
Financial Capacity and Sustainability of Ordinary Nonprofits

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This article divides financial issues into capacity and sustainability in two time frames: long and short. Long term emphasizes maintaining services; short term emphasizes resiliency. An organization's long-term financial capacity is sustainable if its rate of change is sufficient to maintain assets at their replacement cost. A key contribution of this study is a sustainability principle that gives managers short-term budget surplus targets needed to achieve this objective. The formulas are applied to national data to give a picture of the sector and establish benchmarks for "normal" practice. "Ordinary nonprofits" are active public charities without endowments that are not primarily membership associations or grant makers.

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YOUTH HAVEN, a pseudonymous social service agency serving wards of the state and troubled youths, has financed 87 percent of its assets with debt.¹ Traditional financial analysis identifies excessive debt as an indicator of financial vulnerability (Chang and Tuckman, 1991; Tuckman and Chang, 1991), but Youth Haven has survived for forty years and continues to grow.²

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I propose a financial model—a parsimonious set of key financial indicators—as a framework for setting financial objectives and diagnosing the causes of success or failure in achieving them.

On the other hand, many organizations that meet all goals of their capacity building grants fail to achieve financial stability (Blumenthal, 2003). How is it possible that an organization in such circumstances prospers while others that seemingly have more advantages fail to achieve financial stability? In this article, I propose a financial model—a parsimonious set of key financial indicators—as a framework for setting financial objectives and diagnosing the causes of success or failure in achieving them. Youth Haven will illustrate the model.

Central to the model are the companion concepts of *financial capacity* and *financial sustainability*. Intuitively, financial capacity consists of resources that give an organization the wherewithal to seize opportunities and react to unexpected threats.³ Financial capacity is quantified differently in two time frames (short and long) reflecting different degrees of managerial flexibility to reallocate assets in response to opportunities and threats. Financial sustainability is measured by the rate of change in capacity in each period. The model's focus is on long term. A new *sustainability principle* requires consistency between short-term sustainability, as measured in terms of annual surpluses, and long-term sustainability, as measured by asset growth, which must stay ahead of the long-run rate of inflation (Anthony and Young, 2005; Finkler, 2005).

As used here, an “ordinary” nonprofit is a producer of goods or services for general consumption, unlike a membership association or a grant maker, which are likely to operate according to different financial models (Bowman, 2011). Further, an “ordinary” nonprofit does not have the benefit of a supporting endowment. “Ordinary” may seem mundane, but it identifies such nonprofits as being the most numerous kind. Also, hereinafter capacity and sustainability will refer to *financial capacity* and *financial sustainability* unless otherwise stated.

The next section situates this research in relation to the literature. It is followed by a theoretical discussion paving the way for introduction of specific equations defining capacity and sustainability in the long term and the short term. A final section evaluates the financial condition of nonprofits in a large national data set. These results incidentally generate benchmarks of “normal” financial performance.

Financial Modeling

Two early and influential articles (Chang and Tuckman, 1991; Tuckman and Chang, 1991) used four simple ratios to predict whether a nonprofit was “financially vulnerable,” defined as being “likely to cut back its service offerings immediately when it experiences a financial shock” (Tuckman and Chang, 1991, p. 445). The Tuckman-Chang ratios were (1) equity (assets minus liabilities) divided by total revenue, (2) total surplus (revenue minus expenses) divided by total

revenue, (3) administrative expenses divided by total expenses, and (4) a Herfindahl index of revenue concentration.⁴ An organization is “at risk” if it is in the bottom quintile according to one ratio and “severely at risk” if it was in the bottom quintile on all four ratios. Youth Haven is in the financially vulnerable range (lowest quintile) on the equity indicator but in the middle on the others.

One strand of subsequent research, begun by Kingma (1993), adapted modern portfolio theory to explore the relation between revenue diversification and financial stability. Another strand modeled financial vulnerability using the same four ratios as predictors, while experimenting with the definition of vulnerability (Greenlee and Trussel, 2000; Hager, 2001; Trussel, 2002; Trussel and Greenlee, 2004; Keating, Fischer, Gordon, and Greenlee, 2005). The main difference between the Tuckman-Chang model and the one proposed here is the time scale: Tuckman-Chang is primarily concerned about a short-term reaction to an external shock. The primary concern of the proposed model is overcoming the corrosive effect of inflation on service delivery over the long term. Nevertheless, the sustainability principle acknowledges short-term resiliency as a precondition for long-term success.

Although equations in the proposed model may be helpful as building blocks of predictive models, the model itself is normative. It features “if-then” propositions such as, “If managers want to maintain their capital stock at replacement cost, their annual surpluses must be greater than X.” It is more closely related to the families of diagnostic equations (ratios) such as found in nonprofit finance texts (Konrad and Novak, 2000; McLaughlin, 2002; Anthony and Young, 2003; Finkler, 2005; Zietlow, Hankin, and Seidner, 2007).⁵

This model represents the first comprehensive alternative in twenty years to the Tuckman-Chang model. It makes two contributions to the literature. First, it quantifies the concept of financial capacity. Christensen and Gazley (2008) surveyed the capacity literature and concluded that the nonprofit portion lags behind the business and public management portion in quantifying the key concept of capacity. Second, the proposed model gives capacity a time dimension. “[Time] is used extensively in the business management literature, much less so in the public and nonprofit management literature” (Christensen and Gazley, 2008, p. 274).

The proposed model assumes that (1) a long-run objective is maintaining or expanding services, and (2) a short-run objective is to develop resilience to occasional economic shocks while making progress toward meeting long-term objectives. Long-term sustainability requires total assets to grow at a rate no less than the long-run rate of inflation (Anthony and Young, 2005; Finkler, 2005). Resilience in the short run requires financial resources without donor restrictions, which can be converted into cash during an economic downturn lasting one or several years. The sustainability principle requires annual surpluses sufficient to maintain asset values at

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replacement cost over the long term while also maintaining financial resources available short term.

Capacity in either period is a management choice. An organization must determine its own preferred capacity level, taking account of mission, values, method of service delivery, external threats and opportunities, appetite for risk, and the collective knowledge, skills, and abilities of its human resources. Management has the most flexibility to determine its long-run capacity, but in the short run it must take care to maintain enough capacity to respond to external shocks and to pay bills on time. The *Sustainability Principle* posits that the long run is reached through successive short runs requiring consistency between the short term (as measured by annual surpluses) and the long term (as measured by asset growth).

Long-Term Objective: Maintaining Services

The proposed model assumes that management's long-run objective is maintaining or expanding services. On this time scale, donor restrictions on net assets are not critical. Temporarily restricted net assets are eventually reclassified to unrestricted, and organizations will not accept permanently restricted net assets unless they will contribute to long-run capacity.

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Financial Capacity

Debt destroys an organization's financial capacity because creditors possess a claim on the organization that takes precedence over all other claims. If assets are used as collateral, they become forfeit in case of nonpayment. Because borrowing takes less effort than fundraising, nonprofits must guard against becoming overextended. The Equity Ratio (ER) monitors the fraction of an organization's assets it owns free and clear.

$$\text{Equity Ratio (ER)} = (\text{Total Assets} - \text{Total Liabilities}) / \text{Total Assets},$$

or equivalently,

$$ER = \text{Net Assets} / \text{Total Assets} = \text{line 73B} / \text{line 59A}.$$

Line numbers refer to the pre-2008 IRS Form 990, which is used in preference to the current version because the IRS numbered lines consecutively on the old form. Translation to the current form is straightforward.

An *ER* of 1.0 implies that an organization has no debts, including unpaid bills. An *ER* of zero means that it is operating entirely with borrowed assets. *ER* can even be negative if an organization's financial obligations are greater than the value of its assets—a condition known as balance sheet insolvency. Some authorities believe

Table 1. Balance Sheet for Youth Haven with Supplemental Activity Data (in \$1,000)

Assets	2007	2006
Cash and cash equivalents	\$ 1,508	\$ 567
Other current assets	8,006	7,983
Investments	748	5,708
Property, plant, and equipment	9,650	5,586
Other assets	1,081	0
Total assets	\$20,993	\$19,844
Liabilities		
Current liabilities	\$ 3,272	\$ 3,348
Mortgages, bonds, and notes	9,417	9,047
Other liabilities	4,481	5,325
Total liabilities	\$18,204	\$17,720
Net assets (unrestricted)	\$ 2,790	\$ 2,123
Total liabilities and net assets	\$20,994	\$19,843
Supplemental Activity Data	2007	2006
Expenses before depreciation	\$52,391	\$40,330
Depreciation	\$ 744	\$ 480

that an *ER* should be greater than 0.5 (Konrad and Novak, 2000, p. 113). The origin of this recommendation is obscure, but it likely represents a standard of creditworthiness originating with creditors seeking to minimize default risk. However, this model posits that long-run capacity is a management decision and the more important long-term issue is sustaining whichever level is chosen.

From Table 1 it is evident that Youth Haven's *ER* in 2007 was an astonishingly low 0.13, implying it has virtually no ability to invest for the future, to fend off threats to its market niche, or to act opportunistically. However, as mentioned earlier, the long-run level of capacity is a management decision. Youth Haven apparently feels comfortable in its market niche.

Financial Sustainability

Given the definition of *ER*, it is natural to measure long-term sustainability by the change in the numerator divided by total assets over the same interval of time. Under generally accepted accounting principles (GAAP), revenue increases net assets. (Gifts and grants are technically public support but they have the same effect on net assets. In this study, they are included under the heading of revenue.) Expenses decrease net assets, thus revenue minus expenses equals a change in net assets. Typically, a change in the numerator is small compared to the denominator so the ratio for sustainability is known

in the business literature as *return on assets* (ROA; Anthony and Young, 2005, p. 509; Finkler, 2005, p. 535).⁶

$$\text{Return on Assets (ROA)} = 100\% \cdot (\text{Total Revenue} \\ - \text{Total Expenses}) / \text{Total Assets},$$

or equivalently,

$$\text{ROA} = 100\% \cdot \text{Change in Total Net Assets} / \text{Total Assets} \\ = 100\% \cdot (\text{line 73B} - \text{line 73A}) / \text{line 59B}.$$

The long-term rate of inflation establishes a floor under long-term sustainability consistent with the choices an organization makes when it selects its target capacity level. The inflation rate from 1920 to 2006, a period that includes the Great Depression, was 3.4 percent per year.⁷ Therefore, Status Quo ROA is 3.4 percent. An actual return on assets above this rate will increase long-term capacity; an actual return on assets below this rate will decrease it. In the long run, assets must be sufficiently productive to support their own replacement as they wear out. Despite its abysmally low long-term capacity, Youth Haven had an ROA of 3.2 percent, which is very close to the long-term rate of inflation of 3.4 percent. With careful management, it can be sustained indefinitely over the long term.

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Short-Term Objective: Resilience

The proposed model assumes the short-run objective is resilience to occasional economic shocks while making progress toward meeting its long-term objective. An organization may have adequate long-term capacity, but donor restrictions and limited financing options are short-term constraints.

Capacity

Some authorities recommend that nonprofits maintain at least three months of Spending on Operations as a reserve (Konrad and Novak, 2000, p. 113; NORI, 2008, p. 2). The origin of this norm is unclear but recently it received the endorsement of the Nonprofit Operating Reserves Initiative Workgroup sponsored by the National Center for Charitable Statistics, Center on Nonprofits and Philanthropy at the Urban Institute, and United Way Worldwide (Nonprofit Operating Reserve Initiative Workgroup [NORI], 2008). The previous section made no recommendation for long-term capacity, explaining that it depended on numerous variables but it is vitally important to have adequate short-term capacity—indeed, this point was the motivation for Tuckman and Chang's research.⁸

If an organization lost all current income and tried to maintain its spending on operations at a constant level while searching for

new sources, it must succeed within the calculated Months of Spending (MS) before running out of expendable resources. MS should not be construed literally, as it is unlikely that any organization's income will drop to zero overnight. Typically, the numerator is small relative to the denominator so the following approximation is valid:

$$\text{Months of Spending (MS)} = 12 \text{ months} \cdot (\text{Unrestricted Financial Assets} - \text{Unsecured Debt}) / \text{Spending on Operations}$$

where *Unrestricted Financial Assets* = Total Assets – Restricted Assets – Property, Plant, and Equipment (PPE, equivalent to Land, Buildings, and Equipment on the IRS 990 form); *Unsecured Debt* = Total Liabilities – Secured Debt. *Spending on Operations* = Total Expenses – Depreciation. Note that assets financed with borrowed funds do not contribute to short-term capacity; if all PPE is financed with debt, the terms PPE and Secured Debt cancel. *Depreciation* is an expense associated with capital consumption, but it does not use cash as other expenses do, so it does not constitute spending. The equation can be rewritten as:

$$\begin{aligned} \text{MS} &= 12 \text{ months} \cdot (\text{Unrestricted Net Assets} \\ &\quad - \text{Equity in PPE}) / \text{Spending on Operations} \\ &= 12 \text{ months} \cdot [\text{line 67B} - (\text{line 55cB} + \text{line 57cB} \\ &\quad - \text{line 64aB} - 64bB)] / (\text{line 44A} - \text{line 42A}). \end{aligned}$$

The numerator of this ratio is functionally equivalent to an operating reserve that an organization can tap in an emergency (NORI, 2008). *Equity in PPE* = PPE – Mortgages and Bonds. This model classifies acquisition, divestiture, and financing of PPE as long-term decisions—not to be undertaken for short-term gain. Youth Haven also had minimal short-term capacity. Its MS in 2007 was slightly over two weeks (0.6 of a month). A sudden and significant drop in revenue would probably require budget cuts, so it is financially vulnerable in the Tuckman-Chang sense. Perhaps Youth Haven has been lucky but more plausibly it tolerates meager short-term capacity because it is confident in its ability to manage its government relations. (It should, because 86 percent of its revenue is from government sources.)

Sustainability

Sustainability of short-term capacity is measured by the change in the numerator of Months of Spending divided by spending on operations, which is analogous to Mark Up (MU) in the business literature.⁹ Typically, the numerator of MS is small compared to the denominator, so the following approximation is valid:

$$\text{Mark Up (MU)} = 100\% \cdot (\text{Unrestricted Revenue}^{10} + \text{Net Assets Released from Restrictions} - \text{Total Expenses} + \text{Depreciation}) / (\text{Total Expenses} - \text{Depreciation}).$$

Net Assets Released from Restrictions are restricted gifts (including pledges) and grants received in an earlier accounting period but reclassified to unrestricted upon satisfaction of the restrictions (or fulfillment of pledges) in the current accounting period.¹¹ *Total Expenses* are always unrestricted by GAAP convention. *Depreciation* is the rate of change in the value of existing PPE.¹² Adding it in the numerator is to cancel it from expenses. The numerator therefore consists of resources available for spending. The equation can be rewritten in a form that easily derives from the second MS equation, thus:

$$\text{MU} = 100\% \cdot (\text{Change in Unrestricted Net Assets} + \text{Depreciation}) / \text{Spending on Operations} = 100\% \cdot (\text{line 67B} - \text{line 67A} + \text{line 42A}) / (\text{line 44A} - \text{line 42A}).$$

Of course, nonprofits may plan surpluses for precautionary reasons or to build their asset base.

This formula is similar to Operating Margin found in nonprofit finance texts (McLaughlin, 2002, p. 64; Finkler, 2005, p. 534) but Operating Margin ordinarily does not include depreciation and its denominator is revenue instead of spending. Dividing by revenue is problematic because nonprofits have “inaccessible” revenues such as restricted gifts and endowment returns. Expenses, being unrestricted by definition, raise none of these problems, so MU uses expenses instead. (Mark up may sound strange in the nonprofit sector, but in the business literature “margin” denotes division by revenue whereas “mark up” denotes division by expenses.)

The MU that achieves long-term ROA of 3.4 percent is called the *Status Quo Mark Up* (SQ-MU). The amount of cash that should be set aside every year for capital preservation including principal repayment of loans is 3.4 percent times *Total Assets*. The operating surplus that is sufficient to maintain the status quo over the long term is SQ-MU times *Spending on Operations*. Equating these two dollar amounts and solving for SQ-MU gives:

$$\begin{aligned} \text{SQ-MU} &= 3.4\% \cdot \text{Total Assets} / \text{Spending on Operations} \\ &= 3.4\% \cdot \text{line 59B} / (\text{line 44A} - \text{line 42A}) \end{aligned}$$

This is a sufficient condition because the right-hand side includes restricted assets but the left-hand side does not. Note: Unlike SQ-ROA, which is the same for all organizations, SQ-MU differs from one organization to the next because it depends on the ratio of each organization’s assets to expenses. This formula implies that zero annual surpluses are sufficient to sustain zero assets. Of course, nonprofits may plan surpluses for precautionary reasons or to build their asset base.

Despite negligible short-term capacity, Youth Haven had an MU of 1.2 percent, which is very close to its status quo rate of 1.4 percent. With careful management, it can be sustainable indefinitely in both the short and long terms.

Applications

In this section, I apply the model to a large database to explore the condition of nonprofits in general, beginning with a discussion of data cleaning. The model applies only to ordinary nonprofits, so the data are screened to exclude membership associations (dues $> 1/3$ of total revenue) and grant makers (grants $> 1/3$ of program expenses). For justification of these rubrics, see Bowman (2011). A growing body of literature calls attention to the importance of endowments (Ehrenberg, 2000; Bowman, 2002; Gentry, 2002; Fisman and Hubbard, 2003; Lerner, Schoar, and Wang, 2008; Weisbrod, Ballou, and Asch, 2008). Unfortunately, incorporating endowment into the proposed model is beyond the scope of this article. A new technique for inferring the existence of an endowment from financial data available on the IRS 990 form excludes endowed nonprofits from statistical analyses (Bowman, Tuckman, and Young, forthcoming).¹³

As the most recent data file that contains all the variables needed for this analysis, this section uses a balanced panel extracted from the digitized data set of National Center for Charitable Statistics (NCCS) 1998–2003. A balanced panel excludes organizations with lifespans of less than six years. The data were cleaned according to the method discussed in Bowman, Tuckman, and Young (forthcoming). This resulted in excluding (1) inactive and shell organizations, (2) organizations that did not use accrual accounting, (3) did not follow Statement of Financial Accounting Standards [SFAS] No. 117 (Financial Accounting Standards Board, 1993),¹⁴ (4) filed a group return, or (5) filed the 990-EZ form.

All data screens combined to reduce the sample from 254,000 reporting public charities to 97,500. Most filters had a negligible effect on sample size but those for accrual accounting and SFAS 117 cut it in half. This is regrettable but it would be misleading to mingle organizations that use different accounting rules. To illustrate with two examples: (1) pledges are not revenue for organizations that use cash accounting, but they are revenue under accrual (GAAP) rules; and (2) organizations using cash accounting record a capital purchase as an expenditure, but organizations using accrual accounting do not recognize it as an expense. Reliable interpretation of statistical results depends on all data on a given variable being measured according to the same rules. The large sample shrinkage from using these filters probably disproportionately eliminates small organizations.

In this section, I compare actual practice sector-wide in relation to the published norms. Median values are better than averages for

Table 2. Capacity and Sustainability Percentiles for Ordinary Nonprofits, Averages of 2001–2003

	Percentiles			% > 0	% > SQ
	25 th	50 th (median)	75 th		
Equity ratio	0.4	0.72	0.9	90	n.a.
Return on assets (%)	−4.3	1.0	7.0	55	38
Months of spending	0.7	2.7	6.5	84	n.a.
Markup (%)	–	4.2	11.3	75	56

Note: N = 46,492. SQ = status quo; n.a. = not applicable.

measuring the central tendency of financial variables because they are not skewed by a few extreme cases (i.e., *outliers*). In benchmarking, an important issue is how to define “normal” practice. It seems reasonable to define a normal value of a capacity statistic as lying between the 25th and 75th percentiles (*interquartile range*), which embraces half of all nonprofits. Any given organization may have good reasons to operate outside of this range but capacity targets at the extremes need justification.

Table 2 shows the key financial indicators for the sector. The equity ratio median is 0.72. Although 90 percent have a positive equity ratio, one in ten is *balance sheet insolvent*—that is, total liabilities exceed total assets. This seems like a high figure but, as the Youth Haven example suggests, insolvent organizations might function provided they stay liquid and have adequate annual surpluses. There is wide dispersion by field of activity (see Table 3). The highest median equity ratio is from two to four times the smallest median in any given column. The equity ratio varies from a low of 0.20 for housing organizations to a high of 0.90 for youth-serving organizations. The low figure stands out because the next smallest is 0.60 (health care), but a low number is reasonable for housing organizations because they frequently borrow to build and can rely on a fairly stable revenue stream from rents.

The return on assets of the median organization is 1.0 percent. Long-term sustainability requires growth of total assets faster than the long-term rate of inflation of 3.4 percent. More than half (62 percent) are unsustainable in the long term and 45 percent actually have negative returns. I speculate that a large number of organizations reboot with a capital campaign now and then. This much is certain: managers should regard inferior returns seriously and begin planning a capital campaign when return on assets falls appreciably below 3.4 percent on a three-year moving average. If they ignore the danger sign, their organization will gradually sacrifice its ability to maintain service quality, output levels, or both.

Months of spending measures the expendable assets a nonprofit can call on in protracted emergency. The median nonprofit has 2.7

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Table 3. Capacity Percentiles for Ordinary Nonprofits by Field of Activity, Averages of 2001–2003 (Interquartile Range^a in Italics)

<i>Field of Activity (NTEE)^b</i>	<i>N</i>	<i>Solvent%^c</i>	<i>ER^d</i>	<i>MS^e</i>
Arts and culture (A)	3,546	93	0.82 <i>0.38</i>	2.2 <i>6.4</i>
Education (B)	4,734	95	0.71 <i>0.42</i>	2.6 <i>6.1</i>
Environment (C)	727	97	0.87 <i>0.28</i>	3.3 <i>7.1</i>
Health care (E)	6,648	89	0.60 <i>0.49</i>	3.1 <i>5.7</i>
Mental health and crisis intervention (F)	2,642	94	0.66 <i>0.46</i>	2.0 <i>3.5</i>
Disease related (G)	1,262	96	0.80 <i>0.33</i>	3.5 <i>5.9</i>
Crime prevention and legal (I)	1,184	96	0.76 <i>0.36</i>	2.3 <i>4.3</i>
Employment (J)	1,219	94	0.72 <i>0.43</i>	2.5 <i>4.7</i>
Housing (L)	4,062	61	0.20 <i>0.95</i>	4.4 <i>9.4</i>
Recreation (N)	977	95	0.86 <i>0.34</i>	3.6 <i>6.8</i>
Youth (O)	1,427	97	0.90 <i>0.21</i>	3.3 <i>6.3</i>
Human services (P)	10,375	93	0.71 <i>0.48</i>	2.0 <i>4.1</i>
International and foreign affairs (Q)	623	95	0.80 <i>0.46</i>	2.1 <i>5.0</i>
Community improvement (S)	2,069	93	0.71 <i>0.48</i>	3.4 <i>9.8</i>
Philanthropy and volunteerism (T)	1,287	96	0.78 <i>0.47</i>	4.2 <i>7.0</i>
Religious (X)	1,033	91	0.83 <i>0.43</i>	2.3 <i>5.9</i>

^aThe interquartile range is the difference between the 75th and 25th percentiles. ^bNational Taxonomy of Exempt Entities; NTEE group excluded where $N < 500$. ^cPercent of organizations where total assets > total liabilities.

^dEquity ratio. ^eMonths of spending.

months of spending, which is very close to the recommended level, but one-quarter have only twenty days or less and 16 percent have negative short-term capacity. The number of months of spending across different fields of activity varies from 2.0 to 4.4 months. The higher figure is for the housing subsector. It is reasonable that heavily indebted organizations should strive to maintain a fairly high level of expendable assets because the consequences of being unable to service their debt during an economic downturn would be catastrophic. Although 75 percent of nonprofits have positive mark ups, only 56 percent are sustainable in the sense that they are accumulating

enough cash to continue to guarantee a return on assets of 3.4 percent in the long term. Nonprofit managers should be wary of repeated poor performance of this indicator.

The data tell a familiar story: ordinary nonprofits stretching their resources to the limit and exposing themselves to long- and short-term risks to serve their clients. The financial model presented in this study raises a warning. *Just to stay even*, an unsustainable nonprofit must plan for capital campaigns now and then to refresh its capital stock. Although the results are not shocking, this model gives nonprofits a framework for quantifying their financial condition, setting financial goals, and monitoring their progress.

Conclusions

This financial model consists of paired financial indicators in two time frames with different primary objectives: long term with a service delivery objective and short term with a resilience objective. In either time frame, there is a financial indicator of capacity and a corresponding indicator of financial sustainability measuring the change in capacity. An organization's mission, values, opportunities, and threats come into play when it determines its preferred level of capacity in the long term, but the long-term rate of inflation unambiguously establishes a floor under the rate of return on assets necessary to sustain it at any given level. However, organizations must take care to have adequate short-term capacity or else external economic shocks may force them to liquidate.

An organization sustainable in the long term but unsustainable in the short term will be chronically short of cash. Conversely, an organization sustainable in the short term but not in the long term may have adequate cash but inflation will cause the value of its assets to erode over time. This, in turn, will cause the quantity and quality of services to diminish unless capital campaigns periodically bring infusions of new assets. National data reveal that nonprofits are more focused on generating unrestricted cash in the short term than long-term capital preservation.

This model offers fertile ground for future research agenda. Some possible questions are (1) Is capacity a less powerful predictor of the probability of an organization's demise than sustainability? (2) What are the reasons for greater variability in long-term capacity than in short-term capacity? (3) Are organizations with low short-term capacity more likely to close their doors in response to an economic recession? (4) Is a change in executive director or board chair likely to result in an increase in capacity or sustainability, especially long term where leadership should be particularly telling?

Individually the ratios in this article provide limited information, but together they provide a coherent framework for managing. The formulas for endowed organizations in the long and short terms are more complex and beyond this article's scope. They are covered

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along with an extended discussion of membership associations and grant-making organizations in Bowman (2011).

Notes

1. This figure is exceeded by only 10 percent of tax-exempt public charities. Author's calculation based on 2003 National Center for Charitable Statistics digitized data ($N = 254$ K).

2. The author has been personally acquainted with this organization for thirty years.

3. This is similar to the concept of organization slack in the business literature (Bourgeois, 1981).

4. Also called a Herfindahl-Hirschman index. A high number is good for the first three, but a low Herfindahl index is good. To calculate the index: first, divide every revenue source by total revenue. Second, square all ratios. Third, add. This total varies from 1.0, where there is only one revenue source, to $1/N$, where N is the number of revenue sources.

5. Financial analysis consists of a set of measurements on financial variables that enable managers to identify and diagnose problems.

6. The business literature defines ROA as net income divided by total assets, but for-profit businesses do not have restricted assets. When applying the concept to nonprofits, one must decide how to treat restricted assets. This formulation assumes that in the long run restricted assets are as good as unrestricted. Technically, beginning-of-year (BOY), or an average of both, is better practice, but some financial statements report only EOY asset values. If analysts adopt an EOY convention, they will get the same answer whether they use financial statements or IRS data, which reports both BOY and EOY asset values.

7. Calculation by author, using data at: http://www.inflationdata.com/Inflation/Inflation_Rate/Long_Term_Inflation.asp. Accessed June 25, 2009.

8. On the other hand, nonprofits must be careful about substantially exceeding the recommended level because some grant makers are wary of organizations that already have "enough money."

9. In retailing, "mark up" is the difference between revenue and cost expressed as a percent of cost.

10. Technically gifts and grants are called public support and not revenue. As used here, revenue includes gifts and grants.

11. Spending restricted gifts for purposes at variance with donor restrictions does not release assets from restrictions. Instead, it diminishes unrestricted surplus or increases unrestricted deficit.

12. This is an approximation to the rate of change in PPE equity that ignores the repayment of principal on any mortgage that is not readily available from 990 data. Depreciation is a negative change in the book value of PPE, but there is a minus sign in front of PPE equity in the MS equation. The two negatives cancel, leaving Depreciation with a positive sign.

13. A nonprofit is *presumptively endowed* if the sum of its investments in securities and other investments on the IRS 990 form are larger than total expenses. This rule of thumb enables an organization to withdraw 5 percent every year to meet its operating budget needs in perpetuity. Mathematical simulations show that actual endowment spending rates of 5.5 percent approach the feasible limit with moderate risk exposure between 1926 and 1990, a period that spans the Great Depression as well as major economic booms (DeMarche Associates, 1990, p. 15). Furthermore, the Tax Reform Act of 1969 requires private foundations to spend 5 percent each year. Although public charities are not subject to this law, it strengthens the validity of a *pro forma spending rate* of 5 percent for endowed public charities.

14. Records with a nonzero total for the sum of paid in capital, capital stock, and retained earnings were excluded.

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