision, would decrease private donations dollar for dollar as the public sector increased its support. The benefits derived from the nonprofits services would be constant for the individual regardless of the funding agent. Empirical evidence, however, rarely found this one-to-one crowding out. In 1978, Abrams and Schitz found less than the predicted one-to-one ratio. More complicated analysis by Payne (1998) estimated that one dollar of public funding decreased private donations by approximately 50 cents. Finally, scholars recognized that earlier crowding out studies likely ignored endogenous factors such as changes in fund-raising behavior by nonprofit organizations (Andreoni and Payne 2003). The lack of free-riding and crowding out led to the development of new theories pertaining to the existence and financial support of nonprofit organizations.

Scholars considered alternative motivations to giving. Becker (1976) described the significance of social income, introducing an income constraint into the traditional

neoclassical model that included the income of other individuals, and utility functions which also included the consumption levels of others. Andreoni (1990), drawing on suggestions that individuals donate to nonprofit organizations for reasons that are not purely altruistic, formalized the theory of warm-glow. Finally, scholars considered the effect of income distribution on the optimal level of public goods, applicable to nonprofit organizations and voluntary contributions in their fund-raising and service provision decisions (Bergstrom, Blume, and Varian 1986)

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, 2006).

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 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” 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 of income rather than a direct characterization of the nature of service provided<sup>i</sup>.

Dependence on any given stream of revenues may prove problematic for some nonprofit organizations according to a growing body of work on revenue diversification. 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, but most nonprofits diversify, and most research supports such efforts. 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). Negative correlations between diversification and the level of fiscal stress experienced by a nonprofit organization also occur in several studies, supporting the notion that diversification is a risk-reducing strategy (Greenlee and Trussel 2000, 2002; Gronbjerg, 1993; Tuckman and Chang 1991).

Kearns (2006) reviews 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. Kearns' 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, 2006).

### **Categories of Nonprofit Services – Theory and Model**

Nonprofits are said to emerge under conditions of market and government failure, when both public and private provision are insufficient for some members of society (Weisbrod 1977). These conditions include public goods and externalities, and asymmetric information between providers and consumers (Hansmann 1987). There is

considerable variation in the reasons nonprofits operate in particular service areas, with some nonprofit organizations able to compete with private, for-profit firms in “mixed industries” (Ben-Ner 2002).

The forgoing theories suggest that the nature of the services provided affects the revenue streams available to nonprofit organizations. For example, in the case of public goods, where private organizations cannot charge fees, nonprofits have to rely more heavily on charitable contributions or government funding. In mixed industries, where for-profit firms are able to compete by charging fees for predominantly private services, nonprofits can also rely on user fees. In the case of mixed goods and services (involving asymmetric information, externalities, and redistributive efforts), we expect a more diverse mix of nonprofit revenue sources.

Previous research on revenue sources and diversification suggests determinants to funding in addition to those directly related to the nature of the good provided. For example, the geographic localities in which a nonprofit operates may reflect differences in residents’ preferences and needs for services, variations in tax levels, and attitudes towards giving versus government funding (Brooks, 2000). In addition, membership in a supportive network such as a regional or national association may affect a nonprofit’s revenue streams and reduce its risk and hence the incentive to diversify (Derryck and Abzug 2002).

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.

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 hypotheses concerning the particular sources of income on which a nonprofit depends and its degree of revenue diversification. The 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. Accordingly, we stipulate three hypotheses, as follows:

*H1: Nonprofits that produce public goods rely more on donations and less on program revenues (fees)*

*H2: Nonprofits that provide private goods rely more on program revenues and less on donations.*

*H3: Nonprofit organizations that offer mixed public/private type services are likely to have a more diversified revenue mix.*

## **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. On average, the nonprofits in the sample are 36 years old, and 95% are unaffiliated<sup>ii</sup>. 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<sup>iii</sup>. We are aware of the limitations in this data set 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. Here, however, we categorize nonprofits as providing essentially public, private, or mixed goods based on their NTEE subfields. We began by searching NTEE codes for three broad categories of nonprofits which include multiple subfields that 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<sup>iv</sup>. These include program revenue<sup>v</sup>, dues, net rental income, investment income, net income from special events, other income, and contributions<sup>vi</sup>. 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). While we adjusted total revenues to be equal to the sum of the forgoing components rather than the values given on the 990 forms which included changes in assets and inventory, total revenue changed relatively little from this adjustment<sup>vii</sup>. To calculate revenue concentration, the shares (proportions) of revenue from each stream were calculated, squared, and summed to produce a Herfindahl index (HI)<sup>viii</sup> for each nonprofit in the sample<sup>ix</sup>.

In our sample, the average index score is 0.754, with sizeable variation among the different categories. With an upper bound of one and a lower bound of .143 (1/7), an average of .754 indicates that while there is some diversification, most nonprofits still rely predominantly on one source. 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.

**Table 1: Average HI by Sector and Level of Publicness**

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

**Table 2: HI Scores using revenue streams equal to the average stream, by category**

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

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 HI 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<sup>x</sup>.

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.

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, such as preferences and tax policies.

### **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, and a set of independent variables reflecting findings from previous literature. 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 presents estimates of nonprofits' proportions of revenue generated through earned income, controlling for financial measures of size, 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 from payments for service provision. *Age* significantly affects the proportion of income earned for nonprofits, although the magnitude of this variable indicates that it is relatively unimportant. Similarly 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 a tenth of one

percent. The same \$1 million increase in assets decreases the proportion of revenues earned from program fees by less than one tenth 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.

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

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

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 program fees than nonprofits whose services are mixed in character. A similar dependence on program 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: Determinants of Contributions (within county estimates)**

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

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.

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 nonprofits classified as mixed. Moreover, the proportion of revenues received via contributions for private nonprofits is 4.7% lower, on average, than 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 are much more similar to those that are mixed than are those classified as public. 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 on average than those classified as mixed.

Finally, Table 5 displays estimates of our Herfindahl measure of revenue diversification. 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, 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 have more concentrated revenue than similar nonprofits categorized as mixed, while those nonprofits categorized as private are slightly more diversified, on average.

**Table 5: Herfindahl Index Scores (within county estimates)**

	<i>Pooled Sample</i>	<i>Health</i>	<i>Arts</i>	<i>Human Services</i>
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.

This is counter to expectations (H3) 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 (H1 and H2) 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 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. 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. 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 (H1) that mixed service nonprofits would be most diversified. It may be that the variability 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 expectation was 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**

Our essential finding 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 that mixed service nonprofits are the most diversified only in 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. Also puzzling is the strong but negative relationship between an organization's affiliation with an umbrella association and its degree of revenue diversification. 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 - P88	Independence of “fragile groups”	8844	Mixed	Direct private benefits to 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**

	<i>Pooled Sample</i>	<i>Health</i>	<i>Arts</i>	<i>Human Services</i>	<i>Public</i>	<i>Mixed</i>	<i>Private</i>
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

Footnotes

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<sup>i</sup> 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.

<sup>ii</sup> Remember, this sample is only of nonprofits filing tax returns and earning \$25,000 annually. Affiliation may also be misleading if some nonprofits file under their umbrella organizations and hence do not appear separately in the sample.

<sup>iii</sup> These figures include money from the government which we are unable to separate out based on the data available to us.

<sup>iv</sup> The IRS Form 990 requires nonprofits to include changes in inventory and assets as part of their revenues for the year. The problem is that the required form 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.

<sup>v</sup> Program revenue includes government fees and contracts as well as payments by service users

<sup>vi</sup> Contributions represent total public support, including direct and indirect support as well as government contributions and grants.

<sup>vii</sup> 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 \$238,633 for revenues including changes in inventory and assets and \$237,067 when only the above streams are included.

<sup>viii</sup> The Herfindahl Index, a common measure of diversification is the sum of individual revenue streams squared divided by the square of total revenues:

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

where  $i = \text{Nonprofit } 1, 2, \dots, N$  and  $j = \text{revenue stream } 1, 2, \dots, J$ .

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.

<sup>ix</sup> 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.

<sup>x</sup> 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.