

THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF FINANCE

HOW CAN PHILANTHROPIC DOLLARS BE SPENT MOST COST-EFFECTIVELY TO
COMBAT CLIMATE CHANGE?

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SPRING 2018

A thesis
submitted in partial fulfillment
of the requirements
for a baccalaureate degree
in Finance
with honors in Finance

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ABSTRACT

This paper seeks to answer the question: How can philanthropic dollars be spent most cost-effectively to combat climate change? It analyzes the funding strategies of the major grantmaking private foundations involved in climate change and evaluates the organizations' financial health and effectiveness. Though the private sector's and government's contributions to climate change efforts often receive attention, the focus of this paper is on the nonprofit sector and its increased role in solving societal problems. The thesis is that foundations must pursue strategies that align with their philanthropic goals, be transparent in their evaluation process, and limit political influence to most efficiently allocate capital. The research in this paper incorporates rigorous financial analysis endorsed by Guidestar, a leading database of IRS-recognized nonprofits, and the Nonprofit Finance Fund (NFF), a financial organization that provides loans and guidance to nonprofits. By comparing a nonprofit to its relevant peers in key metrics through a systematic process, a better understanding of the organization's financial health and efficiency is gained. This information is then used to create an analyst scorecard like those used by equity researchers for the basis of investment in private companies. The purpose of the scorecard is to provide potential donors and organizations a better idea of where their money is going. By allocating capital to the best financially managed organizations, resources can be better utilized to combat climate change.

TABLE OF CONTENTS

LIST OF FIGURES	iii
LIST OF TABLES	iv
ACKNOWLEDGEMENTS	v
Chapter 1 Reason for Study	1
Consequences of Climate Change.....	1
Meeting with Dr. Mann.....	3
Chapter 2 How Nonprofits Address and Organize	6
Distribution of Charitable Dollars.....	6
Top-Heavy Foundations.....	7
Alternatives to Private Foundations	9
Government.....	9
Corporations	10
Public Charities	10
International Financial Institutions.....	11
Chapter 3 Different Funding Models	12
Big Bettor Model.....	12
Case Studies	13
Case Study 1: Sea Change and Nat Simons	13
Case Study 2: The Sierra Club and Michael Bloomberg	14
Parallels between the Cases.....	15
Chapter 4 Ways of Measuring Success.....	16
Moneyball Analogy.....	17
Nonprofit Finance Fund.....	18
Chapter 5 Financial Health and Efficiency	21
Idea for a Ratio Analysis Scorecard.....	21
Choosing the Ratios to Be Included.....	22
Choosing the Nonprofits to Be Included.....	23
Method 1	24
Method 2	24
Chosen Method	25
Locating Financial Statements	25

Defining Acronyms	25
Final Scorecard	26
The Metrics	27
Income Statement	27
Balance Sheet	32
Summary	36
Chapter 6 Topics for Further Exploration.....	37
Chapter 7 Conclusion.....	38
Bibliography	39
ACADEMIC VITA.....	43

LIST OF FIGURES

Figure 1. Hockey Stick Graph3

Figure 2. Gates Foundation vs. Other Foundations.....8

Figure 3. Traditional Nonprofit Statistics for the Energy Foundation19

LIST OF TABLES

Table 1. List of Acronyms	26
Table 2. Final Ratio Analysis Scorecard.....	26
Table 3. Revenue Reliability for Selected Organizations	27
Table 4. Unrestricted Surplus (Deficit) As Percent of Expenses Calculation, TEF FY 2011..	28
Table 5. Consistent Surpluses for Selected Organizations.....	29
Table 6. Full Costs Surplus (Deficit) Calculation, TEF 2011.....	30
Table 7. Full Cost Coverage for Selected Organizations	31
Table 8. Liabilities as Percent of Assets, TEF FY 2011	32
Table 9. Ability to Manage Debt for Selected Organizations	33
Table 10. Depreciated Life as Percentage of Life of Land, Buildings, and Equipment, TEF FY 2011.....	33
Table 11. Ability to Steward Facilities for Selected Organizations.....	34
Table 12. Months of Cash Calculation, TEF FY 2011	35
Table 13. Appropriate Liquidity for Selected Organizations.....	35

ACKNOWLEDGEMENTS

I would like to thank Dr. Brian Davis for the incredible amount of time he devoted to helping me to craft and execute my thesis. The faith he had in me was truly inspiring. I would also like to thank Dr. Michael Mann for his encouragement and guidance. Finally, a big thanks to the family and friends who pushed me to pursue my passions.

Chapter 1

Reason for Study

Consequences of Climate Change

Climate change poses environmental and geopolitical risks that make it critical to study. In a time in which the federal government of the United States, one of the most powerful countries and biggest contributors to climate change in the world, appears uninterested in actively pursuing solutions (as evidenced by the U.S.'s decision to withdraw from the Paris Climate Agreement), the importance and scrutiny of the work being done by the nonprofit sector is intensified.

There are some who believe that dedicating resources to studying the effects of climate change is wasteful. The Trump Administration, for instance, disbanded a federal advisory panel for the National Climate Assessment and included in its budget proposal sweeping rollbacks of U.S. programs designed to study and mitigate the effects of climate change and research renewable energy (Greshko). However, this view is not shared by the scientific community. In fact, 97 percent or more of actively publishing scientists agree that global climate change caused by human activities is occurring now, and it is a growing threat to society (“Scientific Consensus: Earth’s Climate Is Warming”).

The environmental impact of climate change has already begun. Glaciers have shrunk, ice on rivers and lakes is breaking up earlier, and plant and animal ranges have shifted. The effects scientists had predicted in the past are now occurring, including loss of sea life, accelerated sea

level rise, and longer, more intense heat waves. The range of published evidence indicates that the net damage costs of climate change are likely to be significant and to increase over time (“The Consequences of Climate Change”). In the past year, scientists believe climate change worsened the impact of tropical storms in the U.S., exacerbating several characteristics of the storms in a way that greatly increased the risk of damage and loss of life (Mann, *The Guardian*). The global climate is projected to continue to change over this century and beyond. The magnitude of climate change beyond the next few decades depends primarily on the amount of heat-trapping gases emitted globally, and how sensitive Earth’s climate is to those emissions (“The Consequences of Climate Change”).

Furthermore, climate change is an urgent and growing threat to U.S. national security. A 2015 study from the Department of State concluded that the changing climate contributes to increased natural disasters, refugee flows, and conflicts over basic resources such as food and water. Its impacts are already occurring and will intensify. Existing problems such as poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions that threaten domestic stability in several countries are aggravated. Human security and the ability of governments to meet basic needs of their populations are impacted. Communities and states that are already fragile and have limited resources are significantly more vulnerable to disruption and far less likely to respond effectively and be resilient to new challenges. Existing social, economic, and political risks and new vulnerabilities (e.g. water scarcity) are exacerbated, contributing to instability and conflict (“National Security Implications of Climate-Related Risks and A Changing Climate.”).

Meeting with Dr. Mann

To fully grasp the implications of climate change and understand the work being done, I enlisted the help of a leader in the field: Dr. Michael Mann, Distinguished Professor of Atmospheric Science at Penn State and director of the Earth System Science Center with joint appointments in the Department of Geosciences and the Earth and Environmental Systems Institute. He is author of more than 200 peer-reviewed and edited publications, numerous op-eds and commentaries, and four books. His research findings cover climate modeling, paleoclimate reconstructions, hurricanes and tropical cyclones, education and policy, and time series tools. He was a Lead Author on the *Observed Climate Variability and Change* chapter of the Intergovernmental Panel on Climate Change (IPCC) Third Scientific Assessment Report in 2001 and was organizing committee chair for the *National Academy of Sciences Frontiers of Science* in 2003. It was in this 2001 IPCC report that the “Hockey Stick,” a chart showing global temperature data over the past one thousand years, first appeared. The chart was given its name because it resembles a hockey stick turned on its side with the past century resembling the “blade” and the prior 900 years resembling the “shaft” (“2001: Observed Climate Variability and Change”).

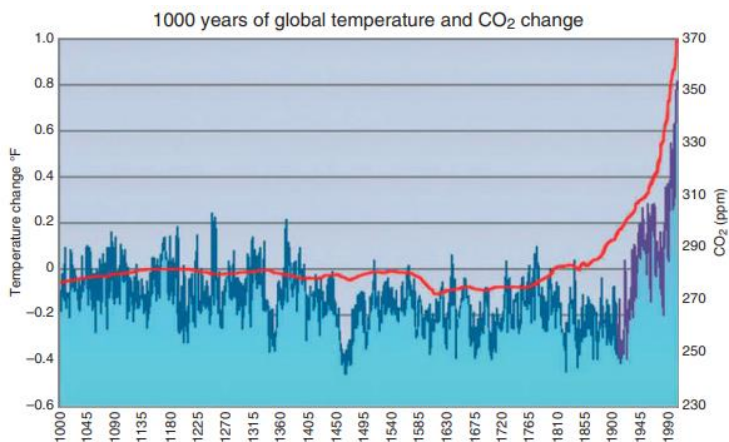


Figure 1. Hockey Stick Graph

The chart was groundbreaking in the conclusion it supported: that the increase in temperature in the 20th century was the largest of any century during the past 1,000 years and that CO₂ emissions from fossil fuel burning was the dominant cause. It became an iconic image of human-caused climate change and catapulted Mann to the status of, as he describes it, “a reluctant public figure.” He was vilified in the editorial pages of *The Wall Street Journal* and on Fox News and became a prime target of powerful interests such as the Scaife Foundations and the Koch Brothers, conservative activists heavily invested in fossil fuel extraction and transportation. Politicians on the right tried to discredit his work. Mann has written extensively about the “witch hunt” he endured in his books *The Hockey Stick and the Climate Wars* and *The Madhouse Effect*. He has embraced his role as a public figure in the climate change debate, participating in over 50 public lectures, panel discussions, and other public-speaking engagements per year in addition to his full-time teaching, advising, and research obligations. The goals of his outreach and communication are to inform the public of the seriousness of the climate change threat, advocate for reducing the global emission of greenhouse gases, and to broadly reaffirm the public’s trust in science and scientists (Mann, “The Serengeti Strategy”).

When I met with Dr. Mann in April 2017, I proposed the initial concept for my thesis and asked if he would be willing to be my reader. We talked about how the nonprofit space tends to be more competitive than collaborative, with organizations fighting over the scarce resource of grant money (Mann, Personal Interview). I presented a brief PowerPoint outlining the central premise of my thesis, which was to find ways for private foundations to allocate their capital more efficiently and work towards cost-effective strategies. My presentation included preliminary research highlighting the top-line finances of major nonprofits, the varying strategies of those organizations, and prior studies comparing the savings/cost per ton of CO₂ reduced for

certain strategies. He found my approach interesting and said he would be happy to help me in whatever way he could. He provided the names of two foundations that he believed were exemplary, Grantham and Skoll. The Grantham Foundation provided seed money for an organization he helped found called the Climate Science Legal Defense Fund (CSLDF). Dr. Mann said he had a contact with the organization with whom he could connect me.

In my conversations with Dr. Mann, we debated a few ideas related to the difficult task of measuring a nonprofit's effectiveness. There are many readily-available metrics for gauging an organization's financial health and efficiency, but few for assessing an organization's effectiveness (i.e. how it uses its resources to realize its mission). One idea Dr. Mann proposed was using a database such as Lexus Nexus to measure an organization's reach—to see how often its work is cited in mainstream media outlets or the impressions it makes in social media. I wanted to learn more about how private grantmaking foundations involved in climate change efforts define success: the metrics and benchmarks they use, their process for evaluating specific projects, their reasoning for choosing areas of focus. Dr. Mann's initial contact served in a policy and communications role at the Grantham Research Institute on Climate Change and the Environment, an institution funded by the nonprofit Grantham Foundation. He said he could not provide much insight into the Foundation's operations but could try to connect me with the Foundation's Executive Director, Ramsey Ravenel.

Chapter 2

How Nonprofits Address and Organize

Distribution of Charitable Dollars

There are three key sources of funding for charitable giving: modest contributions by individuals (which makes up the bulk of dollars donated), giving by corporations, and giving by private foundations established by donors who are either long gone or still living. In his book *The Givers: Wealth, Power, and Philanthropy in the Gilded Age*, the founder of the website “Inside Philanthropy” David Callahan focuses on the living mega-donors who have come to define philanthropy. He highlights the trends in charitable giving and makes the case for and against wealthy individuals taking on an increased role in addressing societal problems.

The first consideration for the increased prominence of nonprofits is financial. Charitable giving, particularly among the elites, is on the rise, while discretionary spending by the U.S. government on programs such as the environment is declining. During the Obama years, a republican-controlled Congress enacted long-term budget cuts totaling over \$3 trillion. In 2016, the share of the federal budget going to non-defense domestic discretionary spending, measured as a percentage of GDP, shrank to 3% and is projected to decrease to 2.2% of GDP by 2024. This would be the lowest level measured as a share of the economy in at least five decades. The overall level of charitable giving in the U.S. has historically been around 2% of GDP, but it is projected to keep rising and could soon equal or surpass the percentage of national wealth going to federal non-defense discretionary spending within the next few decades (Callahan 30).

The rise in charitable giving is unevenly distributed and reflective of the United States' growing income inequality. Ordinary Americans have seen their incomes stagnate and costs rise, while the incomes of individuals at the top have climbed: For example, since 1984, the wealth of the Forbes 400 has increased by 2,000%. The change in giving for lower-income and higher-income Americans is tied to this trend: The rate at which contributions from low-income Americans has shrunk is almost the same as the rate that contributions from high-income donors has increased (33). From 2003 to 2013, itemized charitable contributions from people making \$500,000 or more increased by 57 percent, while itemized contributions from people making \$10,000,000 or more increased by 104 percent. The rise in giving for high net-worth individuals has also coincided with the creation of 30,000 new private foundations and 185,000 donor-advised funds since 2000 (18).

Top-Heavy Foundations

A few key players dominate the private grantmaking foundation arena. They include the charitable arm of Fidelity, which worked with over 100,000 donors and handled \$3.1 billion in giving in 2015; Schwab Charitable, which moved over \$1 billion in 2015; and the Silicon Valley Community, where Facebook's Mark Zuckerberg and other tech stars contributed \$816 million in 2015. The largest, by far however, is the Bill and Melinda Gates Foundation. According to Guidestar, the organization's total assets for its most recent fiscal year was \$39.6 billion and total income was \$66.7 billion. The organization's annual grantmaking already far exceeds that of any other funder by a large margin, but soon it could be even bigger as Warren Buffett has pledged to give away most of his fortune to the Gates Foundation. The joint net worth of Gates and Buffett

alone is greater than the assets of the top 25 U.S. foundations (excluding Gates' own) (27). *Inside Philanthropy* profiles the major environmental funders and lists roughly 40 grantmaking foundations that are contributing significantly to climate change efforts ("Climate Change—Funders"). Their advocacy approaches vary and include policy reforms, market-based reforms, city sustainability, biodiversity, and educational programs, among others. The total income of the Bill and Melinda Gates Foundation is roughly 3.5 times the total income of ALL the other climate change foundations included in *Inside Philanthropy's* listing (*Guidestar*).

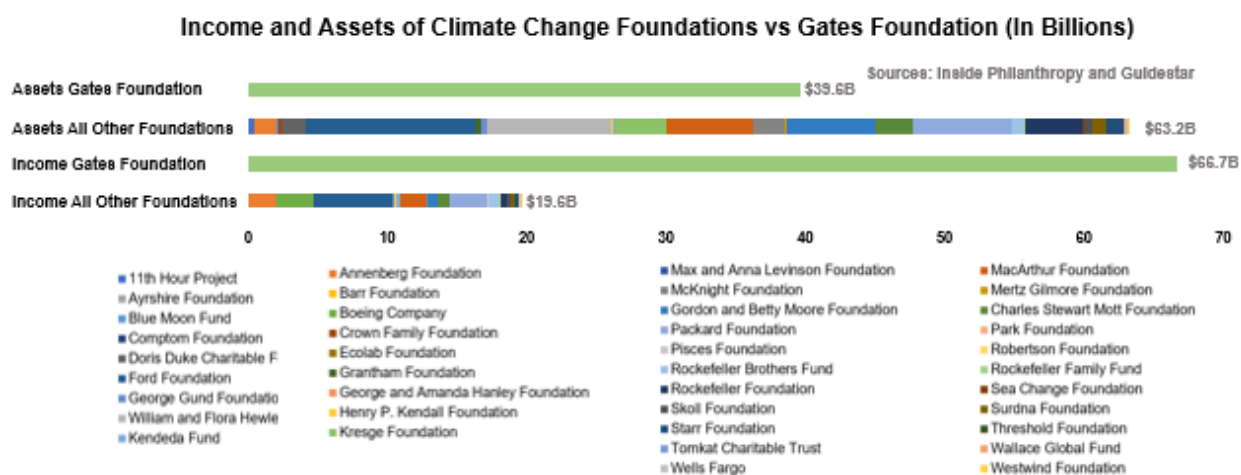


Figure 2. Gates Foundation vs. Other Foundations

The example of the Gates Foundation raises ethical concerns about the amount of influence wealthy individuals have in our society. As Callahan points out, the power afforded by giving has little to do with meritocracy, and giving can be another tool to advance partisan goals and class interests. *The New Yorker's* James Surowiecki is wary of foundations' accountability, noting that they "have great influence over social policy but are independent of democratic control" (Surowiecki). The prospect of millionaires and billionaires exerting unchecked influence on which causes receive funding and attention through private foundations is

concerning. However, compared to alternatives, it is still the most effective tool for addressing societal problems, including climate change.

Alternatives to Private Foundations

Government

Much of the increased influence of private foundations relates to the decline in government. As Callahan explains, “Democracies just aren’t so good at some things—like tackling over-the-horizon threats, for example” (8). This description applies perfectly to climate change: As Mann’s hockey graph proves, changes in the earth’s temperature and other observable consequences have been prevalent for at least the past century. However, policymakers have chosen to “ignore the evidence” and favor “ideology and short-term economics” instead, to quote former New York City mayor and climate activist Michael Bloomberg (168).

Philanthropy has certain structural advantages over government. That is why it is sometimes referred to as “society’s passing gear,” as givers can attack challenges “with a freedom and agility that public officials could only dream of.” The givers look to solve problems in ways that get around partisan gridlock and entrenched interest groups. They zero in on precisely the problems our political system has fumbled or shied away from (10).

Corporations

Though some believe the private sector is the best place for innovation, publicly held companies are beholden to shareholders that make it difficult to experiment with new ways of solving problems. The strength of philanthropy is that it allows funders to take risks without worrying about losing their jobs. That is why philanthropic dollars have been come to be known as “society’s risk capital” (10).

Another important consideration is that the interests of business and society are not always aligned. As author Naomi Klein argues in *This Changes Everything: Capitalism vs. the Climate*, neoliberalism has encouraged mega-mergers, trade agreements hostile to environmental and labor regulations, and hypermobility that pits our economic system and planetary system against each other (Nixon).

Public Charities

An advantage that private foundations provide over public charities is they can more easily overcome collective action problems. As Mancur Olson explains in his 1965 book *The Logic of Collective Action*, large and disorganized groups of citizens have a hard time coming together to take action to advance their common interest. They are routinely bested in political combat by much smaller but better organized groups who are ready to fight fiercely and with laser focus. Philanthropists play a key role in overcoming such deadlocks; they write checks that enable advocates to bypass the grueling—and perhaps impossible—work of rallying enough citizens to overcome narrow interests (171). Through private foundations, a select group of funders and executives can set a more focused vision for achieving desired outcomes.

International Financial Institutions

An alternative to traditional government, business, and nonprofit structures is international financial institutions such as the International Monetary Fund and World Bank, which have been entrusted in the past to remedy certain societal ills likely poverty. However, these organizations have experienced shortcomings arising from a confluence of factors: These include the problem of management; the lack of transparency, responsibility, and evaluation; monopolistic status; and no democratic manner of government. Ineffective projects, bureaucratic institutions, secret negotiations, and corruption have also been at fault (Donglagic). If anything, the international financial institutions serve as a powerful warning to private foundations of what can happen when goals like increasing transparency and accountability are not valued by the organization.

Chapter 3

Different Funding Models

It is important to understand the various funding models of nonprofits involved in climate change to get a better sense of how these organizations can improve their fundraising and management. As a report from the *Stanford Social Innovation Review* states, “As society looks to the nonprofit sector and philanthropy to solve important problems, a realistic understanding of funding models is increasingly important to realizing those aspirations.” Researchers at Stanford University identified ten common funding models the major nonprofits use. The different models are grouped together by the dominant type of funder. Three of the models are funded by many individual donations, one is funded by a single person or by a few individuals or foundations, three are funded by the government, one is supported by corporate funding, and the last two models have a mix of funders (Foster).

Big Bettor Model

The private grantmaking foundations that are the focus of this paper use the “Big Bettor” model. They rely on major grants from a few individuals or foundations to fund their operations. Often, the primary donor is also a founder, who wants to tackle an issue that is deeply personal to him or her. Although Big Bettors often launch with significant financial backing already secured, allowing them to grow large quickly, there are other instances when an existing organization gets the support of a major donor who decides to fund a new and important approach to solving a

problem. Big Bettors tend to focus on environmental issues, and they believe the problems they address can potentially be solved with a huge influx of money and a unique and compelling approach. The organization the report's authors highlight as an example is Conservation International, whose mission is to conserve the Earth's biodiversity. Big Bettors often have missions that may be fulfilled within a limited number of decades. The major factors a Big Bettor organization such as Conservation International must consider are as follows: creating a tangible and lasting solution to a major problem in a foreseeable time frame, clearly articulating how large-scale funding will be used to achieve the organization's goals, and finding wealthy individuals or foundations interested in the organization's issue and approach (Foster).

Case Studies

Climate change has been one area where deep-pocketed philanthropists have had big influence by bankrolling advocacy (Callahan 167). Two case studies illustrate the Big Bettor model in action when it comes to climate change. The first fits the more traditional approach of an organization founded by the primary donor and the second fits the alternative approach of an existing organization soliciting funds from a new major donor.

Case Study 1: Sea Change and Nat Simons

In 2006, Nat Simons and his wife Laura created an influential foundation called Sea Change. The couple are the organization's only trustees. During the push to pass cap-and-trade legislation in 2009, the foundation wrote big checks to top environmental players, including the Environmental Defense Fund, Natural Resources Defense Council (NRDC), and Sierra Club. In

one three-year period between 2011 and 2013, the foundation made around \$140 million in grants, with much of that money going to support climate advocacy. The biggest grants went to the Partnership Project and the Center for American Progress. Simons sees his giving as a way to speed up the pace of change toward a desirable, if not inevitable future: “It’s not really a question of whether we move to a low carbon economy. I think it’s clear we’re moving there...The question is how quickly. The role of philanthropy is really to facilitate that process” (Callahan 173).

Case Study 2: The Sierra Club and Michael Bloomberg

In 2011, Michael Bloomberg gave the Sierra Club its biggest gift ever—\$50 million to try to shut down coal-fired plants around the U.S. through the club’s Beyond Coal campaign. Bloomberg saw the organization as a way to make progress on climate change even as efforts to pass a cap-and-trade bill were fizzling in Congress (168). After hearing the pitch, Bloomberg told his longtime aid, “We’ll just give Carl [Pope, head of the Sierra Club] a check. Tell him to stop fundraising and get to work.”

Bloomberg wanted metrics and data to gauge the process of the Sierra Club’s work. He had the group build a comprehensive database that tracked the retirement of coal plants and the gains from such closures in terms of public health and reduced carbon emissions. Within five years, the Sierra Club had closed 233 coal plants through the organization’s aggressive litigation strategies. In 2015, Bloomberg dramatically upped his investment, committing another \$30

million so that the Sierra Club could reach a new, more ambitious goal: to retire by 2017 half of all coal-fired power plants that had been in operation in 2010 (169).

Parallels between the Cases

Though Sea Change and the Sierra Club take different approaches to combatting climate change and their largest funders were acquired at different stages of the organization's life, certain themes of the Big Better model are prevalent in both their stories. Both organizations target a unique and compelling approach and rely on a narrow funding base. Both set ambitious goals that can be achieved within a few decades; for Sea Change this was getting cap-and-trade legislation passed in the U.S. and for the Sierra Club this was shutting down half the country's coal-fired plants. Both organizations moved more quickly and more aggressively than government action alone could have. Bloomberg's case illustrated the increasing demand that donors know where their money is going and how it is being efficiently allocated.

Chapter 4

Ways of Measuring Success

A dramatic shift is occurring in regards to the rigor with which nonprofit organizations are analyzed. Sandy Ross, a Partner in the Not-for-Profit Services Group of the advisory firm KLR said that the not-for-profit industry is “going down the same road” that baseball went down when it started adopting Sabermetrics to make scouting decisions: “More and more we see charity watchdog groups performing a statistical analysis of a not-for-profit’s financial statements and tax return and reporting the results to the world.” Charity Navigator, the largest independent charity evaluator, reports upon a charity’s financial health score by incorporating seven metrics: program expense percentage, administrative expense percentage, fundraising expense percentage, fundraising efficiency, program expenses growth, working capital ratio, and liabilities to assets ratio (Ross). The program expense percentage is one metric endorsed by the Better Business Bureau in its “Standards for Charity Accountability,” where it states that a charity should spend at least 65% of its total expenses on program activities (“Standards for Charity Accountability.”). Fundraising efficiency is a metric onto which Forbes has latched, publishing an annual list of the most efficient charities and advising readers not to donate to any organizations with a fundraising efficiency below 70% (Ross). Interestingly, Charity Navigator does not rate the grantmaking foundations that are the focus of this paper because “private foundations are not primarily funded by the general public” and therefore do not meet their rating criteria (*Charity Navigator*). The proliferation of these statistics illustrate a problem the Nonprofit Finance Fund has identified for nonprofit executives—information overload. There is so much data in the world—the last two years have produced 90% of all data ever created—that it can be difficult to make sense of it all (Kramer).

Moneyball Analogy

To expand on Ross's analogy, the use of more sophisticated statistical analysis is as advantageous to nonprofits now as it was to baseball organizations at the dawn of the Moneyball era. For context, the Oakland Athletics in the early 2000's under General Manager Billy Beane were the pioneers in utilizing intellectually rigorous baseball analysis. They shifted the paradigm of how a team evaluates talent to build a competitive roster. The A's were at a disadvantage relative to the more well-endowed teams in the league and could not afford to sign and retain highly-paid star players. Knowing they needed to find creative ways to manufacture runs, they threw out traditional baseball statistics in search of less-valued but more holistic measures of a player's contributions. Historically, all teams cared about when evaluating a player's offensive efficiency was batting average (i.e. how often a player gets a hit per plate appearance). The A's realized that teams around the league were discounting a player's ability to get on base by other means (namely, walks). They favored a "Sabermetric" (the name derives from SABR, the acronym of the Society for American Baseball Research) known as on base percentage. This statistic includes both walks and hits to determine the probability that a player reaches base safely, or put another way, does not make an out. While other teams tended to focus on batting average in relation to scoring runs, the A's did their homework and realized that runs scored was much more correlated with on-base and slugging percentage (a measure of how many bases a player gains per at-bat) (Lewis 58). The A's front office also realized that other teams had dramatically overpriced other attributes of a player's game such as foot speed, fielding ability, and raw power (33). Advanced statistical analysis gave the team an edge. The A's won 91 games in 2000 and 102 games in 2001, making the playoffs both years while spending a league-low \$500,000 per marginal win (130). The A's subverted conventional wisdom to stretch each dollar

as far it could go. Nonprofits can do the same if they are willing to search beyond the traditional statistics.

Nonprofit Finance Fund

Some independent organizations are creating more advanced analytics to assess nonprofits' financial health. For instance, the Nonprofit Finance Fund, a financial organization that provides loans and guidance to nonprofits, has built a business model of subverting conventional wisdom. The organization cautions against relying on some of the most widely used statistics such as charitable commitment, fundraising efficiency, and donor dependency. Whereas Charity Navigator, the Better Business Bureau, and Forbes advocate that the percentage of funds dedicated to program expenses in relation to total expenses is the most trustworthy measure of an organization's commitment to its charitable mission, the Nonprofit Finance Fund warns against "arbitrary percentages"; it advises nonprofit supporters to instead "explore how supporting functions such as administrative costs are helping achieve desired and measurable program results." The more important questions The Nonprofit Finance Fund believe should be considered are: Has the organization grown steadily, and has the organization's financial management been strong enough to run consistent surpluses? (

The Nonprofit Finance Fund also rejects the merits of fundraising efficiency and donor dependency. It believes a more telling metric is revenue reliability (i.e. an organization's track-record of bringing in recurring dollars, on an unrestricted operating basis, year after year). The steadiness, predictability, and consistency with which revenue is generated is more important than the makeup of revenue streams. Whereas traditional nonprofit financial analysis might be

wary of an organization relying on a concentrated pool of donors to fund operations, the Nonprofit Finance fund acknowledges that “self-sufficiency is rarely possible for nonprofits.” Organizations rely on a mix of earned and contributed revenue, and as organizations grow, the gap between earned income and expenses widens. Contributed revenue in the form of donated funds from individuals, foundations, corporations, and/or government agencies is required to close the gap. As long as the organization understands its donors and can reliably predict their contributions, it is not made inherently more risky by its revenue composition.

If donors relied on the traditional metrics for evaluating a nonprofit’s financial health, the following would be the key statistics for the Energy Foundation, a private grantmaking foundation representative of an overall sample of the leading organizations involved in climate change:

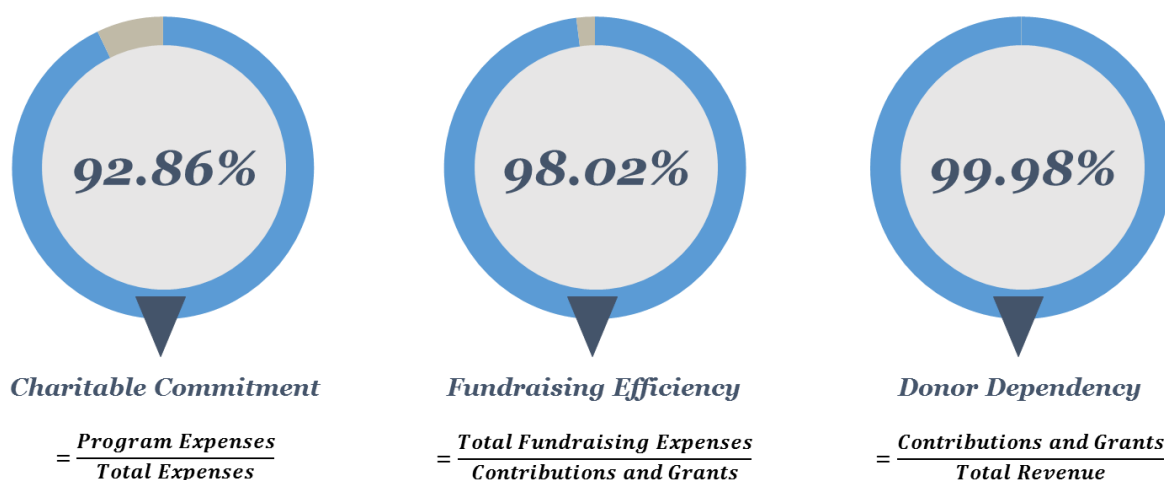


Figure 3. Traditional Nonprofit Statistics for the Energy Foundation

These basic statistics do not tell the full story and are misleading. In *Forbes*’ 2016 list of the largest U.S. charities, the average charitable commitment was 85%, lower than the Energy Foundation’s commitment of 93%. A fundraising efficiency of 98 percent would be incredible, as it would indicate that the Energy Foundation raises \$1 for every 2 cents it spends on courting

donors. For reference, the average for the *Forbes*’ list was 89%, meaning that, on average, it cost an organization 11 cents to raise \$1. Donor Dependency is a measure calculated by dividing the total dollar amount of grants the organization receives by its total revenues. The average for the *Forbes* list was 86%. The Energy Foundation’s Donor Dependency would be considered exceptionally high, and though this metric is open to interpretation, it could suggest that the organization is not self-sufficient and overly exposed to annual variations in donations. These statistics are more relevant to public charities and do not translate well to the private grantmaking foundations leading the effort on climate change. More sophisticated financial analysis is required to form a meaningful judgment on the organizations’ financial health and efficiency.

Chapter 5

Financial Health and Efficiency

Idea for a Ratio Analysis Scorecard

The idea for a ratio analysis scorecard to evaluate the financial health and efficiency of various foundations involved in climate change stemmed from a desire to apply more rigorous analysis to the nonprofit sector. Callahan says that the key questions to consider for nonprofits are as follows: “Are they prioritizing the right causes? Are they choosing the best approaches? Are charitable dollars being used in the most efficient fashion?” (6). However, he laments that society cannot answer the most basic questions about the efficiency of the charitable sector. He says that no one knows which foundations “get the most bang for their buck” because the philanthropic sector has never devoted enough resources to evaluating its own performance in a rigorous way. Organizations such as the Center for Effective Philanthropy and National Committee for Responsive Philanthropy that are supposed to serve as watchdogs are compromised by their dependence on foundation funding, and the government has no agency tasked with specifically overseeing nonprofits. The IRS does not have the resources to hold these organizations accountable either: one report cited by Callahan estimates that in 2016 the IRS scrutinized less than 1% of all 990 tax forms filed by nonprofits. As Callahan writes, the public has a right to know more about the efficiency of the nonprofit sector (283). Rigorous financial analysis helps to identify which organizations are making best use of their available resources. Ratios are utilized in the for-profit world to compare similar companies in a fair and exhaustive

way. They are a building block for evaluating a company's intrinsic value and financial health and comparing it to relevant peers. No one metric is enough, and perspective is required to make sense of all relevant information (Davis). To create a comprehensive scorecard for evaluating private grantmaking foundations, six metrics were chosen to compare across six similar nonprofits.

Choosing the Ratios to Be Included

Ratios in both the for-profit and not-for-profit sectors are calculated using data from the income statement and balance sheet. The Nonprofit Finance Fund endorses six ratios that can be used to tell a clear, compelling financial story. Three are found on the income statement and three are found on the balance sheet. For a for-profit company, income statement ratios focus on profitability to glean key insights into the organization's earnings and efficiency. The same can be said for nonprofits. As the NFF declares, "Nonprofit is a tax status, not a way of operating" (Kramer). The three income statement ratios included in the scorecard are revenue reliability, consistent surpluses, and full cost coverage. For for-profit companies, balance sheet ratios measure liquidity and solvency (a business's ability to pay its bills as they come due) and leverage (the extent to which the business is dependent on creditors' funding) (Davis). The same factors are relevant to nonprofits. The balance sheet ratios included in the scorecard are ability to manage debt, ability to steward facilities, and appropriate liquidity.

Choosing the Nonprofits to Be Included

The Foundation Directory Professional tool was instrumental in filtering and organizing nonprofits to be included in the ratio analysis scorecard. A list of results was narrowed to include only grantmakers with a focus in climate change. Further, these grantmakers could be organized by total assets, total giving, amount funded, and grants awarded. Total giving was deemed most relevant to the scope of this paper, which seeks to make a determination on how effectively nonprofits allocate their resources to meet strategic objectives. The largest 100 organizations were exported to create a data set. The next step towards narrowing the list of organizations was to search for how many of these organizations a Financial SCAN report existed. This report is generated by a tool created by Guidestar and the Nonprofit Finance Fund and provides a financial health dashboard, graphs, data interpretation, and peer comparables analysis. The Financial SCAN relies on data from the last five years, so whether the report could be created or not was used as a proxy for the amount of publicly available information. Ultimately, a report could only be created for 14 of the 100 organizations.¹

A seven-day Financial SCAN Nonprofit Express Pass grants users access to a report on one organization during the duration of the pass, but that organization can be compared to up to five peers per report. In the analysis behind the ratio scorecard, Financial SCAN was used to learn the methodology behind calculating each ratio so that it could be replicated for each of the peers. Of the 14 remaining organizations, the largest in terms of two of the four Foundation Directory Professional filters (Amount Funding and Grants) was the Energy Foundation. The

¹ Transparency of financial information is an issue that Callahan addresses in his book *The Givers*. He mentions that private foundations have to report their grants in annual tax returns, but it can be several years before those returns are available to the public. He also says cites a Foundation Center study that only 26 of the top 80 or so foundations share timely information about their grantmaking through online grant databases.

organization's stated mission is to "promote the transition to a sustainable energy future by advancing energy efficiency and renewable energy." Based in San Francisco, it was launched in 1991 by a partnership of three legacy foundations: the Rockefeller Foundation, the MacArthur Foundation, and Pew Charitable Trusts. It focuses on the U.S. and China and uses a \$110 million yearly budget to provide grants to people and groups who "leverage change" ("About Us"—Energy Foundation). For its broad role in promoting clean energy, the Energy Foundation made for an appropriate proxy of nonprofit foundations combatting climate change.

Once the anchor organization had been chosen, two different methodologies were tested to select the five peer organizations. They were as follows:

Method 1

The five organizations after the Energy Foundation with the largest totals in Amount Funding were selected. These organizations were the Climateworks Foundation, Pew Charitable Trusts, Silicon Valley Community Foundations, New York Community Trust, and the Tides Foundation.

Method 2

Financial SCAN results were filtered to include only climate change organizations with the same NTEE code as the Energy Foundation (T20 – Private Grantmaking Foundations). The five organizations this approach yielded were the High Meadows Fund, the Hawthorn Foundation, Prince Albert II of Monaco Foundation USA, Americas Business Council Foundation Inc., and Friends of Jitokeze International.

Chosen Method

Method 1 proved to be more reliable. The peer medians for expenses and revenues were much more in line with those of the Energy Foundation, thus enabling more accurate comparisons. The organizations generated by Method 2 had the same IRS classification, but the variability in scale and scope undermined any conclusions that could be drawn. Method 1 was like comparing CVS to Rite-Aid, while Method 2 was like comparing CVS to the local drug store.

Locating Financial Statements

Because nonprofits are not always the most transparent organizations when it comes to financial data, it can be difficult to locate recent IRS tax forms. Fortunately, Propublica, an independent, nonprofit investigative journalism website, offers a Nonprofit Explorer tool for researching tax-exempt organizations. This source was used to uncover 990 Forms for each of the six nonprofits for five years spanning from 2011 to 2015.

Defining Acronyms

The following acronyms are used in this paper to abbreviate organizations listed and the financial statements from which information was pulled:

Acronym	Organization	Acronym	Financial Statement
TEF	The Energy Foundation	BS	Balance Sheet
CF	Climateworks Foundation	SFE	Statement of Functional Expenses
PCT	Pew Charitable Trusts	SR	Statement of Revenue
SVCF	Silicon Valley Community Foundation		
NYCTACF	New York Community Trust aka Community Funds, Inc.		
TF	Tides Foundation		

Table 1. List of Acronyms

Final Scorecard

Data was pulled from various line items to compute each ratio and study relevant trends, producing the following final scorecard:

		TEF	CF	PCT	SVCF	NYCTACFI	TF
Income Statement	Revenue Reliability	2.5	5.5	2.5	3.5	4.5	2.5
	Consistent Surpluses	3.0	5.5	1.5	2.0	2.0	5.5
	Full Cost Coverage	4.0	5.0	2.0	2.0	1.5	5.5
Balance Sheet	Ability to Manage Debt	3.3	2.7	5.0	1.7	1.3	3.7
	Ability to Steward Facilities	5.3	3.7	2.0	4.7	3.3	2.0
	Appropriate Liquidity	2.7	1.0	5.3	4.3	2.0	4.3
	Total Score	20.8	23.3	18.3	18.2	14.7	23.5
Final Rank	4	5	3	2	1	6	

Table 2. Final Ratio Analysis Scorecard

This scorecard makes a recommendation of where to invest for likely philanthropic donors based on the quality of the organization's financial management. According to the scorecard, the New York Community Trust is the most financially well-managed organization, while the Tides Foundation is the least. Each metric is a weighted score of the organizations' rank among its peers across two to three statistics relevant to the ratio. More information about what each metric signifies and how it was calculated is provided in the next section.

The Metrics

Income Statement

Revenue Reliability

Revenue reliability is a measure of an organization's track record of bringing in recurring dollars, on an unrestricted operating basis, year after year. It can be used to predict a level of income with a fair amount of uncertainty, based on historical performance and an understanding of market dynamics. According to the Nonprofit Finance Fund, the reliability, repeatability, and flexibility of revenue are more important than where revenue comes from (revenue composition) and the ratio of earned vs. contributed revenue. This is especially the case for private grantmaking foundations because they rely on a select group of individuals for funding. The following table shows how each of the organizations rank in regards to this metric:

Revenue Reliability

Total Revenue

	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	\$96,754,889	\$83,026,313	\$300,131,637	\$450,216,689	\$309,625,209	\$96,474,947
2012	\$103,161,821	\$170,391,867	\$298,604,125	\$997,817,676	\$262,682,259	\$94,482,222
2013	\$135,192,759	\$77,247,493	\$321,776,712	\$1,473,967,051	\$284,147,204	\$114,031,827
2014	\$103,949,104	\$183,667,261	\$327,878,042	\$2,326,669,188	\$338,699,410	\$155,948,337
2015	\$122,095,860	\$53,886,333	\$331,467,728	\$1,555,405,527	\$222,540,573	\$157,925,559
CAGR	5.99%	-10.24%	2.51%	36.33%	-7.92%	13.11%
	3	6	4	1	5	2
STDEV	\$15,928,808	\$59,069,249	\$15,557,364	\$697,226,562	\$44,382,831	\$31,223,683
	2	5	1	6	4	3
Weighted Rank	2.5	5.5	2.5	3.5	4.5	2.5
SparkLines						

Table 3. Revenue Reliability for Selected Organizations

Total Revenue figures were pulled from Form 990 Line 12A. Compound annual growth rate (CAGR) was used to measure how revenue has grown over time. This is a more accurate measure of the changes in revenue on a year-over-year basis than overall percent change and is a more reliable predictor of the organization's revenue for a given year. Standard deviation was

used to measure variability. Each organization was ranked against its peers in terms of compound annual growth rate (the higher the better) and standard deviation (the lower the better), and the two ranks were averaged to create a weighed rank to be used in the final scorecard. The Energy Foundation, Pew Charitable Trusts, and Tides Foundation performed best within the group, indicating that they most reliably generate revenue.

Consistent Surpluses

According to the Nonprofit Finance Fund, a healthy business model is characterized by reliable revenue that covers operating expenses and contributes to surpluses—all in the service of mission. Consistent surpluses are measured as the organization’s unrestricted surplus (or deficit) as a percentage of its expenses (Kramer). This ratio is calculated by subtracting beginning of year unrestricted net assets from end of year unrestricted net assets (both found on the Balance Sheet) and dividing that amount by the organization’s operating expenses after depreciation (found on the Statement of Functional Expenses). The following table shows the specific financial statement line items that were used to arrive at this ratio:

Consistent Surpluses

Unrestricted Surplus (Deficit) As % of Expenses
 End of Year Unrestricted Net Assets, **BS 27B**
 Beginning of Year Unrestricted Net Assets, **BS 27A**
 Operating Expenses (After Depreciation), **SFE 25A**
 Unrestricted Surplus (Deficit) As % of Expenses

TEF
\$7,335,937
\$13,826,912
\$103,350,036
-6.3%

Table 4. Unrestricted Surplus (Deficit) As Percent of Expenses Calculation, TEF FY 2011

Unrestricted net assets represent the portion of a nonprofit’s net worth that is free and clear of any donor-imposed restrictions on the timing or purpose of use. As the Nonprofit Finance Fund states, “Aiming for breakeven results doesn’t allow for the breathing-room necessary for when things don’t go according to plan” (*Financial SCAN*). It is crucial to have

assets that can be deployed to invest in future revenue-generating capacity, especially in unfavorable economic conditions. According to the Nonprofit Finance Fund's State of the Sector Survey, which has been conducted annually since 2008, this measure has never surpassed 40% (Kramer). The results below indicate that this subgroup of selected nonprofits performs better than the overall sector. Each organization had an unrestricted surplus in at least two of its last five fiscal years (40%).

Consistent Surpluses

Unrestricted Surplus (Deficit) As % of Expenses







	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	-6.3%	8.1%	-22.3%	38.9%	10.9%	-10.1%
2012	3.3%	5.2%	13.6%	234.1%	149.6%	-6.4%
2013	4.8%	-44.1%	15.9%	502.6%	176.0%	6.0%
2014	12.9%	-22.5%	3.5%	189.8%	69.6%	9.0%
2015	0.8%	1.8%	129.8%	84.0%	-51.1%	-2.8%
Average Annual Growth	68.0%	-208.8%	923.2%	124.7%	265.5%	37.4%
	4	6	1	3	2	5
Years w/ Surplus	4	3	4	5	4	2
	2	5	2	1	2	6
Weighted Rank	3.0	5.5	1.5	2.0	2.0	5.5
SparkLines						

Table 5. Consistent Surpluses for Selected Organizations

Average annual growth and years with a surplus were calculated and weighted equally to arrive at a weighted rank for each organization relative to its peers. The justification for using these two statistics is that it is important to evaluate not only whether there have been unrestricted surpluses or deficits over time, but also whether those results have been improving or getting worse. Pew Charitable Trusts has run unrestricted surpluses in four of the last five years and its surpluses have increased dramatically. Running consistent surpluses has helped to support its long-term financial health and its ability to manage risk and pursue innovation. Climateworks Foundation, on the other hand, has seen a dramatic decrease in its ability to run unrestricted surpluses, thereby potentially threatening its mission and programs (*Financial SCAN*).

Full Cost Coverage

Full cost coverage estimates a nonprofit's ability to cover the full costs of doing business. Full costs includes: 1) direct costs of delivering programs, 2) indirect costs that support effective program delivery, such as: fundraising and marketing staff, management salaries, occupancy and other infrastructure, and 3) costs associated with strengthening the balance sheet, such as investments in facilities or other fixed assets and the reduction of debt or other liabilities (*Financial SCAN*).

The following is the exact line items from the Statement of Functional Expenses and Balance Sheet used to calculate full costs surplus or deficit:

Full Costs Surplus (Deficit) = Estimated Unrestricted Revenue – (Operating Expenses Before Depreciation + Depreciation + Annual Debt Principal Payment + Purchases of LBE + 1 month of cash savings)

Operating Expenses (After Depreciation), SFE 25A	\$103,350,036
Operating Expenses (Before Depreciation)	\$102,673,512
Depreciation, SFE 22A	\$676,524
End of Year Debt, BS 26B	\$5,648,250
Beginning of Year Debt, BS 26A	\$7,320,401
Annual Debt Principal Payment	-\$1,672,151
End of Year LBE, BS 10cB	\$2,881,333
Beginning of Year LBE, BS 10cA	\$3,310,249
Purchases of Land, Buildings, and Equipment	-\$428,916
One month of Cash Savings	\$8,556,126
End of Year Unrestricted Net Assets, BS 27B	\$7,335,937
Beginning of Year Unrestricted Net Assets, BS 27A	\$13,826,912
Total Functional Expenses, SFE 25A	\$103,350,036
Estimated Unrestricted Revenue	\$96,859,061
Full Costs Surplus/(Deficit)	-\$12,946,034

Table 6. Full Costs Surplus (Deficit) Calculation, TEF 2011

The sum of operating expenses (before depreciation); depreciation; annual debt principal payment; purchases of land, buildings, and equipment; and one month of cash savings are subtracted from estimated unrestricted revenue to arrive at the full costs surplus/(deficit). The Nonprofit Finance Fund advises nonprofits to set revenue targets high enough to cover not just direct and indirect operating expenses but the full costs of doing business. Surpluses are used to

cover additional “hidden costs” (e.g. depreciation on fixed assets and reduction in debt principal). Organizations that run a full costs surplus are more likely to be sustainable and vibrant in the long-term (Kramer).

Full Cost Coverage

Full Costs Surplus/(Deficit)







	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	-\$12,946,034	\$1,265,172	-\$137,101,348	\$103,553,908	-\$9,255,683	-\$17,843,967
2012	-\$6,030,668	-\$1,126,594	\$48,458,862	\$680,774,309	\$226,316,542	-\$6,525,163
2013	-\$4,014,311	-\$86,283,465	\$14,276,934	\$1,714,900,101	\$294,649,828	-\$5,316,064
2014	\$4,116,979	-\$51,483,254	-\$41,376,196	\$1,658,216,971	\$117,596,107	-\$9,686,065
2015	-\$7,982,407	-\$10,281,015	\$376,539,577	\$514,913,137	-\$117,439,255	-\$36,692,857
Average Annual Growth	-1.1%	-1906.9%	171.3%	159.3%	578.9%	-69.8%
	4	6	2	3	1	5
Years Covering Full Costs	1	1	3	5	3	0
	4	4	2	1	2	6
Weighted Rank	4.0	5.0	2.0	2.0	1.5	5.5
Sparklines						

Table 7. Full Cost Coverage for Selected Organizations

An interesting observation is the difference for individual organizations between the number of years they run surpluses when only change in unrestricted net assets and operating expenses (after depreciation) are considered (Table 5) versus when other factors are included (Table 6). The Energy Foundation, for example, ran an unrestricted surplus in four of the last five years, but a full cost surplus in only one of the last five. This could indicate that the organization is not generating enough unrestricted revenue to cover its balance sheet investments and cash to be set aside as working capital or reserves. To maintain and build a healthy enterprise, supportive of mission and programs, organizations such as the Energy Foundation need to cover costs that extend beyond solely expenses before depreciation (*Financial SCAN*).

Balance Sheet

Ability to Manage Debt

An organization's ability to manage debt is measured by its liabilities as a percent of its total assets. In both the for-profit and nonprofit sector, a figure of 50% or below is considered concerning, meaning that no more than half of the organization's assets should be financed by debt. This debt ratio shows how much an organization owes relative to what it owns. It is important because a nonprofit organization's ability to manage debt is tied to its ability to deliver programs and services. Debt is a critical financial tool that can help organizations manage cash operations, facility purchases and upgrades, and more (Kramer). The debt ratio was calculated by simply dividing the organization's total liabilities by its total assets (both can be found on the Balance Sheet).

<i>Liabilities as Percent of Assets</i>	
Total Liabilities, BS 26B	\$5,648,250
Total Assets, BS 16B	\$31,915,680
Liabilities as Percent of Assets	17.7%

Table 8. Liabilities as Percent of Assets, TEF FY 2011

Three criteria were weighted relevant to the ratio to arrive at the final score to be used in the scorecard. They were the average annual growth of the debt ratio (the lower the better), average debt ratio for the last five years (the lower the better), and number of years out of the last five where the debt ratio was less than 50% (the higher the better).

Ability to Manage Debt*Liabilities as Percent of Assets*

	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	17.7%	4.9%	52.9%	13.5%	2.1%	9.1%
2012	22.1%	3.1%	47.7%	9.6%	1.9%	3.9%
2013	13.3%	5.2%	45.8%	5.2%	1.4%	5.5%
2014	15.8%	8.1%	48.0%	3.5%	1.2%	10.9%
2015	13.0%	13.6%	32.9%	3.6%	1.3%	20.1%
Average Annual Growth	-3.42%	38.17%	-10.10%	-25.99%	-10.16%	41.68%
	4	5	3	1	2	6
Average Liabilities/Assets Ratio	16.38%	7.00%	45.46%	7.11%	1.59%	9.88%
	5	2	6	3	1	4
Years Liabilities/Assets <50%	5	5	4	5	5	5
	1	1	6	1	1	1
Weighted Rank	3.3	2.7	5.0	1.7	1.3	3.7
Sparklines						

Table 9. Ability to Manage Debt for Selected Organizations

New York Community Trust performed the best in this area, while Pew Charitable Trusts performed the worst. Tides Foundation has seen the most growth in terms of its debt ratio; however, its ratio still remains a third lower than Pew Charitable Trusts'. None of the organizations have liabilities exceeding 50% of assets, on average, meaning that their dependence on debt financing is not alarmingly high. Pew Charitable Trusts needs to consider how it will repay obligations and/or borrow again and if its growth plans will require the organization to take on new debts (*Financial SCAN*).

Ability to Steward Facilities

Ability to steward facilities is measured by an organization's accumulated depreciation as a percentage of its land, buildings, and equipment.

*Depreciated Life As Percentage of Life of Land, Buildings, and Equipment*Accumulated Depreciation, **BS 10B**Land, Buildings, Equipment, **BS 10A**

Depreciated Life As Percentage of Life of Land, Buildings, and Equipment

TEF
\$2,617,208
\$5,498,541
47.6%

Table 10. Depreciated Life as Percentage of Life of Land, Buildings, and Equipment, TEF FY 2011

The depreciated life of an organization's fixed assets serves as a good indicator of an organization's propensity to maintain and replace property and equipment over time. It represents an accounting estimate of the accumulated wear and tear on land, buildings, and equipment. If funds need to be allocated for upgrades, that could undercut the organization's ability to deliver on programs and services (*Financial SCAN*).

Ability to Steward Facilities

Depreciated Life As Percentage of Life of Land, Buildings, and Equipment







	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	47.6%	29.9%	11.0%	50.3%	55.8%	87.7%
2012	58.3%	43.2%	13.9%	65.3%	61.6%	54.4%
2013	67.1%	54.5%	14.4%	77.8%	65.8%	60.3%
2014	74.3%	64.2%	15.9%	76.1%	68.6%	58.4%
2015	81.0%	71.7%	18.1%	76.7%	75.1%	60.4%
Average Annual Growth Rate	14.32%	24.99%	13.51%	11.88%	7.76%	-6.73%
	5	6	4	3	2	1
Current Depreciated Life Rate	81.0%	71.7%	18.1%	76.7%	75.1%	60.4%
	6	3	1	5	4	2
Average Depreciated Life Rate	65.6%	52.7%	14.7%	69.2%	65.4%	64.2%
	5	2	1	6	4	3
Weighted Rank	5.3	3.7	2.0	4.7	3.3	2.0
Sparklines						

Table 11. Ability to Steward Facilities for Selected Organizations

The three statistics most helpful in contextualizing the depreciated life ratio were average annual growth rate, the current depreciated life rate, and the average depreciate life rate for the last five years (the lower the better for all three). The organizations that performed the best out of the six were Pew Charitable Trusts and the Tides Foundation, while the organization that performed the worst was The Energy Foundation. This indicates that PCT and TF have been proactive in preventing the build-up of accumulated depreciation, while PCT has postponed facility repairs and systems replacements. The debt ratio represents an accounting estimate of the accumulated wear and tear on fixed assets (i.e. land, buildings, and equipment). If funds need to be allocated for upgrades, this could undercut the organization's ability to deliver on programs and services (Kramer).

Appropriate Liquidity

Appropriate liquidity is defined as the resources available to absorb risk and respond to new opportunities and measured in terms of months of expenses that can be covered with available unrestricted cash (or access to it). It is calculated as follows:

$$\text{Months of Cash} = \frac{(\text{Cash} + \text{Savings})}{(\text{Total Functional Expenses} - \text{Depreciation})/12}$$

Cash, BS 1B	\$50,700
Savings, BS 2B	\$16,903,470
Total Functional Expenses, SFE 25A	\$103,350,036
Depreciation, SFE 22A	\$676,524
Months of Cash	2.0

Table 12. Months of Cash Calculation, TEF FY 2011

Having access to fewer than three months of cash is considered perilously tight for nonprofit organizations. Yet the Nonprofit Finance Fund's State of the Sector survey results indicated that 53% of respondents expected to have three months of cash or fewer in 2015 (Kramer).

Appropriate Liquidity

Months of Cash

	TEF	CF	PCT	SVCF	NYCTACFI	TF
2011	2.0	5.3	1.4	0.6	5.1	0.5
2012	2.0	7.8	0.4	1.2	7.9	0.8
2013	2.9	2.7	1.1	2.5	4.2	0.6
2014	4.3	7.9	0.5	1.3	3.9	1.5
2015	4.8	9.1	0.4	0.5	1.5	1.3
Average Annual Growth Rate	26.57%	47.48%	2.17%	21.38%	-15.16%	42.88%
Current Months of Cash	4.8	9.1	0.4	0.5	1.5	1.3
	2	1	6	5	3	4
Average Months of Cash	3.2	6.6	0.8	1.2	4.5	1.0
	3	1	6	4	2	5
Months w/Greater Than 3 Months of Cash	2	4	0	0	4	0
	3	1	4	4	1	4
Weighted Rank	2.7	1.0	5.3	4.3	2.0	4.3
Sparklines						

Table 13. Appropriate Liquidity for Selected Organizations

The results are mixed for the six foundations. The Energy Foundation and Climateworks Foundation each currently have access to greater than three months of cash; however, the other

four organizations are not in a good place in terms of liquidity. Climateworks Foundation ranks first in average annual growth rate of reserves, current months of cash, average months of cash for the last five years, and months with greater than three months of cash for the last five years. This indicates a favorable liquidity position, meaning that the organization has a heightened ability to withstand risk and respond to new opportunities (*Financial SCAN*).

Summary

When all relevant metrics are considered, the New York Community Trust is financially the most healthy and efficient nonprofit among the subgroup. However, less important than the result for this specific peer comparison is the proof of concept that this methodology for evaluating financial health and efficiency can be replicated for private grantmaking foundations in the climate change space and throughout the nonprofit sector. The increased rigor on financial analysis could help drive better outcomes.

Chapter 6

Topics for Further Exploration

In my paper, I explored nonprofits' financial health and efficiency, but unfortunately, I was unable to explore the *effectiveness* of their efforts relevant to climate change. By the time of my submission deadline, I did not yet have the opportunity to speak with the Executive Director of the Grantham Foundation, Ramsay Ravenel. Had I connected with him, I would have asked him how the organization defines success in terms of meeting its mission. Learning about the relevant metrics and benchmarks the Grantham Foundation uses would have provided a more holistic view of how private grantmaking climate change foundations measure their impact. This information could have been combined with the ratio analysis scorecard to provide a more complete perspective on nonprofits' health, efficiency, and effectiveness. Exploring effectiveness works toward achieving a two-fold mission: 1) it empowers the public to discover which organizations are “getting the most bang for their buck,” as Callahan says, and 2) it helps to satisfy donors' such as Michael Bloomberg's demands for more hard data on how their money is being spent.

Chapter 7

Conclusion

Philanthropy is taking on a more active role in the fight against climate change. It is important to understand the most common funding models nonprofits use and advanced metrics for evaluating financial health and efficiency. If foundations are transparent in their evaluation process, they can serve as one of the most consistently well-managed agents in climate change efforts. This paper supports more sophisticated analysis for evaluating nonprofits and encourages greater scrutiny of the way nonprofits manage funds. It advances a philosophy that nonprofits can be analyzed in much the same way as for-profit companies. In an era where individual philanthropists have more power than ever to effect change, it is important to hold their organizations accountable. The world needs every bit of help it can get in curbing carbon emissions, protecting biodiversity, halting sea level rise, and delaying other catastrophic effects of climate change. The more efficient allocation of philanthropic dollars would go a long way in contributing to this collective effort.

Bibliography

- “About Us.” Energy Foundation, <https://www.ef.org/about-us/>. Accessed Feb. 14, 2018
- “Climate Change – Funders.” Insidephilanthropy.org, <https://www.insidephilanthropy.com/fundraising-for-climate-change>. Accessed Apr. 6, 2018.
- “Financial Health Dashboard.” Financial SCAN. Report Generated Feb. 13, 2018. Accessed Feb. 13, 2018.
- “Financial SCAN.” Guidestar, <https://learn.guidestar.org/products/nonprofit-data-solutions/financial-scan>. Accessed Oct. 31, 2017.
- “National Security Implications of Climate-Related Risks and A Changing Climate.” Department of Defense. Jul 23, 2015. Accessed 3 December 2017.
- “Nonprofit Explorer.” ProPublica, https://projects.propublica.org/nonprofits/search?utf8=%E2%9C%93&q=&state%5Bid%5D=&ntee%5Bid%5D=&c_code%5Bid%5D=. Accessed Apr. 6, 2018.
- “Scientific Consensus: Earth’s Climate Is Warming.” NASA, <https://climate.nasa.gov/scientific-consensus/>. Accessed Apr. 6, 2018.
- “Standards for Charity Accountability.” Better Business Bureau. 2003. Accessed Mar. 18, 2018.
- “The Consequences of Climate Change.” Nasa.gov, <https://climate.nasa.gov/effects/>
- “The Energy Foundation 2011 – 2015.” Financial SCAN. Report Generated Feb. 13, 2018. Accessed Feb. 13, 2018.
- Barrett, William. “How to Evaluate a Charity.” Forbes, <https://www.forbes.com/sites/williambarrett/2016/12/14/how-to-evaluate-a-charity-2/#1c8285fd3371>. Dec. 14, 2016. Accessed Mar. 18, 2018.

Callahan, David. *The Givers: Wealth, Power, and Philanthropy in A New Gilded Age*. New York, Alfred A. Knopf, 2017.

Charity Navigator.

Davis, Brian. "FIN 408: Ratio Analysis." Finance 408, Penn State University. Microsoft PowerPoint presentation.

Donlagic, Dzenan and Kozaric, Amra. "Justification of Criticism of the International Financial Institutions." *Economic Annals*, Volume LV, No. 186/July – September 2010. Accessed Dec. 3, 2017.

Folland, C.K., T.R. Karl, J.R. Christy, R.A. Clarke, G.V. Gruza, J. Jouzel, M.E. Mann, J. Oerlemans, M.J. Salinger and S.-W. Wang, "2001: Observed Climate Variability and Change." In: *Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change* [Houghton, J.T., Y. Ding, D.J. Griggs, M. Noguer, P.J. van der Linden, X. Dai, K. Maskell, and C.A. Johnson (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 881pp. Accessed Apr. 6, 2018.

Foundation Directory Professional.

Greshko, Michael, Parker, Laura, and Howard, Brian Clark. "A Running List of How Trump Is Changing the Environment," *National Geographic*, <https://news.nationalgeographic.com/2017/03/how-trump-is-changing-science-environment/>. Apr. 2, 2018. Accessed Apr. 6, 2018.

Guidestar.

Kramer, Peter. "Top Indicators of Nonprofit Financial Health." Nonprofit Finance Fund. Apr. 16, 2013. <https://www.nonprofitfinancefund.org/blog/top-indicators-nonprofit-financial-health>. Accessed Dec. 3, 2017.

Lewis, Michael. *Moneyball: The Art of Winning an Unfair Game*. New York, W.W. Norton & Company, 2004.

Mann, Michael E. "The Serengeti Strategy: How Special Interests Try to Intimidate Scientists, and How Best to Fight Back." *Bulletin of the Atomic Scientists*. 2015, Vol. 71(1) 33-45. Accessed Apr. 6, 2018.

Mann, Michael E. Personal Interview. 19 Apr. 2017.

Mann, Michael. "It's A Fact: Climate Change Made Hurricane Harvey More Deadly." *The Guardian*. Aug. 28, 2017. <https://www.theguardian.com/commentisfree/2017/aug/28/climate-change-hurricane-harvey-more-deadly>. Accessed Feb. 28, 2018.

NCCS. <http://nccs.urban.org/sites/all/nccs-archive/html/PubApps/search.php?1>. Accessed Feb. 14, 2018.

Nixon, Rob. "Naomi Klein's 'This Changes Everything.'" *The New York Times*, <https://www.nytimes.com/2014/11/09/books/review/naomi-klein-this-changes-everything-review.html>. Accessed Apr. 6, 2018.

Ross, Sandy. "Mission Matters Blog: Non-Profit Fundraising Efficiency." KLR, <https://www.kahnlitwin.com/blogs/mission-matters-blog/non-profit-fundraising-efficiency#contentTop>. Mar. 9, 2012. Accessed Mar. 18, 2018.

Ross, Sandy. "Non-profit Fundraising Efficiency." Mission Matters Blog, <https://www.kahnlitwin.com/blogs/mission-matters-blog/non-profit-fundraising-efficiency>. Mar. 9, 2012. Accessed Apr. 6, 2018.

Surowiecki, James. "In Defense of Philanthrocapitalism." The New Yorker, <https://www.newyorker.com/magazine/2015/12/21/in-defense-of-philanthrocapitalism>. Dec. 28, 2015. Accessed Apr. 6, 2018.

ACADEMIC VITA

ZACHARY A. COHEN

EDUCATION

The Pennsylvania State University | Schreyer Honors College
Smeal College of Business | Bachelor of Science in Finance
Sapphire Leadership & Academic Program

University Park, PA
Graduation: May 2018
GPA: █ 4.00 | SAT: █ 2400

PROFESSIONAL EXPERIENCE

GE Power

Financial Management Program Intern

Atlanta, GA
Jun 2017 – Aug 2017

- Devised analytical tool for ~\$126.8M in base cost for NAM Power Services FP&A team using SmartView and Hyperion, identifying and visualizing trends in QlikView that will enable senior leaders to set priorities for base cost clean up
- Designed analytical reporting tool to provide enhanced visibility into product line performance for business with 11 product lines and ~\$7.3B in sales, enabling senior leaders to make better strategic decisions for NPI investment
- Created CSA billing database to analyze past billing behavior in CSA contracts totaling ~\$37.5B, providing opportunity to identify where CSA deferred risk can be reduced at a contract level

Johnson & Johnson

Enterprise Supply Chain Finance Co-Op

Bridgewater, NJ
Aug 2016 – Dec 2016

- Built dynamic template that calculates accuracy of forecasts and actuals for ~\$285.2B in global supply chain capital data reported in two primary reporting tools across three sectors to identify and prioritize problem areas in need of increased attention
- Assisted in the preparation of quarterly capital reporting packages to show trends in capital spending by investment category, enabling key insights to be made regarding over/underspend, key variances and projection of spend for remainder of year
- Assembled master schedule for capital, corporate, and supply chain teams setting deadlines for reporting and deliverables and illustrated workflow for Global Reference Model to drive standardized financial processes

GE Energy Connections

Financial Management Program Intern

Plainville, CT
May 2016 – Aug 2016

- Implemented weekly finance tracker by centralizing global data input in Smartsheet tool, resulting in a streamlined process that enabled better visibility to leadership team on current business roll up
- Provided key detail and reasoning to Finance leaders, including Global FP&A Manager, on implementation of new pacing process
- Partnered with business unit CFOs to provide analysis on recast of historical financial data, allocating costs properly across new business segments to allow for smooth transition and pacing of financials in 3Q'16

LEADERSHIP EXPERIENCE

Presidential Leadership Academy

Class of 2018 (30 members)

University Park, PA
Mar 2015 – Present

- Participated in a 3-year extensive academic and extra-curricular program instructed by University President Barron and the Dean of the Schreyer Honors College focusing on the development of leadership and critical thinking skills
- Published 59-page policy brief on creating a fairer system for CEO compensation and presented recommendations to University leadership

Alpha Kappa Psi Professional Business Fraternity

Pledge Master | Vice President of Community and Culture | Philanthropic Chair | Newly-Initiated-Brother Educator

University Park, PA
Aug 2014 – Present

- Oversaw four chairs and assisted in the allocation of combined \$3,000 in funds while serving on seven-person executive board that manages ~\$20,000 budget and plans professional, philanthropic, and social events for 119 members
- Planned six philanthropic events, including a basketball tournament, ice skating outing, food drive, and nonprofit consultation that benefitted various charities throughout the State College community, including the House of Care, an assisted-living home
- Enhanced a semester-long educational program to help 18 Newly-Initiated-Brothers acclimate to the fraternity by delivering biweekly presentations and planning an interview competition to foster involvement

University Park Undergraduate Association

Representative for Schreyer Honors College

University Park, PA
Sep 2015 – Mar 2016

- Elected to represent 1,885 Honors students in a student government organization serving 40,000 undergraduates
- Co-authored comprehensive financial aid report and presented findings and recommendations to University Bursar Office
- Persuaded legislative body to pass three resolutions that endorsed a centralized scholarship database, bike lanes, and elections code reform

RELEVANT EXPERIENCE

Deloitte Consulting Case Competition

1st Place Penn State Team | Nationals Qualifier

University Park, PA
Feb 2016

Ethics in the Workplace Case Competition

1st Place Penn State Team | Nationals Qualifier

University Park, PA
Apr 2017

PwC Challenge Case Competition

3rd Place Penn State Team

University Park, PA
Oct 2015 – Nov 2015

AWARDS AND OTHER INVOLVEMENT

PSIA Stock Pitch Competition Finalist Fall 2015

Schreyer Consulting Director of Outreach

Teaching Assistant for Leadership Lessons Spring 2016

Booz Allen Hamilton University Scholars Program Participant

Selected Speaker at 2015 Penn State Capital Day
House of Care (Nonprofit) Board of Directors Member
Schreyer Orientation Team Leader and Mentor Fall 2015-2016
NCG Consulting Training Program Spring 2016 Graduate