Financial Efficiency
In the Nonprofit Sector

An Analysis of Factors Affecting

Expense Ratios of Kentucky Nonprofits

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Executive Summary

Statement of Problem
Recent events in both the public and private sectors have lead to an environment of mistrust and caution surrounding the way organizations are managed and funds are handled. For the nonprofit sector, this has led to an emergence of charity rating or watchdog organizations and increased scrutiny of finances. Individual donors, charity rating agencies, and funding institutions have begun using expense ratios as a measure of financial efficiency. Decisions on the financial efficiency of organizations are being made without a good understanding of what factors affect these ratios.

Research Questions
The purpose of this paper is to answer the following questions:
- Do regional and organizational characteristics affect nonprofit administrative expense ratios?
- Do regional and organizational characteristics affect nonprofit fundraising expense ratios?

Methodology
A simple random sample (n=200) was conducted of nonprofit organizations within Kentucky filing IRS Form 990 Returns in the 2000 tax year. The data were analyzed using Intercool Stata 8 to calculate frequency distributions, summary statistics, a correlation matrix, and multiple regressions.

Results
The analysis found the age of an organization and six National Taxonomy of Exempt Entities categories to be statistically significant in affecting change in administrative expense ratios. The regression model as a whole was significant at the 95% confidence level and explained 19% of variation in the dependent variable. The analysis found no variables statistically significant in affecting change in fundraising expense ratios. The model itself was not statistically significant and explained only 5% of variance in the dependent variable.

Conclusion and Recommendations
From this analysis it is concluded that further research is needed to understand what factors affect expense ratios and the financial efficiency of nonprofit organizations. It is recommended for future studies that: (1) a larger sample size be used, (2) less aggregated data (county demographics instead of region) be used to increase statistical power, (3) a stratified random sample be used in order to better represent counties/regions that have fewer nonprofit organizations, and (4) variables be included in the regression model that capture characteristics internal to an organization.

Statement of Problem

Recent events in both the public and private sectors have lead to an environment of mistrust and caution concerning the way organizations are managed and funds are handled. The image of the nonprofit sector took a hard hit after the United Way's national leader was accused of fraud and embezzlement in 1992, and after questions arose concerning the way donations were handled by the Red Cross after the terrorist attacks of September 11, 2001. A survey conducted by the *Chronicle of Philanthropy* found that 47 percent of those surveyed said they had less confidence in the way charities handle donations after September 11th than they did before (Gose 23). In a New York Times story, Brian Gallagher, president of the United Way of America, was quoted as saying "what happened at Enron and WorldCom has raised the bar for both for-profit and not-for-profit businesses (Strom A1)."

One way the bar has been raised for nonprofits is through charity watchdog organizations like Charity Navigator and Charity Guide. These organizations, along with a handful of periodicals such as *Forbes* and *U.S. News,* rate charities providing information for public and private donors to use.   One measure commonly used to evaluate efficiency is expense ratios, especially administrative and fundraising ratios. Common thought is that the lower the ratio the better (see Appendix A for ratio calculations). The federal government's Combined Federal Campaign, one of the largest annual workplace giving campaigns, created rules based on these ratios for organizations wishing to solicit. "The Director may reject any application from an organization with fundraising and

administrative expenses in excess of 25 percent of total support and revenue" (Code of

Federal Regulations, Title 5, Part 950).

There is much debate about the use of these ratios. Advocates say that ratios keep

organizations honest and, while not a complete picture, do provide a good look at the way

an organization is managed. Opponents say that the ratios are far too simplistic to be of

much use. The information used to calculate the ratios is taken from the IRS Form 990,

however there are no specific guidelines telling organizations where certain funds must

be accounted for. Jennifer Lammers, the former V.P. of the Better Business Bureau New

York Philanthropic Advisory Service, writes in an article, "an over-emphasis on

financial ratios is demonizing necessary administrative and management expenses and

elevating the value of efficiency over effectiveness." Lammers also states, "a failure to

understand the financial ratios that watchdogs employ or what circumstances may affect a

charity's performance against them puts some organizations at a disadvantage when they

are calculated – whether formally or simply by a reporter or donor with a calculator ... at

worst, a good organization may actually fail to meet the minimum requirements,

receiving a negative ranking or report (Lammers)."

<u>Research Questions</u>

It is the purpose of this paper to examine what factors affect the expense ratios that are of

popular use to individual donors, watchdog organizations and funding institutions.

Therefore the research questions of this paper are:

- Do regional and organizational characteristics affect nonprofit administrative
  expense ratios?
- Do regional and organizational characteristics affect nonprofit fundraising
  expense ratios?

Background

Although philanthropy and volunteerism have been associated with American culture

since colonial America, it was not until the 1970s that a coherent "nonprofit sector"

emerged (Hall). Since that time, the sector has seen tremendous growth: "between 1977

and 1997, the revenues of America's nonprofit organizations increased 144 percent after

adjusting for inflation (Salamon)." In 2000, the nonprofit sector contributed over 11% of

the United States' Gross National Product and employed 13.5% of the workforce.

(Brinckerhoff 255)."

The nonprofit sector encompasses a variety of organizations that serve different purposes,

mainly 501(c)(3) and 501(c)(4) organizations. 501(c)(3) organizations are charitable

organizations that are tax-exempt and are able to receive donations that are tax-deductible

for the donor. These organizations serve a broad public purpose and do not allow profit

to be distributed for private use. 501(c)(4) is a general category for civic organizations,

which receive tax-exempt status but are unable to receive tax-deductible donations.

Churches and other religious organizations are frequently lumped into the nonprofit

sector and while they enjoy many benefits of 501(c)(3) status they are not legally

required to incorporate or pursue tax-exempt status (Hall).

This paper focuses on organizations that are tax-exempt under 501(c)(3) status. A

breakdown of the major groups of organizations classified as 501(c)(3) is available in

Appendix B.

Literature Review

The main concept of interest in this paper is the financial efficiency of nonprofit

organizations. Therefore it is important to discuss what efficiency is. Deborah Stone

summarizes Summer H. Slichter's position on efficiency saying that it is a "comparative

idea" and "a way of judging the merits of different ways of doing things." Stone goes on

to say that efficiency has become "the ratio between input and output, effort and results,

expenditure and income, or cost and resulting benefit (Stone 61)."

 In the context of the public sector, efficiency is probably best described as "an ideal

meant to guide how society chooses to spend its money or allocate its resources in order

to get the most value (Stone 65)." It is therefore understandable why individual donors,

watchdog organizations and funding institutions are concerned with the financial

efficiency of the nonprofit organizations they support.

Although there is a multitude of opinions on expense ratios, there is little research. Most

research that exists comes from the Nonprofit Overhead Cost Project, a partnership

between the Center on Nonprofits and Philanthropy at the Urban Institute and the Center

on Philanthropy at Indiana University.

In one such study, "Variations in Overhead and Fundraising Efficiency Measures: The

Influence of Size, Age and Subsector," Hager, Pollak and Rooney hypothesized that the

older an organization the lower the portion of budget would be spent on overhead

(administration and fundraising). Their hypothesis is based on Stinchcombe's liability of

newness argument, which states that young organizations have a lack of routine, knowledge, working relationships and clients – which may cause them to be less efficient. The study also hypothesizes that larger organizations (measured in revenue) will have a lower portion of their budget spent on overhead cost because they are able to take advantage of economies of scale. The final hypothesis of the Hager et al study that is pertinent to this paper is that the proportions of budget spent on overhead will differ across nonprofit subsectors. Certain subsector activities are more expensive than others; for example, while some organizations only need offices to house staff, others need room to hold classes or serve meals.

A study by Bielefeld, Rooney and Steinberg, "How Do Need, Capacity, Geography, and Politics Influence Giving," looked, in part, at the influence of demographics on giving. In an earlier study, Bielefeld found that community resources influence nonprofit organizations; people categorized as low-income give a higher share of their income but give a lower percentage of total giving and that income level is strongly associated with giving. Therefore, Bielefeld et al hypothesized that the higher the poverty rate the lower the giving and that the greater the per capita income the greater the giving.

Nonprofit organizations are not legally required to make audited financial statements available to the public. As mentioned previously, many donors and watchdog organizations look to IRS Form 990s to evaluate the financial situation of nonprofits. Since the 1980s, all public charities with at least $25,000 in gross receipts have been required to complete the IRS Form 990. This document reports on the filing

organization's mission, programs and finances; it is a snapshot of an organization's financial health at a specific period in time.

During the literature review, it was found that the accuracy and reliability of Form 990s have been called into question (Abramson, 1995; Orend, O'Neill, & Mitchell, 1997; Skelly & Steurele, 1992). Since many of the variables used in this study capture data taken from the IRS Form 990, it is important to be upfront about the form's limitations. However, the expense ratios used by donors and watchdog organizations and the ratios at the root of the research questions are calculated using the information attained from the Form 990. Therefore the use of this data in this study will not introduce any biases that do not already exist in the current system. However, it may affect the validity of the results in unknown ways.

A study by Froelich, Knoepfle, and Pollak, which sought to analyze the Form 990's reliability and accuracy, concluded that the IRS 990 return can be "considered an adequate and reliable source of financial information for many types of investigations," and that "the IRS 990 Return is a reliable source of information for basic income statement and balance sheets entries (total income, total expenses, total assets, and total liabilities). Additional variables of traditional interest to nonprofit organizations, including total contributions, program service revenue, program service expenses, and fund-raising expenses, exhibit somewhat lower but reasonable consistency with the audited financial statements (Froelich et al. 232-254)."

Methodology

Objective:

 This paper seeks to analyze the effects regional and organizational characteristics have

on the administrative and fundraising expense ratios of nonprofit organization within the

Commonwealth of Kentucky.

Research questions:

- Do community and organizational characteristics affect nonprofit administrative expense ratios?
- Do community and organizational characteristics affect nonprofit fundraising expense ratios?

Hypotheses:

The null hypotheses of this paper are,

- H_0: Regional and organizational characteristics will have no effect on the administrative expense ratios of nonprofit organizations in Kentucky,

and

- H_0: Regional and organizational characteristics will have no effect on the fundraising expense ratios of nonprofit organizations in Kentucky.

The null hypotheses will be tested against the alternatives hypotheses of,

- H_1: Regional and organizational characteristics will have an effect on the administrative expense ratios of nonprofit organizations in Kentucky,

and

- H_1: Regional and organizational characteristics will have an effect on the fundraising expense ratios of nonprofit organizations in Kentucky.

Units of Analysis:

The theoretical population for this study is nonprofit organizations in Kentucky with 501(c)(3) status and revenues over $25,000. The study population is nonprofit organizations within Kentucky that did file IRS Form 990s and are exempt under 501(c)(3) status. The sampling frame is nonprofit organizations included on a spreadsheet, provided by the National Center for Charitable Statistics, of organizations filing IRS Form 990s for the 2000 tax year. The sampling frame (n=200) is organizations selected through random number generation from this spreadsheet.

Structure of design:

In order to answer the research questions a correlation research design will be used. A correlation design explores the relationship between a dependent variable and multiple independent variables, which is what this paper seeks to do.

To select the units of analysis (nonprofit organizations within Kentucky) a simple random sample was conducted using a random number table and the spreadsheet of nonprofit organizations (sampling frame). In this type of sampling the probability of being selected is equal for all elements, which ensures against a pattern of systematic bias. However, the sampling frame may be biased toward some organizations. Although nonprofits earning over $25,000 are required to file a Form 990, some do not or do so late. Therefore the sampling frame excludes nonprofits earning less than $25,000 and organizations that did not comply with filing regulations. Excluding organizations under $25,000 will not bias the results of this study because the research questions were posed

in response to expense ratios being calculated for organizations that file Form 990s. It is unknown if organizations not following regulations will bias the results of this study.

Concept of Interest and Variables:

The concept of interest in this paper is the financial efficiency of nonprofit organizations within Kentucky. In order to measure financial efficiency, administrative and fundraising expense ratios will be used. Factors affecting these ratios are also of interest, both regional and organizational factors. These factors will be measured using the variables listed below, which are associated with regional and organizational characteristics. The mean and standard deviation for continuous variables are listed in Table 1; frequency distributions for categorical variables are shown in Tables 2 and 3.

Dependent variables: To capture the concept of interest, nonprofit financial efficiency, the following variables were used:

- Administrative expense ratios
- Fundraising expense ratios

These variables were calculated using the equation used by many funding and watchdog organizations: administrative expenses divided by total expenses and fundraising expenses divided by total expenses.

Independent variables: Variables based on information found during the literature review were used in order to measure the effects of regional and organizational factors on efficiency ratios. Regional factors were captured by using variables associated with the regions in which nonprofits were located. These variables are:

- Region of Kentucky in which an organization is located. Although the *Kentucky Atlas & Gazetteer* identifies six regions of Kentucky, seven were used in this study. The Bluegrass Region was split into two groups, inner and outer. The seven categories are: Jackson Purchase, Pennyrile, Western Coal Field, Eastern Coal Field, Inner Bluegrass, Outer Bluegrass, and Knobs. A listing of counties in each region is available in Appendix C.

- Regional median household income. The median household income was calculated for each region using Census 2000 data.

- Regional median poverty level. The median percentage of individuals living below the poverty line was calculated for each region using Census 2000 data.

- Other nonprofits within a region. The total number of nonprofit organizations filing IRS Form 990s was calculated for each region using state data collected by the National Center for Charitable Statistics, Urban Institute.

Organizational factors are also included as independent variables. They are:

- Age of organization. This variable calculates the number of years between an organization receiving 501 (c)(3) status and the year 2000 (the tax year for which Form 990 data was available).

- Size of organization. This variable measures size in terms of total revenues in the 2000 tax year.

- NTEE1 category. This variable is a way of categorizing organizations by type of work/mission. The National Center for Charitable Statistics at the Urban Institute created the group codes and organizations self selected the category into which they fit. A table of categories is provided in the Appendix B.

Analytical Technique:

The main analytic technique used in this study was a multiple regression. All statistical

analyses were conducted using Intercool Stata 8.0 (Stata Corp., College Station, TX).

The purpose of using a multiple regression is to predict changes in the dependent variable

in response to changes in the independent variables (Appendix D provides a list of

variables and associated labels that are used in the regression model). The regressions

will be analyzed using coefficients, p-values, f-test results and R^2 results. A confidence

level of 90% will be used. The regression models that will be used are:

- *Administrative Expense Ratio* = B_0 + B_1*median regional household income* + B_2*median regional poverty level* + B_3*age* + B_4*percent change in total revenue* + B_5 *number of other nonprofits in region* + B_6*edu* + B_7*animal* + B_8*health* + B_9*mental_cisis* + B_{10}*disease_mental* + B_{11}*medresearch* + B_{12}*crime_legal* + B_{13}*employ_job* + B_{14}*house_shelter* + B_{15}*rec_sports* + B_{16}*youthdevelop* + B_{17}*humanservices* + B_{18}*commimprove* + B_{19}*philan_vol* + B_{20}*societybenefit* + B_{21}*religious_spirit* + B_{22}*memberbenefi*t + B_{23}*jacksonpurchase* + B_{24}*pennyrile* + B_{25}*westcoal* + B_{26}*eastcoal* + B_{27}*inner_BG* + B_{28}*knobs*

- *Fundraising Expense Ratio* = B_0 + B_1*median regional household income* + B_2*median regional poverty level* + B_3*age* + B_4*percent change of total revenue* + B_5r *number of other nonprofits in region* + B_6*edu* + B_7*animal* + B_8*health* + B_9*mental_cisis* + B_{10}*disease_mental* + B_{11}*medresearch* + B_{12}*crime_legal* + B_{13}*employ_job* + B_{14}*house_shelter* + B_{15}*rec_sports* + B_{16}*youthdevelop* + B_{17}*humanservices* + B_{18}*commimprove* + B_{19}*philan_vol* + B_{20}*societybenefit* + B_{21}*religious_spirit* + B_{22}*memberbenefi*t + B_{23}*jacksonpurchase* + B_{24}*pennyrile* + B_{25}*westcoal* + B_{26}*eastcoal* + B_{27}*inner_BG* + B_{28}*knobs*

It is noteworthy that Intercool Stata 8.0 dropped the variables mrpl (median regional poverty level) and eastcoal (Eastern Coal Field Region), evidence of colinearity. After creating a correlation matrix it was discovered that median regional poverty level and the eastern coal field region were highly correlated with median regional household income, -0.9830 and –0.8022 respectively. Because the three variables are so highly correlated it is difficult, if not impossible, to distinguish their individual influences on the dependent variable therefore, the statistical program automatically dropped two of them.

Table 1: Summary Statistics for Continuous Variables

Variable	Min	Max	Mean	Std. Deviation
Administrative Expense Ratio	0	.8094	.1232	.1246
Fundraising Expense Ratio	0	.8076	.0179	.0706
Regional Median Household Income	21869	40680	35691.06	7113.24
Regional Median Poverty Level	.107	.213	.1392	.0430
Age (in years)	0	77	24.74	16.6191
Total Revenue (percent change)	11.8397	19.7731	14.8824	1.5348
Number of Other Nonprofits in Region	353	4688	2921.94	1595.779

Table 2: Frequency Distribution for Regions of KY

Region of Kentucky	Frequency
Knobs	6
Outer Bluegrass	84
Inner Bluegrass	41
Eastern Coal Field	29
Western Coal Field	20
Pennyrile	13
Jackson Purchase	7

Table 3: Frequency Distribution of NTEE1 Categories

NTEE Category	Frequency
Arts	10
Animal-Related	1
Health	44
Mental Health / Crisis Intervention	10
Diseases / Disorders	2
Medical Research	1
Crime / Legal Related	4
Employment / Job-Related	6
Housing / Shelter	18
Recreation / Sports / Leisure	2
Youth Development	3
Human Services	41
Community Improvement	8
Philanthropy / Voluntarism	8
Society Benefit	2
Religious / Spiritual Development	5
Membership Benefit	1
Education	34

Results

Administrative Expense Ratios:

H_0: Regional and organizational characteristics will have no effect on the administrative

expense ratios of nonprofit organizations in Kentucky.

Part of the null hypothesis can be rejected; organizational characteristics were shown to

have an effect on the administrative expense ratios of nonprofit organizations within

Kentucky. Seven variables were statistically significant, at the .10 level, in affecting

changes in administrative expense ratios. These variables and associated coefficients and

p-values are below. The complete regression output is available in Appendix E.

Table 4: Statistically Significant Variables for Administrative Expense Ratios

Variable	Coefficient	P-value
Age	.001238	.044
Education	-.0767155	.088
Health	-.1048636	.022
Youth development	-.1440502	.074
Philanthropy & Volunteer	-.1186746	.044
Religious & Spiritual	-.133132	.049
Member Benefit	-.2127189	.100

The result for age was not what was expected given the literature review. It was expected

that an organization's administrative expense ratio would decrease as age increased

because procedures would be standardized and working knowledge would have increased

(Hager). However, in this study it was found that on average, holding all other factors

constant, one additional year to the organization's age increased the administrative

expense ratio by 0.12%. Using Hager et al's own logic that older organizations have a

more standardized routine, it may be argued that this routine prevents organizations from adapting in a timely manner and therefore leading them to be less efficient.

Results also show that nonprofit organizations classified as education, health, youth development, philanthropy and voluntary, religious and spiritual, and membership benefits were statistically different from nonprofit organizations classified as arts, culture or humanities (the omitted dummy variable for NTEE1 category). On average, holding all other factors constant:

- Nonprofits classified as education organizations were found to have administrative expense ratios 7.67% lower than those classified as arts, culture and humanities organizations.

- Nonprofits classified as health organizations were found to have administrative expense ratios 10.5% lower than those classified as arts, culture and humanities organizations.

- Nonprofits classified as youth development organizations were found to have administrative expense ratios 14.4% lower than those classified as arts, culture and humanities organizations.

- Nonprofits classified as philanthropy and voluntarism organizations were found to have administrative expense ratios 11.9% lower than those classified as arts, culture and humanities organizations.

- Nonprofits classified as religion related or spiritual development organizations were found to have administrative expense ratios 13.3% lower than those classified as arts, culture and humanities organizations.

- Nonprofits classified as mutual/membership benefit organizations were found to have administrative expense ratios 21.3% lower than those classified as arts, culture and humanities organizations.

The differences found in the NTEE categories are similar to those found at a national level; the Overhead Cost Project found that the art, culture, and humanities subsector has the highest administrative expense ratios. Therefore, it is likely that the NTEE categories found to be statistically different than arts organizations are the NTEE categories with the lowest ratios. A possible explanation for the high ratios within the arts subsector is "persistent presence". This term is used to represent an "infrastructure for an organization and an awareness and attitudinal predisposition by its constituents and potential audience." It is argued that arts organizations are loosing persistent presence and that the loss of presence in the community can negatively affect the efficiency of an organization (Wyszomirski)**.**

Overall the model and results are considered statistically better than what would be expected to occur by chance. The F-test statistic is 0.0499, which is statistically significant at the 95% confidence level. The R^2 for this model is 0.1899; R^2 shows the strength of the relationship between the dependent variable and the independent variables. Therefore, the model explains 19% of the variation in administrative expense ratios.

Fundraising Expense Ratios:

H_0: Regional and organizational characteristics will have no effect on the fundraising

expense ratios of nonprofit organizations in Kentucky.

The null hypothesis cannot be rejected; regional and organizational characteristics were

not shown to have a statistically significant effect on the fundraising expense ratios of

nonprofit organizations within Kentucky.

There were no variables in the regression model that were statistically significant at the

90% confidence level. The complete regression output is available in Appendix F. The

F-test statistic was 0.9986, which means that the model and results are not statistically

better than what would be expected to occur by chance. The R^2 value is 0.0504; meaning

that only 5% of the variation in fundraising expense ratios is explained by the model. A

small R^2 means factors not accounted for in the model affect the dependent variable.

Conclusion and Recommendations

The research questions of this paper are:

- Do regional and organizational characteristics affect nonprofit administrative expense ratios?
- Do regional and organizational characteristics affect nonprofit fundraising expense ratios?

This analysis found supportive evidence that organizational factors do affect nonprofit administrative expense ratios and did not find supportive evidence that regional and organizational factors affect nonprofit fundraising expense ratios.

The small sample size and specific characteristics of the sample elements limits the external validity of this analysis. Results can be generalized to 501(c)(3) organizations in Kentucky that are required to file IRS Form 990s. The internal validity of this analysis is somewhat strong. There is a threat of a selection bias, which may have occurred if organizations required to file the IRS Form 990, but did not do so, introduced a systematic bias into the sampling frame. Additionally, characteristics internal to an organization were not taken into account. The regression model focuses only on characteristics that are external to an organization and beyond the organization's control. Internal factors may include whether an organization engages in strategic planning, what credentials the staff has, the involvement of board members and other factors.

In this analysis the use of "regions of Kentucky" may have been too large an area to produce statistically significant results. Highly aggregated data replaces less aggregated or disaggregated data, which results in a loss of statistical power. Statistical power is the

ability of a test to detect an effect, given that the effect actually exists. This idea extends into the regional median household income and poverty level variables. In both regressions these variables were not found to be statistically significant.

The sample size in this analysis, n=200, reflects only 7% of Kentucky 501(c)(3) organizations filing IRS Form 990s in the 2000 tax year. In addition, the sampled organizations represented only 50 of 120 counties in Kentucky.

In order to control for the limitations discussed above it is recommended for similar studies in the future to:

- Use less aggregated data, such as county, city or zip code in which an organization is located,

- Use a larger sample size,

- Use a disproportionate stratified random sample in order for counties with fewer nonprofits to be accounted for, and

- Include variables in the regression model that capture characteristics internal to organizations.

The major concept of interest for this analysis is the financial efficiency of nonprofit organizations. It was not, however, the purpose of this paper to state if expense ratios are an accurate form of measuring this type of efficiency, but to better understand the ratios. As Deborah Stone writes, "efficiency is always a contestable concept. Everyone supports the general idea of getting to the most out of something, but to go beyond the vague slogans and apply the concept to a concrete policy choice requires making assumptions about who and what counts as important (Stone 65)."

Donors, charity rating agencies and funding institutions have decided that expense ratios are important and that the ratios will be used, in part, to judge whether an organization receives monetary support.   Therefore, the main conclusion of this paper is that financial efficiency of nonprofit organizations, measured by expense ratios, is a complex topic, and that further analysis is needed in order to understand the factors that effect these ratios.

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Appendix A
Expense Ratio Calculations

Administrative Expense Ratio = $\dfrac{\text{organization's administrative expenses}}{\text{total expenses}}$

Fundraising Expense Ratio = $\dfrac{\text{organization's fundraising expenses}}{\text{total expenses}}$

Appendix B
NTEE1 Major Groups
Developed by the National Center for Charitable Statistics

A	Arts, Culture, and Humanities
B	Education
C	Environmental Quality, Protection, and Beautification
D	Animal-Related
E	Health
F	Mental Health, Crisis Intervention
G	Diseases, Disorders, Medical Disciplines
H	Medical Research
I	Crime, Legal Related
J	Employment, Job Related
K	Food, Agriculture, and Nutrition
L	Housing, Shelter
M	Public Safety
N	Recreation, Sports, Leisure, Athletics
O	Youth Development
P	Human Services - Multipurpose and Other
Q	International, Foreign Affairs, and National Security
R	Civil Rights, Social Action, Advocacy
S	Community Improvement, Capacity Building
T	Philanthropy, Voluntarism, and Grantmaking Foundations
U	Science and Technology Research Institutes, Services
V	Social Science Research Institutes, Services
W	Public, Society Benefit - Multipurpose and Other
X	Religion Related, Spiritual Development
Y	Mutual/Membership Benefit Organizations, Other
Z	Unknown

Appendix C
Regions of Kentucky for Counties Represented in Sample

Jackson Purchase	Pennyrile	Western Coal Field	Eastern Coal Field	Inner Bluegrass	Outer Bluegrass	Knobs
Calloway	Adair	Daviess	Bell	Bourbon	Anderson	Lincoln
Graves	Barren	Henderson	Boyd	Boyle	Boone	Madison
McCracken	Caldwell	Hopkins	Clay	Fayette	Campbell	
	Christian	Muhlenberg	Floyd	Franklin	Fleming	
	Cumberland	Warren	Harlan	Jessamine	Jefferson	
	Logan		Jackson	Scott	Kenton	
	Pulaski		Johnson	Woodford	Mason	
	Rockcastle		Knott		Montgomery	
	Russell		Knox			
	Wayne		Laurel			
			Morgan			
			Perry			
			Pike			
			Rowan			
			Whitley			

Appendix D
Variables and Associated Labels

Variable	Label
Administrative (management and general) Expense Ratio	pmandg
Fundraising Expense Ratio	psolicit
Region of KY – Jackson Purchase	jacksonpurchase
Region of KY – Pennyrile	pennyrile
Region of KY – Western Coal Field	westcoal
Region of KY – Eastern Coal Field	eastcoal
Region of KY – Inner Bluegrass	inner_BG
Region of KY – Outer Bluegrass	outer_BG
Region of KY - Knobs	knobs
Regional Median Poverty Level	mrpl
Regional Median Household Income	mrhi
Other Nonprofit within a Region	rothers
Age of Organization	age
Size of Organization (measured by revenue and as a percent change)	logtotrev2
NTEE1 Category A – Arts, Culture, Humanities	arts
NTEE1 Category B – Education	edu
NTEE1 Category D – Animal-Related	animal
NTEE1 Category E – Health	health
NTEE1 Category F – Mental Health, Crisis Intervention	mental_crisis
NTEE1 Category G – Diseases, Disorders, Medical Disciplines	Diseases_medical
NTEE1 Category H – Medical Research	medresearch
NTEE1 Category I – Crime, Legal Research	crime_legal
NTEE1 Category J – Employment, Job-Related	employ_jobs
NTEE1 Category L – Housing, Shelter	house_shelter
NTEE1 Category N – Recreation, Sports, Leisure, Athletics	rec_sports
NTEE1 Category O – Youth Development	youthdevelop
NTEE1 Category P – Human Services – Multipurpose and Other	humanservices
NTEE1 Category S – Community Involvement, Capacity Building	commimprove
NTEE1 Category T – Philanthropy, Voluntarism, Grantmaking	philan_vol
NTEE1 Category W – Public, Society Benefit – Multipurpose	societybenefit
NTEE1 Category X – Religion Related, Spiritual Development	religious_spirit
NTEE1 Category Y – Mutual/Membership Benefit Org., Other	memberbenefit

Appendix E
Regression Output for Administrative Regression Model

Source	SS	Df	MS	
Model	.586870571	26	.022571945	
Residual	2.50286775	173	.014467444	
Total	3.08973832	199	.015526323	

Number of obs = 200
F (26, 173) = 1.56
Prob > F = 0.0499
R-Squared = 0.1899
Adj R-Squared = 0.0682
Root MSE = .12028

Variable	Coef.	Std. Err.	t	P.> |t|	[95% Conf.	Interval]
Median regional household income	.0016351	.0023406	0.70	0.485	.0022356	.0055057
Median regional poverty level	Dropped					
Age	.001238	.00061	2.03	0.044	.0002292	.0022467
Education	-.0767155	.0446588	-1.72	0.088	-.1505682	-.0028628
Animal related	-.047572	.126834	-0.38	0.708	-.2573185	-.1621745
Health	-.1048636	.0452833	-2.32	0.022	-.179749	-.0299783
Mental health / Crisis	-.0880441	.0555525	-1.58	0.115	-.1799118	.0038236
Diseases / Medical	.0049247	.0945898	0.05	0.959	-.1514994	.1613487
Medical Research	-.170748	.1278374	-1.34	0.183	-.3821539	.0406579
Crime / Legal	-.0503667	.0719217	-0.70	0.485	-.1693043	.0685709
Employment Related	-.088	.0628039	-1.40	0.163	-.1918594	.0158594
Housing / Shelter	-.0718889	.0487769	-1.47	0.142	-.1525517	.008774
Recreation	-.0563355	.0936478	-0.60	0.548	-.2112017	.0985307
Youth Development	-.1440502	.0801105	-1.80	0.074	-.2765298	-.0115707
Human Services	-.0421025	.0433917	-0.97	0.333	-.1138598	.0296548
Community Improvement	-.0921017	.0601785	-1.53	0.128	-.1916195	.0074161
Philanthropy/Volunteer	-.1186746	.0585019	-2.03	0.044	-.2154197	-.0219294
Society Benefit	-.1015346	.0965643	-1.05	0.295	-.2612239	.0581547
Religious/Spiritual	-.133132	.0670424	-1.99	0.049	-.2440006	-.0222633
Member Benefit	-.2127189	.1287251	-1.65	0.100	-.4255927	.0001549
Jackson Purchase	-24.07656	34.29859	-0.70	0.484	-80.79645	32.64334
Pennyrile	-13.24056	19.01597	-0.70	0.487	-44.68744	18.20632
West Coal Field	-25.40356	36.31399	-0.70	0.485	-85.45635	34.64922
East Coal Field	dropped					
Inner Bluegrass	-20.79894	29.81799	-0.70	0.486	-70.10923	28.51136
Knobs	-24.79592	35.47751	-0.70	0.486	-83.46541	33.87356
Total Revenue	.0011266	.0070897	0.16	0.874	-.0105977	.0128509
Other nonprofits	-.0098733	.014116	-0.70	0.490	-.0332098	.0134632
Constant	-20.10469	29.04886	-0.69	0.490	-68.14306	27.93368

Appendix F
Regression Output for Fundraising Expense Ratio Model

Source	SS	Df	MS	
Model	.104759585	26	.004029215	
Residual	1.84605888	173	.010670861	
Total	1.95081846	199	.009803108	

Number of obs = 200
F (26, 173) = 0.38
Prob > F = 0.9976
R-Squared = 0.0537
Adj R-Squared = -0.0885
Root MSE = .1033

Variable	Coef.	Std. Err.	t	P.> |t|	[95% Conf.	Interval]
Median regional household income	.0006474	.0020102	0.32	0.748	-.0026768	.0039716
Median regional poverty level	Dropped					
Age	.0004319	.0005239	0.82	0.411	-.0004344	.0012983
Education	.0130925	.039354	0.34	0.733	-.0503339	.0765189
Animal related	.0195924	.108928	0.18	0.857	-.1605428	.1997275
Health	-.0184775	.0388903	-0.48	0.635	-.0827908	.0458358
Mental health / Crisis	-.0231977	.0477098	-0.49	0.627	-.1020958	.0557004
Diseases / Medical	-.0333763	.081236	-0.41	0.682	-.1677169	.1009643
Medical Research	-.0027977	.1097898	-0.03	0.980	-.184358	.1787626
Crime / Legal	-.0274682	.061768	-0.44	0.657	-.1296146	.0746782
Employment Related	-.0199531	.0539375	-0.37	0.712	-.10915	.0692438
Housing / Shelter	-.0311964	.0418908	-0.74	0.457	-.1004715	.0380788
Recreation	-.0230773	.0804269	-0.29	0.775	-.15608	.1099254
Youth Development	.0357446	.0688008	0.52	0.604	-.0780319	.1495211
Human Services	-.0202381	.0372658	-0.54	0.588	-.0818649	.0413887
Community Improvement	-.037183	.0516827	-0.72	0.473	-.1226512	.0482852
Philanthropy/Volunteer	-.0194346	.0502428	-0.39	0.699	-.1025216	.0482852
Society Benefit	-.0232844	.0829317	-0.28	0.779	-.1604293	.0636524
Religious/Spiritual	-.0359988	.0575776	-0.63	0.533	-.1312154	.0592178
Member Benefit	-.0356143	.1105521	-0.32	0.748	-.2184353	.1472067
Jackson Purchase	-9.516309	29.45643	-0.32	0.747	-58.22868	39.19606
Pennyrile	-5.291489	16.33136	-0.32	0.746	-32.2988	21.71583
West Coal Field	-10.05533	31.1873	-0.32	0.748	-61.63006	41.5194
East Coal Field	dropped					
Inner Bluegrass	-8.242685	25.60839	-0.32	0.748	-50.59151	34.10614
Knobs	-9.823513	30.46891	-0.32	0.748	-60.21024	40.56321
Total Revenue	.0034926	.0060888	0.57	0.567	-.0239501	.0161338
Constant	-8.044979	24.94784	-0.32	0.747	-49.30145	33.2115