

operating margin. *Profitability ratio* that compares the operating profit (operating revenue less operating expenses) with operating revenue. It assesses the profitability of each dollar of revenues generated by the routine ongoing activities of the organization. For example, if revenues are \$100 and operating profits are \$3, then operating profits compared with revenues are 3 percent.

opinion letter. Letter issued by CPA upon completion of an audit, which indicates if financial statements have been prepared in accordance with GAAP.

profitability ratios. Ratios that assess the profitability of the organization; examples are the *operating margin* and *total margin ratios*.

program services ratio. Program service expenses divided by total expenses; this ratio helps the user understand what portion of spending goes directly to program services in contrast to support services.

quick ratio. Cash, marketable securities, plus receivables divided by current liabilities. This *liquidity ratio* is a more stringent test of the ability to meet current obligations as they come due than the widely used *current ratio*. Sometimes called the acid test.

ratio analysis. Comparison of one number with another in order to gain insight from the relationship between the numbers.

receivables turnover. Revenues and support divided by accounts receivable; see also *average collection period*.

return on assets (ROA). Increase in net assets divided by total assets; *profitability ratio* that

measures the rate of return the organization earns on its total assets.

return on equity. *Profitability ratio* that assesses the amount of profit earned on each dollar of equity.

return on net assets (RONA). Increase in net assets divided by net assets; profitability ratio that measures the relative increase in net assets.

review of financial statements. Auditor review for form and accuracy; in a review, the auditor does not perform the extensive testing of records and detailed review that are part of an audit.

solvency. Ability to meet current and future obligations.

times-interest-earned ratio. Income before interest expense divided by interest expense; this *coverage ratio* assesses the ability of the organization to make its required annual interest payments.

total asset turnover. Total unrestricted revenues and support divided by total assets; this *asset turnover ratio* assesses the number of dollars of revenue and support generated for each dollar invested in assets. The more revenue and support per dollar of assets, the more efficiently the organization is using its investment in assets, other things being equal.

total margin ratio. *Profitability ratio* that compares the excess of revenues over expenses with total revenues to determine the overall profits earned, including all sources of revenues and expenses, per dollar of revenues.

Questions for Discussion

- 15-1. The primary purpose of an audit is to discover fraud. True or false? Explain.
- 15-2. Who takes primary responsibility for audited financial statements issued to the public?
- 15-3. What is covered in the three paragraphs of the typical audit opinion letter?
- 15-4. In general, what are healthy signs in the cash flow statement?
- 15-5. Why are financial statements accompanied by notes?
- 15-6. What are the major classes of ratio analysis? What can we learn from each class?
- 15-7. What are the major elements of financial statement analysis?
- 15-8. What types of comparisons should be made with ratios?
- 15-9. What are some potential problems with ratios?

Problems

- 15-10. Lafayette Film Center (LFC) is a not-for-profit theater that plays independent films. In addition to revenue from theater admissions, LFC relies on concession and café sales, grants and other external support, theater rental sales, and proceeds from special events and other programs that not only promote appreciation for independent films, but also generate grants and contributions. LFC's new executive

director has asked you, as the director of finance, to provide an analysis of the organization's financial position.

Refer to Exhibits 15-8 through 15-11, which present LFC's statements of financial position, statements of activities, statements of functional expenses, and statements of cash flows for the years ended December 31, 2014 and 2013.

- #2
#3
#4
1. Does LFC have an endowment? How do you know?
 2. How much of LFC's temporarily restricted net assets were reclassified as unrestricted in 2014? Where can this be found in the statements of financial position and statements of activities?
 3. Calculate the four profitability ratios presented in the chapter for LFC for 2014 and 2013, as well as the percent change in each from 2013 to 2014. By which measure did LFC's profitability deteriorate the most, and by how much?
 4. LFC's total expenses grew by over 100 percent from 2013 to 2014, while its total revenue and other support declined by over 50 percent. Looking at the theater's statements of activities,

- a. Excluding interest/investment income and the one-time sale of tax credits, which three revenue or support categories declined by over 50 percent from 2013 to 2014?
- b. Which expense category grew by over 100 percent?

5. Calculate LFC's program services ratio for 2014 and 2013, as well as the percent change in each from 2013 to 2014. Is LFC's program services ratio for 2014 higher than the commonly accepted benchmark?
6. Given your answers to questions 4 and 5, would you recommend that LFC reallocate some of its spending from program services to fund-raising in 2015? Why or why not?

Exhibit 15-8

Lafayette Film Center
Statements of Financial Position
As of December 31, 2014 and 2013

	2014	2013
Assets		
Current Assets		
Cash and cash equivalents	\$ 75,582	\$ 174,662
Grants receivable	562,696	137,858
Inventory	50,400	59,508
Other receivables	36,172	37,624
Prepaid expenses	11,552	—
Total Current Assets	<u>\$ 736,402</u>	<u>\$ 409,652</u>
Long-Term Assets		
Conditional promises to give	\$ 264,514	\$ 488,530
Deposits	1,510	7,910
Property and equipment, net	9,336,672	9,278,616
Total Long-Term Assets	<u>\$ 9,602,696</u>	<u>\$ 9,775,056</u>
Total Assets	<u>\$10,339,098</u>	<u>\$10,184,708</u>
Liabilities and Net Assets		
Current Liabilities		
Accounts payable	\$ 108,214	\$ 113,240
Accrued expenses	109,044	111,776
Deferred revenue	31,186	—
Line of credit	960,510	100,000
Current portion of capital lease obligations	51,100	48,394
Total Current Liabilities	<u>\$ 1,260,054</u>	<u>\$ 373,410</u>
Long-Term Liabilities		
Capital lease obligations less current portion	36,596	88,638
Total Liabilities	<u>\$ 1,296,650</u>	<u>\$ 462,048</u>
Net assets		
Unrestricted	\$ 8,777,934	\$ 9,184,130
Temporarily Restricted	264,514	538,530
Total Net Assets	<u>\$ 9,042,448</u>	<u>\$ 9,722,660</u>
Total Liabilities and Net Assets	<u>\$10,339,098</u>	<u>\$10,184,708</u>

The accompanying notes are an integral part of these statements.

Exhibit 15-9

Lafayette Film Center
Statements of Activities
For the Years Ended December 31, 2014 and 2013

	Unrestricted	
	2014	2013
Revenue and Support		
Theater admissions	\$ 414,818	\$ 78,640
Concession and café sales	1,522,426	196,288
Memberships	139,684	61,350
Theater rental sales	68,180	58,414
Special events	47,710	140,616
Other programs	62,006	45,726
Interest and investment income	—	56,656
Sale of tax credits	—	1,384,002
Grants	1,061,762	3,016,550
Contributions	360,104	1,129,112
Total Revenue and Support	<u>\$3,676,690</u>	<u>\$6,167,354</u>
Net assets released from restrictions	274,016	1,826,578
Total Revenue and Other Support	<u>\$3,950,706</u>	<u>\$7,993,932</u>
Expenses		
Program services	\$3,640,634	\$1,378,472
General administration	455,436	407,244
Fund-raising	260,832	302,384
Total Expenses	<u>\$4,356,902</u>	<u>\$2,088,100</u>
Change in Net Assets	\$ (406,196)	\$5,905,832
Net assets—beginning of year	9,184,130	3,278,298
Net assets—end of year	<u>\$8,777,934</u>	<u>\$9,184,130</u>

The accompanying notes are an integral part of these statements.

7. What was LFC's depreciation expense in 2013 and 2014? Which financial statement(s) provide this information?
8. Now that receivables constitute a much larger proportion of LFC's assets than in the past, the executive director has asked you to calculate the receivables turnover ratio and average collection period for 2014.
 - a. Which revenue items will you exclude from the ratio? Why?
 - b. What is LFC's receivables turnover ratio and average collection period for 2014? Are they favorable or unfavorable? Why?
 - c. Would you recommend recalculating the receivables turnover ratio using the average of beginning-of-year and end-of-year receivables in the denominator? Why or why not?
9. Calculate the quick ratio and debt to equity ratio for LFC for 2014 and 2013, as well as the percent

change in each from 2013 to 2014. Are these trends favorable or unfavorable? Which presents the greater area of concern for 2014, and why?

10. Given your answers to the questions above and an overall review of LFC's financial statements, would you characterize LFC's financial position as weak, neutral, or strong? Why?

15-11. Exhibits 15-12 and 15-13 present the statements of financial position and statements of activities for the Disabled American Veterans (DAV) Charitable Service Trust. For both 2007 and 2006, calculate:

- a. common size ratios for the statements of financial position and statements of activities,
- b. the current ratio,
- c. days of cash on hand,
- d. the debt ratio,
- e. the debt to equity ratio,
- f. the total margin ratio, and
- g. the program services ratio.

XYZ needs to have assets of \$1,040, or 4 percent more assets, next year to support its operations at the same level as this year. Creditors are still willing to finance 40 percent of its assets, but the net assets need to remain at 60 percent of total assets to keep the organization secure. The required 60 percent of \$1,040 of assets is \$624. In order for the organization to increase its assets by \$40 and keep up with inflation, its net assets need to increase by \$24. It will be able to borrow the remaining \$16 that it needs to expand its total assets by \$40. Thus, the organization needs an ROE, or in this case an RONA, of 4 percent. Notice that this necessary \$24 increase to net assets requires a profit equal to only 2.4 percent of total of assets ($\$1,000 \times 2.4\% = \24 profit), even though the inflation rate is 4 percent.

In the case of Meals for the Homeless, we can calculate the ROA and RONA as follows:

		2014	2013
ROA	= $\frac{\text{Increase in Net Assets}}{\text{Total Assets}}$	$\frac{\$5,000}{\$145,000}$	$\frac{\$7,000}{\$146,000}$
		= .034 or 3.4%	= .048 or 4.8%
RONA	= $\frac{\text{Increase in Net Assets}}{\text{Net Assets}}$	$\frac{\$5,000}{\$119,000}$	$\frac{\$7,000}{\$114,000}$
		= .042 or 4.2%	= .061 or 6.1%

Despite some of the other problems our ratio analysis has disclosed, the ROA and RONA levels of Meals do not appear to be unreasonably low.

OTHER RATIOS As previously noted, ratio analysis is a field developed primarily to serve for-profit organizations. Managers in public service organizations should be proactive in developing additional useful ratios. For example, the not-for-profit industry in recent years has started to actively report the *program services ratio*. That ratio divides program service expenses by total expenses. Looking at Exhibit 15-4, we see that for Meals the ratio would be as follows:

		2014	2013
Program Services Ratio	= $\frac{\text{Program Service Expenses}}{\text{Total Expenses}}$	$\frac{\$83,000 + \$38,000}{\$191,000}$	$\frac{\$78,400 + \$36,600}{\$176,000}$
		= .63 or 63%	= .65 or 65%

This ratio helps the user understand what portion of Meals' spending goes directly into its program services. That does not mean that the money spent on program services is spent efficiently. It only provides some indication of the extent to which Meals spends money on program services (meals and counseling) in contrast to support services (fund-raising and administration).

Care is required in interpreting financial information. Suppose that a comparable charity to Meals in another city spends less on management. Its program services ratio is 80 percent in contrast to Meals' 63 percent. However, with less spending on management, the other charity is unable to recruit as many volunteers to work in its kitchens. With fewer volunteers, it spends much more of its money on kitchen salaries. Its ratio of program services is higher, but it provides fewer meals per dollar of revenue because it does

reasonably safe. For an organization with very constant sales and earnings, more debt is relatively safer than for one that has wide swings in activity. Therefore, an arbitrary rule of thumb, such as a debt to equity ratio of .5, is of limited value.

PROFITABILITY RATIOS All organizations desire to be safe and efficient. But do all organizations want to be profitable? Public service organizations do not provide services primarily to make profits. So why would *profitability ratios* be of concern? Virtually all organizations need to earn a profit to be financially healthy—to be able to replace equipment with newer more costly equipment, acquire new technologies, expand services, and to be able to meet the challenges of the future. At the same time, it might be inappropriate for many not-for-profit organizations to make an excessive profit.

One way to assess profitability is with a performance indicator. GAAP require that health organizations provide a performance indicator that reports the results of operations.

Because of the importance of the performance indicator, it should be clearly labeled with a descriptive term such as **revenues over expenses, revenues and gains over expenses and losses, earned income, or performance earnings**. The notes to the financial statements should include a description of the nature and composition of the performance indicator. Not-for-profit organizations should report the performance indicator in a statement that also presents the total changes in unrestricted net assets.⁷

Profitability ratios can also help managers and outside users assess whether the organization is making an adequate but not excessive profit. For some types of organizations, a somewhat larger profit might be appropriate. For others, a small surplus might be desirable.

Four of the most common measures of profitability are the *operating margin*, *total margin*, *return on assets*, and *return on equity* ratios. The operating margin compares the operating profit (operating revenue less operating expenses) with operating revenue. It assesses the profitability of each dollar of revenues generated by the routine ongoing activities of the organization. For example, if revenues are \$100 and operating profits are \$3, then operating profits compared with revenues are 3 percent. In other words, the organization earns 3 cents of operating profits for every dollar of revenues generated.

The total margin compares the excess of revenues over expenses with total revenues. That determines the overall profits, including all sources of revenues and expenses, per dollar of revenues. In some cases, organizations will have sources of profits that do not come from its routine operations. For example, gains on investments might fall into that category. The return on assets compares the profit with assets in order to determine the amount of profit earned for each dollar invested in the organization. The return on equity (profits divided by equity) assesses the amount of profit earned on each dollar of equity.

Ratio analysis techniques were originally developed primarily for proprietary (for-profit) organizations. Applying the traditional ratios to health, not-for-profit, and government organizations is a constant challenge because the vocabulary changes, and, more substantively, the format of the financial statements changes. Nowhere is this problem more evident than with the profitability ratios.

One might suppose that one could simply look at the amount of net income or increase in unrestricted net assets to assess profitability. However, we can learn more from the relationships developed by the ratios. In an era of inflation, even at low levels,

⁷American Institute of Certified Public Accountants. *AICPA Audit and Accounting Guide: Health Care Organizations*. New York: N.Y., AICPA, 1996, p. 101.

replacing buildings and equipment, and even inventory, will cost more in future years. Knowing that an organization earns \$10,000 does not tell us much. Knowing that it earns 3 cents for every dollar of assets tells us that it is accumulating the money needed to replace inventory and facilities at 3 percent annually higher prices than their current cost.

Profit margin ratios are really common size ratios. Both the operating and total margin ratios are comparisons with total revenues. In Exhibit 15-7, note that the increase in unrestricted net assets compared with revenues and support is $-.5$ percent in 2014 and 2.2 percent in 2013. This is equivalent to the operating margin ratio. The total margin is the overall increase in net assets compared with revenues and support, which was 2.6 percent in 2014 and 3.9 percent in 2013:

			<u>2014</u>	<u>2013</u>
Operating Margin	=	$\frac{\text{Increase in Unrestricted Net Assets}}{\text{Total Unrestricted Revenues and Other Support}}$	$\frac{\$(-1,000)}{\$190,000}$	$\frac{\$4,000}{\$180,000}$
			= $-.005$ or $-.5\%$	= $.022$ or 2.2%
Total Margin	=	$\frac{\text{Increase in Net Assets}}{\text{Total Unrestricted Revenues and Other Support}}$	$\frac{\$5,000}{\$190,000}$	$\frac{\$7,000}{\$180,000}$
			= $.026$ or 2.6%	= $.039$ or 3.9%

We can see from these margin ratios that although Meals is not quite breaking even from operations, when all changes to net assets are taken into account, it is earning a modest 2.6 percent increase in net assets for each dollar of revenues.

Operating and total margins, however, can be misleading. Some organizations, such as supermarkets, earn only a modest 1 percent to 2 percent margin, but they can still be very profitable because their sales are very large. Some industries earn a small margin on large sales, while other industries have lower sales but higher margins. For this reason, some believe that return on assets and return on equity are more useful measures. These ratios are often referred to as return on investment (ROI) ratios.

Return on assets (ROA) is an ROI measure that evaluates the organization's return (net income, surplus, excess of revenues over expenses) relative to the asset base used to generate that income. Consider a for-profit health care organization. If the organization could invest \$500 in each of two alternative programs and one program generated twice as much income as the other, it would prefer that program, all other things being equal. Obviously, the benefit to the health of the organization's client base should be considered in making a final decision. The organization that generates more income, relative to the amount of investment, is doing a better job, all other things being equal.

Another profitability measure is the return on equity (ROE). For Meals that would be the *return on net assets* (RONA). If the organization earns a return on total assets that equals or exceeds the inflation rate, it should be able to replace all of its assets over time. However, to the extent that the organization relies on debt, it does not have to earn a profit equal to the inflation rate on its total amount of assets. As long as it earns at least the inflation rate on its equity or net assets, it can keep pace. For example, Meals has \$145,000 of total assets. Meals can keep its debt to equity ratio stable at the current level of .22 and still let its total assets grow at the rate of inflation, as long as the profits each year equal the net assets multiplied by the inflation rate.

Consider an example with simpler numbers. XYZ organization begins the year with \$1,000 of assets, \$400 of liabilities, and \$600 of net assets. Inflation is 4 percent and