



# Using Ratio Analysis to Manage Not-for-Profit Organizations

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**T**housands of CPAs work in the not-for-profit sector, and thousands more volunteer as members of the governing boards of not-for-profit organizations. There is little in the academic background or experience of many accountants, however, to prepare them to analyze and evaluate not-for-profits. University courses in not-for-profit accounting emphasize the recording of transactions and the preparation of financial statements, rather than the evaluation of financial and operational effectiveness. Board members without substantial accounting expertise are even less equipped to interpret not-for-profit financial reports.

Because not-for-profit organizations exist for purposes other than earning a return for equity investors, measures commonly used to evaluate commercial enterprises are not well suited for evaluating them. Furthermore, although they are commonly represented as a single class of organization, great variety exists in the mission and

finances of not-for-profit organizations. While many not-for-profits rely heavily on contributions, others derive most of their revenues from the sale of services or membership dues. Because of varying missions and funding sources, there are no sector-wide norms to guide managers and board members.

It is often difficult for not-for-profit managers and governing boards to plan for the organization's financial future because of a reliance on contributions and the lack of predictability of demand for their services. The future can be daunting if a not-for-profit does not have a strong grasp on its financial position. A not-for-profit can, however, help maintain its financial sustainability by following prudent financial management standards and monitoring financial ratios. Financial management standards help a not-for-profit monitor its budget, cash flow, resource utilization, and revenue sources. This article's focus is on the use of financial ratios in trend

analysis and benchmarking to improve the effectiveness of management and boards charged with monitoring not-for-profit organizations, specifically those not-for-profits that file Form 990. Financial ratios can help determine if a not-for-profit has sufficient resources and determine if it is using those resources efficiently to support its mission. Ratios are useful because they express underlying financial relationships as a single value, allowing comparisons across time and among entities of varying size.

### Not-for-Profit Ratios

Investors, creditors, and analysts routinely use ratios to evaluate commercial enterprises. Because many of these ratios focus on profitability measures, their usefulness in guiding not-for-profit managers is limited. Historically, discussion of financial ratios among not-for-profits has focused on spending ratios: program, fundraising, and management expenses as percentages of total expenses. Donors in particular employ these measures to evaluate the extent to which their contributions support mission-related activities. There is ongoing discussion in the not-for-profit literature suggesting that being overly focused on spending measures can have unintended consequences. Sector leaders have called for greater attention to measuring operational effectiveness; others contend that measures of financial position are necessary to assess liquidity and sustainability. Responding to this demand, FASB standards now require greater disclosure related to liquidity.

The authors contend that not-for-profit managers and boards should actively measure and evaluate not just spending ratios, but also measures of liquidity and operational effectiveness. The selection of a set of ratios to monitor is challenging because not-for-profit missions vary extensively, as do their sizes and the industries in which they operate. The most accurate statement that may be made about the choice of ratios to monitor is that no single set of ratios is suitable for all not-for-profits. The management team of each not-for-profit should consider its needs and select a set of ratios

to measure that address its particular concerns. Regardless of the specific ratios selected, two characteristics make ratio analysis more useful:

■ **Trend analysis.** Within an organization, the value of ratio analysis lies in directing management's attention to areas of changing conditions. Therefore, it is important to measure and report financial ratios across time. Once agreed upon, the selected ratios should be consistently measured and presented to the governing board within each financial report so that trends can be identified. The authors' recommendation is that financial reports provided to the governing board contain five years of ratios.

■ **Benchmarking.** No generally accepted ideal or target levels exist for ratios. The desirable level for a given ratio is a matter of judgment and will vary according to the

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circumstances facing each organization. Ratios are generally evaluated against a benchmark rather than a theoretically optimal value; these benchmarks are typically calculated as an average value from a comparison group. Therefore, in addition to agreeing upon a set of ratios to measure and monitor, each not-for-profit should also agree on a comparison group of five to ten peer organizations. Ideally, this group would consist of well-managed not-for-profits of similar size and mission.

For purposes of illustration, the authors present a set of eight ratios that are likely to be useful to a variety of not-for-profit

organizations. The ratios represent the three broad areas of liquidity, operations, and spending. *Exhibit 1* describes the ratios, what they measure, and how they are calculated. It also computes average values for these ratios for over 200,000 not-for-profits, divided into five categories by entity size, using information available from the IRS website.

Because commercial businesses are reluctant to share detailed financial information with competitors, developing suitable benchmarks can be very challenging. In contrast, not-for-profits are aided in this process by the IRS's requirement that tax-exempt organizations file a Form 990 and it be made publicly available. Many not-for-profits post their Form 990s to their websites or make them available through organizations such as Guidestar. In addition, the IRS website provides annual extracts of Form 990 data; users may download financial information for all tax-exempt organization filings in a given year. Form 990 contains much more detailed financial information than is typically available in corporate financial statements and includes a wealth of nonfinancial information, including information about organizational governance and employee compensation. A list of potential ratios and the lines on the Form 990 where the information can be found appears in the article, "Why So Many Measures of Nonprofit Financial Performance? Analyzing and Improving the Use of Financial Measures in Nonprofit Research" (Christopher Prentice, *Nonprofit and Voluntary Sector Quarterly*, August 2016, <http://bit.ly/2GlwUHX>).

**Liquidity ratios.** The "days cash on hand" ratio measures the number of days of expenses that could be paid from existing cash and cash equivalents. Depreciation is removed from total expenses (denominator) since it does not require a cash outlay. Higher values indicate a stronger liquidity position. The "months of spending" ratio represents a longer planning horizon since it assumes receivables can be collected to sustain operations. Because the ratio removes current liabilities and donor-

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### Exhibit 1 Not-for-Profit Financial Ratios

Ratio	Formula	Averages by Size of Not-for-Profit	
<b>Liquidity Ratios</b>			
<b>Days cash on hand:</b> Measures the number of days of expenses that can be covered from existing cash and cash equivalents. Generally, higher values indicate a stronger liquidity position, although there is both a benefit and an opportunity cost to holding cash reserves.	$(\text{Cash} + \text{cash equivalents}) \div [(\text{Total expenses} - \text{depreciation expense})/365 \text{ days}]$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	123 days
		\$500,000 to \$1,000,000	146
		\$1,000,000 to \$10,000,000	99
		\$10,000,000 to \$50,000,000	76
		>\$50,000,000	57
<b>Months of spending:</b> A less extreme measure of liquidity than days cash on hand since it assumes receivables can be collected to sustain operations. Generally, higher values indicate a stronger liquidity position.	$(\text{Current assets} - \text{current liabilities} + \text{temporarily restricted net assets}) \div [(\text{Total expenses} - \text{depreciation expense})/12 \text{ months}]$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	4.22 months
		\$500,000 to \$1,000,000	5.24
		\$1,000,000 to \$10,000,000	3.84
		\$10,000,000 to \$50,000,000	3.35
		>\$50,000,000	2.42
<b>Operating Ratios</b>			
<b>Savings indicator:</b> Measures the net revenues that are retained by the organization as a percentage of expenses. Generally, not-for-profit organizations must maintain some surplus to replace existing facilities and extinguish debt. This ratio should be evaluated in the context of the anticipated needs of the organization.	$(\text{Revenues} - \text{expenses}) \div \text{Total expenses}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	4.5%
		\$500,000 to \$1,000,000	6.0%
		\$1,000,000 to \$10,000,000	4.3%
		\$10,000,000 to \$50,000,000	4.5%
		> \$50,000,000	9.6%
<b>Contributions and grants:</b> Measures the extent to which revenues are received from donors and grantors. Since this ratio measures the organization's dependence on voluntary support, high values indicate less diverse revenue sources and greater susceptibility to economic downturns.	$\text{Contributions \& grants revenue} \div \text{Total revenue}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	59%
		\$500,000 to \$1,000,000	56%
		\$1,000,000 to \$10,000,000	47%
		\$10,000,000 to \$50,000,000	34%
		>\$50,000,000	15%
<b>Fundraising efficiency:</b> Indicates the amount of contributions raised for each dollar of fundraising cost. Higher values indicate greater fundraising efficiency.	$\text{Total contributions (other than government grants)} \div \text{Fundraising expenses}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	\$16.94
		\$500,000 to \$1,000,000	\$16.47
		\$1,000,000 to \$10,000,000	\$11.45
		\$10,000,000 to \$50,000,000	\$11.93
		>\$50,000,000	\$12.86
<b>Spending Ratios</b>			
<b>Program service expense:</b> Measures expenses incurred on mission-related programs as a percentage of total expenses. Donors generally view higher values as desirable since this represents resources that are being directed to mission-related programs.	$\text{Program services expenses} \div \text{Total expenses}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	85.3%
		\$500,000 to \$1,000,000	86.1%
		\$1,000,000 to \$10,000,000	85.2%
		\$10,000,000 to \$50,000,000	86.2%
		>\$50,000,000	86.8%
<b>Management expense:</b> Measures management and general costs as a percentage of total expenses. Donors generally view higher values as undesirable since this represents resources that are not being directed to mission-related programs.	$\text{Management and general expenses} \div \text{Total expenses}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	12.3%
		\$500,000 to \$1,000,000	11.7%
		\$1,000,000 to \$10,000,000	12.6%
		\$10,000,000 to \$50,000,000	12.3%
		>\$50,000,000	12.4%
<b>Fundraising expense:</b> Measures fundraising costs as a percentage of total expenses. Donors generally view higher values as undesirable because these represent resources that are not being directed to mission-related programs.	$\text{Fundraising expenses} \div \text{Total expenses}$	<b>Total assets</b>	<b>Average value</b>
		\$100,000 to \$500,000	2.5%
		\$500,000 to \$1,000,000	2.2%
		\$1,000,000 to \$10,000,000	2.2%
		\$10,000,000 to \$50,000,000	1.6%
		>\$50,000,000	0.8%



restricted resources from the numerator, it closely parallels the liquidity management disclosures that are now required of not-for-profit organizations.

Both ratios indicate whether the not-for-profit has a sufficient “cushion” of cash and near-cash resources (often described as liquid resources—assets that can be quickly converted into cash) to meet organizational expenses as they come due. Many organizations have a policy of maintaining cash reserves equal to two or three months of expenses; higher values indicate a stronger liquidity position, suggesting that the not-for-profit is better prepared to address periodic declines in revenues or unexpected expenses. Several factors influence the desired level of financial liquidity. Larger organizations and those with more predictable expenses and more diverse revenue sources may maintain lower levels. In addition, organizations relying on donated goods, such as food banks, can operate with lower levels of liquidity since those goods (rather than cash) are the source of the bulk of their average monthly expenses. As is the case with many financial ratios, maximizing either of these ratios comes at a cost. While reserves in the form of cash or short-term investments may make the organization financially secure, these resources could also be used in programs that further the organization’s mission.

**Operating ratios.** The “savings indicator” ratio expresses the annual surplus (or deficit) of revenues over expenses and should be evaluated in combination with the liquid funds indicators. Improving liquidity ratios requires an organization to increase its annual savings; similarly, a governing board that is comfortable with its liquidity may spend a greater proportion of its resources, driving the savings rate to zero, or even a negative value, for a short period. A common misunderstanding about not-for-profits is that operating surpluses (i.e., savings) are undesirable. In most not-for-profits, accounting surpluses are necessary if equipment and facilities are to be enhanced, debt retired, or liquidity maintained.

The “contributions & grants” ratio indicates the organization’s reliance on external support. Very high values indicate the absence of a diverse revenue stream and a funding model that depends upon donations and grants. This ratio is particularly tied to the not-for-profit’s industry; religious and public broadcasting charities rely heavily on donations, while many larger organizations have multiple sources of revenue, including program revenues, charges for services, and member dues. For example, hospitals receive most of their revenue from patient services, and professional associations rely on membership dues.

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These not-for-profits typically report low values for this ratio.

“Fundraising efficiency” is the average dollar amount of contributions raised for each dollar expended on fundraising. Values less than \$1.00 indicate the cost of fundraising exceeds its benefits. Charity Watch advises a minimum level of \$2.85 for most charities. As with most ratios, care must be exercised in its interpretation. Fundraising capacity may take several years to develop, with the result that fundraising appears more expensive as an organization is building capacity. For this reason, studies find that smaller organizations dedicate higher proportions of their budget to fundraising than larger entities (e.g., Patrick Rooney, Mark Hager, and Thomas Pollak, “Research about Fundraising

and Administrative Costs,” *Giving USA Update*, 2003, <http://bit.ly/2G2qQCw>). It is also important to recognize that the ratio is an average and not a marginal return. This distinction becomes important if development activities are evaluated on the basis of this ratio. In such a situation, not-for-profits may forego productive fundraising efforts for the purpose of keeping the ratio artificially high, thereby leaving money on the table that could have been used to further the organization’s mission. Fundraising opportunities should not be rejected merely because the expected payback is less than the current average.

**Spending ratios.** The next three ratios all measure a given category of expense as a percentage of total expenses. Conventional wisdom is that expenses incurred for program services are good, while expenses incurred for management and fundraising are undesirable. Because accounting standards require expenses to be classified with the categories of program, fundraising, and management and general, the three ratios must sum to 100% for any given organization.

Because these ratios are relatively easy for non-experts to interpret (e.g., how much of each dollar is spent on programs), they are widely reported by the media, not-for-profit watchdog organizations, and not-for-profits themselves. Ample evidence exists that these ratios are widely used by governing boards, granting agencies, and donors. While these ratios are industry standards, they are also often misused. Because of the prevailing perceptions, incentives exist to shift costs to the program category and thereby improve the desirable ratio while decreasing the other two. To address abuse, accounting rulemaking bodies provide standards for the allocation of joint costs.

The “program service expense” ratio is the proportion of expenses incurred for purposes of the organization’s mission. It does not measure program effectiveness, only the extent to which available resources are directed toward the organization’s mission. The Better Business Bureau’s Wise Giving Alliance recommends a minimum threshold

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**Exhibit 2**  
**Use of Ratios in Trend Analysis**

Ratio	Current Year	Year 4	Year 3	Year 2	Year 1
<b>Liquidity Ratios</b>					
Days cash on hand	67 days	70 days	81 days	69 days	128 days
Months of spending	3.3 months	3.3 months	3.9 months	3.5 months	5.7 months
<b>Operating Ratios</b>					
Savings indicator	8.6%	3.9%	-0.9%	2.8%	1.3%
Contributions and grants	18.6%	12.0%	8.6%	10.4%	10.9%
Fundraising efficiency	\$7.00	\$4.30	\$2.70	\$3.30	\$2.10
<b>Spending Ratios</b>					
Program service	87.6%	87.5%	86.6%	86.7%	85.5%
Management and general	9.5%	9.6%	10.2%	10.1%	9.0%
Fundraising	2.9%	2.9%	3.2%	3.2%	5.3%

of 65% for this measure. Charity Watch uses a grading system ranging from A+ (> 90%) to F (<35%), with 60% or greater required for a satisfactory rating.

“Management expense” may be the most commonly misinterpreted ratio. Sometimes called “administrative expense,” it includes expenditures for training, planning, internal controls, and organizational governance. Training employees and volunteers, safeguarding assets, and assuring responsible governance are all desirable things, but the conventional view of this ratio is that higher values are undesirable. In addition, the costs associated with securing government grants and complying with grant requirements are classified as management and general expenses and can significantly affect this ratio, particularly among smaller not-for-profits. As organizations grow in size, they require more layers of management for institutional control. Yet while the amount spent on administration increases with not-for-profit size, management expense as a percentage of total expenses may remain constant or even decline, depending upon economies of scale.

“Fundraising expense” is the proportion of total expenses devoted to development activities, and together with management and general expense is commonly

described as “overhead costs.” Substantial empirical evidence exists that investments in overhead vary with the size and nature of organizations (Rooney et al 2003), but that increased overhead spending contributes to organizational performance. For example, a study by the Urban Institute’s Center on Nonprofits and Philanthropy (*Getting What We Pay For: Low Overhead Limits Nonprofit Effectiveness*, 2004, <https://urbn.is/2X8svNX>) found charities that spend too little on overhead are less effective. In response to these and similar findings, the chief executives of the Wise Giving Alliance, Guidestar, and Charity Navigator jointly authored a letter to donors alerting them to the “overhead myth” and encouraging greater attention to not-for-profit performance, transparency, and governance. Curtis Klotz proposed adoption of a new reporting model for not-for-profit expenses to overcome the inherent limitations of current reporting (“A Graphic Re-visioning of Nonprofit Overhead,” *Nonprofit Quarterly*, Aug. 16, 2016, <http://bit.ly/2FeaZ3x>). Until accounting standards or the format of Form 990 are changed, however, the existing expense categories and reporting will persist. Because of the visibility of these spending ratios and their importance to donors, management and governing

boards should continue to monitor them. But it is important to recognize their inherent shortcomings and not base strategic decisions exclusively on the ratios.

### Use of Ratios to Evaluate a Not-for-Profit

In this section, the authors calculate the eight ratios for an example not-for-profit organization for purposes of illustrating how ratios may be used in both trend and benchmarking analyses. The organization chosen was a Young Men’s Christian Association (YMCA) from a moderate-sized U.S. city. YMCAs are easily comparable because each community’s YMCA is separately incorporated—and thus prepares its own Form 990—and they have relatively uniform missions, organization, and activities. The information necessary to calculate the ratios presented here took less than two hours to collect using the free section of Guidestar’s website; this suggests that once a not-for-profit selects a set of peer organizations, the annual investment necessary to obtain relevant benchmarking data is not significant.

Exhibit 2 presents ratios for the selected YMCA over a five-year period. Longitudinal analysis permits the identification of trends and highlights aberrations. During the past four years, the selected YMCA has consistently maintained a cash balance of approximately 2½ months of spending and an overall liquid net asset balance of approximately 3½ months.

One benefit of trend analysis is that it identifies deviations in the ratios, such as the unusually high liquidity values in Year 1. A 46% decline in cash from Year 1 to Year 2 would almost certainly merit investigation. In this case, the organization had undertaken a capital campaign in Year 1, resulting in high cash balances, which were expended for long-term assets in Year 2. The presentation of five years of ratios provides a context for unusual amounts; presentation of only two years of ratios (Years 1 and 2) would likely leave the governing board uncertain about which year was abnormal.

Among the operating ratios, the savings indicator exhibits the greatest year-to-year fluctuation. Although negative savings (deficits) are not sustainable in the long run, not-for-profits may experience occasional deficits. In this case, the YMCA held expenses constant over a three-year period (Year 2 to Year 4), and the deficit reported in Year 3 was attributable to a 20% decline in contributions that year. Because the savings indicator returned to positive in the subsequent year, the one-year deficit should not be of particular concern to the governing board.

*Exhibit 2* also highlights the interrelationships among financial ratios. The decline in contribution revenue in Year 3 caused the deficit reported for the savings indicator as well as a decline in the contributions and grants and fundraising efficiency ratios. Conversely, contribution revenue increased nearly 70% in the current year, causing all three operating ratios to increase.

The purpose of a benchmarking analysis is to evaluate the current position of a not-for-profit with respect to similar organizations and to identify areas for improvement. The value of benchmarks as an evaluation tool is dependent upon the selection of an appropriate peer group. Not-for-profits vary widely in mission, activities, and funding sources, and benchmarks developed from disparate organizations are likely to be of marginal value. In many instances, not-for-profit managers will be able to identify organizations with similar missions. Trade associations and networking opportunities provided by industry conferences and meetings may also be useful in identifying peers.

*Exhibit 3* presents the current year financial ratios of the selected YMCA and average values for a sample of 10 peer YMCAs. To ensure comparability, the peer YMCAs are from similarly sized cities within the same geographic region; geographic proximity contributes to comparability since real estate, utilities, and other costs vary across regions. Ratios were calculated for the peer institutions using information from their Form 990s. *Exhibit 3*

presents both average values and ranges of values for the peer group.

With regard to liquidity, the selected YMCA is very close to the peer group average for the months of spending ratio and has a cash position near the top of the peer group distribution. The operating ratios are also close to the peer averages. Although the selected YMCA has a higher-than-average contributions and grants ratio, it is not high in an absolute sense, with most revenues continuing to come from program fees and membership dues. The fundraising efficiency ratio is less than the peer group average, but well above the minimum recommended by charity watchdog groups. Finally, the spending ratios are close to peer averages. Overall, both the trend and benchmarking analyses suggest nothing is out of the ordinary in this year's liquidity, operating, or spending ratios. Accordingly, the governing board could better use its members' time discussing strategic matters affecting the future of the organization rather than past financial results.

### Using Benchmarks and Ratios to Their Fullest

The requirement that all tax-exempt organizations complete and make available their Form 990s provides access to a wealth of financial information about peer organizations at minimal cost. In some cases, it may be desirable to develop multiple benchmarks. For example, colleges and universities commonly develop benchmarks for both peer and aspirant institutions. Doing so enables organizations to evaluate how well they are

doing and what is required to move up to the next level.

Financial ratios can be useful tools for those in charge of monitoring a not-for-profit's financial position and operations. Ratios are not a goal in themselves, however, and care should be taken in their interpretation. Conventional wisdom regarding desirable levels for some ratios may be unsupported by empirical data. For example, not-for-profits often feel pressured to lower overhead ratios, even though research shows that investment in overhead is often critical to overall not-for-profit mission success.

Each not-for-profit faces unique circumstances, and pursuit of a given strategy may improve one ratio while worsening another. It is also important for boards to understand that resource providers monitor the organization's ratios. Management should anticipate and be prepared to address the concerns of donors and grantor agencies regarding the organization's financial position. □

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**Exhibit 3**  
**Use of Ratios in Benchmarking Analysis**

Ratio	Example Not-for-Profit	Average for Peer Group	Range of Peer Group
<b>Liquidity Ratios</b>			
Days cash on hand	67 days	51 days	11 to 71 days
Months of spending	3.3 months	3.1 months	0 to 9 months
<b>Operating Ratios</b>			
Savings indicator	8.6%	3.6%	-3.3 to 14.3%
Contributions & grants	18.6%	15.9%	3.7 to 40.8%
Fundraising efficiency	\$7.00	\$12.00	\$3.10 to \$44.50
<b>Spending Ratios</b>			
Program service	87.6%	84.6%	74.8% to 94.7%
Management and general	9.5%	13.4%	3.9% to 22.1%
Fundraising	2.9%	2.0%	0 to 5.4%

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