

**RATIO ANALYSIS
IN
HIGHER EDUCATION**

**MEASURING PAST PERFORMANCE
TO CHART FUTURE DIRECTION**

Fourth Edition
For Independent Institutions

©1982 by Peat, Marwick, Mitchell & Co.

©1995 by KPMG Peat Marwick LLP and Prager, McCarthy & Sealy

©1999 by KPMG LLP and Prager, McCarthy & Sealy, LLC

All rights reserved. Printed in the U.S.A. *Fourth Edition*

	Page
Introduction and Acknowledgments	vi
Chapter One: FRAMEWORK FOR MANAGING RESOURCES TO ADVANCE MISSION	1
Introduction	2
Measuring Institutional Objectives	2
What Is the Overall Level of Financial Health?	3
Are Resources Sufficient and Flexible Enough to Support the Mission?	3
Do Operating Results Indicate the Institution Is Living Within Available Resources?	4
Does Financial Asset Performance Support the Strategic Direction?	5
Is Debt Managed Strategically to Advance the Mission?	5
Creating a Debt Policy	6
Structuring Ratios to Measure Specific Activities	7
Ratio Map	8
Chapter Two: MEASURING THE OVERALL LEVEL OF FINANCIAL HEALTH	9
Introduction	10
Description of Core Ratios	11
Primary Reserve Ratio	11
Net Income Ratio	14
Using an Operating Indicator	15
Using Change in Unrestricted Net Assets	16
Return on Net Assets Ratio	17
Viability Ratio	21
Composite Financial Index (CFI) — Combining the Core Ratios into a Single Measure	23
Implications of the CFI	24
Calculating the CFI	25
Establishing the Threshold Value	25
Converting the Core Ratios to Strength Factors	26
Calculating Strength Factors	26
Analyzing Strength Factors	26
Weighting the Ratios	27
Creating the CFI — An Illustration	28
Integrating the CFI into the Strategic Plan	29
Graphic Financial Profile — An Application of the Ratios	29

T A B L E O F C O N T E N T S

	Page
Chapter Three: MEASURING RESOURCE SUFFICIENCY AND FLEXIBILITY	35
Introduction	36
Ratios Measuring Resource Sufficiency and Flexibility	36
Primary Reserve Ratio	36
Secondary Reserve Ratio	37
Chapter Four: MEASURING OPERATING RESULTS	39
Introduction	40
Ratios Measuring Operating Results	41
Net Income Ratio	41
Cash Income Ratio	41
Operating Income Ratio	43
Net Tuition Dependency Ratio	45
Net Tuition per Student FTE Ratio	45
Net Auxiliary Income Ratio	45
Net Hospital Income Ratio	45
Contributed Income Ratio	46
Educational Core Services Ratio	47
Educational Support Ratio	49
General Support Ratio	51
Facilities Maintenance Ratios	53
Maintenance Ratio	53
Deferred Maintenance Ratio	54
Chapter Five: MEASURING FINANCIAL ASSET PERFORMANCE	57
Introduction	58
Ratios Measuring Financial Asset Performance	58
Return on Net Assets Ratio	58
Capitalization Ratio	59
Composition of Equity Ratio	60
Return on All Investments Ratio	62
Chapter Six: MEASURING STRATEGIC MANAGEMENT OF DEBT	65
Introduction	66
Ratios Measuring Strategic Management of Debt	67
Viability Ratio	67
Debt Burden Ratio	67
Debt Coverage Ratio	69
Leverage Ratio	70
Age of Facility Ratio	72

	Page
Ratios as One Component of Credit Analysis	73
Preserving Future Flexibility — Credit Enhancement	74
Trends in Not-for-Profit Finance	74
Definition of Debt	74
Blended Billing Rate	75
Components of a Debt Policy	75
 Chapter Seven: ALIGNING FINANCIAL RESOURCES AND MISSION	 77
Introduction	78
Relationship of Resource Allocation to Mission — A Conceptual Model	78
Financial Performance Axis	79
Mission Axis	80
Applying the Model	81
 Chapter Eight: SELECTED FINANCIAL ISSUES FOR THE 21ST CENTURY	 85
Introduction	86
Distinguishing Between Operations and Nonoperating Activities	86
Balancing the Budget Strategically	87
Reconciling Financial Reporting and Budgeting	89
Allocating Equity Between Generations	90
 Appendix A: DEPARTMENT OF EDUCATION FINANCIAL RESPONSIBILITY STANDARDS APPLICATION	 91
 Appendix B: COLLEGE AND UNIVERSITY FINANCIAL STATEMENTS PREPARED UNDER SFAS NOS. 116 AND 117 AND THE AICPA AUDIT GUIDE	 95
 Appendix C: UTOPIA UNIVERSITY SAMPLE FINANCIAL STATEMENTS	 103
 Appendix D: SUMMARY OF FINANCIAL RATIOS	 109
 Appendix E: RATIO RESULTS BY CARNEGIE CLASSIFICATION	 115
 Authors' Biographies	 131

Ratio Analysis in Higher Education — Fourth Edition is a substantial update of the book published jointly by KPMG LLP and Prager, McCarthy & Sealy, LLC, in 1995. It advances new knowledge in the field of financial analysis and represents our continuing exploration of the applications for ratios and our commitment to the private higher education market.

This new edition reflects the experience of three years of data collection from real-world practice and the development of a systemic methodology. It has been written to help leaders of independent colleges and universities focus on their issues, challenges, and evolution by providing tools for financial analysis that can lead to a strategic assessment of institutional strengths and weaknesses.

A clear understanding of financial ratio analysis can benefit interested parties to the institution, including the board of trustees and the members of its committees, management, the donor community, rating agencies and investors, and accrediting bodies.

We believe that financial ratio analysis can play an integral role in helping each institution achieve its goals by:

- Quantifying the status, sources, and uses of resources;
- Assessing the institution's ability to repay current and future debt;
- Gauging institutional performance and functional effectiveness;
- Identifying financial anomalies and focusing attention on matters that should be of concern to the institution; and
- Explaining relative liquidity, financial viability, and leverage attributes.

Most important, ratio analysis can measure success factors against institution-specific objectives and then give the institution the tools to improve its financial profile to carry out its vision and mission.

In this book, we take ratio analysis beyond the discrete use of ratios to a systemic method of combining selected ratios to help analyze institutional activities. The challenge is to focus on the few core ratios that can provide answers to key questions for institutions moving into the 21st century:

- Primary Reserve Ratio: Are resources sufficient and flexible enough to support the mission?
- Net Income Ratio: Do operating results indicate the institution is living within available resources?

- Return on Net Assets Ratio: Does financial asset performance support the strategic direction?
- Viability Ratio: Is debt managed strategically to advance the mission?

We have integrated the ratios into an analytic model. To start, the four ratios are combined to deliver a single measure — the Composite Financial IndexSM (CFI) — that helps answer the question, What is the overall level of financial health? This is especially useful when making comparisons with similar organizations or with the same organization over time. The ratios then “pivot” within the model into a cascading series of ratios that give deeper understanding of each of the issues raised by the questions above — sufficiency and flexibility of resources, adequacy of operating results, financial asset performance, and debt management.

Throughout the book, we underscore the importance of the CFI. Insights obtained from individual ratios are linked back to the institution’s objectives to determine if the activities of the institution, separately or together, are aligned with its overall mission.

Ultimately, this approach to applying ratio analysis provides greater insight into data without requiring or presenting an overabundance of information. It helps answer the question, Is the institution’s financial performance helping it get where it wants to go?

Readers of previous editions of *Ratio Analysis in Higher Education* will recognize the four core ratios. What is different in this edition is the systemic methodology that organizes ratios to assess performance and the strategic alignment of resources.

The basis for effective application of ratio analysis is a clear institutional mission. The book begins with a brief discussion of the key questions asked above and how each is integral to the mission and strategic plan. We then introduce the systemic model, presented in our Ratio Map. A description of the four core ratios follows, including their role in creating the Composite Financial Index and a second, visual indicator of financial health, the Graphic Financial ProfileSM.

Chapters 3 through 6 address each of the specific functional areas in more detail. Examples are provided throughout the book, based on the financial statements of the hypothetical Utopia University. (The complete financial statements of Utopia U. are included as an appendix.) Chapter 6 concludes with a discussion of creating a debt policy. In chapter 7, the relationship of resource allocation to the institutional mission is demonstrated in a conceptual model.

The final chapter offers additional perspectives on ratio analysis, including the implications of measurement issues. Subsequent appendices present specific industry statistics and provide a view of the U.S. Department of Education's Financial Responsibility Standards. The ratios presented in this book apply the concepts of certain accounting principle changes and the changes in the display of financial information required by the *AICPA Audit and Accounting Guide: Not-for-Profit Organizations*. We also review some key issues associated with the Financial Accounting Standards Board's Statement of Financial Accounting Standards No. 116, *Accounting for Contributions Received and Contributions Made*, and No. 117, *Financial Statements of Not-for-Profit Organizations*, and offer guidance to help readers understand and appreciate why resources are classified the way they are and how basic financial statements tell their story.



We believe that each institution has a unique mission and that there must be measurement, both financial and nonfinancial, along the way to help the institution understand the extent to which it is achieving that mission. This fourth edition of *Ratio Analysis in Higher Education* focuses on providing a structural methodology to inform by constituency of institutional financial progress. Analysis done based on the information presented here may well lead to additional questions. The answers are necessarily dynamic due to the substantial number of external and nonfinancial circumstances.

While this document focuses solely on ratio analysis for private institutions, we anticipate presenting our findings for the public sector following the Government Accounting Standards Board's publication of its model.

We have enjoyed the opportunity to provide these concepts to the independent higher education industry. We look forward to the ongoing evolution of these ratios and to working with our colleagues in the industry as we use these concepts to chart future direction.

ACKNOWLEDGMENTS

The *Ratio Analysis* project team includes Philip Tahey, partner with KPMG, and Christopher Cowen, Vice President of Prager, McCarthy & Sealy, LLC.

We received valuable comments on the final draft of this edition from the following experienced and acknowledged leaders of private colleges, universities, and industry associations: Adam Alberico, Associate Controller, Columbia University; Jerry Bridges, Controller, Johns Hopkins University; Glenn R. Cavagnaro,

Associate Treasurer, University of Southern California; Larry Goldstein, Senior Vice President and Treasurer, NACUBO; John R. Kroll, Associate Comptroller, University of Chicago; Lucie Lapovsky, Vice President of Finance, Goucher College; Brian Sandquist, Director of Financial Analysis and Planning, Stanford University; Ernest Valente, Director, Division of Health Care Affairs, Association of American Medical Colleges; and Donald Zekan, Vice President Business and Finance, St. Bonaventure University.

We would like to thank the following KPMG professionals who commented on draft versions of this book: Robert Gallo, Louis Mezzina, John R. Miller, James Perrino, and John Schlitt, as well as Herbert Folpe, retired KPMG partner. We would also like to thank Richard L. DeProspo of Prager, McCarthy & Sealy, LLC, for his thoughtful comments.

We acknowledge the conceptual contributions of Frederick Turk and Daniel Robinson in developing the basic ideas for the first three editions of *Ratio Analysis*, which formed the basis for this fourth edition.

Finally, we wish to recognize Martin Farricker, Joanna Field, Michael Gullace, and Merry Newman for their constant support and help in editing, designing, and producing this publication.



Ronald E. Salluzzo
KPMG LLP



Fredric J. Prager
Prager, McCarthy & Sealy, LLC

CHAPTER ONE:

FRAMEWORK FOR MANAGING RESOURCES TO ADVANCE MISSION



Introduction

Measuring Institutional Objectives

What Is the Overall Level of Financial Health?

Are Resources Sufficient and Flexible Enough to Support the Mission?

Do Operating Results Indicate the Institution Is Living Within Available Resources?

Does Financial Asset Performance Support the Strategic Direction?

Is Debt Managed Strategically to Advance the Mission?

Creating a Debt Policy

Structuring Ratios to Measure Specific Activities

Ratio Map

INTRODUCTION

The principles of ratio analysis can serve as a yardstick to measure the use of financial resources to achieve the institution's mission. Financial ratio analysis quantifies the status, sources, and uses of these resources and the institution's relative ability to repay current and future debt. Business officers and board members can use these measures to gauge institutional performance. Finally, ratios can focus planning activities on those steps necessary to improve the institution's financial profile in relation to its vision and mission.

MEASURING INSTITUTIONAL OBJECTIVES

Most colleges and universities are transforming themselves to cope with significant external pressures and to position themselves for success in the 21st century. To analyze and measure the financial and operational success of an institution, leaders and interested observers should ask a number of high-order questions. The schematic below depicts the interrelationship of these questions; a discussion of each question follows.



Central to all questions about change and transformation is *mission*. In the world of higher education, then, the most important question is, *What is the institution's mission?* Mission should inform all decisions made by institutional stewards regarding “what” and “why” resources will be used to accomplish their vision.

The preceding schematic emphasizes the concept that all resource decisions, as represented by the outer ring of questions, should be driven by mission, shown in the inner circle. Mission is best activated through a strategic plan.

A few high-level measures — financial and nonfinancial — are essential to understand the institution’s performance in accomplishing its mission. Whatever measures are chosen, they should be maintained in a strategic plan and assessed periodically. Well-managed institutions use *mission* to drive success and *financial metrics* to determine affordability. The strategic plan should always support the mission; it is irrelevant otherwise.

Measuring overall financial health is an essential first step when assessing the impact of transformation on the institution, and serves as a gateway to the four other high-level questions. Financial analysis begins by asking:

WHAT IS THE OVERALL LEVEL OF FINANCIAL HEALTH?

This question focuses attention on two levels of financial health: first, the institution’s financial capacity to successfully carry out its current programs, and second, the institution’s continuing financial capacity to carry out its intended programs.

The institution’s answer to the question is critical if it wishes to thrive in the 21st century. Adequate capacity to create resources will not ensure successful completion of mission, because issues critical to institutional mission are often non-financial. However, insufficient resources will create a barrier to achieving institutional goals.

To further gauge institutional performance against stated mission, four additional key questions offer a closer functional analysis:

ARE RESOURCES SUFFICIENT AND FLEXIBLE ENOUGH TO SUPPORT THE MISSION?

This question is concerned with helping policymakers assess the status of the institution’s financial resources. Flexibility in making decisions about future institutional transformation will depend on the institution’s fiscal performance and financial base. Understanding this flexibility will help stewards and external parties determine institutional risk tolerance in the transformation process.

Two related questions address financial sufficiency and resulting flexibility:

- Is the institution clearly financially healthy as of the balance sheet date, or not?
- Is the institution financially better off at the end of the fiscal year than it was at the beginning, or not?

A simple and direct answer to each of these questions provides baseline information for further analysis and action.

The third key question addresses sources of funding available to the institution:

**DO OPERATING RESULTS INDICATE THE INSTITUTION IS LIVING
WITHIN AVAILABLE RESOURCES?**

The allocation of scarce resources is a critical function of stewards in achieving institutional mission. Many colleges and universities are undergoing significant self-examination to improve academic and support services while lowering costs. These activities will accelerate in the years ahead as institutions direct resources to selected programs that enhance their success, rather than spread insufficient resources over many programs.

There is no organization that can succeed in all areas, regardless of the amount of resources retained, because the successful organization in the 21st century must be a superior performer in every area in which it chooses to participate. This will require targeted and increasingly larger investments. It is therefore critical to identify which programs, research opportunities, and other activities represent core, mission-related activities. By determining a limited number of areas in which the institution has a competitive edge, and then strengthening programs within those areas, the institution will be able to improve that advantage, distinguish itself both internally and to the potential student, and stave off competition.

Continuing to invest in noncore activities absorbs limited resources, including money, management time, and institutional focus. Areas in which an institution is clearly weak present opportunities for the competition. Historically, it was not possible for many other organizations to take advantage of an institution's perceived or real weaknesses, since geography and access to students created a natural barrier to entry. With the growth of technology and use of distance learning channels, competition from both traditional and nontraditional organizations represents an increased threat, and an opportunity.

Strengthening core programs focuses activities on the mission, prioritizes projects methodically and appropriately, and builds sustainable competitive advantages. A conceptual model is introduced in chapter 7 that provides institutions with a mechanism to allocate scarce resources most effectively across these competing priorities.

The challenge posed by the question related to living within available resources seeks to measure the results of choices among alternatives. Several associated questions frame the measurement of resource allocation decisions:

- How are resources used to conduct educational core services?
- How are resources used to conduct educational support services?
- How are resources used to conduct general support services?

The fourth key question looks at financial asset performance:

DOES FINANCIAL ASSET PERFORMANCE SUPPORT THE STRATEGIC DIRECTION?

The long-term financing of an institution is a daunting challenge facing stewards of colleges and universities and is an issue for external parties, including parents, accrediting bodies, donors and grantors, government agencies, investors, and rating agencies. Because the long-term future of the institution depends on its ability to replace and enhance the capital base of the enterprise, managing its resource inflow streams is essential to achieving the institution's mission. Stewards must, therefore, be wary of diversions that subvert progress toward achieving the mission.

The notion of institutional financing has two subsidiary questions:

- Which resources are internally generated to support the mission?
- Which resources are externally generated to support the mission?

The final question examines debt management:

IS DEBT MANAGED STRATEGICALLY TO ADVANCE THE MISSION?

Debt is a tool to achieve the desired long-term strategies of the institution, and as such, a debt policy should be linked to the mission and strategic objectives of the institution. A formal debt policy provides the framework through which the institution can evaluate the use of debt to achieve strategic goals. Since management is best able to evaluate its needs, the university — and not the credit-rating agencies — should determine debt policy. A number of the ratios that are presented in this book, especially the four core, organizational ratios, can help set targets for evaluating the amount of debt at an institution. A university will be stronger financially and programmatically if it develops an internal debt policy and articulates this policy to external constituencies.

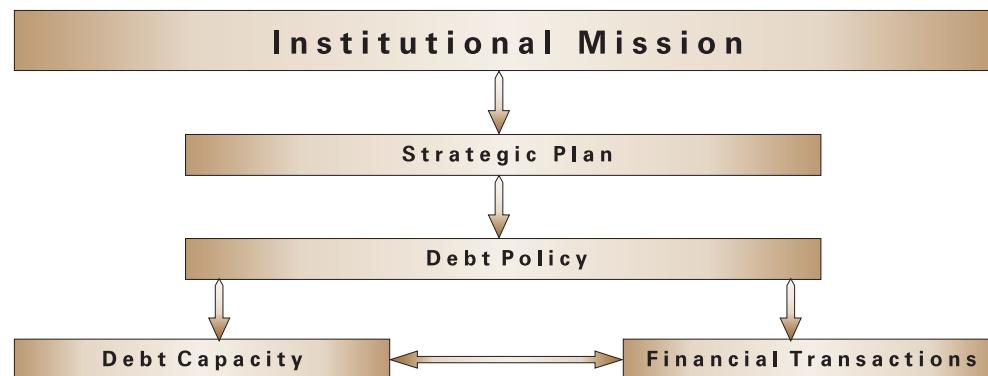
The policy should achieve the following objectives:

- First, it should provide management with control over the university's entire debt portfolio. (This includes not only direct obligations issued by the university, but any additional transactions that impact the university's credit and debt capacity.)
 - Second, the policy should establish broad guidelines that are reported on and reevaluated regularly to ensure that the institution is continuing to meet its strategic objectives and to respond to any changes in the market.
 - Third, the policy should have the objective of providing additional funds to support the university's capital needs and achieve the lowest overall cost of capital consistent with strategic objectives.
 - Finally, the policy should encourage the maintenance of the highest acceptable credit rating for the university that will permit the institution to continue to issue debt and finance capital projects at favorable interest rates.
- Note that achievement or maintenance of a specific bond rating should not be a goal of the policy.

Creating a Debt Policy

Following is a schematic that demonstrates how debt policy links to the strategic plan and, ultimately, to the institutional mission. Without this linkage, it is difficult to create a cohesive operating environment. In creating a debt policy, the focus is on debt as a perpetual portion of the capitalization of the institution, similar to investments. Furthermore, debt should be viewed as part of a process and not as an individual transaction.

Linking Debt Policy to the Mission

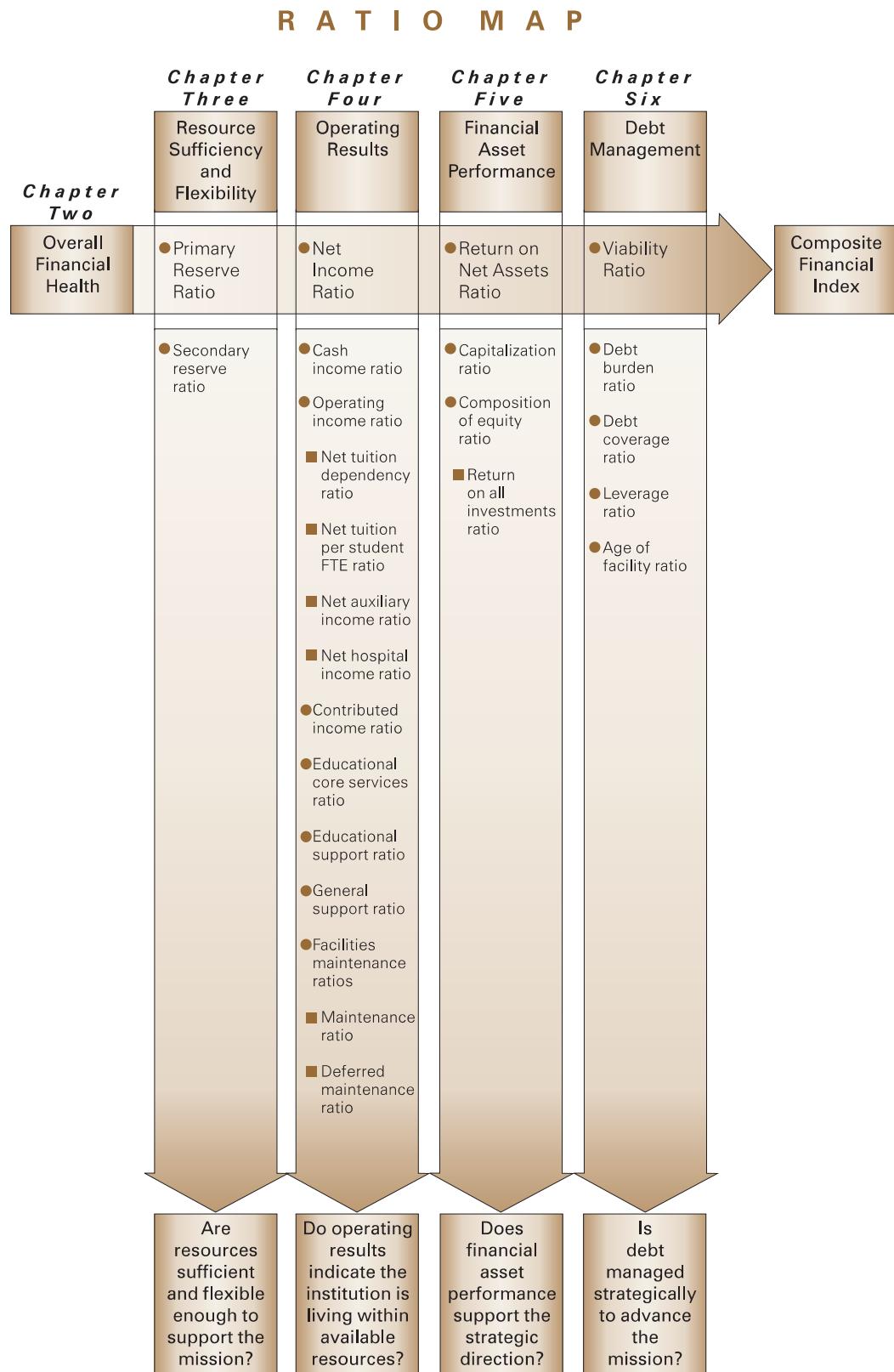


To realize organizational goals, the mission must remain clearly articulated throughout the institution, and resources must be deployed strategically. Institutions that remain focused on their mission, and deploy resources to achieve mission-guided results, will be the ones best positioned to achieve long-term success. Institutions that fail to link their resources to their core mission will find it difficult to sustain a competitive advantage in deteriorating markets. Interestingly, it is not the absolute level of resources that dictates sufficiency, it is the deployment of resources against stated long-term objectives.

STRUCTURING RATIOS TO MEASURE SPECIFIC ACTIVITIES

For over two decades ratios have been used in higher education to focus on financial measurement. The measurement tools in this edition of *Ratio Analysis in Higher Education* are refined not only to identify what each ratio measures, but also to collect ratios around related activities to provide deeper insight into the institution.

The concepts that have evolved are (a) fewer measures are better, as long as they are the correct ones, and (b) everyone in an organization should have key performance metrics to drive mission and assess performance. Following is a mapping of all the financial statement ratios discussed in this book into the functional areas they help analyze and the high-order questions they help answer.



CHAPTER TWO:

MEASURING THE OVERALL LEVEL OF FINANCIAL HEALTH



Introduction

Description of Core Ratios

Primary Reserve Ratio

Net Income Ratio

Using an Operating Indicator

Using Change in Unrestricted Net Assets

Return on Net Assets Ratio

Viability Ratio

Composite Financial Index (CFI) — Combining the Core Ratios into a Single Measure

Implications of the CFI

Calculating the CFI

Establishing the Threshold Value

Converting the Core Ratios to Strength Factors

Calculating Strength Factors

Analyzing Strength Factors

Weighting the Ratios

Creating the CFI — An Illustration

Integrating the CFI into the Strategic Plan

Graphic Financial Profile — An Application of the Ratios

INTRODUCTION

At the end of chapter 1, a ratio map presented four core, higher level ratios that can provide information on the overall financial health of the institution.

This chapter examines a methodology for creating one overall financial measurement of the institution's health based on those four core ratios. This measure is called the Composite Financial IndexSM (CFI). The CFI is useful in helping boards and senior management understand the financial position that the institution enjoys in the marketplace. Moreover, this measurement will also prove valuable in assessing the future prospects of the institution. It can function as an "affordability index" of a strategic plan.

The measure is established by first creating the value of the four core ratios:

- Primary Reserve Ratio
- Net Income Ratio
- Return on Net Assets Ratio
- Viability Ratio.

These ratios compare the institution's operating commitments (Primary Reserve Ratio) and its outstanding long-term obligations (Viability Ratio) against its expendable wealth. They measure the ability of the institution on a short-term basis to live within its means (Net Income Ratio) and the ability of the institution to generate overall return against all net resources (Return on Net Assets Ratio).

The core ratios were selected because they represent measurement of key components in relation to institutional risk that must be consistently addressed. As an example, outstanding debt, by itself, is not a particularly informative number. But within the context of useable retained wealth, the relative debt level becomes informative, allowing an understanding of the institution's capital structure and the affordability of its debt. Expendable net assets provide insight into whether the institution's operating size is reasonable within the context of useable retained wealth. The return that the institution has been able to achieve, both in terms of current operating size and in terms of total wealth, for which the board has fiduciary responsibility, is a key indicator of overall financial performance.

Two basic concepts are emphasized in this analysis. First, that a few measures can effectively provide insight to financial health; and second, that the ratios are most useful if the information is readily obtainable and the calculations repeatable. These four ratios provide powerful information on the financial health of the institution. Note that these ratios deal only with the financial aspects of the institution and must be blended with key performance indicators in areas such as academics,

infrastructure, and student and faculty satisfaction to understand a more complete measure of institutional strength.

These four ratios, properly weighted and scored on a common scale, can create a single score of institutional financial health. The use of a single score is superior to individual measurement of each ratio because a single score allows a weakness in a particular ratio to be offset by a strength in another ratio.

An analogy in higher education that supports combining the ratios into a single score is the use of a grade point average (GPA) for students. The GPA becomes a key measure of student success and substantially influences the next several years of the student's life. This one number has been deemed an effective measurement of individual outcome, and a single score can be just as effective to measure institutional financial outcome.

These ratios in this book and the CFI scoring system are substantially different from those used by the U.S. Department of Education in its Financial Responsibility Standards (see appendix A) because the purposes vary significantly. For example, the CFI is intended to assist institutions in understanding the affordability of their strategies and to monitor the financial results of the implementation of strategic initiatives. The time horizon for effective ratio analysis is necessarily long term. The U.S. Department of Education's time horizon is designed to be shorter term and, therefore, the Financial Responsibility Standards are intended to identify the relative risk each institution represents to the Title IV or Student Financial Aid program.

DESCRIPTION OF CORE RATIOS

PRIMARY RESERVE RATIO

The Primary Reserve Ratio measures the financial strength of the institution by comparing expendable net assets to total expenses. Expendable net assets represent those assets that the institution can access quickly and spend to satisfy its debt obligations. This ratio provides a snapshot of financial strength and flexibility by indicating how long the institution could function using its expendable reserves without relying on additional net assets generated by operations. Trend analysis indicates whether an institution has increased its net worth in proportion to the rate of growth in its operating size.

It is reasonable to expect expendable net assets to increase at least in proportion to the rate of growth in operating size. If they do not, the same dollar amount

of expendable net assets will provide a smaller margin of protection against adversity as the institution grows in dollar level of expenses. The trend of this ratio is important. A negative or decreasing trend over time indicates a weakening financial condition.

The Primary Reserve Ratio also serves as a counterpoint to the Viability Ratio. An institution may have insignificant expendable net assets and little or no debt and therefore produce an acceptable value for the Viability Ratio. But low expendable net assets in relation to operating size signal a weak financial condition. In these cases, the Primary Reserve Ratio will be a much more valid measure of financial strength.

The Primary Reserve Ratio is calculated as follows:

$$\frac{\text{Expendable Net Assets}}{\text{Total Expenses}}$$

The numerator includes all unrestricted and temporarily restricted net assets, excluding net investment in plant and those temporarily restricted net assets that will be invested in plant. Permanently restricted net assets are not included because they may not be used to extinguish liabilities incurred for operating or plant expenses without special legal permission. Although using total net assets in the numerator provides an informative ratio as to the overall net wealth of the institution, the ratios that exclude permanently restricted net assets provide a truer picture of the actual funds available to the institution, and reinforce the desire to maximize unrestricted sources of revenue.

The carrying value of plant equity is not included because the plant will not normally be sold to produce cash except in the most extreme circumstances, since it presumably will be needed to support ongoing programs. If the financial statements separately disclose a net investment in plant amount in the unrestricted net asset classification, that amount would be used. However, since many financial statements do not disclose this amount, the net investment in plant amount must be computed as follows: plant equity equals plant assets (property, plant, and equipment) minus plant debt (debt outstanding to finance plant assets). This assumes that long-term debt was incurred to finance plant assets. If a recent refinancing or financing occurred, funds held in trust would be included with the property, plant, and equipment as if already expended.

Including the annuity and life income funds and term endowment funds in the determination of expendable net assets is recommended, unless their potential for

release from temporarily restricted net assets is remote or the timing of the release is so far in the future as to indicate that they function similarly to permanently restricted net assets.

Written as an algebraic equation, the numerator of the ratio would appear as:

$$\text{Expendable Net Assets} = \text{Total Net Assets} - \text{Permanently Restricted Net Assets} - (\text{Property, Plant, and Equipment} - \text{Long-Term Debt})$$

Certain situations would suggest adding back significant long-term liabilities such as pensions and postretirement benefits to the numerator, and adjusting the long-term debt to exclude debt issued for purposes other than property, plant, and equipment acquisition. If an institution has recently refinanced or incurred new debt, there may be funds held in trust for future capital expenditures. It would be appropriate to assume immediate capital acquisition. Those funds would be subtracted, as is the case for property, plant, and equipment.

The denominator comprises all expenses on the statement of activities. This is the first of several ratios that use total expenses to define operating size.

An analysis of financial statements presented using the concepts of the Financial Accounting Standards Board's Statement of Financial Accounting Standards (SFAS) Nos. 116 and 117 suggests that a Primary Reserve Ratio of .40X or better is advisable to give institutions the flexibility to transform the enterprise. The implication of .40X is that the institution would have the ability to cover about five months of expenses (40 percent of 12 months). Generally, institutions operating at this ratio level rely on internal cash flow to meet short-term cash needs, are able to carry on a reasonable level of facilities maintenance, and appear capable of managing modest unforeseen adverse financial events. Reserves are often required for capital expansion or to implement change in the institution's mission. Should these actions be in process, it would be appropriate to expect a temporary decline in this ratio. A ratio below .10X to .15X indicates that the institution's expendable net asset balances are in a position that generally requires short-term borrowing on a regular basis, since resources cover only one to two months of expenses, and that the institution tends to struggle to have sufficient resources for reinvestment.

Illustration of Primary Reserve Ratio

In the current year, the Primary Reserve Ratio for Utopia University is .74X, representing nearly three-fourths of a year's reserves to cover expenses. This is a slight improvement over the prior year, when the ratio was .68X. (See appendix C for the basic financial statements for Utopia U.)

	Current	Prior
	(in thousands)	
Numerator: Expendable net assets		
+ Unrestricted net assets	\$86,014	\$83,724
+ Temporarily restricted net assets	2,954	2,357
- Property, plant, and equipment, net	(77,900)	(79,305)
+ Long-term debt	39,476	40,387
Numerator: Expendable net assets	\$50,544	\$47,163
Denominator: Total expenses	\$68,469	\$69,803
Value of ratio	.74X	.68X

NET INCOME RATIO

This ratio indicates whether total unrestricted activities resulted in a surplus or a deficit, answering the question posed in chapter 1, “Do operating results indicate the institution is living within available resources?” This ratio is a primary indicator, explaining how the change in unrestricted net assets affects the behavior of the other three core ratios. A large surplus or deficit directly impacts the amount of funds an institution adds to or subtracts from net assets, thereby affecting the Primary Reserve Ratio, the Return on Net Assets Ratio, and the Viability Ratio.

The method of calculating this ratio has been expanded from earlier editions of this book to include an “operating indicator.” While the discussion continues as to whether an institution should display a separation between operating and nonoperating activities in the statement of activities, experience indicates that this separation presents a more informative display of an institution’s operations. If an operating indicator is not presented, then the use of the change in unrestricted net assets should continue to be used in the numerator. Following are presentations of both methods of calculation.

Net Income Ratio — Using an Operating Indicator

The Net Income Ratio, calculated when an operating indicator is presented, is as follows:

$$\frac{\text{Excess (Deficiency) of Unrestricted Operating Revenues Over Unrestricted Operating Expenses}}{\text{Total Unrestricted Operating Income}}$$

The numerator is available from the statement of activities. The denominator is equal to total unrestricted operating revenues, gains, and other support including net assets released from restrictions.

A positive ratio indicates that the institution experienced an operating surplus for the year. Generally speaking, the larger the surplus, the stronger the institution's financial performance as a result of the year's activities. However, as a note of caution, if surpluses are obtained by underspending on mission-critical investments, then the surplus achieved should be questioned. A negative ratio indicates a loss for the year. A small deficit in a particular year may be relatively unimportant if the institution is financially strong, is aware of the causes of the deficit, and has an active plan in place that cures the deficit.

Large deficits and structural deficits are almost always a bad sign, particularly if management has not identified initiatives to reverse the shortfall. A pattern of large deficits can quickly sap an institution's financial strength to the point where it may have to make major adjustments to programs. A continuing decline or a pattern of deficits is a warning signal that management and the governing board should focus on restructuring the institution's income and expense streams to return to an acceptable Net Income Ratio.

An institution presenting an operating indicator to measure the Net Income Ratio should target at least 2 to 4 percent as a goal over an extended time period, although the target will likely vary from year to year. A key for institutions establishing a benchmark for this ratio would first be the anticipated institutional growth in total expenses. A ratio in the 2 to 4 percent range may appear somewhat low. However, the determination of net income includes depreciation expense as a component, indicating that a positive return in this area would suggest the institution lived within its means.

Illustration of Net Income Ratio – Using an Operating Indicator

Utopia University experienced a positive Net Income Ratio, 2.28 percent, for the current year. The ratio is consistent with the prior year (2.43 percent). The change in the ratio is due to a decline in revenues as a result of the substantial growth in tuition allowances, reducing net tuition by \$440,000 (to \$45,836,000 from \$46,276,000), offset by a decline in expenses.

	Current	Prior
	(in thousands)	
Numerator: Excess (deficiency) of unrestricted operating revenues over unrestricted operating expenses	\$ 1,597	\$ 1,741
Denominator: Total unrestricted operating income		
+ Total unrestricted revenues and gains	68,017	66,283
+ Net assets released from restrictions	2,049	5,261
Denominator: Total unrestricted operating income	\$70,066	\$71,544
Value of ratio	2.28%	2.43%

Net Income Ratio – Using Change in Unrestricted Net Assets

The Net Income Ratio using the total change in unrestricted net assets is calculated as follows:

$$\frac{\text{Change in Unrestricted Net Assets}}{\text{Total Unrestricted Income}}$$

The numerator is available from the statement of activities. The denominator is equal to total unrestricted revenues, gains, and other support including net assets released from restrictions. In Utopia's case, this includes net unrestricted nonoperating activity.

Illustration of Net Income Ratio – Using Change in Unrestricted Net Assets

Utopia University experienced a positive Net Income Ratio, 3.24 percent, for the current year. However, the ratio has decreased by 47 percent from the prior year (6.13 percent). The change in the ratio is due to a smaller surplus (as represented by unrestricted net assets) with relatively stable revenues.

	Current (in thousands)	Prior
Numerator: Change in unrestricted net assets	\$ 2,290	\$ 4,557
Denominator: Total unrestricted income		
+ Total unrestricted revenues and gains	68,017	66,283
+ Net assets released from restrictions	2,049	5,261
+ Unrestricted investment return in excess of spending rate	693	2,816
Denominator: Total unrestricted income	\$70,759	\$74,360
Value of ratio	3.24%	6.13%

RETURN ON NET ASSETS RATIO

This ratio determines whether the institution is financially better off than in previous years by measuring total economic return. A decline in this ratio may be appropriate and even warranted if it reflects a strategy to better fulfill the institution's mission. On the other hand, an improving trend in this ratio indicates that the institution is increasing its net assets and is likely to be able to set aside financial resources to strengthen its future financial flexibility.

The Return on Net Assets Ratio, like all the others, is better applied over an extended period so that the results of long-term plans are measured. Long-term returns are quite volatile and vary significantly based on the prevailing level of inflation in the economy. Therefore, establishing fixed nominal return targets is not possible. Rather, institutions should establish a real rate of return target in the range of approximately 3 to 4 percent. The real return plus the actual inflation index, either the Consumer Price Index (CPI) or the Higher Education Price Index (HEPI) (published by Research Associates, Washington, D.C.), will produce the nominal rate of return. A period of low inflation, such as the late 1990s, would indicate that long-term nominal returns should average approximately 6 percent annually to ensure reasonable growth in resources (3 to 4 percent real return target

plus 2 to 3 percent inflation). However, as with each ratio, there are no absolute measures. For example, if an institution's strategic plan calls for activities that will consume substantial resources, such as program expansion, a high return on net assets may be required in order to maintain a properly capitalized institution.

It is important that an institution project this ratio under various future assumptions. In years of high investment returns, net assets can increase substantially over the short term, thereby improving the ratio. However, positive external developments may imply that an institution has the capacity to defer cost-reducing activities or postpone necessary adjustments to tuition levels. Then, when market conditions become relatively flat or turn negative, the institution could find its financial performance to be inadequate. If so, an extended period may be spent attempting catch-up, possibly at the expense of necessary programmatic initiatives.

The Return on Net Assets Ratio is calculated as follows:

$$\frac{\text{Change in Net Assets}}{\text{Total Net Assets}}$$

The numerator is the change in unrestricted net assets, the change in temporarily restricted net assets, and the change in permanently restricted net assets. All components of the numerator can be found on the statement of activities.

The denominator includes the beginning balance of total net assets, which can also be found on the statement of activities (alternatively, this number can be found as the ending balance for total net assets for the prior year in the comparative balance sheet). Total net assets includes unrestricted net assets, temporarily restricted net assets, and permanently restricted net assets. As an alternative, the analyst may prefer to use the average of the beginning and ending total net assets.

An institution's assets contain a number of components such as investments (with the exception of private equity or alternative investments) that are comparable across institutions, since they can easily be valued on a current basis. However, for most institutions, another major component of assets is the carrying value of plant, which is more difficult to interpret and compare across universities. This discrepancy may affect the relative wealth of institutions based on the degree of investment in plant.

Unlike investments, plant facilities are carried at historical value less accumulated depreciation. If plant were stated at market value, the value of many institutions' facilities would increase considerably. This is especially true for those

schools located in urban environments that have experienced significant real estate appreciation that has not been reflected in the valuation of the institutions' real estate. The effect of not stating real estate at market values is to (a) underestimate the wealth of the institution, and (b) overstate the return on net assets.

Despite these shortcomings, calculating plant based on historical cost has its advantages and is preferable for a number of reasons. First, historical value is contained in the audited financial statements, and is a readily available figure, if not an entirely accurate one. Second, it is not clear that current market value is any more objective and correct than historical value. In order to state plant facilities at market, an institution would need to continually appraise property, a costly and time-consuming process. Appraisals themselves are subjective measurements, and they would only continue to make comparison of plant values across institutions extremely difficult.

Although stating plant at historical value tends to underestimate the value of an institution's real estate holdings, the failure to include deferred maintenance as a liability on an institution's balance sheet overstates the value of net assets, since it fails to account for an unfunded future cost. Maintenance of campus facilities can be delayed indefinitely; however, at some point an institution will find it desirable to upgrade its facilities, because of either need or competitive pressure, and at that point it will incur a potentially significant cost.

Since deferred maintenance does not appear as an unfunded liability, the college or university that has chosen to invest in plant appears less wealthy on a relative basis than its peer institutions that have elected to delay the necessary reinvestment in plant. When this liability is eventually funded, the college or university that has postponed investment in plant will experience a potentially significant deterioration in some fundamental financial ratios.

There is no formula to suggest certain levels of investments in either plant or endowment. However, there are tradeoffs in the current period between the two alternatives, and management must make the allocation that is most appropriate for the given institution. Measurements can be affected if the decision to invest in plant results in an institution's appearing less wealthy than a peer, when in fact its financial managers have simply made a different investment decision. An acknowledgment of unfunded liabilities must be made in order to make comparisons across institutions more equal. For the reasons stated previously, adjusting for unfunded liabilities on the valuation of plant is not desirable, either. Rather, it is recommended that management be aware of the level of deferred maintenance, and calculate

financial ratios on a forward basis. Since unfunded maintenance is a deferred cost rather than an avoided cost, at some point the liability must be funded. By calculating the Return on Net Assets Ratio, among others, on a projected basis, management will be able to determine the implication of delaying investment in plant.

As a final point, the choice between deployment of resources in plant or investments is not entirely equivalent, since investment in plant is far less liquid and therefore not readily available to pay debt service. The difference between two equivalent institutions, one of which has elected to invest in plant and the other to defer maintenance, will be apparent in the expendable net assets ratios that exclude investment in plant. This distinction is appropriate; however, there should not be a differential when measuring the total net assets of each institution.

Analysts may find it useful to look at a modified version of the Return on Net Assets Ratio. By subtracting the change in permanently restricted net assets from the numerator, and removing the permanently restricted net assets from the denominator, an institution can observe the change in resources available to directly support the unrestricted and manageable operations of the institution. Although increasing total net assets is important, it is also necessary for an institution to ensure that resources are not solely accruing on a restricted basis.

For institutions with sizable investments, it is advisable to smooth the results of this ratio by looking at return on net assets over time, for example, five to ten years.

Changes in market performance can significantly impact the numerator of this ratio from year to year. For this reason, each institution will need to set its own goal for the Return on Net Assets Ratio. One guideline that a college or university might use is inflation; for example, the institution may wish to meet or exceed the annual rate of inflation. In this way, the purchasing power of all institutional resources will be maintained for future generations. Several alternate measures of inflation can be used, such as the CPI or, more appropriate, the HEPI.

Illustration of Return on Net Assets Ratio

Utopia's Return on Net Assets Ratio has dropped from 6.45 percent in the previous year to 4.78 percent in the current year. The decrease can be explained by poor performance of Utopia's investments and a large increase in total net assets at the beginning of the year.

	Current	Prior
	(in thousands)	
Numerator: Change in net assets	\$ 4,590	\$ 5,821
Denominator: Total net assets (beginning of year)	\$96,030	\$90,209
Value of ratio	4.78%	6.45%

VIABILITY RATIO

The Viability Ratio measures one of the most basic determinants of clear financial health: the availability of expendable net assets to cover debt should the institution need to settle its obligations as of the balance sheet date. The formula for this ratio is:

$$\frac{\text{Expendable Net Assets}}{\text{Long-Term Debt}}$$

The numerator is the same as the numerator for the Primary Reserve Ratio (unrestricted net assets plus temporarily restricted net assets less plant equity).

As mentioned in the explanation of the Primary Reserve Ratio and in previous editions of *Ratio Analysis in Higher Education*, those institutions with sizable annuity and life income funds or term endowments should remove the net assets of these funds from the temporarily restricted net assets. This is technically appropriate if an institution is to present a Viability Ratio that includes only expendable net assets that are available to satisfy long-term debt. However, experience shows that for institutions reporting under SFAS Nos. 116 and 117, over the long term the restriction will lift, making the funds available. Since the debt is of a long-term nature as well, in practice the mismatching of availability of resource and debt is unusual. In the rare cases where there is substantial mismatch, or the annuities will never release to an expendable category (for example, releasing assets used for building or equipment acquisition), then the removal of these funds from the calculations is appropriate.

The denominator is defined as all amounts borrowed for long-term purposes from third parties and includes all notes, bonds, and leases payable that impact the institution's credit, whether or not the obligation is on the balance sheet.

Although a ratio of 1:1 or greater indicates that, as of the balance sheet date, an institution has sufficient expendable net assets to satisfy debt obligations, this value should not serve as an objective since most institutions would find this relationship unacceptable. Analysis of financial statements over the past three fiscal years indicates that this ratio should fall between 1.25X and 2.00X, and higher for the strongest creditworthy institutions. However, the level that is "right" is institution-specific. The institution should develop a target for this ratio, and others, that balances its financial, operating, and programmatic objectives.

There is no absolute threshold that will indicate whether the institution is no longer financially viable. However, the Viability Ratio, along with the Primary Reserve Ratio discussed earlier, can help define an institution's "margin for error." As the Viability Ratio's value falls below 1:1, the institution's ability to respond to adverse conditions from internal resources diminishes, as does its ability to attract capital from external sources and its flexibility to fund new objectives.

Most debt relating to plant assets is long term and does not have to be paid off at once. Payments of other liabilities may similarly be delayed. Analysts should be aware that institutions often show a remarkable resiliency that permits them to continue long beyond what appears to be their point of financial collapse. In fact, colleges and universities have been known to survive for a time with high debt levels and no expendable net assets — or even negative net asset balances. Frequently, this means living with no margin for error and meeting severe cash flow needs by obtaining short-term loans.

A scenario such as that just described will only exacerbate the institution's delicate financial condition. Ultimately, such a financial condition will impair the ability of an institution to fulfill its mission and meet its service obligations to students, since resources must be diverted to fulfill financial covenants and debt service requirements. A university or college in a continually fragile financial condition will find itself driven by fiscal rather than programmatic decisions. In such situations, the analyst must assess the institution's ability to generate sufficient surplus net revenues to build positive expendable fund balances and to meet its obligations.

The institution should develop and adopt a formal debt policy, in part to articulate specific targets for several key ratios. Please refer to "Creating a Debt Policy," page 6, and "Components of a Debt Policy," page 75, for further elaboration of this point.

Illustration of Viability Ratio

Utopia University shows an improvement in its Viability Ratio, from 1.17X in the prior year to 1.28X in the current year. The institution has expendable net assets greater than long-term debt and the trend line is positive; however, the levels in both years were marginal. The improvement can be explained by a decrease in the amount of debt the university is carrying while expendable net assets increased.

	Current	Prior
	(in thousands)	
Numerator: Expendable net assets		
+ Unrestricted net assets	\$86,014	\$83,724
+ Temporarily restricted net assets	2,954	2,357
- Property, plant, and equipment, net	(77,900)	(79,305)
+ Long-term debt	39,476	40,387
Numerator: Expendable net assets	\$50,544	\$47,163
Denominator: Long-term debt	\$39,476	\$40,387
Value of ratio	1.28X	1.17X

C O M P O S I T E F I N A N C I A L I N D E X (C F I) —
C O M B I N I N G T H E C O R E R A T I O S I N T O
A S I N G L E M E A S U R E

The combination of the four core ratios produces the Composite Financial Index (CFI), a proprietary KPMG/Prager, McCarthy & Sealy measure of financial performance. The four-step methodology is as follows:

- the values of the four core ratios are computed;
- these figures are converted to strength factors along a common scale;
- the strength factors are then multiplied by specific weighting factors; and
- the resulting four numbers are totaled to reach the single CFI score.

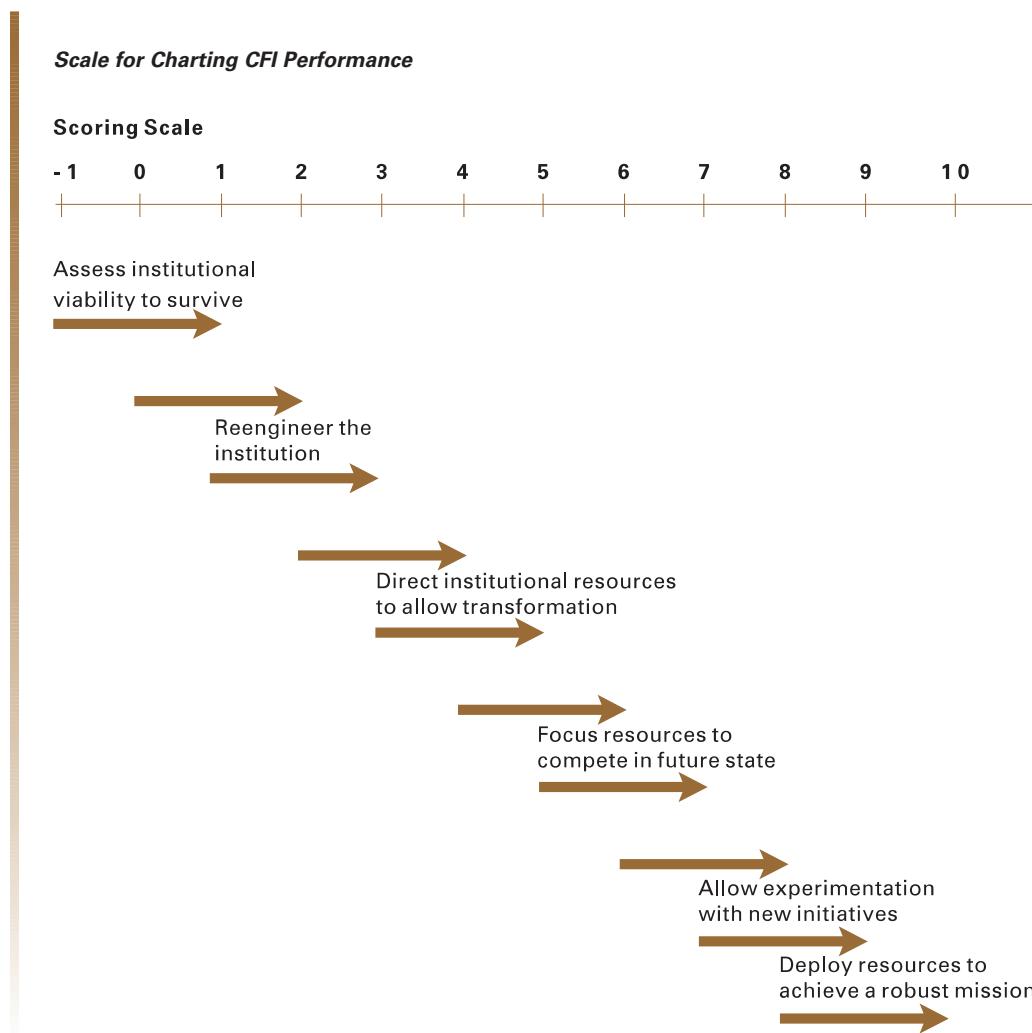
Each step is explained in detail in the next few pages.

The CFI *only* measures the financial component of an institution's well-being. It must be analyzed in context with other associated activities and plans to achieve an assessment of the overall health, not just financial health, of the institution. As an example, if two institutions have identical CFI scores, but one requires substantial investments to meet its mission-critical issues and the other has already made those investments, the first institution is less healthy than the second. In fact, an

institution's CFI can become too high as well as too low. When put in the context of achievement of mission, a very high CFI with little achievement of mission may indicate a failing institution.

IMPLICATIONS OF THE CFI

These scores do not have precision; rather, they are indicators of ranges of financial health that can be indicators of overall institutional well-being when combined with nonfinancial indicators. Stated graphically, this scoring system may look like the following:



The overlapping arrows represent the ranges of measurement that an institution may find useful in assessing itself. There is little discernible difference between the financial position of an institution with a 3.3 or one with a 3.4 CFI. In this case, the nonfinancial indicators will be a stronger differentiator between the institutions. However, there are readily discernible financial differences between an institution scoring 3.4 and 5.5 on the CFI. An institution with a significantly low or declining CFI will be disadvantaged when competing with institutions with a higher or improving CFI.

CALCULATING THE CFI

To calculate the CFI, the model requires that the four ratios articulate to each other on a common scale. The “Scale for Converting the Core Ratios to Strength Factors” follows. By selecting points on the scale and determining a corresponding comparable strength for each ratio, the scoring system achieves a commonality along the range of the scale.

The chart presents the ratios at three selected points — 1, 3, and 10 — on a scale of 1 to 10. A score of 1 represents very little financial health; 3, the threshold value, represents a relatively stronger financial position; and 10, the top score within range for an institution. Some institutions will exceed the top score; however, for purposes of measuring financial health there is no reason for the scale to be extended beyond 10. By using the methodology to compute the CFI, an institution could fall below 1 and create negative amounts. These amounts should be computed and included in the determination of the CFI. Should an institution wish to continue the calculation beyond the score of 10, the proportionate analysis would continue to be effective. However, extending strength factors beyond the score of 10 will create a higher CFI and may unduly mask a weakness in another ratio.

Establishing the Threshold Value

The scale represents an assessment based on industry experience since institutions began issuing financial statements under SFAS Nos. 116 and 117 and the concepts of the *AICPA Audit and Accounting Guide: Not-for-Profit Organizations* (the *Audit Guide*). Each ratio, at a score of 3, considers the changes in the literature. For example, using 6 percent as the threshold value for the Return on Net Assets Ratio is intended to establish a rate of return in excess of the growth in total expenses.

The Primary Reserve Ratio threshold of moderate financial health is set at .4X. In publications prior to SFAS No. 117, this was established at .5X. The decrease in

the ratio value reflects the reduction in total expenses by presenting scholarship allowances as a reduction in tuition and fees revenues instead of expenses, and the reclassification of endowment gains to unrestricted or temporarily restricted net assets in many financial statements, balanced by the addition of depreciation expense and elimination of mandatory transfer and acquisition of property, plant, and equipment in determining total expenses. The Viability Ratio threshold has increased from 1:1 to 1.25:1, again because of the increases in expendable net assets related to the reclassification of endowment gains.

CONVERTING THE CORE RATIOS TO STRENGTH FACTORS

Scale for Converting the Core Ratios to Strength Factors

Scoring Scale	(threshold)		
	1	3	10
	Ratio Value		
Primary Reserve Ratio	.133X	.4X	1.33X
Net Income Ratio			
- using an operating indicator	0.7%	2%	6.7%
- using change in unrestricted net assets	1.3%	4%	13.0%
Return on Net Assets Ratio	2.0%	6%	20.0%
Viability Ratio	.417X	1.25X	4.16X

Calculating Strength Factors

To calculate the strength factor at a point other than those presented in the “Scale for Converting the Core Ratios to Strength Factors,” divide the ratio value by the relevant value for 1 given in the chart. As an example, a Viability Ratio of 1.5X converts to a strength factor of 3.6 as follows:

$$\frac{1.50X}{.417X} = 3.597, \text{ or } 3.6$$

Analyzing Strength Factors

In analyzing the strength factor, a composite strength factor of 1 indicates an institution under financial stress. Reading down the chart, the profile of an institution with a score of 1 on each of the individual ratios (and a CFI of 1) discloses a

Primary Reserve Ratio of .133X, indicating that expendable resources are available to cover about 45 days of annualized expenses (13.3 percent of 365), and that while some net income and return on net assets exist, the amounts of .7 percent and 2 percent are too small to allow replenishment of reserve levels, and may well not equal even modest growth in total expenses. Finally, a Viability Ratio of .417X indicates long-term debt exceeding expendable resources by 2.4 times ($1 \div .417X$).

A strength factor of 3 on each ratio indicates that an institution is relatively financially healthy in that approximately 140 days of annualized expenses are retained in expendable resources (40 percent of 365); the net income generated is sufficient to keep pace with, and will likely exceed the growth of, moderate expense levels; the return on net assets would appear reasonable for the overall investment activity of the institution; and expendable net assets exceed the institutional debt levels, although not by excessive amounts.

Institutions with this profile generally have enough wealth and access to capital resources to finance modest program improvements and address a modest financial challenge; however, a significant institutional transformation may be difficult to realize without additional resources.

At a strength factor of 10 on each ratio, about 485 days of annualized expenses exist in expendable resources, net income indicates the margin from operating activities will exceed normal increases in expense levels, the return on net assets will provide marginal resources that may be used to support institutional initiatives, and the institution has substantial expendable resources in excess of debt.

WEIGHTING THE RATIOS

A key feature of the CFI is that a single score allows weaknesses in individual ratios to be quantitatively offset by strengths in other ratios. The result is the ability to look at overall financial health, not just individual components of financial health. For this process to be most useful, it is important to use the weighting factor suggested for each of the ratios. If substantial differences in scores result from year-to-year comparisons or in comparison with other institutions, the explanation will be related to economic events, not different weighting plans. Elimination of any of these ratios would be inappropriate for the application of the CFI. In certain cases, the Viability Ratio will not apply because some institutions carry no long-term obligations. If that is the case, then the weighting for the Viability Ratio is zero and the remaining three ratios will be allocated 100 percent of the weight, proportionate to one another.

In a “normalized” institution, the appropriate weighting would be more heavily skewed toward measurement of retained wealth and less toward current operations. With that as a concept, the weighting pattern is as follows:

Weighting Pattern

Ratio	Institution with Long-Term Debt	Institution with No Long-Term Debt
Primary Reserve	35%	55%
Net Income	10%	15%
Return on Net Assets	20%	30%
Viability	35%	—

CREATING THE CFI – AN ILLUSTRATION

The following illustrates the calculation of the CFI for Utopia University for the current year.

Utopia University — Summary of Composite Financial Index

Ratio	Ratio Value	Strength Factor	Weighting Factor	Score
Primary Reserve	.74 X	= 5.56	X 35%	= 1.95
Net Income	2.28%	= 3.26	X 10%	= .33*
Return on Net Assets	4.78%	= 2.39	X 20%	= .48
Viability	1.28 X	= 3.07	X 35%	= 1.07
Composite Financial Index				<u>3.8[†]</u>

* Calculated using an operating indicator.

† Number has been rounded to reflect appropriate level of precision as indicated by research.

The CFI for Utopia University is 3.8. Financially, this institution would appear to have a manageable level of outside obligations, and overall operating size as measured by total expenses appears reasonable in relation to the amount of retained expendable resources. The institution produced adequate, but not excessive, returns during the current year in terms of the decision on how net assets are invested and in terms of the margins the institution produced.

From a financial perspective, an institution with this profile would probably have difficulty making major investments in key areas, such as physical facilities and academic and research programs, or a substantial change in its investment level in personnel without a large, external capital infusion. An institution with this profile generally has a reasonable cushion against the first adverse financial event but would be required to replenish expendable resources.

INTEGRATING THE CFI INTO THE STRATEGIC PLAN

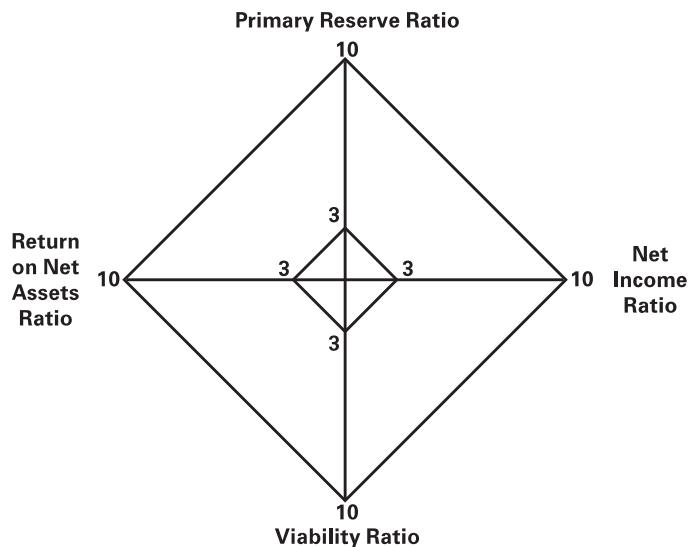
The CFI is best used as a component of financial goals in the institution's strategic plan. Further, the institution is best served if the CFI is calculated over an established time period, for example, the past three years and the next five. This gives a more accurate picture of overall financial health and answers the questions (a) were returns earned on investments, and (b) were the right investments made.

Routine financial statement modeling to determine the CFI gives the opportunity for constant functional assessment and continual awareness of institutional performance.

GRAPHIC FINANCIAL PROFILE – AN APPLICATION OF THE RATIOS

Following is a graphic presentation of the ratios comprising the CFI. This presentation maps each ratio's value on a diamond to show the “shape” of an institution's financial health. This Graphic Financial ProfileSM offers further assistance in identifying whether a weakness that may exist in one ratio is offset by a strength in another ratio.

Graphic Financial Profile



The values placed along the individual ratio axes are weighted evenly. The scale imitates the scale for the CFI strength factors, with 3 being the inner box and 10 being the outer box. For purposes of this Graphic Financial Profile, the centerpoint is zero. Any values below zero would default to the center of the graph.

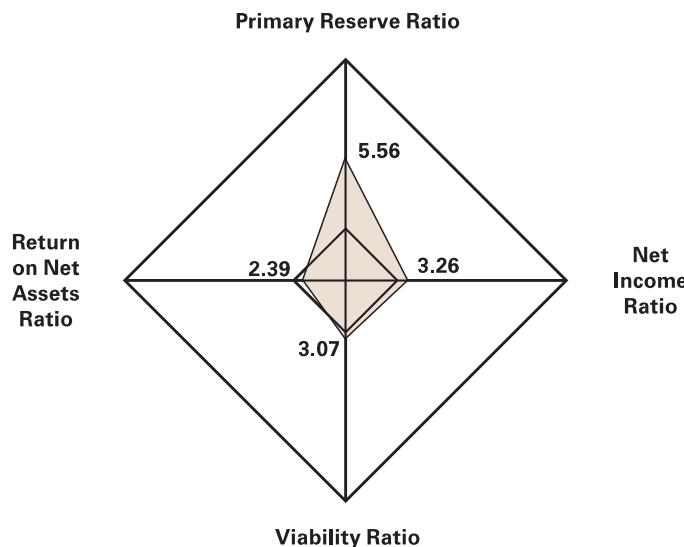
Absent unusual circumstances, an institution would want at least the entire inside box to be shaded when its ratios are plotted.

Because there is correlation between the Primary Reserve Ratio and the Viability Ratio, and correlation between the Return on Net Assets Ratio and the Net Income Ratio, these ratios have been placed opposite each other on the axes. The shape of the shaded area for the institution may be instructive in assessing high-level financial position. A short (vertical axis), elongated (horizontal axis) shape would indicate relatively stronger operating results, but a relatively undercapitalized institution. A relatively tall and narrow shape would demonstrate relatively stronger capitalization with weaker returns. Over time the expectation would be that the relative capitalization would diminish because the returns obtained would not be keeping pace with growth.

Utopia University — Graphic Financial Profile

Ratio	Ratio Value	Strength Factor
Primary Reserve	.74 X	5.56
Net Income	2.28%	3.26*
Return on Net Assets	4.78%	2.39
Viability	1.28 X	3.07

* Using an operating indicator.

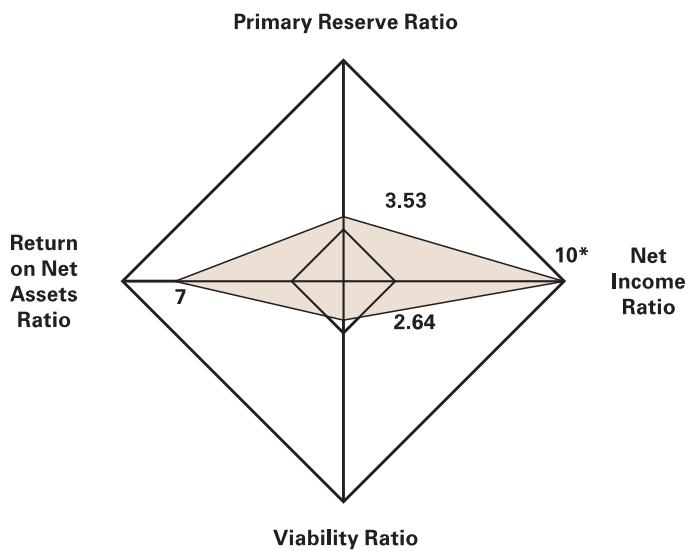


Further examples of applying the core ratios in graphic financial profiles are offered on the following pages.

Institution #1—Graphic Financial Profile

Ratio	Ratio Value	Strength Factor
Primary Reserve	0.47X	3.53
Net Income	18.00%	10.00*
Return on Net Assets	14.00%	7.00
Viability	1.10X	2.64

* Default to maximum score using change in unrestricted net assets.



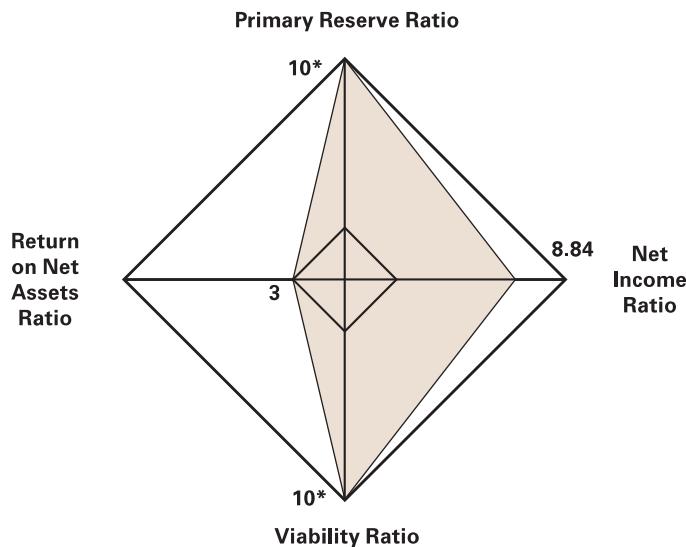
The profile of Institution #1 indicates a thinly capitalized institution with reasonable returns generated in this current period. This is an institution that may need to assess ways of focusing the deployment of its resources to ensure sufficient capitalization to achieve stated initiatives.

Institution #2 — Graphic Financial Profile

Ratio	Ratio Value	Strength Factor
Primary Reserve	1.84 X	10.00*
Net Income	11.50%	8.84†
Return on Net Assets	6.00%	3.00
Viability	24.50 X	10.00*

*Default to 10, as calculated score exceeds 10.

†Calculated using change in unrestricted net assets.

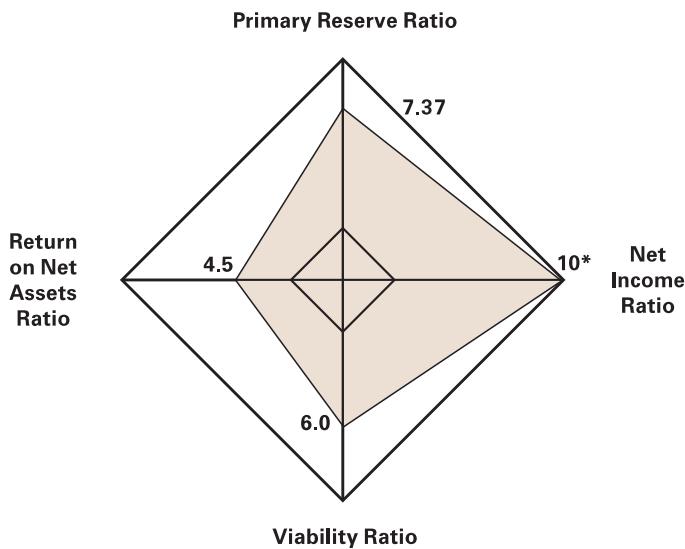


The profile of Institution #2 indicates an overall very financially healthy organization. The ratio results in three areas are strong, and while the Return on Net Assets Ratio is relatively low, this can be explained by the institution's somewhat higher investment in plant and equipment compared with similar organizations. This is an institution that has the financial capacity to deploy resources against a fairly robust mission.

Institution #3 — Graphic Financial Profile

Ratio	Ratio Value	Strength Factor
Primary Reserve	.98 X	7.37
Net Income	17.00%	10.00*
Return on Net Assets	9.00 %	4.50
Viability	2.50 X	6.00

*Default to 10, as calculated score exceeds 10.

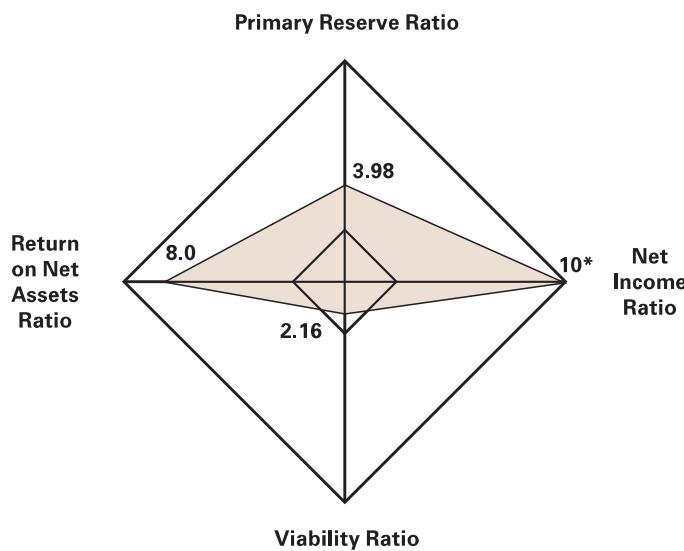


The profile of Institution #3 indicates a financially strong institution that has produced substantial returns on current activities. At present, there are no perceived financial weaknesses and the institution should focus on moving selected institutional initiatives forward.

Institution #4 — Graphic Financial Profile

Ratio	Ratio Value	Strength Factor
Primary Reserve	0.53X	3.98
Net Income	15.00%	10.00*
Return on Net Assets	16.00%	8.00
Viability	0.90X	2.16

*Default to 10, as calculated score exceeds 10.



The profile of Institution #4 indicates a fairly thinly capitalized institution that is producing exceptional return on the revenues it generates and the net assets owned. Overall, the financial position of this institution would indicate the board and senior management may need to specifically deploy resources in ways that will cause institutional transformation.

CHAPTER THREE:

MEASURING RESOURCE SUFFICIENCY AND FLEXIBILITY



Introduction

Ratios Measuring Resource Sufficiency and Flexibility

Primary Reserve Ratio

Secondary Reserve Ratio

INTRODUCTION

Institutions are continuously evaluating whether or not they have adequate resources and access to a sufficient amount of funds to meet current and future operating and capital requirements. The level that defines “adequate resources” depends on an institution’s unique needs over the long term, and therefore differs from organization to organization. Since demands typically increase over time, the institution must constantly explore methods of managing and expanding its financial base. The ratios presented in this chapter are useful in calculating whether the institution is financially sound, and whether it has the ability to achieve and sustain a level of resources sufficient to realize its strategic initiatives.

Again, an institution’s needs must be linked to the mission. Determining what resources are required to enable the institution to achieve its strategic objectives may be the most significant issue addressed by the board of directors. Included in the analysis must be the required reinvestments in program, technology, and financial aid, as well as capital assets. By performing this type of examination, the institution can identify whether resources are sufficient to meet its future needs in order to realize strategic objectives that support mission. If the resources fall short, the institution must analyze the following issues:

- Can resources be increased sufficiently in order to realize objectives? or
- Does the institution need to reevaluate and perhaps modify its mission and priorities in light of its current and future resources?

The Primary Reserve Ratio, discussed in detail in chapter 2, is the key indicator for these specific questions. This indicator helps determine both whether there are sufficient resources and whether the net assets have enough flexibility.

RATIOS MEASURING RESOURCE SUFFICIENCY AND FLEXIBILITY**PRIMARY RESERVE RATIO**

The Primary Reserve Ratio, applied over a period of years, is a clear and concise indicator of the overall trend of institutional wealth. It is useful from both a historical and a prospective review point. Historically, showing the relationship of expendable net assets to total expenses gives insight into whether the institution has been able to retain expendable resources at the same rate of growth as its commitments. Over time, total expenses demonstrate the impact of both inflation and

programmatic changes on the institution. Once an item is part of the core spending pattern of the institution, it is, in many cases, difficult to change.

From a prospective viewpoint, when applied to expected spending patterns, this ratio can help an institution understand the affordability of its strategic plan.

As stated earlier, the Primary Reserve Ratio is calculated as follows:

$$\frac{\text{Expendable Net Assets}}{\text{Total Expenses}}$$

SECONDARY RESERVE RATIO

The analyst may continue the inquiry into the strength of institutional reserves by calculating an ancillary ratio. The Secondary Reserve Ratio is nonexpendable (permanently restricted) net assets over total expenses. The numerator is found on the institution's balance sheet; the denominator is the same as the denominator in the Primary Reserve Ratio. It is calculated as follows:

$$\frac{\text{Nonexpendable Net Assets}}{\text{Total Expenses}}$$

This ratio provides an assessment of the significance of permanently restricted net assets in relation to operating size. These reserves are nonexpendable, meaning the principal cannot be spent. This ratio is important because in the long run, permanently restricted net assets may provide a significant stream of secondary financing for operating and plant requirements.

There is presently no threshold to indicate how large the Secondary Reserve Ratio should be; however, it is clear that the higher the value of this ratio, the more favorable the institution's financial condition. A declining trend in this ratio signifies a weakening financial condition. Unquestionably, institutions should strive to increase permanently restricted net assets faster than operating size. This condition will signal an improvement in the institution's capital base and increased flexibility in its long-term financial condition.

CHAPTER FOUR:

MEASURING OPERATING RESULTS



Introduction

Ratios Measuring Operating Results

- Net Income Ratio
- Cash Income Ratio
- Operating Income Ratio
 - Net Tuition Dependency Ratio
 - Net Tuition per Student FTE Ratio
 - Net Auxiliary Income Ratio
 - Net Hospital Income Ratio
- Contributed Income Ratio
- Educational Core Services Ratio
- Educational Support Ratio
- General Support Ratio
- Facilities Maintenance Ratios
 - Maintenance Ratio
 - Deferred Maintenance Ratio

INTRODUCTION

The ratios in this chapter and chapter 6, “Measuring Strategic Management of Debt,” are based on the premise that institutional financing can be grouped into three streams: operating income, contributed income, and inflows from capital markets. To the extent an institution is unable to cover its operating and capital needs through the first two sources, it may need to dip into its reserves (unrestricted net assets) accumulated from prior years’ activity. When it is considered inadvisable to use reserves for capital needs, the institution may turn to the debt markets for financing. A significant business issue facing institutions in the 21st century will be financing the future operating and capital needs of the institution to maintain or transform the mission. These ratios focus on the contribution that each major stream makes to institutional financing.

As with the ratios in the previous chapter, no analysis should be conducted without putting these resource ratios within the perspective of the institution’s mission and other strategic initiatives. This is especially important in performing a trend analysis. When examining movement in trends, it is vital for the analyst to consider change in the strategic initiatives and the mission of the institution.

For most colleges and universities, expenses related to educational and general functions are paramount. The ratios in this chapter determine whether a particular category of expense is using an increasing or decreasing share of the total income available to the institution. The analysis is structured between expenses devoted to core services and expenses devoted to support services. *Core services* are services directly related to the mission of the institution. *Support services* are activities designed to help carry out the core services.

The ratios consider the allocation of “nonprogram” costs into the program areas. Institutions are required to allocate costs such as depreciation, interest, and operations and maintenance of facilities into the categories that “consume” these costs. An alternative presentation that some institutions have adopted for the statement of activities is the display of expenses by natural classification; that is, salaries, benefits, depreciation, etc. If this option is selected, expenses by program must be presented in the notes to the financial statements.

RATIOS MEASURING OPERATING RESULTS

NET INCOME RATIO

This ratio, discussed in detail in chapter 2, indicates whether total unrestricted activities resulted in a surplus or a deficit. It is calculated both with, and without, an operating indicator, as follows:

Using an Operating Indicator

$$\frac{\text{Excess (Deficiency) of Unrestricted Operating Revenues Over Unrestricted Operating Expenses}}{\text{Total Unrestricted Operating Income}}$$

Using Change in Unrestricted Net Assets

$$\frac{\text{Change in Unrestricted Net Assets}}{\text{Total Unrestricted Income}}$$

CASH INCOME RATIO

The inquiry into net income may be further understood with the Cash Income Ratio. While the change in unrestricted net assets is an important representation of institutional performance, it is based on accrual accounting principles. Also of interest is the institution's cash position, given that the institution requires cash to operate. Since SFAS No. 117 requires a statement of cash flows, the analyst should use this cash flow information to delve into the issue of the strength and quality of the income stream that was examined initially in the Net Income Ratio.

Net income, which is defined as the change in unrestricted net assets, includes accruals and noncash charges (for example, depreciation). To examine the strength of the net income that contributes to net cash inflows, institutions may find it useful to relate cash flow from operations to total revenues.

To do so, cash flow from operations should be examined as a percentage of income in the Cash Income Ratio, which is calculated as follows:

$$\frac{\text{Net Cash Provided by Operating Activities}}{\text{Total Unrestricted Income, Excluding Gains}}$$

The numerator is composed of net cash provided by or used for operating activities. This information is obtained from the institution's statement of cash

flows. The denominator is total unrestricted income, excluding gains (or losses). This includes unrestricted revenues, including net assets released from restrictions. Both realized and unrealized gains (losses) are excluded because they are usually related to investing activities. Temporarily restricted revenues are not included because these funds are accounted for in net assets released from restrictions. Permanently restricted revenues are excluded because they are generally considered financing activities rather than operating activities by SFAS No. 117.

Illustration of Cash Income Ratio

The Cash Income Ratio for the current year is 8.50 percent, up from the previous year's ratio of 7.38 percent. This indicates that Utopia U.'s liquidity has strengthened in the past year, giving the institution a greater amount of flexibility in its operations. Note that with the implementation of the *Audit Guide*, total unrestricted income is now depressed by scholarship allowances. This has the effect of improving this ratio. Prior to implementation of the *Audit Guide*, the value of this ratio would have been a full percentage point lower in both the current year and in the prior year.

	Current (in thousands)	Prior
Numerator: Net cash provided by operating activities	\$ 5,928	\$ 5,315
Denominator: Total unrestricted income, excluding gains		
+ Total unrestricted revenues and gains	68,017	66,283
+ Investment return in excess of spending rate	693	2,816
+ Net assets released from restrictions	2,049	5,261
- Net unrestricted realized gains*	(745)	(518)
- Net unrestricted unrealized appreciation*	(277)	(1,857)
Denominator: Total unrestricted income, excluding gains	\$69,737	\$71,985
Value of ratio	8.50%	7.38%

*These amounts may not be readily apparent from the financial statements since the statement of cash flows is not completed on a net asset classification basis.

OPERATING INCOME RATIO

This ratio focuses on inflows from fees for services provided by the institution. Management decisions and market responses — including those concerning student recruitment, tuition pricing, and sponsored program participation — determine the significance of operating income to the institution. The Operating Income Ratio demonstrates the extent to which current-year internally generated resources have contributed to the overall financing of the institution's operations. This ratio provides a measure of institutional self-sufficiency and an understanding of dependence on markets served. Additionally, it serves to highlight the variability of this source of income and the need to maintain quality and market demand.

Trends are extremely important in analyzing this ratio. A declining trend over time indicates weakening financial performance from self-generated activities. Such a decline will need to be offset by funding sources.

The Operating Income Ratio is calculated as follows:

$$\frac{\text{Operating Income}}{\text{Educational and General Expenses}}$$

The numerator comprises the sum of all self-generated income other than investment income, contributions, and net assets released from restrictions. The first item in the numerator is net tuition: tuition and fees less scholarship allowances. Consistent with the requirements of the *Audit Guide*, “unfunded” financial aid is a discount on tuition revenue.

The numerator also includes state and federal appropriations to independent universities (these appropriations apply to few independent colleges and universities), the surplus or deficit created by auxiliary operations, and other income. These items can all be found on the institution’s statement of activities.

The denominator of this ratio is total expenses from the statement of activities less auxiliary expenses and hospital expenses. Auxiliary expenses and hospital expenses are removed to determine educational and general expenses.

Illustration of Operating Income Ratio

The Operating Income Ratio for the current year is 92 percent, up from 89 percent in the previous year. This indicates that 92 percent of Utopia's educational and general expenses were covered by revenues that were internally generated. Whether the increase between the prior year and the current year is a significant or ongoing trend can only be determined using trend analysis.

There is no correct or incorrect threshold for this ratio. However, viewed over a period of time, an institution will have insight into the sources of funds and whether that is consistent with the parameters of the institutional strategic direction.

	Current	Prior
	(in thousands)	
Numerator: Operating income		
+ Tuition and fees	\$60,374	\$59,045
- Scholarship allowances	(14,538)	(12,769)
+ State grants and contracts	1,194	1,184
+ Federal grants and contracts	1,467	1,204
+ Interest on loans receivable	37	24
+ Other sources	628	892
+ Auxiliary revenues	14,800	13,811
- Auxiliary expenses	(10,016)	(11,093)
Numerator: Operating income	\$53,946	\$52,298
Denominator: Educational and general expenses		
+ Total expenses	68,469	69,803
- Auxiliary expenses	(10,016)	(11,093)
Denominator: Educational and general expenses	\$58,453	\$58,710
Value of ratio	92%	89%

Several other ancillary ratios may provide additional information about the strength of the funds available to an institution. (See appendix D for specific ratio formulas.) Heavily tuition-dependent institutions (that is, institutions that receive more than 60 percent of their revenue from tuition) are particularly sensitive to changes in enrollment patterns. Such institutions may wish to track their degree of dependency by using the *Net Tuition Dependency Ratio*, which measures tuition and fees less all financial aid — both scholarship allowances and scholarships funded by various sources — as a percentage of operating income (as defined above in the Operating Income Ratio). This ratio measures the resources the institution receives directly from students. Another important measure used to examine net tuition is the *Net Tuition per Student Full Time Equivalent (FTE) Ratio*. This ratio allows the institution to see the average amount of actual revenue on a per-student basis.

These two ratios behave differently. An *increase* in the Net Tuition per Student FTE Ratio is a positive occurrence; however, a *decrease* in the Net Tuition Dependency Ratio usually benefits the institution. A downward trend in the Net Tuition Dependency Ratio is considered a positive occurrence because it usually indicates that the institution is increasing its diversity in funding sources. Such diversity may protect an institution from economic cycles. For instance, a drop in enrollment may occur in the same year that an institution experiences high investment return. However, downward trends must be interpreted with caution. A decrease in the numerator and no change in the denominator would also produce a downward trend — but in this case one with clearly negative implications.

Those institutions that may wish to continue the inquiry into operating income should calculate a subsidiary ratio called the *Net Auxiliary Income Ratio*. The Net Auxiliary Income Ratio shows whether the revenues in support of auxiliary enterprises — housing, food service, the bookstore, parking, and the like — exceed expenses for those services. The numerator includes total auxiliary enterprise revenues less total auxiliary enterprise expenses. The denominator includes total auxiliary enterprise revenues. All revenues for educational and general activities, intercollegiate athletics, hospitals, and independent operations are excluded.

Similarly, universities with hospitals may wish to calculate the *Net Hospital Income Ratio*, which indicates whether the university hospital creates a surplus or deficit and measures the size of the surplus or deficit in relation to total hospital revenues. Like the Net Auxiliary Income Ratio, the numerator includes total hospital revenues less total hospital expenses. The denominator includes total hospital

revenues. All revenues for educational and general activities, intercollegiate athletics, auxiliaries, and independent operations are excluded.

CONTRIBUTED INCOME RATIO

Institutions receive contributions from alumni, other individuals, corporations, and foundations. The Contributed Income Ratio demonstrates the extent to which externally generated resources other than debt have contributed to the institution's overall funding. It also demonstrates the institution's dependence on these resources to finance operations. This ratio is calculated as follows:

$$\frac{\text{Contributed Income}}{\text{Educational and General Expenses}}$$

The numerator consists of unrestricted contributions to the institution and net assets released from restrictions (which are often the result of prior-year contributions), both available from the statement of activities. The denominator is the same as the denominator in the preceding Operating Income Ratio. It is calculated as total expenses from the statement of activities less auxiliary expenses and hospital expenses.

Once again, trends in this ratio are extremely important to monitor because contributed income may be significant to the institution. Decreasing ratios indicate that contributed income is declining or that expenses are rising faster than contributions. Certainly, a decline in this ratio must be offset by increasing other sources of funds or decreasing operating costs.

Illustration of Contributed Income Ratio

A Contributed Income Ratio of 8 percent, down from 12 percent in the prior year, indicates that Utopia U. has a low and decreasing reliance on externally generated income to cover educational and general expenses. This is due to a decline in external sources of unrestricted revenues or a more rapidly growing base of educational and general expenses. In this case, it appears that the decrease is due to a sizable amount of net assets released from restrictions in the prior year. Unrestricted private gifts and grants actually grew by nearly 75 percent between the two years.

	Current	Prior
	(in thousands)	
Numerator: Contributed income		
+ Unrestricted private gifts and grants	\$ 2,598	\$ 1,523
+ Net assets released from restrictions*	2,049	5,261
Numerator: Contributed income	\$ 4,647	\$ 6,784
Denominator: Educational and general expenses		
+ Total expenses	68,469	69,803
- Auxiliary expenses	(10,016)	(11,093)
Denominator: Educational and general expenses	\$58,453	\$58,710
Value of ratio	8%	12%

* For some institutions, this release may include gains on investments. If so, the gains should be excluded from the calculation if identified in the financial statements.

EDUCATIONAL CORE SERVICES RATIO

This ratio analyzes whether core services are using a growing or dwindling share of institutional resources. Core services are defined as the functional categories of expense directly linked to the mission of the organization.

$$\frac{\text{Educational Core Services Expenses}}{\text{Educational and General Income}}$$

The numerator includes instruction, research, and public service. The denominator is composed of total unrestricted revenues and other additions from the statement of activities, including net assets released from restrictions for the fiscal year. Hospital revenues and auxiliary revenues should be removed from this number.

The expense categories included in the numerator of this ratio are defined as follows:

- **Instruction.** This function comprises all direct instructional expenses of the institution, including those for undergraduate, graduate, and professional schools as well as those for evening, extension, and continuing education programs. Also included are departmental research not separately budgeted and organized activities related to educational departments. Instructional expenses encompass both credit and noncredit courses; occupational, vocational, and remedial instruction; the instructional departments' portion of work-study programs; and staff benefits. Excluded are academic administration when administration is the primary assignment, faculty development, and intercollegiate athletics. Indirect costs include allocation of depreciation, interest, and operations and maintenance of plant.
- **Research.** This element comprises all direct expenses for activities specifically organized to produce research outcomes — both those sponsored by external agencies and separately budgeted programs of the institution. Sponsored teaching programs and sponsored nonresearch programs are excluded. Indirect costs include allocation of depreciation, interest and operation, and maintenance of plant. Note that for research institutions, the total expenses captioned as “research” in the financial statements are likely to be substantially different from the modified direct cost base in a sponsored research proposal.
- **Public Service.** This category is composed of expenses for activities to provide noninstructional services to individuals and groups external to the institution. It includes off-campus work-study programs, conferences, and seminars. Public relations for the institution, alumni activities, and development activities are excluded. Indirect costs include allocations of depreciation, interest and operations, and maintenance of plant.

Illustration of Educational Core Services Ratio

The Educational Core Services Ratio for Utopia U. is currently 55 percent. This indicates that more than half of all income is allocated to educational core services. As in the Operating Income Ratio and the Contributed Income Ratio, the institution must understand long-range historical trends to understand fully the implications of this ratio.

	Current (in thousands)	Prior
Numerator: Educational core services expenses		
+ Instruction	\$30,854	\$30,946
+ Research	57	1
+ Public service	42	0
Numerator: Educational core services expenses	\$30,953	\$30,947
Denominator: Educational and general income		
+ Total unrestricted revenues and gains	68,017	66,283
+ Investment return in excess of spending rate	693	2,816
+ Net assets released from restrictions	2,049	5,261
- Auxiliary revenue	(14,800)	(13,811)
Denominator: Educational and general income	\$55,959	\$60,549
Value of ratio	55%	51%

EDUCATIONAL SUPPORT RATIO

The purpose of this ratio is to analyze whether educational support services are using a growing or dwindling share of institutional resources. Support services are defined as the functional categories of expense that are ancillary, but directly related, to the mission of the institution.

$$\frac{\text{Educational Support Expenses}}{\text{Educational and General Income}}$$

The numerator is the total of academic support and student services from the statement of activities. The denominator is the same as the denominator in the preceding Educational Core Services Ratio.

The expenses included in this ratio are defined as follows:

- **Academic Support.** This is composed of all direct expenses that provide a support service to the instructional, research, and public service functions. It includes libraries, audiovisual facilities, museums, galleries, academic computing support, academic administration, faculty development, demonstration schools, and medical clinics when the hospital is independent of the institution. Also included is the academic support portion of work-study programs and staff benefits. Indirect expenses include allocation of depreciation, interest, and operation and maintenance.
- **Student Services.** This comprises all direct expenses for functions that contribute to the health and well-being of the student: admissions and registrar's office, offices of the deans of student affairs, financial aid offices, medical services operated for students, any activities that contribute to the student's cultural and social development (such as cultural events, newspapers, yearbooks, intramural athletics), day care for students' children, and counseling and guidance. Also included are the student services portion of work-study programs and staff benefits. Intercollegiate athletics are excluded. Indirect expenses include allocation of depreciation, interest, and operation and maintenance of plant.

Illustration of Educational Support Ratio

The Educational Support Ratio for Utopia U. is currently 31 percent (up from 30 percent in the prior year). This indicates that the institution has maintained a relatively stable level of educational support expenses relative to its income during the past two years. This should be construed as a positive indication of performance. However, the institution must consider its long-range historical trends to fully understand the implications of this ratio.

	Current	Prior
	(in thousands)	
Numerator: Educational support expenses		
+ Academic support	\$ 7,305	\$ 7,153
+ Student services	10,012	10,821
Numerator: Educational support expenses	\$17,317	\$17,974
Denominator: Educational and general income		
+ Total unrestricted revenues and gains	68,017	66,283
+ Investment return in excess of spending rate	693	2,816
+ Net assets released from restrictions	2,049	5,261
- Auxiliary revenue	(14,800)	(13,811)
Denominator: Educational and general income	\$55,959	\$60,549
Value of ratio	31%	30%

GENERAL SUPPORT RATIO

This ratio analyzes whether general support expenses are using a growing or dwindling share of institutional resources. These expenses are indirectly related to mission. It is calculated as follows.

$$\frac{\text{General Support}}{\text{Educational and General Income}}$$

The numerator is composed of institutional support expenses. The denominator is the same as the denominator in the two preceding ratios, Educational Core Services and Educational Support.

- **Institutional Support.** This is composed of all direct expenses that relate to the day-to-day operations or business management of the institution. These

include expenditures for activities such as the central administration, governing board, planning, fiscal operations, legal services, institutional research, computing support, human resources, logistical activities, security, transportation, alumni, public relations, fund-raising, development, and other miscellaneous operational expenditures. Also included are the institutional support portion of work-study programs and staff benefits. Expenses for other departmental staff benefits, the registrar's office, the admissions office, the financial aid office, the academic dean's office, academic computing, payments of principal and interest on plant debt, the student newspaper, and the yearbook are not included. Indirect expenses include allocation of depreciation, interest, and operation and maintenance of plant.

Illustration of General Support Ratio

The General Support Ratio for Utopia is currently 18 percent, up from 16 percent in the previous year. This seems to indicate that, over the short term, general support expenses have been relatively stable as compared to total income (unrestricted revenues, gains, and other support).

	Current	Prior
	(in thousands)	
Numerator: General support		
Institutional support	\$10,183	\$ 9,789
Denominator: Educational and general income		
+ Total unrestricted revenues and gains	68,017	66,283
+ Investment return in excess of spending rate	693	2,816
+ Net assets released from restrictions	2,049	5,261
- Auxiliary revenue	(14,800)	(13,811)
Denominator: Educational and general income	\$55,959	\$60,549
Value of ratio	18%	16%

The Educational Core Services Ratio, the Educational Support Ratio, and the General Support Ratio are especially useful in trend analysis. An examination of movement over time will determine whether a particular category is obtaining a growing or dwindling share of total income available. These ratios are also valuable for interinstitutional comparisons. Differences in results among similar

institutions may lead to profitable explorations of underlying conditions. For example, administrators may ask, Why does our institution spend proportionally more of its available resources on general support than do other institutions, and thus have fewer funds to put into educational core services? Institutions with higher ratios in certain support costs, especially general support, may need to consider cost reductions (perhaps by reengineering work processes or by outsourcing) and reallocation of savings to core services.

In addition to the core and support ratios, an analyst may wish to examine *Natural Classification Ratios*. An analysis by natural classification, if available, may be highly instructive. Ratios using natural — or object of expense — classification might include salaries and wages to income, or supplies and travel to income. Examples of other expenses reported by natural classification might include rent, electricity, interest expense, depreciation, and professional fees.

FACILITIES MAINTENANCE RATIOS

Facilities are a significant resource needed by every institution to achieve its mission. Many institutions are heavily invested in classroom buildings and research and support facilities. Since, of course, facilities wear out over time — hence the accounting term *wasting asset* — higher education institutions (and other organizations) have tended to ignore the hidden cost of deferred maintenance, especially as facilities become worn and require increasing improvements to satisfy student and faculty needs. As we enter the 21st century, it is increasingly important to measure the financial resources that an institution devotes to maintaining the physical plant and the outstanding deferred maintenance that may be a significant future liability. These resources can be measured using the Facilities Maintenance Ratios.

Maintenance Ratio

The Maintenance Ratio assumes that the institution must generate a sufficient stream of income to support its operations and maintain its plant. The Maintenance Ratio is determined as follows:

$$\frac{\text{Operations and Maintenance of Plant}}{\text{Educational and General Income}}$$

The numerator is no longer evident from the statement of activities. Each institution wishing to calculate this ratio will be required to obtain the information prior to its allocation to program areas. Some institutions have chosen to present

the amount in the note to financial statements. The denominator, available from the balance sheet, is the same denominator used in the preceding three ratios.

“Operations and Maintenance of Plant” is allocated to other expense categories, as described above. This includes all current operating expenses related to the general operation and maintenance of the physical plant. It includes utilities and maintenance, fire protection, property insurance, and the plant portion of work-study programs and staff benefits. Principal and interest payments on plant, security, and transportation are excluded.

This ratio highlights the percentage of educational and general income allocated to plant maintenance. A downward trend in this ratio would suggest that the institution is not keeping up with its historical commitment to maintaining the plant. Perhaps more important would be a comparison with other institutions with a similar age of plant (see “Age of Facility Ratio” in chapter 6) in the same geographic region.

Deferred Maintenance Ratio

The Deferred Maintenance Ratio is helpful for those institutions concerned about their deferred maintenance. This ratio measures the size of the institution’s outstanding maintenance requirements as compared to its expendable net assets. An increasing ratio is an indicator of growing deferred maintenance and an aging plant. A decline in the Deferred Maintenance Ratio must be viewed in the context of other issues affecting the institution, such as large investments in new facilities. Generally, an institution should periodically assess its facilities and equipment at the building and program levels to make a reasonable estimate of the amount of deferred maintenance. The ratio is calculated as follows:

Outstanding Maintenance Requirements

Expendable Net Assets

The numerator of this ratio is not available from the financial statements. To obtain the numerator, the institution must assess the condition of its fixed assets as if maintenance needs were performed all at once rather than as budget appropriations permit. In other words, the numerator should include all maintenance obligations that are currently outstanding — not just those that the institution will be able to address in the current year. If this ratio is to be applied correctly, the institution must develop a consistent year-to-year definition of deferred maintenance. The denominator is equal to expendable net assets, as described in the definition of the

Primary Reserve Ratio. It includes unrestricted net assets and temporarily restricted net assets less plant equity.

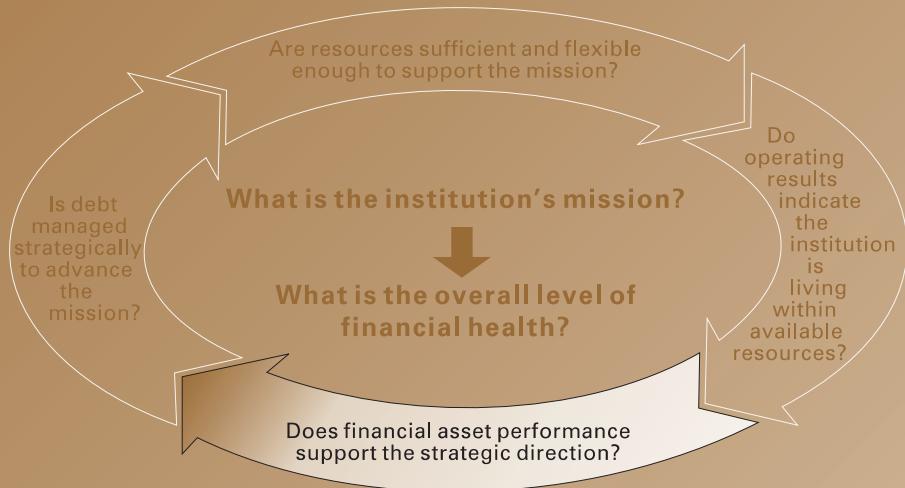
This ratio shows whether the institution has sufficient expendable net assets to fund identified deferred maintenance needs. A high ratio indicates a serious financial condition. The institution, in such cases, must consider additional funding of deferred maintenance.

The Deferred Maintenance Ratio should be assessed in conjunction with ratios that track the institution's ability to raise funds from external sources. If the institution has little or no plant debt, high unrestricted net assets, and relatively low expenses, an institution might choose to turn to other sources of funding to address its deferred maintenance needs. However, if the institution borrows to fund deferred maintenance, the institution will need to consider carefully the financial burden it places on future generations in terms of interest and principal payments. In an ideal world, interest payments would extend for the life of the facilities repaired.

And finally, should the analyst wish to perform a more detailed analysis, ratios may be calculated for each source of funding as a percentage of total educational and general expenses.

CHAPTER FIVE:

MEASURING FINANCIAL ASSET PERFORMANCE



Introduction

Ratios Measuring Financial Asset Performance

Return on Net Assets Ratio

Capitalization Ratio

Composition of Equity Ratio

Return on All Investments Ratio

INTRODUCTION

Institutions often are concerned about whether the rate of growth in their net assets is sufficient to support the institution over time. If net assets continue to grow each year, the institution is presumed wealthier than it was the previous year. However, the rate of growth, in relation to commitments made, and the type of net asset growth are better indicators of whether the institution is improving its financial ability to achieve its strategic objectives. In addition to identifying the actual increase in net assets, it is useful to analyze the institution's capitalization and the composition of its equity among physical and financial assets. The ratios in this chapter strive to address the following questions:

- Is the institution better off financially at the end of the year than at the beginning of the year?
- Does the institution's capitalization provide sufficient future flexibility?
- Is the institution sufficiently invested in financial assets to continue expanding its equity?
- Is the institution appropriately invested and maximizing its return for an appropriate level of risk?

The ratios supporting the core Return on Net Assets Ratio are new to this edition of *Ratio Analysis in Higher Education*. Although there is no capital structure or equity composition that is appropriate for all institutions, the ancillary ratios do provide insight into the flexibility that the institution has to respond to additional opportunities and capital needs. These ratios also provide an indication as to whether the institution has a sufficient amount of financial assets necessary to continue growing its wealth, especially in relation to its peers.

RATIOS MEASURING FINANCIAL ASSET PERFORMANCE**RETURN ON NET ASSETS RATIO**

The lead ratio for gauging financial performance is the Return on Net Assets Ratio, discussed in detail in chapter 2. This ratio furnishes a broad measure of the change in an institution's total wealth over a single year and is based on the level and change in total assets, regardless of asset classification. Thus, the ratio provides the most comprehensive measure of the growth or decline in total wealth of an institution over a specific period of time. As stated earlier, it is calculated as follows:

Change in Net Assets
Total Net Assets

Because the Return on Net Assets Ratio is affected by a number of potentially volatile items, it is important that the institution understand the causes of the change in this ratio from year to year, as well as project this ratio under a variety of future assumptions. If, for example, large investment returns are providing a substantial percentage of the increase in net assets, any market correction could have negative implications, possibly impacting program financing.

CAPITALIZATION RATIO

The Return on Net Assets Ratio indicates an institution's flexibility to respond to additional capital or programmatic needs over a specified period of time. An analyst may also find it helpful to determine the total financial flexibility of the institution, which is based not only on the current period's return, but the accumulated return from previous periods as well.

This edition of *Ratio Analysis* introduces a new ratio to measure an institution's financial flexibility, known as the Capitalization Ratio. This ratio is defined as:

Modified Net Assets
Modified Total Assets

The modifications include eliminating intangible assets, such as goodwill and intercompany receivables. Today, for most institutions the ratio will simply be net assets divided by total assets. However, as institutions begin to become involved in collaborative activities, these adjustments may assume a larger role in calculating this ratio.

Unlike many of the other ratios presented in this book, a higher ratio is not necessarily preferable to a lower ratio. A very high Capitalization Ratio implies that an institution may not be leveraging its assets effectively and investing too much costly equity in physical assets. However, an institution with a high ratio does benefit from enormous future financing flexibility, a major benefit that may sometimes be overlooked.

Institutions with low ratios will find themselves constrained, and have less ability to undertake future capital opportunities without negatively impacting credit. The higher education industry, like other industries, has an appropriate leverage factor, and therefore a desirable range for a Capitalization Ratio. The desirable boundaries for the ratio are 50 percent and 85 percent. Absent unusual circumstances,

institutions above 85 percent may find it in their best interest to consider altering their capitalization structure, and leveraging their assets to potentially increase income and future financial wealth.

Those schools below or near the bottom of the range may find their ability to borrow additional funds limited without making difficult tradeoffs. They will have reduced flexibility to respond to future events that may require the expenditure of capital, thereby potentially compromising their strategic advantage. The utilization of a formal debt policy will help the university understand its capitalization structure and evaluate future financing flexibility. The institution should set internal guidelines for the Capitalization Ratio range that it deems most appropriate to fulfill its current strategic initiatives.

Illustration of Capitalization Ratio

The Capitalization Ratio for the current year is 64 percent, up slightly from 62 percent in the previous year. This indicates that Utopia is in the lower range of the desired Capitalization Ratio, and although it has sufficient flexibility to respond to typical needs, it may find it difficult to undertake a major capital improvement plan not funded in large part by additional gifts.

	Current	Prior
	(in thousands)	
Numerator: Modified net assets	\$100,620	\$ 96,030
Denominator: Modified total assets	\$157,881	\$153,855
Value of ratio	64%	62%

COMPOSITION OF EQUITY RATIO

While the Capitalization Ratio is useful in identifying the total flexibility of an institution by measuring its capitalization structure, the Composition of Equity Ratio provides useful insights into the allocation of equity among different types of assets, primarily financial and physical. Together, these ratios help an analyst understand the institution's flexibility and whether its asset structure is in equilibrium.

As discussed previously, institutions at the low end of the Capitalization Ratio range have limited future flexibility to respond to unanticipated capital needs without compromising credit or forcing difficult tradeoffs. The Composition of Equity Ratio helps evaluate what equity resources the institution has available to meet these needs.

If the equity is weighted heavily in property, plant, and equipment, the institution has less ability to allocate internal funds to new initiatives than an institution with a similar Capitalization Ratio that is more heavily allocated in investments.

An institution whose equity is comprised primarily of physical assets will be reducing its opportunity to increase expendable wealth if the physical assets do not directly generate a return on invested equity. This may place the institution at a competitive disadvantage versus its peers in the future, unless the investment in physical facility produces increased revenue, such as new research space, new dormitories to serve unfilled demand, or fee-generating facilities. Therefore, the Composition of Equity Ratio provides an indication of the equilibrium of investment for an institution because it recognizes the tradeoffs between investment for the current generation (physical assets) and investment for future generations (financial assets).

The Composition of Equity Ratio broadly sums up financial assets in the numerator and physical assets in the denominator. Financial assets include all assets on the statement of financial position other than property, plant, and equipment. The ratio is calculated as follows:

$$\frac{\text{Financial Assets}}{\text{Physical Assets}}$$

This ratio should help an institution understand its ability to produce return on net assets. Stronger institutions typically exhibit a ratio in excess of 1, which would indicate financial resources have been retained within the institution at a rate exceeding the need for capital investment. A ratio of less than 1 would be an indicator of a lower Return on Net Assets Ratio, in a rising market situation.

Illustration of Composition of Equity Ratio

The Composition of Equity Ratio for the current year is 1.03X, up slightly from .94X in the previous year. Utopia crossed the threshold of 1 in the current year.

	Current	Prior
	(in thousands)	
Numerator: Financial assets		
+ Total assets	\$157,881	\$153,855
- Property, plant, and equipment, net	(77,900)	(79,305)
Numerator: Financial assets	\$ 79,981	\$ 74,550
Denominator: Physical assets		
Property, plant, and equipment, net	\$ 77,900	\$ 79,305
Value of ratio	1.03X	.94X

RETURN ON ALL INVESTMENTS RATIO

The Return on All Investments Ratio calculates the investment return on an institution's total asset base, unlike conventional measures of return, which calculate the gain on investments. In order to meet future mission-related needs, an institution's total asset base must continue to grow. A portion of that growth should be received from investment return.

Equity tends to represent an institution's most expensive source of capital. However, since it represents an opportunity cost in the form of foregone investment earnings rather than an actual expense, such as interest expense, it sometimes is difficult to measure the actual cost to the institution in terms of the foregone earnings. This ratio provides a method to quantify this impact.

The ratio is calculated as follows:

$$\frac{\text{Total Investment Return}}{\text{Average Modified Invested Assets}}$$

The numerator, total investment return, is comprised of investment income, net realized gains, and net unrealized gains, all found on the statement of activities. The denominator, average modified invested assets, is comprised of cash and cash

equivalents, investments, and property, plant, and equipment, net. The average is calculated by using the beginning of the year and the end of the year balances. The items included in the denominator are found on the statement of financial position.

Because this ratio is highly dependent on market forces and an institution's financial asset allocation model, it needs to be interpreted against a benchmark return, such as the Standard and Poor's 500 Index. It is actually the relative level of the return that is useful for analysis. Because an institution's assets will not be comprised totally of financial assets, the return should be below the benchmark. The difference between the benchmark return and the Return on All Investments Ratio provides a rough guide to the marginal cost of allocating equity to finance capital projects, rather than keeping those funds invested and utilizing external funds to finance the projects.

There is no appropriate range for this ratio. Rather, it should be compared with the reported return on the institution's financial assets.

A low Return on All Investments Ratio combined with a high Capitalization Ratio and a low Composition of Equity Ratio may indicate that the university is too heavily invested in physical assets, potentially at the expense of the future, since investment returns are being held down. The potential to earn added returns by increasing the amount of financial assets could be accomplished by utilizing borrowed funds to invest in plant rather than institutional equity.

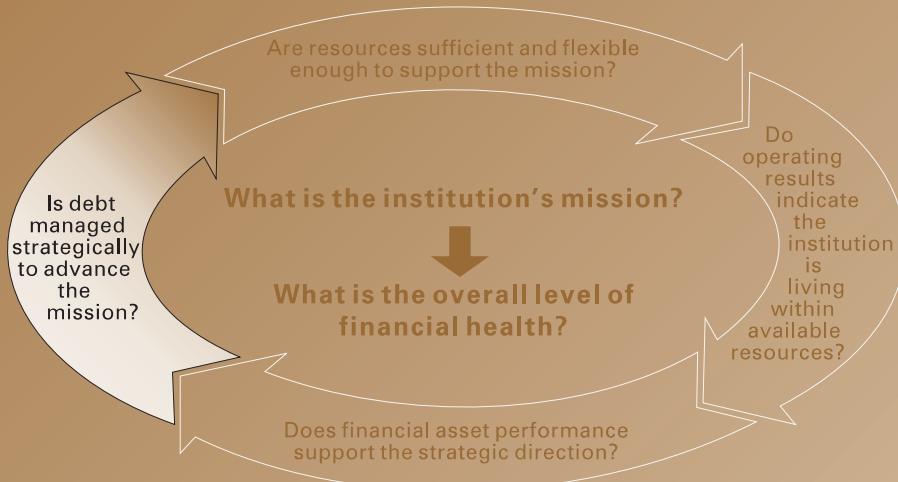
Illustration of Return on All Investments Ratio

The Return on All Investments Ratio for the current year is 2.3 percent. The prior year is not presented because average balances could not be obtained from the Utopia financial statements. In comparing the result with industry benchmarks, it is likely that investment return has been depressed due to the relatively low level of the Composition of Equity Ratio described previously.

	Current
	(in thousands)
Numerator: Total investment return	
+ Investment income in operations	\$ 1,901
+ Investment income in nonoperating items	1,400
Numerator: Total investment return	\$ 3,301
Denominator: Average modified invested assets	
+ Cash and cash equivalents	20,149
+ Investments	42,983
+ Property, plant, and equipment, net	78,603
Denominator: Average modified invested assets	\$141,735
Value of ratio	2.3%

CHAPTER SIX:

MEASURING STRATEGIC MANAGEMENT OF DEBT



Introduction

Ratios Measuring Strategic Management of Debt

Viability Ratio

Debt Burden Ratio

Debt Coverage Ratio

Leverage Ratio

Age of Facility Ratio

Ratios as One Component of Credit Analysis

Preserving Future Flexibility — Credit Enhancement

Trends in Not-for-Profit Finance

Definition of Debt

Blended Billing Rate

Components of a Debt Policy

INTRODUCTION

Capital for land, buildings, and equipment generally comes from three primary sources: internally generated funds, contributed funds, and borrowed funds. Internally generated funds and contributed funds represent institutional equity. The ratios in this chapter focus on borrowed funds, including money purchase agreements, operating and capital leases, and debt obligations. They attempt to answer the question, Have we managed debt strategically to advance the mission? At the same time, these ratios will also help the institution understand how analysts, as well as lenders and purchasers of debt, will evaluate its ability to assume and pay debt.

Methods for accessing additional resources to support institutional objectives include the issuance of debt and the utilization of alternate financing structures. If the debt that is incurred is used to support the mission, the institution will be in a better position to achieve its long-term goals. In contrast, if the debt is used to fund activities that do not take advantage of its competitive strengths, the financial situation is likely to erode, as debt capacity may cover too broad a range of activities. Thus, the school would be no closer to having the resources needed to achieve its strategic objectives. If the institution remains focused on its mission, it can utilize leverage effectively to deploy additional resources to achieve its long-term goals.

How much debt can an institution afford? Debt may provide a significant source of additional funding — but also a burden for future generations forced to assume principal and interest payments. Calculating and planning for additional debt must be done with care. Additional budget planning is needed and internal projections are appropriate, especially since the cost of a new facility is not only debt service, but also maintenance and depreciation costs.

An institution should adopt a formal debt policy that provides a framework to help determine its own capital priorities and identify the most appropriate funding sources. Following the presentation of the core and ancillary ratios, the discussion focuses on how to begin developing a debt policy and offers guidance to institutions reevaluating their financial needs.

Since the first edition of *Ratio Analysis in Higher Education* was published, financial ratios have increasingly found their way into loan agreements and trust indentures in the form of financial performance covenants. These covenants, typically expressed in terms of an upper (or lower) acceptable level of a particular financial ratio, serve to protect investors' or lenders' security by preserving existing levels of liquidity or financial leverage.

RATIOS MEASURING STRATEGIC MANAGEMENT OF DEBT

The following five main debt management ratios indicate an institution's ability to assume new debt. In interpreting these ratios, be aware that a decrease in one ratio or an increase in another is by itself not the final determinant of whether debt financing is available to the institution. Other matters are important in assessing creditworthiness, such as the quality of management. There is, therefore, no simple answer to the question, How much debt can an institution afford?

VIABILITY RATIO

The Viability Ratio, discussed in detail in chapter 2, measures one of the most basic determinants of clear financial health: the availability of expendable net assets to cover debt should the institution need to settle its obligations as of the balance sheet date. The formula for this ratio is:

$$\frac{\text{Expendable Net Assets}}{\text{Long-Term Debt}}$$

DEBT BURDEN RATIO

This ratio examines the institution's dependence on borrowed funds as a source of financing its mission and the relative cost of borrowing to overall expenditures. It compares the level of current debt service with the institution's total expenditures. Debt service includes both interest and principal payments. This ratio is calculated as follows:

$$\frac{\text{Debt Service}}{\text{Total Expenditures}}$$

The numerator of this ratio includes interest on all indebtedness, which is approximated by interest paid, plus the current year's principal payments; both are available from the statement of cash flows. However, if an institution has refinanced debt, the statement of cash flows would present a large principal repayment amount. In these cases, the contractual principal repayment amount would be the more appropriate amount to use. This can usually be found in the notes to financial statements.

The denominator is total expenses (from the statement of activities) less depreciation expense plus debt service principal payments. Investment bankers have identified an upper threshold for this ratio at 7 percent, meaning that current principal and interest expense should not be greater than 7 percent of total expenditures.

While 7 percent is a generally accepted threshold, it is important to note that institutions that exceed 7 percent will not necessarily be excluded from obtaining additional external funding. It is clear, however, that institutions above this threshold will face greater scrutiny from rating agencies and lenders.

Since debt service is a legal claim on resources, the higher the ratio the fewer the resources available for other operational needs. A level trend or a decreasing trend indicates that debt service has sufficient coverage without impinging further on financial resources required to support other functional areas. On the other hand, a rising trend in this ratio usually signifies an increasing demand on financial resources to pay back debt.

Illustration of Debt Burden Ratio

The Debt Burden Ratio for Utopia U. has decreased from 6 percent in the prior year to 5 percent in the current year. Since the Debt Burden Ratio is indicative of the institution's reliance on borrowed funds as a source of financing its mission, it would appear that Utopia is decreasing this reliance.

	Current	Prior
	(in thousands)	
Numerator: Debt service		
+ Interest expense	\$ 2,323	\$ 2,822
+ Principal payments	911	1,292
Numerator: Debt service	\$ 3,234	\$ 4,114
Denominator: Total expenditures		
+ Total expenses	68,469	69,803
- Depreciation expense	(4,083)	(3,915)
+ Principal payments	911	1,292
Denominator: Total expenditures	\$65,297	\$67,180
Value of ratio	5%	6%

For most institutions that have structured their borrowings with relatively level overall debt service, a 7 percent Debt Burden Ratio, as currently defined, is quite appropriate. However, for institutions that have employed alternate financing structures that do not utilize level debt service, this ratio may not be meaningful.

One example is an emerging trend among the largest and wealthiest universities to use a more liberal corporate debt structure that incorporates the concept of perpetual debt. Under this structure, debt is not amortized externally. Rather, it is structured with a single long-term bullet maturity with no external principal amortization. Internally, the projects that were financed initially repay principal that is recycled for loans to new projects rather than used to repay outstanding debt. Thus, the university's annual debt service obligation is for interest only.

For those schools that are utilizing a perpetual debt structure, a more useful ratio would be to calculate the interest burden, that is, interest expense divided by total expenditures. Principal is excluded from this ratio.

$$\frac{\text{Interest Expense}}{\text{Total Expenditures}}$$

Since this ratio includes interest only, the upper limit for the ratio should be less than the 7 percent identified for the Debt Burden Ratio. Since this structure of debt is appropriate only for the wealthiest institutions, it is unlikely that the level of this ratio for any single institution would increase to a level at which debt is unattainable. However, it is desirable for both management and external credit communities to have a target range for this ratio no greater than 5 to 6 percent. Universities with a perpetual debt structure should make similar modifications to replace debt service with interest expense for the other ratios that refer to debt service.

DEBT COVERAGE RATIO

This ratio measures the excess of income over adjusted expenses available to cover annual debt service payments. This is an important ratio because it gives the analyst a level of comfort that the institution has a net income stream available to meet its debt burden should economic conditions change. A high ratio is considered advantageous, while a low ratio or declining trend gives reason for concern regarding the institution's ability to sustain its operations. The ratio is calculated as follows:

$$\frac{\text{Adjusted Change in Net Assets}}{\text{Debt Service}}$$

The numerator includes the change in unrestricted net assets obtained from the statement of activities plus depreciation (because it is a significant noncash expense) and interest expense. By adding back interest expense, the ratio's

numerator presents the net inflow from operations that is available to service debt. The denominator includes debt service payments as defined in the numerator of the Debt Burden Ratio.

Illustration of Debt Coverage Ratio

The Debt Coverage Ratio for Utopia U. has decreased from 2.75X in the prior year to 2.69X in the current year.

	Current	Prior
	(in thousands)	
Numerator: Adjusted change in net assets		
+ Change in unrestricted net assets	\$2,290	\$ 4,557
+ Depreciation expense	4,083	3,915
+ Interest expense	2,323	2,822
Numerator: Adjusted change in net assets	\$8,696	\$11,294
Denominator: Debt service		
+ Interest expense	2,323	2,822
+ Principal payments	911	1,292
Denominator: Debt service	\$3,234	\$ 4,114
Value of ratio	2.69X	2.75X

LEVERAGE RATIO

In business enterprises, financial leverage typically refers to debt in relation to equity in the firm's capital structure. The more long-term debt, the greater the financial leverage the organization has assumed. Shareholders tend to benefit from strategic leverage if return on borrowed money exceeds interest costs. But leverage also means that the institution must absorb future interest and principal payments.

Even though colleges and universities do not have shareholder equity in the traditional sense, it is still very important to measure the amount of leverage on the institution's assets. The Leverage Ratio is similar to a debt-to-equity ratio. It is different from the Viability Ratio because net investment in plant is included as part of the numerator.

Available Net Assets
Long-Term Debt

The numerator includes unrestricted and temporarily restricted net assets. Unrestricted net assets include plant equity. Plant assets are presented in the financial statements at book value. Since assets represent investment in plant carried at historical cost, covenants sometimes allow the institution to obtain appraisals of its real property and improvements at highest and best use. The appraisals then are used to determine whether appropriate thresholds have been met.

The denominator includes all long-term debt. As in the Viability Ratio, the analyst should include Certificates of Participation (COPs), annual appropriations leases, minimum obligations under noncancelable operating leases, derivative activities, guarantees of affiliates' debt, money purchase agreements, and other obligations both off and on the balance sheet in the calculation of long-term debt. This information may not be available in the notes to the financial statements; however, with increasingly complex financing structures, some items that are "on-credit" are not only "off-balance sheet," but also excluded from detailed note disclosures.

Indications are that the threshold for this ratio should be 2:1 for most institutions. Were this ratio to fall below 2:1, the concern would be that the institution might have difficulty maintaining its loan repayments should long-term economic conditions impacting the institution deteriorate.

Illustration of Leverage Ratio

The value of the Leverage Ratio has increased from 2.13X in the prior year to 2.25X in the current year. This indicates that Utopia U. has a greater amount of equity as compared to its long-term debt.

	Current	Prior
	(in thousands)	
Numerator: Available net assets		
+ Unrestricted net assets	\$86,014	\$83,724
+ Temporarily restricted net assets	2,954	2,357
Numerator: Available net assets	\$88,968	\$86,081
Denominator: Long-term debt	\$39,476	\$40,387
Value of ratio	2.25X	2.13X

The Leverage Ratio looks at institutional reserves, akin to equity, in relation to debt. However, should the analyst wish to create an *Available Assets Ratio*, it is possible to do so. The numerator of the ratio, available assets, would include total assets less permanently restricted net assets. Permanently restricted net assets is used as a close approximation of permanently restricted assets. The denominator for this ratio is total liabilities. Typically, standard covenants stipulate that as long as debt is outstanding, available assets must be twice as great as general liabilities.

AGE OF FACILITY RATIO

This ratio measures the average age of total plant facilities by measuring the relationship of current depreciation to total depreciation. This ratio is important because it provides the analyst with a rough sense of the age of the facilities, and the potential need for considerable future resources to be invested in plant to cover deferred maintenance. Since deferred maintenance is not carried as an unfunded liability, the Age of Facility Ratio is based on historical accumulated depreciation. It is calculated as follows:

$$\frac{\text{Accumulated Depreciation}}{\text{Depreciation Expense}}$$

This ratio calculates the average age of plant facilities measured in years. A low ratio is better, since it indicates that an institution has made recent investments in its plant facilities, while a high ratio signifies that an institution has deferred reinvestment in plant and is likely to require a significant expenditure for plant facilities in the near future. An acceptable level for this ratio is 10 years or less for research institutions and 14 years or less for predominantly undergraduate liberal arts institutions, demonstrating that the college is making necessary reinvestment in maintaining its facilities.

As discussed in chapter 5, the Return on Net Assets Ratio can be difficult to compare among institutions, given varying degrees of deferred maintenance. The Age of Facility Ratio is designed to capture the degree of deferred maintenance, although it does not quantify the amount of reinvestment requirements based on historical cost (as evidenced by depreciation of existing assets), which significantly understates the investment necessary to bring plant up to date. This is due to the fact that historical figures do not account for inflation or technology upgrades, among other things. Additionally, this ratio does not provide a sense of whether or not the institution will be able to afford the necessary improvements.

RATIOS AS ONE COMPONENT OF CREDIT ANALYSIS

Financial ratios provide a useful guide for evaluating the credit of educational institutions; however, it is important to remember that an institution's current and projected financial health represents only one criterion necessary to evaluate credit and debt capacity. While previous editions of this book have done much to expand the understanding and use of ratio analysis, readers should not be led to believe that ratios are the only component used to determine credit. The institution should evaluate many components of its operational and programmatic characteristics, including financial ratios, in determining its true credit profile.

Determinants of Credit Profile

By analyzing projected ratios, the institution is better positioned to deal with problems, capitalize on opportunities, and adjust costs. Furthermore, although projected financial statements provide a beneficial guide to future performance, there certainly will be changes to budgets and priorities as the years unfold. Thus, the ratios in this book serve as a tool to provide the institution with the flexibility to respond to the future, which is of significant worth. It is vital to preserve flexibility, including financial flexibility, despite the inability to accurately quantify future value. Nevertheless, a focus on preserving future options is critical to achieving mission objectives.

PRESERVING FUTURE FLEXIBILITY – CREDIT ENHANCEMENT

Often, the decision to utilize credit enhancement for bond transactions is based on a cost-benefit analysis — if the cost of the insurance is less than the present value interest savings, it makes economic sense to use insurance.

However, insurance policies or other financial contracts frequently contain numerous operating covenants and security provisions. At the time bonds are sold, these restrictions may not seem particularly burdensome. Moreover, they may be entirely appropriate and necessary in order to realize the lowest cost transaction.

Years later, however, the impact of these restrictions may become apparent at a time when the institution is prevented from taking advantage of important opportunities. By analyzing the possible impact of covenants and pledges at the time issues are structured and sold, institutions will be better positioned to make intelligent tradeoffs to determine the appropriate long-term decision. Recognizing and quantifying the value of flexibility is a key first step in realizing this objective.

TRENDS IN NOT-FOR-PROFIT FINANCE

DEFINITION OF DEBT

At one time it was relatively simple to determine an answer to the question, What is debt? One simply looked at the bonds and notes payable in the financial statements.

Today many innovative financing structures have been developed and are more frequently used by not-for-profit institutions. In addition to traditional bonds, notes, and leases, it is necessary to include obligations that utilize an institution's debt capacity, even if these transactions are not included on the balance sheet or disclosed in the notes to the financial statements. Such transactions can include certificates of participation, annual appropriations leases, minimum obligations under operating leases, derivative activities, guarantees of affiliates' debt, money purchase agreements, and other obligations.

The ultimate test of what constitutes outstanding debt from a credit perspective is not the legal structure or the accounting treatment. Rather, it is the essentiality of the underlying asset. The greater the essentiality of the asset to an institution's mission, the greater the likelihood it is on-credit, and therefore must be included in calculating all credit ratios, regardless of the legal and accounting treatment. This analysis may be surprising to some institutions that have been exploring off

balance sheet financing for various projects in order to preserve debt capacity as calculated by traditional financial ratios.

BLENDED BILLING RATE

Typically, institutions or universities have financed projects as a general obligation, yet the debt service costs have been allocated on a project-by-project basis. Thus, a project's debt service cost is based on luck, prevailing market conditions, and the type of financing employed (equity, gifts, tax-exempt debt, taxable debt, third-party loans, etc.).

This type of financing structure makes budgeting and project planning extremely difficult and can lead to inequities among various institutional divisions. Some institutions have approached the issue by having the university act as a central bank and lend proceeds to individual departments to finance projects at a common billing rate. This method of disbursement can help alleviate the timing of funding problem and produce the following benefits: (a) year-to-year budget variances will be reduced, (b) external debt can be structured to optimize prevailing market conditions (subject to tax law and federal reimbursement requirements), and (c) administrative burden will be reduced.

C O M P O N E N T S O F A D E B T P O L I C Y

In order to ensure that debt is utilized most effectively to advance institutional mission and strategic objectives, it is recommended that the institution adopt a formal debt policy.

This policy should reflect the university's unique needs and strategic objectives. Therefore, there is no model debt policy that should be followed by every college. However, in drafting a debt policy, the following guidelines should be considered:

1. Include a section regarding debt philosophy. This section should explain to the analyst why the debt policy is being created, and how it will be used to govern the incurrence of debt to achieve strategic objectives. It provides a framework for management and the trustees to interpret the components of the policy.
2. The university should select the few key ratios it will monitor. These financial ratios should include targets in order to indicate the financial bounds under which the institution expects to operate.

Generally, no more than four or six ratios are used, since the policy is designed to represent the overall health of the institution in order to make strategic decisions. Including too many ratios will obscure the “big picture.” Ratios to be considered might include the core ratios identified in this book, or other ratios the institution finds useful from a management perspective. Additionally, there should be a discussion regarding the mix of fixed and variable rate debt.

3. A policy regarding the prioritization of capital projects is usually included, and this process should receive input from the lower levels of the institution. Guidelines should be broad enough to permit management flexibility; however, the policy should prioritize projects that (*a*) are mission-related, and (*b*) have a related revenue stream for repayment.
4. The policy should explicitly acknowledge its role in providing trustee oversight of all transactions that impact the credit profile of the institution, and should require regular review and reporting to the trustees. Other items of specific concern or importance to the governance of the institution would be included as well.
5. The policy should contemplate the use of derivative products and establish a policy regarding their consideration.
6. The policy should state that the institution will interact with the rating agencies and strive to attain the highest acceptable credit rating. The institution should *not* specify the attainment of a specific rating as part of the policy.

CHAPTER SEVEN:

ALIGNING FINANCIAL RESOURCES AND MISSION



Introduction

Relationship of Resource Allocation to Mission — A Conceptual Model

Financial Performance Axis

Mission Axis

Applying the Model

I N T R O D U C T I O N

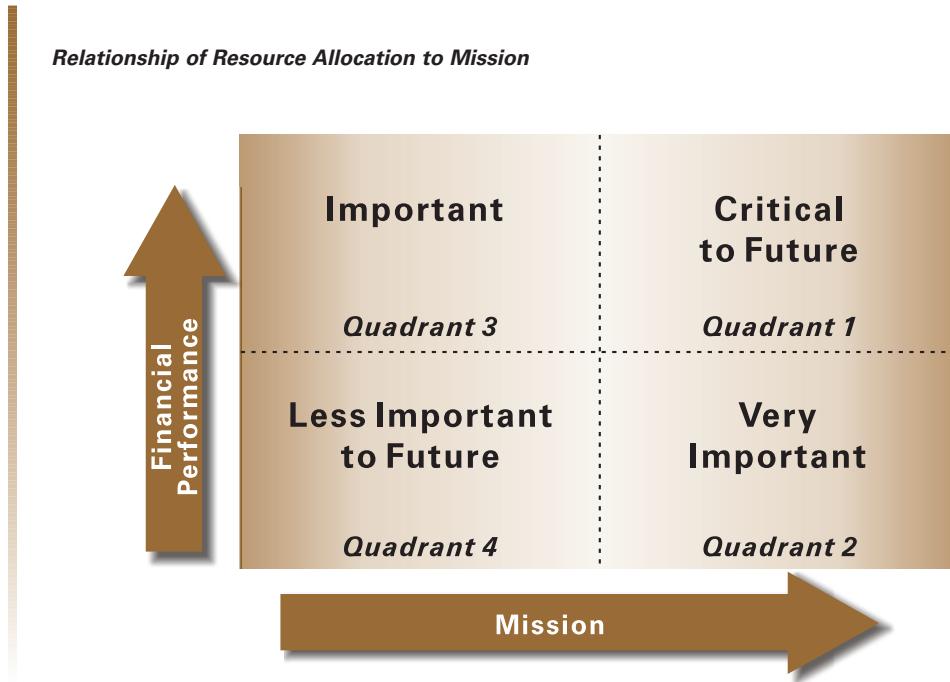
Educational institutions face a difficult task: they must focus resources on a band of activities broad enough to fit the traditional and historic definitions of “university” or “college,” yet narrow enough to ensure the quality of the program initiatives. Anytime a decision on resource allocation is made outside the context of mission, the institution risks diffusion of its resources. Sometimes resource decisions are made in reaction to other events (for example, retention of a specific faculty member, investment in new technology, unexpected facility maintenance), rather than a planned progression toward a previously defined goal. These issues must be dealt with effectively. However, the challenge for senior managers is how to deal with these issues in a context that provides a consistent and repeatable basis so that overall, resources are aligned with institutional goals.

**R E L A T I O N S H I P O F R E S O U R C E A L L O C A T I O N
T O M I S S I O N — A C O N C E P T U A L M O D E L**

Presented on the next page is a model that matches revenue allocation decisions to institutional mission. Some notes on the context of this model are important:

- To ensure effectiveness, this model should be implemented as part of the strategic planning process. Trying to implement it during key decision making will increase the possibility of failure because of the tendency to respond to the specific impetus faced.
- The model does not suggest an absolute answer in terms of reallocating resources away from or toward a specific unit. It does, however, suggest more effective actions when certain circumstances arise.
- The model requires selecting the specific unit level to be measured. For a university it might be the school or division level. For a school it might be division or department level. For purposes of this discussion, the defined unit will be departments.
- The model is not intended to analyze by line of business because each line generally supports education, research, and public service, and perhaps physician practices and clinical practices.
- This model is most effective for institutions that have a reasonable level of financial health — at least a composite score of 3 on the Composite Financial Index (see chapter 2). Lower levels of financial health would indicate limited resources for allocation to strategic initiatives. Generally,

organizations that are financially struggling consume all available resources supporting existing activities.



This model is driven by management, and its successful application is directly proportional to the ability of management to: (a) focus on a clearly defined mission, and (b) make decisions within the framework of the model once implemented. Deviations from the model are not harmful if a business case for the deviation is supportable. In fact, the ability to monitor and measure institutional success may be improved because the deviation is supported by a specific business case.

FINANCIAL PERFORMANCE AXIS

The vertical axis represents financial performance. The definition of financial performance will depend on what the institution views as critical, and may be a combination of items such as operating results, budget size, return on net assets, etc. One issue to be addressed is the amount of data that is available at the department level.

The departmental financial performances are ordered — highest financial performance receiving the highest score, lowest financial performance receiving the lowest score. Because each institution must select its key performance indicators, a

diagnostic to develop the indicators should be performed. This diagnosis should consider not only the current financial situation of the institution, but, more important, its expectation for the future and the ability to accumulate relevant data at the measurable unit level.

The selection of institution-specific criteria for financial success is critical to implementing this model. Each institution confronts unique circumstances, which should be reflected in the selection of these criteria. As an example, an institution with little operating margin and limited retained resources may select departmental net financial operations as the key measure because there is little resource to allocate to large consumers. Institutions with little debt capacity may use expected departmental capital requirements over the next several years as the key measure.

The examples above use one financial success criterion. In reality, a selected number of criteria, blended together, may produce a more informed result. This would require a selection process, conversion to a common scale, and weighting plan similar to that used to create the CFI.

A key to using this measurement is to convert the calculated department score to a ranking. If there are 20 departments, the scores will be 1 through 20.

MISSION AXIS

The horizontal axis represents the relative position that each department occupies in relation to the institutional mission. For this model to be useful, each department must be ordered again.

The critical — and most difficult — first step is to rank the departments in relation to importance to institutional mission. This ranking does not mean a discipline is not valuable. Rather, it recognizes that the institution is identified in the marketplace — or will be identified — by its highest rated activities. Again, an institution-specific diagnostic is required that focuses on the external view of the institution today, the institution's aspirations, and the existing internal capabilities. Determining the mission-critical activities or departments and ranking them on the mission axis is critical to the successful implementation of this model.

Many institutions would define their mission as multifaceted. Some would apply this along broad lines of business, such as instruction, public service, research, and patient care. Others may define their mission along broad disciplines such as arts and sciences, business, education, graduate programs, etc. Whatever model is used requires a scoring system that takes into account all of the components of the mission.

APPLYING THE MODEL

Arranging the departments by combining financial performance and mission helps focus the institution when making its next decisions. The following summarizes the meaning of each quadrant and some of the suggested actions that may evolve:

- **Quadrant 1 — Critical to the Future.** Departments in this quadrant are the highest performing departments in terms of both institutional mission and financial performance. They can generally afford some of their own reinvestment, but should be considered some of the higher priorities on requests for institutional resources. Departments in this quadrant will most often represent the portion of the institution that will be the focus of the institutional debt policy.

The institution should establish benchmarks of expected results for investments made in these departments before the investments are made. The benchmarks are both nonfinancial (as drivers) and financial (to determine affordability). The institution must measure success against those benchmarks at regular intervals. This is critical to measure institutional progress against mission because these are the departments most likely to advance the institutional mission. If the investments are not achieving benchmark goals, there needs to be a plan redefining continuing investments.

Quadrant 1 departments may be candidates for creation of alliances and partnerships, but on a basis that allows the institution to drive the relationship. Otherwise, the institution will bear the risk of dilution of its response in the areas most critical to completion of its mission.

- **Quadrant 2 — Very Important to the Future.** Departments in this quadrant are key to achievement of institutional mission but are weaker on financial performance. The first step may well be to assess what the institution can do to enhance financial performance, such as analyzing space allocations, capital equipment needs, and personnel. Departments in this quadrant are not likely candidates for budgetary cuts to improve financial performance because of the potential impact on achievement of mission. As with Quadrant 1, there needs to be close monitoring of investments made against predetermined benchmarks. That process may be more critical to departments in this quadrant because they have not demonstrated strong performance against key financial success factors, at least from a historical perspective.

These departments are the primary candidates for partnerships and alliances because well-structured relationships would allow advancement of institutional mission, with potential sharing of financial risk.

- **Quadrant 3 — Important to the Future.** Departments in this quadrant have relatively higher financial performance but score lower on mission. If departments in this grouping request institutional resources, the response of a focused institution may well be negative with the suggestion that these departments fund investments out of their own returns; or, the institution may request that the department fund some portion of the investment from its own resources. In most institutions, these departments tend to be highly productive. The institutional challenge is to find meaningful ways of retaining faculty members and keeping them fully motivated as new resources are allocated to other areas.

When an institution thinks about potential growth opportunities, Quadrant 3 departments may be candidates for alliances and partnerships. However, these would most likely be done within the context of limited institutional resource allocation. The institution would encourage program expansion and added personnel, but would expect the business case for this to include financial return, since institutional resources would not be a primary funder of these activities.

- **Quadrant 4 — Less Important to the Future.** Departments in this quadrant produce the lowest results on financial performance indicators and are scaled relatively lower on assisting the institution in fulfilling its mission.

Actions may well be that these departments become “service” departments over some defined time and that requests for additional institutional resources would likely be denied. In planning change, the institution must first determine the “service cycle” that it has committed to the affected constituency since the institution has commitments to students, faculty, and staff that tend to be longer than a year. Factors affecting this decision include years to graduation, tenure issues, capital investments, and external partners (such as athletic leagues, research associates, third-party contractors, etc.).

Actions such as strengthening these departments through alliances and partnerships would appear inconsistent because, regardless of financial improvements, the institutional mission would only be improved on a limited basis.

Departments in this quadrant are likely candidates for contained operating and capital budgets, because within the institution these constraints will have

the least negative effect on achievement of mission. Also the reallocation of resources from these departments to Quadrants 1 and 2 will provide the greatest returns to the institution from a mission perspective.



Several steps and decisions are required by each institution applying this conceptual model. The institution must select a time period for applying the financial axis of the model; for many institutions, the past three years may make the most sense (with some weighting emphasis on the most current year). Institutions that have created reasonable predictive models may also wish to apply this to the next three years. However, for those institutions with a CFI of less than 3, the institution should focus its attention on its financial challenges before implementing this model.

CHAPTER EIGHT:

SELECTED FINANCIAL ISSUES

FOR THE 21ST CENTURY



Introduction

Distinguishing Between Operations and Nonoperating Activities

Balancing the Budget Strategically

Reconciling Financial Reporting and Budgeting

Allocating Equity Between Generations

I N T R O D U C T I O N

The focus of our efforts with ratio analysis is to assist institutions in addressing the issues they face today by suggesting structural ways to deal with new issues as they emerge. Some of the current and emerging financial issues facing institutions and requiring focus to ensure success in the 21st century include:

- Distinguishing between operations and nonoperating activities;
- Balancing the budget from a strategic perspective;
- Reconciling financial reporting and budgeting; and
- Assessing allocation of net assets between generations.

**D I S T I N G U I S H I N G B E T W E E N O P E R A T I O N S
A N D N O N O P E R A T I N G A C T I V I T I E S
(A N D I D E N T I F Y I N G S T R U C T U R A L D E F I C I T S)**

In the normal course of financial activities for a college or university, there are economic events that represent core or continuing operating activities and other activities which are nonrecurring or noncore. The nonoperating activities represent, for many schools, a substantial amount of financial activity and clearly are critical to the continued financial health of the organization. However, in attempting to understand whether the institution lived within its means, a separation of those operating and nonoperating activities into distinct components is critical.

The separation of operating and nonoperating activities is, however, more overarching than financial statement display issues. The larger business issue relates to whether an institution has created a structural deficit. A structural deficit results when committed expenses exceed repeatable revenues.

Structural, or core, revenues are those the institution can reasonably depend on to cover recurring expenses over some period of time. These include, among others, expected net tuition and fees from students, revenue from auxiliary services, annual contributions, state appropriations, federal and state grants and contracts, and commitment of endowment resources at a reasonable spending rate. They would generally exclude items such as larger, nonrecurring gifts and commitment of endowment resources at an unsustainable spending level.

Structural deficits are significant because, generally, institutional costs rise in a manner consistent with the rise in revenue but become semifixed as revenues flatten or decline. The display of financial information required by SFAS No. 117 does not require the separation of operating and nonoperating activities. Since that standard was issued, many interested parties, including the National Association of

College and University Business Officers (NACUBO) and the U.S. Department of Education in its financial responsibility standard-setting activities, have expressed interest in attempting to measure operating activities.

Some analysts have recently begun to assume a fixed spending rate from endowment and similar funds. This is an attempt to normalize the impact of market changes and interest and dividends on operating activities, as well as to facilitate comparison across institutions.

An institution should adopt a standard definition of operating activities and consistently apply that definition. In its determination of that definition, the institution should consider the existing spending rate on investments, the types of gifts received for nonoperating activities, and other nonoperating transactions that may occur. The frequency of the transaction would not dictate its placement in the statement of activities.

In determining the items to exclude from operations, the following suggestions may prove useful:

- Appreciation and depreciation on investments in excess of a stated spending policy, as established by the board. Should no spending rule exist, then the amount budgeted for operations from investment return would be used as the portion in operations. If the institution has a policy of spending only cash income, then that would represent the operating amount.
- Gifts that will ultimately be used for capital purposes.

There are other issues surrounding this question, including the release of capital gifts on the same basis as depreciation charges over the life of the acquired asset. The critical issue for an institution is to define its operations on a basis that most appropriately presents its results and to apply the measurement consistently.

The statement of activities would separate operating activities and nonoperating activities as presented in the sample financial statements for Utopia University (see appendix C).

BALANCING THE BUDGET STRATEGICALLY

Institutions are often faced with the dilemma of how to create a “balanced budget” in higher education. This balancing activity has tended to focus on an accounting balance of the budget without necessarily focusing on whether the budget is balanced from a strategic perspective. The distinction, which is critical to the long-term success of the institution, relates to the types of investments and

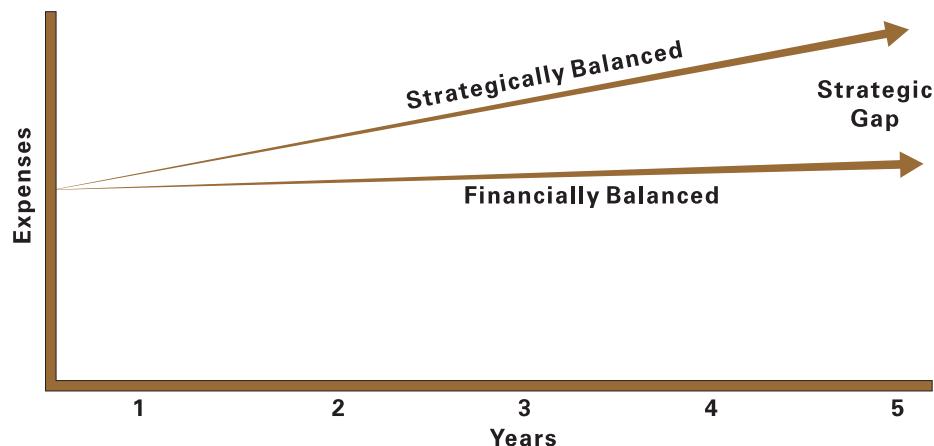
reinvestments required by the institution to meet its mission every year. The question of whether a budget is strategically balanced or not is answered by the ways that the spending patterns implied by the operating budget indicate progress toward strategic objectives. If the operating plan tends to be incremental in nature while the strategic plan represents substantive change, then the board, senior managers, and other interested parties should understand that a strategic gap exists in balancing the budget. Generally speaking, this represents a type of deferred obligation that the institution will be forced to make up at a later date, or an increased risk that key strategic initiatives may not be met.

The typical budgetary process provides limited information about meeting strategic objectives. Budgets are generally prepared consistent with reporting lines, usually by departments, and do not capture information according to activity, which is the way most investments are made, particularly in new initiatives. This is a reasonable budgetary methodology, since it aligns accountability and responsibility. A supplement to the budget might well present institutional investments, by special investment, in three categories: physical capital, human capital, and new program initiatives. The investment in human capital, in this context, is rarely salary support. It often represents the activities necessary for faculty and staff to create new skills that are required by the institutional mission.

The chart on the facing page presents two lines identifying strategic gaps. The top line represents the expenses of an institution that is reinvesting in itself at a rate sufficient to meet the objectives of its strategic plan. If repeatable revenues meet or exceed this amount, the budget is strategically balanced.

The second line represents a budget that “gets the job done” but includes little investment in strategic initiatives. If revenue sources meet this line, the budget is financially balanced.

Over a period of years, a strategic gap is cumulative in nature, and the institution should track the size of that gap, if any, over the period covered by the strategic plan.

Identifying Strategic Gaps**R E C O N C I L I N G F I N A N C I A L R E P O R T I N G
A N D B U D G E T I N G**

In many organizations, the annual operating budget is a driving force for managing its finances. However, in most organizations that budget will not articulate to the audited financial statements. The greater the differences between the budget document and the financial statements, the less useful each document becomes. Types of expenses included in the annual financial statements that may be excluded from the budget include depreciation, retirement benefits, and postretirement benefits. Items that only affect the balance sheet for financial statement purposes, but may be included in the budget, include acquisition of fixed assets, retirement of principal of debt, and the cash payment of retirement benefits.

Not every budget item can easily conform to the audited financial statements, and in most organizations, a crosswalk between the two documents is useful. If an organization adopts a statement of activities that separates operating and nonoperating activities, then the differences in approaching the budget and the annual financial statements will be lessened. The substantive differences described in the preceding paragraph will reduce the extent of crosswalk activity that currently exists in many institutions. Other examples of items that individual institutions have left out of their operating budget but are included in the statements of activities include the funded portion of scholarships, certain types of financial aid, and other activity that is initially recorded in the temporarily restricted funds.

Different oversight agencies value different elements on the financial statements or budget. It is important that an institution employ consistent reporting procedures from year to year, that it retain flexibility on its financial outlook, and that it measure itself against its own objectives before assessing its standing against peers.

ALLOCATING EQUITY BETWEEN GENERATIONS

The intergenerational allocation of equity, as this is sometimes called, refers to the decision-making process of the institution to allocate resources to serve the various constituents. The process an institution uses to determine its overall spending patterns should be reassessed regularly. If resources are committed to operations and physical plant at an unsustainable rate, the conclusion must be that the institution views today's users (faculty and students) as more significant than tomorrow's users. If the institution commits resources at an inappropriately low rate, then the institution, by default, is suggesting that tomorrow's users are more important than today's. In fact, in most environments, neither would be considered more important. The challenge, from a fiduciary perspective, is balancing the amount of spending and retention of resources to ensure completion of institutional mission for the foreseeable future.

Ratio analysis is a helpful tool to measure the affordability of the institution's spending and reinvestment rates.

APPENDIX A:
DEPARTMENT OF EDUCATION
FINANCIAL RESPONSIBILITY
STANDARDS APPLICATION

Following is Appendix G: *Ratio Methodology for Private Non-Profit Institutions*, 34 CFR Part 668.172. It offers a sample calculation of the U.S. Department of Education's Financial Responsibility Standards for a private institution, and was excepted from the *Federal Register*/Vol. 62, No. 227/Tuesday, November 25, 1997/Rules and Regulations, pages 62885, 62886, and 62887.

Appendix G: Ratio Methodology for Private Non-Profit Institutions

Section 1: Ratios and Ratio Terms

$$\text{Primary Reserve Ratio} = \frac{\text{Expendable Net Assets}}{\text{Total Expenses}}$$

$$\text{Equity Ratio} = \frac{\text{Modified Net Assets}}{\text{Modified Assets}}$$

$$\text{Net Income Ratio} = \frac{\text{Change in Unrestricted Net Assets}}{\text{Total Unrestricted Revenue}}$$

Definitions:

Expendable Net Assets = (unrestricted net assets) + (temporarily restricted net assets) - (annuities, term endowments, and life income funds that are temporarily restricted) - (intangible assets) - (net property, plant and equipment)* + (post-employment and retirement liabilities) + (all debt obtained for long-term purposes)**

Total Expenses is total unrestricted expenses taken directly from the audited financial statement

Modified Net Assets = (unrestricted net assets) + (temporarily restricted net assets) + (permanently restricted net assets) - (intangible assets) - (unsecured related-party receivables)

Modified Assets = (total assets) - (intangible assets) - (unsecured related-party receivables)

Change in Unrestricted Net Assets is taken directly from the audited financial statement

Total Unrestricted Revenue is taken directly from the audited financial statement
(This amount includes net assets released from restriction during the fiscal year)

* The value of plant, property and equipment is net of accumulated depreciation, including capitalized lease assets.

** The value of all debt obtained for long-term purposes includes the short-term portion of the debt, up to the amount of net property, plant and equipment.

Section 2, Calculating the Ratios from the Balance Sheet and Statement of Activities
Balance Sheet

Line	Total	Statement of Activities			
		column: a	b	c	d
		Unrestricted	Temporarily Restricted	Permanently Restricted	Total
1	Cash and Cash Equivalents	\$ 1,000,000	\$45,000,000		\$45,000,000
2	Accounts Receivable	6,000,000	1,200,000	\$ 120,000	1,620,000
3	Prepaid Expenses	1,500,000	5,500,000		5,500,000
4	Inventories	500,000	200,000		200,000
5	Contributions Receivable	2,000,000	51,900,000	300,000	52,320,000
6	Student Loans Receivable	8,000,000	38,000,000		38,000,000
7	Investments	6,000,000	5,000,000		5,000,000
8	Property and Equipment, net	50,000,000	2,880,000		2,880,000
9	Bond Insurance Costs	720,000	5,200,000		5,200,000
10	Goodwill	500,000	900,000		900,000
11	Deposits	20,000			200,000
12	Total Assets	76,240,000	51,980,000	200,000	--
13	Line of Credit	\$ 500,000	Change in Net Assets	200,000	52,180,000
14	Accounts Payable	2,000,000	(80,000)*	100,000	140,000
15	Accrued Expenses	3,500,000	15,270,000	2,700,000	26,880,000
16	Deferred Revenue	650,000	15,190,000	2,800,000	26,990,000
17	Post-Retirement Benefits Liability	6,600,000	$\frac{20+23+21-10-8+18**+17}{38a}$	\$ 9,790,000	= 0.188
18	Bonds Payable	36,000,000		51,980,000	
19	Total Liabilities	49,250,000			
20	Unrestricted Net Assets	15,190,000	$\frac{25-10}{12-10} = \frac{\$26,490,000}{75,740,000}$	= 0.350	
21	Annuities	300,000			
22	John Doe Scholarship Fund	2,500,000	Net Income Ratio = (lines)		
23	Total Temp. Restricted Net Assets	2,800,000			
24	Permanent Restr. Net Assets	9,000,000			
25	Total Net Assets	26,990,000			
26	Total Liabilities & Net Assets	76,240,000			

*In accounting statements, parentheses denote negative numbers (i.e., (80,000) equals negative 80,000).

**Long-Term Debt (line 18) cannot exceed Property and Equipment, net (line 8) in this formula.

Section 3: Calculating the Composite Score

Step 1: Calculate the strength factor score for each ratio, by using the following algorithms

Example (for Private Non-Profit institutions)

Primary Reserve strength factor

$$\text{score} = 10 \times * \text{ Primary Reserve ratio result: } 10 \times 0.188 = 1.880$$

$$\text{Equity strength factor score} = 6 \times \text{Equity ratio result: } 6 \times 0.350 = 2.100$$

Because the Net Income ratio result is negative, the

algorithm for negative net income is used — Net

Income strength factor score = $1 + (25 \times \text{Net}$

$$\text{Income ratio result): } 1 + (25 \times -0.0015) = 0.963$$

(Note: If the Net Income ratio result is positive, the following algorithm is used, Net Income strength factor score = $1 + (50 \times \text{Net Income ratio result})$ — If the Net Income ratio result is 0, the Net Income strength factor score is 1).

If the strength factor score for any ratio is greater than or equal to 3, the strength factor score for that ratio is 3. If the strength factor score for any ratio is less than or equal to -1, the strength factor score for that ratio is -1).

Step 2: Calculate the weighted score for each ratio and calculate the composite score by adding the three weighted scores

Primary Reserve weighted score =

$$40\% \times \text{Primary Reserve strength factor score: } 0.40 \times 1.880 = 0.752$$

$$\text{Equity weighted score} = 40\% \times \text{Equity strength factor score: } 0.40 \times 2.100 = 0.840$$

$$\text{Net Income weighted score} = 20\% \times \text{Net Income strength factor score: } 0.20 \times 0.963 = 0.193$$

Composite score = sum of all

$$\text{weighted scores: } 0.752 + 0.840 + 0.193 = 1.785$$

Round the composite score to one digit

$$\text{after the decimal point to determine the final score: } 1.8$$

* The symbol “x” denotes multiplication.

APPENDIX B:
COLLEGE AND UNIVERSITY
FINANCIAL STATEMENTS PREPARED
UNDER SFAS NOS. 116 AND 117
AND THE AICPA AUDIT GUIDE

Financial reports are an important device for communicating the financial condition and operating results of colleges and universities. Private colleges and universities follow the principles set forth in the following:

- The Financial Accounting Standards Board's SFAS No. 116, *Accounting for Contributions Received and Contributions Made*, and SFAS No. 117, *Financial Statements of Not-for-Profit Organizations*;
- The *AICPA Audit and Accounting Guide: Not-for-Profit Organizations* (the *Audit Guide*);
- NACUBO's *Financial Accounting and Reporting Manual for Higher Education*; and
- Other authoritative literature.

However, the implications of the financial activities described in these reports are not easily understood by all users. Even some practiced financial officers find it difficult to communicate such information to those less familiar with college and university financial statements.

KPMG is dedicated to helping ensure that the full impact of financial information contained in reports is understood by our clients. Although the auditors' responsibility in an audit is to render an opinion as to the fairness of the financial information presented by management, principal users of such reports — senior management and the board — should understand the financial messages they contain. Financial ratios, which have been used for many years by financial analysts of other industries, can serve analysts of higher education as well.

The purpose of this appendix is to help readers understand and appreciate why resources are classified the way they are and how the basic financial statements tell their story. The analyst should note that SFAS No. 117 allows for a great deal of latitude in terms of presentation. Although SFAS No. 117 presents example statements, there is not a required, or even preferred, format for not-for-profit financial statements. Similarly, the format used in this edition for Utopia University should not be considered definitive.

OVERVIEW OF COLLEGE AND UNIVERSITY FINANCIAL STATEMENTS

College and university financial statements, prepared in accordance with SFAS No. 117, are in many ways similar to those of business enterprises, with which many readers are already familiar. The financial statements include:

- **Balance Sheet or Statement of Financial Position.** This presents the financial position as of the end of a college or university's fiscal year: its assets, liabilities, and equity (or net assets).
- **Statement of Activities.** This presents financial activities during the fiscal year, thereby reconciling the beginning and end-of-year equity positions contained in the balance sheet.
- **Statement of Cash Flows.** This presents cash-related activities during the fiscal year, thereby reconciling the beginning and end-of-year cash balances contained in the balance sheet. This statement provides important information that supplements information provided by the statement of activities. In particular, it adjusts out the effects of accrual accounting, removes the effects of certain noncash activities (for example, depreciation), and discloses cash generated or used by operating activities, investing activities, and financing activities.
- **Notes to Financial Statements.** These provide required or otherwise useful disclosure that supplements what is contained in the three financial statements.

In other ways, however, college or university financial statements differ significantly from those of business enterprises. The principal difference lies in the categorization of net assets.

Business enterprises receive fees for goods sold and services rendered. Colleges and universities do, too, in the form of tuition and fees, government contracts, and so forth. However, unlike business enterprises, most colleges and universities also rely on the receipt of contributions to help finance their activities and accomplish their institutional mission.

Unlike earned revenues, such net assets may not be immediately available for general institutional purposes. Donors may have attached stipulations to such funds concerning the timing, or purpose of use, or both. To distinguish between such equity with donor stipulations not yet satisfied and equity available for any purpose

within the boundaries of the institution's mission, the financial statements of colleges and universities divide net assets into the following three classes:

- **Unrestricted.** This class results from all transactions that add to the institution's equity, except certain contributions for which donor restrictions have not yet been satisfied.
- **Temporarily Restricted.** This class consists of contributions received with donor restrictions that have not yet been satisfied but that will ultimately be satisfied by passage of time, expenditure for a specified purpose, or both. Examples of such contributions include those for specific projects, schools, or departments; for future years (especially through unconditional promises received); or for term endowments.
- **Permanently Restricted.** This class consists of contributions received with donor restrictions that will not expire as a result of passage of time or expenditure for a specified purpose. Examples of such contributions include those for true endowment or for revolving loan funds.

Thus, an important element of understanding a college's or university's financial statements is knowing how resources are classified as to net asset class.

CLASSIFICATION OF RESOURCES RECEIVED

The diagram at the end of this appendix presents a decision tree for resource classification under SFAS Nos. 116 and 117. Proper classification of resources revolves around five basic questions:

1. Has the resource been provided through a contribution?
2. Is there a restriction on the contribution as to time, purpose, or both?
3. Will the restriction be satisfied by passage of time, expenditure for such purpose, or both?
4. Will the restriction be satisfied in the same year that the contribution is received?
5. Has the institution elected to follow the simultaneous period reporting option?

Each of these questions is discussed in greater detail in the following pages.

1. Has the Resource Been Provided Through a Contribution?

SFAS No. 116 defines a contribution as: "An unconditional transfer of cash or other assets to an entity or a settlement or cancellation of its liabilities in a voluntary non-reciprocal transfer by another entity acting other than as an owner."

Promises to make such transfers* in the future (which have generally been called pledges) are also considered contributions, as long as they are verifiable and without underlying conditions that must be satisfied before the institution is entitled to the underlying assets. SFAS No. 116 contrasts conditions with restrictions, noting that the latter are stipulations as to how to use donated funds and are to be satisfied after, rather than before, the institution is entitled to the net assets.

SFAS No. 116 also contrasts contributions with exchange transactions, in which the other party receives something of tangible value in return. Under generally accepted accounting principles, the institution recognizes revenue associated with exchange transactions at the time the institution fulfills its obligations to the other party by providing goods or rendering services. Since those obligations have been fulfilled, the net assets that arise from such transactions are unrestricted.

Contributions are recognized as revenue, thus increasing net assets, when they are received. If the contribution entails an unconditional promise, the revenue is recognized at the time the unconditional promise is received, not at the time the subsequent transfer is made. Conditional promises are not recognized in the financial statements, but instead are merely disclosed in the notes thereto until such time as the conditions are satisfied. Monies actually received with conditions attached are not recognized as revenue, but are instead recorded as a liability until the conditions are satisfied and the institution is entitled to the monies.

Contribution enhancements are income or appreciation that arise from investment of contributions received. They are recognized as revenue at the time the income is earned.

Contributions and contribution enhancements may be additions to unrestricted, temporarily restricted, or permanently restricted net assets, depending on the presence or absence and nature of any donor stipulations or, in certain instances, relevant state law concerning institutional funds management.

*To simplify the discussion, the focus will be on contributions that involve transfer of cash or other assets, including unconditional promises to make such transfers. The discussion of contributions also applies to those that involve settlements or cancellations of liabilities, as well as unconditional promises to make such settlements/cancellations.

In sum, if resources to which an institution is entitled are not associated with a contribution, they are classified as unrestricted net assets. If they are associated with a contribution, proceed to question 2.

2. Is There a Restriction on the Contribution as to Time, Purpose, or Both?

If the resource has been provided by a contribution or contribution enhancement, we then ask if the donor has attached a stipulation as to the time period in which the contribution and/or earnings on it may be used, the purpose for which they may be used, or both. Stipulations for contribution enhancements may be different from stipulations that concern the original contribution.

For example, an alumnus gives a sizable contribution to Utopia University for a permanent endowment. In his transmittal letter, the donor states that the income on the endowment may be used for general institutional purposes, but is silent concerning any net appreciation on the endowment. In this case, the original contribution is an addition to permanently restricted net assets. The income and appreciation, except to the extent that any appreciation is required to be added to endowment by state law, are additions to unrestricted net assets.

If resources that stem from contributions are not restricted, either by donors or by state law, they are classified as unrestricted net assets. If they are restricted, proceed to question 3.

3. Will the Restriction Be Satisfied by Passage of Time, Expenditure for Such Purpose, or Both?

If the resources to be classified have restrictions attached, determine whether such restrictions are of a temporary nature or a permanent nature. If the restrictions are satisfied by the passage of a donor-stipulated time period, by expenditure for a donor-stipulated purpose, or both, such restrictions are deemed to be of a temporary nature. If they are not so satisfied — as, for example, with endowment funds — the restrictions are deemed to be of a permanent nature.

If the restriction is of a permanent nature, the resources are classified as permanently restricted net assets. If the restriction is instead of a temporary nature, proceed to question 4.

4. Will the Restriction Be Satisfied in the Same Year that the Contribution Is Received?

Many contributions and contribution enhancements, even those with purpose restrictions attached, are received and spent in the same year. Indeed, certain

provisions of SFAS No. 116 help increase the likelihood of this. Such provisions specify that when unrestricted and temporarily restricted resources are both available to fund the same expenditure, the temporarily restricted resources are deemed to be spent first.

On the other hand, many other contributions and contribution enhancements are received and spent in different fiscal years. Most prominent here are contributions that involve the receipt of an unconditional promise to give in one year and the receipt of cash or other assets in later years. These are typically spent when the cash or other underlying assets are subsequently received.

If the restriction will not be satisfied by expenditure in the same year in which the contribution is received, the resources are classified as temporarily restricted net assets. If the restriction will be so satisfied, proceed to question 5.

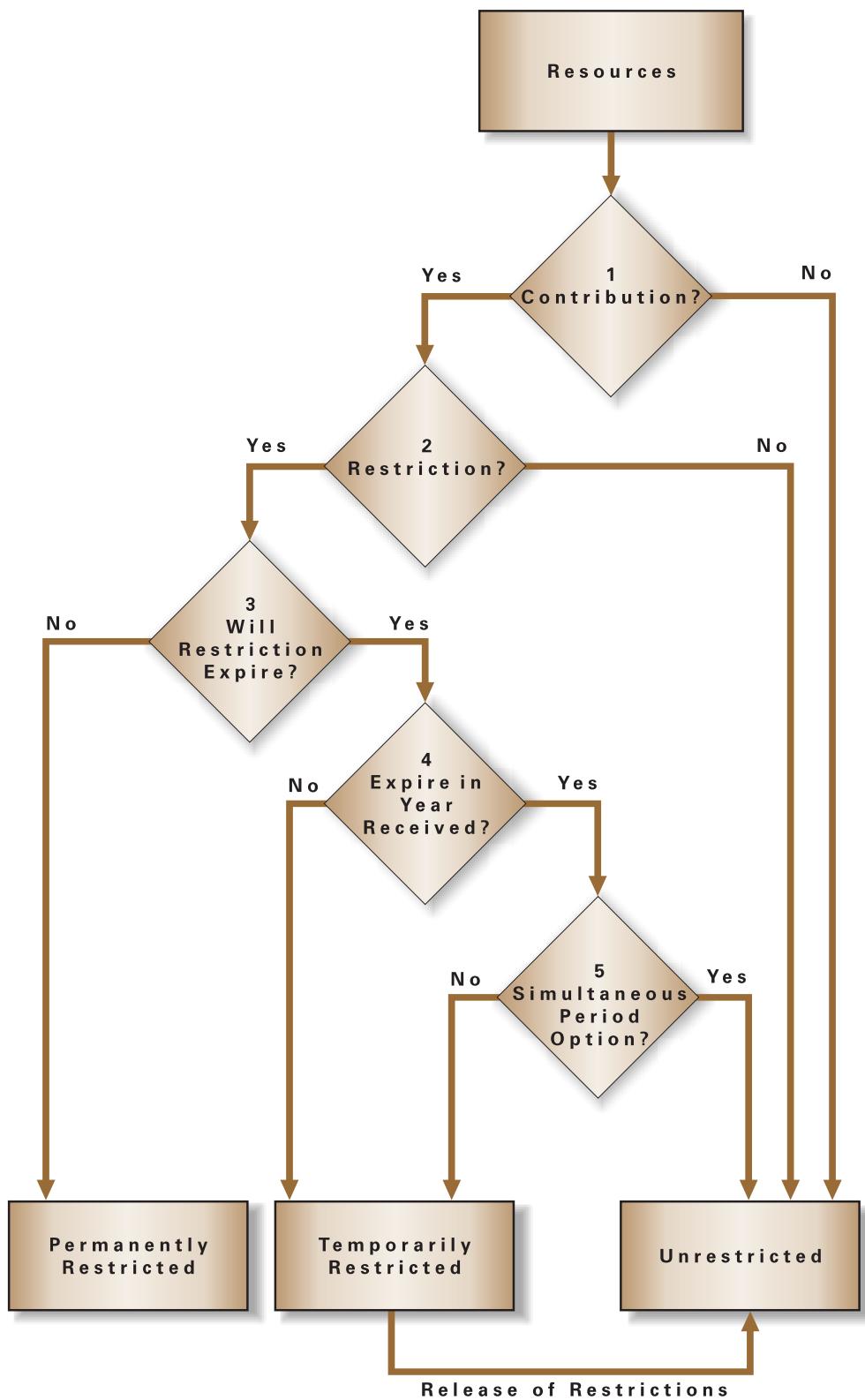
5. Has the Institution Elected to Follow the Simultaneous Period Reporting Option?

If the resources have restrictions of a temporary nature and are spent — or are deemed to be spent — in the year received, the resources will be classified as either temporarily restricted or unrestricted net assets. This is because SFAS No. 116 allows for a “simultaneous period reporting option.”

If the college or university elects to release the restrictions simultaneously, it may classify such resources as unrestricted, as long as it does so for all such resources consistently from year to year. The effect of this would be to show the revenue as well as the expenses (the latter are always classified as unrestricted activity under SFAS No. 117) as activity entirely within the unrestricted net asset class. This is in lieu of first increasing temporarily restricted net assets by the amount of the contribution or contribution enhancement and then decreasing those net assets by reclassifying the amount to unrestricted net assets to show the expiration of the restriction and to “fund” the expenditure.

If the institution adopts the simultaneous period reporting option, such resources received and spent in the same year are classified as unrestricted net assets. If the institution does not adopt that option, the resources are initially classified as temporarily restricted net assets and are then reclassified to unrestricted net assets in the reporting period.

CLASSIFICATION OF RESOURCES RECEIVED



APPENDIX C:
UTOPIA UNIVERSITY
SAMPLE FINANCIAL STATEMENTS

UTOPIA UNIVERSITY

Statements of Financial Position

Assets	<u>Current</u>	<u>Prior</u>
Cash and cash equivalents	\$ 20,693,000	19,605,000
Student accounts receivable, net of allowances of \$311,000 in current year and \$196,000 in prior year	1,203,000	1,071,000
Other receivables	1,175,000	1,453,000
Contributions receivable, net	1,295,000	1,215,000
Deferred charges and prepaid expenses	1,040,000	1,071,000
Investments held for long-term purposes, at market	45,062,000	40,905,000
Notes receivable, net of allowances of \$391,000 in current year and \$371,000 in prior year	9,513,000	9,230,000
Property, plant, and equipment, net	<u>77,900,000</u>	<u>79,305,000</u>
 Total assets	 <u>\$ 157,881,000</u>	 <u>153,855,000</u>
 Liabilities and Net Assets		
 Liabilities:		
Accounts payable	\$ 962,000	1,250,000
Accrued expenses	5,286,000	4,810,000
Deferred revenues	1,227,000	1,251,000
Student deposits	211,000	259,000
Accrued postretirement benefits	1,806,000	1,806,000
Long-term debt	39,476,000	40,387,000
U.S. government grants refundable	8,293,000	8,062,000
 Total liabilities	 <u>57,261,000</u>	 <u>57,825,000</u>
 Net assets:		
Unrestricted	86,014,000	83,724,000
Temporarily restricted	2,954,000	2,357,000
Permanently restricted	<u>11,652,000</u>	<u>9,949,000</u>
 Total net assets	 <u>100,620,000</u>	 <u>96,030,000</u>
 Total liabilities and net assets	 <u>\$ 157,881,000</u>	 <u>153,855,000</u>

UTOPIA UNIVERSITY

Statement of Activities
Current Year

	Unrestricted	Temporarily restricted	Permanently restricted	Total
Revenues:				
Educational and general:				
Tuition and fees	\$ 60,374,000	--	--	60,374,000
Less scholarship allowances	(14,538,000)	--	--	(14,538,000)
Net tuition and fees	45,836,000	--	--	45,836,000
Federal grants and contracts	1,467,000	--	--	1,467,000
State grants and contracts	1,194,000	--	--	1,194,000
Private gifts and grants	2,598,000	553,000	--	3,151,000
Interest on loans receivable	37,000	--	--	37,000
Investment income	1,457,000	413,000	31,000	1,901,000
Other sources	628,000	--	--	628,000
Auxiliary enterprises	14,800,000	--	--	14,800,000
Total revenues and gains	68,017,000	966,000	31,000	69,014,000
Net assets released from restrictions - satisfaction of program restrictions	2,049,000	(2,049,000)	--	--
Total revenues, gains, and other support	70,066,000	(1,083,000)	31,000	69,014,000
Expenses:				
Educational and general:				
Instruction	30,854,000	--	--	30,854,000
Research	57,000	--	--	57,000
Public services	42,000	--	--	42,000
Academic support	7,305,000	--	--	7,305,000
Student services	10,012,000	--	--	10,012,000
Institutional support	10,183,000	--	--	10,183,000
Total educational and general	58,453,000	--	--	58,453,000
Auxiliary enterprises	10,016,000	--	--	10,016,000
Total expenses	68,469,000	--	--	68,469,000
Excess (deficiency) of operating revenues over operating expenses	1,597,000	(1,083,000)	31,000	545,000
Nonoperating items:				
Investment return in excess of spending rate	693,000	680,000	27,000	1,400,000
Private gifts and grants	--	1,000,000	1,645,000	2,645,000
Excess of nonoperating revenue over nonoperating expenses	693,000	1,680,000	1,672,000	4,045,000
Increase in net assets	2,290,000	597,000	1,703,000	4,590,000
Net assets at beginning of year	83,724,000	2,357,000	9,949,000	96,030,000
Net assets at end of year	\$ 86,014,000	2,954,000	11,652,000	100,620,000

(Continued)

UTOPIA UNIVERSITY

Statement of Activities Continued
Prior Year

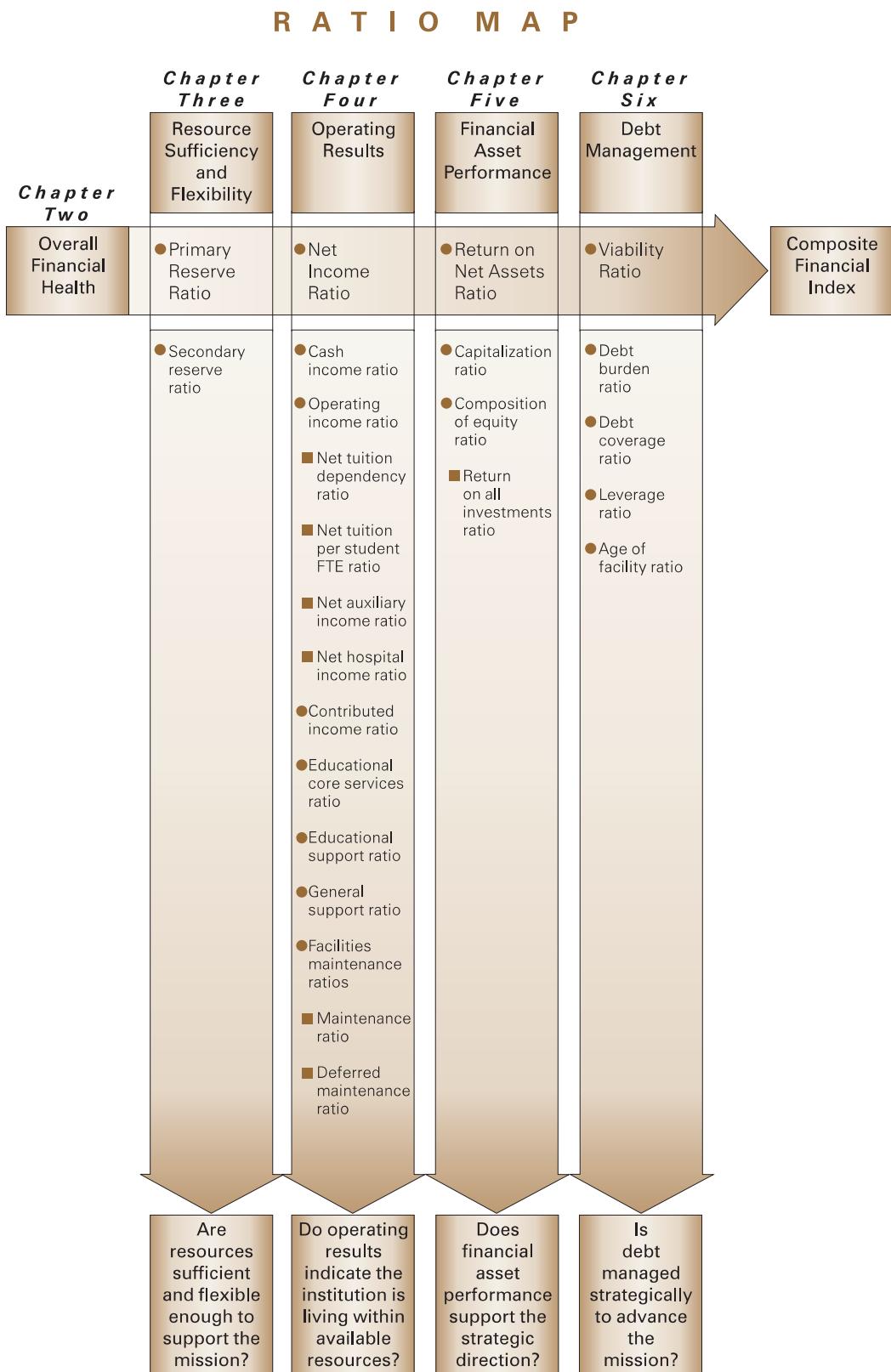
	Unrestricted	Temporarily restricted	Permanently restricted	Total
Revenues:				
Educational and general:				
Tuition and fees	\$ 59,045,000	--	--	59,045,000
Less scholarship allowances	(12,769,000)	--	--	(12,769,000)
Net tuition and fees	46,276,000	--	--	46,276,000
Federal grants and contracts	1,204,000	--	--	1,204,000
State grants and contracts	1,184,000	--	--	1,184,000
Private gifts and grants	1,523,000	1,550,000	--	3,073,000
Interest on loans receivable	24,000	--	--	24,000
Investment income	1,369,000	350,000	31,000	1,750,000
Other sources	892,000	--	--	892,000
Auxiliary enterprises	13,811,000	--	--	13,811,000
Total revenues and gains	66,283,000	1,900,000	31,000	68,214,000
Net assets released from restrictions - satisfaction of program restrictions	5,261,000	(5,261,000)	--	--
Total revenues, gains, and other support	71,544,000	(3,361,000)	31,000	68,214,000
Expenses:				
Educational and general:				
Instruction	30,946,000	--	--	30,946,000
Research	1,000	--	--	1,000
Academic support	7,153,000	--	--	7,153,000
Student services	10,821,000	--	--	10,821,000
Institutional support	9,789,000	--	--	9,789,000
Total educational and general	58,710,000	--	--	58,710,000
Auxiliary enterprises	11,093,000	--	--	11,093,000
Total expenses	69,803,000	--	--	69,803,000
Excess (deficiency) of operating revenues over operating expenses	1,741,000	(3,361,000)	31,000	(1,589,000)
Nonoperating items:				
Investment return in excess of spending rate	2,816,000	3,445,000	84,000	6,345,000
Private gifts and grants	--	794,000	271,000	1,065,000
Excess of nonoperating revenue over nonoperating expenses	2,816,000	4,239,000	355,000	7,410,000
Increase in net assets	4,557,000	878,000	386,000	5,821,000
Net assets at beginning of year	79,167,000	1,479,000	9,563,000	90,209,000
Net assets at end of year	\$ 83,724,000	2,357,000	9,949,000	96,030,000

UTOPIA UNIVERSITY

Statements of Cash Flows

	Current	Prior
Cash flows from operating activities:		
Change in net assets	\$ 4,590,000	5,821,000
Adjustments to reconcile change in net assets to net cash provided by operating activities:		
Depreciation expense	4,083,000	3,915,000
Net realized gains on investments	(2,265,000)	(1,069,000)
Net unrealized (appreciation) depreciation of investments	1,036,000	(4,340,000)
Provision for losses on student accounts receivable, net	115,000	78,000
Gifts and grants received for long-term investment	(1,645,000)	(271,000)
Gifts of property, plant, and equipment	(84,000)	(174,000)
(Increases) decreases in:		
Student accounts receivable	(247,000)	(271,000)
Other receivables	278,000	55,000
Contributions receivable	(80,000)	1,454,000
Deferred charges and prepaid expenses	31,000	44,000
Increases (decreases) in:		
Accounts payable	(288,000)	(188,000)
Accrued expenses	476,000	226,000
Deferred revenues	(24,000)	(88,000)
Student deposits	(48,000)	(9,000)
Accrued postretirement benefits	--	132,000
Net cash provided by operating activities	5,928,000	5,315,000
Cash flows from investing activities:		
Purchases of property, plant, and equipment, net	(2,594,000)	(3,279,000)
Purchases of investments	(20,740,000)	(25,918,000)
Proceeds from sale of investments	17,812,000	24,556,000
Disbursements of notes receivable, net of repayments and other reductions	(283,000)	(303,000)
Net cash used for investing activities	(5,805,000)	(4,944,000)
Cash flows from financing activities:		
Principal repayments of indebtedness	(911,000)	(1,292,000)
Gifts and grants received for long-term investment	1,645,000	271,000
Increase in U.S. government grants refundable, net	231,000	273,000
Net cash provided by (used for) financing activities	965,000	(748,000)
Net increase (decrease) in cash and cash equivalents	1,088,000	(377,000)
Cash and cash equivalents - beginning of year	19,605,000	19,982,000
Cash and cash equivalents - end of year	\$ 20,693,000	19,605,000
Supplemental disclosure of cash flow information:		
Cash paid during the year for interest on long-term debt	\$ 2,323,000	2,822,000
Significant noncash financing and investing activities:		
Gifts of property, plant, and equipment	\$ 84,000	174,000

APPENDIX D:
SUMMARY OF
FINANCIAL RATIOS



RESOURCE SUFFICIENCY AND FLEXIBILITY

Primary Reserve Ratio

$$\frac{\text{Expendable Net Assets}}{\text{Total Expenses}}$$

Secondary Reserve Ratio

$$\frac{\text{Nonexpendable Net Assets}}{\text{Total Expenses}}$$

OPERATING RESULTS

Net Income Ratio –
using an operating indicator

$$\frac{\text{Excess (Deficiency) of Unrestricted Operating Revenues}}{\text{Over Unrestricted Operating Expenses}} \over \text{Total Unrestricted Operating Income}$$

Net Income Ratio –
using change in unrestricted net assets

$$\frac{\text{Change in Unrestricted Net Assets}}{\text{Total Unrestricted Income}}$$

Cash Income Ratio

$$\frac{\text{Net Cash Provided by Operating Activities}}{\text{Total Unrestricted Income, Excluding Gains}}$$

Operating Income Ratio

$$\frac{\text{Operating Income}}{\text{Educational and General Expenses}}$$

Net Tuition Dependency Ratio

$$\frac{\text{Net Tuition and Fees}}{\text{Operating Income}}$$

Net Tuition per Student FTE Ratio

$$\frac{\text{Net Tuition and Fees}}{\text{Full Time Equivalent Students}}$$

Net Auxiliary Income Ratio

$$\frac{\text{Net Auxiliary Enterprise Revenues}}{\text{Total Auxiliary Enterprise Revenues}}$$

Net Hospital Income Ratio

$$\frac{\text{Net Hospital Revenues}}{\text{Total Hospital Revenues}}$$

Contributed Income Ratio

$$\frac{\text{Contributed Income}}{\text{Educational and General Expenses}}$$

APPENDIX D

Educational Core Services Ratio	$\frac{\text{Educational Core Services Expenses}}{\text{Educational and General Income}}$
Educational Support Ratio	$\frac{\text{Educational Support Expenses}}{\text{Educational and General Income}}$
General Support Ratio	$\frac{\text{General Support}}{\text{Educational and General Income}}$
Facilities Maintenance Ratios:	
Maintenance Ratio	$\frac{\text{Operations and Maintenance of Plant}}{\text{Educational and General Income}}$
Deferred Maintenance Ratio	$\frac{\text{Outstanding Maintenance Requirements}}{\text{Expendable Net Assets}}$
FINANCIAL ASSET PERFORMANCE	
Return on Net Assets Ratio	$\frac{\text{Change in Net Assets}}{\text{Total Net Assets}}$
Capitalization Ratio	$\frac{\text{Modified Net Assets}}{\text{Modified Total Assets}}$
Composition of Equity Ratio	$\frac{\text{Financial Assets}}{\text{Physical Assets}}$
Return on All Investments Ratio	$\frac{\text{Total Investment Return}}{\text{Average Modified Invested Assets}}$

SUMMARY OF FINANCIAL RATIOS

DEBT MANAGEMENT

Viability Ratio

$$\frac{\text{Expendable Net Assets}}{\text{Long-Term Debt}}$$

Debt Burden Ratio

$$\frac{\text{Debt Service}}{\text{Total Expenditures}}$$

Debt Coverage Ratio

$$\frac{\text{Adjusted Change in Net Assets}}{\text{Debt Service}}$$

Leverage Ratio

$$\frac{\text{Available Net Assets}}{\text{Long-Term Debt}}$$

Age of Facility Ratio

$$\frac{\text{Accumulated Depreciation}}{\text{Depreciation Expense}}$$

APPENDIX E:
RATIO RESULTS BY CARNEGIE
CLASSIFICATION

INTRODUCTION

This chapter presents the results of selected ratios in specific Carnegie classifications. The results are tabulated from the institutions in the KPMG proprietary database, *InsightSM*, which currently contains financial information from approximately 300 independent institutions. The data is from the institutions' audited financial statements, presented in accordance with generally accepted accounting principles. No procedures have been performed to ensure accuracy or appropriateness of the data of individual institutions.

This information will be updated annually to provide interested parties with comparative data. Data for the new ratios introduced in this edition of *Ratio Analysis* will be added to future updates. As the number of years added to the database increases, effective trend analysis will be possible. Independent institutions are invited to submit their audited financial statements to participate (see the last page for contact information). Specific procedures and restrictions apply to usage.

The ratio values are presented in quartiles for each of the years 1998, 1997, and 1996. The 50th quartile is the median score.

PRIVATE INSTITUTIONS OF HIGHER EDUCATION

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.64	1.20	2.28	.64	1.12	2.42	.51	.98	2.18
Secondary Reserve	.23	.48	1.04	.22	.50	1.11	.19	.43	1.09
Net Income* %	7.02	13.70	22.92	6.97	14.17	23.78	4.67	10.26	19.70
Cash Income %	4.12	8.18	13.29	2.86	7.84	12.08	2.65	7.46	12.61
Operating Income %	70.29	82.82	90.75	67.56	81.45	90.45	65.41	80.51	90.77
Net Tuition Dep. %	59.61	44.29	28.21	57.11	42.24	25.49	59.49	42.40	27.86
Contributed Income %	8.30	14.44	24.87	8.36	15.24	27.05	8.02	13.10	23.78
Educational Core Serv.%	35.64	42.61	50.48	33.84	41.82	50.57	37.03	42.80	52.06
Educational Support %	13.60	19.75	25.58	13.86	20.24	25.35	14.26	21.70	27.32
General Support %	12.45	16.89	21.24	12.42	16.27	21.01	12.14	16.75	21.61
Return on Net Assets %	9.37	13.18	17.25	10.11	13.56	18.49	7.74	11.85	16.44
Viability	1.34	2.73	5.61	1.37	2.93	5.63	1.19	2.67	5.56
Debt Burden %	6.24	4.33	3.01	5.95	4.32	2.79	6.21	4.62	2.87
Debt Coverage	3.43	5.88	10.65	3.48	6.02	11.60	2.74	4.74	8.65
Leverage	2.45	4.24	7.92	2.45	4.15	7.88	2.06	4.01	7.04
Age of Facility	13.49	11.14	9.54	13.66	11.38	9.65	13.94	11.40	9.41

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

BACCALAUREATE COLLEGES

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.74	1.78	2.74	.79	1.68	2.88	.66	1.47	2.54
Secondary Reserve	.24	.75	1.51	.29	.81	1.50	.25	.86	1.44
Net Income* %	7.02	17.95	27.79	8.51	17.30	26.65	5.99	14.55	23.57
Cash Income %	.33	7.54	15.43	.85	5.88	12.01	.48	7.12	13.75
Operating Income %	60.91	73.46	82.94	59.25	70.53	82.18	55.35	69.02	80.64
Net Tuition Dep. %	52.27	41.98	30.38	52.05	41.22	29.71	52.42	39.41	30.52
Contributed Income %	12.82	20.61	34.83	13.85	22.93	34.36	10.93	20.58	31.06
Educational Core Serv. %	30.35	37.40	44.82	30.48	36.62	42.96	33.32	38.16	43.70
Educational Support %	17.23	21.66	26.69	16.96	22.12	27.27	18.34	23.86	28.90
General Support %	14.33	17.74	21.71	13.51	17.70	22.30	14.35	17.78	23.67
Return on Net Assets %	9.37	14.30	19.21	8.73	14.42	19.79	8.97	12.56	18.07
Viability	1.34	3.18	6.25	1.59	3.45	6.65	1.63	3.16	6.86
Debt Burden %	6.30	4.87	3.16	5.94	4.49	2.91	6.43	4.92	3.02
Debt Coverage	3.34	6.86	12.29	3.99	6.88	13.38	3.32	5.82	10.30
Leverage	2.90	4.28	8.27	2.70	5.21	8.36	2.56	5.01	8.36
Age of Facility	14.29	11.67	10.13	14.08	11.80	10.45	14.41	12.42	10.78

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

BACCALAUREATE COLLEGES I

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	1.60	2.43	3.51	1.61	2.56	3.66	1.35	2.22	3.18
Secondary Reserve	.70	1.20	1.77	.79	1.30	1.71	.79	1.31	1.68
Net Income* %	14.69	21.72	29.27	13.16	21.80	28.94	7.64	17.27	28.11
Cash Income %	-2.40	6.92	15.47	-1.54	5.27	11.36	-.39	6.73	13.75
Operating Income %	56.61	69.33	77.79	53.85	66.48	76.52	50.00	63.21	77.24
Net Tuition Dep. %	46.68	33.19	27.21	44.48	35.76	28.06	44.31	37.39	29.11
Contributed Income %	15.52	24.47	41.98	15.13	27.12	34.36	14.37	25.10	34.45
Educational Core Serv. %	28.43	35.81	39.63	30.88	35.34	40.74	33.32	38.13	43.43
Educational Support %	14.58	20.12	23.50	15.77	20.69	25.88	18.30	23.44	28.33
General Support %	12.45	16.19	19.01	12.78	14.85	18.04	13.77	15.69	19.53
Return on Net Assets %	13.38	15.10	19.42	10.62	15.49	19.78	10.54	12.47	15.95
Viability	2.58	4.55	7.83	2.96	5.06	8.11	2.67	5.10	7.52
Debt Burden %	5.85	4.71	3.41	5.69	4.58	3.13	5.88	4.64	3.02
Debt Coverage	5.95	9.55	15.59	5.74	8.57	13.38	4.93	7.15	12.17
Leverage	4.06	5.92	9.22	4.05	6.86	9.17	3.75	6.15	9.50
Age of Facility	13.52	11.08	9.84	13.76	11.80	10.21	14.39	12.56	10.59

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

BACCALAUREATE COLLEGES II

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.28	.74	1.26	.42	.79	1.33	.40	.66	1.01
Secondary Reserve	.14	.26	.58	.10	.26	.53	.10	.21	.47
Net Income* %	.53	7.02	19.23	3.72	9.66	21.61	1.81	5.99	19.00
Cash Income %	2.72	7.54	12.06	1.07	6.08	12.80	.48	7.46	13.10
Operating Income %	69.66	78.40	88.06	68.39	78.80	90.15	66.86	80.32	90.72
Net Tuition Dep. %	61.32	52.16	38.83	60.88	52.05	37.41	63.35	51.69	34.30
Contributed Income %	8.59	12.94	26.54	7.12	17.64	28.83	9.26	14.79	22.42
Educational Core Serv. %	34.15	40.47	46.93	29.01	37.72	44.98	32.19	38.92	43.70
Educational Support %	19.24	23.86	28.09	19.02	23.80	28.20	21.70	26.26	32.05
General Support %	17.43	20.89	25.58	17.74	23.25	26.50	17.78	23.24	28.43
Return on Net Assets %	3.65	11.83	18.66	5.31	10.18	20.19	5.13	12.91	19.49
Viability	.45	1.01	2.46	.93	1.52	3.08	.65	1.63	3.07
Debt Burden %	6.61	4.98	2.87	6.61	4.48	2.52	8.50	5.62	2.87
Debt Coverage	1.29	2.75	5.63	2.21	3.23	9.61	1.51	3.55	4.64
Leverage	1.32	2.45	3.64	1.60	2.77	6.64	1.49	2.44	4.75
Age of Facility	14.60	11.95	10.49	14.72	12.32	10.72	14.67	12.00	10.80

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

MASTERS COLLEGES AND UNIVERSITIES

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.44	.82	1.48	.45	.71	1.12	.28	.64	.98
Secondary Reserve	.16	.34	.61	.18	.30	.57	.12	.23	.43
Net Income* %	5.36	11.70	18.36	6.82	10.14	15.72	4.02	7.77	12.80
Cash Income %	5.82	11.50	16.22	5.04	9.19	13.79	4.62	7.88	12.05
Operating Income %	81.25	88.19	94.07	77.02	87.64	91.29	78.27	88.95	94.72
Net Tuition Dep. %	64.04	56.91	42.98	65.15	55.97	45.66	65.26	57.43	48.02
Contributed Income %	5.71	12.40	16.87	7.09	12.05	18.11	5.12	8.98	17.14
Educational Core Serv. %	36.39	42.26	47.96	37.28	41.88	49.14	39.51	43.19	50.42
Educational Support %	18.27	23.36	27.75	18.86	21.79	27.80	19.23	22.06	28.03
General Support %	15.99	18.66	21.26	14.73	17.47	19.93	14.87	17.44	19.47
Return on Net Assets %	9.95	12.48	17.11	8.84	13.02	18.27	5.02	10.51	14.45
Viability	1.06	2.10	3.97	1.17	1.81	3.20	.91	1.56	2.53
Debt Burden %	6.35	4.43	3.58	5.67	4.90	2.79	6.71	4.93	3.18
Debt Coverage	3.26	5.18	7.15	3.33	4.67	6.98	2.07	3.71	5.25
Leverage	1.85	3.27	6.62	1.87	2.99	5.19	1.52	3.47	5.56
Age of Facility	13.83	11.83	9.73	14.28	12.18	10.22	14.48	11.86	8.65

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

MASTERS COLLEGES AND UNIVERSITIES I

Ratio	1998			1997			1996			
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	
Primary Reserve	.46	.76	1.32	.44	.71	1.11	.28	.64	.89	
Secondary Reserve	.14	.29	.58	.12	.28	.61	.10	.23	.41	
Net Income* %	6.25	11.70	16.18	6.18	10.14	18.18	4.02	7.77	11.01	
Cash Income	%	5.82	10.67	13.97	3.76	9.19	13.79	4.00	7.54	11.15
Operating Income	%	83.41	91.32	95.03	79.23	89.76	92.16	83.13	88.95	94.72
Net Tuition Dep.	%	64.04	56.88	42.98	65.70	53.01	44.93	66.11	56.82	49.72
Contributed Income	%	5.29	9.73	16.18	6.41	12.00	18.11	4.56	8.39	13.35
Educational Core Serv.	%	36.44	42.61	47.96	38.47	42.54	51.47	39.51	44.73	51.87
Educational Support	%	18.27	22.06	27.20	18.86	21.79	27.00	19.23	22.57	28.08
General Support	%	15.99	18.29	21.02	15.33	17.47	19.85	14.95	17.44	19.27
Return on Net Assets %	8.19	12.48	16.95	9.56	14.06	19.78	4.94	9.83	14.45	
Viability	1.00	1.47	3.15	.90	1.58	2.71	.71	1.40	2.33	
Debt Burden	%	6.44	4.76	3.81	6.52	4.95	3.71	6.85	5.16	4.00
Debt Coverage		2.94	4.98	6.47	2.91	4.19	6.65	2.07	3.64	4.56
Leverage		1.66	3.00	5.24	1.36	2.64	4.23	1.07	2.88	3.73
Age of Facility		13.83	11.83	8.90	14.28	12.27	10.27	14.36	11.92	8.72

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

M A S T E R S C O L L E G E S A N D U N I V E R S I T I E S I I

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.37	.82	1.51	.48	.94	1.12	.38	.54	1.00
Secondary Reserve	.36	.56	.70	.18	.40	.54	.19	.29	.48
Net Income* %	5.15	6.21	18.95	6.82	11.66	15.23	4.23	6.94	15.37
Cash Income %	8.24	13.86	19.26	6.48	11.14	11.83	7.40	8.85	14.62
Operating Income %	76.39	81.58	87.95	72.12	85.45	90.45	71.82	87.66	95.70
Net Tuition Dep. %	62.75	56.91	48.82	62.04	61.55	51.51	64.79	60.38	43.03
Contributed Income %	12.40	13.97	24.29	8.10	14.54	16.20	8.96	12.11	21.50
Educational Core Serv. %	35.64	37.96	47.87	33.77	40.37	41.98	38.12	41.44	44.80
Educational Support %	18.54	23.36	32.17	18.05	22.01	25.35	15.48	22.01	25.03
General Support %	17.52	19.32	26.23	14.07	16.92	23.49	12.42	17.33	21.61
Return on Net Assets %	10.98	11.83	19.48	7.41	12.98	14.87	5.02	10.51	12.71
Viability	2.51	4.53	8.90	1.83	3.20	4.07	1.52	2.46	17.98
Debt Burden %	3.73	1.88	1.29	4.29	3.19	1.65	5.82	2.60	1.77
Debt Coverage	4.41	7.12	9.50	3.86	5.50	11.39	3.51	4.50	7.82
Leverage	6.48	7.67	30.97	2.99	6.34	8.93	3.47	5.70	17.98
Age of Facility	13.50	11.63	9.86	13.66	11.19	8.70	15.53	10.95	8.35

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

DOCTORAL UNIVERSITIES

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.78	.98	1.47	.70	.99	1.66	.54	.81	1.11
Secondary Reserve	.26	.36	.68	.20	.37	.69	.14	.29	.57
Net Income* %	8.17	11.16	13.56	5.96	11.63	19.08	3.00	6.45	15.74
Cash Income %	1.45	7.44	11.59	3.96	6.92	12.92	1.93	5.18	9.80
Operating Income %	76.11	84.45	92.16	76.64	85.56	90.93	76.22	89.93	92.17
Net Tuition Dep. %	60.52	50.39	28.77	58.64	43.40	36.50	65.29	57.80	36.46
Contributed Income %	4.48	10.41	11.77	7.02	10.39	15.24	4.66	9.74	13.09
Educational Core Serv.%	39.14	48.28	58.67	44.78	48.23	58.26	47.50	54.06	61.15
Educational Support %	13.71	18.10	24.39	12.32	16.00	21.31	14.26	14.90	22.21
General Support %	13.02	15.07	19.09	12.13	15.02	17.67	13.14	16.75	19.57
Return on Net Assets %	11.55	13.22	16.82	11.51	14.03	15.28	7.52	9.80	14.20
Viability	1.54	2.29	3.86	1.43	2.17	3.93	1.04	1.33	3.18
Debt Burden %	5.41	5.03	3.46	6.57	4.63	3.23	5.68	4.26	3.85
Debt Coverage	2.67	5.38	7.36	3.15	4.99	7.23	2.42	3.36	5.11
Leverage	2.29	3.14	4.72	2.09	3.35	5.45	1.67	3.27	5.11
Age of Facility	11.99	11.75	7.85	12.21	11.48	8.94	11.63	10.82	9.80

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

D O C T O R A L U N I V E R S I T I E S I

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.69	.93	1.21	.59	.93	1.36	.57	.66	1.11
Secondary Reserve	.21	.36	.41	.12	.36	.40	.11	.29	.40
Net Income* %	3.85	10.69	12.78	3.98	10.81	23.69	3.25	4.69	17.56
Cash Income %	-.71	7.75	14.86	3.08	7.72	13.11	1.93	5.05	12.58
Operating Income %	76.37	85.88	94.87	77.59	88.48	92.32	80.41	90.08	92.17
Net Tuition Dep. %	58.73	52.27	36.83	61.13	51.00	40.10	65.29	57.80	37.50
Contributed Income %	3.92	9.50	11.00	4.14	8.60	12.60	4.66	8.61	13.09
Educational Core Serv. %	32.89	46.43	58.67	44.00	48.19	50.45	45.03	54.06	61.15
Educational Support %	11.27	16.34	21.58	11.15	14.24	21.52	13.38	14.53	15.48
General Support %	13.02	15.31	19.09	12.13	15.02	20.41	13.14	16.75	29.89
Return on Net Assets %	11.55	13.22	19.58	11.51	13.99	17.21	4.74	11.98	12.60
Viability	1.09	2.09	2.44	1.08	1.74	3.41	1.10	1.33	2.69
Debt Burden %	5.81	5.26	2.58	6.67	4.88	3.74	7.49	4.93	4.00
Debt Coverage	1.29	4.98	7.24	2.43	3.75	6.60	2.48	2.95	5.74
Leverage	1.48	3.14	3.84	1.84	2.64	3.93	1.67	1.74	3.32
Age of Facility	12.55	11.78	9.15	12.21	11.48	8.70	11.88	11.14	10.16

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

DOCTORAL UNIVERSITIES II

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.78	1.47	1.60	.91	1.17	2.14	.33	.81	.83
Secondary Reserve	.26	.68	1.04	.31	.64	1.27	.18	.42	.57
Net Income* %	10.32	11.76	13.56	11.11	11.63	19.08	2.52	6.45	9.18
Cash Income %	1.45	7.21	7.52	3.96	5.16	9.56	2.38	5.18	9.16
Operating Income %	71.86	82.59	84.45	70.95	76.64	90.93	72.63	82.33	89.93
Net Tuition Dep. %	60.52	37.10	22.24	57.58	36.88	31.06	66.38	40.57	22.92
Contributed Income %	5.98	11.70	11.83	8.70	12.41	30.38	6.35	11.26	13.90
Educational Core Serv. %	47.00	50.23	53.35	46.17	50.87	69.13	†	†	†
Educational Support %	16.18	21.08	24.46	15.50	16.00	21.22	†	†	†
General Support %	12.08	15.07	15.80	11.15	12.59	15.94	†	†	†
Return on Net Assets %	8.56	12.08	16.82	10.07	14.03	15.28	7.52	9.80	16.47
Viability	1.72	3.73	3.86	1.51	3.60	4.60	1.04	3.05	3.18
Debt Burden %	5.14	5.03	3.46	6.57	3.48	2.83	5.47	3.54	2.82
Debt Coverage	3.83	5.83	7.36	3.77	5.95	11.12	2.13	3.36	5.11
Leverage	2.29	4.72	4.94	2.95	4.51	7.18	3.09	5.48	5.86
Age of Facility	10.74	10.12	7.53	12.26	10.23	8.94	11.31	10.74	9.48

*Using change in unrestricted net assets.

†Information not available.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

RESEARCH UNIVERSITIES

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.89	1.65	2.88	.84	1.46	2.72	.67	1.34	2.25
Secondary Reserve	.33	.62	1.14	.25	.52	.95	.22	.50	.95
Net Income* %	9.87	15.10	23.96	7.74	16.60	27.20	7.06	13.25	22.28
Cash Income %	5.65	8.25	12.19	5.62	8.46	10.70	3.59	9.10	11.75
Operating Income %	73.70	83.38	88.45	76.92	85.69	89.96	78.07	84.77	90.54
Net Tuition Dep. %	28.09	16.30	9.31	24.93	17.41	9.00	29.18	17.38	9.97
Contributed Income %	7.10	13.53	17.66	6.39	9.80	15.78	6.25	10.90	15.77
Educational Core Serv. %	47.19	57.74	63.24	44.54	58.98	62.22	41.29	57.64	63.97
Educational Support %	5.75	11.08	13.29	5.62	10.13	14.16	5.63	10.72	13.70
General Support %	6.41	8.70	10.16	5.84	7.57	11.44	6.76	8.62	11.18
Return on Net Assets %	11.16	12.84	14.77	11.93	13.26	16.83	9.78	12.35	15.67
Viability	2.61	4.69	7.66	2.36	4.01	7.78	2.16	3.26	6.32
Debt Burden %	4.71	3.38	2.49	4.49	3.26	2.44	4.32	3.32	2.28
Debt Coverage	5.19	8.12	13.53	4.86	7.76	16.49	4.71	6.98	15.88
Leverage	3.17	6.33	9.30	3.18	5.34	9.27	2.78	4.63	7.84
Age of Facility	11.02	9.84	8.82	10.76	9.64	8.55	10.81	9.93	8.54

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

RESEARCH UNIVERSITIES I

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.79	1.65	2.88	.87	1.46	2.72	.80	1.17	2.25
Secondary Reserve	.31	.61	.90	.25	.52	.76	.22	.41	.67
Net Income* %	7.41	15.10	23.08	7.13	17.99	27.20	7.06	12.64	22.28
Cash Income %	5.65	8.14	12.28	6.49	8.46	10.70	5.41	8.80	11.64
Operating Income %	74.27	83.38	88.32	76.92	86.05	90.96	78.07	84.77	90.54
Net Tuition Dep. %	25.21	16.11	9.21	23.26	16.62	8.97	23.31	16.27	9.87
Contributed Income %	8.03	13.53	16.59	6.39	9.80	15.65	6.46	10.90	15.77
Educational Core Serv. %	48.66	58.88	64.61	44.54	58.98	63.35	41.63	57.64	63.97
Educational Support %	5.75	11.08	13.29	5.62	10.39	14.16	5.86	10.72	13.70
General Support %	6.26	8.49	10.05	5.81	7.29	10.20	6.21	7.98	8.70
Return on Net Assets %	10.34	12.82	14.77	11.81	13.42	15.77	10.32	12.92	15.37
Viability	2.37	4.90	6.75	2.36	4.54	7.78	2.16	3.26	6.32
Debt Burden %	4.71	3.45	2.54	4.49	3.27	2.61	4.32	3.35	2.44
Debt Coverage	5.19	8.12	12.03	5.33	7.76	15.83	4.71	6.75	13.52
Leverage	3.17	6.33	8.85	3.18	5.34	9.27	2.78	4.63	7.04
Age of Facility	10.59	9.39	8.70	10.57	9.45	8.49	10.64	9.39	8.54

*Using change in unrestricted net assets.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

RESEARCH UNIVERSITIES II

Ratio	1998			1997			1996		
	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.	25 Qtle.	50 Qtle.	75 Qtle.
Primary Reserve	.89	.94	4.26	.77	1.47	2.38	.62	1.44	2.19
Secondary Reserve	.36	1.33	1.46	.34	1.20	1.29	.32	1.13	1.13
Net Income* %	10.94	11.89	30.19	8.20	16.60	20.78	9.70	16.32	17.20
Cash Income %	5.38	9.92	12.19	4.53	8.79	9.68	3.59	9.10	11.84
Operating Income %	70.68	73.70	91.02	70.69	81.70	87.12	67.64	83.83	86.93
Net Tuition Dep. %	32.38	28.09	27.20	29.78	28.53	24.85	30.68	29.37	26.28
Contributed Income %	6.08	7.10	32.13	6.02	12.05	23.59	1.83	7.58	12.90
Educational Core Serv. %	39.92	47.19	57.74	35.04	59.56	59.89	30.98	56.00	59.38
Educational Support %	8.87	10.01	11.72	2.53	10.13	11.83	2.59	8.69	12.39
General Support %	8.36	9.26	21.41	8.57	11.44	15.83	9.34	11.57	14.46
Return on Net Assets %	11.93	13.27	16.25	11.93	12.86	13.32	†	†	†
Viability	1.70	3.55	9.77	2.22	3.01	10.51	2.39	2.88	11.37
Debt Burden %	6.07	2.12	.82	3.26	2.16	1.07	3.32	2.03	1.24
Debt Coverage	3.14	11.03	23.30	4.70	4.86	30.87	3.97	7.63	18.41
Leverage	1.92	8.25	12.25	2.48	4.24	13.23	3.13	4.13	14.06
Age of Facility	14.05	10.77	10.07	12.22	12.11	10.51	12.04	11.96	10.13

*Using change in unrestricted net assets.

†Information not available.

Note: All of the data in the tinted rows are the ratio values expressed in ordinal numbers, e.g., 3.24/1.27 is equal to 2.55 or 2.55X. All of the data in the rows with the percent signs (%) are the ratio values expressed as percentages rounded to four places, e.g., 65.45 is equal to 65%.

AUTHORS' BIOGRAPHIES

A U T H O R S ' B I O G R A P H I E S

KPMG LLP is the U.S. member firm of KPMG International. In the United States, KPMG partners and professionals provide a wide range of accounting, tax, and consulting services to the higher education community and many other not-for-profit organizations. As a provider of information-based services, KPMG delivers understandable business advice — helping clients analyze their institutions with true clarity, raise their level of performance, achieve growth, and enhance value to their constituents. Through research, instruction, and participation in the development of professional literature published by such organizations as NACUBO, the AICPA, and the FASB, KPMG provides leadership in new developments in the field of higher education financial accounting and management.

RONALD E. SALLUZZO

Ronald E. Salluzzo serves as KPMG's National Practice Director for Higher Education and Not-for-Profit organizations. Mr. Salluzzo has over 27 years of hands-on experience advising boards and senior management of major not-for-profit institutions across the country. He meets with the top leaders of universities and other major philanthropic organizations on issues of institutional vision, transformation, and performance improvement. Mr. Salluzzo also represents KPMG and clients with federal regulatory agencies that influence the tax-exempt arena. In addition to supporting key client relationships, Mr. Salluzzo has participated in the development of KPMG's information technology strategies and approaches to organizational redesign.

Mr. Salluzzo is a well-known speaker and author on the issues of higher education and was a co-author of the previous edition of *Ratio Analysis in Higher Education*. He has been a faculty member of the College Business Managers Institute at the University of Kentucky, cosponsored by SECUBO. Mr. Salluzzo received a B.B.A. in accounting from St. Bonaventure University.

PHILIP TAHEY

Philip Tahey is a partner of KPMG LLP who serves Higher Education, including academic medical centers and other nonprofit organizations. He has led the firm's team in implementing the Business Process Audit for Higher Education and was the codeveloper of KPMG's *SFAS Nos. 116 and 117 Implementation Guide* and its standard A-133 audit program. He has been a frequent speaker at NACUBO, EACUBO, NCURA, and other industry seminars. Mr. Tahey received a B.S. in accounting from Loyola College.

Prager, McCarthy & Sealy, LLC, is a national securities firm that provides investment banking, financial advisory, underwriting, and investment services to not-for-profit organizations and state and local governmental entities. Among the firm's strengths are its customized financial services and broad strategic advice provided to its college and university clients. The firm has provided investment banking services to small first-time borrowers, as well as to mature, sophisticated universities with complex financing structures. Prager, McCarthy & Sealy offers its clients a variety of liability management tools, including credit analyses, financing plans, integrated debt policy studies, and derivative products.

FREDRIC J. PRAGER

Fredric J. Prager is a Managing Director and the Chairman of the Executive Committee of Prager, McCarthy & Sealy, LLC, as well as being a founding partner of the firm. Mr. Prager has over 30 years of experience in higher education finance and has contributed to the development of debt policies and comprehensive financing strategies for numerous universities across the country.

Mr. Prager is an authority on credit matters affecting the higher education industry and speaks regularly on that subject. He has also been a guest lecturer at the Stanford University Graduate School of Business. Mr. Prager co-authored the two previous editions of *Ratio Analysis in Higher Education* and contributed to the Jossey-Bass publication *Successful Responses to Financial Difficulty*. He received a B.A. in political science from Stanford University and has completed graduate work in economics at the University of London.

CHRISTOPHER J. COWEN

Christopher J. Cowen is a Vice President with Prager, McCarthy & Sealy, LLC. Mr. Cowen has nine years of experience in the field of not-for-profit finance, serving universities, colleges, research institutions, and secondary schools. Mr. Cowen received an undergraduate degree in economics from the Wharton School of the University of Pennsylvania and an M.B.A. from the Haas School of Business at the University of California, Berkeley.

For more information about ratio analysis, please contact:
Ronald Salluzzo of KPMG at 703-747-3106 / rsalluzzo@kpmg.com;
Philip Tahey of KPMG at 410-783-8389 / ptahey@kpmg.com; or
Christopher Cowen of Prager, McCarthy & Sealy at 415-403-1900 / chris@prager.com.

The Composite Financial Index (CFI), Graphic Financial Profile, and Insight are service marks of KPMG LLP.