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Navigating Through Turbulent Times:
An Analysis of How the Southwestern Pennsylvania Nonprofit Human Services Sector is Influenced by the Economic Environment

2009

TROPMAN REPORTS

THE FORBES FUNDS

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A BRIEF HISTORY

Founding Director, Elmer J. Tropman

The Forbes Funds was established in 1982 to provide emergency financial assistance to nonprofit organizations that were experiencing funding interruptions or short-term cash flow problems. Under the leadership of our founding director, Elmer J. Tropman, The Forbes Funds also provided management consultation to small nonprofit organizations and conducted regional research to identify unmet needs in the human service sector. The Forbes Funds provided an important service during a particularly turbulent time when many nonprofit organizations were struggling to adjust to a new domestic policy agenda as well as to significant changes in federal and state funding priorities and procedures.

By the late 1980s, while continuing to provide loan guarantees, we shifted our emphasis to long-term capacity-building in the nonprofit sector. During this time, The Forbes Funds focused on helping nonprofits improve administrative skills and infrastructure, with special emphasis on long-range planning and strategic management. Through our grantmaking, we helped nonprofit organizations secure technical assistance to address such matters as strategic planning, financial management, and board governance.

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Beginning in 2001, The Forbes Funds embarked on an ambitious strategy to enhance the management capacity of the nonprofit sector, especially human service and community development organizations, through three complementary activities: grantmaking; applied research; and sector leadership activities.

Today, we support capacity-building initiatives for human service and community development agencies; fund research critical to responsive, innovative, and sound nonprofit management; and encourage and celebrate exemplary practices in the nonprofit sector.

2009
TROPMAN REPORT
Applied Reseach about the Pittsburgh Region's Nonprofit Sector

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Thomas Lusk, Ph.D., AVA, CPM, Shawn Sheridan and Mike Welsh

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Background

The economic shock of 2008-2009, identified as a "Global Credit Crunch", has resulted in an enormous loss of wealth in every sector of the global and U.S. economy. The drastic drop of the stock market created new financial challenges for nonprofit organizations, as grant revenue, endowment earnings, corporate support and personal wealth all rapidly deteriorated. The recession has also created unprecedented demands for services from the nonprofit sector to provide safety net services for the community as the unemployment rate continues to climb. The combination of these economic factors has created a precarious operating environment for many nonprofit organizations that threatens their delivery of services and in many cases, their very existence.

However, there is little formal research focused on how the nonprofit human services sector[1] is influenced by the economic environment and how it monitors and reacts to drastic changes in that environment over time. In order to better prepare the sector's leaders for future shocks, we need to understand how previous shocks have affected nonprofits and how nonprofits have successfully adapted to those shocks. To address this gap, The Forbes Funds commissioned McCrory & McDowell, LLC to study the relationship between the financial condition of nonprofit human services organizations in Southwestern Pennsylvania and the economy from 2000 to 2007.

The McCrory & McDowell research team addressed this topic in two ways. First, to understand the relationship between nonprofit human services organizations' financial condition and the economy, we have conducted an extensive quantitative analysis utilizing national and local macroeconomic indicators as well as nonprofit financial information from the Internal Revenue Service (IRS) Form 990. Secondly, we leveraged prior research on nonprofit financial vulnerability to distinguish between vulnerable and less vulnerable organizations and then conducted extensive interviews with nonprofit leaders from

[1] The research team utilized a wider definition of "Human Services" organizations, gathering data from nonprofit organizations classified as "P- Human Services" as well as from a variety of other NTEE Codes similar to Human Services in order to create a sufficient data set. Each NTEE Code consists of several sub-codes. Data was gathered from nonprofit Form 990's classified as the following NTEE Codes: all organizations coded F,K,O and P; organizations under I except I3 and I6; under J except J4; code L except L5; code N except N4,N5,N6 and N8; code S other than S4, S5, S8 and S99.

each group to gain insight into how each group has monitored economic information and adapted to changes over time. It is our hope that by identifying and replicating those strategies and practices associated with lower levels of nonprofit financial vulnerability, leaders of nonprofit human services organizations will be able to improve their financial sustainability in the face of economic uncertainty and volatility.

This report summarizes the findings of the study and provides practical recommendations for nonprofit leaders to improve the financial sustainability of their organizations.

Research Questions and Methods

This study was designed to address the questions found in Table 1 in order to provide insight and guidance to leaders of nonprofit human services organizations in dealing with future financial and economic shocks. The particular research method employed in answering each question is also presented in Table 1.

To address the research questions, the research team designed a customized, multi-faceted research methodology which included a quantitative analysis of nonprofit financial data, statistical analysis which compared nonprofit financial data with macroeconomic data as well as a series of interviews of nonprofit leaders to discern the managerial and behavioral patterns of vulnerable and least vulnerable organizations included this study.

The nonprofit data analysis was based upon a data set made available by GuideStar of IRS Form 990 filings of nonprofit organizations from the years 2000 through 2007 for nonprofit organizations in the Pittsburgh Metropolitan Statistical Area (MSA)[2]. Specifically, our analysis focused on Human Services organizations, identified by National Taxonomy of Exempt Entities (NTEE) Code. A complete description of the nonprofit data set can be found in our full research report.[3] After removing organizations that did not file 990s for each year from 2000-2007 and those with data errors, our data set to be used for analysis consisted of 166 organizations across six counties[4] each filing 8 years of returns for a total of 1,328 Form 990s.

To understand changes in nonprofit financial condition, the research team analyzed each organization's Change in Net Assets (CNA) and Financial Vulnerability Index (FVI). CNA was chosen as an indicator of financial condition based upon its usage in previous studies examining nonprofit vulnerability (Trussel, Greenlee and Brady 2002) and on the theory that consistent reductions in net assets will result in a reduction of services which will in turn, result in the organization's inability to carry out its mission.

Table 1. Research Questions		Methodology
Question 1	How has the financial condition for nonprofit human services organizations in Southwestern Pennsylvania changed from 2000 to 2007?	Nonprofit Financial Data Analysis
Question 2	Do changes in nonprofits' financial condition follow a pattern related to the health of the economy?	Statistical Analysis
Question 3	How has the management of vulnerable organizations differed from that of the least vulnerable organizations?	Interviews

[2] 7-county Pittsburgh Metropolitan Statistical Area (MSA) consists of Allegheny, Armstrong, Beaver, Butler, Fayette, Washington and Westmoreland Counties
[3] The full research report can be found online at www.forbesfunds.org/applied-research
[4] Allegheny, Beaver, Butler, Fayette, Washington and Westmoreland

The FVI was developed by nonprofit research economists Trussel, Greenlee and Brady (2002) and is based upon a seminal study on nonprofit financial vulnerability by researchers Tuckman and Chang (1991). The FVI is a mathematical equation used to predict the vulnerability of a nonprofit organization that incorporates five separate financial measures, with each measure connected to the ability of the organization to carry out its mission if faced with one or more financial shocks. A vulnerable organization in this sense is defined as one that is likely to cut service offerings immediately when a financial shock occurs (Tuckman and Chang 1991). The measures included in the FVI formula consider an organization's debt, concentration of revenues, administrative costs, surplus margin and size. A detailed description of the components and calculation of the FVI can be found in our full research report.[5]

The measures included in the FVI formula consider an organization's debt, concentration of revenues, administrative costs, surplus margin and size.

In order to study the relationship between nonprofit human services organizations' financial condition and the economy, the research team collected data from 2000 – 2007 on 16 economic indicators. Nine of these 16 indicators were selected specifically because they measure the Pittsburgh or Pennsylvania economy, given the regional nature of the nonprofit data set. To determine which of the several economic indicators to use in statistical analysis, the research team conducted a principal component analysis to identify one economic variable that could approximately represent the pattern found in most or all of the 16 variables and chose to use the Gross Domestic Product (GDP) of the Pittsburgh MSA.

To address whether a pattern existed from 2000 to 2007 between the financial condition of nonprofit organizations in our data set and the economy, we calculated the Pearson correlation coefficients for the nonprofit and economic variables to determine the strength and significance of their relationship, looking at variables in the same year and economic variables one year prior to the nonprofit financial variables. The research team examined nonprofit organizations grouped by size, by predominant type of revenue and by location and identified correlations that were statistically significant at either the .01 or .05 level.

The qualitative analysis component of the research methodology was focused on gathering information through interviews from nonprofit leaders representing vulnerable and least vulnerable organizations in order to create a general picture of the management practices of each category of organizations over the time period and then contrast the groups to discern the differences between how vulnerable and least vulnerable organizations adapted to economic changes. To collect this information, the research team segmented the nonprofit organizations into the groups of vulnerable and least vulnerable using the organizations' FVI score and then conducted standardized interviews with leaders from 10 organizations in each group.

[5] The full research report can be found online at www.forbesfunds.org/applied-research

Summary of Findings

How has the financial condition for nonprofit human services organizations in Southwestern Pennsylvania changed from 2000 to 2007?

Over this eight-year time period, the financial condition of the organizations in our data set has improved. As the Median Change in Net Assets Figure shows, the overall trend of the change in net assets is positive, with a 59% increase in change in net assets over the period. However, this trend is somewhat volatile with two periods of decreases each followed by increases in change in net assets.

The count of organizations considered "vulnerable" and "least vulnerable" for each year from 2000-2007 also indicates that fewer organizations were scored as "vulnerable" in 2007 than in 2000. Figure 2 depicts an increase in vulnerability from 2000-2002 followed by a decrease in vulnerability from 2003-2007, which approximately mirrors the pattern observed in change in net assets. These findings and the additional supporting research are summarized in Table 2.

Figure 1. Median Change in Net Assets

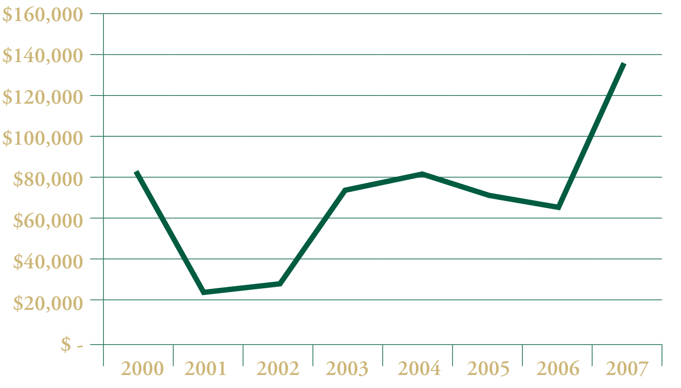

Figure 2. FVI Count by Year

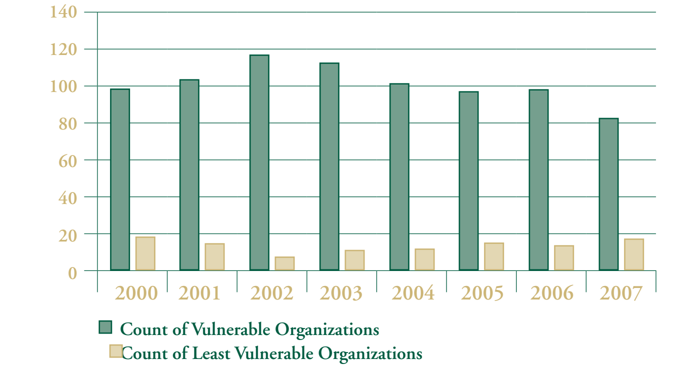

Table 2. Question 1

How has the financial condition for nonprofit human services organizations in Southwestern Pennsylvania changed from 2000 to 2007?

Research Findings	Supporting Evidence
Financial conditions have improved overall.	• Median CNA increased 59% from 2000 to 2007.
	• The number of organizations with FVI scores of "vulnerable" decreased by 14% over this period.
	• Median total revenue increased at a faster rate (53%) than total expenses (51%).
	• Total assets increased by 88%, while total liabilities increased only 38%.
Financial condition generally deteriorated from 2000-2003 and improved from 2004-2007.	• Median CNA dipped from over $80,000 in 2000 to $24,000 in 2001 and $28,000 in 2002, increasing to $134,000 in 2007.
	• In 2002 and 2003, there were the lowest number of "least vulnerable" organizations based on FVI and the highest number of "vulnerable organizations".
	• Except for 2006, each year from 2004-2007 there were fewer "vulnerable" organizations and more "least vulnerable" organizations based on FVI score.

Do changes in nonprofits' financial condition follow the changes in the economy?

There is no statistical relationship between annual variation in change in net assets, CNA, and the Pittsburgh MSA GDP. Similarly, while some statistically significant[6] correlations between changes in the FVI and changes in the economy exist, each of the correlations is considered statistically "weak". Furthermore, the results of the analysis have yielded findings that economic improvements are associated with greater, not less, nonprofit vulnerability among nonprofit organizations which contradicts our basic assumptions regarding vulnerability and the economy that underlie the study. Due to the overall weakness of these correlation coefficients as well as their counterintuitive association, the research team interprets these results as showing no meaningful connection between the financial condition of nonprofit human service organizations in Southwestern Pennsylvania and the economy over the time period of the study.

However, we have seen that the financial condition of the organizations in the data set has improved over this time period, and therefore conclude that these changes to nonprofits' financial condition are influenced by other non-economic factors, either internal to the organization (such as management practices, processes, technology, leadership, etc.) or external to the organization (shifts in demographics, politics, donors' preferences, regulation, etc.). These findings and the supporting research are summarized in Table 3; details of the statistical findings can be found in the full report.[7]

TABLE 3. QUESTION 2

Do changes in nonprofits' financial condition follow the changes in the economy?

Research Findings	Supporting Evidence
There is no relationship between changes in nonprofits' CNA and changes in the Pittsburgh MSA GDP.	• No correlation coefficients were statistically significant at either the .01 or .05 level.
There are statistically significant connections between nonprofits' FVI score and the Pittsburgh economy one year prior. Improvements in the economy are associated with increased nonprofit vulnerability the following year, and vice versa.	• The correlations between GDP and FVI for all nonprofit organizations, nonprofit organizations with greater than $5 million in assets, and nonprofits in Allegheny County are significant at the .01 level.
	• Each of the correlation coefficients is positive, indicating that increases in prior year GDP are correlated with increases in nonprofit vulnerability; decreases in prior year GDP are correlated with decreased nonprofit vulnerability.
There is no meaningful relationship between nonprofit financial condition and the economy for the organizations and years in this data set.	• The statistically significant correlation coefficients are all "weak", with none exceeding 0.237.[8]
	• Each of the correlation coefficients is positive, indicating that increases in GDP are associated with increases in vulnerability.

[6] Statistical significance is a technically specific term meaning that an observed effect in the data is so large that it would rarely occur by chance. "Significant" in this sense does not mean "important." In statistics, the term is used to indicate only that the evidence against the null hypothesis has reached the standard set by the confidence level. For our purposes, "statistically significant" correlations are those that we can be either 95% or 99% confident would not occur by chance.
[7] The full research report can be found online at www.forbesfunds.org/applied-research
[8] Correlation coefficients can range from a negative correlation of -1.0 to a positive correlation of 1.0. The strength of the correlation coefficient is based on its proximity to either -1.0 or 1.0. For instance, strong positive correlations (coefficients of .599 to 1.0) signify that changes in one variable are strongly associated with changes in the other variable in the same direction. Generally, correlation coefficients with absolute values between .000 and .399 are considered "weak", coefficients between .400 and .599 "moderate" and greater than .599 as "strong."

Table 4. Question 3

How has the management of vulnerable organizations differed from that of the least vulnerable organizations?

Management Area	Findings
Vulnerable Organizations	Monitored internal costs and expenses, reduced and shared office space and monitored interest rates more than least vulnerable organizations.
Least Vulnerable Organizations	Considered a cash reserve an aspect of the organization's financial health, conducted capital campaigns, benchmarked against another organization's programs or models and monitored the rate of inflation and the stock market more than vulnerable organizations.

How has the management of least vulnerable organizations differed from that of the vulnerable organizations?

Overall, the management practices over the time period from 2000-2007 shared with us through interviews with nonprofit leaders were very similar across least vulnerable (LV) and vulnerable (V) organizations. Table 4 illustrates the findings where the two groups of organizations significantly differed.

Common Findings

In terms of which macroeconomic indicators nonprofit leaders considered important to their operations, representatives of both groups considered state funding, the unemployment rate, health care costs and federal funding as highly important. Similarly, individuals from V and LV organizations all considered city/municipal funding, corporate income and the availability of state tax credits as unimportant to their operations. In addition, monitoring state and county behavior is not an activity that receives significant attention by the interview sample. However, both groups report that state and county revenues are important to their operations.

Health care expenses have a significant impact on the financial condition of the nonprofit organization. For those organizations offering health care as a benefit, there is concern related to escalating employment costs as this will decrease the organization's bottom line. For those that do not offer healthcare as a benefit, the responses were two-fold. First, there were organizations that do not currently offer healthcare benefits to their employees yet desire to do so. Escalation of healthcare expenses makes the fulfillment of this desire in the future prohibitive. Second, there is a realization that the need for healthcare insurance may drive many well-qualified employees out of the nonprofit sector as they seek employment with enhanced benefits.

While a large majority of nonprofit leaders specifically mentioned utilizing a budget to manage their organization, considering the low number of

In terms of which macroeconomic indicators nonprofit leaders considered important to their operations, representatives of both groups considered state funding, the unemployment rate, health care costs and federal funding as highly important.

Across both the V and LV groups, the following management practices were in use by less than half of all organizations (the percentage of the interview sample using the practice is in parenthesis):
Using financial statements as a management tool (35%)
Conducting a capital campaign (35%)
Creating or adjusting a strategic plan in response to the economy (20%)
Increasing special events (5%)

respondents who specifically mentioned monitoring costs and expenses, the effectiveness of budget utilization may require greater study.

Although a majority of interview participants indicated that they consider economic factors during the preparation of their strategic plan, only 20% reported that they created or adjusted their strategic plan in response to the economy.

Internal information is monitored by all the vulnerable and least vulnerable organizations. In vulnerable organizations, 50% specifically mentioned multiple individuals review the documentation. In least vulnerable organizations, it was 60%. This may indicate a lack of formal internal controls as defined by policies and procedures. It may also indicate that financial literacy and board involvement may need to be examined.

Recommendations for Nonprofit Leaders

Monitor Economic Indicators

While the leaders of nonprofit organizations considered vulnerable and least vulnerable generally emphasized and monitored the same economic indicators, monitoring the stock market was mentioned frequently by leaders of least vulnerable organizations and infrequently by the vulnerable organizations. We recommend that nonprofit leaders replicate this management practice, particularly for organizations whose balance sheets contain an endowment or other investments. Specifically, nonprofit leaders should monitor the Dow Jones Industrial Average (DJIA) to assess overall trends in the stock market while at the same time monitoring the performance of their particular investments to understand the financial performance of their investment portfolio,

The following management practices were in use by at least 75% of all organizations:
Considering monitoring of the budget as a component of the organization's financial health (85%)
Pursuing a partnership or collaboration (80%)
Increasing services (75%)
Considering the economic environment when creating the strategic plan (85%)

which will differ by organization. While many organizations may not have investments to track, monitoring the stock market remains important as trends in this indicator will have implications for other systems affecting the organization financially, such as the State and County budgetary environments.

Measure Your Financial Vulnerability Index

Calculate the Financial Vulnerability Index (FVI) of your organization (using the formulas available in the appendix of the full report)[9]. While not a perfect measure, by applying the FVI consistently, nonprofit managers will be able to track changes to financial conditions over time as well as target strategies to reduce organizational vulnerability. In the for-profit sector, a similar technique is commonly used, known as the Altman Z-Score, which was created to measure for-profit organizations' fiscal strength. While using the FVI is useful, it should be only one of several calculated ratios that together provide insight for the organization. Other useful ratios measure the organization's liquidity and level of working capital to test the organization's vulnerability. These include the Current Ratio, Liquid Funds Indicator, Working Capital Ratio and the Defensive Interval (Greenlee and Bukovinsky, 1998). More information on these ratios can be found in the full report.

Increase Financial Literacy

Assess the financial literacy of key staff and the board of directors. If necessary based on the results of the assessment, develop and implement a plan to increase the financial literacy of the organization. Financial literacy should include an understanding of the organization's operations and how those operations are financed and how those operations impact cash flow and income. To monitor cash flow, the organization should create a cash flow budget including projections of the timing of cash moving into and out of the organization. For organizations relying primarily on fee for service revenue, monitoring accounts receivable as well as the billing and collection process is critical. Organizations with a substantial proportion of revenue from donations should also monitor their pledge receivables.

Nonprofit leaders should monitor the Dow Jones Industrial Average (DJIA) to assess overall trends in the stock market while at the same time monitoring the performance of their particular investments to understand the financial performance of their investment portfolio, which will differ by organization. While many organizations may not have investments to track, monitoring the stock market remains important as trends in this indicator will have implications for other systems affecting the organization financially, such as the State and County budgetary environments.

The ability to interpret the financial results of these operating activities, presented in the organization's financial statements, is also a critical component of financial literacy. Monthly financial statements should be completed within 10 days of the end of the month, the standard within the private sector. Financial statements should be reviewed on a monthly basis; however, the most critical financial information should be reviewed on a more regular (up to weekly) basis using dashboards as described in the next section.

For the organization's Board of Directors and top management, financial literacy should include the ability to manage the auditing process including issues related to independence. The organization must have a level of financial literacy that

[9] The full research report can be found online at www.forbesfunds.org/applied-research

Sample Components of Financial Literacy
• Understanding of the organization's operations and how those operations are financed
• Understanding of how operations impact cash flow and income
• Monitoring of cash flow that includes projections of the timing of cash moving into and out of the organization
• Monitoring accounts receivable as well as the billing and collection process (especially critical for organizations that rely on fee for service revenue)
• Monitoring pledge receivables (critical for organizations that rely on donations)
• Interpreting the financial statements on a monthly basis within 10 days of the end of the month

ensures the members of the board and leadership understand the current economic condition of the organization. Given this understanding, the board and top leaders of the nonprofit must ensure that the financial statements of the organization accurately report the organization's economic conditions (Grace & Haupert, 2003). These are goals that are common to both for-profit and nonprofit organizations.

In the for-profit sector, the lack of financial literacy was recognized as a major issue among public companies and was addressed by the Sarbanes-Oxley Act of 2002, which promoted greater financial literacy by mandating, among other provisions, that senior executives take individual responsibility for the accuracy and completeness of corporate financial reports.

Dashboard Critical Success Factors

Determine the organization's critical success factors and monitor them through dashboards, so trends in performance can be monitored and addressed in real-time. Critical success factors are those actions that are identifiable, can be measured and monitored, and can contribute to defining the health of the organization at a specific time. Dashboards are the presentation of the data in a way that enables analysis. For example, a food bank might define critical success factors such as pounds of food received, item count shipped, or families served. The dashboard is designed to provide a simple visual overview of the health and direction of any organization that has measurable operational and/or financial information. In interviews, the research team learned that some monitoring was taking place, but that is was not a constant, consistent process for most organizations. This type of monitoring yields the greatest results when used on a constant basis, reviewed as often as weekly and should involve the management of the organization and the Board of Directors. The use of a dashboard can improve organizational effectiveness, improve decision making, and sharpen the focus of management on key indicators.

Implement Multiple Levels of Review

Internal financial information needs to be reviewed by multiple competent individuals. The operations of organizations are complex; by sharing information, you can acquire insight and expertise from the board of directors and staff. Further, the review of internal information performed by you and your staff should be able to stand alone. The review performed by the board of directors is not part of this review; rather, it is an additional review. Establish policies and procedures that clearly assign responsibility of the review to the multiple, competent individuals you identify. The review of these individuals should be documented accurately, thoroughly and consistently. These policies and procedures are necessary to promote standardization and minimize the risks of fraud within an organization.

Address Revenue Concentration and Build Cash Reserves

Interview participants expressed the opinion that the traditional funding model of nonprofit human services organizations may need to change to address nonprofits' over-reliance on federal, state, and county revenue. The risks associated with this dependence on state funding were highlighted by the strain placed on many of the case study participants during the Pennsylvania 2009-2010 State Budget impasse that lasted over 100 days during the summer and fall of 2009. Two ways to change this model to become more sustainable include securing additional sources of revenue and building and maintaining cash reserves and stressing their importance to the Board of Directors and management related to financial sustainability.

Diversifying revenue sources may include utilizing fundraising through special events as well as creating an endowment to generate income to fund operations. In interviews, only one participant mentioned using special events as a fundraising tool and capital campaigns, when they did occur, were done either to acquire real estate or for "brick and mortar" projects. We heard that capital campaigns were much a more common practice among the least vulnerable organizations than the vulnerable ones. Using special events and capital campaigns to diversify revenue sources and to build reserves or endowments should be explored.

Organizations should establish a reserves goal in terms of the optimal amount of operational reserves, given the organization's operating environment. In addition to setting annual goals, the organization may also wish to designate specific contributions to the operating reserve, such as annual contributions from the Board of Directors. While the reserves policy will vary by organization due to the different types of funding and operating environments, our research has yielded some concrete examples of reserve policies from least vulnerable organizations that may help leaders create or modify their existing approach to operating reserves. Least vulnerable organizations' reserves policies and guidelines ranged greatly, with organizations establishing reserves from 3 to 12 months of operating expenses or 6 months of payroll expenses. In general, vulnerable organizations' reserves policies were similar to those stated by least vulnerable organizations. Some least vulnerable organizations' reserves policies were "20% of operating budget," "cash flow for 150-200 days" and a general principle of "having enough cash to avoid borrowing from the line of credit."

Finally, in addition to goals and strategies used to create the reserve, the organization's Board of Directors should establish a policy setting guidance on how to manage and in what circumstances to use the reserve funds.

Things to Think about When Establishing a Reserve
• Set a total reserve goal in terms of the optimal amount of operational reserves
• Set annual goals for working towards the reserve
• Designate specific contributions to the operating reserve, such as annual contributions from the Board of Directors
• Adopt policies for managing and using reserve funds
• Review the status of the reserve as financial statements are reviewed

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