DRIVERS OF REVENUES AND EXPENSES IN HIGHER-EDUCATION NON-PROFIT INSTITUTIONS

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Abstract

This paper studies the main drivers of revenues and expenses in non-profit organizations. Particularly, I focus on higher-education institutions in the United States, where the reliance on contributions to endowment funds and other donations is more significant. I conclude that the total revenues of non-profit organizations in the analyzed sub-sector are relatively stable from year to year. Furthermore, fundraising activities are critical in the gathering of funds. I also find that larger institutions receive a higher amount in contributions and spend a lower proportion of their expenses in overhead. According to the results, religiously affiliated higher-education non-profit institutions assign a higher portion of their expenditure to administration and fundraising activities than non-affiliated comparables. Finally, higher levels of transparency and accountability lead non-profits to using a higher share of spending in the proposed program.

INTRODUCTION

Although sometimes disregarded, the non-profit sector is a significant contributor to the American economy. According to "The Nonprofit Almanac" (Roeger, Blackwood and Pettijohn , 2012) and to "The Nonprofit Sector in Brief" (McKeever and Pettijohn, 2014), the third sector, as it is commonly known, in 2012 accounted for 5.4% of the US's GDP, which represents over $887 billion worth of output. In that year, there were 1.44 million organisations in the sector that reported close to $4.85 trillion in total assets. The changes and growing importance of the sector makes it interesting to measure the performance of its constituencies, particularly the ones that most greatly influence it.

However, the studies still show that there are many imbalances in the sector. For example, according to their results, 4% of charities account for more than 85% of the spending in 2012 and hospitals alone account for over 50% of revenues and expenses in the sector. Higher education is the other sub-sector that stands out in their analysis by representing, in that year, merely 0.7% of total number of public charities in the United States but over 11% of their revenues and expenses. The significant relative importance of each institution when compared to organizations from other sub-sectors is the reason that drives me to focus on higher education non-profits.

According to Speckbacher (2003), the US government's pressure is becoming more significant as charities progressively engage in the provision of state funded services. As of 2012, government contributions accounted, directly or indirectly, for over 32% of the non-profit institutions' source of revenues (McKeever and Pettijohn, 2014). Therefore, I analyse the drivers of donations and efficiency in the non-profit sector, not only for the private donators, but also for the government that indirectly represents the tax-payers. This way, these unintended contributors can understand what their money is being used for and the institutions can know how to obtain more funds. One of the most discussed metrics is the entity's performance

(Morris, 2000; Bennet and Svani, 2003; Wainwright 2003; Ritchie and Kolodinsky 2003; Ramirez and Saraoglu 2011; Cameron 1978). However, there has been much controversy about how to measure the performance of institutions that are so different from their private counterparts. The particularities of non-profit organizations, like their goals (such as, the well-being of the population or the provision of education) or their inputs (like volunteers' time), are hard to quantify in monetary terms which makes them a target of different approaches for efficiency measurement.

Still, it is crucial not to disregard the importance of a good and effective governance and management for the survival of non-profit organizations. This study analyses the reasons for the success of some higher education organizations and the failure of others, focusing on their structure of expenses and revenues. I construct my data set based on Charity Navigator – an online platform that gathers information on and rates over 7,000 of the largest charitable institutions of the USA. The final sample includes 95 higher education institutions, and their data is analysed over a 3-year period (2011-2013). Although most of these institutions are connected to universities, these are not the universities themselves. It comprises: alumni associations, endowment funds and organizations that aim at improving teaching, research and assisting the inclusion of any specific ethnic/religious group.

The academic contribution of this study is to shed light on the discussion surrounding the performance of non-profit organizations, in particular the higher education sub-sector. I analyze not only the perceived performance, by looking into the drivers of the contributions, but also the actual efficiency with which the institutions apply the received income, by looking at the drivers of expenses. Ever more attention is being paid to this matter due to the growing importance of this sector in the global economy and, as a consequence, several different theoretical approaches have emerged in the recent years. Still there is a deficiency in the performance evaluation in what concerns the practical comparability between institutions. Most studies

focus on ways to help institutions become more effective, which is highly specific to each organization.

The practical contribution of my study is to provide a framework that all institutions within an industry can follow to better understand what drives their performance so that they can focus on it and improve. Moreover, I wish to make this subject clearer to donors so that the decision making process regarding the application of their funds can be more conscientious and aware. It is my intention that this study and its results can be replicated to other industries so that its conclusions may involve the complete non-profit sector.

Therefore, I aim at answering the following question:

What characteristics drive revenues and expenses in higher-education non-profit institutions?

I divide the study into the two topics that are being analysed. I start by assessing the non-profit institutions' allocation of expenses. Throughout the paper I refer to "overhead" as any expenses a non-profit organization may have that are not directly linked to the program it tries to implement (administrative and organizational expenses as well as fundraising expenses i.e. publicity, campaign printing, staffing etc.). According to Hyndman (1990), this measure as a percentage of total expenses "was the most important type of financial information required by contributors". The first consideration is that the higher this proportion is, out of the total expenses amount, theoretically, the worst performing the organization would be. "The logic, of course, is that donors do not want to fund overhead; they want to finance programs that help people and communities" (Glassman and Spahn, 2012). Therefore, I start by analysing the determinants of that proportion. Understanding what makes a non-profit organization have more or less overhead may be a step to comprehending why some are able to survive and prosper by helping to satisfy a need in society and others are not. As well as it may be a help for the donors to know whether the charities they want to

invest in are just being poorly managed or if it is inherent to the it's specific type to have high overhead expenses.

I use the concept of program expenses which is the percentage of a charity's total budget spent on the programs and services it exists to deliver. The higher this proportion, the more efficient the organization should be.

The second part of the study assesses the generation of revenue, because even if the institution excels at using its funds, if these are not sufficient for the proposed objectives the accomplishments are always constrained. This way, it is important to understand why some have funds to spare and others struggle to obtain them.

I conclude that size is statistically associated with both the proportion of expenses allocated to the program and the revenues of the organizations. Larger institutions not only have higher contributions but also allocate a bigger share of those contributions to the program instead of overhead. I also find that higher-education institutions clearly affiliated to a determined religion tend to have more of their spending assigned to administration and fundraising activities than non-religious organizations. I conclude that accountability and transparency lead to an increase of the amount spent in the program as a share of total expenses.

Regarding revenues, I find that, in general, fundraising activities have a positive effect on contributions. There is also autocorrelation in the revenues of the sample organizations. This leads me to conclude that donors are persistent regarding the institutions they choose to contribute to. These variables explain most of the variations in contributions (95.6%). Accountability and transparency do not seem to be considered by the donors.

I start this paper with a literature review of what has been done in this domain and the principal results. In this chapter there are covered several topics which understanding, I believe, is necessary for the following of the

thesis. First, I present a quick overview and the relevance of the non-profit industry. Then I identify the importance of having a performance measurement in the non-profit sector and the struggle to find common ground between the approaches. I include the advantages and potential pitfalls of using the financial results as a proxy for efficiency and their different interpretations. I also include the main differences regarding not only the profit driven firms but also regarding public institutions. Finally I introduce studies more closely related to the higher education sub-sector.

The following section is dedicated to the research design of the paper. I start by stating the sample constitution and how the data collection was made and organized. This chapter also includes the methodology which comprises the definition of each variable and the prediction or expected results of their influences in the dependent variables. Next, I introduce the results and their interpretation. This chapter is also divided into sections: first I present the descriptive statistics of the sample and their correlation and only then do I analyze the proposed regressions. Finally, I state my conclusions and mention the limitations of this study.

LITERATURE REVIEW

The importance of the Non-profit Sector

There are over 1.44 million organizations in the nonprofit sector in the United States alone (McKeever and Pettijohn, 2014). These mostly relate to education, health, art and culture, environment, animals, religion, human services or international affairs. According to a study performed by Ramirez and Saraoglu (2011) this number and scope of nonprofits are growing significantly. However, after the steady growth of the early 2000's, the financial recession hit the sector and revenues stabilized (McKeever and Pettijohn, 2014). Still, non-profit organizations have an important role in the US' economy. These contribute over $887 billion to it, which represents 5.4

percent of gross domestic product. But the significance of the nonprofit sector in the economy goes further than the directly observed contributions. First, it is a steady source of employment. These organizations are, in their core, similar to ordinary institutions and as such require specialized works to operate. Still, a significant part of the labor force comes from volunteers. More than a quarter of the adults in the United States volunteer in an organization, summing up to 8.1 billion hours, which represents $163 billion (McKeever and Pettijohn, 2014).

The notion of profit, as it is usually used, should not be applied in this situation, as the real importance of this sector lays on the improvement of the welfare of individuals. The third sector, as it is commonly known, "fosters social capital that, in turn, promotes economic growth and contributes to the healthy operation of democratic societies" (Morris, 2000). According to this theory, one of the most salient characteristics of this sector's organizations is the positive externalities that are created for society. When analyzing these institutions, in line with this strand of literature (Morris, 2000; Kaplan, 2001), the focus should not be on the product they supply but rather on the externalities of the process by which they do so. This does not imply, however, that a nonprofit could not generate profits in the sense of cash surplus, only that when examining its productivity or efficiency this should not be the only consideration.

The importance of performance measurement

In this scenario, it becomes more complicated for donors to make a decision that is consistent with their donations' objectives. Competition for a share of the available resources has lead nonprofit organizations to be keen on trying to demonstrate their performance, by publicly disclosing their financial statements. These perform an important role in sustaining public trust and confidence, and have the capacity to attract donations (Bennett and Savani, 2003). Wainright (2003) notes that besides showing their performance to increase contributions, non-profit organizations also do this due to the pressure being placed on them by current stakeholders, including

government and non-government funders, donors, volunteers, employees, users and beneficiaries.

The nonprofit sector organizations in the US currently obtain close to one third of their income from the state (Boland and Fowler, 2000; McKeever and Pettijohn, 2014). According to Johnes (2006), this is the reason why it is "essential, in the interest of accountability, to measure the efficiency of the institutions which comprise these sectors". As nonprofits progressively engage in the provision of state funded services the government pressure is becoming more significant, since it has to keep track of the efficiency at which its resources are being used (Speckbacher 2003; Morris, 2000). Informed donors usually spend some time on a due diligence in order to adequately allocate their contribution. The issue in this case is that the donors are the taxpayers. Because governments make this allocation for them, it strikes me as important to have an easy to interpret performance measurement. This characteristic adds to the urge of finding a performance measurement that can simplify the choice of donation allocation.

Moxham (2009) summarizes the importance of performance measurement by stating four drivers. The first is financial reporting: as previously noted there is an increasing pressure to keep regulators and funders updated about the firm's performance. Donors want to be certain that institutions spend their contributions efficiently and that their services or products meet the needs of those who require it. Secondly, the study proves there is a significant positive correlation between the demonstration of achievement and increasing the funding from current and new donors. The third mentioned factor is operational control. This is simply for regulators to assure the institution is in compliance with charity law and acting in the benefit of the public. Finally, performance measurement is used to facilitate the continuous improvement of the institution itself. This last reason has led to the appearance of a number of performance measurement frameworks that take this as their sole objective.

Differences in performance measurement between the non-profit sector and its private and public counterparts

There is a consensus in the literature that nonprofits do not behave in the same manner as normal profit driven firms because these "lack the simple elegance of a financial measure such as profitability or shareholder returns used by for-profits" and as such cannot be assessed in the same way (Kaplan, 2001). The two main differences lie on the way they generate money and on who the customers are (Kaplan, 2001; Micheli and Kennerley, 2005). "In a private sector transaction, customers both pay for the service and receive the service. The two roles are so complementary that most people don't even think about them separately. But in a nonprofit organization, donors provide the financial resources – they pay for the service, whereas another group, the constituents, receives the service" (Kaplan, 2001). However, even being aware that there is a difference between the nonprofits and its private counterparts, there is no common agreement about the definition of a nonprofit (Vincent and Harrow, 2005). Salamon and Anheier (1992) define this sector as a group of institutions which must share these five main characteristics: organization, private ownership (i.e. institutionally separate from the government), non-profit distributing (their owners or directors may not keep any of the profits since the totality of these should be put to the pursuing of the institutions mission), self-governing and some meaningful degree of voluntary work.

The similarities in objectives and goals of both public and nonprofit organizations make their distinction unclear. Weisbrod and Dominguez (1986) and Feiock and Andrew (2006) argue in favor of the Public Goods Theory. This is based on the notion that both nonprofits as well as governmental entities provide services overlooked by the private sector. The difference however lies on the fact that public organizations satisfy the general public's needs but there is always some residual unsatisfied demand of groups with particular interests which is eventually satisfied by nonprofits. How effectively they meet these needs will, according to

Kaplan (2001), be the best manner to measure their performance. For this reason, it is the author's view that nonprofit organizations should disclose nonfinancial quantitative measures of the quantity and quality of the services provided.

The difficulties in the definition of a performance measurement

It is now clear that nonprofit and charitable entities play an important role in modern society and that it is increasingly important for them to make their financial statements available to the public. Without a comparison basis, however, donors still struggle with the analyses of those results. Sheehan (1996) concludes that even though most organizations have their objectives clearly stated most do not have any measurement to grasp to what extent those are successfully achieved and their actual impact in society. Benefactors face a big challenge because "determining where to allocate scarce resources is hard when there is no performance measurement agreed on" (Ritchie and Kolodinsky, 2003). Academics as well as practitioners have found several difficulties and so far they have not reached any definite conclusions (Poister, 2008; Franco-Santos et al., 2007; Bourne et al., 2000).

In the 1980's there was a movement towards the importance of a multidimensional approach to measure the effectiveness of non-profits (Cameron 1978, 1982; Connolly, Conlon and Deutsch, 1980; Kanter and Summers, 1994). To meet that need, Kaplan (2001) suggests a Balanced Scorecard that measures how the organization creates value in four different ways: in a customer perspective, financial perspective, internal perspective and a learning and growth perspective. However, this is meant to be a method of organization for the firms to improve their management and governance by clearly defining their main objectives, measures, targets and initiatives. So, the outcome of his work was a highly specific appreciation of how well the non-profit was fulfilling its objectives. This could be relevant to facilitate the continuous improvement of the institutions but it would hardly serve as a comparison bases between the analyzed firms given that their objectives would be too different to do so. Out of the four main drivers

for the disclosure of the information pointed out by Moxam (2009), this process only covers the last one leaving the remaining unattended.

According to Neely (1999), pressure to compete increases in terms of value rather than cost. This forces businesses to consider their performance in terms of quality of service, flexibility, customization, innovation and rapid response. However, as Glassman and Spahn (2012) suggest, good measures of impact are difficult and expensive to obtain. One would have to make complicated choices between simplicity and precision; comprehensive data and the costs of gathering information; comparability and individual performance. Nonetheless, the aforementioned authors agree that standardized performance measures would be very hard, if not impossible, to obtain. Still, they propose the gathering of information to construct performance standards within each program, which he called Key Performance Indicators (KPI). These measure the performance of the non-profits according to the program's outputs, outcomes and impact. Yet, even these are theoretically solid but practically unattainable.

Wainwright (2003) also introduces a theory in similar lines. Impact assessment, as he names it, is defined as "all changes resulting from an activity, project or organization. It includes intended as well as unintended, negative as well as positive, and long-term as well as short-term effects". Even considering the relevance and value of such an approach, it is rarely straight-forward and due to the diversity found in the nonprofit sector, very hard to generalize.

Organizational effectiveness is therefore both a powerful and problematic concept, in the sense that it is essential for the evaluation and exposure of the organizations, but it can mean different things to different people (Kanter and Summers, 1994). Forbes' (1998) review of the organizational effectiveness studies of the last decades of the twentieth century reveals that "researchers have conceptualized effectiveness in a variety of ways and that the research objectives pursued in the study of effectiveness have changed over time". He shows that when trying to conceptualize and measure

effectiveness, researchers have tended to lean on one or some combination of the three major approaches. The first is the goal attainment approach, which is based on the assumption that organizations objectives are easily identifiable and unambiguous. The second approach relies on system resource, which emphasizes organizational resource procurement and defines effectiveness as viability or survival probability. Finally, there is the reputational approach, which "associates effectiveness with the reported opinion of key persons, such as clients or service professionals".

Therefore, assessing the efficiency instead of the effectiveness of nonprofits has been the most addressed way of assessing their performance throughout the literature. The simple question of whether a specific production process is efficient, that is, whether resources are not wasted, is still difficult to answer for nonprofits, in comparison to other private and public institutions (Speckbacher, 2003). The logic is that these types of organizations frequently have goals that are amorphous and offer services that are intangible or bundled (Forbes, 1998). In some cases, even the inputs are hard to measure (like volunteer's time) making it very difficult to clearly define the metrics for their performance in a quantitative way (Speckbacher, 2003). To this difficulty or even impossibility of measurement, Hyndman and McKillop (1999) add the "multiplicity of objectives and outputs; differing outputs at different organizational levels; and, the allocation of joint costs to various outputs", to the list of major problems organizations trying to measure efficiency have to confront.

Van Peursem et al. (1995) alerts for the limitations of using financial results as efficiency indicators. According to this study's results, these can be "deceptive because they falsely convey an impression of objective truth". For instance, at first, overhead costs (administrative and fund-raising) are usually looked at as wasteful - featuring excessive salaries, numerous perquisites and unnecessary staff. This leads organizations, including charity watchdogs and rating platforms like the one used to gather the data for this study, to put a negative connotation in high overhead. However,

administration enhances organizational capacity which may be positive for the organizations. Tinkelman and Mankaney (2007) find evidence that when resources decrease, charities cut programs reducing this share of expenses, but when the resources increase the opposite does not happen. This is consistent with the theory (Chang and Tuckman, 1991) that in case of fiscal adversity, administrative expenses may serve as a cushion for organizations, allowing charities to continue with their work. These opposing views imply, according to Bowman (2006), the existence of an optimal level of spending on administrative costs, which differs from organization to organization. Moreover, different organizational characteristics and circumstances imply different costs for fund-raising. By putting the focus on certain aspects of performance, other management activities are marginalized, creating a bias towards institutions in sectors of activity that are more favorable in overhead containment.

The question of whether donors should care about overhead expenses is also discussed in the academic domain. Steinberg (1986) writes about the irrelevance of overhead ratios and argues that donors should not care about them because they provide no useful information about marginal costs and returns. He illustrates his point with the following example (1994):

> "The first budget of $10.000 will produce $50.000 in donations and provide a 500 percent ratio return ($40.000 actual net return). The second budget of $100.000 will produce $200.000, a 200 percent ratio return ($100.000 actual net return). If a charity wished to maximize the rate of return on its fund-raising investment, it would choose the first budget; if it cared about maximizing its resources for providing charitable services, it would choose the second."

The increased administration costs and other overhead expenses are therefore, according to the author, a necessary evil to gather more funds and provide the services the institutions are created to deliver. Bowman (2006) agrees that the ratios alone are meaningless but, on the contrary, believes that donors should care about *changes* in overhead ratios. According to him,

"a change in a charity's overhead ratio correlates positively with a change in the price of giving, which, like any price, contains useful information for consumers". Nonetheless he points out that changes in overhead ratios are only one of the many things donors care about, and collectively other factors are much more important.

Nevertheless, as mentioned, one of the most important reasons for charities displaying their financial results is the gathering of funds (Moxam, 2009). As such, whether donors *should* care about the overhead ratio is not as important as whether they actually *do* care. Andreoni's (1990) "warm glow" theory suggests that the act of giving itself increases a donor's utility independently of how his donation is used. There are other studies regarding the relationship between fund-raising overhead and donations but the results are still inconclusive. Steinberg (1986) finds no statistically significant correlation between the variables but Okten and Weisbrod (2000) and Weisbrod and Dominguez (1986) reported a negative one, i.e. an increase in overhead expenses reflects negatively on the amount of donations.

The higher-education sub-sector

Similarly to the remaining non-profit sector, higher-education institutions have seen their trends of growth change in recent years. The revenues of the higher education sub-sector have grown, between 2002 and 2012, 47.8 percent (after adjusting for inflation), to $184 billion. However, most of that growth happens in the first half of the period, and after the economic slump there is merely a marginal increase in the revenues. Even after the slowdown of the sector, the segment still sets itself apart from the remaining because it constitutes only 0.7% of the total institutions but represents over 11% of the revenues and expenses of the sector. This comparable relevance of each individual institution is only surpassed by the hospitals and primary care facilities that account for 2.4% of the total number of charities and represent over 50% of the revenues and expenses (McKeever and Pettijohn, 2014).

Education organizations have other particularities that add to their importance. The future generations' progress and development of knowledge is, up to a certain point, dependent on the widespread availability of education. Endowment funds and similar contributions gain significance in a time when education is still expensive and thus not affordable to everyone. Most innovation initiatives and research depend on funding, without which they would not be undertaken. While European universities get most of their funds from public sources, Anglo-American systems of higher education depend mostly on private funding (Liefner, 2003).

Cameron (1978) conducted a study on measuring the organizational effectiveness in institutions of higher education. One of the main issues the author faces is the variety in characteristics, goals and constituencies of the organizations. This diversity leads to each type of institution or industry requiring a "unique set of effectiveness criteria". Similarly to other authors (Sheehan, 1996; Ritchie and Kolodinsky, 2003), Cameron (1978) finds several difficulties in empirically assessing organizational effectiveness because no ultimate criterion of effectiveness exists. However, the author focuses on the quality of the services they provide, like student satisfaction; academic career and personal satisfaction, etc.

Others have dedicated their studies to investigating specific variables of the higher-education segment like the quality of graduate programs (Cartter, 1966; Blau and Margulis, 1974) or the accuracy of ratings (Beyer and Snipper, 1974). The analysis regarding not the effectiveness but the efficiency (as in the lack of waste of resources) of the organizations, however, has been rather less debated.

I intent to add to this discussion by answering the question: What are the main drivers of revenues and expenses of higher-education non-profit institutions? I am concentrating specifically on these characteristics of efficiency, as in how well the resources are used, instead of effectiveness. This distinction may allow me to perform a study that can be replicated to other segments of the non-profit sector.

Finding the common features between institutions with more or less financial resources or with different income allocation may lead us to understand why some fail and others succeed. In order to do so, I formulate two hypotheses that address each of the components.

Hypothesis 1: the part of available income spent in program expenses increases with the accountability and transparency (Governance) and varies as well with the Characteristics of a charitable institution.

Hypothesis 2: revenues increase with the accountability and transparency and vary as well with the Characteristics of a charitable institution.

I also formulate three sub-hypotheses. First I believe that fundraising expenses increase the revenues of a non-profit organization. This addresses the importance of marketing and determines how big its role is in a charity's generation of revenues. Second, I expect to find autocorrelation in the generation of revenues. I believe it is relevant to understand how much of the institution's ability to raise new funds, is predetermined by the funds it usually raises. Finally, I expect revenues to decrease with the increase in the proportion spend in overhead. I base this on the assumption that donors do not want to contribute to institutions that allocate too much of the available income to administrative or fundraising activities.

RESEARCH DESIGN

Sample

The data collection is based on an online platform called Charity Navigator - the largest and most-utilized charity watchdog in the United States. Itself a non-profit, this organization rates over 7,000 of the worthy charities in the USA, using a 1-4 scale where 4 is the best performing and 1 the worst. Its rating system focuses on two broad areas of the charity's performance: "Financial Health" and "Accountability and Transparency". Their key

objective is to provide donors with the tools to make informed decisions as of their investments in non-profit institutions. This platform is the chosen for this study because it comprises the most detailed information about each institution[1]. The advanced research availability of Charity Navigator allowed me to find all the institutions rated by this platform within the industry and parameters I selected for this study. Furthermore, major American magazines like TIME Magazine, Forbes, Reader's Digest and Kiplinger's Financial Magazine as well as networks refer to it, approving its reliability. Besides having been profiled or quoted in nearly every major American newspaper, it has also published editorials and articles on charity accountability, the role of government regulation in the charitable sector, fundraising ethics and non-profit leadership in such newspapers as The Atlanta-Journal Constitution, The Chronicle of Philanthropy, The Seattle Post-Intelligencer and the Los Angeles Times.

Charity Navigator assigns each charity to a category and cause, based on several criteria. First they use the activity code each charity has to select when they are filling their IRS forms within the 9 available: Animals; Arts, Culture and Humanities; Education; Environment; Health; Human Services; International; Public Benefit; Religion. Second, they assess the charity's programmes and services to determine what a charity actually does and only then assign it to a category. Within the Education activity code, the institutions are divided into four broad groups: Universities, Graduate Schools and Technological Institutes; Private Elementary and Secondary Schools; Other Education Programs and Services; Private Liberal Arts Colleges. This study focuses in the first category, which represents the higher-education charities.

The sample is composed by 95 non-profit institutions in the USA. Although these are not universities, they are organizations that are tied to the provision or facilitation of access to higher-education. These institutions

[1] Others like "Causes", "Network for Good" and "Razoo" are also renowned platforms. However, these are best fit for donors looking for an easy way to find a specific cause and donate.

include alumni associations, endowment funds that provide scholarships and support research and publications, as well as organizations which objectives that lay in improving teaching, and assisting the inclusion of any specific ethnic/religious group.

The assessment of the platform of transparency and accountability based on indicator variables is relatively recent so this study is only based on the last 3 years (2011-2013), to guarantee that the entire sample has the same data.

Methodology

In the first hypothesis, I state that the part of available income spent in program expenses increases with the accountability and transparency (Governance) as well as with the size and age (Characteristics) of a charitable institution. In order to test this hypothesis, I estimate the following model:

$$Program\ Expenses = \beta_0 + \sum \beta_i\ Characteristics + \sum \beta_j\ Governance + \varepsilon \quad (1)$$

The dependent variable (Program Expenses) is a measure that reflects what proportion of the total budget a charity spends on the programs and services it exists to deliver. This excludes administrative and organizational expenses as well as fundraising expenses i.e. publicity, campaign printing, staffing etc. Dividing a charity's program expenses by its total functional expenses yields this measurement. Therefore it will vary between zero and one.

The Characteristics category includes three variables: age, religious affiliation and size. I discuss them next:

- Age – This variable is calculated by subtracting the current year of analysis and the foundation of the institution. On one hand, more years of experience should increase the efficiency of the institution, as it is more easily known and recognised than new ones. Moreover,

the level of organization, knowledge and experience of older institutions is higher than that of new entrants to any market which also decreases the need for expenditures on administrative staff (Glisson and Martin, 1980). However, according to Glisson and Martin (1980), "with increased evidence of survival ability, older organizations may be expected to relax a bit". Given this, I cannot make any predictions about the sign of the estimated coefficient.

- Religious Affiliation (Rel)[2] – This is an indicator variable coded as one when the organization is affiliated with a religion and zero otherwise. On the one hand, Wooten and Coker (2003) state that "generally, leaders of religious NPOs (non-profit organizations) lack a financial management background". I believe this may lead organizations with this characteristic to be less efficient in their expense allocation. On the other, they are also less likely to rely on fundraising activities (Hodgkinson, 1999). That extra portion of income may revert to the program. Therefore, once again I do not make any predictions regarding the sign of the estimated coefficient.
- Size (LSize) – I use net assets as a proxy for this variable. Due to non-linearities, I convert it into million$ and take the logarithm of the value. Hyndman and Mckillop (1999) report the existence of significant economies of scale relative overhead. This implies that larger organizations have a lower proportion of the expenses allocated to overhead and bigger ones to the program. The authors also find a positive correlation between size and the increase in fundraising expenditures. This means that although expenses with fundraising are higher in larger institutions, the proportions allocated to the program is also greater. However, according to Glisson (1980), "human services organizations that are more highly centralized and formalized are also more productive and efficient in terms of number of clients served and the cost of serving them". On

[2] Between brackets I include the code of each variable which will be required for the interpretation of the tables that follow.

> the one side, according to his study, size reports a negative correlation to centralization because an increase in differentiation (into more divisions and departments) leads to decision making authorities becoming more dispersed. On the other, he finds that bigger institutions are also more formalized because "greater size leads to greater development and utilization of formalized rules, procedure and guidelines" (Glisson and Martin, 1980). This contradictory relationship makes the overall correlation between size and efficiency, and consequently the sign of the coefficients, hard to predict.

Governance has two sub-categories: Accountability and Transparency. A manager who is better at allocating his resources should theoretically be more willing to explain his actions or make all the critical data available. Therefore, I expect to find a positive correlation between accountability and transparency and the dependent variable Program Expenses, since this is used as a proxy for efficiency.

Accountability can be defined as the obligation or willingness by a charity to explain its actions to shareholders. This is measured by twelve indicator variables, which signal the presence of good practices. Thus, I expect all of them to have positive estimated coefficients. The variables are defined by the Charity Navigator as follows:

- Independent Voting Board Members (IndBoard) – The presence of an independent governing body is strongly recommended by many industry professionals to allow for full deliberation and diversity of thinking on governance and other organizational matters.
- No Material Diversion of Assets (MDA) - A diversion of assets is described as any unauthorized conversion or use of the organization's assets other than for the organization's authorized purposes, including but not limited to embezzlement or theft. This can seriously call into question a charity's financial integrity. This

variable is coded as 1 if there has been no material diversion of assets and as zero otherwise.

- Audited financials prepared by independent accountant (IndAud) - Audited financial statements provide important information about financial accountability and accuracy. They should be prepared by an independent accountant with oversight from an audit committee. (It is not necessary that the audit committee be a separate committee. Often at smaller charities it falls within the responsibilities of the finance committee or the executive committee). The committee provides an important oversight layer between the management of the organization, which is responsible for the financial information reported, and the independent accountant, who reviews the financials and issues an opinion based on its findings.
- Does Not Provide Loan(s) to or Receive Loan(s) From related parties (Loan) - Making loans to related parties such as key officers, staff, or board members, is not standard practice in the sector as it diverts the charity's funds away from its charitable mission and can lead to real and perceived conflict-of-interest problems. This practice is discouraged by sector trade groups which point to the Sarbanes-Oxley Act when they call for charities to refrain from making loans to directors and executives. The IRS is concerned enough with the practice that it requires charities to disclose on their Form 990 any loans to or from current and former officers, directors, trustees, key employees, and other "disqualified persons." Furthermore, some state laws go so far as to prohibit loans to board members and officers. And although employees and trustees are permitted to make loans to charities, this practice can also result in real and/or perceived conflict of interest problems for the charity. Furthermore, it is problematic because it is an indicator that the organization is not financially secure.
- Documents Board Meeting Minutes (Min) - An official record of the events that take place during a board meeting ensures that a

contemporaneous document exists for future reference. Charities are not required to make their Board meeting minutes available to the public.

- Provided copy of Form 990 to organization's governing body in advance of filing (Copy) - Providing copies of the Form to the governing body in advance of filing is considered a best practice, as it allows for thorough review by the individuals charged with overseeing the organization.
- Conflict of Interest Policy (ConfInt) - Such a policy protects the organization, and by extension those it serves, when it is considering entering into a transaction that may benefit the private interest of an officer or director of the organization. Charities are not required to share their conflict of interest policies with the public
- Whistleblower Policy (WbP) - This policy outlines procedures for handling employee complaints, as well as a confidential way for employees to report any financial mismanagement.
- Records Retention and Destruction Policy (RDP) - Such a policy establishes guidelines for handling, backing up, archiving and destruction of documents. These guidelines foster good record keeping procedures that promotes data integrity.
- CEO listed with salary (CEOS) - Charities are required to list their CEO's name and compensation on the new 990, an issue of concern for many donors. Charity Navigator’s analysts check to be sure that the charities complied with the Form 990 instructions and included this information in their filing.
- Process for determining CEO compensation (CEOC) - This process indicates that the organization has a documented policy that it follows year after year. The policy should indicate that an objective and independent review process of the CEO's compensation has been conducted which includes benchmarking against comparable organizations.

- Board Listed / Board Members Not Compensated (BoardComp) - The IRS requires that any compensation paid to members of the charity's governing body be listed on the form 990. Furthermore, all members of the governing body need to be listed whether or not they are compensated. It is not unusual for some members of the board to have compensation listed. The executive director of the organization frequently has a seat on the board, for instance, and is compensated for being a full time staff member. However, it is rare for a charity to compensate individuals only for serving on its Board of Directors. Although this sort of board compensation is not illegal, it is not considered a best practice.

The second sub-category of Governance is Transparency, which can be defined as an obligation or willingness by a charity to publish and make available critical data about the organization. This is measured via five indicator variables, coded as one in the presence of good practices. Thus, I expect all of them to have positive estimated coefficients. The variables are defined by the Charity Navigator as follows:

- Donor Privacy Policy (DonPriv) - Donors have expressed extreme concern about the use of their personal information by charities and the desire to have his information kept confidential. The sale of lists for telemarketing and the mass distribution of "junk mail," among other things, can be minimized if the charity assures the privacy of its donors. Privacy policies are assigned to one of the following categories:
    - 0 - This charity does not have a written donor privacy policy in place to protect their contributors' personal information.
    - 1 - This charity has a written donor privacy policy published on its website, which states unambiguously that (1) it will not sell, trade or share a donor's personal information with anyone else, nor send donor mailings on behalf of other organizations or (2) it will only share personal information

once the donor has given the charity specific permission to do so.

- Board Members Listed (Board) - Our analysts check to see if the charity lists Board members on its website. Publishing this information enables donors and other stakeholders to ascertain the make-up of the charity's governing body. This enables stakeholders to report concerns to the Board.
- Audited Financials (AudFin) – Charity Navigator checks the charity's website to see if it has published its audited financial statements for the fiscal year represented by the most recently filed IRS Form 990. It is important for donors to have easy access to this financial report to help determine if the organization is managing its financial resources well.
- Form 990 (F990) - We check the charity's website to see if it has published its most recently filed IRS Form 990 (a direct link to the charity's 990 on an external site is sufficient). It is important for donors to have easy access to this financial report to help determine if the organization is managing its financial resources well.
- Key staff listed (KStaff) - It is important for donors and other stakeholders to know who runs the organization day-to-day. Charity Navigator does not cross-check the leadership listed on the website with that reported on the Form 990 because the latter often isn't available until more than a year after the charity's fiscal year ends. In that time, the charity's leadership may have changed and the charity typically reflects those more recent changes on the website. In other words, since the Form 990 isn't especially timely, it cannot be used to verify the leadership information published on the charity's site.

In the second hypothesis, I state that revenues increase with the accountability and transparency and vary as well with the Characteristics of a charitable institution. I also formulate three sub-hypotheses: fundraising expenses increase the revenues of a non-profit organization; there is autocorrelation in the generation of revenues; and revenues decrease with

the increase in the proportion spent in overhead. In order to test the second hypothesis as well as the three sub-hypotheses, I estimate the following model:

$$Revenues_t = \beta_0 + \sum \beta_i Characteristics + \sum \beta_j Governance + \alpha_1 Revenues_{t-1} + \alpha_2 Fundraising\ Expenses + \propto_3 Overhead + \varepsilon$$

(2)

The dependent variable in this regression is the value of revenues of the institution, which serves as a proxy for the ability or efficiency of a firm to gather funds. Similarly to size, I also take the logarithm of this variable.

The characteristics category is divided into the same 3 variables: age, religious affiliation and size, which are defined in the previous section. The expectations regarding their relationship with the revenues are the following:

- Age - An older institution should be more recognized by the public, possibly increasing its ability to gather funds. However, older institutions are expected to rely on this fact and be less aggressive in marketing and publicity (Glisson, 1980). Therefore it is not clear how the age of an organization influences its fund raising abilities and I make no predictions of the sign of the estimated coefficient.
- Religious Affiliation (Rel) – If only people that share the same religious values donate to such institutions, this should have a negative impact on revenues. However, according to the literature (Rose-Ackerman, 1996; Ben-Ner, 1994), the predicted donation per donor is higher; so once again, the outcome is hard to predict.
- Size (LSize) - According to Hyndman and Mckillop (1999), size has a positive correlation to the increase in marketing expenses which should increase the probability of generating additional income.

Besides, the bigger the institution the bigger the required donations to survive. This leads me to predict a positive relation between revenues and size and therefore a positive sign for the coefficients.

Governance, as well as its two sub-categories (Accountability and Transparency), is described above. I expect them have a positive influence on the institution's ability to collect funds right now and in the future, i.e. its revenues.

I recall that the three sub-hypotheses proposed are: fundraising expenses increase the revenues of a non-profit organization; there is autocorrelation in the generation of revenues; and revenues decrease with the increase in the proportion spends in overhead. The independent variables used to assess the proposed sub-questions are the following:

- Revenues(t-1) (LRev1) - is a lag variable and it is included in the Revenues regression to control for autocorrelation. I use the logarithm, as in Revenues. I expect it to have a positive correlation to the institutions' current revenues because I anticipate some consistency in this matter, i.e. an institution that in the previous year had $1 million is expected to have more revenues this year than one that only had $100.
- Fundraising Expenses (LFund) - This measure reflects the logarithm of the amount spent by a charity to raise money. Fundraising expenses can include campaign printing, publicity, mailing, and staffing and costs incurred in soliciting donations, memberships, and grants. The purpose of incurring in these expenses is increasing revenues. Therefore, I expect a positive sign in the predicted coefficient.
- Overhead (Ovhd) – This variable reflects a proportion of the expenses not spent in the program. It is calculated as one minus programme expenses. Thus, it varies between zero and one. I expect this variable to have a negative impact on Revenues since donors

want to fund the projects the institutions propose to accomplish and not other type of expenses, however necessary these may be (Glassman and Spahn, 2012).

RESULTS AND DISCUSSION

Descriptive Statistics

Table 1 reports the summary statistics of main variables.

Variable	Mean	Std. Dev.	Min	Max
Size	2711.0	5088.2	4.58	36635.01
Revenues	1078.6	1300.4	1.55	7766.48
Revenues (t-1)	983.1	1196.7	1.55	7766.48
Fundraising Expenses	88.8	113.4	0	1009.642

Table 1: Summary Statistics of variables in USD ($millions)

As can be seen in Table 1, the average size is over $2.7 billion but this variable ranges from $4.6 million to $36.6 billion. Revenues had a mean of $1.08 billion. When I compare this to the revenues of the previous year, I find that these have been increasing. Fundraising expenses amount, on average, to $88.8 million, representing 8.2% of revenues.

Given the high standard deviations reported above, I do a more detailed analysis of the variables. In figure 1, I show the distribution of the variables Size and Revenues. The figure shows that the institutions that constitute the sample of the study are not homogeneous and do not follow a normal distribution. The high skewness and kurtosis of the variable Size, in particular, indicates disparities in the sample. In fact, approximately 75% of the sample is constituted by small institutions, with assets worth close to $2 billion. The observation with the largest value, however, has a size of $36.6 billion. The same, although in a less pronounced way, happens to the variable Revenues. In Table a) and Table b) of the Appendix I present further detail of the descriptive statistics of these variables.

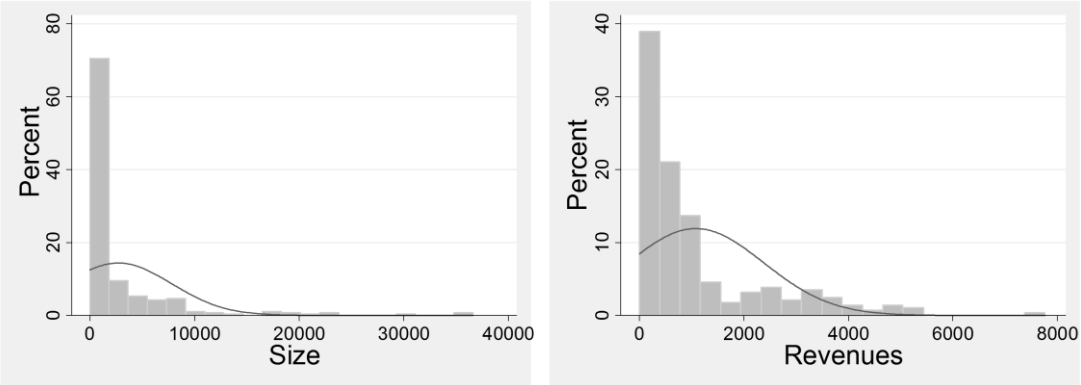

Figure 1: Distribution of the variables Size and Revenues (in $.000)

I proceed by presenting the table of summary statistics of all the variables, as used in the equations. I divide Table 2 into four groups: The first three include variables that are common to both regressions and the fourth is where I present the dependent variables and the variables required to address the sub-hypothesis.

The first sector of Table 2 (characteristics category) presents data on Age, Religious Affiliation and Size (logarithm). The average age of the institutions is approximately 140 years and only about 24% are affiliated to any particular religion. The distribution of the variable Size has been analyzed above.

In the second sector of Table 2, I present the distribution of the accountability variables. As can be seen, most of these are present in more than 90% of the sample, except for the variables: "Does Not Provide Loan(s) to or Receive Loan(s) From related parties" and "Records Retention and Destruction Policy" which are only present 66.3% and 86.7% of the observations, respectively. It is also relevant to notice that two of the variables are always present. Given that they do not induce variation in the analysis, from this point onwards, I ignore the variables: "Documents Board Meeting Minutes" and "CEO listed with salary".

Variables		Mean	Std. Dev.	Min	Max
Age	Age	139.916	58.972	9	376
Religious Affiliation	Rel	0.242	0.429	0	1
Log (Size)	LSize	6.768	1.620	1.521	10.509
Independent Voting Board Members	IndB	0.996	0.059	0	1
No Material diversion of assets	MDA	0.972	0.165	0	1
Audited financials prepared by independent accountant	IndAud	0.993	0.084	0	1
Does Not Provide Loan(s) to or Receive Loan(s) From related parties	Loans	0.663	0.473	0	1
Documents Board Meeting Minutes	Minute	1.000	0.000	1	1
Provided copy of Form 990 to organization's governing body in advance of filing	CopyF	0.916	0.278	0	1
Conflict of Interest Policy	CI	0.982	0.132	0	1
Whistleblower Policy	WbP	0.947	0.224	0	1
Records Retention and Destruction Policy	RDP	0.867	0.341	0	1
CEO listed with salary	CEOS	1.000	0.000	1	1
Process for determining CEO compensation	CEOC	0.979	0.144	0	1
Board Listed / Board Members Not Compensated	BComp	0.940	0.237	0	1
Donor Privacy Policy	DonPriv	0.407	0.492	0	1
Board Members Listed	BList	0.891	0.312	0	1
Audited Financials	AudFin	0.509	0.501	0	1
Form 990	F990	0.105	0.307	0	1
Key staff listed	KStaff	0.947	0.224	0	1
Program Expenses	PExp	0.858	0.078	0.524	0.971
Overhead	Ovhd	0.142	0.078	0.030	0.048
Log (Fundraising Expenses)	LFund	3.615	1.709	-1.904	0.917
Log (Revenues)	LRev	6.127	1.632	0.441	8.958
Log (Revenuest-1)	LRev1	6.036	1.622	0.441	8.958

Table 2: Summary Statistics of the variables in the sample

The transparency variables (Donor Privacy Policy, Board Members Listed, Audited Financials, Form 990 and Key Staff), in Table 2, present more variation. Most of the institutions have their board members (89.1%) as well as their key staff (94.7%) listed. However, most of the analyzed organizations do not provide to the donors an easy access of their latest

filling of the form 990 (only 10.5%). Close to half provide easy access to the latest financial statements (50.9%) and only 40.7% are clear on their website about their donor privacy policy.

Table 2 also reveals that, on average, higher-education institutions allocate 85.8% of their expenses to the program they exist to provide. This variable ranges from 52.4% to 97.1% of expenses. Thus, these organizations spend on average 14.2% of their total spending in administration or fundraising activities. In figure 2, I analyze the distribution of Program Expenses, which has a negative skewness. In fact,75% of the sample employs more than 80% of the money available into the program, but 5% still do not use more than 70% of their resources with the program. Further analysis on the distribution can be found in Table c) of the Appendix.

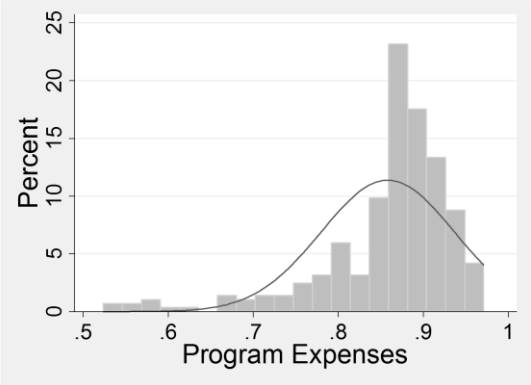

Figure 2: Distribution of the variable Program Expenses

In table 3, I present a correlation matrix where the most significant results are highlighted in bolt (significant at the 1% level). We can see that there is a significant positive correlation between the age of an organization and the variables Size, Revenues, Fundraising Expenses and Program Expenses. This means that, older institutions tend to be bigger, have higher revenues, and spend a higher amount in fundraising but a lower proportion of their expenses in overhead. Religious affiliation has a significant negative correlation with Size, Program Expenses and Revenues. Therefore, a non-profit institution with a clear religious influence tends to be smaller, have

lower revenues and employ a smaller portion of its expenses into the program (and thus, more into overhead).

It is also interesting to note in Table 3 that the two main dependent variables of this study are significantly positively correlated (0.65). This indicates that usually, organizations with higher revenues allocate a lower proportion of their expenses to overhead and a greater one to the program.

	Age	Rel	LSize	PExp	LFund	LRev	Ovhd
Age	1						
Rel	-0.07	1					
LSize	**0.61**	**-0.25**	1				
PExp	**0.33**	**-0.25**	**0.52**	1			
LFund	**0.46**	-0.14	**0.70**	**0.65**	1		
LRev	**0.51**	**-0.28**	**0.88**	**0.65**	**0.80**	1	
Ovhd	**-0.33**	**0.26**	**-0.52**	**-1**	**-0.64**	**-0.65**	1

Table 3: Correlation Matrix (Bold – correlation significant at the 1% level)

Estimation of Models

In table 4, I present the results of estimating my first model, where the value of program expenses is the dependent variable.

When analyzing the results for the institution' characteristics we see that only size and religious affiliation are associated with the value of program expenses. The fact that an institution is bigger has a statistically significant positive influence on the proportion of expenses allocated to the program.

This is aligned with Hyndman and Mckillop's (1999) findings which indicate the existence of economies of scale regarding non-charitable expenses (overhead) over total expenses. This study (Hyndman and Mckillop, 1999), also reports that bigger institutions spend higher mounts on fundraising activities which is also consistent with my results (correlation between LFund and LSize of 0.7), presented in Table 3.

The dissimilarity of results when comparing to Glisson's (1980) formalization and centralization theory may derive from the difference of

concepts of efficiency used. While I use the ratio of program expenses over total expenses as a proxy, the author defines efficiency as the number of clients served and the cost of serving them. In the case of higher education non-profits, this definition may not be so easily applied and probably no even the most accurate.

	Expectation	Program Expenses (1)
Age	?	-0.000
Rel	?	-0.028**
LSize	?	0.023***
IndB	+	-0.016
MDA	+	-0.008
IndAud	+	-0.022
Loans	+	-0.007
CopyF	+	-0.004
CI	+	-0.071
WbP	+	0.064*
RDP	+	0.010
CEOC	+	-0.014
BComp	+	-0.006
DonPriv	+	0.023*
BList	+	0.024
AudFin	+	-0.006
F990	+	-0.020
KStaff	+	0.006
_cons		0.757***
N		285
R-sq		0.3510
adj. R-sq		0.3070

Table 4: Program Expenses regression[3].

There is also evidence, in Table 4, that the institutions that are affiliated to a religion have less expenditure allocated to the program, i.e. spend a higher proportion of their budget in fund-raising activities and administrative doings. Theoretically, the fact that an institution has some religious

[3] The model is defined by equation (1).
*Significant at the 10 percent level.
**Significant at the 5 percent level.
***Significant at the 1 percent level.

foundation or values should not influence how well their funds are applied. However, the results show that there is a significant difference between religious and non-religious organizations, corroborating Wooten and Coker (2003) assumption that the leaders of religious non-profit organizations were not always financially literate. However, there are other possible explanations for this negative influence of the affiliation on the proportion of program expenses. For example, the decision making department may simply chose to apply a larger part of their available income into overhead or, in some account, this may even be justified by what is considered by each institution as a program expense. One of the almost constantly present goals of religious institutions is the transmission of the values of their faith. If the expenditures in doing so are not considered as direct program expenses then these institution have an extra liability when compared to the remaining organizations.

In what concerns the governance variables, results indicate that only two variables are positively associated with our dependent variable: the fact that an institution has a whistleblower policy and a donor privacy policy easily accessible, as was previously expected.

In Table 5, I isolate the influence of each group of independent variables. This reveals that when the accountability variables are considered independently (in column (3)), two variables are statistically significant. However, once all the groups are included, the variable "receive loan from related parties" loses its significance probably due to its correlation to one of the remaining variables. If we consider the only remaining significant variable amongst this group as a proxy for accountability, we can conclude that it increases the proportion of program expenses which was already expected. According to the Charity Navigator:

"Generally speaking, charities that follow best practices in governance, donor relations and related areas are less likely to engage in unethical or irresponsible activities. Therefore, the risk that charities would misuse donations should be lower than for charities that don't adopt such practices."

In the Transparency group, considering the only significant variable, donor privacy policy, I determine that this variable also has a positive influence on Program expenses. Also according to the Charity Navigator:

> "(…) charities that are accountable and transparent are more likely to act with integrity and learn from their mistakes because they want donors to know that they're trustworthy."

	Program Expenses			
	(2)	(3)	(4)	(5)
Age	0.000			
Rel	-0.024*			-0.029**
LSize	0.023***			0.023***
IndB		-0.051		
MDA		-0.031		
IndAud		-0.005		
Loans		-0.034***		-0.004
CopyF		0.005		
CI		-0.070		
WbP		0.089**		0.046**
RDP		-0.014		
CEOC		-0.033		
BComp		-0.012		
DonPriv			0.009	0.022**
BList			0.025	
AudFin			0.011	
F990			-0.043**	-0.020
KStaff			0.039	
_cons	0.704***	1.004***	0.794***	0.665***
N	285	285	285	285
R-sq	0.29	0.09	0.063	0.325
adj. R-sq	0.282	0.057	0.046	0.310

Table 5: Program Expenses' Alternative Regression[4].

[4] *Significant at the 10 percent level.
**Significant at the 5 percent level.
***Significant at the 1 percent level.

Table 6 shows the results of the estimation of the revenues model.

	Expectation	(1)	(2)	(3)	(4)
LRev1	+		0.892***	0.767***	0.745***
Ovhd	-		-0.012	-0.193	-0.182
LFund	+		0.107***	0.104***	0.114***
Age	?	-0.001		-0.001	-0.001
Rel	?	-0.259*		-0.065	-0.072
LSize	+	0.849***		0.145***	0.158***
IndB	+	-0.412			-0.369
MDA	+	-0.735**			-0.152
IndAud	+	-0.345			0.032
Loans	+	-0.182			0.017
CopyF	+	0.057			0.019
CI	+	-0.593			-0.216
WbP	+	0.432			0.058
RDP	+	0.052			0.029
CEOC	+	-0.232			0.041
BComp	+	-0.039			0.104
DonPriv	+	-0.023			-0.021
BList	+	0.446**			0.027
AudFin	+	0.030			0.012
F990	+	-0.400*			-0.103
KStaff	+	-0.465			-0.118
_cons		2.580*	0.359*	0.255	0.833
N		285	285	285	285
R-sq		0.806	0.953	0.957	0.959
adj. R-sq		0.792	0.952	0.957	0.956

Table 6: Log (Revenues) regression[5]

Regression (1) tests hypothesis 2. It shows the influence of the characteristics, accountability and transparency in the institutions' revenues. At the 1% level of confidence only Size has a statistically significant association with revenues. As would be expected, the association is positive. Larger institutions only became so with large donations in the past. As such,

[5] The model is defined by equation (2).
*Significant at the 10 percent level.
**Significant at the 5 percent level.
***Significant at the 1 percent level.

the more contributions an organization previously had, the more likely it is that revenues are going to remain relatively proportional to its size.

Religious affiliation is once again statistically significant and has a negative coefficient. This outcome indicates that the mentioned characteristic is restrictive in what comes to donations, i.e. while institutions not directly linked to any religion attract all sorts of donors; religiously affiliated ones tend to only attract specific contributions.

It is also noticeable, in this column (1), that institutions that do not have any material diversion of assets, tend to have lower revenues. I recall that this variable is quoted as one if there has been no unauthorized conversion or use of the organizations assets, including but not limited to theft or embezzlement.

Finally, still looking into Table 6, the influence of transparency in the revenues is contradictory. The only statistically significant variables are whether or not the institution as its board members listed and if there is easy access to the 990 Form. It was expected that contributors would donate more if the firm is transparent because it provides them with confidence that their money is being used adequately. However, by looking into the statistically significant coefficients, the first variable has a positive outcome in revenues and the second variable has a negative one.

I continue the analysis looking into column (2) of Table 6. Here I isolate the influence of the proposed sub-hypothesis. It can be concluded by the statistically significant (at the 1% level) coefficient of LRev1 (0.892) that there is autocorrelation in the organizations revenues. This means that the revenues of the previous year are positively associated with the current year's revenues. This fact may be justified by the relative regularity of donations, i.e. donors are relatively constant when it comes to the institution they give their money to.

Fundraising expenses also have a significant positive impact on revenues. The intuition behind the now confirmed anticipated results is that if an institution increases the marketing and other fundraising expenses, it is more efficient in attracting further donors and therefore increase revenues.

Contrary to what was expected, the proportion of expenses allocated to overhead does not significantly impact the institutions ability to raise contributions. As can be seen by the R-square, the changes in these variables alone, account for 95.3% of the variations in the revenues.

In column (3) of Table 6, I add to the previous group the influence of the characteristics of the organizations (Age, Size and Religious affiliation). As can be seen by the adjusted R-square, together, these variables explain 95.7% of the dependent variable.

Finally, I construct a last regression with all the tested variables and the result is an adjusted R-square of 0.956. This is a lower value than the one of the previous regression because this measure penalizes the inclusion of extra variables.

Accountability seems to no longer be relevant for the gathering of revenues. This study suggests no apparent statistically significant causal relationship between this group of variables and the dependent variable once all the independent variables are plugged. This does not show that accountability is not relevant for the efficiency of an organization. Fist, this occurrence may be justified with the fact that the donors do not consider accountability relevant when making contributions. Second, it may be because this influence is already taken into consideration in other variables, like the previous revenues.

CONCLUSIONS

In this study I use regression models to examine what are the characteristics of the higher-education institutions that are most valued by donors and which of these influence their expense allocation the most.

Regarding the proportion of total available income spent directly on charitable purposes, my findings go in line with the ones of Wise (1997) and Hyndman and McKillop (1999). According to the data, larger charities spend a lower portion of their available income in overhead and a higher one on the program they exists to deliver. I also find that higher-education institutions clearly affiliated to a determined religion tend to have more of their spending assigned to administration and fundraising activities than non-religious organizations. Furthermore, I conclude that accountability and transparency increase the portion of expenses allocated to the program.

Regarding revenues, I find that the autocorrelation and fundraising expenses explain most of the variations in contributions (95.6%). The results allow me to conclude that an increase in the expenses with publicity, and general fundraising activities, does have a positive effect on the contributions of that charity. The autocorrelation leads me to conclude that donors are persistent regarding the institutions they choose to contribute to. Also, the size of the non-profit organization proves to be relevant. I conclude that larger organizations are more recognized by the donors and thus receive more contributions. Accountability and transparency do not seem to be perceived by the donors.

This study has a practical component directed at the non-profit organizations. I provide the reader with an insight regarding the main drivers of contributions in the higher-education sector. Therefore, these conclusions may help in the definition of objectives and goals to increase the gathering of funds. Moreover, I also aim at helping donors make a more conscientious choice. I contribute with information regarding what are the common characteristics of firms that spend a lower proportion of their

available income on overhead. By looking into these characteristics a donor can evaluate which organizations apply their revenues most effectively.

The results of this study have to be carefully analyzed. I focus this analysis on efficiency, as in whether resources are being wasted. It is important to bear in mind the difference between efficiency and effectiveness. As Hyndman and Mckillop (1999) raise awareness for, "there is no necessary connection between the amount of resources spent on direct charitable activities and the quality and quantity of the services rendered by the charity". But the relationship is significant enough to be useful, since in the most extreme scenario if there are no resources it is very unlikely any services are provided.

There are a number of other research areas that could be covered. First, this study solely focuses on higher-education non-profit organizations from the United States. This method could be extended to other industries, geographical areas and observe if the results still apply. One could also see the evolution of these variables and their drivers throughout time.

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Appendices

Revenues				
Percentiles		Smallest		
1%	1.661095	1.554131		
5%	7.940095	1.655036		
10%	70.90196	1.661095	Number of Obs.	285
25%	231.3303	4.446914	Sum of Weight	285
50%	519.7039		Mean	1078.586
		Largest	Std. Dev.	1300.446
75%	1229.388	5179.912		
90%	3194.799	5330.197	Variance	1691159
95%	3827.483	5385.669	Skewness	1.849181
99%	5330.197	7766.478	Kurtosis	6.370991

Table a: Detailed Descriptive Statistics of the variable Revenues

Size				
Percentiles		Smallest		
1%	4.693983	4.575053		
5%	49.05981	4.671769		
10%	119.8395	4.693983	Number of Obs.	285
25%	337.078	20.8504	Sum of Weight	285
50%	917.2122		Mean	2711.033
		Largest	Std. Dev.	5088.246
75%	2155.771	23505.42		
90%	7477.67	30748.87	Variance	2.59E+07
95%	10558.7	35477.39	Skewness	3.824292
99%	30748.87	36635.01	Kurtosis	20.54903

Table b: Detailed Descriptive Statistics of the variable Size

Program Expenses				
Percentiles		Smallest		
1%	0.558	0.524		
5%	0.696	0.535		
10%	0.763	0.558	Number of Obs.	285
25%	0.844	0.558	Sum of Weight	285
50%	0.878		Mean	0.858379
		Largest	Std. Dev.	0.078368
75%	0.906	0.959		
90%	0.933	0.96	Variance	0.006142
95%	3827.483	5385.669	Skewness	1.849181
99%	5330.197	7766.478	Kurtosis	6.370991

Table c: Detailed Descriptive Statistics of the variable Program Expenses

	Age	Relg	Size	IndB	MDA	IndA	Loans	CopyF	CI	WbP	RDP	CEOC	BComp	DPriv	BList	AudF	F990	KStaff	PExp	Rev	Rev1	Fund
Age	1																					
Relg	-0.07	1																				
Size	0.57*	-0.18*	1																			
IndB	0.02	0.03	0.02	1																		
MDA	-0.12	0.00	-0.05	-0.01	1																	
IndA	0.05	0.05	0.03	-0.01	-0.01	1																
Loans	-0.17*	0.02	-0.37*	-0.04	0.06	0.03	1															
CopyF	0.01	0.02	0.03	-0.02	0.03	-0.03	-0.14	1														
CI	0.02	0.08	0.06	-0.01	-0.02	-0.01	-0.04	0.15	1													
WbP	0.08	0.10	0.03	-0.01	-0.04	-0.02	-0.04	0.04	0.57*	1												
RDP	0.01	0.03	0.02	-0.02	0.12	-0.03	-0.02	0.14	0.34*	0.60*	1											
CEOC	0.00	0.03	0.06	-0.01	-0.02	-0.01	-0.10	0.40*	0.35*	0.18*	0.09	1										
BComp	0.08	0.00	0.03	0.24*	-0.04	-0.02	-0.02	-0.02	0.08	0.01	0.08	-0.04	1									
DPriv	0.12	0.08	0.01	-0.07	-0.08	-0.02	0.02	-0.13	-0.11	-0.09	-0.26*	-0.18*	0.00	1								
BList	0.07	-0.01	0.01	-0.02	-0.06	0.11	0.01	-0.02	-0.05	-0.03	-0.10	0.11	-0.04	-0.05	1							
AudF	0.14	-0.13	0.06	-0.06	-0.17*	0.00	-0.20*	0.01	0.08	-0.01	0.03	0.00	0.14	0.11	0.1	1						
F990	-0.16*	0.02	0.00	0.02	0.06	-0.11	-0.07	-0.02	0.05	0.03	0.03	-0.03	0.09	0.13	0.0	0.20*	1					
KStaff	0.19*	-0.12	0.09	-0.01	-0.04	-0.02	-0.07	-0.07	-0.03	-0.06	-0.09	-0.03	-0.06	0.00	0.47*	0.24*	0.08	1				
PExp	0.33*	-0.25*	0.19*	-0.04	-0.09	-0.01	-0.21*	0.01	-0.01	0.15	0.04	-0.03	-0.05	0.04	0.15	0.08	-0.13	0.16*	1			
Rev	0.41*	-0.22*	0.66*	0.01	-0.25*	0.04	-0.41*	0.05	0.08	0.06	-0.03	0.08	0.05	-0.10	0.10	0.11	-0.09	0.09	0.33*	1		
Rev1	0.35*	-0.21*	0.54*	0.01	-0.26*	0.04	-0.39*	0.06	0.08	0.06	-0.04	0.08	-0.04	-0.12	0.09	0.12	-0.09	0.09	0.33*	0.83*	1	
Fund	0.28*	-0.09	0.30*	0.04	-0.07	0.03	-0.19*	0.04	0.04	0.03	-0.01	0.01	0.08	-0.10	0.11	-0.03	-0.07	0.12	0.32*	0.59*	0.40*	1

Table d: Correlation Matrix (Bold - significance 5%