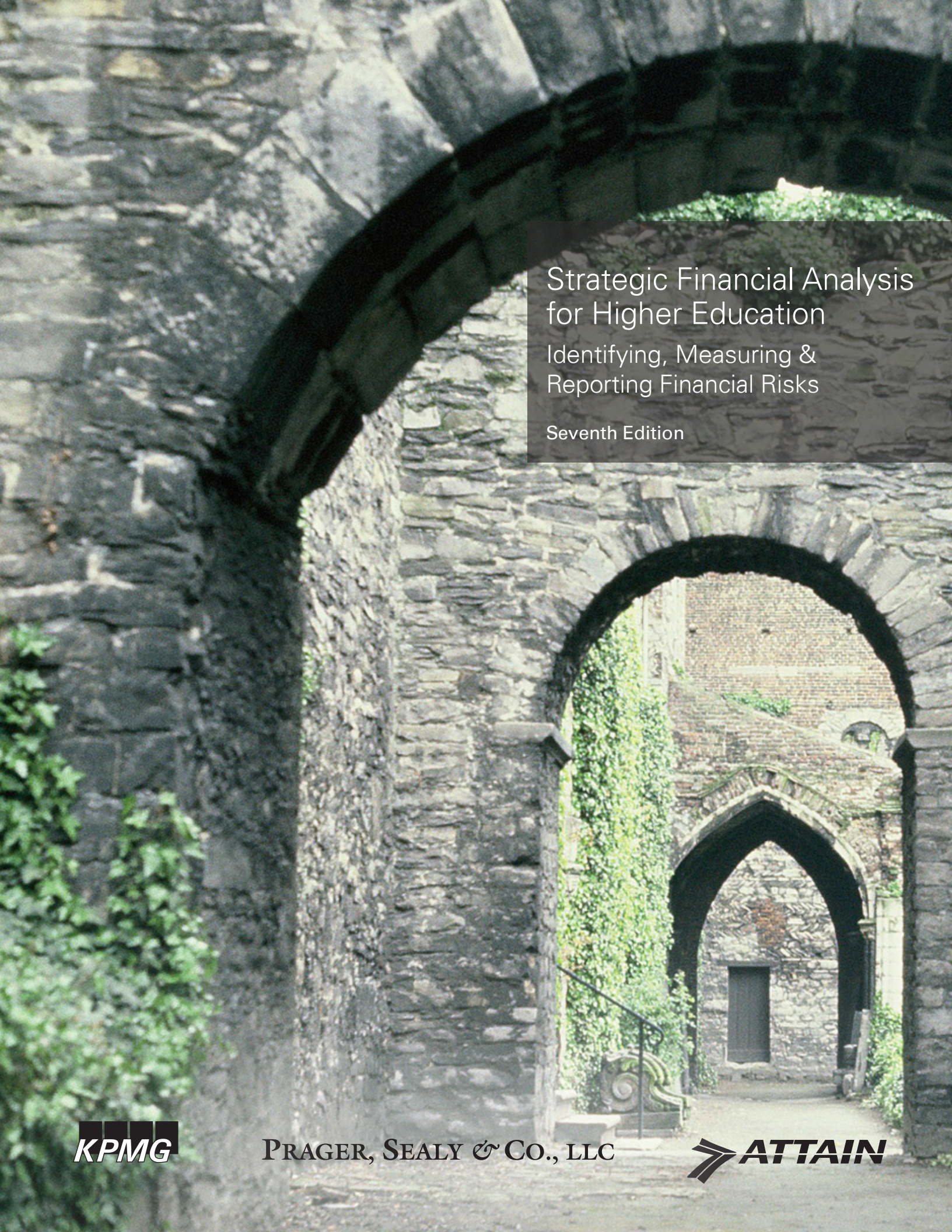


Strategic Financial Analysis for Higher Education

Identifying, Measuring & Reporting Financial Risks

Seventh Edition

KPMG

PRAGER, SEALY & CO., LLC

ATTAIN

TABLE OF

Contents

Introduction and Acknowledgments

INTRODUCTION

Since it was first published in 1980, the *Strategic Financial Analysis for Higher Education* (nee: *Ratio Analysis in Higher Education*) series has been acknowledged by leaders in the higher education industry as important financial publications and used extensively by trustees, senior managers, financial analysts, and credit analysts.

Our Point of View

This seventh edition in the series, ***Identifying, Measuring & Reporting Financial Risks,*** reflects our observations that a paradigm shift has occurred regarding financial management of higher education institutions. It also reflects our conclusion that historical methods of monitoring institutional financial health, mitigating risks, and reporting on those risks need updating. Since we published the sixth edition in 2005, there have been dramatic changes in the economy and financial markets. The scrutiny of boards and senior management has significantly increased, and we expect this higher level of accountability will not abate in the future.

In response to these changes, there has been increased focus on risks affecting business enterprises, including higher education institutions. College and university governing boards are examining core governance and management practices.

An example of the substantial change wrought from the 2008 financial crisis is an emphasis on institutional liquidity. In the past, liquidity was somewhat assumed if there were sufficient expendable net assets to support the institution's financial needs. The industry found that the composition of the resources and the claims on those resources through contingent commitments are as important to the financial operations of the institution as resource levels. In this edition, we have developed liquidity measurements that are intended to help identify, monitor, and report the level of risk associated with liquidity. Although some of the changes in this edition were driven by lessons learned from the recent financial crisis, we do not believe that this book represents a crisis management manual. Rather, we believe that the modifications and approaches suggested herein are appropriate not only in periods of adjustment and stress, but represent a new paradigm for the future under normal but forever-altered situations.

We believe that strategic planning and implementation, institution risk management, and strategic financial analysis are inherently linked. In order to meet its mission, the institution prepares and implements a strategic plan with a series of action steps to attain the plan's goals. Institution risk management is a programmatic view of the potential risks, as well as the assessment of whether inhibitors exist that would make success more or less likely. An institution implements risk management activities to effectively achieve the plan while not creating or increasing risks beyond a tolerable level. Strategic financial analysis provides methods and tools to evaluate financial risks, conditions, and operations, and communicate this information effectively to institutional stewards.

The alignment of strategic financial goals with actions and risk assessment will improve strategic decision making and chances of institutional success. The mission, as articulated in the strategic plan, is the institutional driver; financial capacity and affordability measure the feasibility of the institution's aspirations.

Successful institutions link their strategic risks with operating, compliance, and other risks. Likewise, institutional responses to identify, manage, and monitor these risks should also be linked. Risk management, including financial risk management, is an integral part of everyone's job responsibility. We make this point explicitly because we have often seen risk management thought of as a function apart from the institution's everyday activities.

Our approach to strategic financial analysis applies to all types of public and private institutions, including large research and comprehensive universities, master institutions, liberal arts colleges, community colleges, individual institutions within a public higher education system, and the system itself. Although this book is not written primarily for not-for-profit organizations, we believe these organizations also may find the approaches, concepts, and tools useful in their financial management and planning.

Users of this Publication

While we understand the breadth of the higher education community and the uniqueness of each institution, we believe there are common issues and challenges that almost all institutions face in varying degrees.

We also acknowledge that institutions have varying levels of staff size and skill sets to address these issues. All institutions do not have separate offices or even personnel for treasury, investment, budget, accounting, and financial services operations. In many institutions, these functions are combined into a few offices or even a single office.

The topics covered in this publication are broad and complex, including enterprise risk management, liquidity, transparent internal financial reporting, resource allocation, debt management, and financial analysis and metrics. Some of these topics and their content may not be entirely applicable to all institutions, and some readers of this publication may find the discussion to be "over the top." Others may consider some of our conclusions and tools radical and difficult to apply to their circumstance. However, we believe that these topics need to be addressed by all institutions and that portions of the concepts should have universal application. For example, although the concept of a central bank may have been implemented only by larger, more decentralized institutions, the issues that a central bank addresses (e.g., prioritizing capital needs and funding, allocating debt service costs, and structuring the debt portfolio to minimize costs) are faced by all institutions.

We have structured this edition differently than prior editions due to the breadth of topics and matters addressed, and the different levels of readers. This edition is written for trustees, senior administrators, chief financial officers, financial managers, and financial analysts. We have divided this publication into three sections:

- Strategic Financial Risks, which is primarily directed to governing boards and senior management
- Strategic Financial Analysis Tools, which is primarily directed to senior management and financial management
- Financial Ratios and Metrics, which is primarily directed to financial management

Much of the Strategic Financial Risks section is new to this edition and contains our latest thought leadership material. The Strategic Financial Analysis Tools and Financial Ratios and Metrics sections have been brought forward from the sixth edition and updated to reflect the current financial environment. We have structured these three sections based upon three levels of readers within institutions – governing board, senior management, and financial management.

Senior management is responsible for carrying out the directives of the governing board and its committees and reports to, and interacts with, the governing board's members. We consider senior management to comprise the institution's president and other senior executives, and would include at least the provost, chief financial officer, general counsel, chief budget officer, chief investment officer, chief risk officer and head of development at either the system, central or school levels. It may also include deans of schools or significant divisions (e.g., hospital, auxiliaries, athletics, etc.).

Financial management would include those responsible for budgeting, finance, treasury, accounting, compliance, insurance and risk management, and similar functions, regardless of whether they work in system, central, or school administrative units. They are responsible for executing directives of senior management and are generally responsible for day-to-day activities of the institution.

We have added selected examples to provide additional utility to the information in this publication. These examples are at three levels of higher education institutions—large research, doctoral or comprehensive, and liberal arts- yet reflect issues that all institutions may face.

Background

Since predecessor firms of KPMG introduced the first edition of *Ratio Analysis in Higher Education* in 1980, college and university trustees, senior managers, and interested external parties have used financial ratios as a tool to better understand and interpret financial statements. The second edition, published in 1982, added debt-related ratios relating to institutional creditworthiness and represented the beginning of the collaboration of KPMG and Prager, Sealy & Co., LLC. Subsequent editions were published in 1995, 1999, and 2002 to reflect changes in financial matters affecting higher education and to introduce various approaches and financial tools.

The sixth edition, *Strategic Financial Analysis for Higher Education*, published in 2005, combined ratios and models for private and public institutions. Recombining the financial analysis framework for public and private institutions was appropriate because changes in the financial accounting and reporting model for public institutions made the financial statements more similar to their private counterparts. In addition, public and private institutions increasingly competed with each other in the marketplace for students, faculty, contributions, research support, and debt funding. Further, institutions needed to understand how financial analysts viewed the entire industry so that individual institutions could better manage themselves.

This seventh edition includes the participation of Attain LLC, a provider of advisory services to the public sector. Also, KPMG's participation in this edition is under the sponsorship of the KPMG Government Institute, which was established to serve as a strategic resource to help governments and higher education and other non-profit organizations achieve high standards of accountability, transparency, and performance.

Authors

Since the second edition published in 1982, the *Strategic Financial Analysis for Higher Education* series has been jointly developed by professionals at KPMG LLP and Prager, Sealy & Co., LLC. After KPMG's consulting practice, including higher education consulting, was separated from KPMG in 2000, previous KPMG authors continued their involvement with these publications and higher education consulting. All of the authors have designed and developed the concepts in this edition based on their experiences serving colleges and universities and not-for-profit organizations, and have contributed to several prior editions.

The authors are,

Phil Tahey, Consultant, Former Controller of Johns Hopkins University, and Retired Partner of KPMG LLP

Ron Salluzzo, President, State and Local Government and Higher Education, Attain LLC, and Retired Partner of KPMG LLP

Fred Prager, Managing Director and Founding Partner, Prager, Sealy & Co., LLC

Lou Mezzina, Partner and National Industry Director, Higher Education, KPMG LLP

Chris Cowen, Former Managing Director, Higher Education Practice, Prager, Sealy & Co., LLC

We have enjoyed the opportunity to develop, provide, and refine these concepts to the higher education industry. We look forward to the ongoing evolution of our financial models and tools, and we look forward to working with our colleagues in the industry as we use these concepts to advance risk management and financial analysis for higher education.

We received valuable comments and advice from the following experienced and acknowledged leaders of higher education: Margaret Annett, Art Institute of Chicago; Gary Hunt, Boise State University; Carol Lovell, Boston University; Robin Aspinall, Claremont McKenna College; Charles Tegen, Clemson University; George Battistel, Lewis and Clark College; Ingrid Stafford and Karl Turro, Northwestern University; Randy Greene, Stevens Institute of Technology; Lorraine Arvin and John Kroll, University of Chicago; Bill Doering, University of Cincinnati; Roger Patterson, University of North Carolina at Chapel Hill; Jeff West, University of Utah; Yoke San Reynolds, University of Virginia; Doug Breckel, University of Washington; Betty Price, Vanderbilt University; Nancy Suttenfield, Wake Forest University; Mike Gower, Yeshiva University; Larry Goldstein; Lyn Hutton, Commonfund; Lucie Lapovsky; and Sue Menditto, NACUBO.

We would like to thank the following Prager, Sealy & Co. and KPMG professionals who commented on draft versions of this book:

Prager Sealy & Co.: Joe Beare and Allen Hah

KPMG: Dave Gagnon, Rosemary Meyer, John Moriarity and Ingrid Stanlis

We acknowledge the conceptual contributions of Fred Turk and Dan Robinson, retired partners of KPMG LLP, in developing the basic ideas for the first three editions of *Ratio Analysis in Higher Educatio*n.

For more information about Strategic Financial Analysis in Higher Education, please contact:
Lou Mezzina of KPMG LLP: lmezzina@kpmg.com
Fred Prager of Prager, Sealy & Co., LLC: fred@prager.com
Ron Salluzzo of Attain LLC: resalluzzo@attain.com
Phil Tahey: ptaheycpa@aol.com

SECTION I

STRATEGIC FINANCIAL RISKS

SECTION I

STRATEGIC FINANCIAL RISKS

SECTION OVERVIEW

This section updates our strategic financial analysis framework and approach since the sixth edition in this series was published in 2005. Since then, dramatic shifts in the economy have precipitated significant changes in the way risk is measured and managed within the institution and have caused governing bodies to examine the institution's core governing and management practices. We believe this will be a permanent change to and for higher education institutions, representing a paradigm shift in higher education management. As a result, we have updated our approach to more clearly articulate a key underlying concept of strategic financial analysis—identifying, measuring, monitoring and reporting of institutional risks.

This section is structured into seven chapters:

- Chapter 1 – Reasons to Update Strategic Financial Analysis
- Chapter 2 – Achieving Mission through Implementing the Strategic Plan
- Chapter 3 – Framework to Address Strategic Financial Risks
- Chapter 4 – Measuring Liquidity and Related Risks
- Chapter 5 – Managing Debt Strategically
- Chapter 6 – Identifying, Measuring and Monitoring Financial Operating Risks
- Chapter 7 – Identifying, Measuring and Monitoring Financial Capital Risks

The first three chapters summarize significant events that have occurred since 2005, higher education's responses to those events and our observations. As in prior editions, we continue to believe the recent events have reinforced our point of view that to be best positioned for success, institutions need a clearly defined mission articulated in a strategic plan and business activities. Institution risk assessment activities are part and parcel to strategic planning, and we present a framework to address strategic financial risks.

The remaining chapters in this section address common strategic financial risks such as liquidity and debt management. Another significant financial risk relates not only to the acceptance of an activity, but also to how information related to the activity is reported internally to senior management and the governing board. Reporting that is not clear, concise and consistent may contribute to misunderstanding of financial operations, risks and condition among key parties. We offer some suggestions on internal financial reporting that are intended to help ensure transparency and effectiveness.

This section is focused on financial matters, perspectives and issues as they relate to strategic objectives, goals and measures, and is directed primarily to the governing board and senior management.

1

CHAPTER 1

Reasons to Update Strategic Financial Analysis

CHAPTER SUMMARY

This chapter discusses several significant events affecting the higher education industry since our sixth edition of *Strategic Financial Analysis for Higher Education* was published in 2005. We have observed higher education's responses to these challenges and believe that to be effective, many of the changes will need to become part of an institution's processes and procedures. In certain cases, this will require reexamining policies to ensure a continued vigilance about managing financial risk, overall financial health and key issues such as liquidity.

Introduction

Many negative events affecting the overall economy and higher education have occurred in the past several years. We will summarize some of the major events and some of the responses made by higher education institutions, our observations about those actions and further steps that should be considered. We expect that the impact of the "Great Recession" will abate over time, and do not want the seventh edition to be regarded solely as a primer to manage through this crisis. Rather, we believe that many recent events, which themselves represent the culmination of longer trends, will impact the management of higher education institutions for years and decades to come. We do not foresee a quick return to "business as usual" practices in use prior to 2008.

Debt and related liquidity

Prior to 2008, for many institutions, liquidity needs related to the debt portfolio were an afterthought, as liquidity was abundant and cheap. However, beginning in 2008, the environment changed quickly and dramatically, and liquidity available to institutions from a variety of sources was reduced significantly. The auction rate security market failed beginning in February 2008, resulting in some issuers having great difficulty refinancing this type of debt. Later in the year, several storied Wall Street names that had weathered the Great Depression ceased to exist, forcing many organizations to quickly seek replacement firms to remarket outstanding obligations. Short-term debt—often for the first time—was put or was threatened to be put to liquidity providers, with short-term rates rising to their highest levels in history, only to fall to their lowest observed levels as the severity of the economic downturn became apparent. Despite persistently low short-term interest rates, the liquidity needed to support such instruments became scarcer and more expensive.

Decline in value of endowment investments and related investment liquidity

Following a lengthy period of substantial investment returns, equity markets generally reached their peak in October 2007, when most markets began their breathtaking decline, resulting in dramatic reductions in asset values. A growing trend over the prior five years saw many institutions decrease their investments in publicly traded securities and increase their investments in alternative asset classes, including hedge funds, private equity and venture capital funds, either in search of higher returns or reduced investment risks. Many of these investment vehicles contained redemption restrictions and no robust secondary market for trading, which further contributed to liquidity challenges for some. The downturn in the equity markets could not have come at a worse time as it followed a dramatic increase in asset valuations and resulting congressional pressure for institutions to spend more from their endowment funds, resulting in an unsustainable level of spending. The abnormal investment returns immediately followed by abnormal investment losses caused severe fluctuations to endowment-reliant institutions that further reduced liquidity, forced major reductions in spending and exposed the industry's inability to deal with return volatility even with a smoothed payout rate formula. While the impact of the investment losses was more painful, arguably it was no more destabilizing to the institutional budget than the gains in the prior periods.

Adding to the liquidity challenges facing certain asset classes, money market funds' net asset values broke the $1 value, the Commonfund's short-term fund suffered liquidity problems and other unprecedented occurrences further exacerbated the liquidity challenges at numerous organizations.

Significant short-term borrowing and use of derivatives and impact on liquidity

In earlier periods, credit had been relatively cheap and plentiful for higher education institutions, almost regardless of credit quality. Many institutions borrowed significantly to finance capital expansion during a period of significant increases in equity market returns for their endowment investments when lenders demanded few covenants and little risk premium. An increasing number of these borrowings were short term in nature, as borrowers either benefited from increasing interest rate exposure resulting from bank-supported variable rate debt or achieved a "fixed" interest cost lower than that which could be achieved in the traditional debt markets through derivative products, which became far more prevalent for almost all types of institutions. The result of the economic dislocations was two-fold, as risks associated with underlying variable-rate debt became more apparent and the collateral requirements for certain institutions further impacted cash and liquidity positions. Although many variable-rate debt instruments had stated 30-year nominal maturities, they were remarketed on a weekly or monthly basis and, in reality, committed capital for only a very short period of time.

Increased fixed costs

Due to significant increases in the value of endowment investments following record-setting capital campaigns and equity market increases, many institutions increased their endowment payout well beyond the rate of inflation to increase financial aid and expand operating activities. For many institutions, the growth in endowment payout significantly outpaced the long-term sustainable growth in the overall operating budget, thereby increasing reliance on continued endowment returns. The last decade saw competitive building by colleges and universities. For example, high-end student housing with fully-equipped fitness rooms were constructed in an effort to compete for students. Similarly, competition for research funding was often cited as the rationale for building research facilities. Significant capital expansion increased annual operating expenditures for plant assets, such as utilities, maintenance and repairs. Program expenditures also generally increased as a result of increased competition and the need to attract and retain students and faculty and their research grants. Information technology costs and facility infrastructure costs also increased dramatically.

Additional scrutiny by regulators and costs of compliance

There was increased oversight by federal regulators primarily in areas of grants and contracts such as effort reporting, as well as increased regulations and oversight in financial aid areas such as student lending by both federal and state regulators. The Higher Education Reauthorization Act also increased a number of reporting and regulatory requirements. Federal agency inspectors general adopted aggressive work plans, and Congress held hearings asking for information on executive compensation, endowment fund values and payouts, and use of tax-exempt debt. The IRS increased its scrutiny as well and issued a significant revision to Form 990. Some state regulators also increased compliance over conflicts of interest and implemented regulations similar to the Sarbanes-Oxley Act. These events resulted in significant additional compliance costs and also signaled that the resources dedicated to the compliance function will need to be increased and procedures for compliance going forward must be strengthened.

Reductions in state funding for public institutions

State governments experienced significant declines in revenues and, as a result, reduced appropriations for state institutions of higher education. According to the U.S. Census Bureau, the overall change in state support for public institutions declined by 6 percent between 2005 and 2007. Another study by the State Higher Education Executives Organization notes that the level of state support for the period 1996–2006 increased an aggregate of 2 percent in nominal dollars and declined 6 percent when adjusted for inflation. This decline jeopardizes the public education compact many states have made either explicitly or implicitly with their citizens through public institutions of higher education. As a result, many public institutions face limited tuition rate-setting flexibility as well as declining state appropriations. In addition, state budget balancing actions such as employee furloughs and across-the-board salary or hiring freezes affected many public institutions. At the same time, public institutions are experiencing significant increases in student demand, competition to recruit and retain faculty, and deferred maintenance levels, even though state support has declined for operating and capital purposes, exacerbating the challenges.

Higher education responses to these challenges

Higher education institutions were impacted differently depending upon whether they were private or public, as well as their composition of revenues, such as the degree of dependency on tuition or endowment payout, to fund operations. Public institutions generally saw significant decreases in state appropriations. Private institutions generally saw reductions in endowment income payout and some research activities and net tuition, with a greater need for financial aid.

Although the specific revenue decreases were different, public and private institutions generally had similar responses to declining revenues. These included salary freezes, hiring freezes, reduction in discretionary expenses such as travel and reduction in capital outlays, with only financial aid generally left untouched, and in fact often increased. It became apparent that the majority of funding sources—state aid derived increasingly from income taxes from the wealthy, tuition, philanthropy and endowment return (even for institutions that had supposedly uncorrelated asset classes)—are highly correlated.

Some institutions—both public and private—are beginning to explore the impact of structural deficits, particularly since they are forecast into the foreseeable future, and the long-term strategic changes that may be necessitated going forward. Historically, few institutions have had a process, or an interest, in examining core programmatic offerings to assess continued viability. Such a process might lead to targeted cuts to ineffective or inefficient programs or activities. While the current environment presents an opportunity to consider addressing structural deficits, not all institutions may be up to the challenge, with some continuing to hope that a return to robust investment performance may eliminate the need to address underlying disequilibrium.

During the crisis, governing boards generally met more frequently and asked for more detailed information from management than ever before, such as faculty and staff headcount, faculty teaching loads, specific information on endowment investments and detailed financial projections, including cash and liquidity information. Some governing boards met as frequently as weekly to review the institution's financial information and other matters. Although the crisis mentality has diminished, the need for greater communication with the governing board and interaction among senior managers is likely to remain, reinforcing the need for a holistic approach to institutional financial management and providing a greater voice for treasury and financial officers going forward. Despite the benefits of this increased role, the absence of increased funding to support these new commitments and requirements for information may lead to future challenges.

Our conclusions

The responses by institutions noted above were generally made in a crisis mode to address the immediate issues the institution faced. However, if the responses have not become part of the overall assessment of the institution's risk position, they may prove inadequate and fall short of what is needed for the future. Many institutions approached retrenchment with across-the-board cuts, which may have been expedient but did not result in institutions focusing on—and building upon—their strengths and reducing or eliminating weaknesses in their education and research programs. Any approach to cost reductions that is across-the-board tends to reduce the focus on the core issue, which is examining cost structures and rationales for programs and support structure. Institutions need to operate more efficiently and effectively going forward.

Higher education financial management is at a crossroads. Governing bodies are worried that management tools to identify, monitor and manage key risks to the institution are not aligned with the financial complexity of the current environment. Some governing bodies are skeptical of management's ability to operate the institution, and some of this skepticism results from their own experiences in a corporate environment. This is compounded by the fact that management and boards often have difficulties in communicating with each other given their different backgrounds. In many circumstances, there is not a venue to discuss complex financial issues in the required detail, or with all relevant participants present. There is a need, now more than ever, for strategic financial analysis, reporting and management. Our sixth edition of *Strategic Financial Analysis* identified the need for analytic rigor within the strategic context; however, the processes for effective management of institutional risks and complete internal financial communication were not clearly articulated.

The most successful institutions will adapt to the changed and changing economic environment and focus their energies on their missions and resulting strategic plans and strategic risk management. For institutions with a history of this process, the current changes will be modifications to reflect the knowledge gained from this crisis. For institutions that have not focused on the institutional-level risks that are accepted each day, changes will need to be made in the way boards and senior management meetings are conducted and organized, with more time to discuss key risks and all relevant stakeholders present and engaged. Changes in governance structure between senior management and various board committees are needed and should take a more holistic approach to dealing with issues, such as endowment payout and portfolio allocation policies that have a significant and interrelated impact on liquidity, operations and debt capacity.

Institutions need to ask themselves certain key questions from a strategic financial risk perspective, and they need a framework to identify and manage strategic financial risks. This publication seeks to examine the key questions and risks that need to be addressed, and propose certain new financial metrics and approaches that may be useful.

2

CHAPTER 2

Achieving Mission through Implementing the Strategic Plan

CHAPTER SUMMARY

This chapter discusses a key attribute of successful higher education institutions—a clearly defined mission that is articulated through a strategic plan. The alignment of financial strategy goals with actions and risk assessment can improve strategic decision making and chances of institutional success. The mission, as advanced by the strategic plan, is the institutional driver; financial capacity and affordability is the measure of the feasibility of the institution's aspirations.

Introduction

The principles established in *Strategic Financial Analysis in Higher Education* stressed the importance of the institution's mission and its strategic objectives, generally documented in the institutional strategic plan. Our purpose is to provide institutions with approaches to improving strategic level decision making. Strategic financial analysis accomplishes this by providing tools for institutions to align resources with strategic objectives, understand and manage financial and other institution-wide risks, correlate financial information and nonfinancial drivers among the various institutional plans and budgets, and effectively communicate these facts to governing boards and other constituents.

The institutional mission

The basis for effective application of strategic financial analysis is a clear institutional mission. Every institution must have a clearly articulated mission with a specific strategic plan that operationalizes the mission. The plan must be measured in both financial and nonfinancial respects to help the institution understand the extent to which it is achieving that mission. Mission inspires and guides institutional stewards, yet often may lack the specificity essential to making the mission alive and relevant. Mission is best activated by a formalized strategic plan. Well-managed institutions use their mission to drive success and financial metrics to determine affordability and measure financial aspects of strategic goals.

When effectively developed and communicated, a mission statement is a critical document that sets aspiration and tone for the entire institution. Often, it is not the need for a mission statement that upsets many constituents, but that the product is poorly worded, vague and cannot be implemented. The mission statement articulates a major reason faculty, staff, volunteers and governing board members remain connected to the institution. It is a source of commitment that many for-profit companies lack, enabling higher education institutions and not-for-profits to energize and inspire activities around a unifying set of beliefs that can have tremendous impact enabling tough choices to be implemented and accepted.

The mission statement needs to be concise, articulate and meaningful. It should be directed to all of the institution's diverse constituents. It should be a living document that is used to express the institution's aspirations, its role in the community and society, and who it serves. The mission statement should be the keystone and driver of the institution's strategic plan and all other institutional activities, as represented in Figure 2.1 below. Figure 2.1 includes institution risk management activities that are integral to implementing strategic initiatives.

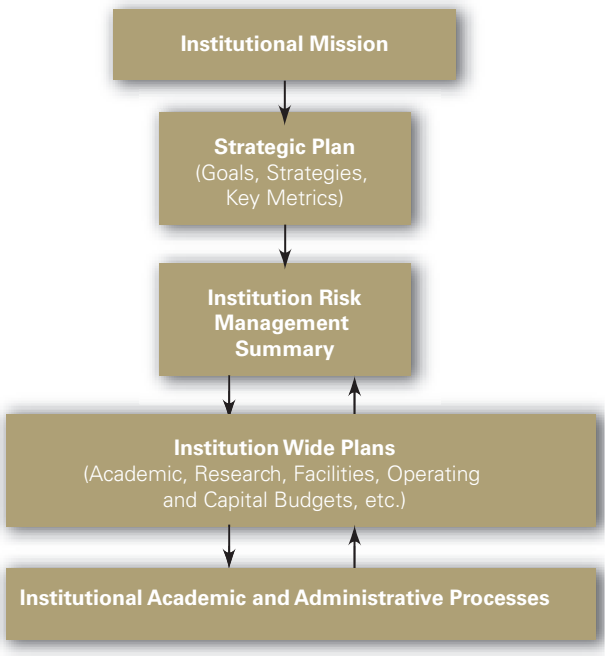
Translating mission into strategy

This action is concerned with helping institutions assess whether the mission has appropriately informed the strategic plan. Many institutions have well-developed but disconnected missions and strategic plans. Successful institutions have been able to integrate their mission statement and strategic plans with their institution risk management activities in a reinforcing manner. As discussed in later chapters, institution risk management is a complementary process to the strategic planning process. These processes need to be integrated, as one cannot be attained without the other also being successful.

Development of the strategic plan is the embodiment of the mission statement. Many institutions do not have a formal strategic plan yet function perfectly well (although perhaps by accident), while many have a plan that includes only a wish list of items or is not sufficiently tied to the mission to achieve full impact. Well-developed strategic plans often include the following attributes:

- Integration of all planning components, such as academic plans, facility plans, human resource plans, operating budgets, capital budgets, etc.
- Assessment of strategic risks related to strategic goals and strategies
- Senior leadership involvement
- Key faculty input and acceptance
- Effective communication strategies and methods that are used frequently
- Realistic time line and time frame
- Developing and periodically reporting key metrics of the plan's status against its goals

FIGURE 2.1: LINKING MISSION TO STRATEGIC AND OTHER PLANS



Although a strategic plan may be comprehensive and well developed, that does not, in and of itself, guarantee success. Success or failure of a plan can result from a number of factors, such as leadership, finances, economic environment, communication, etc. Strategic goals should be clearly articulated and relatively few in number; too many goals and objectives will result in an ineffective and diffuse strategic plan. The goals must be measurable in order to determine progress and provide incentives to ensure resources and activities are aligned in support of such outcomes. Some goals may be difficult to measure and are more qualitative in nature, such as increasing the academic quality of the programs. If institutions find it too difficult to measure the goal, then they will not be able to determine whether the goal was met; this should result in redefining the goal. Goal statements like "to become the number one institution in research" or "to admit higher-quality students" are a bit broad; determination of success becomes difficult, making effective communication of the result unlikely. Statements such as "increasing NIH funding for sponsored research by 10 percent within five years" and "increasing the average SAT score of admitted undergraduates by 10 points over the term of the plan" are more effective and can support the cornerstone initiatives that embody the mission. Later in this book, we will discuss the importance of pricing the strategic plan to help ensure appropriate resource allocation.

From strategy to tactics

The strategic plan should not be limited to a statement of goals and objectives. The plan must also include the tactics that will be employed to meet the goals. These tactics must be clearly articulated so that management can effectively implement them and so that they resonate throughout the institution. The tactics are the action steps that will be taken to attain the strategic goals. It is important that each action step has a time frame for implementation, as well as address the expected challenges that may be encountered. Identifying the challenges will guide and expedite assessment of risks for each strategic goal. Action steps require metrics and periodic assessment and redefinition to determine any progress and whether changes are desirable. Understanding the

reasons for achievement or lack of achievement of the plan is critical. Achievement is impacted by numerous factors, some of which are entirely beyond institutional control. Metrics are also important to convey situations where the action step was completed but no significant progress was made in the goal itself. This process is critical to help ensure that people stay committed to and motivated by the plan—they need to witness that their individual actions have a clear and meaningful impact.

Strategic plans require a financial component, such as funds needed for program, buildings, infrastructure, etc. The financial component should utilize an "all-funds" concept to help ensure a full institutional view is taken over the period covered by the strategic plan. For example, if one of the strategies is to construct facilities that will be funded by gifts, information concerning sources of funds for increased operating costs should also be provided.

We reiterate that it is critical finances not drive the strategic plan; rather, finances are either an enabler or an inhibitor of the plan. The assumptions need to be realistic, consistent and periodically reconsidered in light of changed circumstances. For example, it is the rare institution that did not revisit the financial feasibility of a strategic plan in 2008/09. This process does not mean abandoning the plan; quite the contrary, it should ensure that continued progress can be made toward achievement of the plan even in challenging times.

Institution risk management

Critical to the success of the strategic plan is an effective institution risk management process. Discussed in more detail in Chapter 3, institution risk management is a top-down process that addresses institution-wide strategic risks. It is best implemented in conjunction with strategic planning and implementation activities. Until recently, risk management processes were either deemed too low a priority within the institution, considered primarily an insurance program, or addressed primarily compliance risks. Recent events, as well as an increased emphasis on risk management by public for-profit companies, Congress, federal regulators and accounting bodies, have elevated the need for enterprise- and strategic-level analysis and management. In our prior editions, there was no formal discussion about how such processes could be incorporated within strategic financial analysis. Accordingly, we have provided some additional discussion on this topic, as we consider it to be a vital component of the financial health of higher education institutions, especially as risk management affects so many aspects of financial and strategic management.

Framework for strategic financial analysis

We believe that strategic planning and implementation, institution risk management and strategic financial analysis are inherently linked. In order to meet the mission, the institution prepares and implements a strategic plan that has a series of action steps to attain the goals. Institution risk management is a programmatic view of the potential risks, as well as the assessment of whether there are factors that would make success more or less likely. An institution implements risk management activities in order to effectively achieve the plan while not creating or increasing risks beyond a tolerable level. Strategic financial analysis provides methods and tools to evaluate financial risks, condition and operations, and communicate these risks effectively to institutional stewards.

We believe there are several institution-wide strategic financial questions that need to be addressed in order to effectively manage the financial risks related to carrying out the institution's strategic plan. Institutions should answer questions in these seven critical areas:

- How does the institution identify and address strategic financial risks?
- What is the institution's liquidity, and how does it affect operations?
- Is debt used strategically?
- How does the institution identify, measure and monitor financial operating risks?
- How does the institution identify, measure and monitor financial capital risks?
- Are financial resources allocated to support institutional strategies?
- What is the institution's overall financial health?

We believe there are three levels of these questions that should be addressed within each strategic financial area. These levels are the governing board, senior management and financial management. We have prepared common questions that should be asked at each organizational layer. These questions and some additional narrative are presented in Appendix A. It should be noted that the questions within each area are generic and relevant to both public and private institutions. Institutions should develop their own questions to address their unique mission, strategic plan and risk assessment, and to be reflective of the prevailing environment. However, we believe the questions posed are broad enough to address common concerns faced by all higher education institutions in various scenarios.

3

CHAPTER 3

Framework to Address Strategic Financial Risks

CHAPTER SUMMARY

Institution risk management is a critical process in the setting and execution of an institution's strategic plan. The driver of a successful risk management program is the ability to make the risk function a part of everyone's core activities. Understanding and mitigating risk as it relates to each employee's job responsibility should become one of the institution's core cultural values.

This chapter provides background information on institution risk management, and a framework and approach linking this process to the institution's strategic plan. We have also provided tools and a simple multi-step approach for risk assessment based on a risk/return concept and the resource allocation maps discussed in Chapter 9.

Introduction

The economic crisis that began in 2008 has caused governing bodies to further examine higher education institutions' core governance and management practices. Boards and senior management are being challenged to effectively manage the institution's risks. These challenges, in turn, have required board members to request more information and reexamine the institution's governance oversight and processes. Without a comprehensive understanding of the risks inherent in an institution's activities within a risk framework, members of governing boards may not be in a position to understand those inherent risks. One of the basic questions recently asked of boards and senior management by various constituents is why no one evaluated significant strategic financial risks, and if they did, why did the evaluation not adequately identify the risks that resulted in challenges for the institution?

Unfortunately, the direct answer is that some institutions were not focused on institutional risks or, if they recognized the risks, they did not have a systematic methodology to measure the risks across the broad spectrum of their activities. In fairness, even the institutions which created systematic methodologies were only able to foresee risks within a band of possibilities that the latest economic downturn exceeded. However, the institutions that created these methodologies were better able to assess the impact of the downturn once it occurred because they understood the interdependencies within the institution. Still others may have seen the risks but were unable or politically unwilling to implement changes to address them.

As institutions have grown and become more complex, the assumed risks have also become more complex. Now, more than ever, higher education institutions need to develop and execute ongoing effective institution risk management with a more holistic consideration of their strategic goals and operational objectives. Governing board meetings should dedicate significant time, attention and resources to risk identification, assessment and monitoring activities as a part of the discussion around all activities. Internal financial reports should correlate strategic objectives, risks, risk tolerance, and risk mitigating and monitoring actions within the current financial environment and results of operations.

The complexity of the institution requires sharing information with its board within a framework that provides an assessment of the risks associated with each significant activity, as well as the institution's goals and objectives. Reporting should include changes in the risk profile resulting from changed circumstances. This necessarily requires that the assessment of risk be embedded in each such activity and not a separate process.

This chapter discusses the basic concepts and background of institution risk management, how strategic financial analysis can help higher education institutions in its implementation, as well as some key items to consider in implementing institution risk management. This chapter is not a manual on how to implement institution risk management at a specific institution. However, certain common concepts will enable readers to begin to think about implementation at their institution.

Institution risk management background information

The term "institution risk management" is used in this book to describe the approach by which higher education institutions can manage their strategic risks within the context of implementing strategic initiatives. This process is based upon concepts put forth as enterprise risk management by the Committee of Sponsoring Organizations (COSO). We have, however, often seen the enterprise risk assessments assigned to a limited number of people and therefore, become somewhat disconnected from the structural procedures and processes. We believe risk, from identification to mitigating, monitoring and reporting, is the responsibility of virtually everyone in the institution.

COSO is a private sector organization that was formed in 1985 to sponsor the National Commission on Fraudulent Financial Reporting, which was also known as the Treadway Commission. This Commission was a private-sector initiative that studied the causes of fraudulent financial reporting. It developed recommendations for public companies and their auditors, the Securities and Exchange Commission (SEC) and other regulators to improve internal controls and corporate governance. COSO's 1992 publication, *Internal Control-Integrated Framework*, contains many of the core concepts of internal controls, including a common definition of internal controls, still used today by public companies, governments and not-for-profit organizations.

Following this publication, COSO continued its work and in 2004 published *Enterprise Risk Management – Integrated Framework*, which expanded the notion of internal controls to satisfy the entity's need for effective internal controls and enterprise risk management. COSO defines enterprise risk management as a "process effected by an entity's board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding achievement of entity objectives." Public companies had to initiate some form of enterprise risk management in order to comply with the internal control requirements of the Sarbanes-Oxley Act. As such, it has become an integral practice for public companies, and therefore is a familiar concept to governing board members of many higher education institutions.

It is also important to note what risk management ***is not***. It is not solely an insurance program, although insurance is a method to transfer or reduce some risks. It is also not solely a compliance program, although compliance risks and related actions are part of the institution risk management process. Strong compliance programs represent risk mitigation activities.

Recent developments

The financial crisis in 2008 resulted in several groups conducting studies on a variety of companies' risk management practices, particularly financial institutions. The surveys yielded a number of interesting findings:

- Boards will be spending more time on risk management
- Boards will be asking management for more information on enterprise risk management
- Management believes it does not spend enough time on risk management
- A majority of the enterprises have no enterprise risk management processes in place
- Many do not update their exposures on any formal basis
- A large majority report their key risks on an ad hoc basis

The conclusions from the surveys are that:

- Organizations are facing an increasing number of risks that are also growing in complexity.
- Many enterprises are still managing risks in silos. For example, the general counsel's office often manages compliance risks, chief information officers manage information technology risks, facilities managers deal with facility compliance and risks, the medical school dean is responsible for risks associated with patient care and human resources personnel deal with employment and benefit risks. There has been infrequent coordination with respect to risks inherent in dealing with financial markets, as many chief investment officers, chief financial officers and treasurers examine risk and exposure individually, often with little individual authority or understanding of the interrelationship of these risks.
- Managing strategic risks is not done effectively. For example, when an unforeseen risk event arises, such as a serious crime on campus, a threat to institutional reputation or an unprecedented financial crisis, it may be difficult for the institution to determine how to respond in a timely, coordinated and comprehensive manner.

Higher education institutions often lag public companies in managing risk, if for no other reason than the lack of applicability of regulations such as Sarbanes-Oxley. Although some institutions have done a notable job, few institutions are doing comprehensive institution risk management. Many institutions have a comprehensive compliance program, directed primarily by in-house counsel since they are often responsible for compliance risks.

Institution risk management, when done effectively, can lead to better executive decision making and increase the probability of attaining institutional strategic objectives.

Institution risk management and strategic financial analysis

Some of the underlying principles of institution risk management are similar to those of strategic financial analysis. When done effectively, institution risk management can assist institutions and their constituents in making decisions needed to achieve mission, including:

- Aligning mission and strategic plan goals with planning and budgeting processes
- Determining effective governance structures throughout the institution
- Evaluating risks of strategies employed
- Achieving balance between risk and strategies
- Integrating budgets and planning processes with strategic risk management processes
- Identifying and communicating strategic and operating risks, and related monitoring and mitigating activities
- Integrating policies across the institution

Institution risk management is a top-down process that starts with the institution's mission and strategic plan. When done effectively, the process is then driven to all layers in the organization. This approach is different from other compliance programs with process-driven approaches which identify, monitor and measure risks from the bottom up.

Institution risk management is a critical process that enables institutions to understand opportunities for and threats to attaining strategic objectives. Strategic financial analysis provides tools for institutions to determine risks of pursuing objectives and whether the objectives are met from a financial perspective. Together, strategic planning, institution risk management and strategic financial analysis can help institutions determine whether strategic objectives are being met within the institution's risk tolerance.

Core institution risk management concepts

No matter the process used, there are certain key concepts that underlie institution risk management activities. The governing board sets the tone and environment through development of the institution's strategies, strategic objectives and high-level resource allocation methods. Governing boards engage in discussions and decision making with senior management in key areas, such

as developing a risk tolerance and risk management philosophy, reviewing the portfolio of institution-wide strategic risks, and understanding and evaluating the institution's risk management processes.

Risk tolerance is the amount of risk an institution is willing to accept in pursuit of a strategic goal. Risk management philosophy is part of the institution's culture in setting goals and objectives. As such, risk management philosophy and risk tolerance are closely related. For example, if an institution has set very aggressive strategic goals, then it should have a tolerance for a commensurate level of risk. As strategies for attaining these goals are adopted, they should fall within the institution's risk tolerance. Identifying and evaluating the level of an institution's risk tolerance is a key factor in implementing effective risk management processes.

Some additional factors to consider in developing an institution's risk tolerance include an understanding of the institution's current risks, its ability to manage those risks, an assessment of where the identified risks stand in relation to the risk tolerance and the institutional risk capacity. Risk capacity refers to the maximum negative potential impact the institution could withstand from a particular event or the cumulative impact from a series of events. From a financial perspective, risk capacity is generally measured in terms of liquid assets, debt capacity or expendable reserves, or a combination of all three.

Strategy development and goal setting are important aspects of effective institution risk management. Understanding the goals leads to an understanding of the attendant risks assumed. The processes of setting goals and assuming risks are linked and intertwined—goal setting must be done in the context of risk management, and institution risk management cannot be effective without defined strategies and goals. In order to illustrate this concept, consider an analogy related to investment risk and return. Investment risk and return are inseparable concepts—one cannot be effectively evaluated without the other. Similarly, institution risk management by definition is to be applied in strategy setting; determining which strategic actions to employ to meet strategic goals must be done in the context of level of risk assumed by the institution.

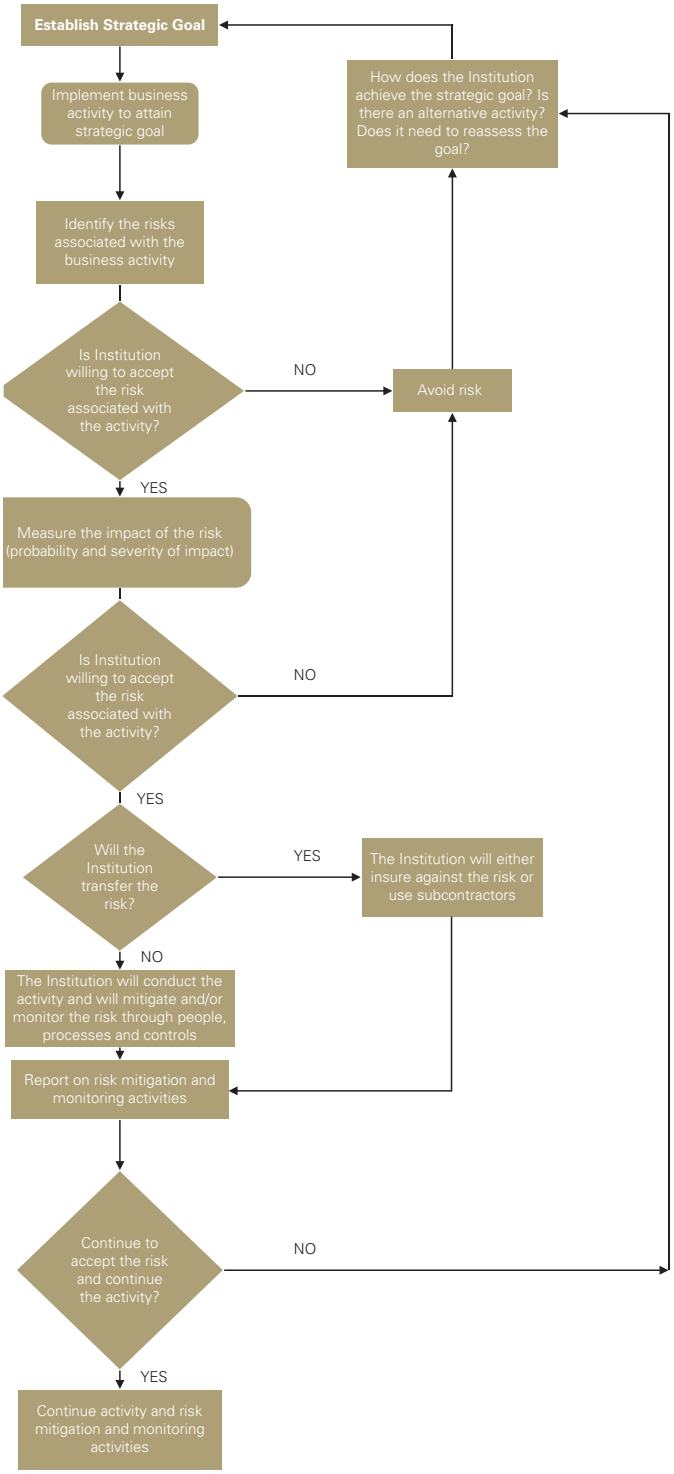
Senior management is responsible for ensuring that while it is executing the strategy and working toward institutional goals, it has a framework in place to gather information on risks assumed for the entire institution. The framework must consider changes in the risk profile as changes in the institution's environment take place. This includes affiliates of the institution, such as legally separate fund-raising or research foundations, joint ventures and other units under the institution's control. It also needs to address those organizations outside of the institution's control that are affiliated with the institution, such as separate alumni associations, athletic booster clubs or start-up companies. If senior management is unable to control the activities and risks of those affiliates, this critical piece of information should be reported to the governing board.

Implementing formal risk management processes can be a daunting task at most institutions because of their traditional decentralized nature, the concept of shared governance and the culture of consensus building. An effective method to begin this process is to apply the risk identification and assessment process to the institution's strategic goals. This is the beginning of a risk framework and would allow correlation of risk identification to management processes. Since attaining each strategic goal has some inherent risk, mapping the strategic goals and strategies with their related risks is an effective starting point. Then, those risks should be evaluated as to whether they are strategic-level risks and the most significant risks to the institution, irrespective of goals. By developing an understanding of the linkages between an institution's top risk exposures and key strategies and objectives, senior management can identify which risks overlap within a certain strategy and where certain risks affect multiple strategies. This process is also effective in demonstrating that the total avoidance of risk is impossible and results in a lack of action, equivalent to the inability to achieve a strategic plan. The senior manager must continually weigh competing objectives of minimizing (but not eliminating) institutional risk, while maximizing the expected fulfillment of the strategic plan (or, "return" in the investment analogy).

In measuring the portfolio of the institution's strategic risks, it is important that the portfolio is institution wide. Senior management is responsible for carefully and objectively evaluating the risks the institution is incurring and reporting them candidly to the board. As part of this identification and evaluation process, senior management may consider the impact of past events on the institution and its constituent groups. By preparing a portfolio of risks in a formal manner, a holistic view of the risk levels and tolerance can be developed.

Financial management is responsible for ensuring that financial information and nonfinancial drivers are consistently determined across the institution, developing and implementing validation processes for financial information reported to senior management and the board, and the institution's risk management processes.

FIGURE 3.1: SCHEMA FOR ALIGNING STRATEGY AND RISK



Strategy and institution risk management schema

Adjacent is a schema that can be applied to institution risk assessment and management activities. A general framework will be presented first, with a case study following.

The institution has developed its strategic plan, including various strategic goals. In order to achieve a specific goal, various activities are identified and articulated. Risks that are associated with those specific activities are then identified. These risks should be strategic in nature and few in number. After the risks are identified, the institution must assess whether it is willing to accept the risks. If it is not, then the institution has chosen to avoid the risk and must then evaluate how it will achieve the strategic goal by considering other business activities or possibly modify the goal itself.

If the institution chooses to accept the risk, it then continues with its risk assessment to measure the probability of the risk occurring, as well as the severity of the impact to the institution if the risk event should occur. Approaches to measure the probability and severity of the risk are described later in this chapter. After the probability and severity are identified and assessed, the institution should reevaluate whether it will continue to accept the risk. If it does, then the institution must decide whether to keep the risk or transfer the risk to a third party. This will generally take the form of insurance or use of subcontractors to carry out the business activity. In many instances, the risk cannot be transferred to a third party.

After measuring the risk, the institution then identifies and implements appropriate mitigation and monitoring processes. These activities consist of people, processes and controls. The people component generally involves hiring additional personnel or training existing personnel to carry out the activity that monitors or mitigates the risk. The processes component generally requires the institution to implement processes to monitor and/or mitigate the risk. Lastly, various internal controls would be implemented to mitigate the risk. It should be noted that these controls may be administrative and not necessarily either financial- or accounting-related internal controls.

As the institution conducts its business activity, as well as implements its mitigation and monitoring processes, it will prepare reports on the results of these activities for senior management and the governing board. A key outcome of this activity would be for the institution to evaluate whether it should continue to

accept the risks related to the business activity. If it does not wish to continue to accept the risk, then once again it needs to evaluate whether the business activity is appropriate to meet the strategic goal or whether the strategic goal itself needs to be reevaluated.

Capital campaign case study

An example of this risk assessment being applied in higher education institutions would be in determining whether to begin a capital campaign. This example can be used by all levels of higher education institutions as well as either public or private institutions, since almost all institutions have conducted some form of a capital campaign.

The example begins with the adoption of the institution's strategic goal of improving its academic program by constructing new facilities and renovating certain existing facilities, and providing funds to enhance selected academic programs. In order to provide funds for this goal, the institution has decided to initiate a capital campaign. One note we would add is that the strategic goal is not the capital campaign. In fact, we believe strategic goals are always about mission and advancing core competencies, not about financial results.

After this business activity (i.e., the capital campaign) has been determined, certain risks are identified that may result in an unsuccessful capital campaign. Some common risks are:

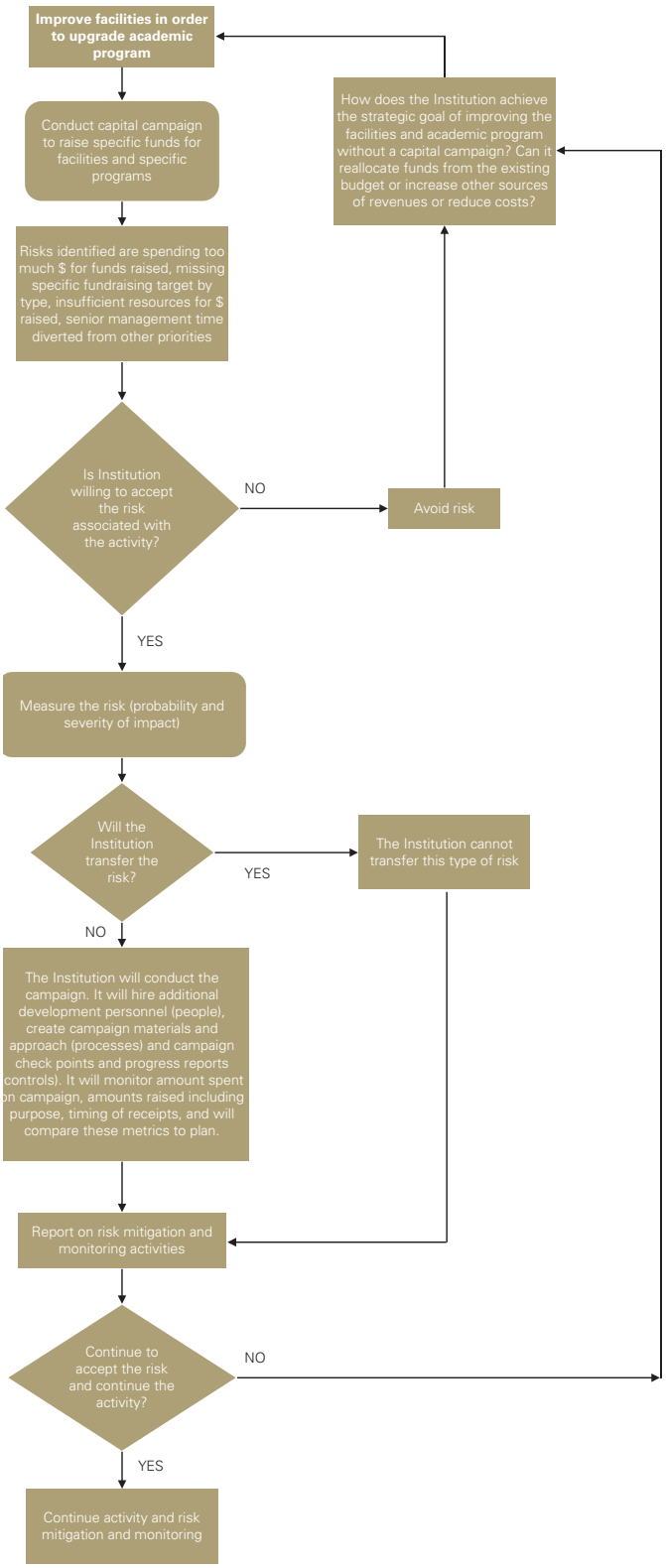
- Spending too much money for the funds raised
- Negative publicity and morale impact of not achieving the campaign goal
- Consuming unrestricted funds that are distracted from other core activities
- Missing some specific fund-raising targets by the type of funds needed
- Applying insufficient resources to conduct the campaign
- Reductions in annual fund giving as funds are redirected to the campaign
- Insufficient cash funds or cash flow to begin or continue construction
- Diverting senior management time from the institution's other priorities
- Donor cultivation not in a state of readiness

Each of the above risks is present in any capital campaign. It is not the presence of the risk but the response to the risk that will determine the success of the activity. If the institution believes the level of risk indicated by this campaign is acceptable, it then proceeds to measure the probability and severity of the impact of these risks. Since it is unlikely the institution can transfer the risk by either insurance or use of subcontractors, the institution will continue its risk assessment process. As a note, hiring a consultant to conduct a feasibility study or develop campaign materials may help the institution have a successful campaign and mitigate risk, but not transfer it.

The institution measures the probability and severity of the impact of the risks associated with conducting the capital campaign, then reevaluates whether to continue with the campaign.

If the institution decides to continue, it will then implement activities to monitor and mitigate the risks associated with conducting the capital campaign. It will hire additional development personnel (people) to conduct the campaign. It will create campaign materials and approaches (processes) to execute the campaign. It will also provide for various progress reports and check points (controls) to report on the results of the capital campaign. These reports will include the metrics used to monitor the risks, such as amounts spent on the campaign and sources of funds, amounts raised including the specific purpose of the funds and expected timing of receipts. It will also compare the actual results of these metrics to the planned amounts.

FIGURE 3.2: SCHEMA FOR ALIGNING STRATEGY AND RISK WHEN INITIATING A CAPITAL CAMPAIGN



These reports will be prepared and provided to senior management and the governing board periodically. In order to evaluate whether the campaign should continue, the governing board and senior management will evaluate the effectiveness of the capital campaign and whether the goals of the campaign are likely to be met, given the risk tolerated. In addition, the governing board and senior management will also evaluate whether the success of the capital campaign will also meet the goal of the business activity (constructing and renovating facilities) within the institution's risk tolerance or whether other funds are needed. Lastly, the governing board and senior management will evaluate whether these new and improved facilities will improve the academic program in the time frame anticipated.

Institutions without a strategic plan

Some institutions do not have a formal strategic plan, while others have one that may be inadequate for various reasons, such as being just a compiled wish list with no strategies articulated to achieve the strategic goals or one lacking a financial analysis of the costs and effect of implementing the strategic plan.

Even without a strategic plan, institutions should correlate planning efforts and institution risk management processes. Some institutions may take years developing processes and recognize that these activities will never be completed. One method to begin is to compile an inventory of the institution's most significant risks. Institutions can use the goals and assumptions in their annual or long-range budgets or financial forecasts, as well as information provided to accrediting agencies or other planning documentation. Two significant risks that should be immediately identified are the lack of an institution risk management process and the lack of a comprehensive strategic plan.

While it is helpful to catalog and quantify the various institutional exposures and risks, it is important not to be lulled into complacency, because the risk assessment only includes and measures the impact of known risks. Risks that have not been considered are, by definition, outside the scope of the processes, which means an unknown exposure exists. Unfortunately, there is little that can be done about this aspect of risk management except to acknowledge there will be unforeseen circumstances and for the institution to develop an approach to handle such occurrences. It is important to build "feedback loops" and re-assessment of the dynamic environment into the planning process so that the strategic plan can be modified and adapted. Since the future is unknowable, a good risk management and strategic planning process should include, from the beginning, the opportunity for changing strategies and tactics.

A different set of problems arises when an institution has analyzed a risk and determined that it has effectively managed the risk. Notably, the economic crisis beginning in 2008 includes several examples where risks were known, measured and run through countless scenarios and simulations, with the result that exposure was believed to be contained and managed, which clearly turned out not to be the case. The same can happen for higher education (and for most institutions did happen as a result of the 2008 financial sector meltdown)—an institution understands and quantifies a risk and believes it is managed, only to learn that reasonable assumptions turn out to be faulty. This problem can lead to a false sense of security, which can lead to additional risk taking above the acceptable risk tolerance.

While one cannot guard against every low-probability event—nor should one since it would stifle the institution—the manager can and should articulate the limitations and assumptions embedded in the risk-management model. The concept is that risk programs should attempt to assess sensitivity to changes occurring in the environment and accept that the risk mitigation strategies will become less effective beyond certain tolerances. This sensitivity analysis should be part of information shared with the governing board.

Institution risk management for public institutions

As discussed in our earlier editions of *Strategic Financial Analysis for Higher Education* and in other chapters in this publication, public institutions have become more like private institutions in many aspects. We expect this trend to continue in the foreseeable future.

Conducting institution risk-management activities for public institutions presents some additional and unique issues due to their mission and character. Public institutions have a broader number of constituents, primarily the government's legislative and executive branches, including state boards or commissions of higher education. These additional constituent groups have a dramatic impact on the risk management and financial management of the institution. Public institutions also tend to use affiliated organizations more extensively than their private counterparts. Risk management processes need to take these factors into account when identifying, evaluating and reporting risks, actions taken and results.

Although public institutions may operate in different jurisdictions of their state or have different operating structures and sizes, they have to varying degrees a universal mission—to serve the citizens of the sponsoring government units (i.e., county, state) by providing access to higher education and other employment related training at a reasonable cost to residents of that unit. Some institutions may have more specific missions relating to selectivity, research, public service, medical care and training, and employable skills training.

Providing access to citizens results in a different pool of applicants and admissions than private institutions. Workforce development and adult education are a more significant part of the mission of some public institutions, especially community colleges because they are responsible for educating all sponsoring governmental citizens over the age of 18 instead of concentrating primarily on educating 18- to 21-year-olds. Public institutions also have an indirect mission of economic development in the community in which they operate. In many cases, the public institution is a major, if not the largest, employer in the community.

Another unique challenge for public institutions is how to address challenges by sibling institutions (i.e., other public institutions in the same governmental area or jurisdiction). At one time, public institutions were generally considered to have a geographical monopoly for the residents of their immediate areas, with one or two institutions considered flagship institutions that would draw from the entire state. Public institutions specialized somewhat, with individual institutions developing a certain market niche, especially in graduate programs. However, this geographical monopoly has eroded and become extinct—the need to increase revenues to counter falling governmental appropriations has caused many public institutions to expand their geographical coverage or use distance education programs and capabilities. The sponsoring government needs to coordinate the roles of peer public institutions in order for all institutions to have clarity of mission.

As a result of these differences in the character and environment, a public institution's strategic plan and strategies need to be more flexible and updated more frequently. Institution risk management factors, such as risk tolerance, and risk management processes must allow for adjustment and flexibility. Governing boards and senior management should clearly define their mission and role in their mission statement and strategic plan. This should be clearly communicated to the sponsoring government. Likewise, flexibility in strategies and risk management processes also should be documented and communicated to the sponsoring government.

Compact with the sponsoring government

The unique challenges facing public institutions today have one common theme—the role and mission of the public institution is changing and will likely continue to change, due to changes in the overall economy and modifications in the public policy discussion of government's role in education. The decades, and in some cases centuries, old compact between a public institution and its sponsoring government is under stress. Declines in government appropriation levels will likely continue as well as increased demands for access and cost containment (i.e., price levels to students). Governing bodies and senior leadership will have to confront and directly address these issues, which have a significant impact on whether the public institution can fulfill its mission and effectively manage its risks.

Governing bodies and senior management need to review and revisit the compact between the public institution and its sponsoring government. This review must be done quickly because the challenges are becoming more numerous and complex, and solutions more critical. Public institutions need to know where they fit in the overall plan of the government's funding priorities. As a result, public institutions should seek more control over their governance, operations and fiscal matters. No matter how the revised compact is structured, public institutions will have, in the not-too-distant future, a financial model similar to private institutions. Public institutions need to begin to think of themselves more like private institutions, with little operating support from the sponsoring government, and they must do so urgently.

Risk assessment tools

Higher education institutions must incorporate institution risk management concepts and practices as an integral part of their policies and procedures. Many institutions struggle with how to adopt formal risk programs, spending an inordinate amount of time implementing elaborate processes so that all potential stakeholders are included. While comprehensive and thorough processes are important, we believe this results in a bottom-up approach to risk management with significant time, attention and resources devoted to either tactical or operating risks, rather than strategic risks. This section will discuss some approaches to institution risk assessment, including a multi-step approach using concepts discussed in the resource allocation chapter (nine).

As noted earlier, a productive approach would be to use the institution's strategic plan goals or objectives and identify and evaluate the risks related to them. This would help ensure that the approach is "top-down" and driven by the institution's strategic plan. If the institution does not have a strategic plan, then identifying the key assumptions underlying the institution's long-range financial plans would be an appropriate substitute for strategic planning goals. An institution could also use information from the last accreditation review or self-assessment report. Another option would be to work backward from the institution's long-range financial planning assumptions (i.e., growth in research base equates to growing market share by type of research or increasing faculty salaries equates to improving academic programs).

No matter the tools or approaches used, risk assessment has some common steps and methods. The first few steps of any process are to identify and measure these risks. Generally, the first four steps in risk assessment are:

- Identify the risks
- Assess the probability of the risk occurring
- Assess the severity of the impact of the risk if it occurs
- Combine the probability and severity assessments

Identifying risks related to strategic goals or actions is the first step. As noted above, all risks associated with achieving the institution's strategic planning goals or other strategic or institution-wide goals should be identified. It should be noted that the risks identified should be strategic in nature and not tactical or operating. For example, if the goal is to increase market share for a certain type of research, related strategic risks would be lack of adequate facilities or enough qualified faculty, not whether the grants obtained are billed timely or properly.

The next step, assessing the probability of the risk, may be done in various ways. Some approaches use a percentage scale such as from 0 percent to 100 percent. Others use a scale of low, medium or high. Other institutions use a number scale from 1 to 5, with 1 being very low and 5 being high. Since any assessment is likely to be arbitrary in some manner, institutions should not spend an

inordinate amount of time discussing whether the risk is either 45 percent or 50 percent. However, some risks may have a significant range of probability and no consensus may be reached. In that case, there should be ground rules for preparing the risk assessment so that a probability may be assigned with communication about the range of disagreement.

The third step is to assess the severity of the impact to the institution if the risk event occurred, or if the risk cannot be effectively mitigated or transferred. Again, this can be done on a scale similar to those used for the probability assessment.

The next step is to combine the probability and severity of the risks. This is generally done using graphics and a chart or other similar presentation. Some institutions use a "heat map" with colors to visually present this information.

Using a low, medium and high assessment, this can also be shown in a 9-box chart as indicated in Figure 3.3.

We believe in a multistep approach to use the results of the risk assessment. By using a low, medium and high scale, and then converting these assessments into a numerical score with low equaling 1, medium equaling 2 and high equaling 3, we can quantify both aspects of the risk assessment. By using the numerical equivalents, and multiplying them to arrive at a combined score, we can convert the process so that the product of the assessments can result in scores ranging from 1 to 9 with other score possibilities being 2, 3, 4 and 6. A score of 1 would be the lowest and equate to low probability and low severity, while a score of 9 will equate to both a high probability and severity if the event occurred.

The next step would be to measure and evaluate this combined risk assessment with the expected return from the business activity or goal. The return does not have to be financial in nature but can also be qualitative. This is similar to the assessment approach used in the Resource Allocation Map discussed in Chapter 9, where assessment of low, medium and high are generally used to measure competencies, market trends and mission. This return assessment, or potential return assessment, together with the combined risk assessment, yields a risk/return analysis similar to that used in investment management. Such a graph is presented in Figure 3.4.

It is important to note that a key aspect of this assessment is the identification of the risk. If a risk is not identified up front, it will not be assessed and evaluated through the process outlined above, which can have potentially severe implications. Recognizing that the defined list of risks may not be complete and that continuing the evaluation to ensure that the risk listing is as complete as possible is a critical step in this process. It also is important to alert the governing board that the institution remains exposed to risks that may not have yet been imagined or considered.

FIGURE 3.3: RISK PROBABILITY AND SEVERITY ASSESSMENT

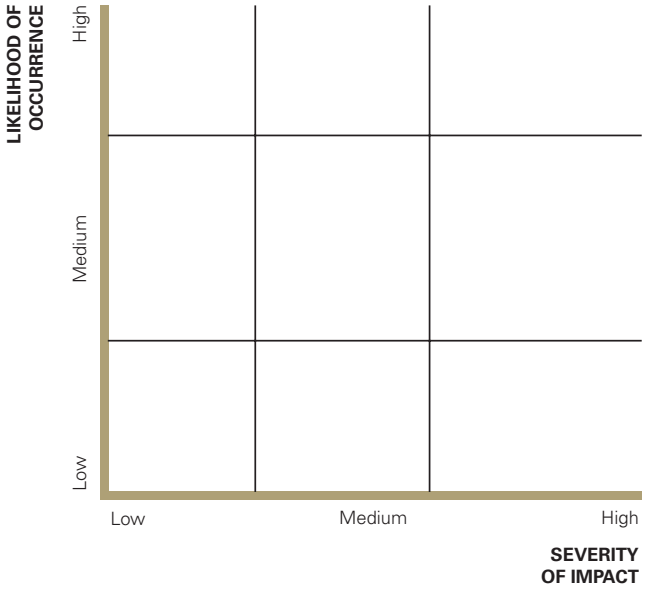
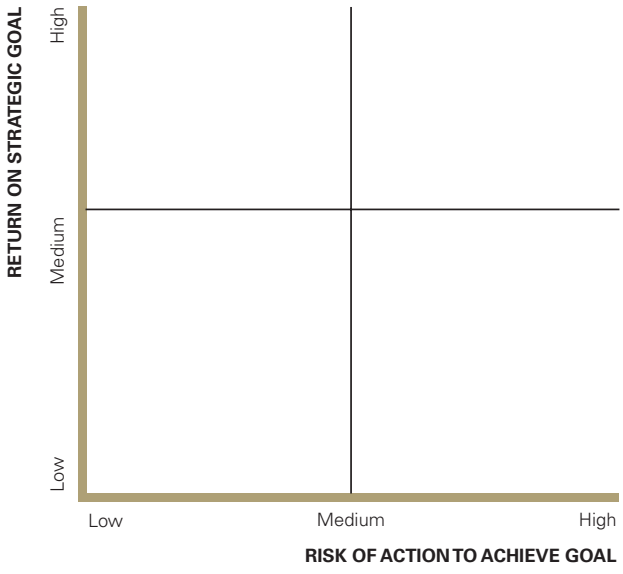


FIGURE 3.4: STRATEGIC GOAL RETURN VS. RISK



4

CHAPTER 4

Measuring Liquidity and Related Risks

CHAPTER SUMMARY

This chapter introduces the concept of liquidity measurement. It describes an approach which, by definition, must be holistic in order to be relevant in both stressed and normal times, and offers a framework for liquidity analysis that can form the basis for understanding, measuring and evaluating institutional ability to access cash quickly. Since the approach is designed to be institution-specific, it will have limited comparability across institutions.

Introduction

Liquidity. This important topic in strategic financial management can be conveyed by a single word. At the same time, the definition of liquidity is complex and largely in the eye of the beholder.

The 2008 economic downturn demonstrated that most colleges and universities underestimated the issue of liquidity in terms of availability or cost. Today, having learned from or suffered from the result, there is a renewed focus on liquidity at all institutions. Although the emphasis on liquidity will vary, every institution should create an analytical and managerial framework to treat liquidity effectively.

Liquidity can mean different things to different people, based in part on their position or point of view. For example, a chief investment officer, a credit rating analyst and a board member may each examine an identical security and come to a different conclusion as to whether the security is "liquid." In part, this is due to the time period being examined—daily, weekly, quarterly, annually—and the assumptions about the market conditions that may impact the ability to sell a security at a reasonable price or at all. Well-publicized situations of investments that were viewed as totally liquid were, in fact, frozen or locked up only heightened this concern. Similarly, different individuals will view external liquidity—unsecured operating lines of credit, committed revolving credit agreements, or the like—with different levels of comfort regarding liquidity and availability, especially in stressed market environments when the need for liquidity becomes more acute. These facts underscore the need for financial managers, senior managers and board members to clearly articulate what is meant by liquidity, what assumptions are made and what might be the potential consequences of unexpected events. Avoiding surprises or misunderstandings is paramount.

Liquidity was cheap and plentiful prior to the 2008-09 liquidity crisis, Discussion topics concerning liquidity were primarily focused on cash optimization and return enhancement strategies that had primary objectives of reducing costs and maximizing investment returns by minimizing liquidity considerations in both the endowment and operating funds.

In 2008 and 2009, the pendulum moved to the opposite extreme. Many institutions, confronted with and surprised by the effects of more expensive and less available liquidity, sought to increase balance sheet liquidity, often with minimal concern for cost. We believe that the focus on and the need to manage liquidity will not be a fleeting phenomenon, but will represent an important on-going institutional measure of financial creditworthiness and skill.

Unlike most other financial measures and ratios presented in this edition, the impact of failure to maintain the proper level of liquidity is not symmetrical. The consequence of too much liquidity may be forgone investment returns, but the result of too little liquidity can be catastrophic to the institution and could result in an inability to meet payroll and the potential for default on contractual obligations. Therefore, any liquidity measure must have as a starting point an absolute floor of 1.0x, meaning that the expected sources of an institution's liquidity over a specified time duration must be at least equal to its expected needs. It is important to note that additional liquidity comes at a cost, so finding the balance between the incremental cost for liquidity and the reduced risk that surplus liquidity provides is a critical process. Criteria that could require this absolute floor to be higher relate to the volatility of the institution's operating income, the yield of its investment portfolio and its debt structure as well as other assumptions used in the calculation. Our experience shows that most institutions should exceed the absolute floor.

We considered a number of approaches for determining the appropriate minimum level for liquidity. Significantly, we believe that:

- As a minimum, an institution should have access to liquidity from a variety of sources to meet its expected and potential cash needs over a given time.
- A ratio of less than 1.0x signifies a vulnerability that could jeopardize the ongoing solvency of the institution, such that it may not have sufficient time or resources to react to adverse conditions.
- Defining at the outset which resources of the institution should be included or excluded in the liquidity calculation will provide the flexibility, if necessary, to reevaluate, vary, or redefine such resources depending upon the prevailing circumstances.
- Finally, we considered whether we should prescribe a cushion above 1.0x, say 1.10x or 1.25x, to serve as a minimal standard similar to a coverage test. We believe that there is no "right" cushion. The amount of cushion above the floor represents the amount of excess liquidity an institution possesses, which will be determined on an institution specific basis based on risk tolerance, confidence in cash projections, the nature of cash sources and uses, event driven risks and other factors.

As with other topics in this edition, we believe that an institution risk management approach can be helpful in providing a foundation for determining desired "surplus" liquidity. Under this approach, liquidity management can be thought of as a form of risk mitigation because the risk of insufficient liquidity could be catastrophic. In this regard, the costs to acquire or maintain additional liquidity, such as keeping a higher cash balance, restructuring the investment portfolio, establishing additional bank lines, borrowing external funds, etc., may be viewed as the premium paid for an insurance policy to protect against the risk of having too little liquidity. This approach can be helpful in thinking about the costs of liquidity. As with any insurance policy, we do not hope that the risk that we are insuring against occurs. Rather, that the effect of the risk, if it does materialize, can be managed or contained. Keeping this point of reference in mind, instead of viewing the "premium" exclusively as cost can help inform the conversation about risk management and also determine how such cost should be borne. No institution can or should externally insure against all risks; however, by specifically including cost in the discussion of risk management, institutions will recognize that an appropriate equilibrium between risk and cost/return can be determined and reevaluated over time.

We do not propose a specific definition of optimal liquidity. Rather, we propose a methodology and timeframe for analysis that should then be customized individually for each institution. Unfortunately, this approach makes comparability across institutions more challenging, but we believe it is most important for the liquidity measure to address specific internal circumstances. As previously mentioned, articulating and agreeing on the approach adopted—whether or not it is identical to the approach followed for other purposes—remains central to the effectiveness of the metric.

A regular discussion of liquidity in a formal report to senior management is desirable and also, periodically, to a committee or the full board. Some institutions have recently established ad-hoc committees for the specific purpose of dealing with liquidity and similar issues that do not fit neatly within the purview of a single committee and often cross over committee lines, such as finance and investment. Although during crisis periods some institutions communicated on a daily (or more frequent) basis, quarterly or semi-annual communication with the applicable board committee may be more appropriate in normal operating circumstances.

Developing, providing or highlighting information regarding liquidity sources, uses, counterparty exposure, demands for cash and any changes across the institution is a feature of best practices. For many institutions, these metrics are defined, assessed and managed in silos and not on a comprehensive basis. Increasingly, we believe that the most successful institutions will develop a holistic approach. Although it is important to remain aware of the details surrounding specific liquidity events, it is also important not to lose sight of the overarching context, as well as strategic and policy objectives.

Defining sources of liquidity

It is best to begin with the broadest definition possible in determining sources of liquidity, then "carve out" or eliminate sources that the institution either does not wish to consider for measurement purposes, or wishes to include as surplus liquidity. For example, uncommitted bank lines of credit and endowment liquidity might be excluded from a more conservative analysis, but in that case a lower target ratio may be warranted. Some institutions may wish to calculate the ratio in this more conservative manner and also as a broader measure with a higher target. Additionally, the ratio should be calculated considering the applicable short- and intermediate-term time horizons. Note that a "long-term" time horizon, i.e., greater than 1-2 years, does not have much relevance for this purpose.

The Liquidity Ratio is calculated as:

Sources of liquidity
Uses of liquidity

The "base" amount for sources for the Liquidity Ratio is calculated below. Think of this as a framework that can be modified depending on institutional circumstances, and be certain also to adjust the uses accordingly (please note that descriptions and considerations of each source are discussed after the ratio):

TABLE 4.1(A): LIQUIDITY RATIO (SOURCES)

	SHORT TERM MEASURE	INTERMEDIATE TERM MEASURE
Cash and Operating Funds (including highly liquid short term investments)	Same Day or Same Day + Next Day Assets, noting potential lock up on funds	Same as Short Term Measure plus assets with <30 day maturity
Operating Funds Held in Long Term Pool (LTP)	None	Depends on Nature of LTP and investment strategy
Endowment Cash and Other Assets, net of securities lending requirements	Same Day or Same Day + Next Day Assets	Same as Short Term Measure plus assets with <30 day maturity
Net Capital Redemptions (Calls)	N/A	Expected (or conservative) commitments less distributions
Operating Lines of Credit, Commercial Paper, BANs	Uncommitted and Committed lines, outstanding commercial paper and BANs depending on risk tolerance	Uncommitted and Committed lines depending on risk tolerance
Dedicated Lines of Credit	Only to offset variable rate debt	Only to offset variable rate debt
Philanthropy	N/A	Cash receipts expected within 30 days
Accounts Receivable and Payable, "Float"	None	Depends on Nature of Operations
External Funds	To the extent invested in assets maturing within 30 days	To the extent invested in assets maturing within 30 days

Cash and operating funds represent the foundation of any institution's liquidity position. The days of the "cashless university" with an objective of minimizing cash and short-term assets may well have ended; rather, finding the appropriate balance of liquidity is critical. This balance will vary for different institutions and will depend on many factors, including risk tolerance, business model, activities that are supported in the institution and the relative position of the institution at any point in time. Included in the short-term measure should be cash, short-term U.S. Treasury securities and similar high quality government and corporate bonds, excluding any securities that the institution cannot readily sell, such as obligations included in a securities lending program or securities held in a managed account for which the manager or trustee can deny redemption.

Similarly, depending on withdrawal features and requirements, funds held in state investment funds and other mutual funds may or may not be included depending upon the real (or perceived) access to monies in the fund. Oftentimes, if these funds are not included in the short-term measure, they may be acceptable for inclusion in the intermediate-term measure, which would include everything in the short-term measure plus other investments with a liquidity horizon of less than 30 days. We believe that there is nothing magical about the 30-day period, but it is representative of a payroll cycle or reasonable planning horizon and that the appropriate period should be tied to the cash-management cycle.

For public institutions especially, it is important to be aware of the timing of funds and guarantees for access. Often, public universities may elect or be required to invest all or a portion of operating funds in a pool managed by the state. While these funds may generally be viewed to be liquid, the institution should be aware that in certain cases the state may invoke restrictions on withdrawals or impose a waiting period to access funds, especially if the state is having difficulties managing its own cash flow. This challenge may be especially burdensome for institutions with greater dependency on the state, especially if there is a real or perceived prohibition on borrowing for operating purposes, which means the institution has fewer alternatives available to manage its cash and liquidity.

One of the risks to consider that will be discussed more fully later in this chapter is counterparty performance risk and the concentration of risk, which also applies to investments. Depositing all funds in a single checking account or within a single mutual fund may inappropriately expose the institution to the risk of default or insolvency by the financial institution, or other difficulties that could result in the inability to immediately access funds. While it may be impractical to have funds diversified as broadly as might be desirable, it is an aspect of cash investment and risk exposure that must be considered.

It should be noted that in determining available cash and operating reserves, it is assumed that operations do not provide a net source of cash, and certainly for the short-term sources calculation this is appropriate. However, for the intermediate-term calculation, it is possible to include some amount of operating cash (depending on the time horizon being analyzed) in order to account for the cyclical nature of cash receipts, most notably tuition. To the extent that the institution can time actual expenditures to coincide with these receipts, such as bond principal payments or scheduled commercial paper maturities, that will result in a more dynamic approach to liquidity management and provide incremental flexibility to the institution.

The next three items—operating funds held in the long term pool, endowment cash and other investments, and net capital calls—will be considered collectively. While it is recommended that the long term (or endowment) pool be considered as part of a comprehensive liquidity management analysis, some institutions may elect to exclude the endowment from liquidity considerations, or calculate liquidity needs with and without these assets. If all flows related to the endowment are excluded, it should be noted that the long-term pool is being viewed as neither a source nor a use of institutional liquidity and is therefore ignored for purposes of the discussion and analysis. This may be a simplifying assumption, although it may not present a complete picture of the institution's liquidity requirements and availability. If endowment sources and uses are considered, it is important that the chief investment officer be included in discussions regarding institutional liquidity, which presents its own challenges (e.g., definitions of liquidity, ownership of funds, investment strategy, coordination of board investment and finance committees, etc.), but also opportunities to have treasury and investments at the center of broad financial discussions since the endowment is considered a component of the academic enterprise and not as a stand-alone entity. Obviously, the decision to consider these sources can have a significant impact on how liquidity is defined, analyzed and managed.

When considering operating funds held in the pool and endowment cash and similar investments, the institution should consider not only whether the sources are legally available for a liquidity event, but also if the funds can be accessed and deployed within the time horizon for the short- and intermediate term measures. For example, including these sources in a short-term measure may require a greater coordination of treasury and investment functions, or may impact operations, and therefore certain investments may not be included; however, with a longer lead time, these funds may be available within an intermediate time horizon.

Net capital calls present an interesting situation. It was generally assumed that most mature private equity programs would be self-funded, meaning that distributions would be recycled to pay for capital calls. When capital calls exceed (or may exceed) distributions, a potential liquidity need arises. Due to the notice period for funding of capital calls, we do not believe that they should be included in the calculation of short-term liquidity; however, they should be considered in an intermediate-term measure as a conservative assumption as to what the net cash commitment might be. While an institution may default on its contractual capital commitment, we do not view that to be an option except in the most dire of financial circumstances since there will be severe long-term reputation consequences. Similarly, while the sale of private equity is possible, we do not believe that should be a consideration for liquidity purposes.

Bank lines of credit represent the next layer of available liquidity, since these sources are dependent upon the performance of an external party. Before discussing lines of credit, a few definitions are in order. We distinguish between committed and uncommitted lines of credit. Each of these lines can be accessed for any legal operating need of the institution (unless limited in the bank documents). Under an uncommitted line, the bank can deny funding for any reason; therefore we do not recommend that these lines be counted on as a source of liquidity as they may not be available when needed most, especially in stressed environments. A draw on a committed line must be honored by the bank except in the event of specified and limited events, generally referred to as conditions precedent to funding. While these types of lines of credit typically cost more, they are more secure than non-committed lines. The next distinction is between dedicated and non-dedicated lines of credit. A non-dedicated line can generally be accessed for any corporate purpose (usually referred to as an operating line) whereas a dedicated line of credit can be accessed exclusively for specific purposes, such as to purchase un-remarketed variable-rate bonds. Generally speaking, a committed dedicated line of credit for the repayment of debt (which is virtually identical to a standby bond purchase agreement, bank liquidity support on variable-rate debt, except that the borrower or its agent rather than the trustee or paying agent is entitled to demand payment) is required in order to be considered by the rating agencies as available liquidity for debt that can be tendered for payment by the debt holder.

We believe that lines of credit represent a cost-effective means for an institution to manage liquidity needs, especially during normal times. For purposes of calculating liquidity sources on a conservative basis, we recommend that only committed lines be included. Uncommitted operating lines should be added for the broadest possible measure for surplus liquidity, but not included in achieving a minimum 1.0x coverage ratio. To the extent that an institution utilizes dedicated lines of credit to support outstanding variable-rate debt, we recommend excluding the dedicated line and the associated amount of debt from the short-term calculation (similar to a direct pay letter of credit or standby bond purchase agreement tied to the bonds) in recognition of the fact that the liquidity provided by this source is restricted and not available for other purposes. As with other principal financial relationships, diversifying exposure by having multiple providers is prudent. To be conservative, depending upon the repayment terms of any bank lines, the institution may wish to include lines in the short-term sources and exclude them as an intermediate-term source.

Philanthropic receipts should be excluded from the calculation of short-term liquidity sources, and in the most conservative case excluded from intermediate-term sources as well. However, pledges for operating purposes from known donors could be included in certain cases. We believe that exclusion is warranted since this source of liquidity has been shown to be highly vulnerable and volatile in times of stress.

We note that the management of accounts payable and receivable (i.e., delaying payment or accelerating collections) or relying on bank float or Automated Clearing House (ACH) posting requirements is a form of short term liquidity, and may be relied on heavily by certain institutions over the short-term. Cash-management approaches and tools have increased recently with banks offering more options and programs to support institutions in collections and payments. While we acknowledge this is the case, we would be cautious about including this as a "Plan A" in terms of managing liquidity. Institutions that require their float to support their liquidity needs operate on a very thin margin and should consider additional liquidity sources. In addition, institutions should also consider third-party exposure and concentration of risk involving relationships with a single bank as discussed below.

Finally, any external funds received from actual borrowings can be included as a source (and generally speaking a more reliable, albeit more expensive one) provided that the assets are invested in securities which meet the institution's definition of liquid investments for the given time horizon. Depending on the source of the borrowing, the liability may be included in the intermediate-term uses discussed below, such as for draws on an operating line or taxable commercial paper or bond anticipation notes (BANs). But if longer term debt is the source, the borrowing will not immediately negatively affect the denominator of the ratio.

Cash position

Any institution requires liquidity (ultimately in the form of cash) in order to function. The amount of liquidity required will depend on the institution's planned and potential expenditures as well as its tolerance for risk and variance. For some institutions, many potential needs for liquidity can be reduced significantly by the nature of the debt portfolio, although this generally comes at a very real cost, and therefore a liquidity equilibrium must be found.

The bedrock of this information is the institution's cash position, since all sources to fund expenditures must be converted to cash prior to payment. While the concept of cash may seem basic, it has been a source of confusion on campuses for several reasons. First, most institutions tend to think in terms of fund balances, not cash, and a substantial and overly sufficient fund balance may not necessarily represent sufficient availability of cash. Thus, sometimes the cash position at an institution can be difficult to analyze, and different members of senior management and the board may be communicating ineffectively. Second, many higher education institutions, unlike health care entities, historically have not been focused on their liquidity position, which may have been appropriate given the largely predictable nature of the underlying business model and longer time frame of their business cycles. The concept of days cash on hand, for example, was (and still is) rarely discussed and in its common form may not be suitable for most institutions given the cyclically of their cash receipts. This lack of focus on daily cash balances has meant that tools to analyze cash have generally been slow to advance, and the data necessary for analysis has been difficult to acquire. The larger and more decentralized the institution is, the more acute the issue. Finally, some background information may be required for board members with a for-profit background who are probably more concerned with cash and may be surprised that the information provided on cash balances lacks some of the subtlety and forecasting they are used to in the corporate sector.

Recently, many institutions adopted a strategy of being "fully invested," meaning that cash was invested in higher yielding assets and that holding a minimal amount of cash was desirable. This process drove many institutions to invest operating cash on a longer term basis, such as in the long-term pool. While this approach may increase returns over time, the strategy did expose the fact that, as operating reserves were becoming less liquid (i.e., cash declining), there was not a sufficient backfill source to replace the underlying lost liquidity. This need (and resulting cost) for supplemental liquidity should be considered as part of the net return analysis. Additionally, there generally has been a greater focus on long-term "average" returns, which conceptually remains appropriate; however, the inability of an operating budget to absorb the volatility of returns both high and low, but clearly more painful when low, has become more apparent. In addition to providing a source of liquidity, cash and similar investments also provide a buffer to more volatile sources of funding (again, at a cost), and therefore an appropriate and acceptable balance should be found.

The cash position of the endowment needs to be understood in addition to the cash position for operating funds. As mentioned previously, while the endowment can be thought of independently as generating and consuming cash resulting in a net neutral position, that simplifying assumption may not be valid. The impact of that assumption on institutional operations must be calculated and evaluated in the form of endowment distribution and access to operating funds invested alongside the endowment. To the extent that endowment liquidity affects the availability of cash on which the institution depends, it must be incorporated in the cash position analysis. Granted, increasing endowment cash/liquidity in most environments is likely to incur a cost and depress overall endowment investment returns; however, ignoring the liquidity impact can have significant consequences. At its most basic level, operations staff (treasury or financial management) needs to communicate with the investment office so that any liquidity issue is not "solved" by moving it to the other silo. A holistic and comprehensive liquidity management approach can reduce this exposure, but coordination at the board level and its committees will remain essential.

Third party exposure

Diversification, which distributes risk, is key to prudent financial management. Therefore, diversifying exposure to avoid concentrated reliance on the performance of a single party is necessary and should be considered across the entire institution including such affiliated or related organizations as foundations or hospitals. Given that the financial services industry tends to go through a rather significant reordering every few decades, concentrating exposure with a single firm can be problematic, whether it is for remarketing services, derivative products or credit.

The first analysis in evaluating third-party exposure is to identify exposure/reliance and then quantify such potential exposure and how that exposure is managed, being careful not to solve one risk by adding another. For example, one device often used to protect against counterparty credit exposure was to require low collateralizing thresholds. While this may have addressed counterparty credit risk, for many institutions it increased potential and often real liquidity requirements as an unintended consequence. Therefore, only by understanding each potential risk and exposure and performing numerous what-if scenarios and simulations, can the full potential exposure and impact of such exposure be appreciated.

Uses of liquidity

An institution must appreciate the uses of liquidity as well as analyze its sources under various timeframes and scenarios. Such uses include meeting planned, predictable "business as usual" needs, offsetting the slow erosion of liquidity that may occur and be undetected for substantial periods of time, and fulfilling extreme unanticipated demands for cash.

There are several approaches to deal with the multiplicity and often uncertainty of liquidity uses. One is to analyze "normal," "stressed" and "severe" or "worst-case" scenarios based on various assumptions largely influenced by historical observations. The next step would be to determine whether sufficient liquidity exists to meet different scenarios using the same or other assumptions and answer the question "Can we meet our needs under these scenarios?" Another approach is to perform various Monte Carlo simulations to determine the probability that the institution can meet its potential obligations a certain percentage of the time under certain assumptions. The drawback of these approaches is the reliance on a set of assumptions that may not incorporate unanticipated events that fall outside of the assumed range (the "fat tail" or "Black Swan" scenario).

Unfortunately, there is no way to predict potential uses without making certain assumptions. Whatever assumptions are used must be made clear and communicated to senior management and the governing board; in other words, no assumptions should be assumed. The framework proposed here is to include all potential uses of liquidity with clearly discussed and defined assumptions (e.g., the interest rate assumed for collateral postings on derivative products). Under this scenario, which is not the absolute worst case but represents a reasonable planning need for liquidity that the institution has selected, the ratio should be no less than 1.0x, based on the sources described above. The amount of "surplus liquidity" (i.e., the amount the ratio exceeds 1.0x) provides a measure of the degree of flexibility the institution should have in order to withstand more unfavorable scenarios such as a higher interest rate than the assumed rate.

TABLE 4.1(B): LIQUIDITY RATIOS (USES)

	SHORT TERM MEASURE	INTERMEDIATE TERM MEASURE
Operations	Cash Shortfall (operating deficit) + 30 day reserve	Cash shortfall (operating deficit) + 90 day reserve
Endowment Payout	N/A	Potential—although this is a zero sum with the endowment liquidity
Outstanding Debt	Variable Rate Bonds; Commercial Paper Coming Due within 30 days	Variable Rate Bonds; Commercial Paper; Principal and put bonds due within 1 year
Capital Investments	N/A	Year's Capital Budget funded from reserves
Drawdown of Reserves	Imminent Reserve Liquidation	Reserve Liquidation Within Year
Potential Collateral Posting	Amount Under Assumption	Amount Under Assumption
Other Uses	Unknown	Unknown

The primary expected use for liquidity is to fund ongoing operations of the institution. Before any calculation is made, however, the institution must understand its daily, weekly and monthly cyclical cash requirements. Only then is the institution able to move to the next level of analysis. The minimum or core amount in available funds that an institution should show is subject to interpretation and is driven in part by the predictability of cash flows. In this regard, higher education institutions tend to be less volatile than other sectors such as health care, government, and much of the private sector. Although a degree of complacency often accompanied this predictability, this condition has begun to change. We recommend a minimum of 30 days reserve for the short-term measure and 90 days for the intermediate term measure, although this could be impacted by several factors, including the composition of the investment portfolio and concentration of sources of revenues. In addition, to the extent that there is a planned or known operating deficit, the cash needed to fund that shortfall should be added as well. As an aside, the budgetary shortfalls or even structural deficits at some institutions have been exacerbated in bad times because of the inability or unwillingness to run a surplus in more robust periods. The subject of such surpluses needs to be addressed because positive operating margins in good times can provide the funds to offset budget reductions or deficits in leaner periods.

The next use of liquidity is the funding of endowment payout. Over the short term this requirement is zero in that the payout can be delayed and expenses managed over that time period. But it is or can be an issue over the intermediate term which is influenced by several institution-specific factors. From an operational and liquidity standpoint, it would be desirable for the institution to maintain the yearly draw in cash, and then spend from the cash reserve during the course of the year, with the amounts replenished on a rolling basis. However, keeping a year's cash reserve has the effect of allocating approximately 5 percent of endowment investments to cash, which in improving markets negatively impacts returns. The amount of reserve is also influenced by how endowment liquidity is viewed and managed vis a vis operating liquidity, and it is important to not simply shift the liquidity requirement from one silo to the other, again highlighting the need for a coordinated approach. Determining the appropriate payout formula and distribution approach certainly is a significant topic for review and analysis, but will not be covered in this publication. No matter the institutional approach, the impact on liquidity must be taken into account.

Another use of cash is to repay outstanding debt. This issue has gained greater visibility in recent years and is explored more fully in the debt chapter. Institutions are aware that variable-rate debt, regardless of its stated maturity, has the potential to require repayment to bondholders within a much shorter period of time, depending on the nature of the debt instrument. A source of liquidity then must be available to cover this potentiality. Accordingly, it is appropriate to think of funding sources not as fixed or variable but as committed only for a certain period of time, which may not coincide with the stated maturity of the debt instrument. Included in the short-term uses would be any debt that could be due and payable within 30 days, such as variable-rate demand bonds and any commercial paper maturing within that period, as well as lines of credit or other liabilities for which payment could be required over the immediate term. This calculation should include all of this type of debt, just as any acceptable bank lines/letters of credit are included in the sources. The intermediate-term calculation additionally includes all indebtedness included in the short-term calculation plus all remaining outstanding commercial paper, plus any puts or maturities within the fiscal year and any amounts outstanding on lines of credit that are expiring.

We recognize that for some institutions this liquidity calculation might be a significant amount, especially if the institution has a substantial term payment coming due. That is the point of this exercise—to avoid an unanticipated need for liquidity which could cause institutional stress. Highlighting the need for funding to repay maturing debt requires that the institution manage the portfolio to ensure that take-out funding is in place even if the expectation is that the indebtedness will not be retired. This approach is acceptable, and in many cases an appropriate diversification tool, but until the external takeout financing or bank renewal is committed, the institution runs the risk that internal funds may be necessary to repay the maturing obligations. Such outcome, therefore, should be considered in managing its intermediate-term liquidity requirements. Additionally, depending upon the structure of external lines of credit with respect to outstanding debt, the underlying obligations may be included as a use here, without the lines as a source, if the bank can demand repayment of the line within a short period of time, which is the case in certain circumstances.

Understanding the nature of the documents pertaining to these external bank commitments is essential in gauging the residual liquidity impact on the institution. Similarly, understanding the nature of the interest rate swap agreement documentation, especially with respect to collateral requirements, is necessary in ascertaining the potential liquidity requirements facing the institution. Since these requirements are not standardized, but rather negotiated between the counterparty/provider and the institution, it is not possible to provide a prevailing principle in the liquidity analysis. This also makes comparisons among institutions difficult and potentially misleading, because two institutions with very similar debt and derivative portfolios might have very different potential liquidity exposures. This feature underscores the fact that the more complex an institution's portfolio (which likely results in a lower expected cost relative to a more passive portfolio), the greater the amount of staff, management and board attention that will be required.

As with endowment payout and capital calls, capital budget funding and reserve drawdowns often can be delayed over the short term. Such expenditures are not included in the short-term liquidity calculation unless they are imminent and unavoidable. However, over the intermediate term, these expenditures can be a significant use of institutional liquidity. The challenge with capital outlays for many institutions is that certain expenditures—especially smaller capital outlays—can continue without the approval or knowledge of both management and the board. While any single expenditure is likely to have negligible impact, the cumulative effect of many individual expenditures over a period of time can significantly reduce operating reserves. Therefore, these potential uses need to be considered in

a comprehensive liquidity analysis. Accommodating such need may be difficult for the management of larger decentralized institutions who do not directly control some of these uses yet remain responsible for centrally managing the net liquidity of the institution. Again, improved and ongoing communication and reporting, appropriate incentives, common understanding and education are necessary to ensure that all of these pieces fit together.

The potential need for posting of collateral under any contract needs to be considered, most notably under derivative contracts. The issue with respect to liquidity is not the fact that there were derivative contracts, per se, but what the terms of the contracts were, and what that means in various environments. Most—but not all—contracts have mutual collateralization thresholds. These provisions protect the institution in certain environments (when the counterparty is required to post collateral) and protect the counterparty in other environments. Dramatic change in collateralization requirements, as much as the requirements themselves, create liquidity related challenges.

There is no simple solution, except that diversification among counterparties certainly helps. Increasing collateralization thresholds in the future may improve liquidity exposure but results in greater potential counterparty credit exposure, which needs to be considered. Different institutions, based on risk tolerance, the size of the derivatives portfolio and other factors, likely will weigh such risks differently. In addition to considering the derivative-related exposures on the liability side of the balance sheet, including potential liquidity needs, the institution also should consider exposure on the asset/endowment side. While historically most institutions have not taken this holistic approach, we believe that over time it will receive greater attention, especially from board members who are more familiar with a corporate approach to risk and financial management.

It is difficult to state a single number that should be placed in the potential collateralization uses of liquidity. For some institutions, it is zero, and for others it can have a significant range. Some institutions compute the "worst case" figure (i.e., maximum potential requirement). Although using this figure may not be appropriate for many institutions, the calculation itself of such requirement may be valuable. For others, the worst actual or theoretical historical collateral postings are considered, and others use a more general assumption. The decision as to which figure to use, again, is institution specific; however, the less conservative the assumption, the higher the liquidity ratio should be.

Finally, since the publication of the last edition of *Strategic Financial Analysis*, virtually everyone has been surprised by external events that required an immediate reaction, oftentimes impacting institutional liquidity and resulting in the desire to accumulate more liquid resources. Over time, we are likely to witness a return to more normal or balanced liquidity requirements influenced by a variety of factors, and management should feel reasonably comfortable that it has protected the institution against the real and potential liquidity needs highlighted above. Yet the real vulnerability will remain the unforeseen need, such as the possibility of a pandemic, terrorist attack, release of toxic gases in a research lab, computer systems meltdown or other event. While these internal and external risks, and many others that could be imagined, clearly represent very-low-probability events, their impact on the institution can be substantial, and virtually all catastrophic events have the potential to have a very real and immediate destabilizing effect on liquidity. One may feel comfortable being protected against what is being measured, yet still remain exposed to the unknown. Obviously, some of this exposure is a fact of life and cannot be eliminated (or the cost of elimination is prohibitive), but an institution risk management approach that considers such risks, and includes an analysis of the impact on liquidity, is helpful and necessary.

The institution must strike a balance between managing these financial and liquidity risks and moving forward. To paraphrase one board member of a higher education institution, too much focus on the immediate financial exposures and very real risks may prevent the institution from advancing its longer-term objectives."

Having first defined Liquidity Sources and Uses as described above, the Liquidity Ratio of an institution is calculated as follows:

$$\frac{\text{Institutional Liquidity Sources (specified term)}}{\text{Institutional Liquidity Uses (same specified term)}} > 1.0x$$

The ratio, in our opinion, MUST be greater than 1.0x; the degree to which it is above that minimum is an institution-specific decision.

EXAMPLE 4.1 — CALCULATING THE LIQUIDITY RATIO

We recognize that many readers would like a template for calculating the Liquidity Ratio, using a form that can be completed by accessing standardized data from the financial statements. No such template will be provided here because, as mentioned earlier, we believe that such calculation must be institution specific for all ratios. However, we will provide an example methodology for a complex research institution, highlighting some of the issues we believe the institution should consider. We also strongly caveat that this consideration is neither exhaustive nor recommended for all or even any specific entity. We hope that this example is informative and provides a framework for internal discussion and analysis. We also recognize that many institutions analyze liquidity for other purposes, such as for the rating agencies. This approach is not meant to mimic the rating agency approach, but to provide an internal guideline and approach for institutional liquidity management taking into account a variety of factors.

We use the following assumptions in the illustrative computation of liquidity that follows. The University has $3.5 billion in financial assets, of which $500 million is in an operating fund managed by the Treasury office, and $3.0 billion is in a pooled endowment fund managed internally and invested according to an asset allocation strategy. The Chief Investment Officer (CIO) has indicated that he does not want the endowment fund to be a source of liquidity for the University since that may impede the long-term management of the endowment fund for optimal gains. The endowment includes $100 million of the $500 million in Treasury cash that is part of the operating fund. The endowment fund consists of a mix of investments that has various degrees of liquidity depending upon assumptions regarding the market. A significant component of approximately $2 billion is invested in various external hedge funds/private equity and similar funds or investments that have limited liquidity. The remaining $1 billion is allocated as follows: $400 million in cash and short term Treasuries which may fall to $200 million according to the CIO if the right investment opportunities arise, $500 million in domestic equities, and $100 million in an intermediate term bond fund. Of the $500 million in operating cash, $100 million is invested in the endowment as mentioned above, $300 million is in various mutual funds and Treasury securities, and $100 million is in a managed bond fund designed to enhance yield. The University indicates that its cash can fall from $300 million to $200 million in July.

For the short term liquidity measure, the University includes $200 million of operating cash (based on the most conservative low cash point) plus the $400 million in cash and securities in the endowment fund, totaling $600 million for the short-term measure. Although the CIO does not want the endowment fund to be viewed as a liquidity source, the University recognizes that in a "stress case", the funds are available for priorities to support University requirements (note that if the University wanted to be conservative, it could use the $200 million figure assuming those funds will be invested, but we assume that there will be coordination and lead time regarding the investment of these funds so that other allocations could be made or analyzed). For the intermediate term liquidity measure, the University includes the $500 million in equities and the two $100 million bond funds; however, it recently came to management's attention that one of the reasons the intermediate term bond fund has higher returns is due to the possibility that the investment manager could impose a 60-day freeze on withdrawals. Therefore the $100 million in the fund is no longer considered, resulting in a total of $1.2 billion for the intermediate liquidity measure.

The University, in calculating the intermediate liquidity measures could go through an analysis of the $2 billion that the endowment fund holds in various illiquid investments. The University has however, decided to be conservative, and is not including any of these investments in its liquidity calculation although a fair amount likely could be liquidated in an emergency, albeit perhaps at suboptimal prices.

The University has a $200 million uncommitted operating line of credit and a $100 million committed line of credit in addition to a $150 million dedicated line of credit to support its variable rate demand notes (VRDN's) and commercial paper (CP). There are $50 million in VRDNs currently outstanding and $25 million in CP has been issued under a $100 million authorized program. For both of the liquidity measures, the University could count $200 million of the uncommitted line + $100 million of the committed line + the $75 million of the $150 million dedicated line since this line can only be counted to the extent covered debt is outstanding, for a total of $375 million. However, in order to be conservative, the University has decided not to include the $200 million uncommitted line due to lingering concerns about the bank, resulting in $175 million total for use in calculating its liquidity measure.

EXAMPLE 4.1 — CALCULATING THE LIQUIDITY RATIO (CONTINUED)

The University believes that it could have an additional $25 million in available liquidity through management of its accounts payable. This $25 million is being included in the short term measure, although it is not included in the intermediate term measure since other intermediate term holdings must be quickly liquidated to replenish the short term operating cash, meaning that the total short term liquidity is $800 million and the intermediate term liquidity is $1.375 billion before the following considerations.

The University expects to receive between $50 million and $200 million in pledge payments and annual fund receipts, and also assumes that there will be no capital distributions and up to $50 million in capital calls during the year. Conservatively, the University includes only $50 million in philanthropy but subtracts $50 million in capital calls, resulting in a net zero adjustment to intermediate term liquidity. The CIO and development office pointed out that it was impossible to predict with precision exactly when during the year the cash flows may occur, so cautioned against using any figures but the most conservative. Based on history, however, the University was comfortable with the above assumptions given the intermediate term nature of the calculation.

For uses of liquidity: the University spends $250 million monthly for operations, so $250 million is included for the short term liquidity measure and $750 million for the intermediate term measure. As previously mentioned, the University has outstanding $75 million in variable rate demand bonds and commercial paper which matures weekly so such amount is included as a use. In addition, this year the University has a $100 million bond issue that was initially sold as a 5 year bullet maturity that must be refinanced. Note that we do not believe there is any difference between a "put" and a "maturity" for this purpose because the obligation to pay/refinance is identical. Accordingly, an additional $100 million is included in the intermediate term measure, but not in the short-term measure since the maturity is more than 30 days out.

The University entered into a $200 million swap several years ago in order to hedge interest rate exposure on an expected future bond issue. In an effort to protect itself against counterparty exposure, there is no collateral threshold limit, meaning that the swap is fully collateralized at all times. In the worst observable case, the University estimates it could be required to post up to $40 million in collateral, but does not believe that this level could be achieved within a short period, so an assumption of $20 million is included in the short term measure and $40 million in the intermediate term.

During the year, according to its payout formula, the University expects to distribute $200 million from the endowment fund, spend $50 million on capital projects, and draw $25 million from operating reserves in order to fund internal loans and provide cash for other non-operating activities. Thus, an additional $275 million is included for intermediate term liquidity uses, but $0 for short term. Total liquidity uses, therefore sum to $345 million for the short term and $1.240 billion for the intermediate term, for a Liquidity Ratio of 2.3x and 1.1x, respectively.

The University is comfortable with these ratios. It believes that the short term measure is higher than may be necessary over the long term, but appropriate now given the University's reduced risk tolerance and uncertainty. Additionally, it has the flexibility to issue additional CP or to become more aggressive with the investment of operating funds should the institution so desire. The intermediate metric, by contrast, is just slightly above 1.0x. Again, the University is comfortable since it believes it was conservative in the liability calculation by not including, for example, the sale of any of its illiquid investments even when such sale could or might be possible.

SOURCES OF LIQUIDITY (IN MILLIONS)

	SHORT TERM MEASURE	INTERMEDIATE TERM MEASURE
Cash and Operating Funds (including highly liquid short term investments)	600 (200+ 400)	1,200 (200+ 400 + 500 + 100)
Operating Funds Held in Long Term Pool (LTP)	0	0
Endowment Cash and Other Assets, net of securities lending requirements	0	0
Net Capital Redemptions (Calls)	N/A	(50)
Operating Lines of Credit, Commercial Paper, BANs	100	100
Dedicated Lines of Credit	75	75
Philanthropy	N/A	50
Accounts Receivable and Payable, "Float"	25	0
External Funds	0	0
Total	**800**	**1,375**

USES OF LIQUIDITY (IN MILLIONS)

	SHORT TERM MEASURE	INTERMEDIATE TERM MEASURE
Operations	250	750
Endowment Payout	N/A	200
Outstanding Debt	75	175
Capital Investments	N/A	50
Drawdown of Reserves	0	25
Potential Collateral Posting	20	40
Other Uses	0	0
Total	**345**	**1,240**

Liquidity Ratio $\frac{800}{345} = 2.3$ $\frac{1,375}{1,240} = 1.1$

5

CHAPTER 5

Managing Debt Strategically

CHAPTER SUMMARY

Debt represents a critical component of the resources available to an institution to fund capital projects, and provide external resources for working capital and interim funding. Used strategically, a balanced debt program can assist in the achievement of institutional goals and increases the likelihood of an institution fulfilling its mission. An agreed-to and well-understood liability policy encompassing all forms of external and internal financing can assist an institution in funding the projects that are the "best in line," not necessarily the "next in line." A consistently applied policy should result in better alignment of funding priorities with strategy over a long period of time. The policy should consider the impact of various risk metrics followed by the institution. Perhaps the most obvious is the impact of the debt portfolio on institutional liquidity, and therefore a liquidity measure and risk management approach should be a component of a thoughtful, comprehensive liability management policy.

Similarly, debt capacity and debt affordability ultimately represent a quantification of risk tolerance levels. For example, the greater the acceptable debt capacity the institution is willing to consider yields the relatively greater risk of insolvency at the extreme or a reduced future flexibility at a minimum. The affordability measures, such as debt service to operations, also quantify the risk that the institution may have greater difficulty affording other initiatives.

Introduction

What is meant by the term, the *strategic management of debt*? Traditional debt management had focused on issuing and managing debt and other financial instruments on a project-specific basis, without taking into account other liabilities and assets and the collective impact on the institution, and implied a rather passive role to the debt management activity. Strategic debt management concerns internal prioritization, budgeting and strategic planning, focusing on institutional policies and procedures, risk management and funding decisions, among other items. This results in a portfolio of transactions that are structured in consideration of the entire debt program, existing and future institutional objectives, and risk tolerance.

With the growing array and complexity of available financial products, the continuing pressure for facilities and increasing focus on balance-sheet management, senior institutional leaders' responsibilities continue to multiply, resulting in an increased need for policies, analytical tools and a framework for decision making that must be conveyed to and understood by the governing board. Especially important within this framework is the context for evaluating the risk characteristics of the debt portfolio, along with the cost trade-offs associated with various alternatives.

Focusing on how managing debt can advance the institution's mission will also help the institution understand how analysts, lenders and purchasers of debt evaluate its ability to assume and repay obligations. If the debt that is incurred is used to support the mission and the institution is well managed, the institution will be in a better position to achieve its long-term goals and build competitive advantages. In contrast, if debt is used to fund activities that do not capitalize on competitive strengths, the financial situation is likely to erode because resources have not been allocated to their highest and best use. Thus, the institution would be further away from having the resources needed to achieve its strategic objectives and is more likely to have lost crucial ground in the competition for students, faculty and financial support (and has also increased its risk profile as measured by greater leverage). If the institution remains focused on its mission, it can use its leverage effectively to deploy additional resources to achieve its long-term goals.

A further consideration is the need to view debt as a component of an intergenerational equity paradigm, as increased debt-financed expenditures for today's students reduce resources available for tomorrow's students, and similarly a lack of current investment may assign greater value to future generations. A benefit of debt financing for long-lived assets is that the cost of the facilities can be appropriately borne by all beneficiaries over the life of the facility being financed. The appropriate level of investment in facilities is debatable, but if a 5 percent payout for endowment arguably is viewed as preserving intergenerational equity, a similar metric

(i.e., funding depreciation) is rationalized on the same grounds. Just as the endowment must grow in order to provide funds for new initiatives, so must capital spending for new buildings and facilities renewal rise above annual depreciation expense in order to provide facilities to support these initiatives.

This chapter discusses several aspects of strategic debt management, including:

- Definition of debt
- Debt affordability versus debt capacity
- External versus internal management of debt
- "Fixed" versus "variable" rate debt
- Financial ratios: one component of credit analysis
- Objectives of a long-term liability management and liquidity policy

Definition of debt

At one time, it was relatively simple to determine an answer to the question, *what is the amount of institutional debt*? One simply looked at the bonds and notes payable in the financial statements. Today, this is no longer a simple or straightforward inquiry. Many innovative financing structures have been developed and are more frequently considered and used by higher education institutions. In addition to traditional bonds, notes and capital leases, an institution may have used an affiliated foundation or subsidiary to access financing, executed long-term operating leases, guaranteed an affiliate's debt or employed off-balance sheet structures. Add to this the fact that "debt" often is in the eye of the beholder, and many different stakeholders may define debt differently. Therefore, it is important that the institution thoroughly analyze its obligations and determine the most appropriate debt measure. In any case, a definition that is thoughtful, strategic and applied consistently over time is appropriate.

In considering debt, particularly in assessing an institution's long-term ability to achieve its mission, all obligations that impact an institution's credit impact its long-term debt capacity. Even transactions not reported on the balance sheet or disclosed in the notes to the financial statements should be included. The ultimate test of what constitutes outstanding debt from a credit perspective is neither the legal structure nor the accounting treatment. The more essential the asset is to an institution's mission, the greater the likelihood the institution has a financial interest and commitment; therefore, the obligation is viewed as on-credit and must be included in calculating all credit ratios, regardless of the legal and accounting treatment. Furthermore, because rating analysts may occasionally reconsider what comprises debt, and different agencies may take a different perspective regarding this topic, it is critical that the institution define debt and manage it according to its own thoughtful and appropriate perspective. In addition, it is important to acknowledge that from a risk-management standpoint, certain off-balance sheet or third-party structures may have less institutional control and therefore make the process of measuring and managing risk on a comprehensive basis more challenging.

As with any financial decision, we encourage leaders to ask why a specific financial structure is being considered and to understand its objectives, expected benefits and potential risks. For example, there may be many valid reasons to engage a third-party developer or use long-term lease structures; however, if the primary or sole motivation for a particular financing structure, especially one that is more costly, is to keep a transaction off the balance sheet and away from the credit analysts, then the transaction, rather than the institution's mission, is driving the decision. Furthermore, in recent years, we have witnessed the migration of many off-balance sheet structures onto the institution's balance sheet and the inclusion of many of these structures in credit analysis.

Specifically, any similar transactions should be treated similarly in the calculation of policy ratios. For example, three-year operating leases to acquire medical equipment should have the same credit impact as commercial paper issued for the same purpose—a different structure with the same credit and risk characteristics should not have a different treatment, which can skew financial decision making.

There is no figure that is "right," but finding an approach that is regularly applied is important and often may not be consistent with approaches taken by external credit analysts. Unfortunately, trying to meet external credit analysis guidelines may be difficult, at best. One institution has certain debt issued by a controlled entity to fund an ancillary project that is not counted at all by one rating agency, is counted at 50 percent by another and is fully considered by a third. Conveying this seemingly inconsistent treatment and explaining the approach taken by management is critical in establishing and building credibility with the board.

Therefore, for some institutions, the debt-related ratios may be calculated based on comprehensive debt and leases and similar obligations (the most conservative), or project debt, factored debt or some other definition. While this approach can be helpful in conveying to the board all the types and amount of liabilities incurred by the institution, and therefore avoid unpleasant surprises, it can become cumbersome, as it is not possible to manage to so many similar ratios. We advise tracking various measures and noting the results, but selecting—and clearly describing the rationale for selection—one measure and utilizing that for ratio calculation purposes.

We have seen institutions take different approaches to the calculation of ratios with different types of debt. Some of these approaches include:

- Excluding all "non-project" debt from the analysis. If debt is utilized for cash management purposes, it might be excluded from longer-term debt burden calculations.
- Applying a factor to alternate structures. Some institutions find it helpful to utilize "factored debt," which treats directly issued institutional debt at a factor of, say, 100 percent, commercial paper or operating leases at 50 percent and debt guarantees for credit worthy entities at 0–25 percent.
- Excluding debt issued for noncapital purposes. In the past, the amount of debt utilized for noncapital-related purposes was minimal; however, in recent years, debt for liquidity and working capital purposes has become more significant for certain institutions. The treatment of this type of debt in calculating the debt measures is also institution-specific and largely centers on what the ratio is measuring. Generally speaking, if liquidity-related debt is used for short-term purposes (and kept invested in liquid assets), it should be considered differently than debt issued to finance long-term capital projects (which by definition are illiquid).
- Including or excluding third-party debt. These types of instruments can include debt issued by foundations or other third parties, and they often are considered "indirect" debt by the rating agencies. In this category, the debt cannot be ignored, but also should not be viewed with the same level of commitment as other obligations.

Debt affordability versus debt capacity

Debt affordability concerns operating budgets and the statement of activities while debt capacity concerns net assets and is focused on the balance sheet. While debt may provide a significant source of additional funding, it is also a burden—albeit an appropriate burden if the enjoyment of the facilities continues. Planning for additional debt must be done with care, since the cost of a new facility is not only debt service but also related operating, maintenance, programmatic and depreciation costs. These latter costs increase in future years, represent an increased level of fixed costs to the institution, and may actually represent a greater financial burden than construction costs since they are subject to inflation; however, some institutions may not appreciate the full impact or may underestimate its effect on the institution's future operating budgets. The consideration of these matters develops a sense of debt affordability. Imposing the discipline and resources to appropriately budget and fund future facilities' maintenance requirements helps increase the probability of success of the strategic plan, and generates a balance between often competing priorities—maintaining existing facilities and constructing new ones. It is for these reasons that debt capacity should consider current planned projects, potential future initiatives and necessary infrastructure support. These reasons also should compel institutions to prepare long-term financial projections.

All but the financially weakest institutions should focus primarily on debt affordability, rather than debt capacity, when considering additional commitments. When considering whether to move forward with a new project, the institution should ask how the project's total cost can be afforded. If the project does not produce positive cash flow, it has several negative effects. First, moving forward will have a negative impact on the general operating budget, requiring a subsidy, and secondly, third-party financing would be virtually impossible as an alternative. An institution can only afford a limited number of these types of commitments without sacrificing other expenditures.

A question that rarely gets asked is what the endowment did and whether there is resulting capacity for debt. This is an important consideration for weaker institutions that could have an unsupportable debt burden, or where financial covenants, such as an additional bonds test, severely constrain the amount of debt that could be issued. For stronger institutions, the balance sheet is not as relevant in the near term, as it may only impact relative ability to repay from a rating analyst perspective.

An additional point to note about debt capacity—as evidenced in dynamics over the last decade—is that capacity is not a static number, but is impacted by external events. Generally, an institution is neither as rich as it believes in flush times, nor as impoverished as it believes in more challenging periods. Addressing this dynamic is one of the changes to current thinking regarding liability management policies. For some institutions, debt covenants, such as expendable resources to either existing or additional debt, may define debt capacity regardless of the policy.

Debt affordability is governed by the institution's ability to absorb all incremental facilities costs within its operating budget. The greater flexibility the institution has to control allocation of budget resources to specific activities, the greater its flexibility to manage debt and other obligations, and respond to changes in operating revenue. However, greater budgetary flexibility should not reduce the need to allocate repayment obligations internally or to demand a feasible business plan identifying the expected sources of repayment before debt is incurred.

Debt affordability highlights the concept that the institution's operating budget is the constraint limiting the incurrence of additional debt. This is in contrast to debt capacity that focuses solely on the institution's balance sheet. Balance sheet leverage generally is a limiting factor only for the less-wealthy institutions, since a weak balance sheet limits access to the capital markets or enables access to external funding on less-favorable terms. For most institutions, debt capacity is of interest primarily from a credit rating and peer comparison perspective.

When debt is viewed on a portfolio rather than project-specific basis, there is greater flexibility to structure debt terms to the institution's long-term advantage. This may include a slightly longer average life for debt in certain interest rate environments, which offers institutions more flexibility to allocate internal resources more efficiently. In contrast, managing capital on a project-specific basis can lead to less-favorable debt utilization for the institution as a whole. To maximize this flexibility, external debt should have as few restrictions as the market will allow, and the institution generally should offer the broadest credit (such as a general obligation) available.

To the extent that money is fungible, institutions should view their sources of capital funding and repayment as broadly as possible and manage their obligations as a portfolio backed by overall institutional credit. When debt is being used strategically, an institution is highly unlikely to "walk away" from an obligation if the expected revenue stream proves insufficient to repay the debt service, but will find ways to reallocate other legally available funds or restructure the obligation. If the institution is willing to make this type of commitment, it should receive recognition from the marketplace because structuring obligations to be repaid from all legally available resources tends to decrease the cost of capital. On the other hand, if the institution is unwilling to back the project with all available resources, the institution should question why the project is being undertaken in the first place.

Depending upon the nature of the institution, the affordability measure may overstate the amount of apparent funding available for debt service. From the broadest possible level, all unrestricted operating revenues (or, as a proxy, operating expenses) are considered as available, which, while legally accurate may not convey the true internal flexibility to reallocate funding, especially for highly decentralized organizations. Furthermore, for larger institutions, the actual measure of this ratio on an aggregate basis will likely never appear constraining; however, that may not be the case from an institutional perspective, as many costs are difficult or

impossible to reduce especially in the short run, and certain operating units may have minimal flexibility to adjust expenditures in order to accommodate new obligations. Ideally, imposing internal debt affordability requirements by business unit would be helpful, as would the discipline involved in requiring a business plan for proposed projects including an identified source of repayment to be approved by treasury (i.e., central finance personnel). Additionally, imposing a facilities infrastructure tax for renovation and common goods (e.g., utilities, parking) would be warranted in an ideal setting.

To manage debt strategically, institutions should adopt a formal liability management policy (described later in this chapter) that provides a framework to help determine priorities and the most appropriate funding sources, as well as articulate and quantify potential risks. In fact, debt management should be an ongoing internal process that includes all stakeholders, rather than a periodic activity focused solely on new debt issuance and the current market perception of institutional credit. An internal process that helps build trust among the managers and users of debt can be even more valuable than the actual policy that is adopted, since it builds a foundation for linking capital budgeting, financial management, facilities planning and debt utilization to strategic planning, as well as conveying holistic management and accountability to senior management and the board. In light of recent market turmoil, even for institutions that have formal debt policies, a thorough review on a periodic basis is appropriate, and proposing potential changes or modifications, including how to deal with potential compliance matters, is necessary. The discussion later in this chapter represents a normal evolution in our thinking on certain aspects of the liability management policy, which we expect to continue to evolve as board-level implications of debt, derivative and liquidity management continue to take on higher profiles.

External versus internal management of debt

Typically, institutions have issued and managed debt and allocated debt-service costs on a project-by-project basis. Thus, a project's debt-service cost may be based on then-prevailing market conditions and the type of funding employed (e.g., equity, gifts, tax-exempt debt, taxable debt, third-party loans, fixed or variable obligations, etc.).

This project-based financing approach makes budgeting and project planning extremely difficult and can lead to inequities among various institutional divisions. Furthermore, as risk profiles and acceptable risk tolerances change, the resulting impact on transaction and portfolio cost can be substantial and immediate and result in changing cost structures that may not necessarily relate specifically to an individual project. Increasingly, public and private institutions have approached the issue of internal management of debt by adopting a more corporate view of liabilities and the treasury operation and having the institution function as a central bank and lend debt proceeds to individual departments or schools to finance projects at a common repayment rate. This method of disbursement can help alleviate the problem of funding timing and produce benefits such as reduced year-to-year budget variances, external debt that can be structured to optimize then-prevailing market conditions (subject to considerations such as tax law, federal reimbursement requirements and state or donor restrictions), greater risk management ability and reduced administrative burden. The internal repayment rate should be reviewed regularly, although it is generally recommended that the actual rates be adjusted infrequently.

Implementing an enterprise-wide structure can be a challenge, as historical budgets and costs must be considered. However, managing debt on a portfolio basis with the objective of lowering overall institutional expected costs within an acceptable set of risk parameters and providing predictable budget projections provides the institution with a number of long-term advantages. Depending on the funding needs of the institution, a bank line of credit or commercial paper program can further assist in managing sources of available funds while minimizing the frequency of, and dependency on, individual bond transactions, thereby enhancing flexibility.

"Fixed" versus "variable" rate debt

Decisions regarding the interest rate structure of the debt being issued, which historically often was viewed as "fixed" or" variable," now include several different structures with different cost and risk characteristics. For most institutions, it may be desirable to maintain a portion of outstanding debt with shorter-term interest rates subject to periodic resets. If debt is managed on a transactional basis with the actual interest expense directly passed through to users, beneficiaries of shorter-term debt financing will enjoy significant cost savings during low interest rate periods but may not evaluate or appreciate the significant risk they assume (and that is borne by the institution), and their projects may encounter substantial budgetary pressure if short-term rates rise.

The result of employing this project-based funding rationale is that the institution may have less than an ideal overall allocation between fixed- and variable-rate debt. By managing debt on a portfolio basis, the institution is better positioned to benefit from and diversify exposure to short-term interest rates, as well as consider the impact on the institution's assets. Additionally, as the distinction between fixed- and variable-rate debt blurs, and other debt maturities or structures are utilized that have expected reissuance, the internal funding cost and predictability can become challenging and volatile absent a mechanism to smooth and incorporate various structures.

In addition, use of the terminology "fixed" and "variable" may mean different things to different constituents, and therefore can lead to misunderstanding or miscommunication with senior management or the governing board. For example, virtually everyone would agree that a 30-year bullet maturity is fixed and that a variable-rate bond with a weekly reset interest rate structure is variable; most would agree that a 30-year issue with level debt service repayments similar to a home mortgage is fixed and commercial paper is variable; but few would agree on how to classify either a one-year put, a two-year put or a 10-year intermediate-term maturity expected to be refinanced with a new debt issuance. The fixed and variable distinction is no longer as beneficial as debt portfolios become more diversified and complex. Furthermore, the inclusion of derivative instruments and the concept of "synthetic" fixed and variable rates blur this even further.

As an additional consideration, the concept of fixed and variable can also imply a distinction among obligations requiring liquidity support. Events of the recent past support the approach that debt structures and liquidity be thought of and managed in a coordinated way. With respect to liquidity, Chapter 4 explains debt within the construct of comprehensive liquidity needs and exposures facing the institution. In dealing with the structure of the debt (e.g., fixed and variable) in institutions with a more complex portfolio, the tracking and reporting on the term for which the funded debt is committed is more important than the maturity of the debt.

As an example, floating rate debt with a 30-year maturity with a one-week reset backed by self-liquidity should be treated as maturing in one week; backed by a letter of credit, the term is either one week or based on the provisions in the bank line, but in any case not the nominal maturity of the external debt. A new metric—principal duration—that quantifies the average period of time for which capital is committed to the institution is now more useful. Generally speaking, anytime the institution can increase principal duration and lower average portfolio cost, such a structure will be preferred. This metric also allows the institution to separately quantify and manage the distinct risks associated with liquidity needs and interest rate exposure. The Portfolio Principal Duration Metric is discussed in Chapter 13.

Also impacting the amount of floating rate exposure an institution may wish to maintain, either in the form of short-term debt (which requires liquidity) or synthetic variable-rate debt (which does not, except for potential derivatives collateral-posting requirements), is the amount of working capital invested in short-term assets. While historically there is a desire to minimize or perhaps eliminate cash due to its lower expected long-term return, the institution also should recognize the total impact floating-rate exposure has on the overall balance sheet, which extends beyond liquidity management concerns. This holistic approach can help the institution manage total interest rate risk and achieve the desired equilibrium. Some items to consider include:

- Whether a fixed-rate long-term debt portfolio actually may be riskier to the institution than a portfolio that includes some variable-rate debt. When considering liabilities exclusively, it may appear that a 100 percent fixed-rate debt portfolio imposes the least amount of risk to the institution's operating budget. However, when earnings from short-term investments that support the budget are considered, the overall effect is to produce greater volatility in the institution's budget. Hedging of the institution's average cash and cash equivalents with floating-rate debt minimizes some rate exposure to the institution overall.
- Whether the acquisition of short-term assets is more cost effective when funded with cash, operating leases, a bank line or tax-exempt short-term debt. The decision among these options should be based on economics and should not affect the institution's long-term debt capacity for facilities.

An institution should review investment policy, spending rules, cash management strategies and debt policy together to determine whether they are supportive or have some inconsistencies that prevent the institution from optimizing net assets. Examining investments, cash, facilities and debt within the same context permits the institution to take a holistic approach to its finances by managing the entire balance sheet.

Institutions, like individuals, borrow money for two reasons—they have to or they want to. If they are doing so because they want to, it is generally because tax-exempt and federally subsidized taxable debt is widely regarded as being a more attractive source of capital than internal reserves. In fact, when projecting investment returns, most asset managers will assume an expected annual rate of return above the institution's external cost of capital, and sometimes significantly above this cost. Few investment managers would project that investment returns would not surpass either the institution's cost of capital or the return that could be realized on a portfolio of fixed-income securities over the long term. If the institution believes its long-term returns are not achievable, it would be financially advantageous to use internal rather than external funds for capital expenditures.

When performing any financial projections, it is critical to make various assumptions and prepare alternative scenarios. The use of Monte Carlo simulations, historical information and scenario modeling can assist in interpreting projections and making informed decisions, as well as help quantify the risk impact on the institution. As more institutions consider debt for operating/liquidity purposes, analyzing the tradeoffs and considering project and non-project related debt differently becomes more important, and requires greater coordination among various institutional stakeholders as well as discussion with the governing board.

Financial ratios: one component of credit analysis

Financial ratios provide a useful guide for evaluating the credit of public and private educational institutions as well as other not-for-profit organizations; 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. In fact, in many instances, institutions with relatively weaker financial ratios actually enjoy higher credit ratings and improved access to capital due to other factors. In certain cases, incurring debt actually improves an institution's long-term credit profile and competitive position despite resulting in a short-term negative effect on specific financial ratios. The institution should evaluate components of its operational and programmatic characteristics, including financial ratios, in determining its true credit profile.

FIGURE 5.1: DETERMINANTS OF CREDIT PROFILE

In addition to understanding its financial profile, the institution should evaluate many additional components of its operational and programmatic characteristics in determining its true credit profile, recognizing that not all institutions will have the same determinants or weighting of their credit attributes. By analyzing projected ratios, the institution is better positioned to deal with prospective problems, capitalize on opportunities, recognize the competitive landscape and adjust costs with a view to optimizing its overall financial position. Furthermore, although projected financial statements are a guide to future results, there certainly will be changes to future budgets and priorities. Thus, use of the ratios in this book provides the institution with the flexibility to respond to the future. 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.

Financial analysis is not a static exercise. "Acceptable metrics" in one environment may not be desirable in another. While short-term deviations can be expected, longer-term shifts in metric levels and comfort zones represent a shift in institutional priorities that should be discussed and analyzed, as increases in acceptable debt burden (affordability and capacity ratios) represent expending financial resources to benefit current students, while lowering the desired levels represents a favoring of future students. As with the endowment spending policy, these decisions represent significant statements about intergenerational equity.

CASE STUDY 5.1 REPORTING CENTRAL BANK ACTIVITIES AND CONDITION

Usage of a central bank can significantly increase operating efficiency, reduce debt costs and financial risks, and increase cooperation between schools and central management. However, central bank activities can evolve over time and result in activities that are outside the original scope contemplated by board policies and oversight. Reporting activities of the central bank in a transparent manner is critical as the central bank has a significant impact on the overall institution's financial risk profile and liquidity.

A large decentralized research university uses a central bank approach to manage its debt and fund major capital projects. It uses a blended interest rate to allocate interest costs to individual schools for large capital projects, with minor capital projects generally funded by each school's funds or cash flow. The central bank has been very successful in meeting its objectives of lowering overall interest costs, reducing overall debt risk through the debt portfolio structure, creating uniformity of obtaining capital among the schools and having liquidity to fund school individual capital projects for short periods of time if needed.

Over time, the central bank's role has increased and expanded so that it is viewed as a source of funds to make strategic university-wide investments, such as acquiring land adjacent to campus for future growth, capitalizing university sponsored joint ventures and providing bridge funding to schools for longer periods for capital projects that were supposed to be funded by gifts until the gifts are pledged and collected.

The board and its various committees have approved all individual capital projects and debt issues, and board committees receive periodic reports on the activities of the central bank. Since the central bank's costs are allocated to the schools, its activities are considered "off- budget." As such, no periodic financial reports are prepared and provided to the board, its committees or all of senior management. The board is aware of the debt portfolio but not aware of the number and amount of loans and investments by the central bank, as financial reports such as a balance sheet or profit-and-loss statement are not provided.

The uses of central bank cash are not reported to the board. The central bank has low levels of cash balances given the university's operating size, resulting in the university needing to obtain bank lines of credit and other external sources to increase liquidity. Over time, the central bank's liquidity has declined as the number and cost of the board-approved strategic investments have depleted liquidity. Also, several capital projects of the schools that were to be funded by gifts needed long-term funding as gifts could not be obtained or collected.

This example illustrates that even with the central bank, financial reporting of significant financial activities needs to be transparent. Periodic reports of the financial condition of the central bank (liquidity, investments in assets, loans to schools, external debt and equity) need to be provided as well as profit-and-loss reports. Also, these costs and activities should be incorporated into the overall university budget, with appropriate eliminations of duplicate costs. Lastly, an institution risk management framework should accommodate assessment of changes in the risk profile as business activities in the central bank change.

Objectives of a long-term liability management and liquidity policy

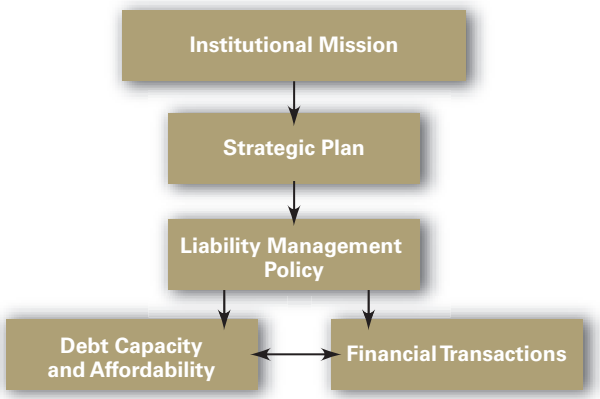
Debt is a tool that can be utilized to help achieve the desired long-term strategies of the institution, and, as such, a liability management and liquidity policy should be linked to the institution's mission and strategic objectives. A formal policy provides the framework through which the institution can evaluate the use of debt to achieve current and anticipated future strategic goals and manage toward financial equilibrium. Since management is best able to evaluate its needs, the institution—and not credit-rating agencies—should determine such policy. A number of the ratios presented in this book can help set targets for evaluating the amount of desired debt at an institution. An institution can be stronger financially and programmatically if it develops an internal liability management policy, articulates this policy to its stakeholders and periodically measures performance against such internal policy targets.

Since the sixth edition of *Strategic Financial Analysis*, the number of institutions adopting either formal or informal debt policies increased significantly. Yet even for those with long-standing policies, the practice of reevaluating the relevance and completeness of the policy in the current environment is paramount, as the policy needs to be representative of actual management practices, risk tolerance and objectives that can—and should—evolve over time. While not all institutions should change their policies, we recommend that all institutions periodically review the policies to ensure they are useful in guiding decisions to achieve desired results. Otherwise, the policy can become irrelevant, or worse, generate inconsistent decisions.

The long-term liability policy should achieve the following objectives:

- First, it should be specifically customized to reflect the institution's unique culture, advantages, limitations and aspirations. It should acknowledge the institution's philosophy concerning debt within the context of the mission and strategic plan. The policy must complement other funding sources and correlate to the institution's total resources, including investments.
- Second, the policy should be holistic and either reference or include practices relating to investments and liquidity, and should embrace a comprehensive approach to institution risk management, intergenerational equity and institutional priorities.
- Third, it should provide management with control over the institution's entire debt portfolio. This includes not only direct obligations issued by the institution but also any additional transactions that impact the institution's credit and debt capacity. It is important that all decisions that impact institutional credit be reached under the umbrella of the debt policy framework, otherwise it diffuses resources and encourages nonaligned behavior.
- Fourth, the policy should establish broad guidelines that are reported on and evaluated regularly to ensure that the institution is continuing to meet its strategic objectives and to respond to any changes in the market. Consistent quantitative criteria for measurement and analysis should be established.
- Fifth, the policy should have the objective of providing additional funds to support the institution's capital needs and achieve the lowest overall cost of capital consistent with strategic objectives and internal risk tolerance.

FIGURE 5.2: LINKING LONG-TERM LIABILITY POLICY TO MISSION



The long-term liability policy should not explicitly include attainment of a specific rating as an objective. Often institutions, and particularly governing boards, may wish to achieve a specific bond rating; however, this focus is misplaced. Instead, the institution should focus on setting forth objectives and financial targets in its self-determined policy, which should serve as the basis for managing the institution's credit within acceptable parameters.

Figure 5.2 demonstrates how the liability management 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 policy, the focus is on as a perpetual component of the capitalization of the institution, similar to endowment funds. Furthermore, debt should be viewed as part of a process and not as individual transactions.

Although long-term liability policy statements are generally short (typically no longer than five pages, plus any supporting schedules and quantitative analyses), the development process is quite intensive because the policy must be specific to the institution. The finance officers with responsibility for leading the process must win broad support and acceptance across the institution for the process and resulting policy to be truly effective. Most importantly, this includes oversight from the governing board.

The process for developing a long-term liability policy requires both hard and soft skills, including:

- Understanding the historic relationships, decision-making processes and institutional culture
- Overcoming any resistance and skepticism (which may necessitate intervention by an external party)
- Determining the appropriate level for approval, such as the degree of governing board involvement
- Ensuring the policy is consistent with the institution's investment policy and with assumptions regarding returns, cash balances and liquidity requirements to enable coordinated balance sheet management
- Evaluating existing external debt structures, internal loans and other obligations
- Determining how to incorporate prior decisions and structures into the new framework (without causing unintentional negative results) and whether existing financial structures must be reevaluated
- Understanding the institution's risk tolerance in managing its debt portfolio and establishing internal lending rates
- Communicating throughout the process with stakeholders about the expected benefits and output of the process, and establishing appropriate incentives to encourage desired behavior

The long-term liability policy must be helpful to management, regularly communicated and periodically reviewed.

Because the policy should reflect the institution's unique needs and strategic objectives, there is no single model long-term liability policy that fits all institutions. In fact, the process of developing and customizing the policy to the institution is critical. However, in developing a long-term liability policy, the following guidelines should be considered:

- *Articulate the institution's philosophy about debt that governs all commitments.* This should explain why the policy is being created, how it will be used to govern the incurrence of debt to achieve strategic objectives and for what purposes deviations are acceptable. It provides criteria for management and the governing board to interpret the other components of the policy.
- *Select a limited number of key ratios and establish specific financial targets or limits for the appropriate financial boundaries of the institution's operations.* Generally, no more than two or three ratios are used to represent the overall health of the institution and to keep the evaluation at a high, strategic level (other ratios could be tracked as well for management purposes). Typically, the Viability Ratio and Liquidity Ratio would be two of the ratios monitored, with perhaps the Debt Burden Ratio utilized, especially for centralized institutions. Other ratios can be tracked, but not included as policy metrics.
- *Develop a policy and procedure for the prioritization and monitoring of capital projects with input at the applicable operating level (e.g., school, department).* Guidelines should be broad enough to allow management flexibility; however, the policy should give priority to projects that are mission critical and/or have a related revenue stream for repayment. It must be recognized that "all projects are our top priority" is not helpful. Difficult decisions will need to be made, and the policy can provide a framework to support delaying or removing projects from consideration. At the same time, the prioritization process needs to be realistic regarding institutional behavior and relationships so that the process can be adapted to meet individual needs.
- *Consider the desired structure of the debt portfolio, the amount of floating interest-rate exposure and permissible (or prohibited) debt structures and covenants.* It is suggested the Liquidity Ratio, and perhaps targets related to desired long-term floating-rate exposure (which are tactical in nature) as well as the role of derivatives and other nontraditional structures, be included. When determining the desired floating-rate exposure, the institution's cash and fixed-income holdings should be considered.
- *Contemplate the use of derivative products and establish guidelines regarding their evaluation and applicability.* Some institutions may wish to include a policy specifically addressing derivative and counterparty exposure.

- *State that the institution will interact with the rating agencies and analysts.* The institution should not specify the attainment or maintenance of a specific rating as part of the policy.
- *Include the methodology and calculations to support the items contained in the policy, as well as calculations of the ratios (including projections), as appendices.*
- *Establish a policy regarding the internal use, management and repayment of debt.*
- *Include a policy for analyzing and measuring liquidity, and ensure it is consistent with other liquidity impacts across the institution.*
- *Establish the format for regular reports to the governing board.* These formal reports are part of a risk monitoring program, and would be designed to ensure that the risks the institution has undertaken as well as the mitigation strategy are clearly presented. Furthermore, any changes in assumptions or risk profile should be explicitly addressed.

Once the long-term liability policy is developed and adopted, it must be implemented and monitored. Recommendations for effective buy-in for the policy across the campus and for minimal administrative burden include:

- Meet with affected representatives before adoption and after to explain why the policy was enacted and how it specifically affects them. Since certain long-standing behaviors may have to be modified, it is critical to involve all constituents.
- Ensure that data is available to make informed decisions.
- Modify or create appropriate incentives to ensure that the desired outcome will be achieved. Since the policy exists to help the institution effectively achieve its strategic plan, be certain that all activities support that objective.
- Determine whether any other activities, relationships or processes should be modified. No institution wants to go through continual adjustment and change. Consider implementation at a time when other changes are being considered, and determine that all activities are consistent to achieve the desired outcomes.
- Accept that there may need to be certain exceptions to the policy, or that it may need to be phased in over a number of years for certain areas or projects. However, it is important that the exceptions or phase-ins have a limit, since a dual system that creates increased administrative burden and systemic inequities should not be perpetuated.
- Although changes to the policy and procedures should be minimized, recognize that some changes are likely as new information is received and improvements identified.
- Ensure that the policy and supporting procedures are living documents and accurately reflect how the institution conducts business. Establishing a policy to "sit on the shelf" is an unproductive exercise for all concerned.
- Understand that implementing the policy will take time and effort. If the institution is not prepared to make that commitment, it is better to wait until necessary resources are available and the initiative becomes a priority.

CASE STUDY 5.2 CHANGING BOARD OVERSIGHT TO REFLECT CHANGING CONDITIONS AND CIRCUMSTANCES

During the market uncertainties of late 2008/2009, a moderate-sized doctoral institution became increasingly concerned about its variable-rate exposure on debt, as liquidity concerns arose not just with respect to the debt, but also for the endowment and operations. The chief financial officer (CFO) viewed his job as letting the board know that things were under control and that management was aware and actively reviewing its situation, perhaps hiding some of his anxiety in the process.

It became immediately apparent that there was no clear communication channel for updating the board about events. While the finance committee and its debt subcommittee were focused on the debt, the investment committee was speaking several times a week about the endowment and other key board members were reassured individually, there was no group responsible for a holistic view of the liquidity and operating needs of the institution, impeding informed and efficient decision making. Furthermore, since much of the information surrounding liquidity was not regularly communicated to the board, no template or form existed. While the board and president had confidence in senior management, there was no regularly updated and available information.

Quickly, the University began implementing almost daily updates to proactively confront the situation, but as the crisis subsided, the University determined that going forward, it needed a proactive mechanism to better address its financial and liquidity needs, and recognized it was not possible or desirable to continue such frequent discussions with the governing body.

Two significant changes were implemented. First, a template of a weekly checklist containing various dashboard indicators and a brief market update, counterparty exposure and cash position was developed, as well as a discussion of any upcoming activities in the debt and derivative portfolio. Once standardized, the template is now regularly updated bimonthly by Treasury staff and discussed on a conference call with the CFO and occasionally other parties, such as the chief investment officer (CIO). Additionally, the form is provided to regular quarterly finance committee meetings and the board is aware of that oversight.

Second, a committee with the specific directive of monitoring liquidity needs and exposures was formed; its semiannual meetings include the CFO, CIO, Finance Committee chair, Investment Committee chair, Treasury staff and select other board members, and often the president. Through this change, there is now a venue for issues related to overall institutional risk, financial exposure and cash/liquidity to be discussed in a strategic manner. These changes have inspired confidence and hopefully better position the University to deal with a potential future crisis or opportunity.

This example illustrates the need for holistic management of the institution at all levels. Complex financial issues are increasingly crossing board committee and management department boundaries and require more teaming of cross functional units to adequately address them. In addition, reports also must reflect the holistic nature of issues and solutions.

6

CHAPTER 6

Identifying, Measuring and Monitoring Financial Operating Risks

CHAPTER SUMMARY

Some of the most significant financial risks and challenges that higher educational institutions must address are lack of understanding of financial operations by key stakeholders, lack of transparency in financial reporting of operations and lack of understanding of return on costs incurred in significant academic or administrative programs. Appropriate internal financial reporting on results of operations can have a significant impact on improving the transparency and communications of these issues, allowing boards and senior management to focus on strategic financial matters and risks. This chapter offers guidance and ideas on how to improve internal financial reporting of operating results and budgets.

Introduction

Many board members may not understand the institution's financial condition, results of operations or risks because they do not receive reports related to strategic financial risks, the institution's responses to those risks, and key financial metrics and drivers. Many institutions' board members are associated with public for-profit companies, which become the context of their point of view in the higher education setting. For-profit financial reports, including reports those public companies file with the SEC on either an annual or quarterly basis, are much different than those for higher education. In addition, for-profit companies' budget approach is significantly different, starting with a revenue plan or goals as well as required returns for shareholders, and then determining the level and type of expenses needed to meet those goals. Higher education institutions generally start with their level of expenses and capital funds needed, and then determine the revenue needed to cover those costs.

The challenge is to present information at the right level and in the right quantity to communicate the correct information and elicit appropriate input from board members. Some institutions overload their governing bodies and senior management with too much detailed information and data. This information often is too specific and lacking in context. Many institutions do not prepare a written narrative that sufficiently analyzes and discusses risks, actions taken and results of operations. Some institutions do not correlate the institution's strategic financial risks with key financial measures, the results of operations and financial condition. And in many cases, actions taken by the board and management are not proactive as part of risk management but reactive by implementing financial containment actions. In addition, many institutions present budgets as one number without any discussion of possible ranges of budgeted amounts given changes in key assumptions.

Internal financial reporting needs to be focused on strategic financial goals, risks and metrics. The focus should be on ensuring the information is clear, concise and consistent over time. Context summarizing the institution's financial condition, results of operations, liquidity and capital needs should be provided. In order to improve internal financial reporting to better report strategic financial goals and risks, we believe several significant changes need to be made. We do not believe that all this information is appropriate for external reporting, as some of the information may be highly sensitive or contain confidential strategies and outsiders may lack the proper context to evaluate it.

Effective internal financial reports should contain the following key components:

- Discussion and analysis of liquidity, capital needs, financial condition and results of operations
- Use of metrics instead of detailed financial reports
- Segregating sources of funds between revenues and support (philanthropy and return on philanthropy)
- Reporting expenses by object type based on how institutions budget expenses
- Articulating the basis of budgeting
- Providing financial reports with the proper content and frequency
- Preparing and interpreting cash flow and liquidity information

These key components can reduce the significant risk that governing board members, senior management and other key stakeholders do not understand the nature of the institution's finances. They can increase the transparency of the institution's financial condition and results of operations, enabling users to focus on strategic level risks and actions instead of tactical matters, thereby improving strategic decision making.

This chapter will provide several approaches to reducing these risks with suggested changes in internal financial reporting. The topics that will be addressed below are:

- Management's discussion and analysis narrative
- Financial statement formats and content
- Frequency of internal financial reports
- Expense reporting
- Basis of budget reporting
- Reporting cash flow and liquidity
- Costs of instruction and government appropriations for public institutions
- Funding development operations and capital campaigns
- Risks related to affiliates and joint ventures

Management's Discussion and Analysis (MD&A) narrative

In order to more effectively report on risks, mitigating and monitoring actions, financial drivers, financial condition and operations, management of higher education institutions should prepare a discussion and analysis memorandum for governing bodies and senior management. This memorandum should be relatively short but discuss:

- Significant institutional risks and how the institution has responded to those risks
- Significant events that occurred during the prior period and how they relate to such risks
- The institution's financial condition and operations, including financial drivers and key financial metrics. Some financial drivers would be student headcount, tuition discount rates, research awards in process, faculty and staff headcount, and utility usage and costs. Some financial results would include ratios such as the debt measures previously discussed and the Composite Financial Index to be discussed later.
- Liquidity measures, including current liquid balances, expected receipts and uses over the upcoming period, especially highlighting any notable events or potential exposures

Although we refer to the MD&A many times in this and the subsequent chapter, we believe that there should be one comprehensive MD&A that covers all topics.

Public companies are required by Securities and Exchange Commission (SEC) regulations to include this type of narrative in their quarterly and annual financial reports. The MD&A section is usually widely read by governing bodies, analysts, regulators and constituent groups such as investors to monitor the company.

Public institutions are required to prepare an analysis of the financial performance in their annual financial reports. However, this is generally limited to a review of the financial statements. Few public institutions describe their strategic financial risks, financial goals and key metrics. Public and private institutions should look to the SEC regulations and sections, and review public company filings for examples.

Financial statement formats and content

Currently, some institutions report financial operating results in internal reports using similar formats as in external reports. Symmetry in reporting is helpful to some members of governing bodies and senior management, and fosters consistency in information reported. However, reporting the results of the institution as a whole may not be the best practice for internal financial management, as overall results may hide results or risks of one or more units. In addition, reporting on the entity as a whole does not show the interactions and interdependencies of the institution's various components. For example, many institutions use the liquidity of their endowment or long-term pool investments to support liquidity needs for indebtedness or collateral posting requirements for derivative financial instruments.

While full operating statements for each unit may be presented, we believe these should be reported either as a supplement or appendix instead of being the report's focal point. Instead, summary financial information on revenues (including major sources) and expenses (including major types) should be reported. In addition, the financial drivers for each unit should be reported. This, along with a concise narrative, would clearly explain the operating results of each unit.

The format of the institution's internal reports on the results of operations also may need revision. Many private institutions use or report an operating indicator with endowment payout and operating contributions included in operating results, and reporting endowment and plant contributions and other items as nonoperating. When the FASB adopted Statement No. 117 in 1994, it included some example financial statements using the caption "revenues and support" for all source items in the example statement of activities. This is an important distinction that many in the financial reporting community seem to have forgotten. Revenues are defined as those inflows that result from delivery or producing goods or services that constitute the entity's ongoing major or central operations. Not-for-profit organizations also receive support in the form of contributions or return on invested contributions, such as the endowment payout.

As many higher education industry financial reporting managers know, most higher education institutions lose money in each line of the business they perform, such as instruction and research, and make it up in philanthropy or return on philanthropy and state support. Support should be isolated and reported separately. Accordingly, institutions should segregate operating revenues and support in their internal statements. This would highlight the different risks by type of revenue streams. Although it may not appear to be so, risks associated with philanthropy generally are more significant and harder to mitigate than revenues earned for performing services. Segregating inflows between revenues and support (endowment payout and contributions) would highlight the fact that support is used, and needed, to balance the operating budget annually.

This format is similar to public institutions, as state appropriations and gifts are not included in their operating revenues. Public institutions should also clarify in their internal reports whether their state support is truly support, a tuition subsidy for in-state students, or some combination. This format may also lead to better discussion and analysis of the pricing of goods and services sold, as well as operating expenses needed to provide those services.

Many public institutions also use their external report, the statement of revenues, expenses and changes in net assets, as their internal operating statement. This statement does not segregate expenses by net assets class. The report format should segregate revenues and expenses by net assets class so that transparency is increased.

CASE STUDY 6.1 LACK OF AN OPERATING MEASURE FOR INTERNAL AND EXTERNAL REPORTING

Clarity in internal reporting of financial operations is critical for any institution. Understanding the sources of revenues and support, expenses and other uses of funds is needed by all levels of management and the board. Understanding the institution's financial equilibrium in both an operational and strategic manner are core elements of managing the progress an institution is making against any plans that have been developed.

In one situation, a private liberal arts college struggled to understand its core operating results because the internal financial data did not distinguish between operating and nonoperating activities. This college is tuition dependent and has a significant endowment with a large portion of unrestricted and restricted (primarily for financial aid) quasi-endowment funds. These funds are classified as either unrestricted net assets or temporarily restricted net assets in the college's financial statements.

The endowment payout and quasi-endowment fund withdrawals have been used to fund operations for a number of years and have increased over time to approximately 15 percent of the operating budget. There was a certain comfort level that the level of support for operations would continue indefinitely because investment returns have been historically above the NACUBO endowment survey median due to excellent investment manager performance and board investment committee oversight.

For external financial reporting, no operating indicator has been displayed and endowment fund investment gains or losses are included as either revenues or expenses, respectively, with the gains and losses highlighted in the financial report notes. Likewise for internal financial reports, there was no operating indicator displayed. The finance committee received financial reports on a GAAP basis that were similar to the external financial statements, including reports containing information regarding the extent that endowment fund investment gains or losses and quasi-endowment withdrawals were used to fund the operating budget.

In the economic downturn in 2008, the college incurred significant decreases in investments and recorded significant unrealized and realized losses, with the endowment value decreasing approximately 30 percent. Certain investments had liquidity restrictions requiring investment sales in a depressed market to fund the endowment payout and quasi-endowment withdrawals to fund the operating budget.

Since there was no operating indicator in the internal financial reports, the reports did not clearly define the structural deficit that was incurred and had grown over time. The operating deficit had an increasing reliance on endowment payout and withdrawals to balance the budget. This reliance would have been evident in the spending rate, but was not highlighted in any financial reports.

After the 2008 financial issues, the college developed an operating indicator for both internal and external financial statements that included endowment payout but not quasi-endowment withdrawals as operating sources. The development of an internal operating indicator allowed a clearer understanding of the structural operations of the college and the sensitivity of financial results to changes in the operating environment. In effect, the development of an operating indicator became a key monitor against the risk of creating structural deficits.

As an example, in order for the college to address the structural deficit in a sustainable way, the board and senior management also held discussions about the college's financial pricing strategy. Topics included how tuition and room and board prices were determined, financial aid policies and tuition discounting strategies, the level of reliance on support from operating gifts, endowment payouts or endowment withdrawals needed to balance the operating budget, and the costs and support structures in place to carry out instruction and auxiliary enterprises activities.

Frequency of internal financial reports

Many institutions debate how often to report risk management, financial metrics and other financial information to governing bodies and senior management. Although there is no one absolute answer concerning frequency, institutions need to consider several basic common factors in making this decision. They are:

- The effort to prepare the materials
- The nature of the risk and its significance
- The framework created to monitor, processes to mitigate and actions taken or to be taken
- The institution's business cycles

If the information is difficult to acquire, or management and staff need to spend a considerable amount of time preparing the materials, that can result in less time and resources available to actually analyze and manage the risks. Developing clear, appropriate formats and key information items that can allow the focus to remain on risk management and discussion of options is advisable.

Generally, the more significant the risk, the more frequently management should monitor the risk and implement more mitigation processes and actions. However, some risks are more long term in nature and may require reporting only once or twice annually. Still other risks may be difficult to measure or analyze. For example, the institution may have a significant risk in attracting and retaining top faculty, and implemented actions to improve faculty pay and recruitment packages. Since these actions take several months or years to implement, monthly reporting would not mitigate or reduce this risk.

Monitoring and mitigation processes also affect reporting frequency. Using the example of faculty salaries above, one action may be achievement of a specific percentile range when compared to peers. As the salary survey information is only compiled annually, more frequent reporting will not be applicable.

The last, and most important factor, is the nature of higher education business cycles. Revenue business cycles for higher education are generally long term in nature. For example, the undergraduate tuition revenue cycle would start with recruitment and admissions, continue through registration and instruction, and end with graduation, taking five to six years from beginning to end. Research awards have a similar long life cycle, starting with the proposal identification and submission to the sponsor, continuing with the award acceptance, performing the required work, and ending with the publication of the research results and continuing with post-award compliance. Most awards are multiyear, with three- or five-year competitive renewal periods, so the cycle may last from four to seven years.

Some institutions have begun to prepare monthly detailed financial reports, with some preparing monthly GAAP-based financial statements. This usually is done to try to accelerate the annual closing, external financial statement preparation and audit process, and to eliminate financial reporting surprises. As noted above, higher education's business cycles are generally long term, and reporting comprehensive information monthly may result in unforeseen consequences if actions are taken on incomplete or non-validated information. Higher education institutions are not like hotels, securities broker-dealers or hospitals, as those industries' business cycles are measured in days and expenses must be adjusted quickly to meet demand for services. Additionally, some institutions will prepare interim reports based on the information available, but the number of year-end adjustments are so significant that the interim statements are not very informative. Informing board members about these differences, and in the process removing the need for corporate style short-term reporting of financial reports, is necessary.

Institutions should report key performance indicators and business drivers frequently but need not go through an extensive monthly financial closing process in order to prepare a complete set of financial statements; generally, a brief closing process to prepare monthly revenues and expense statements and key indicators would be sufficient. For example, knowing with a good deal of certainty about student headcount, sponsored awards received, faculty and staff headcount and open positions, utilities usage, interest rates and costs, and investment performance can be achieved quickly and easily from those sources and systems without requiring an extensive financial closing. These metrics can be easily converted into dollar amounts by using averages of the metrics and impact on revenues or expenses.

Expense reporting

Currently, private institutions are required by the FASB to report their expenses on a functional basis, either in the statement of activities or in the notes of their annual financial statements. Many institutions present their expenses both by function and object (salaries, interest, etc.) and some even report a matrix showing expenses by function and object. Public institutions are permitted to display either basis but there are some differences in items considered functions or object types compared to private institutions.

Reporting expenses in internal financial and budget reports and annual financial statements should be by object. This approach is easier for users and constituent groups to understand and is the basis used to create expense budgets. This is also the basis used by for-profit companies, so trustees who work at for-profit companies or sit on their boards will be able to understand this information more easily. Some institutions provide, as a supplemental internal financial report, a matrix report of their expenses showing expenses by object and how these are allocated to the institution's functions. This matrix is useful to governing boards, senior management, financial management and other constituents, and should be part of periodic budget and financial reports.

An issue that may arise in communicating expense information to governing boards and senior management is whether all expenses are reported. Some institutions use "all funds" budgeting, while others only budget unrestricted funds, and still others use some combination. Some institutions also exclude certain types of expenses from their budgets, like depreciation expense. In order to report all uses of resources, we recommend that all funds be reported using the appropriate budget basis chosen by the institution. The nature of funds included, and especially funds excluded, needs to be clearly articulated and reported to senior management, as does the rationale for excluding certain items.

Basis of budget reporting

The methods and basis used for developing and reporting operating budgets vary greatly among private and public institutions. Some institutions use a cash basis while others use a basis at the other end of the spectrum - the GAAP basis. However, most institutions are somewhere between these two extremes, using some version of a modified cash basis. The modified cash basis uses the cash basis for revenues and expenses but also includes capitalization of assets and depreciation expense. Many institutions use a modified accrual basis for revenues and expenses, including capital expenditures (not funded by debt proceeds) and debt principal payments, while excluding depreciation expense. Some institutions use some variations on this method, with certain types of revenues or expenses excluded. For example, some institutions may exclude certain activities, like athletics or restricted funds, from their budgets and internal financial reports. Some public institutions have the budget basis mandated by their sponsoring governments.

Institutions need to articulate clearly to their governing bodies, senior management and other constituent groups the basis used and which items are included or excluded from the budget. The challenge is that the data—while accurate and helpful for budgeting purposes—does nothing to enlighten the liquidity discussion, which is based on cash. Therefore, trustees and senior management may not be reviewing data on a cash basis and be unaware of the cash and liquidity implications, which have become especially important recently. If other than the cash basis is used, additional information about liquidity must be included.

In addition to disclosing the basis used, institutions should also clearly indicate what items are adjusted in the budget process. For example, if an institution uses a projected fringe-benefit rate in its budget reporting and it adjusts expenses to actual only for the audited financial statements and not the budget reports, that fact should be disclosed. Another example would be differences in recognizing contributions or debt-service payments if a long-term blended rate was used for budgeting purposes. Other disclosures would include items off budget, such as capital expenditures, certain activities or restricted funds. Whatever the basis used for budgeting and internal financial reporting, actual amounts reported for the budget basis should be reconciled to the audited financial statements and reported to governing bodies and senior management. No matter the basis used for budgeting, the institution must also convey its cash position, a measure critical in understanding and managing liquidity.

Reporting cash flow and liquidity in internal reports

As discussed above, reporting liquidity and cash flow information is currently more important for higher education institutions than before. Like other areas of operations, information concerning risks, financial metrics, and monitoring and mitigating actions should be presented to governing boards and senior management. As noted above, management should prepare a management discussion

and analysis of liquidity and financial capital needs for internal purposes. The discussion should include an assessment of the institution's current liquidity, debt agreements, debt coming due in the near term, and sources of liquidity and repayment. Information concerning derivatives should also be included. For a more complete discussion of the items to be addressed in the liquidity report, please see Chapter 4.

Private institutions should also focus more attention on the statement of cash flows. This one of three required external financial statements is often underutilized, generally because the format is not very meaningful to users. Under GAAP, entities may present a statement of cash flows under either of two methods, direct or indirect. The difference between the two methods is in the operating section of the statement. The direct method reports operating cash receipts by function, such as tuition or grants, and operating expenses by object type, such as salaries and wages, payments to vendors or interest. The indirect method reports operating cash flows by reporting changes in asset and liability captions to total changes in net assets to arrive at the cash flow from operations. Since the preparers of the direct method must also present this reconciliation, almost all preparers use the indirect method. Some of the captions may vary widely from period to period, dramatically affecting the cash flow from operations amount. Public institutions are required to use the direct method. Many institutions present the same method used in their external financial statements for internal reporting purposes.

Since operations are the primary source of the institutions' ongoing liquidity, private institutions should present an internal report of cash flow information using the direct method. This provides information about revenue sources and expense types similar to the accrual basis statement of activities. Correlation between an operating surplus measure and cash flow from operations would be improved. Institutions may also want to consider presenting a reconciliation between these two amounts. Preparation of the direct method can easily be accomplished without significant effort or cost by using electronic spreadsheets to convert the statement of activities to a cash basis.

The institution should consider other key cash flow and liquidity metrics in an overall cash flow and liquidity section of its internal financial reports. Other key financial metrics would be cash flow from operations, debt repayments, debt capacity, and liquidity amounts and sources.

Other key liquidity and cash-flow information may also be presented to governing boards, especially for larger institutions or those using a central bank. Information about cash flows for each school would be meaningful, as well as divisional cash positions, due to and due from central bank balances, and balance sheet and other information related to the central bank.

Costs of instruction and government appropriations for public institutions

Historically, government appropriations to public institutions represented a direct subsidy to educate in-state students. The institution, in return, charged a lower tuition rate for in-state students than for out-of-state students. This difference between the rates, at one time, represented the difference between the cost of instruction per student (reflected as the out-of-state student tuition rate) and the in-state student rate. Over time, this direct linkage and correlation between cost of instruction and in-state and out-of-state tuition rates became less clear and distinct.

Senior management and financial management should have a clear understanding of their costs to educate students, as well as the level of operating subsidies received. Financial management should develop processes, metrics and other reports to identify the costs to educate students and sources of revenues received. Particular attention should be given to the cost of other activities, such as student housing, dining, athletics and others, in order to identify and report any cross-subsidies between activities.

Significant declines in funding levels in a short time period are a significant financial risk and may alter institutional strategies, goals or actions. Institution risk management processes will need to evaluate this risk and determine how it affects the overall risk tolerance.

Increases in state levels of funding are not likely to occur in the near future, as it is politically difficult to raise taxes and states have more unfunded obligations and other deemed priorities including healthcare, social services, post-retirement benefits and transportation. Appeals to legislatures for more funding will likely not be successful. These trends have been ongoing in several states, with several institutions now receiving less than 10 percent of their operating revenues from the state, with the expectation that state funding will continue to decline, resulting in the term "state assisted" rather than "state supported."

Funding development operations and capital campaigns

The issues of how to fund development operations, including capital campaigns, and reporting development results and costs are critical to many institutions. Many strategic plan initiatives result in capital campaigns that require funding. In addition, ongoing support from donors is critical to balance the annual operating budgets at almost all institutions. There are various models to pay for capital campaigns and ongoing development operations: budget surcharges, gift taxes, taxes on endowment payout, taxes on working capital earnings, and specific fund-raising for development.

Almost all strategic initiatives, especially new ones, require additional institutional resources to succeed. Generally, this results in a new or expanded fund-raising campaign by the institution, since funds generated by operations are insufficient to fund these additional costs. Many capital campaigns require funding from operational or unrestricted funds, although much of the money raised will be for either permanently restricted purposes or facilities. Although capital campaigns increase the institution's net assets and should reduce financial risk, the campaigns themselves also have significant inherent financial risks.

Generally, fund-raising campaigns are for capital purposes—endowment and physical plant. However, these campaigns generally require significant funds to initiate and conduct, including additional personnel, travel, events, and even technology. Having a clear funding plan for capital campaigns is one important factor in achieving strategic goals and managing institutional risks. Many campaigns have been less successful due to inadequate resources needed to carry out the campaign.

Sometimes, the results of a less successful campaign not only jeopardize attainment of the strategic goal, but also increase the institution's risks. For example, a campaign for raising funds to increase and renew the institution's physical plant may be initiated. Often, construction and renovation activities commence prior to receipt of funds, or even prior to receipt of pledges (or prior to receipt of pledges sufficient to cover 100 percent of the construction). If the pledges are not received, the ultimate amount is less than expected or the timing of receiving the cash gift is delayed, then the institution has to obtain other sources of funding, resulting in increased risk. Frequently, operations and maintenance costs of the newly funded and constructed facility are ignored and result in additional budget pressure that was supposed to be relieved, again adding to the risk.

There are various models on how institutions may pay for capital campaigns. The most prevalent models are:

- Additional budget surcharges to schools or units
- A "tax" or fee charged on new gifts
- A fee or reallocation of existing endowment payout
- Additional endowment payout
- Specific fund-raising as part of the campaign
- A "tax" on working capital investment income
- Delaying payout on new endowment funds
- Increasingly, a consideration of debt funding

All of these models address the basic incongruity of executing capital campaigns—restricted funds are obtained, with some requiring investment in perpetuity (endowment or in physical plant assets) while the costs incurred are unrestricted and operating. With institution budgets already strained to support operations, there is often little incremental funding available for key strategic initiatives (why campaigns are needed in the first place), so institutions need to find additional resources to fund their additional costs.

Several of the models described above—budget surcharges, taxes on endowment payout or on working capital income—represent additional assessments or reallocations of current revenues, and the incremental development costs are, on their own, a reallocation of resources. These are zero-sums, unless the institution is willing to reach into its expendable funds that are held in reserve. As the funding is diverted to development, the operating budget will have less funding available for existing program and other commitments that either will need to be recovered over time or in the short run covered by spending cuts or through running operating deficits (or ideally they could be funded from the operating surpluses for those institutions fortunate to have developed and maintained them during flush periods). Other models are fees or taxes on new money received either in the form of additional endowment payout or

a fee applied to the value of the gift received. These models presume that the new funds should pay for the cost of obtaining them. However, a weakness in these models is that the costs are generally incurred in the early stages of the campaign while the cash is received in the later stages, causing a funding gap that needs to be addressed. This weakness also occurs when the campaign has a goal to fund the campaign itself.

Whatever the model chosen, senior management and financial management are responsible for developing a comprehensive and coherent funding plan with sufficient financial analyses. These analyses should include contingency plans if funding sources are not obtained in the amount and time frame expected. A significant part of the analysis would be a legal review of the funding sources since restricted funds are primarily involved. Counsel should be required to review the gift agreements if gift proceeds are to be taxed. Counsel should also review the appropriate state laws concerning using restricted endowment payout to fund unrestricted activities, or allocated overhead. These plans and reviews should then be clearly communicated to the governing board and other constituents.

Another significant risk concerning development operations is ascertaining the cost of operations compared to the contributions received—a critical financial analysis that all institutions need to prepare, as nearly all require ongoing contributions to support their annual operations and for growth. Not having a clear analysis on the return (contributions received) or the costs of development operations increases the institutional risks, as ineffective or improper decisions or incorrect assumptions may be made.

A key financial metric concerning development operations would be the return over costs, namely funds received divided by funds expended to obtain the gifts. This metric shows the effectiveness of development operations. However, care should be taken as an overall metric may be misleading. Development operations are like sales channels in for-profit companies. For-profit companies segregate returns (sales) by segments of their customer base in order to determine the effectiveness of the sales activities. Similarly, development operations also have channels such as major gifts, annual fund, corporate gifts and others. The level and nature of the gifts to be allocated to each segment will vary by institution. However, most effective development operations already segregate these gifts for some internal or external reporting purposes.

Analysts should exercise caution and establish validation processes concerning return or revenue information generated from development personnel activities. Often, development personnel may include gifts received on their reports although they may have had little, if any, direct or indirect involvement in obtaining the gift. One such example would be obtaining funds from research foundations or private sponsors; generally, faculty members or other academic personnel submit proposals and budgets to the sponsors without involvement of development personnel. The criteria for including a gift as received should also be established. Some choices are the cash basis, GAAP pledged basis or CASE basis. There are significant differences in timing as to when to count the gift and, in some cases, the amount to be recognized.

Likewise, the costs associated with each of these segments should be segregated to the greatest extent possible. Direct costs can generally be easily identified by segment. Development overhead, such as space, information technology or senior development management, should also be identified. These development administrative costs may be allocated to each segment on a rational basis or not allocated.

For example, some development officials may claim that they generate $10 in gifts for every $1 spent on development operations. Identifying amounts received and costs incurred to raise those funds by donor segment, as well as development overhead, would provide senior management and governing boards with information to make better decisions, as the segments analysis will generally report wide variations in the metric by segment.

One final note on funding development operations and capital campaigns- as discussed elsewhere, institutions need to present reasonable and realistic financial projections for any significant activity undertaken, including development. This would include validating projections for development potential and limits on donors, either individually or in the aggregate.

Risks related to affiliates and joint ventures

Public and private institutions will sometimes use affiliated organizations or joint ventures to carry out programmatic or administrative functions. Some private and public institutions use separate management companies to manage their long-term investment portfolio. Public and private institutions may form joint ventures with other affiliates or third parties to carry out mission related activities, such as patient care or instruction. Most public institutions use legally separate affiliated foundations to raise funds, manage and invest their endowment funds and carry out certain real estate activities. Both private and public institutions also have affiliated organizations for alumni or athletic activities.

These affiliated entities, foundations, or joint ventures although legally separate, are an integral part of the institution. The identification and evaluation of the essentiality of the activities of the joint ventures and affiliates to the institution's mission is a critical part of the institution's strategic planning and institution risk management activities. However, these activities are often overlooked by the institution.

Joint ventures and affiliates conduct a number of functions and activities; these activities vary significantly as to their importance to the institution's mission. Institutions must identify and assess the importance of these activities. The more those activities are essential to the mission of the institution, the greater the level of governance, control, coordination and communication is needed with the ventures and affiliates.

Institutions must also assess the reputation risk and other risks posed by the ventures and affiliates to the institution. Even minor activities can cause great harm to the institution as a whole. As a result, the strategic planning and institution risk management activities must include the activities of these ventures and affiliates, no matter how insignificant they may seem to the operations of the institution as a whole.

Generally, the difficulty in effectively managing separate foundations, affiliates and ventures increases as their number and size increases. Governance issues become more difficult as responsibility for making executive level decisions may be vague, or obtaining approval a number of times increase delays and risks. Governance risk has also increased with recent IRS changes to the annual form 990 concerning conflicts of interest in transactions with affiliated parties and board members. For public institution separate foundations, institution risk management is made more difficult as these foundations are outside of the legal control of the public institution.

Part of the strategic planning and institution risk management activities should include an assessment as to the need and purpose of the ventures and affiliates. This issue is especially acute for public institutions and their fundraising foundations. Public institutions' governing boards and senior management, and their foundation governing boards and senior management, need to remind themselves of the primary reason for the creation and continued existence of these fundraising foundations – for the benefit of the public institution as a whole, not for the benefit of a particular school, department or activity, or even the foundation itself. Over time, the number of these foundations has proliferated as some public institutions have more than 25 separate foundations. This large number of foundations makes it more difficult for the public institution's management to effectively manage strategically and carry out institution risk management processes. Public institutions should revisit the number and purpose of each separate affiliated foundation, clarify as to who needs to approve creation of the separate foundations which use the public institution's name, and consider reducing the number of their separate foundations to the minimal number needed to effectively manage their risks.

CASE STUDY 6.2 INCREASED FINANCIAL RISK DUE TO LARGE NUMBER OF SEPARATE FOUNDATIONS

Institution risk assessment and financial risk management, by definition, encompass the institution as a whole. This is more difficult when institutions use affiliates that may be outside their control. This case study reflects an example when separate foundations acting on their own increase the risks to an individual unit and the entire institution.

A large public university with numerous undergraduate and graduate schools and a hospital/medical center has a significant number of separate affiliated foundations. Each school has its own foundation to raise and invest funds for the benefit of that particular school. In addition, there are separate foundations for the hospital, athletics, real estate and several research institutes. There is also a separate foundation that invests each foundation's endowment funds but use of the University Endowment Foundation (UEF) is not required. In total, there are over 20 foundations.

Each separate foundation has a self-perpetuating board comprised primarily of alumni and former state legislators who are very protective of that individual foundation. Each foundation's board also includes one or two members of the public university's management, but they have no authority over day-to-day activities. Foundation staff is primarily foundation employees supplemented by public university employees paid for by the separate foundation. There is no coordination among the individual foundation boards, and the university representatives on the individual boards inform each other and the foundation staff as to activities of the other foundations.

The Law School Foundation (LSF) board decided that it could get better investment returns, reduce investment costs and have more control over its endowment funds if it invested them separately. Several LSF board members are also investment managers, and they invested the funds subject to oversight by an LSF investment committee. The LSF board hired an investment management consultant to oversee the investments as it did not have any in-house skilled staff.

The LSF was very successful for a number of years, with better returns than the UEF primarily through significant investments in private equity and hedge funds. The LSF investment policy was not in compliance with the UEF investment policy and had a higher risk rating. Other university separate foundations became interested in the LSF's approach and had discussions with them on investing their own endowment funds. The economic downturn in 2008 occurred and the LSF took significant investment losses (even more than the UEF). The significant losses were exacerbated by liquidity restrictions put in place or enforcement of existing restrictions by the investment managers resulting in reduced payout, which led to administrative and academic program reductions in the law school.

This example reflects the risk of foundations acting independently with no oversight by the public university (and no authority). The large number of separate foundations not only increases costs (each foundation has significant administrative overhead and needs a separate audit and tax return) but also compliance risks (conflicts of interest between each foundation and its board members as well as potential conflicts with other university affiliates and foundations). Strategic financial risks to the public university increase as strategic financial risk identification, assessment, monitoring and mitigating is harder due to decentralized governance and the large number of separate foundations.

CHAPTER 7

Identifying, Measuring and Monitoring Financial Capital Risks

7

CHAPTER SUMMARY

An institution's physical plant is often its largest or second-largest asset. Capital expenditures represent a significant annual outflow of institutional funds. Financial risks related to the institution's physical plant and capital outlays are generally not reported or understood. This chapter offers guidance and ideas on how to improve the clarity and understanding of internal reporting of the institution's capital costs.

Introduction

An area representing significant financial risks that higher educational institutions continually address is the management, monitoring and reporting of the costs and financing of capital projects, as well as ongoing financial aspects of plant operations. In many institutions, due to the decentralized management of facilities, a coherent approach to reporting the costs and financing related to this asset, as well as financial risks, may be lacking.

Institution risk management of financial matters related to the physical plant is a critical factor in ensuring the delivery of key program initiatives, but because of its illiquid nature, there is a tendency for some to think of plant investment as a "sunk" cost once a project is completed. Some of the issues associated with plant assets are not obvious from a reading of the financial data. For instance, underfunded projects result in project deficits that become difficult to fund at a later date and may carry forward for an extended period of time, which may put pressure on the institution's cash position. Incremental operating costs created for new buildings, such as routine maintenance of the facility, are funded from the operating budget, and unless the facility is revenue generating, the funding will come from a reallocation of expenses. And deferred maintenance, which can be a significant obligation for many institutions, is not reported on the balance sheet and therefore often given less attention than "real" obligations.

Many institutions do not adequately address the financial aspect of their physical plant, identify and assess key strategic risks, and monitor key financial metrics related to plant. In addition, many institutions do not understand the key drivers of physical plant finances. Some institutions use a "bottoms-up, first-come" approach to capital projects and budgeting. In other institutions, capital budgeting generally is done on an individual project basis, or campus master planning is done without consideration to institutional priorities or finances, and capital plans may not reflect the "domino effect" of certain capital investments necessitating other projects, such as additional infrastructure requirements. Also with land in campus core being limited, the highest and best use of the land should be considered.

Institutions must adopt a clear point of view concerning their physical plant finances, including coordination and alignment with the institution's strategic plan, operating budgets and academic programming. Institutions must also know certain facts and data about their physical plant that are often not identified routinely nor have adequate validation processes. Capital reporting needs to be revised so that key information on risks, measures and issues is clearly communicated.

It should be noted that there are numerous approaches, methods, risks and measures related to facility planning and operations. In addition, there has been much recent discussion on "being green." This chapter will not address those matters. Rather, it addresses the financial aspect of capital projects and physical plant strategic risks and measures.

This chapter will discuss the following topics:

- Physical plant strategic profile
- Capital budgeting and reporting
- Ongoing physical plant issues

Physical plant strategic profile

In order to properly assess strategic financial risks related to the institution's physical plant, a physical plant profile should be developed. This profile will contain key information such as usage, condition, capacity, flexibility and financial condition. The profile will enable those responsible for governance and management to more effectively make decisions regarding capital priorities, funding plant construction and operations. Metrics that should be obtained include:

- Amount of square footage owned or leased
- Usage of facilities for instruction, research, administration, and student services, etc.
- Density of usage, such as square foot per researcher or per research funding, administrative space per employee, or student housing square foot per student
- Flexibility of leased space, such as lease renewal terms or ability to change usage
- Operating cost per square foot, including differences between the different types of space, as well as details on the components of operating costs
- Construction cost per square foot for different types of space
- Identification of whether tax-exempt debt was used to finance the space
- Differences between gross and usable square feet

This plant profile will enable those responsible for capital projects to better determine the need for new space, how much it should cost to construct and operate, and whether there may be alternatives to planned projects.

Although it may seem that all this information is readily available and routinely prepared and analyzed, many institutions have difficulty obtaining it. For example, for research institutions, usage of space may seem to be a critical element of plant operations but generally, this information is only prepared every three to four years when facilities and administrative cost information is required to be submitted to federal regulators in order to develop reimbursement rates for federally sponsored research awards. Another example would be operating costs by building and space usage by building, as many institutions do not routinely maintain energy or other operating costs by individual buildings.

Improper use of space can be a potential significant financial risk if tax-exempt debt proceeds are used to construct the space. When the debt is issued, institutions are required to certify to the debt-issuing agency that the space is used for appropriate tax-exempt purposes. Generally, institutions will do space surveys for existing space or use planned activities for new space to meet this regulation. This regulation on usage lasts as long as the tax-exempt debt is outstanding (and state law may contain even lengthier restrictions). Institutions may fail to maintain records on the building usage as time lapses, or the debt issue may be refinanced with other debt issues thereby confusing the analysis. This may result in the space being used for inappropriate purposes, such as private inurement. The IRS has increased its scrutiny of tax-exempt debt compliance, asked for detailed information from institutions and has instituted audits. In addition, revisions to the annual Form 990 require institutions to report space usage funded from certain tax-exempt debt issues.

In order to more effectively present information to governing bodies and senior management, a management discussion and analysis of physical plant should be prepared at least annually. This narrative document should address the key strategic risks related to the plant, assess the plant's current state, describe plant priorities, and present short-term and long-term future actions. Coordination of this discussion and analysis with the institution's strategic plan and operating budgets is critical to present a holistic view of the institution.

Capital budgeting and reporting

Investing in capital is an activity requiring a long-term view of the institutional programming and will help define the future institution. The investments made necessarily will require revenue generation or at least revenue retention if the institution is to maintain a level of resources that will allow it to succeed. The capital budgeting process should match the long-term view and goals of the institution and necessarily must be multiyear. The question is more the length of the time horizon for capital budgeting rather than whether an institution should undertake multiyear budgeting.

For many institutions, capital budgeting is considered more of an art than a science. A comprehensive capital budgeting model would:

- Identify strategic financial risks related to physical plant
- Create a mechanism for ongoing monitoring of those risks
- Concisely report progress of the program through the use of key metrics

Institutions have developed their own unique approaches to capital budgeting, planning and reporting that have some or all of the following characteristics:

- Many institutions report either too much detailed information, especially on specific high-profile projects, without the necessary context, while others report little or no information.
- Extensive reporting is often done on the cost side of capital projects, while little ongoing reporting is done on the financing side.
- Some capital budgets are segregated from operating budgets, while others are fully integrated into the operating budget, which can result in an inconsistent approval and review process.

Although institutions need to adopt a capital budgeting process to fit their risks and needs, several common items need to be addressed, decided and clearly articulated.

Major versus Minor Projects. In developing capital budgets, one item that must be addressed is the definition of minor versus major capital projects. This distinction is generally done on a dollar threshold; however, certain qualitative factors and risks should also be considered, such as negative publicity. For example, although renovations to the president's house may be small in dollar amount, the potential for negative publicity is significant and may elevate this to a major capital project. Major capital projects have more formal and greater review and approval processes than minor projects. For minor projects, the approval process should also be clearly articulated. In addition, funding sources should be defined for all minor projects, such as school or departmental operating budgets, with exceptions requiring additional approval.

Institutions may also designate a more permanent funding source for minor capital projects, such as a taxable or tax-exempt commercial paper program or central bank accumulated balances. Additionally, while minor capital projects may be insignificant on their own, in aggregate they can be substantial.

While procedures should be in place for individual expenditures, they must also be considered and presented as a whole so that management and the board have a complete picture of the capital investments. All projects should be considered regardless of funding source. While some institutions require different budgeting or approvals for capital expenditures funded with debt, all capital investments impacting institutional credit (i.e., all capital investments) should be considered.

In order to have a comprehensive capital budget, minor and major projects should be reported and clearly identified, regardless of the funding source. In addition to basic cost information, information concerning dates of required approvals should be reported. Preliminary and revised cost information should also be reported. Institutions must also clearly define what costs comprise capital project costs, including both hard and soft costs.

Project Financing. The financing side of capital projects also needs to be clearly communicated. Generally, when major capital projects are approved, tentative financing sources are identified, such as capital gifts, operating funds, external debt or some combination of these. These tentative sources are reported in the capital budget or other reports to governing bodies. However, ongoing reporting of the sources, along with the ongoing cost projections and actual costs, is generally not done, or may only be done for certain high-profile projects. For example, a new building construction may be planned to be financed equally between operating funds, contributions and external debt; however, in some cases, contributions are not collected, or not collected in a timely manner, resulting in changes to the financing plan. Some institutions have implemented policies requiring that a significant percentage of construction costs pledged be received in cash before construction commences.

Budget Basis. The basis of budgeting and reporting for capital projects also varies. Some institutions use a GAAP basis for their operating budgets, which should result in all capital expenditures being reported in the capital budget. Others use a cash basis, or some version of the modified cash basis, for operating budgets. Whatever the basis used for capital and operating budgets, the basis should be clearly defined and articulated. In addition, the interaction between the operating and capital budgets also needs to be clearly defined and articulated. For example, if minor capital projects are to be funded by departments' operating funds, and the budget basis is cash or modified cash, those expenditures should be part of the operating budget and not the capital budget.

For capital budgets, cash flow and liquidity planning, capital budget outflows and inflows should be on a cash basis. Ultimately, vendors need to be paid irrespective of the accounting basis used or period reported. Using the cash basis, along with timely revisions when required, will give a clearer portrayal of economic reality. Using the above example of the building project funded partially by contributions, a significant risk would be delays in timing or amounts of receipts of expected contributions. Matching cost outflows with inflows of funds on a cash basis will highlight how the project is funded throughout the construction period. Any shortfalls in contributions received, or delays in receiving pledges made, will have to be made up from other sources. This should be reported to governing bodies and senior management.

Leased Space. Leased space presents some unique issues in capital budgeting, planning and reporting. Although leased space may be viewed as more flexible, and in some cases less costly, than owned space, it also increases other risks, such as developer financial condition as well as overall upkeep and control of the property. One aspect of the risk of leased space is the potential for a lack of complete understanding of the total cost of leasing the space when presented for required approvals. For example, some institutions may require approval of the more significant lease terms, such as duration and rent. However, a major cost of leased space relates to tenant improvements or build-out. In many cases, these cost estimates are not prepared or communicated when the lease is approved, as they may require more detailed architectural drawings as well as acquisition of furniture and equipment. Not presenting at least some estimates of these costs when the lease is reviewed and approved distorts the total cost of occupancy.

Ongoing physical plant issues

Two of the more common strategic financial risks concerning physical plant are deferred maintenance and funding ongoing operating costs.

Facility maintenance is an area that is often delayed when finances are tight, resulting in deferrals that will need to be made up at a later date. This becomes a critical risk at most institutions. However, there is no clear standard for established criteria for deferred maintenance. In some cases, deferred maintenance includes everything that possibly may be done to the building over an extended time frame, no matter the current condition or need. Institutions should develop clear guidelines for what is included in deferred maintenance reports, how costs are developed, the time frame for actions and comparisons to reliable benchmarks.

Once the criteria are established, periodic assessment and reporting cycles should be established. In addition, validation processes should be implemented, as deferred maintenance amounts are significant and tend to fluctuate greatly. Institutions should also establish some project prioritization criteria, as to which projects should be undertaken sooner rather than later, such as infrastructure, building systems or projects needed for regulatory compliance. Institutions should consider as part of the validation process on cost information preparing alternative scenarios or using external reviewers.

Ongoing plant cost and funding is also a strategic financial risk. For many institutions, great effort is expended on construction of a new building. However, once these projects are approved, there often is little, if any, discussion or analysis of increased operating costs and how those costs will be funded. Many projects assume that there will be additional revenue sources to fund the operating costs of the new building, but rarely is a contribution margin analysis prepared (or in any sufficient detail) identifying additional revenues and expenses. In addition, comparison of actual versus plan amounts rarely occurs. Institutions should consider requiring additional financial analysis of operating revenues and expenses as capital projects are planned, reviewed and approved. As previously mentioned, institutions must be certain the sources are in fact known new sources and not simply the result of moving sources from one unit to fund the project and causing a funding problem elsewhere. Some institutions may require that part of construction fund-raising include additional gifts for operations or for endowment restricted for operations of the new building subsequent to opening.

Operating costs of physical plant should be identified by major component, such as utilities, maintenance, housekeeping, etc. It is also important to determine whether adding additional space proportionately increases these costs or whether there is existing capacity to add services without increasing costs. Utility costs should be identified for a particular building. Institutions may consider adding energy audits as part of ongoing capital financial planning and facility reviews. In addition, consideration may be given to identify and report planned renovations over the expected life of the building, such as roof or building system (HVAC, elevator) in order to show ongoing financial needs. These long-term cost estimates should also be reflected in the institution's long-range financial forecasts. It is important to note that if either these cost estimates are low or ongoing operating costs are higher than expected, or revenues do not sufficiently materialize, the general operating budget will be impacted. These potential impacts need to be understood on an individual project and aggregate basis.

CASE STUDY 7.1 CAPITAL PROJECTS FUNDING AND REPORTING

Capital projects have several significant financial risks including construction cost overruns, lack of adequate funding and post-opening operating costs. Transparency is required in all financial aspects of capital projects and operations. This case study reflects an example of lack of transparency in funding a capital project.

A doctoral institution has several divisions and professional schools. The business school desires a new education building for classroom and faculty office space. This is due partly to expansion of some programs but also facility renewal to retain faculty and students.

The school's management estimates that the building will cost approximately $20 million with $2 million (10 percent) coming from divisional reserves, $8 million (40 percent) from a bond issue, and $10 million (50 percent) from gifts to be obtained and collected. The building will take three years to construct after board approvals are obtained. In addition, only $500,000 for contingency is included in the project budget. The business school has obtained approval of this project from central management as well as appropriate board committees, including use of $8 million of an upcoming bond issue.

During the construction phase, construction reports are prepared periodically for review by school management, central management and appropriate board committees. Construction management identified cost overruns totaling $2.5 million or 12.5 percent of the construction costs—these overruns were due to land improvement and subsurface issues as well as increased costs for brick and other materials. These cost overruns were approved by school management, central management and the various board committees.

The business school took on this project believing it could raise the $10 million of building gifts quickly given the potential naming rights to the building and the premier location on campus. It did not have all pledges in hand before construction started, although some large donors were identified, including two or three potential donors with the capacity to donate $5 million apiece by school management and development officials. At the start of construction, the business school had only $4 million in pledges identified with $2 million expected to be received in cash by the time construction was completed. The letters of intent and other board approvals for the debt issuance were properly obtained but noted that only $8 million of the debt issue could be used for this building. After initial approvals were obtained, periodic reports on funding sources and status were not provided to central management, school management or the board.

CASE STUDY 7.1 CAPITAL PROJECTS FUNDING AND REPORTING (CONTINUED)

In addition, the university's central management did not require the business school to submit a business plan for the incremental building operating costs after opening; if it had done so, the future operating budgets of the business school would have reflected increased operating costs of the building of $1 million annually. It was originally presumed that the new building would result in no additional operating costs; however, as construction continued, it became evident to school management that it was decompressing its existing space rather than retiring older space. This was not reflected in future budget projections presented to central management and the board.

As a result, the new building cost totaled $22.5 million which was financed by $8 million of debt, $2 million of gifts and $2 million of school reserves, leaving a shortfall of $10.5 million. The shortfall is due to the gifts not obtained during the construction period, the shortfall in gifts obtained and no funding sources identified for the cost overruns. The university's central bank funded the $10.5 million shortfall since the business school did not have excess reserves to cover the shortfall. In addition, the business school was also charged interest at 4 percent of the central bank loan, resulting in another $420,000 of annual costs. Repayment terms of the principal amount were not finalized since the business school did not have the reserves (nor are operating surpluses sufficient) to fund the additional operating costs of the building as well as the interest costs on the central bank loan.

The risks to the business school are evident from the case study. However, this divisional debt that does not have a ready funding source will affect not only the business school for the foreseeable future, but also likely impact the institution's ability to fund other projects in other divisions and may impact the achievement of the institutional strategic plan.

This example exhibits certain risks related to financial aspects of capital projects. Although the construction costs and changes were properly approved, the risks related to financing the project were not identified or assessed as significant. Cash flow projections of outflows and inflows related to capital projects were not prepared. In addition, the ongoing costs for new facilities were not adequately planned in future operating budgets. Lastly, the lack of reporting on central bank activities and funding projects reflect risks related to adequacy of divisional reserves, central bank, liquidity and central bank investment approval, terms and reporting.

We believe the reporting of the above items should include a periodic presentation to the board of the "unfunded deficits" within the institution with the remediation plan for each.

II

SECTION II

STRATEGIC FINANCIAL ANALYSIS TOOLS

SECTION II

STRATEGIC FINANCIAL ANALYSIS TOOLS

SECTION OVERVIEW

Allocating resources from a strategic perspective is one of the most important tasks of the governing board. Resources are often allocated using historical perspectives without regard to the strategic goals. Operating and capital budgets also often are not coordinated with the strategic plan and risk assessment. This section presents various financial analysis tools (i.e., methods or approaches) that can be used for strategic and financial analysis.

This section has three chapters:

- Chapter 8 – Developing a Strategic Budget
- Chapter 9 – Resource Allocation in Financial Planning
- Chapter 10 – Measuring and Communicating Overall Financial Health

Information provided to and used by governing boards, senior management and financial management should identify the financial costs of implementing the strategic plan. We have seen circumstances where the financial discussion may not be complete, fully account for certain imbedded costs, or accurately convey assumptions or decision points. Often there is little accountability for or review of financial results from implementing the strategic plan, making ex post facto judgment of the financial success of the plan difficult. Information indicating whether the strategies employed have improved or weakened the institution's financial risk and risk capacity profile may not be provided. This is mainly due to institutions having separate processes for strategic planning, operating and capital budgeting, and financial reporting, combined with a general lack of assigned accountability for results.

Budgets and other resource allocation processes need to be integrated with the strategic and other planning processes to effectively operationalize the strategic plan and risk management processes. Key financial metrics must be integrated into the strategic plan and reported on periodically.

Resource allocation is a critical step in achieving the institution's strategic goals, implementing strategies and effectively managing institutional risk. Implementing strategies requires resources, whether from new sources or reallocated from existing programs. Effectively managing risk also requires the institution to invest resources to mitigate and reduce risks when considered appropriate.

The strategic budget communication and reporting tools, as well as the resource allocation map and Composite Financial Index (CFI) have been published in prior editions. These have been updated to reflect increased emphasis on institution risk management and issues arising from the 2008 economic crisis.

8

CHAPTER 8

Developing a Strategic Budget

CHAPTER SUMMARY

This chapter offers a framework to improve the linkages between strategy and resource allocations, and introduces tools that help an institution understand whether its resource allocation decisions further its strategies. The affordability of initiatives undertaken is more clearly visible with these tools because the institution creates standards and measures of performance prior to undertaking the initiative. We complete the chapter with a discussion of an approach to assess intergenerational equity—determining appropriate levels of internal investments an institution might make to ensure progress against its strategy.

Introduction

Institutions are often faced with the dilemma of how to create a "balanced budget." This is especially true for public institutions that have to deal with significant and often unpredictable changes to state appropriations. This balancing activity has tended to focus on an "accounting balancing" 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 annual investments and reinvestments required by the institution to meet its mission.

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 strategic investments are made, particularly in new initiatives. This is a reasonable budgetary methodology since it has the potential to align accountability and responsibility.

However, an operating budget presented in a typical manner does little to convey how the institution is achieving its mission, implementing its strategic plan or managing its institutional risks. We believe that the operating and capital budgets should be a communication tool about the strategic plan, an expression of that plan, a monitor for acquisition and deployment of resources, and evaluation of the financial aspects of the plan's goals with those goals' corresponding risks.

Capital projects are also a significant part of many strategic plans. They have a significant impact on future operating budgets, and these investments must be viewed within the context of other demands on institutional funds. If operating and capital budgets are not integrated, future operating budgets may underestimate outflows since the capital budgetary requirements are not incorporated and decisions regarding capital project priorities are not made within the context of all current and future institutional priorities.

Current budget and planning processes also generally do not take into account an institution's risk-management processes and results. Similar to having operating and capital budgets flow from the institution's strategic plan, they must also be coordinated with risk-management processes. For example, if an institution has identified compliance risk on federal awards as a major institutional risk and identified actions needed to monitor and mitigate that risk, the operating and capital budgets should reflect that and identify costs currently expended on risk monitoring and mitigation activities, as well as additional investments needed to reduce the risk to an acceptable level. Another example would be a high risk related to an institution's current debt structures and obligations, including derivatives. Costs of implementing strategies and actions to reduce this risk to an acceptable level, as well as the potential cost or exposure until these actions are taken such as increased short-term interest costs or for derivative collateral postings, should be reflected in the budgets and other financial plans.

The approach and thinking needs to be risk mitigation, not risk avoidance. No institution can avoid risk, and no institution can afford to insure against all potential risk, even if it wanted to or could even identify and quantify all potential risks. It is the responsibility of senior management, working with the board, to determine an acceptable level of risk, such as what probability of noncompliance on federal awards or what amount of exposure to derivatives is acceptable, given risk tolerance, and the cost to eliminate or insure against such risks.

Institutions should be aware that failure to have an integrated and holistic strategic plan, operating and capital budgets, and other plans is, in itself, a significant institutional risk, not just a financial risk. This risk is pervasive throughout all levels of the institutions, from governance to overseeing operations and establishing effective business and operational processes. Governing boards, senior management and financial management will need to implement changes to reduce this risk. These changes may take years to fully implement and will require greater governing board attention, direction and oversight to ensure that the changes are implemented and effective. In some institutions, this may be the first step taken before any other significant risk management or strategy implementation actions are taken.

Creating budgets that are strategic and managing risk

The starting point is the creation of clearly stated goals in the strategic plan. Each initiative the institution is addressing should specify its goals, resources (financial, capital, human and informational) allocated or reallocated, required new revenues and their sources (if any), and key success indicators. Without clearly defined goals, resources and performance measures, it is unlikely that the initiative will receive adequate support and consequently will not be implemented. It is also important that the results not be double counted in the analysis; this may require coordination among the budget, treasury, institutional planning and accounting offices. For example, the facilities department may state the need for a new cogeneration facility and state that it is to be fully funded, so the project gets approved. Yet the funding may actually come from increased utility rates charged to campus users, who are likely unaware of these increases. The increased costs reduce the funds they have for other purposes so they may overstate the resources available for academic investment.

Similarly, the student life office may have a plan to renovate student housing and fund the improvements by increasing room charges. Yet to the extent this increases the costs of attendance for students, the institution's financial aid budget is likely to bear a portion of this cost, but, again may not be including it in projections. Ensuring full communication and accounting of all costs—including the costs no one wants to "own" and cross-functional impact—is critical to avoid unbudgeted surprises, which are exacerbated in challenging economic conditions.

The institution must determine its own key success indicators as part of the strategic planning process, and they should be included in the plan. Key success indicators should be established for each initiative and should include both nonfinancial indicators (as the drivers) and financial indicators (to create an affordability measure). The indicators should be few in number and effectively communicated to the institution's stakeholders and community.

Once the strategic plan clearly defines institutional initiatives and establishes strategies, the framework for creation of other plans is established. The institution should require each unit preparing plans to use the same framework to ensure consistency in the development of financial and nonfinancial operating plans. The focus should always be to measure the few items that allow determination of a plan's success. Since all nonessential activities relating to the institution's mission should have been eliminated, each activity should have its own measurement.

The question of whether a budget is strategically balanced is answered by the spending patterns set forth in the operating budget, and investments from the capital budget indicate progress toward strategic objectives. If the operating plan tends to be incremental in nature or lacks identification of resources for required capital investment while the strategic plan represents substantive change, then 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 will not be met.

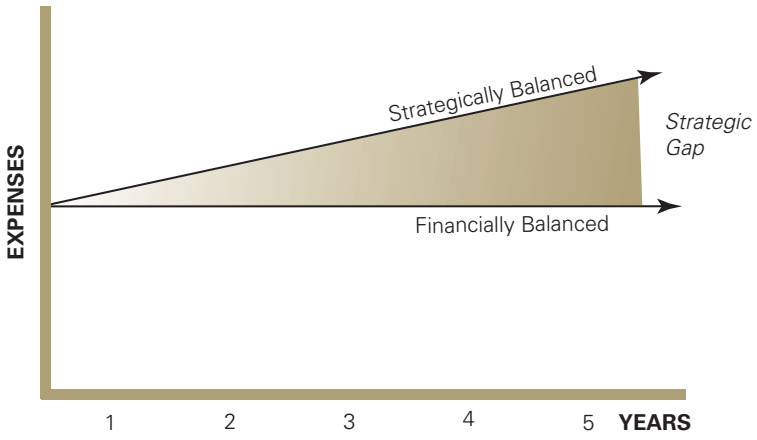
Communicating the financial aspects of strategic plans

Figure 8.1 presents two lines with the space between them indicating a strategic gap. 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 (either legitimately new net revenues or reallocated expenditures) 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 accumulates, and the institution should track the size of that gap over the period covered by the strategic plan. Our experience indicates that communication of the gap is as important as the tracking. The funding plan for the strategic plan, as indicated by the strategic gap, requires trade-offs and hard decisions. Reallocating resources is always a challenge, even if the financial officer knows the business case supports the decision, and there generally is little in the way of operating surpluses over time—especially unrestricted centrally controlled reserves—to invest in the plan. Similarly, the ability to generate truly incremental revenues from philanthropy, state aid, tuition increases, improved efficiencies or substantial investment return is limited. These challenges should not doom a plan—quite to the contrary, they should signify that strategic planning and investment is necessary and the institution needs to be realistic about funding its costs, which means involvement of financial managers throughout the process.

There are two relatively simple but critical elements for operating plans or budgets to articulate to the strategic plan. First, budget amounts for the initiatives should be provided first, not as add-ons, or the initiative will get lost. Second, the amount for strategic initiatives should be maintained as a separate component of the overall budget. Supplemental reports to the budget should present institutional investments 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.

For an understanding of the position of investments in capital activities, a similar analysis can be performed to quantify the cumulative effect of prolonged underinvestment in required capital projects. Figure 8.1 also presents capital spending on a status quo basis (lower line) and spending required to complete the investments articulated in the strategic plan. Again, to the extent these lines diverge, spending is occurring that is not consistent with the institution's stated strategies. As with the effects of accumulated depreciation, over time, the buildup of the gap can be daunting.

FIGURE 8.1: IDENTIFYING STRATEGIC GAPS (RISKS) IN OPERATING AND CAPITAL BUDGETS



Monitoring plan results

One of the critical elements of managing the process of implementation is the ability to define how success will be measured before beginning implementation. The plan must be priced and time phased, and there should be agreement on the metrics, both financial and nonfinancial, that will be used at interim periods as well as at the plan's completion. In addition, off-ramps should be included to provide decision points to adjust the plan based on the feedback loop of new internal and external information.

If a strategic gap exists in either the operating or capital budget, it should be cause for concern for governing boards, but if such a gap is not communicated, it may not receive appropriate attention and necessary actions may be delayed to the point where the plan's objectives cannot be met. Identifying this strategic gap and reporting it is significant to the institution's financial health and risk management. Although the institution may be currently financially healthy, the existence of the gap should be considered and may even require adjustments to the financial health calculations and metrics, since it represents an unfunded obligation or commitment. Similarly, this obligation would increase the institution's financial risk, reduce its risk capacity and tolerance, and would be a factor, if significant, in evaluating other institutional risks.

One of the key responsibilities of the board of any institution is overseeing the strategic plan, from its initial approval to ultimate implementation and beyond. Should a gap exist, at any point, a board has three potential actions to guide institutional activity consistent with the plan:

- Reallocate resources to meet the plan's needs
- Find new resources to carry out the plan
- Change the plan

Each of these actions has implications to the status quo of the institution and would not be easy to achieve in most cases. However, allowing the plan to go unfulfilled without explanation or corrective action may impair the credibility of the institution's leadership. Many times, a major strategy change is part of the compelling case for institutional reinvention and growth, providing a basis for a capital campaign or other major fund-raising initiatives.

Reallocate resources to meet the plan's needs – This is a difficult task because it requires the institution to discontinue activities that may be ingrained in the institutional psyche and have entrenched personnel and cultural history. Plans for reallocating resources can be developed at the lowest budgetary level of the institution or at the highest. The fundamental issue is that institutions will not achieve substantial gains through reallocation efforts unless underlying activities are permanently changed. An example would be automating manual activities or changing workflow of specific procedures. In most institutions, the largest cost is human resources. Any change in workflow requires a systemic way of capturing the costs associated with redeploying people to fit institutional priorities. However, the decisions to realize the cost benefits must be made as well—incurring the cost of a systems implementation requires a reduction in personnel costs, and if the institution is not prepared to make those cuts, the savings will not be realized. Similarly, if it is determined that a specific department should be downsized for strategic programmatic reasons, funding should not rematerialize when revenues improve—those revenues need to be permanently driven to top priorities (at least until the next priorities are identified). Otherwise, achievement of mission and institutional growth are compromised.

Find new resources to carry out the plan – The challenge of meeting dynamic goals in a strategic plan is the ability of the institution to do things differently than in the past. However, the hard work around achievement of strategy includes finding resources to make the plan a reality. The case for a capital campaign is generally based on institutional needs. In some cases, the needs are immediate, while in others the needs are based on aspirations. In either case, if the board decides the way to meet the stated strategic plan is through new funding, the measurement of funding for incremental investments needs to be net new money (truly new funds raised and not shifted, and net of the incremental cost of raising the funds). In deploying this strategy, a key element of monitoring is ensuring the funds raised fit the profile needed by the strategic plan. For example, if the strategic plan calls for substantially unrestricted fund-raising and most funds raised are permanently restricted, the overall goal may be reached (sufficiency) but the types of funds may not meet the needs of the institution (flexibility). Worse still is if the restriction is not aligned with the stated priorities, and even more troubling is if the gift does not fully fund the investment, requiring supplemental institutional funds that are being diverted from higher priorities (i.e., what we refer to as the gift that keeps costing).

Change the plan – At first glance, this option would appear to be the least desirable because of the implications to all constituents. Faculty will view backing off a plan to improve academics as a lack of commitment to the core mission. Donors will view a change as either indecisiveness or perhaps question whether money already raised will achieve the intended purpose. However, the larger and more long-term issue will be the credibility of the board and senior management if they are aware the plan is not achievable and do not communicate to the community. Often, the change may be simply to extend the period of implementation (e.g., a five-year plan becomes a seven-year plan). While this approach can assuage some of the aforementioned concerns, it does not necessarily address the concerns if components of the plan are truly not affordable or if the environment has shifted sufficiently to result in a revision to prior thinking.

Creating a strategic operating budget

The institutional operating budget is a critical management tool capable of energizing department heads, deans, vice presidents and others to understand their progress against institutional goals. If this is not consistent with the institution's budgetary methods and activities, the institution is likely unable to focus on achieving its goals.

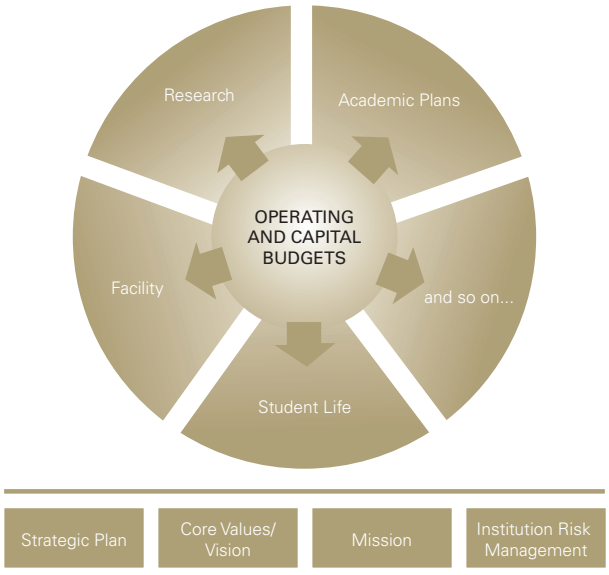
Generally, the context within which the budget process is established determines how budgets and the process are viewed. To make the budget document a vibrant management tool, each institutional constituency must view the budget both as a document that helps advance the institutional mission and as a means of measuring progress toward goals for the period covered by the budget. The phrase "covered by the budget" is significant because too often the time frame is limited to a single year. If the budget is intended to demonstrate direction in a meaningful way and show progress in meeting the strategic plan's goals, then institutions should consider using either budget periods that match service cycles or preparing rolling multiyear budgets. Service cycles represent the activities of the institution. For instance, the undergraduate instruction cycle is a five- to six-year time frame. Also, the sponsored research cycle would be consistent with the term of the grant set by the sponsoring institution.

A strategic perspective is also needed in developing the annual budget and reporting, analyzing and understanding results. Putting aside legal or governance requirements mandating a "balanced budget," budgets are financial plans that need to be viewed over a long-term period. Since higher education's business cycles are long term in nature, generally over four to seven years, responding to variances in any single reporting period may cause undue alarm (or joy) or result in actions taken that may be an overreaction in either a positive or negative manner.

When viewed from a longer-term time horizon, annual surpluses may be viewed as the results of events that are positive variances from the "norm." This may encourage surpluses to be earmarked for savings to avoid significant hardships when there are negative variances from the norm, instead of the typical reaction to spend immediately or other funds may be reduced. Viewing operating surpluses as a good event that may not recur in the future enables institutions to discuss with their constituents the underlying causes of the surplus, and when those surpluses should be spent and for what. We believe surpluses are absolutely necessary in planned budgets in order to provide reserves and flexibility to address deficits when things do not turn out as planned.

In addition, the results of these discussions will also directly impact where the surplus cash, if any, is to be invested. For example, an operating surplus that was generated from additional students more than planned may result in using some of the surplus pay for one-time capital renewal to support the additional students. Using the surplus to expand programs by hiring additional tenured track faculty may not be prudent. Also, since the surplus will be spent in the next few years, investing in funds in the long-term investment pool may also not be prudent. Lastly, financial management and senior management should understand whether the surplus was in the form of cash or based on accrual accounting. If the surplus was caused by uncollected tuition revenue, care should be exercised that these amounts are ultimately realized in cash before being invested or spent.

FIGURE 8.2: NONINTEGRATED BUDGET DRIVEN METHODOLOGY COMMONLY USEDTO DRIVETHE PLANNING PROCESS



As a result of the strategic planning process, each constituent of the institution reads the final plan in relation to his or her own interests. In effect, board members, senior administrators, faculty, students and other interested parties in the campus community will view the strategic plan as a series of steps in an action plan fulfilling specific and generally different promises to each group.

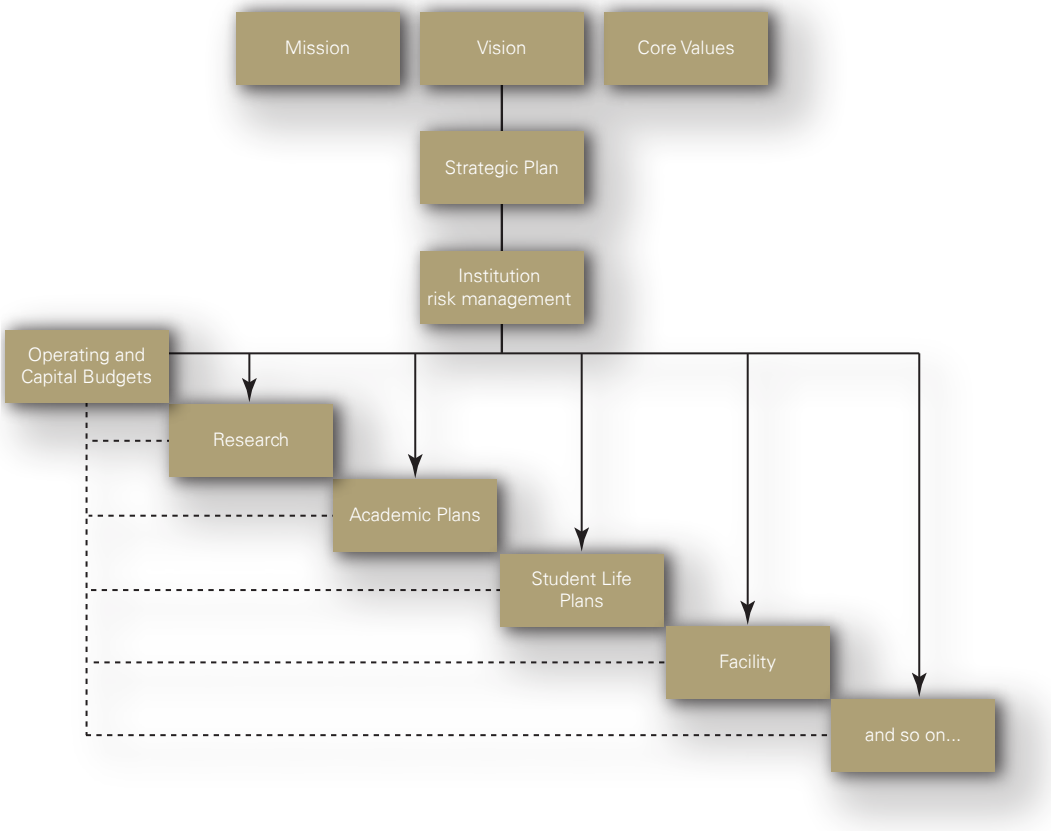
If the driver of the plan (that is, the institutional mission) is unclear, the strategic plan can become a document that divides rather than unifies the institutional community around the institutional mission. This division occurs when promises in the plan are not fulfilled or when affected departments do not have effective communication about goal achievement.

Figure 8.2 graphically depicts a planning process lacking cohesiveness between the strategic plan and the operating budget. If the operating budget becomes the driving force, the institution will have difficulty creating collaborative efforts. If the strategic plan, mission, core values and vision are not clearly articulated throughout the budgetary process, then it is likely there will be substantial disagreement regarding resource allocation and an inability to align incentives to ensure achievement of the plan's objectives.

To create collaboration, the commitments the institution makes must tie the mission directly to the budget, with the budget representing the plan's limiting factor or affordability index. The strategic planning process is the time and place for discussion and conclusions on resource allocations. This type of collaborative effort requires a strategic planning process that is dynamic in nature and revisited periodically. The appropriate starting point for decisions related to programmatic priorities is within the strategic plan, updated each year for changing and emerging circumstances.

Properly executed, the operating and capital budgets represent the implementation of the strategic plan over shorter time horizons. Should planned strategies prove unaffordable, then the budgetary process should be structured to identify affordability issues and funding alternatives (e.g., new revenues, reallocation) and allow the plan to be modified accordingly.

FIGURE 8.3: A MISSION-DRIVEN INTEGRATED MODEL



An institution that creates collaboration between planning and budgeting generally is one with clear direction (as defined through its mission and strategic plan, and articulated by its senior leadership with the support of the governing board) and focus in achieving the goals established in the strategic plan. This implies that the strategic plan is a document focused on what the institution is attempting to become and not a compilation of wish lists promising constituencies their desires. Figure 8.3 highlights a strategic planning structure that improves collaboration, because communication about institutional activities comes from a central point that generally has input from a wide variety of people.

An institution should be driven by its mission, articulated through a strategic plan that is broadened by aspiration and vision, and limited by financial resources. Each of the individual unit plans within the institution is established to achieve the goals of the strategic plan. The operating budget informs each of the individual plans about affordability of activities. This structure enables the institution to think in terms of reallocating resources to meet its mission and also allows assessment of institutional reinvestments in program initiatives, human capital and physical capital. The process also provides a realistic quantification of the scope of additional resources that can, in fact, be reallocated.

The concept that budgets demonstrate institutional investment and reinvestment in mission-critical activities is difficult to understand if the budget is by school, department or expense classification. Although this structure may aid department heads in understanding and managing costs, there needs to be a separate presentation of information that informs the community about institutional investment activities. The size of the investments should be articulated in the strategic plan and demonstrated each year in quantifiable amounts highlighted in the budget.

EXAMPLE 8.1 OPERATIONALIZING THE STRATEGIC PLAN—OPERATING BUDGET

Most institutions would agree that it is desirable to budget strategically; however, the complexities involved in doing so may make it difficult or impractical. We acknowledge the effort and challenges involved in undertaking a strategic approach to developing the operating budget, and also the fact that the measurement of success is problematic. This is compounded by the fact that, at many higher education institutions, the budget and the financial results (audit) often are not sufficiently similar to facilitate comparison, and the time lag between the development of an annual budget and the finalization of the audit approaches two years, making timely adjustment difficult. By the time the audit is completed, the institution is already two years ahead in planning, thereby limiting the usefulness or motivation to reconcile the budget and audit and interpret the results. Despite these challenges, taking incremental action to move closer to a strategic budget should be an objective.

Even absent the laundry list of issues regarding implementation of such an approach, there always will be the challenge of identifying resources that can be applied to fund new strategic initiatives. To the extent possible, institutions take actions that establish central unrestricted funds in a provost/presidential account that can be allocated to strategic initiatives. Over time, these resources can grow in order to fund further initiatives. Some examples as to how to generate such funds include:

- Allocate investment gains in periods of good returns. Most of us would agree that unsustainable gains should not be used to fund ongoing operations, as this results in future budgetary challenges when, almost certainly, returns decline. Establishing policies to create this fund at a time when surplus earnings do not yet exist may be the most politically feasible.
- Use revenue-enhancing mechanisms in historical cost centers to seed a fund. Improving cash or debt management processes can produce incremental income (or reduced expense) that can be applied to initiatives.
- Make the strategic initiatives fund self-perpetuating. Provide funding for new initiatives for a predetermined period of time, at which point the project should either be self-supporting or might be discontinued. Successful projects may be required to repay the initial contributions so that the funds can be recycled to future initiatives.
- Require divisional matching funds. Even in challenging financial times, many institutions/deans/professors will have access to available funds. Use the strategic initiatives fund as a source of matching funds to leverage other resources. This strategy places a substantial incentive for other members of the community to explore mechanisms to shift funding toward new initiatives.
- Encourage donors to contribute to such funds. Since these funds will be spent on creative new programs and initiatives (unlike endowment), the gifts will have immediate impact, which some supporters may find compelling.
- Make operating surpluses in good times politically acceptable and necessary.
- Institute appropriate taxes on gifts and endowment payout to ensure overhead costs are appropriately burdened, and create future budget flexibility by minimizing limitations in new donor agreements.

Creating a strategic capital budget

Similar to the process for developing a strategic operating budget, the institution should follow a similar discipline when developing its capital budget. The need for facilities renewal should be quantified, funded and analyzed on a multiyear basis so that the full impact of required capital investment is understood. The capital budget should include repair and renovation as well as new projects,

which often may receive more attention from the administration and donors. Even though deferred maintenance needs may appear insurmountable, even small budgeted contributions can improve the situation over time.

The capital budget should be developed in conjunction with the development of the operating budget. Investing in plant assets necessarily involves trade-offs and prioritization among other institutional initiatives, and these investment decisions should not be made in isolation. The institution should recognize the trade-offs between investing in facilities, programs and financial assets. Each of these investments is critical to future success, and finding an appropriate balance between them will contribute to the difference between more and less successful institutions. This is one of the reasons we suggest the strategic plan as the critical document in understanding why the institution is making particular investments. Institutions should recognize that all three of these investment needs are ongoing and permanent, even though the nature and amounts will vary significantly from year to year.

The costs associated with the investment in facilities tend to be more permanent in nature than investments in other areas, although this may not always be the case. Because facilities are long-lived, require future reinvestment and represent a significant use of limited resources, capital needs must be prioritized through a multiyear capital budget that is linked to the institution's strategic plan. Since not all projects can (or should) be funded, capital investment must be ranked according to priorities determined on an institution-wide basis, and difficult choices must be made (e.g., there cannot be 10 top priorities, and a project should not become a priority due to a sense of entitlement or donor support that is inconsistent with the objectives outlined in the strategic plan).

The capital budget should recognize that there are various types of required facility investment, including new construction and facilities renewal. Often, new construction receives greater attention because of the possibility of external funding and the perceived desire to invest in new facilities that are visible memorials of the institution's commitment to specific initiatives. Facilities renewal, on the other hand, may be more difficult to fund, more easily deferred (for some period of time) and may not produce a visible change. Additionally, individual facilities renewal or deferred maintenance items may not amount to a significant expenditure; however, in aggregate, they may represent a significant necessary reinvestment. When developing a comprehensive capital budget and funding plan, new construction and necessary facilities renewal should be considered so the institution can analyze and interpret its overall facilities requirements. Ignoring funding of the deferred maintenance requirements in the capital budget may underestimate the true facilities need and cost to the institution.

Capital budgets should be developed for multiyear periods. The decision to undertake a capital project today may have implications for future flexibility and budget capacity and result in intergenerational considerations. If facility investment decisions are made solely on an incremental basis, it is possible that higher priority initiatives may be underfunded or the full impact of facilities investment is not appreciated, such as the need for additional infrastructure investment. While institutions often examine the cost of investment in capital projects, it is also important to analyze costs associated with not investing or delaying investment. Furthermore, any contingent investments need to be identified and incorporated so that the full impact on the institution can be analyzed.

Sources of funding for capital products should be analyzed on a portfolio basis. The operating budget, reserves, philanthropy, government grants, and short-term and long-term debt all represent potential yet limited sources of funding for the capital budget. These sources should be analyzed collectively, so that optimal allocation of resources to institutional priorities may be made. Funding decisions should be made in a portfolio context. The institution should develop and maintain an ongoing list of requirements and pool of available resources, including internal and external funds. Periodic reporting of both actual versus planned costs and funding sources should be incorporated into any reports.

Another reason deferred maintenance may not get the attention it deserves is that it is an obligation not recognized by accountants and does not appear in the balance sheet, like other liabilities including debt. If the institution were to seriously address deferred maintenance issues, arguably it would be trading one liability (reducing deferred maintenance) for another (increasing debt or reducing financial reserves. However, this is not the case, as reducing deferred maintenance reduces net assets, so it has the appearance (but not the reality) of weakening the institution. Recognizing deferred maintenance as a real liability would help in this matter.

EXAMPLE 8.2: OPERATIONALIZING THE STRATEGIC PLAN—CAPITAL BUDGET

Institutions need to think about capital budgeting on a portfolio basis—that is, not distinguishing between repair and renovation and new building projects. All capital needs should be considered when developing a comprehensive strategic capital budget, including funding for deferred maintenance and technological obsolescence. The budget would then reflect total capital commitments needed to be funded over an extended period of time.

One reason the deferred maintenance problem exists is that few (though increasingly more) institutions actually have the resources to pay for the full desired amount of repair and renewal. This is due, in part, to the following:

- Few existing facilities actually have maintenance endowments
- Expenditures for deferred maintenance are some of the easiest (at least in the short run) to defer in times of budgetary difficulty
- There is no incremental revenue source associated with the repairs to support new debt

Institutions cannot solve the deferred maintenance issue immediately. The problem did not develop overnight and will not be resolved in a single budget cycle. In fact, it likely will take several years to address the need. The first steps involve trying to stop the growth of the repair backlog, and then determine ways to deal with it. These include the following:

- Recognize that addressing deferred maintenance will be an ongoing challenge.
- Encourage that new buildings have established financial plans for repair and renovation to the extent possible. Require development officers to explain the full cost of a building to donors and require the donor, or benefiting school, to establish a maintenance endowment.
- Create a revolving fund for current repairs and consider the impact of seeding the fund with incremental debt. This will spread out the current requirement, but a plan must be in place to ensure that the newly renovated facility will have a funding source for future needs.
- Establish or increase a tax to provide funds for the revolving fund. This tax can be phased in so that there are not undesirable immediate budget shocks. Units can plan for the funding requirements over several years. This will require recognition that funding deferred maintenance is a high enough priority that it will require that other programmatic needs not be funded.
- Treat renovation expenditures similar to new projects when developing the capital budget. If funds are being placed in new facilities, explicitly acknowledge that this means the institution has assigned a higher priority to those uses.
- Report on the deferred maintenance needs along with new building requirements in a comprehensive capital report to the governing board.
- Educate donors about the need to fund a depreciation and maintenance reserve when they make a gift for a new building.
- Consider these capital budget requirements within the operating budget.

Intergenerational equity issues

Budgeting on a strategic basis inevitably leads institutions to another question—is the institution investing appropriate amounts in itself on a consistent basis? The challenge of investing the right amount will directly influence the measures of affordability of various initiatives.

There has been a significant amount of discussion over the years about the appropriate level of spending an institution should commit to, in order to properly support current operations and preserve sufficient equity for future generations. This section is focused

on measuring the reasonableness of the levels of investment funds that institutions hold and the strategic investments made. This discussion has been impacted in recent years by significant growth in the size of capital campaigns, as well as the volatility in the financial markets. While large investment losses are painful, both losses and large investment gains have a similar destabilizing effect on the institutional budget and planning process.

The allocation of resources to support the operating and capital activities at any point in time is a serious consideration for governing boards. If resources are committed to operations and physical plant at an unsustainable rate, the result is that the current generation of students, faculty and staff are viewed (implicitly or explicitly) as more significant than succeeding generations. If current commitments of resources are less than the institution can afford on a sustainable basis, the opposite is true. In most environments, where institutions intend to thrive in the long run, neither is true. This discussion issue is not centered on whether an institution wants to make appropriate investments covering all generations, but rather on the mechanism for knowing the level that represents this equilibrium.

The answer to the question of balance is not uniform since each institution is unique. Even within a particular institution, the answer to this question will change as the conditions impacting the institution change. There are times when significant investment — whether in people, facilities, programs or new initiatives—is required and times when harvesting return from investments is most appropriate. The answer to this challenge is to find a systemic method of managing the equitable distribution of this support among generations of institution constituents.

The endowment and similar funds are intended to support operations in perpetuity, regardless of whether the funds are true endowment (permanently restricted or nonexpendable) or funds that function as endowment based on board action. While the true endowment funds are required to be held in perpetuity, the gains realized on these funds may be treated differently in different states. Compliance with the regulations that apply is the first step in creating a measurement framework.

Historically, at many institutions governing boards have addressed this issue by implementing a spending policy that, based on experience and their own judgment, resulted in spending cash income and gains in proportion to the expectation of returns anticipated to be realized over a long period of time. The concept of a spending policy that considers the overall returns of an investment portfolio continues to be central to many institutions' operating support and financial planning process. This spending rate is a component of operating activities, which is part of the measures in the Net Operating Revenues Ratio.

Events in the financial marketplace, which has experienced volatile changes in asset values, coupled with substantial giving in an expansive philanthropic environment, have raised questions about the efficiency of relatively fixed rates of spending. A second challenge has been the debate over the deployment of resources when an institution embarks on a transformational program.

As institutions implement their strategic plans, it is usually clear that certain investments will be required for the goals to be met. Strategic plans usually envision significant fund-raising to obtain funds needed for the plan's investments. A significant risk to accomplishing an aggressive capital campaign is the institution's inability to fund the major capital campaign because the expenses are funded from unrestricted, expendable sources, while the majority of funds raised are for permanently restricted net assets (endowments) and unrestricted nonexpendable activities such as property, plant and equipment. Additionally, it is likely that restricted gifts may not fully fund the desired initiative and that certain top priorities will not receive sufficient donor funding, thereby further impacting the effect on the unrestricted funds. Other activities that generally demand investment include new program initiatives that need to be funded as start-ups before significant funds can be found, recruitment of new faculty, investments in new marketing approaches to attract students and investment in infrastructure, including facilities and technology.

A framework for allocation

To systemically ensure the equitable allocation of resources between generations, a program such as the one formulated below may help in understanding the extent to which the institution has decided to maintain its retained equity, as well as the size of the investment of its equity in relation to the institution's overall wealth. The suggested framework is intended to cover the broad components of a program to assess the levels of investments that an institution is making and create parameters that would keep the investments within those levels.

The proposed framework is based on separation of an institution's equity into Retained Equity and Invested Equity components. An institution should establish additional information in its accounting records related to endowment and similar funds, separate from the invested amounts or other accounting classifications. This information should segregate the invested funds into two categories—the Retained Equity, which is the targeted level the funds would be at if all conditions below are met, and the Invested Equity, which represents the amounts that may be used as internal investments. Together, these two components comprise the total investment funds of the institution. This results in the total of the Retained and Invested Equity amounts equaling the equity in invested funds (comprised of expendable and nonexpendable funds, regardless of the net asset classification). A critical component of the framework includes reconciling the investment balance at market with the total unrestricted, temporarily restricted and permanently restricted net assets for private institutions (expendable and nonexpendable net assets for public institutions) that comprise the investments. This is a critical element of the framework because it provides insight into the flexibility of net assets as well as sufficiency.

Retained Equity is the amount the institution would invest if specific criteria were met. At the start of the program, the Retained Equity equals the Invested Equity. Over a period of years, the two amounts will likely diverge as the actual results of activities, such as returns on investments and inflation, impact the retained equity amount.

The Retained Equity account may play a key role in helping an institution reshape the components of its revenue stream. For example, if an institution wished to become less dependent on tuition as a revenue source, one of the annual criteria for the Retained Equity would be to grow this amount by a fixed percentage of the opening balance. To the extent this amount was not met in that year, the shortfall would be reflected as a negative amount in the Invested Equity amount, since this tactic represents an institutional investment.

The Invested Equity amount represents the amounts approved by the board for investments in the institution. Examples of the investments that may be made include funding capital campaigns and providing seed money for program initiatives. This equity amount also captures variations in the criteria established to develop target amounts for the Retained Equity account. Due to fluctuations in this account resulting from investment returns and spending, it is desirable that the commitments be limited to one-time expenditures and not become an ongoing annual budgetary requirement.

The Invested Equity can be either positive or negative. When it is positive, it would indicate availability of funds for the purposes previously approved by the board. We would expect those purposes to be limited to strategic initiatives. In fact, if this amount were to be positive for an extended number of years, it would be incumbent upon the board to define the reasons it is holding these funds as opposed to investing in approved initiatives. When Invested Funds are zero, the institution is in equilibrium.

Clearly, achieving financial equilibrium without advancing the mission-based activities contemplated by the strategic plan represents a shortfall for the institution.

The Invested Equity can become negative by making investments or if program criteria have not been met. The program requires parameters or caps on how negative the Invested Equity can become. When negative, the institution has a measure of how much of the institution's future funds have been invested in current investments. Should the Invested Equity Account stay negative in significant amounts for an extended period of time, the institution should assess whether the investments made are meeting expected returns; this may limit further investments until a position of equilibrium has been achieved.

Due to the long-term nature of investments and the length of an institution's business cycle, it may not be unreasonable for Invested Funds to be "out of balance" for extended periods of time. The board should also be aware of reasons for the Invested Funds to be either positive or negative.

The following are parameters that should be established as operating principles for this framework:

1. Establish an overall baseline of the institution's investment funds in relation to both its strategic needs and competitors' balances. If the total funds are considered deficient in relation to these measures, the program should include a growth factor each year in the Retained Equity. To the extent this is not met, it would become, in effect, another investment for the institution. This provision would apply until the deficient condition is corrected.

2. To protect purchasing power, the institution should index its Retained Equity on an annual basis by estimating the impact of inflation. This will require selecting a measure, such as the Higher Education Price Index (HEPI), and applying it consistently. Institutions may consider using the growth in their total expenses because it represents a reasonable proxy of both the impact of changes in the program as well as inflation—which is the real purchasing power the institution may want to protect.
3. Establish a policy on the maximum size, both negative and positive, that the Invested Equity can represent of the Retained Equity. This would allow the board to always gauge how much it has available for strategic investments and its position relative to equilibrium. If Invested Equity grows beyond the maximum level for an extended period of time, the board should challenge whether its current investment profile represents an underinvestment in the present day. Similarly, if the fund exceeds the maximum negative amount for an extended period of time, the implication is that the investments made exceed current affordability and may risk the availability of resources for future generations.
4. Add amounts created from market returns in excess of steps 2 and 3 above to the Invested Equity, and deduct market returns that do not meet the amounts expected from steps 2 and 3 from the Invested Equity that will need to be replenished at a later date.
5. Establish dates that investments are expected to be returned, and if not met, how future investments should be allocated to restore the amounts.
6. Establish the sources from which the returns are expected to be generated. These could include market appreciation or some return on the investments made (e.g., a fixed percentage of the spending rate on new money generated if the investment is a capital campaign).

New gifts are generally added to the Retained Equity and are not used as repayments to, or otherwise impact, the Invested Equity. Significant new gifts would increase the amounts of the thresholds of the Invested Equity, if stated as a percentage of the Retained Equity.

EXAMPLE 8.3 INTERGENERATIONAL EQUITY ALLOCATION

The following is an example of a program and the framework that might be used to monitor the institutional commitment to balancing its intergenerational equity allocation. The amounts shown in the schedule are taken from the financial statements of Utopia University (see Appendix C). Some amounts were not taken directly from the financial statements; therefore, the institution's records would be required to complete those portions of the schedule.

For this program, assume the following:

1. The baseline date for creation of this fund is the beginning of the prior year.
2. Because the institution's overall investment funds are deficient in relation to most of the competitive peer institutions, in addition to protecting purchasing power of existing funds, we will plan for fund growth, over a long period of time, at 1 percent above the inflation rate, excluding new gifts. This will be the standard until invested funds equal or exceed operating expenses. At the point where invested funds exceed operating expenses, the institution will index growth to ensure retention of purchasing power.
3. The program will continue taking 1 percent of the earnings on new endowment and similar amounts created from the Capital Campaign from the allocated earnings, until the earlier of the Invested Equity reaching zero or the amounts borrowed for the Capital Campaign are paid back.
4. Use the Higher Education Inflation Index to measure the impact of inflation on operations; for purposes of illustration, we are assuming 3 percent.

Policy will require that the Invested Equity will not exceed 10 percent of the Retained Equity amount.

Note: With the adoption of the Uniform Prudent Management of Institutional Funds Act, (UPMIFA) in most states its predecessor, UMIFA, the board's standard of prudence will be a key consideration in any program that assesses the amount of resources that are available for investment if permanently restricted net assets are part of the amounts included in the program.

TABLE 8.1: UTOPIA UNIVERSITY ENDOWMENT ANALYSIS

	RETAINED EQUITY	INVESTED EQUITY	INVESTMENTS HELD FOR LONG-TERM PURPOSES	UNRESTRICTED NET ASSETS	TEMPORARILY RESTRICTED NET ASSETS	PERMANENTLY RESTRICTED NET ASSETS
BALANCE AT BEGINNING OF PRIOR YEAR	**$ 33,745**	**$ –**	**$ 33,745**	**$ 23,777**	**$ 405**	**$ 9,563**
New gifts	$ 1,065	$ –	$ 1,065	$ 794	$ –	$ 271
New gifts, noninvestment	$ –	$ –	$ –	$ –	$ –	$ –
Income and gains, net	$ 6,345		$ 6,345	$ 2,816	$ 3,445	$ 84
Net assets released from restrictions	$			$ 2,100	$ (2,100)	
Spending from endowment						
Within spending policy	$ 1,750		$ 1750	$ 1369	$ 350	$ 31
"Tax" of 1% on new money	$ (11)	$ 11				
Inflation index for fund*	$ (5,333)	$ 5,333				
Growth % required**	$ 337	$ (337)				
Special allocations						
Capital campaign allocation		$ (2,000)	$ (2,000)	$ (2,000)		
BALANCE AT END OF PRIOR YEAR	**$ 37,898**	**$ 3,007**	**$ 40,905**	**$ 28,856**	**$ 2,100**	$ 9,949
New gifts	$ 2,645	$ –	$ 2,645	$ –	$ 1,000	$ 1,645
New gifts, noninvestment	$ –	$ –	$ –	$ –	$ –	$ –
Income and gains, net	$ 1,400	$ –	$ 1,400	$ 693	$ 680	$ 27
Net assets released from restrictions	$		$ –	$ 1,520	$ (1,520)	
Spending from endowment			–			
Within spending policy	$ 1,901		$ 1,901	$ 1,457	$ 413	$ 31
"Tax" of 1% on new money	$ (26)	$ 26	–			
Inflation index for fund*	$ (263)	$ 263	–			
Growth % required**	$ 379	$ (379)	–			
Special allocations						
Capital campaign allocation		$ (1,100)	$ (1,100)	$ (1,100)		
Programmatic investment		$ (689)	$ (689)	$ (689)		
BALANCE AT END OF CURRENT YEAR	**$ 43,934**	**$ 1,128**	**$ 45,062**	**$ 30,737**	**$ 2,673**	**$ 11,652**
* Calculated as follows:				**PRIOR YEAR**		**CURRENT YEAR**
Required return to index inflation (assumed at 3%)			(33,745*.03)	$ 1,012	(37,898*.03)	$ 1,137
Return from market, in excess of spend rate				$ 6,345		$ 1,400
Amount available in excess of policy (added to the invested funds balance, or available for investment in initiatives)				$ 5,333		$ 263
** Calculated as follows:						
Required growth amount at 1%			(33,745*.01)	$ 337	(37,898*.03)	$ 379
(all other factors in calculation considered in the calculation above)						

CHAPTER 9

Resource Allocation in Financial Planning

9

CHAPTER SUMMARY

A historic perspective often drives the concept of resource allocation and continued investment in selected programs. This becomes problematic in dynamic environments when an institution is determining how to fund new initiatives, and even which initiatives to fund. The approach offered in this chapter blends both external views (what is the market direction of a program area? what are the competencies of the institution in each program area?) with internal views (how does the program area match with the institutional mission? what are the financial results obtained by the program?) to create a matrix that allows insight into the various programs the institution supports. This should help an institution as it determines its longer-term programmatic commitments.

Introduction

Determining a strategic resource allocation model is one of the governing board's most important responsibilities. It is similarly an important role of senior management and financial management, as they are responsible for carrying out governing board directives and managing the institution. They also need to provide candid and objective information to the governing board as to whether the resource allocation models would be effective and what other institutional changes may be needed to carry out the board's directives.

There are various and numerous resource-allocation models currently in use at higher education institutions. Some, like responsibility center budgeting or cost center budgeting, are discussed frequently. Others, like top-down budgeting or scoring units against criteria on a common scale, are not as well known or discussed. However, most of these models fail to address the concept of using the operating and capital budgets as action steps to implement the institution's strategies and manage risk.

We have worked with various resource-allocation models in our combined experience with higher education institutions. We believe that no one model is the panacea for all institutions. However, we believe that a systematic and rational approach can be used effectively for many institutions.

Traditional planning approaches typically miss a key step—a step that allows the institution to smoothly translate its mission into a strategy with a *high probability of success.* In the pages that follow, we present a mechanism for filling this gap by effectively managing resource allocation. The Resource Allocation Map© is a framework that enables leaders to assess key components and variables that will impact successful implementation of the strategic plan. This framework is also useful as a reference point in selecting the tactics needed to turn strategies into action. Theoretically, resource allocation is a simple matter of knowledgeable people making informed decisions that align resources with goals. In practice, it is far more complex—particularly for higher education, which operates on multiyear business cycles and serves diverse stakeholders and purposes.

We presented this approach in our sixth edition of *Strategic Financial Analysis*. Some institutions have adopted it. Given the recent economic crisis, many institutions will need to adjust their spending to meet future lower projected revenues and other resources. This will result in institutions having to make difficult decisions on allocating resources. We believe this approach will gain wider acceptance and use, as it provides a rational framework for making difficult allocation decisions.

A framework for resource alignment

A resource allocation framework can fill this gap in strategy implementation in higher education, helping decision makers determine where to invest limited resources to achieve the greatest good. At the highest level, this means balancing internal values with external pressures. Understanding and managing both sides of this equation are essential for institutional well-being; those institutions that ignore market forces risk financial difficulty, while those that neglect internal values risk becoming a commodity business because there would be no meaningful differentiation in their offerings.

Developed specifically for public and private higher education institutions, this framework is designed to help institutions map resources to anticipated results. It can be used to assess any level—school, division, department, program or institute—as long as the organizational unit is consistent across the institution.

Recognizing that higher education is too diverse for a single formula, we have created a Resource Allocation Map that can be adapted to an institution's unique circumstances and desired direction. The ultimate goal is to help an institution consistently move in the direction to which it is committed. By inserting this framework into the strategic-planning process between the creation of the institutional vision and the strategic plan, leaders can build a strong case for where resources should be allocated—and why.

Additionally, it is important to be aware of institutional realities. Some initiatives that do not rank highest according to the map will be funded for cultural, historical or other reasons, and others that do score highly will not. Instead of having this reality cause an abandonment of the process, recognize that there will be outliers and the president will want a reserve fund not subject to the map, and plan for certain exceptions. By acknowledging—and quantifying—this upfront, the process may have a far greater chance of acceptance and therefore success.

All institutions recognize they do not have the resources to fully fund all potential activities or even all programmatic areas they currently attempt to support. Yet, their allocation of resources more closely follows a pattern of incremental behavior based on history than the intended direction. The Resource Allocation Map is intended to suggest effective actions given certain circumstances, ***not*** to provide absolute answers in terms of reallocating resources away from or toward a specific unit. It is built around four dimensions that can help leaders align resources with long-term strategic direction:

- Mission/strategic plan
- Financial performance
- Internal competencies
- Market trends

Mission/strategic plan

While everyone talks about the importance of mission, the difficulty lies in translating mission into actionable plans. Mission is not just what the institution is and does; it is what the institution wants to become. This should be the guiding force that drives everything else; in fact, it represents the key determinant of an institution's ability to succeed.

Depending on the institution, "mission critical" may be measured in terms of lines of business (teaching, research, public service) or disciplines (arts and sciences, business, education, graduate programs). Measurement can be directed toward the beneficiaries of the institution, such as measuring student success (graduation rates), programmatic improvement (retention rates or perhaps enrollment yield) or faculty development (percentage change in faculty terminal degrees, publishing proclivity). Whatever the focus, mission should be defined in clear, compelling, measurable terms that spur commitment and action.

Articulating a mission that achieves this goal is not a simple matter. For example, a mission of "educating students" is so broad, it cannot coalesce people around a specific set of actions. Conversely, a mission that is too narrow, such as becoming the preeminent provider of creative writing instruction, may preclude active participation by a large portion of the institution.

Financial performance

As mission is the institutional driver, financial health is the measure of affordability. Affordability is a delicate matter; while these issues should not drive decisions, ignoring them could jeopardize the entire institution. It may be entirely appropriate to support initiatives that do not have a quantifiable return; however, leaders must appreciate the institutional impact of diverting resources from other areas.

Financial performance can be measured in many ways, depending on what the institution views as critical. The criteria for financial success are institution-specific and may be the result of a combination of factors, such as operating results, budget size, return on net assets and so on. A few high-level measures, consistently used, can provide the best indication of financial performance.

Internal competencies

To effectively manage resource allocation, leaders must also have a clear understanding of what the institution does well (or can do well), what it is known for and how it compares to its peers.

Competency refers to the accumulated value of resources, programs, processes, relationships, infrastructure and abilities of faculty, staff, students and other stakeholders. To maintain competencies or improve them, the institution must have a plan for identifying and quantifying human and capital investments—and a plan for generating or reallocating funds to these investments.

Market trends

Which programs will be hot? Which will not? What does this mean for the institution? Is the market large enough to support the strategy? Questions like these must be answered to understand the impact of outside forces on the institution.

Market trend analysis provides an external view of the institution based on data such as the direction of research funding, demand for particular programs and demographic changes in the student body. Measures may vary from campus to campus but should identify the criteria most important to the institution and support that view with empirical evidence. Examples include the National Institutes of Health (NIH) and the National Science Foundation (NSF) funding at the programmatic level (if that is the critical unit of measure) and numbers of matriculating (and paying) students in programs.

This is not to say that market forces should determine institutional spending decisions. On the contrary, we see it as one element that, when paired with the others, can help answer important questions. Additionally, when embarking on a strategic plan and resulting new investments, it is important not to look at where the funding is today but rather where it is likely to be tomorrow.

Interdependence

The highest and best value of using this framework lies in the interdependence of all four parts: mission, finances, internal competencies and market trends. Assessing programmatic areas along these parameters creates a map that can help align resources to produce the greatest gains.

FIGURE 9.1: RELATIONSHIP OF FINANCES TO MISSION (QUADRANTS)

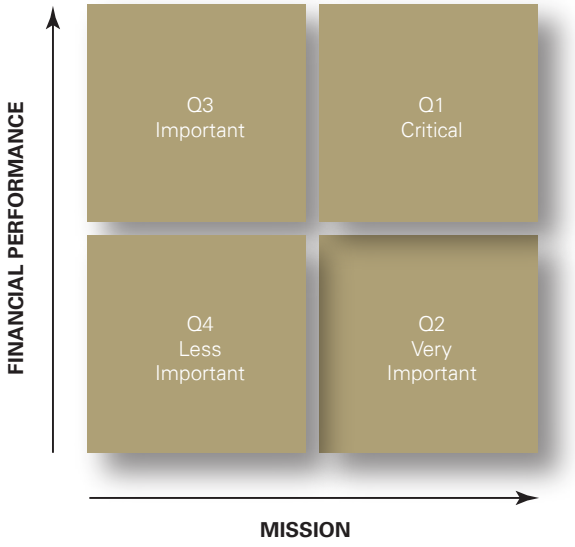
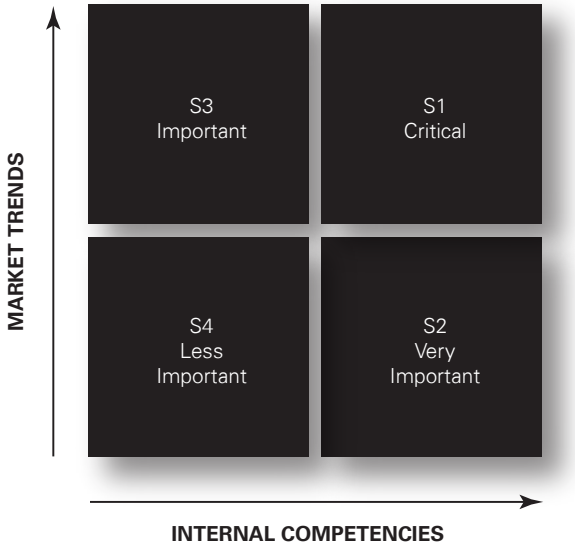


FIGURE 9.2: RELATIONSHIP OF MARKET TO COMPETENCIES (SECTORS)



The Resource Allocation Map

Our model incorporates two companion analyses—the relationship between financial performance and mission (Figure 9.1) and the relationship between market trends and internal competencies (Figure 9.2).

Evaluating programmatic areas according to all four factors produces 16 possible combinations, each of which has different implications for the institution. Programs falling in one of the categories will have tendencies to move to another category if the status quo is maintained. In many circumstances, the movement will be a decline because the institution did not aggressively protect strength. By assessing institutional units along these dimensions, the institution will create a rational basis for making resource allocation decisions.

Table 9.1 provides a summary of the quadrant and sector discussion that follows. The title in each box reflects what a program mapping in a certain quadrant and sector may mean to the institution.

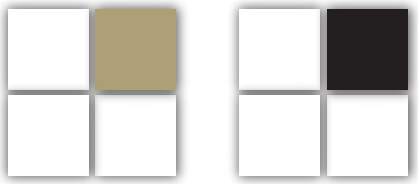
TABLE 9.1: QUADRANT/SECTOR MAPPING RESULTS

	QUADRANT 1	QUADRANT 2	QUADRANT 3	QUADRANT 4
SECTOR 1	Drives the enterprise	Reassess operating model	Consider overall focus	Assess commitment to prioritization
SECTOR 2	Requires external view	Defines the enterprise	Plan exit strategy	Reconsider resource deployment
SECTOR 3	Requires investment	Invest in competencies	Provides resources	Tighten implementation of priorities
SECTOR 4	Requires change	Reassess the mission	Plan resource deployment	Drains resources

The chart above can be viewed as a risk-mitigation strategy for managing the challenges for programs falling in each of the categories above. If an institution understands that a program occupies a certain quadrant and sector but does not react to that situation, then an identified risk is allowed to remain unmitigated.

We use the conventions depicted in Figures 9.1 and 9.2 to describe each of these combinations. Thus, the quadrants (Q1, Q2, Q3, Q4) are used to explain issues of mission and financial performance, while the sectors (S1, S2, S3, S4) explain internal competencies and market trends. These combinations are represented graphically to provide a visual reference, with the quadrant identified in tan in the first box and the sector in black in the second box. The following descriptions provide suggestions for moving forward.

High on all; mission, financial performance; market trends and competency



Drives the Enterprise (Quadrant 1/Sector 1)

Programs in this category are what the institution is known for, as well as what it wants to become. When an institution has programs like these, it is likely to have the opportunity to become world-class—if it is not presently so.

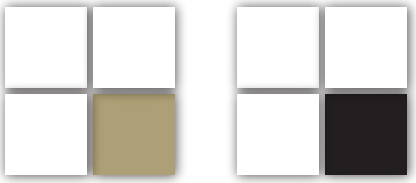
Our experience indicates that the principal barrier to success for programs in this category is diffusion of resources. No program area suffers more from this diffusion than programs that fit this quadrant and sector. This is primarily because these programs will generally receive their "fair share" of resources while the impact these programs can make would allow the institution to move to a future state that would likely enhance its ability to achieve its mission. Considering that the pool of resources is finite, any diffusion of resources from these programs is a diffusion of mission.

All resource-allocation processes must therefore consider programs in this area before everything else. Are these programs getting the necessary funding? Are the capital assets adequate? What is needed to keep such programs vibrant? Are sufficient resources allocated to ensure continual refreshing of curriculum? Does the institution market this program area on a continuous basis? It is essential that these questions be answered when resources are allocated and budget prepared.

Defines the Enterprise (Q2/S2)

Programs in this category create a dilemma for the institution. While they represent the institution's historic strength and vision of what it wants to be, these areas are in a declining market and are probably consuming a disproportionate share of resources.

High on mission and competency; **low** in financial performance and market trends

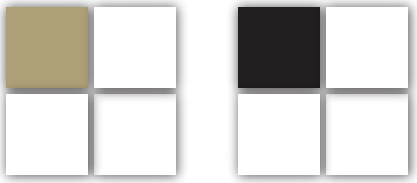


If the institution is to stay true to its mission, financial realities simply cannot be ignored. To continue to invest in these programs, there must be evidence that the program has the capacity to increase market share, even if the market is declining. The institution should consider opportunities to team with other institutions to deliver these programs in ways that advance its mission and allows for fiscal balance. In fact, this is the most important area where an institution should be looking to team with other institutions to deliver its programs effectively. This is significantly different than a program that scores high on mission and is fiscally capable of supporting itself. In this instance, the program will likely become a fiscal drain on resources if the fiscal results of the program are not balanced.

Provides Resources (Q3/S3)

Programs in this category present a different challenge because they have historically produced a significant financial return and will continue to do so for the foreseeable future. However, the institution has decided that these programs do not contribute to its mission or vision of what it wants to be. Institutional competency may have declined due to retirements or changing technologies in the discipline.

High on financial performance and market trends; **low** in mission and competency

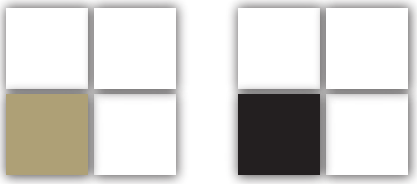


To produce continuing financial returns, the institution will need to invest in internal competencies. If the market is expanding, other institutions are likely to either enter the discipline or expand their presence in this marketplace. This will result in competition increasing to challenge its ability to continue generating funds.

Drains Resources (Q4/S4)

Programs in this category should be candidates for reduced funding and other dramatic changes. However, the realities of an academic institution—vocal constituencies, consensus-based decision making, tenure, resistance to change—typically slow the process. In fact, the commitment to collegiality and across-the-board resource allocation may be a greater institutional danger than fluctuating or uncertain levels of revenue.

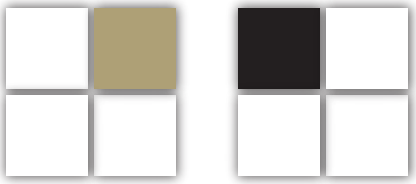
Low on all; mission, financial performance, market trends and competency



The institution must take a long-term perspective on these programs. However, it is important to remember that if no change is made, the status quo will represent diminished resource availability for the other programs that define the institution as unique.

Programs in this category tend to be areas that distract resources from the programs that define the enterprise. Since the pool of resources—operating budgets, capital budgets, and human capital—is finite, there are necessary priorities that must be established to move forward. We recognize, however, that the business cycle of an institution is quite long and change is generally not abrupt but rather made in a gradual and consistent manner. This has implications around tenure activities, replacement personnel, facility decisions and any other longer-term investments.

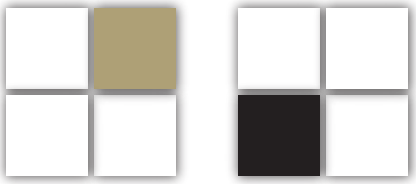
High on mission, financial performance and market trends; **low** on competency



Requires Investment (Q1/S3)

Programs in this category have probably experienced a loss of people—either through retirement or attrition—or a substantial change in technology. Often, institutions add resources incrementally and the process takes some time. Programs that fall into this category require an improvement in competency, either by hiring or training, or the institution risks losing significant position in the market. This situation would be an indication that resources allocated to these programs are necessary to maintain the institution's relative position. If investment is not made, the first impact will likely be a decline in the financial performance of the program (Q2/S3), which would indicate a required investment in competencies but to a more critical degree. If still no investment is made, the program will likely go into a continued downward spiral that will create a serious dilemma: how to invest when the program is failing.

High on mission and financial performance; **low** on market trends and competency

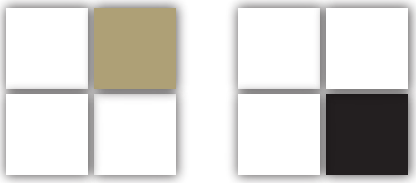


Requires Change (Q1/S4)

Institutions are not likely to have many programs in this category, if any at all. It would take unusual circumstances to perform well financially in a mission-critical area without strong internal competencies. However, institutions that are in transition, particularly in program leadership, may find themselves in the position of choosing the best overall use of limited resources.

When such a situation does arise, the institution must not only invest in competencies but also invest in a way that expands market share. A solution may be to coordinate with another institution to provide the program. Maintaining the status quo would risk these programs slipping to a requirement to reassess the mission (Q2/S4).

High on mission, financial performance and competency; **low** on market trends



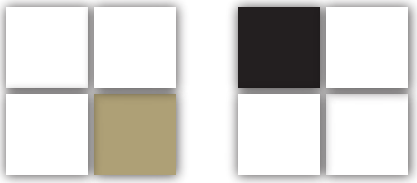
Requires External View (Q1/S2)

Programs in this category, which have historically been strong for the institution, are experiencing a fundamental shift in the marketplace. If such a program is to represent a significant portion of the vision for the future, some programmatic adjustments will be required. This may mean coordinating with other institutions or reshaping the curriculum to include interdisciplinary activities. Over time, if no changes are made, this area is likely to result in impaired financial strength, with the program becoming one that would continue to be a requirement because it defines the institution, with resources allocated from other areas to support this program.

Invest in Competencies (Q2/S3)

Programs in this category generally represent a significant opportunity because they define what the institution wants to be—and the market supports that vision. Since these programs are high on mission and the market is strong, properly investing in appropriate internal competencies is likely to produce strong returns.

High on mission and market trends; **low** on financial performance and competency

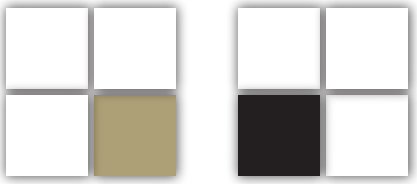


However, significant investment will be required to improve competencies and cover existing program shortfalls. For programs like this to succeed, an institution must be willing to invest for the long term—and invest substantial amounts. The institution must take a long-term view of itself, using multiyear planning for both capital and operating budgets. One variable outside the institution's control will be competition, which must be considered as the institution develops competencies. The key issue to be addressed for programs in this category is one of institutional priorities.

Reassess the Mission (Q2/S4)

Programs in this area may well be historic artifacts, since neither institutional competencies nor the marketplace will support existing levels of activity, as evidenced by poor financial results. This is probably the toughest position institutions encounter.

High on mission; **low** on financial performance, market trends and competency

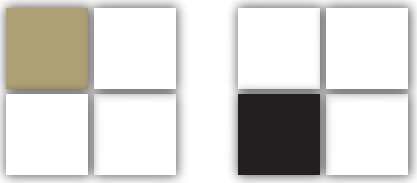


In cases like this, the institution should reassess its mission. If the institution remains committed and sees no other mission, the board may need to reexamine the program's relevance if it remains committed to the stated mission.

Plan Resource Deployment (Q3/S4)

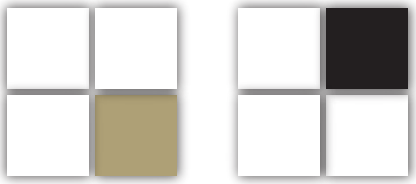
Although few programs fall into this category, such conditions can be created in a transition period. For example, an institution could have enough students enrolled in a particular program, but the senior cohort is much larger than the freshman cohort, reflecting the market trend. These programs are likely in transition, and it would be unreasonable to assume long-term continuation of the financial performance.

High on financial performance; **low** on mission, competency and market trends



Since these programs are currently financially strong, the institution has time to adapt—but since they are low on mission, the institution should take action. This gives institutions the opportunity to manage a successful program wind-down and reallocate funds for more mission-critical programs. If the status quo were maintained, the most likely direction of this program would be toward Q4/ S4.

High on mission, competencies and market trends ; **low** on financial performance

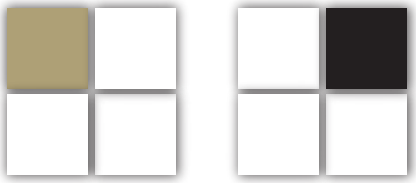


Reassess Operating Model (Q2/S1)

Programs falling in this category should undergo an internal assessment of their operating model. If all categories but financial results are high performing, then an assessment of how the program is delivered is critical. This program may be a candidate for cooperation with other institutions, if the cause of the low financial performance is low student participation.

Without improvement in financial results, this program will consume resources that other programs may be able to more efficiently deploy. The dilemma may be that many of those programs will not be as integral to the success of the institutional mission. Programs in this category generally create tension over priorities and execution of the strategic plan.

High on financial performance, market trends and internal competencies; **low** on mission

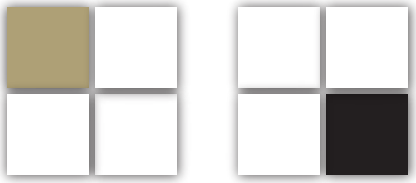


Consider Overall Focus (Q3/S1)

This would not appear to be a likely scenario, because it would appear illogical to build strengths in areas that are not the focus of the institution. This may occur if the institution is going through a major change in direction, and these programs will represent much of what historically made the institution successful.

If programs are in this category, the resources generated likely would be deployed to help fund program areas that are high on mission and likely emerging.

High on financial performance and internal competencies; **low** on mission and market trends



Plan an Exit Strategy (Q3/S2)

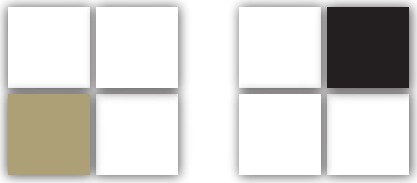
Programs that fall in this category reflect what the institution has been known for, with prior resource allocations creating the program's high competencies. An institution that identifies programs like these is likely to have gone through a transformation in direction and is now moving to become something different.

The challenge relates to continuing the resource allocations in these programs as they are winding down while finding resources to support the activities reflecting the "to-be" state.

Assess Commitment to Prioritization (Q4/S1)

This combination does not appear to fit a lot of circumstances—the likelihood of developing competencies without financial performance in an area that is not mission centric would appear contradictory. Programs that do fall into this category therefore indicate that the institution is in a position of indecisiveness.

High on market trends and competencies; **low** on financial performance and mission

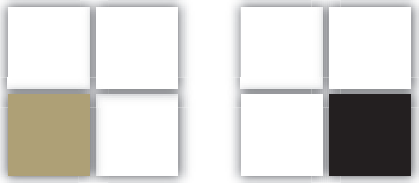


These programs should either be enhanced because market trends would imply an ability to be successful financially or, more likely, reshaped to ensure that the program fits the mission. If no change is made, this program is likely to continue to consume resources and should raise questions about prioritization.

Reconsider Resource Deployment (Q4/S2)

Programs in this category are likely to have had some success in the past. However, market movements, the vision of what the institution is trying to become and the financial results obtained would indicate this program is more related to the past than future. Rethinking the delivery aspect of this program by coordinating with related programs that are more in line with the future may be the best deployment of these resources.

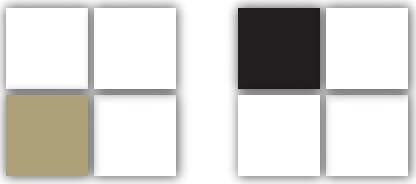
High on competencies; **low** on market trends, financial performance and mission



Tighten Implementation of Priorities (Q4/S3)

A program that falls in this category is likely to have been developed to respond to a market that is expanding. At least in its current state, the institution is not in a position to take advantage of these market changes. Since this is not advancing the mission, the institution would do better to direct resources toward higher priority activities.

High on market trends; **low** on competencies, mission and financial performance



The Resource Allocation Map introduces a discipline into the planning process that will lead the institution to clearer insights into the direction it wishes to take. This mechanism enables institutions to make decisions consistently regarding programs and provides a method for determining how to develop resource-allocation plans. This is not only important to the development of strategic direction, but also aids the process of developing the strategy. By developing and implementing this framework, we believe the institution will be able not only to develop a strategic plan, but also to communicate the plan. Using this framework consistently over time will ***communicate*** strategic decisions and help everyone understand how particular programs fit into the institution's strategic direction.

10

CHAPTER 10

Measuring and Communicating Overall Financial Health

CHAPTER SUMMARY

Assessing the institution's financial health and financial risk is a critical step in developing strategies and effectively managing institutional risks. Using a single metric that offers a more holistic approach to understanding the total financial health of the institution may assist in this process.

Introduction

A critical step in setting strategic goals, developing and implementing strategies, and performing risk management actions is to determine the institution's current financial health and risks, and to assess future conditions as the strategic plan is implemented. As discussed in Chapter 3, one important process in risk management is to determine the institution's risk capacity. Although there is no one overall quantitative measure of risk capacity, and its assessment must include qualitative factors such as ability of management, there are several financial aspects that must be considered. These include liquidity, debt capacity, expendable net assets and financial condition.

Higher education institutions have a unique financial metric, the Composite Financial Index (CFI) that assists in the financial analysis component of strategy setting and risk management. The CFI has been useful in helping boards and senior management understand the financial position their institutions enjoy in the marketplace and has proved valuable in assessing future prospects, functioning as an "affordability index" of a strategic plan. Chapter 14 contains information on how to calculate the CFI.

In the sixth edition, *Strategic Financial Analysis for Higher Education*, published in 2005, we applied the methodology we developed for private institutions to public institutions. Although the methodology for public and private institutions remained the same, the calculations differed somewhat. We have found since then that the weighting and scoring systems as introduced have worked well and remain appropriate over the long term, and therefore do not require any revision even taking into account the substantial economic turbulence of recent years. In Section 3, we have added example calculations and discussion when institutions incur significant losses from their long-term investments.

For public institutions, we again stress the importance of measuring all of the institution's financial resources, debt and financial performance. This will include the institution itself, its affiliated foundations used for fund-raising, research or real estate, and other special-purpose entities used to construct and/or operate institution-related assets such as student housing (note that the same consideration applies for private institutions that utilize a controlled entity such as a real estate subsidiary to provide support to the parent organization). These affiliates are referred to in the calculations as component units (CU).

The fact that the CU financial information is included in the presentation and calculation of the CFI and other financial ratios underscores the need to have the CUs involved in discussions regarding the strategic plan and other management items to ensure that resources are directed toward assisting with the institution's identified priorities. We discussed in earlier chapters their inclusion in implementing strategy and institution risk management activities. CUs should not be viewed separately. While many affiliated organizations are becoming more closely aligned with the institution itself, there remain examples of foundations that might not have objectives fully consistent with institutional goals—which can result in problems, misdirected priorities, diffusion of resources, lack of appropriate incentives and inadequate risk management.

Using the CFI

Using the CFI in strategy plan goal-setting and financial modeling will aid institutions in communicating overall financial health instead of using numerous financial metrics. Reporting the CFI over time, presented with narrative discussion of the institution's financial drivers, such as student enrollment and discount rate, faculty and staff headcount, and research awards or base, will effectively communicate the institution's financial health. Institutions may also calculate the CFI on a school or division basis, but care must be used to properly consider interdivision allocations, asset ownership and liabilities recognized.

We stress that the CFI should not be calculated for peer group comparison purposes due to the flexibility in calculating the component ratios, as well as the absence of readily available information needed for certain ratios. As discussed in Section 3, institutions must make various choices in calculating the ratios and other financial metrics, rendering peer group comparison not meaningful, or in the extreme, misleading.

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, a high CFI is not necessarily indicative of a successful institution, although a low CFI generally is indicative of additional challenges. When considered in the context of achievement of mission, a very high CFI with little achievement of mission may indicate a failing institution.

The institution is best served if the CFI is calculated over an established time period, for example, the past five years and the next five. This gives a more accurate picture of overall historic and projected financial health under certain assumptions 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 assessment and continual awareness of institutional performance against internal baselines and forecasts.

In order to mitigate any significant fluctuations in the annual calculation of the CFI, such as significant investment gains or losses, the CFI may be calculated using a three-year rolling average. For example, the 2008 CFI would be the average of the CFI for 2006, 2007 and 2008, while the CFI for 2009 would be the average for 2007, 2008 and 2009.

The measure is established by first answering four key questions concerning the financial health of an institution and calculating a financial measure that addresses the overall question of whether an institution is financially healthy:

- Are resources sufficient and flexible enough to support the mission? – Primary Reserve Ratio
- Are debt resources managed strategically to advance the mission? – Viability Ratio
- Does asset performance and management support the strategic direction? – Return on Net Assets Ratio
- Do operating results indicate the institution is living within available resources? – Net Operating Revenues 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 Operating Revenues 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, although it is recognized that other ratios are critical components of institutional well-being as well and should be considered together with the CFI. As an example, outstanding debt, by itself, is not a particularly informative number. But within the context of accessible retained wealth, the relative debt level becomes informative, allowing an understanding of capital structure and the affordability of debt. Expendable net assets provide insight into whether the institution's operating size is reasonable within the context of accessible retained wealth. The return the institution has achieved, both in terms of current operating size and total wealth for which the governing board has fiduciary responsibility, is a key indicator of overall financial performance.

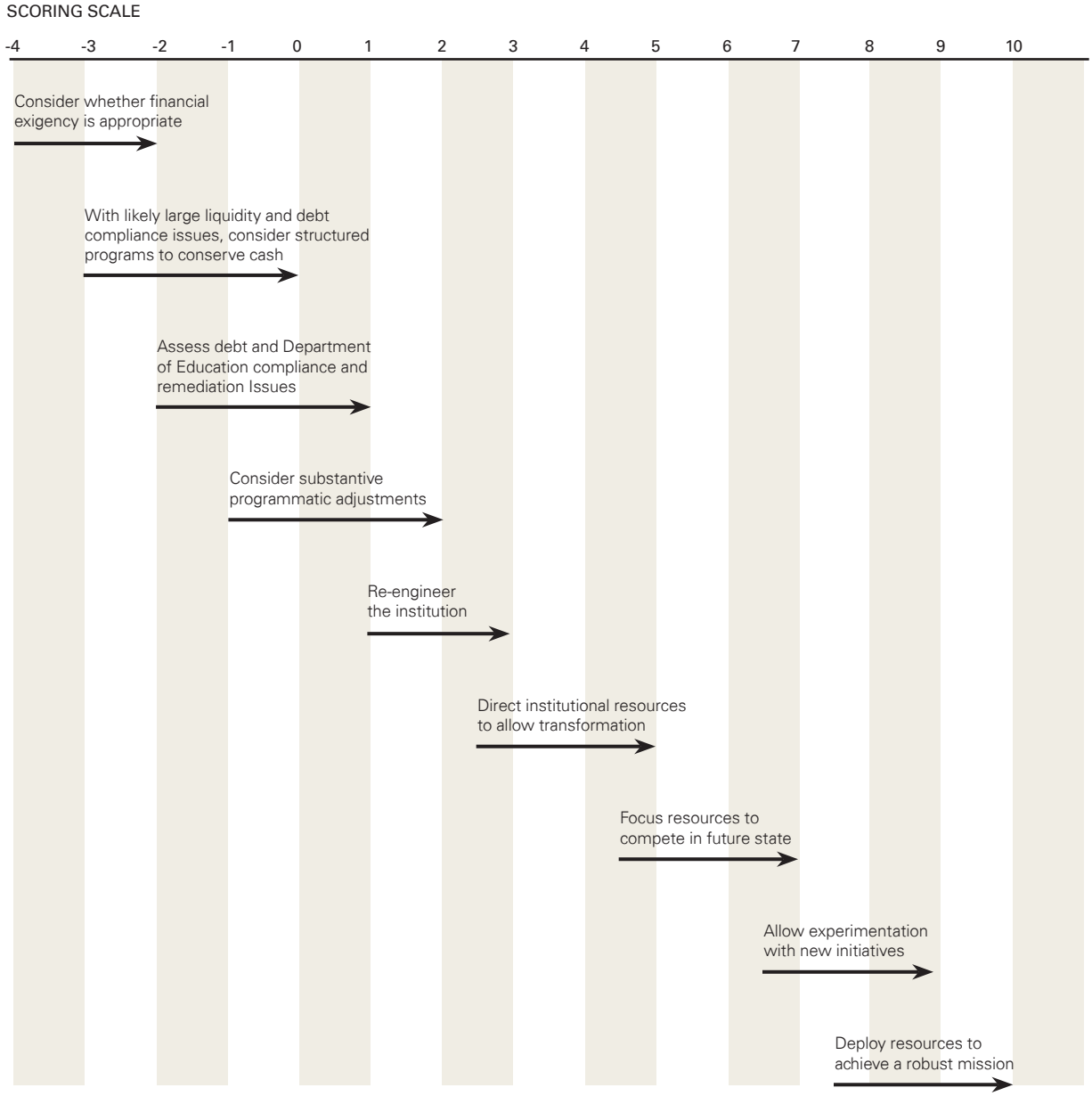
The details on calculating the CFI and other ratios are discussed and presented in Section 3.

Implications of the CFI

The scores listed in Figure 10.1 do not have absolute precision; rather, they are indicators of ranges of financial health that can be markers of overall institutional well-being when combined with nonfinancial indicators. This would be consistent with the fact that there are a large number of variables that can impact an institution and influence the results of these ratios. An example would be if the measurement dates for the ratios, and ultimately the CFI, are in a period of extreme volatility, then the resulting measure may not be reflective of the current state of the institution. We would encourage institutions that are experiencing high volatility to consider recalculating these measures on a weighted or rolling-average basis.

However, the ranges do have enough precision to be indicators of financial health, and the CFI as well as its trend line, over a period of time, can be the single most important measure of the institution's financial health. Stated graphically in Figure 10.1, this scoring system may look like the following:

FIGURE 10.1: SCALE FOR CHARTING CFI PERFORMANCE



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. However, there are readily discernible financial differences between a score of 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, and has more financial risk.

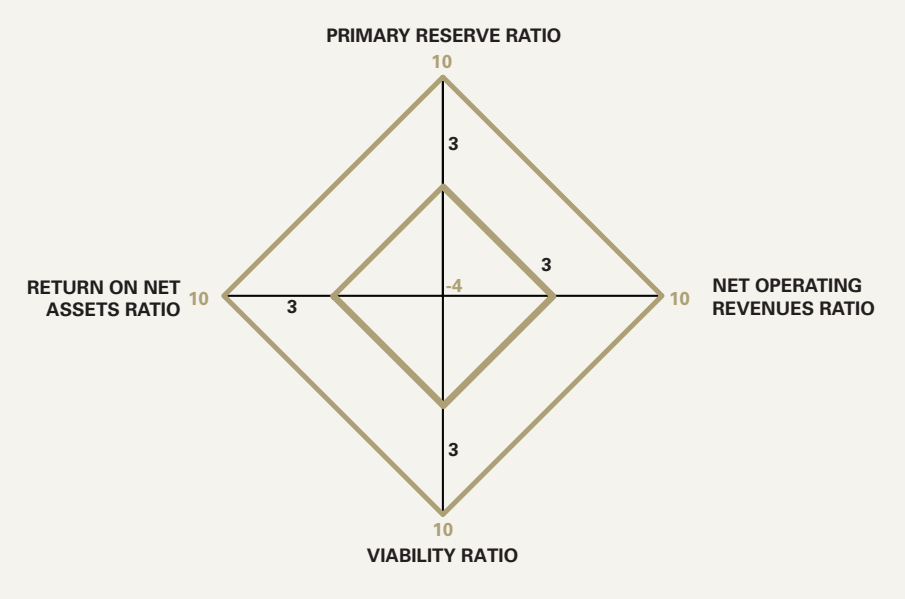
Due to questions raised by users of the CFI to address significant negative financial events, we have modified the low end of the scale from -1 to -4. As indicated in Section 3, a score of 3.0 represents the threshold value. We have modified the calculations so that the maximum score cannot exceed 7 factors from the 3.0 threshold value, or 10.0. Likewise, the minimum score cannot be less than 7 factors from the 3.0 threshold value, or -4.0. Having this symmetry and limits in the calculation will also help offset any significant positive or negative results in any one year.

Graphic Financial Profile – An Application of the Ratios

Figure 10.2 illustrates 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 profile (GFP) offers further assistance in identifying whether a weakness that may exist in one ratio is offset by a strength in another ratio.

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 center-point is minus four (-4). Any values below -4 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.

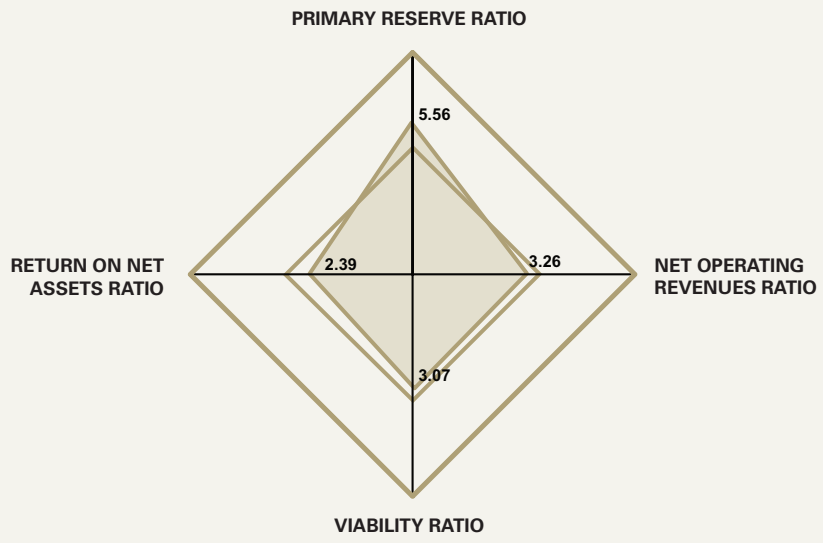
FIGURE 10.2: GRAPHIC FINANCIAL PROFILE



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 Operating Revenues Ratio, these ratios have been placed opposite each other on the axes. The share 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.

FIGURE 10.3: GRAPHIC FINANCIAL PROFILE FOR UTOPIA UNIVERSITY

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	.74x	5.56
Net Operating Revenues	2.28%	3.26
Return on Net Assets	4.78%	2.39
Viability	1.28x	3.07



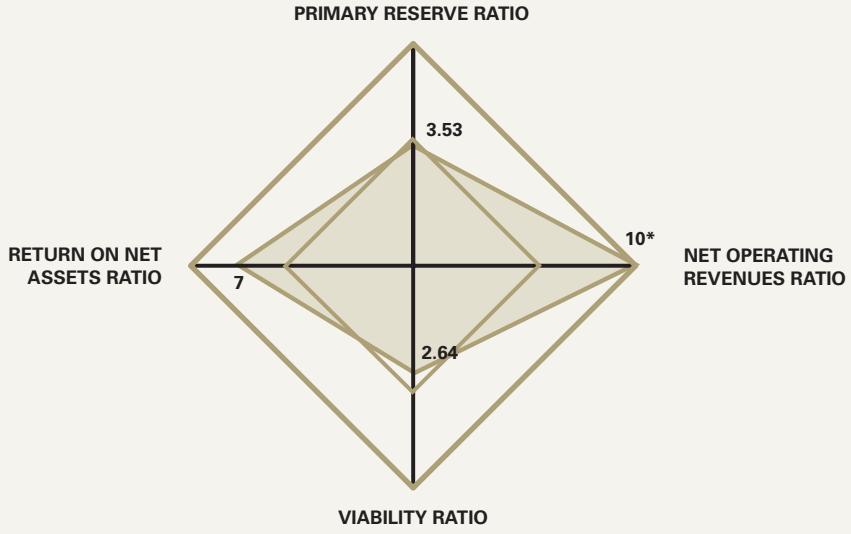
From a financial perspective, Utopia University would probably have difficulty making major investments in key areas, such as facilities, academic and research programs, or personnel without a large external capital infusion (see Figure 10.3). An institution with this profile generally has a reasonable cushion against the first adverse financial event but would be required to replenish expendable resources if a significant adverse event were to occur, before it would be able to continue making significant investments.

Further examples of applying the core ratios using a private institution's ratios, threshold values and strength factors in graphic profiles are offered on the following pages.

FIGURE 10.4: INSTITUTION #1—GRAPHIC FINANCIAL PROFILE

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	0.47x	3.53
Net Operating Revenues	10.00%	10.00*
Return on Net Assets	14.00%	7.00
Viability	1.10x	2.64

*Default to 10, as calculated score exceeds 10

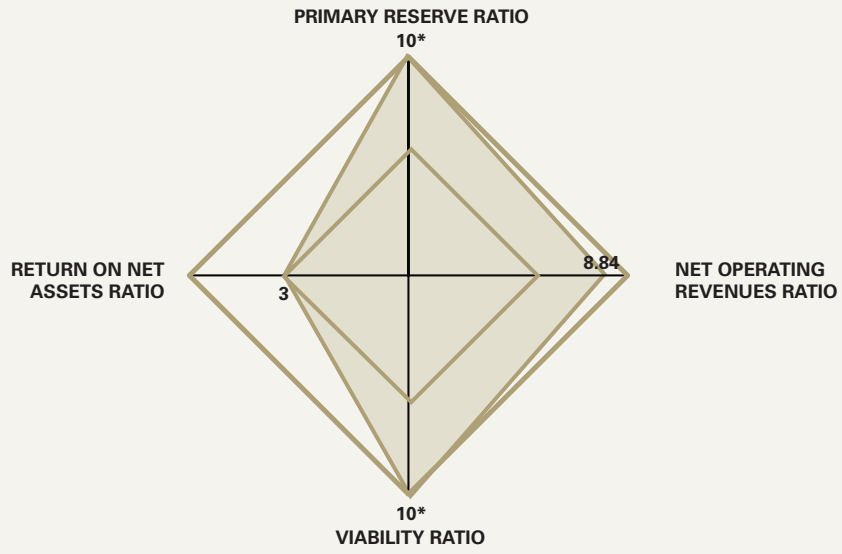


The profile of Institution #1 indicates thin capitalization with reasonable returns generated in the current period. This is an institution that may need to assess ways of focusing the deployment of its resources to ensure sufficient capitalization to achieve stated initiatives.

FIGURE 10.5: INSTITUTION #2—GRAPHIC FINANCIAL PROFILE

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	1.84x	10.00*
Net Operating Revenues	6.19%	8.84
Return on Net Assets	6.00%	3.00
Viability	24.50x	10.00*

*Default to 10, as calculated score exceeds 10

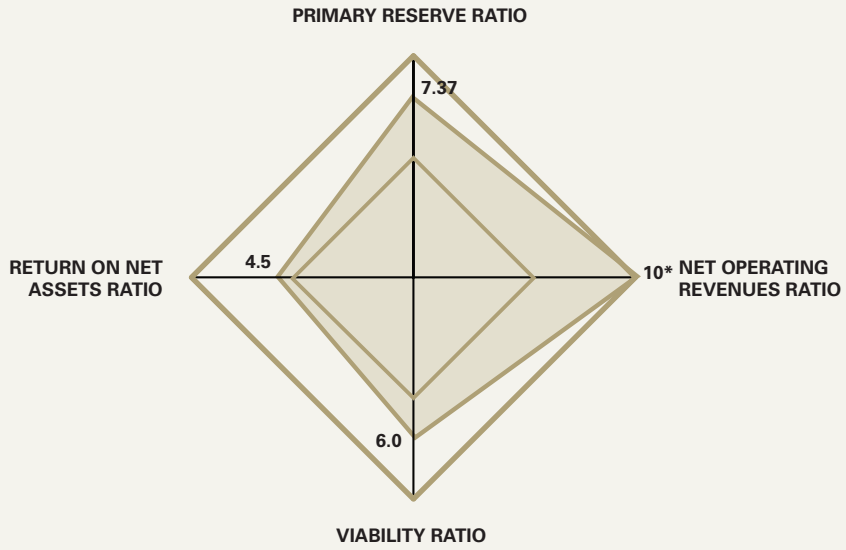


The profile of Institution #2 indicates an overall very financially healthy institution. The ratio results in three areas are strong, and while the Return on Net Assets Ratio is relatively low, this can be explained by the somewhat higher investment in plant and equipment compared with similar institutions. The skewed nature of this GFP would indicate the institution has made investments in physical assets that are not producing returns at the same level of the institution. This would be an interesting GFP to track over a long period of time, to assess whether this is indicative of how the institution invests in physical assets or whether stronger returns occur at some other point in time. This is an institution that has the financial capacity to deploy resources against a fairly robust mission.

FIGURE 10.6: INSTITUTION #3—GRAPHIC FINANCIAL PROFILE

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	0.98x	7.37
Net Operating Revenues	17.00%	10.00*
Return on Net Assets	9.00%	4.50
Viability	2.50x	6.00

*Default to 10, as calculated score exceeds 10

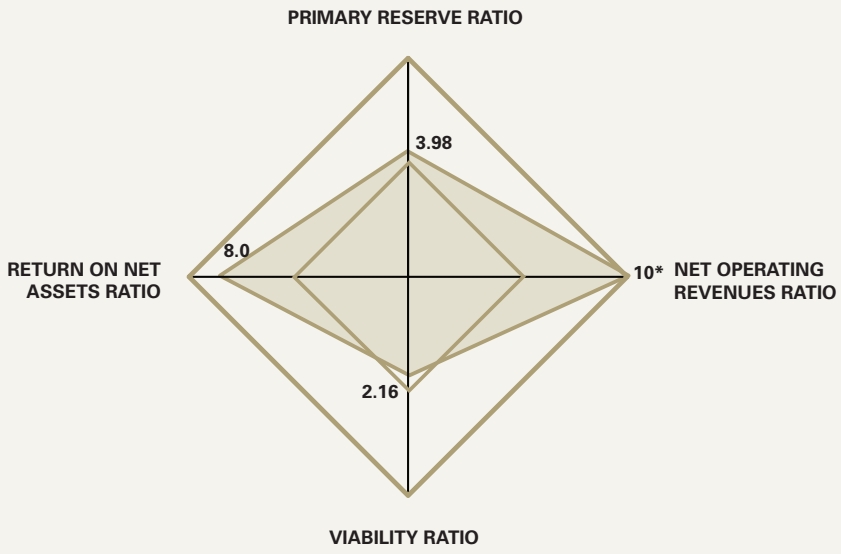


The profile of Institution #3 indicates a financially strong institution that has produced substantial returns on current activities. At present, there are no perceived financial weaknesses and the institution should focus on moving selected institutional initiatives forward. As with Institution #2, the return on net assets is lower than the other three ratios, but it is at a high enough level to indicate that the institution would likely not run into return issues, at least in the periods near this calculation.

FIGURE 10.7: INSTITUTION #4—GRAPHIC FINANCIAL PROFILE

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	0.53x	3.98
Net Operating Revenues	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

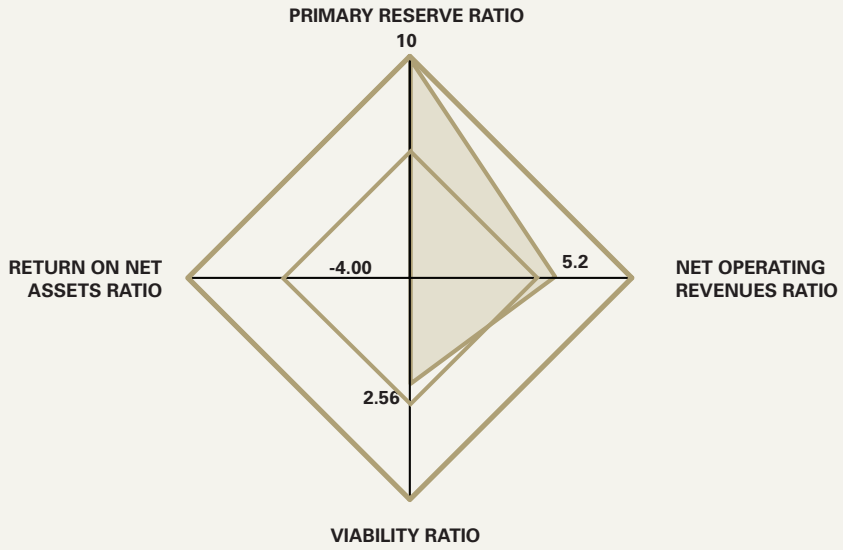


The profile of Institution #4 indicates a fairly thinly capitalized institution that is producing exceptional return on the revenues it generates and the net assets owned. Overall, the financial position of this institution would indicate the governing board and senior management may need to specifically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

FIGURE 10.8: INSTITUTION #5—GRAPHIC FINANCIAL PROFILE

RATIO	RATIO	STRENGTH FACTOR
Primary Reserve	3.64x	10.00
Net Operating Revenues	15.00%	5.20
Return on Net Assets	-12.5%	-4.00*
Viability	1.07x	2.56

*Default to -4, as calculated score is less than -4



The profile of Institution #5 indicates a fairly strongly capitalized institution that has solid operating results. The negative return on net assets was caused by significant losses in the institution's endowment fund investments. Since the Return on Net Assets Ratio strength factor is less than -4, it is plotted in the center of the GFP.

III

SECTION III

FINANCIAL RATIOS & METRICS

SECTION III

FINANCIAL RATIOS & METRICS

SECTION OVERVIEW

This section, which addresses financial ratios and metrics, is more focused on the methods to calculate these metrics and, accordingly, may be of greater interest to financial managers in private and public institutions. This section is comprised of four chapters:

- Chapter 11 – Updates and Changes to Financial Ratio Approach and Calculations
- Chapter 12 – Framework for Financial Analysis Using Ratios and Metrics
- Chapter 13 – Calculating Financial Ratios and Metrics
- Chapter 14 – Calculating the Composite Financial Index

We have updated our framework to reflect changes in the financial markets and economic conditions. We have also made revisions to the ratios, adding some, deleting others and revising some calculations.

We believe there are many factors and complexities in financial operations and financial agreements that may result in significant changes to the ratios. As a result, we have added flexibility in calculating certain ratios, but stress that financial management must clearly articulate to senior management and governing boards what is included and excluded from the metric or ratio calculations, as well as the rationale. This flexibility will render peer group comparisons not meaningful, or perhaps even misleading. We believe that ratios are best used to measure institutional financial matters when measured over an extended period of time.

We have also stressed ranges for the thresholds in certain ratios due to the flexibility as well as reflecting changes in usage.

11

CHAPTER 11

Updates and Changes to Financial Ratio Approach and Calculations

CHAPTER SUMMARY

We have updated our framework to reflect changes in the financial markets and economic conditions by revising some ratios, adding two new significant ratios related to liquidity and debt, and deleted other ratios that we believe were not used extensively. We also clarified that an operating measure should be used in calculating some ratios instead of changes in net assets.

Introduction

This chapter will address changes to our approach to calculating financial ratios and using them. We have made several revisions to our methods since the sixth edition of *Strategic Financial Analysis* was published in 2005, adding certain ratios, changing others and deleting some. In addition, we have reflected on the approach to calculating ratios, considering changes in the financial markets since then.

This chapter will cover the following topics:

- Overall approach for public and private institutions
- Differences in ratios from the sixth edition
- Transparency and flexibility in ratio calculations
- Expanding the definition of debt
- Deferred maintenance obligations
- Emphasis on trend analysis, not peer group comparisons
- Impact of negative investment returns
- Using an operating indicator for private institutions
- UPMIFA impact on the ratios
- Upcoming changes to financial reporting standards
- Capitalizing government support

Overall approach for public and private institutions

In the sixth edition, we stated that the financial ratios we developed can be calculated for either private or public institutions, explained their use and calculation, and provided examples. We did this since we believe that private and public institutions compete with each other for resources, students and faculty. In addition, due to continued state government reductions in aid, many public institutions have increased efforts to raise funds and reduce reliance on unpredictable governmental sources of operating and capital funds. This has resulted in many public institutions seeking ways to become more self-reliant and having to manage themselves more like private institutions, a trend we expect to continue.

We do not believe the different missions between public and private institutions, and differences in missions between solely private institutions or solely public institutions, are significant enough to prevent using financial ratios to measure similar financial events. Our experience in higher education has also indicated that private and public institutions perform the same basic functions, and financial ratios can measure and communicate the same objective. Although the methodology for public and private institutions remains the same, calculations will differ.

For public institutions, we again stress the importance of measuring all of the institution's financial resources, debt and financial performance. This will include the institution itself; its affiliated foundations used for fund-raising, research or real estate; and other special-purpose entities used to construct and/or operate institution-related assets such as student housing (note that the same consideration applies for private institutions that utilize a controlled entity such as a real estate subsidiary to provide support to the parent organization). The fact that the component unit (CU) financial information is to be included in the presentation and calculation of the financial ratios underscores the need to have the CUs involved in the discussions regarding the strategic plan and other management items to ensure that their resources are directed toward assisting the institution's identified priorities. While many affiliated organizations are becoming more closely aligned with the institution itself, there remain examples of foundations that might not have objectives fully consistent with the institutional directive, resulting in problems, misdirected priorities, diffusion of resources and lack of appropriate incentives.

Differences in ratios from the sixth edition

There are several changes to the ratios published in the sixth edition of *Strategic Financial Analysis* in 2005. We have made these changes to reflect changes in financial markets, usage and emphasis of certain matters, such as liquidity. These changes are summarized as:

- New Ratios – Liquidity, Portfolio Principal Duration
- Deleted Ratios – Secondary Reserve, Leverage, Short-Term Leverage, Financial Net Assets, Physical Net Assets, Net Operating Revenues for Private Institutions not Using an Operating Measure
- Revised Ratios – Viability, Debt Service Coverage, All Demand, Net Tuition Dependency, and Net Operating Revenues

We have added the Liquidity and Portfolio Principal Duration ratios due to changes in the financial markets and increased emphasis on liquidity, greater complexity of debt portfolios, liability management and institution risk management. The Liquidity Ratio was discussed in Chapter 4 and the Portfolio Principal Duration Ratio is discussed in Chapter 13.

Based on our experiences since the sixth edition was published in 2005, as well as changing financial market conditions, transactions and emphasis, we believe that certain ratios are no longer relevant or needed. The Secondary Reserve Ratio was deleted due to lack of use and emphasis on expendable net assets. The Leverage and Short-Term Leverage ratios have been deleted because of an increased emphasis on liquidity and the Portfolio Principal Duration Ratio better reflects user needs as debt structures have become increasingly complex. The Net Operating Revenues Ratio for Private Institutions Not Using an Operating Measure was deleted due to the unintended impact significant investment gains or losses had on that ratio, as well as evolution in thinking about the need for all private institutions to have an operating measure, at least for internal reporting purposes. We have also deleted the corresponding CFI strength tables and conversion factors for private institutions that did not use an operating indicator. This matter is discussed in more detail below.

We also revised the Viability Ratio to reflect an expanded definition of debt and clarified use of project-related debt. However, in calculating the CFI, we still use only project –related debt in the Viability Ratio calculation.

We also clarified that investment gains or losses should be excluded from the calculation of unrestricted operating income that is used in the various Demand, Debt Service Coverage, Net Operating Revenues and Net Tuition Dependency ratios.

Transparency and flexibility in ratio calculations

Many changes have occurred in the financial markets since we last published *Strategic Financial Analysis* in 2005. We have also received many questions on ratio calculations since then and have been surprised by the number of questions and attitudes that there is only one "correct" way to calculate a specific ratio. This may be due to issues with institutions wanting to do peer group comparisons of financial information, including financial ratios.

We have found that financial situations and even financial transactions that appear similar among institutions, such as variable-rate debt and derivative contract agreements, are in fact very different. We have also found that institutions have different perspectives on certain financial transactions and events, such as debt, derivatives and other long-term obligations like unfunded pension or post-employment obligations. We believe that these different perspectives are healthy as well as needed, since each institution is unique in its approach to financial issues and plans.

As a result of these factors, we have added flexibility in calculating the financial ratios and metrics so that each institution may adopt and adapt the ratios to meet their needs and circumstances. This has already been covered in the Liquidity Ratio discussion and will also be discussed in other ratios, namely the Viability and Debt Burden ratios.

Whatever the criteria, definitions or schema adopted in determining which ratios or financial metrics to use, we strongly recommend that the methods and definitions be clearly defined, articulated and communicated to users of the information, especially governing boards and senior management. We also firmly believe that the approach, once adopted, should only be changed infrequently and due to legitimate reasons, not for financial expediency such as to avoid violating a ratio threshold used for internal financial planning purposes. This transparency in ratio and metric definitions and calculations will enable senior and financial managers to gain and maintain the trust of their governing board in their communications and recommended actions.

Expanding the definition of debt

The need for flexibility and transparency discussed above is best illustrated in our thinking about the definition of debt and debt management. This topic was discussed in Chapter 5 and reflected the evolution in our thinking. While at one time debt was clearly and easily defined as the bonds and notes payable in the financial statements, this is no longer a simple or straightforward definition today. Many innovative financing structures have been developed and are more frequently used by higher education institutions. In addition to traditional bonds, notes and capital leases, an institution may have used an affiliated foundation or subsidiary to access financing, executed long-term operating leases, guaranteed an affiliate's debt or employed off-balance sheet structures.

Add to this the fact that "debt" often is in the eye of the beholder, and many different stakeholders may define debt differently. Therefore, we have stressed that it is critical that the institution thoroughly analyze its obligations and determine the most appropriate debt measure for itself. In any case, a definition that is thoughtful, strategic and applied consistently over time is appropriate.

We have noted that some analysts and other users have included various additional commitments in their definition of debt, such as operating lease commitments, unfunded pension or other post-employment obligations, and liabilities for derivative swap transactions. Some of these adaptations have been due to recent changes in accounting standards which recognized some previously unrecorded commitments as liabilities. Others have included items such as unfunded deferred maintenance amounts since these may be material to the institution.

In considering debt, particularly in assessing an institution's long-term ability to achieve its mission, all obligations that use long-term debt capacity, even if these transactions are not reported on the balance sheet or disclosed in the notes to the financial statements, should be included. The ultimate test of what constitutes outstanding debt from a credit perspective is neither the legal structure nor the accounting treatment. The more essential an asset is 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.

Therefore, for some institutions, the debt-related ratios may be calculated based on comprehensive debt and leases and similar obligations (the most conservative), or project debt, factored debt or some other definition. While this approach can be helpful in conveying all the types and amount of liabilities incurred by the institution to the board, and therefore avoid unpleasant surprises, it can become cumbersome as it is not possible to manage to so many similar ratios. We advise tracking various measures and noting the results, but selecting—and clearly describing the rationale for selection—one measure and utilizing that for ratio calculation purposes.

For purposes of calculating the Viability Ratio and its use in the CFI calculations and threshold values, we have based our analysis on project-related debt.

Deferred maintenance obligations

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 a balance sheet overstates the value of net assets. It fails to account for an unfunded future cost, which is not a liability from an accounting perspective but is nonetheless an obligation as institutions work on achieving goals and plan allocations of resources for future years. Maintenance of campus facilities can be delayed indefinitely; however, at some point, an institution will find it desirable to upgrade its facilities, either because of need or competitive pressure, and at that point, it will incur a potentially significant cost.

Since deferred maintenance is not reported as a liability, the institution 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 obligation is eventually funded, the institution that has postponed investment in plant will experience a potentially significant deterioration in some fundamental financial ratios.

There is no formula to suggest universally appropriate levels of investments in either plant or endowment. However, there are trade-offs 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 obligations must be made in order to make comparisons across institutions more equal.

For the reasons stated previously, adjusting for unfunded obligations 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 obligation must be funded.

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 and other expenditures. 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, and also is likely to be evident in liquidity measures. This distinction is appropriate.

Emphasis on trend analysis, not peer group comparisons

Prior editions of *Strategic Financial Analysis for Higher Education* have noted the use of financial ratios to make peer comparisons. Publications have increased the use of peer rankings over time, especially concerning the quality of academic programs and the institution as a whole. These peer comparisons have benefited many institutions and provided management a way to communicate an institution's goals and progress toward those goals to its various stakeholders. Institutions have also used peer comparisons successfully by establishing an aspirant peer group.

However, it has also become evident that some institutions have overused peer comparisons and have forgotten three basic principles of financial analysis—one, financial metrics and ratios should be used to measure success factors in order to improve the institution financially to achieve its mission; two, that the information being compared must be prepared on a fairly consistent basis; and three, that peer comparisons are only a weak relative indicator and do not measure attainment of an institution's unique mission. Therefore, common sense, qualitative interpretation and internal interpretation are required.

We again stress that internal comparisons are more important than peer comparisons since the institution can adapt the ratios over time to meet institutional needs and reflect changing conditions. In addition, many ratio and financial metric calculations can be modified to better reflect the particular institution's objectives and risks. This edition adds flexibility in calculating some ratios, especially the balance-sheet based and liquidity ratios, to better reflect the unique circumstances affecting individual institutions and their financial condition and operations.

By doing long-term internal trend analysis, the institution is generally assured of a consistent basis and availability of information sources, not all of which are reported in the institution's annual financial report. Causes of changes in ratios can also be identified more easily. Internal comparisons can be used over a longer time horizon to monitor historical institutional performance, establish prospective targets and, combined with nonfinancial drivers, present a more thorough analysis and evaluation.

Users who desire to perform peer group comparisons should be aware that there are a number of limitations that continue to exist to make such comparisons difficult between public and private institutions, between solely private institutions or even among various public universities. Public institutions have different operating and governance structures that make financial analysis difficult, and generally require a more rigorous review of the financial information in the comprehensive financial statements. Some public institutions rely on (or are impacted by) the sponsoring government for a credit rating for debt, whereas others obtain their own credit rating. In some instances, debt related to a public institution's plant assets does not reside at the institution level but at a higher level such as a state system. In addition, public institutions rely on their sponsoring governments for operating and capital support; in some instances, other governmental units may also support the institution, such as states supporting county-based community colleges. This support generally permits public institutions to operate at a lower operating surplus and expendable net asset level than their private counterparts; however, this funding dependency reduces operating and financial flexibility. In addition, in some states, public institutions are not permitted to maintain expendable net asset balances above a certain level; institutions that incur operating surpluses or have significant expendable net assets may find future operating support reduced.

We believe that internal comparison over an extended period of time, both reflecting past events and using financial models for the future, is a better use of ratios and financial metrics.

Impact of negative investment returns

The economic crisis in 2008 and related declines in equity values resulted in almost all institutions recording and reporting significant investment losses in 2009. Although these losses were generally reported as nonoperating items for private institutions that use an operating measure, and as nonoperating revenues/expenses for public institutions, it was unclear how to account for these losses in certain ratio calculations. This was especially true for private institutions that did not use an operating measure. Many users complained that these losses distorted their ratios and, although reflective of actual events, did not properly measure operating performance.

We believe that these losses were real and needed to be reflected in the ratios, just like years when significant investment gains increased net assets. We do believe that investment gains or losses should not be reported in any ratio or measure that reflects operations. Almost all institutions use some spending rule or rate for appropriating endowment fund appreciation for spending. We believe that these amounts should be included in operations. Likewise, some institutions incur investment gains or losses on their working capital investments. Since these investments are generally short-term in nature and reflect a yield adjustment for fixed-income securities, we believe that working capital gains and losses should also be reported in operations as part of operating revenues. If there are working capital investments in equity type securities, we believe that these gains should be included as well.

We believe that all investment gains and losses should be included in any ratio when there is included change in total net assets, such as the Return on Net Assets Ratio, and have clarified this. In the calculations of the various ratios that use operating income, we have clarified that investment gains or losses should be excluded from definitions of operating income (or expenses where losses may be included as an expense).

Using an operating indicator for private institutions

The format of financial statements for public institutions is more prescriptive than the format for their private counterparts. As such, the financial statement descriptions and captions are the same for all public institutions. This includes an operating indicator entitled operating income (loss). However, this indicator does not include government appropriations, contributions and other items that are used for operations, resulting in many analysts adding back items to arrive at a revised operating indicator.

Private institutions do not have a defined operating indicator like public institutions. This was permitted by the FASB when it issued FASB Statement No. 117 (now codified in FASB ASC topic 958, *Not-For-Profit Entities*) in the mid-1990s, as it wanted to let not-for-profit organizations and their users decide what items to include or exclude from an operating measure. Since then, many private institutions have reported an operating measure in their financial statements. NACUBO has also done research into components of an operating measure. Although there is no definitive guidance on what to include or exclude, many institutions' measures are similar. In addition, credit rating agencies will also adjust a private institution's financial information to arrive at a calculated operating measure if one is not presented.

We believe that private institutions should present an operating measure in their internal financial reports, at a minimum. We believe all institutions need to develop an operating indicator, given the recent economic events, need for transparency in financial reporting, increased emphasis on institution risk management and increased need to identify, manage and report risks including financial risks. We also believe that the items included or excluded in the indicator need to be clearly defined, articulated and communicated to senior management and governing boards. We also believe that once developed, the schema should be fixed, and if there is a compelling reason for a change, that all information be restated so that comparative data is consistent.

Accordingly, we have eliminated the option for private institutions to calculate the Net Operating Revenues Ratio without an operating indicator.

UPMIFA impact on the ratios

The Uniform Prudent Management of Institutional Funds Act (UPMIFA) is designed to replace the existing Uniform Management of Institutional Funds Act (UMIFA), which was enacted in 47 states. UPMIFA had been adopted in 44 states by the end of 2009.

Under UMIFA and FASB Statements Nos. 116 and 117 (now ASC Topic 958) adopted in the mid-1990s, many private institutions classified unspent endowment fund gains as unrestricted net assets. These unrestricted net assets are included as expendable net assets in the Primary Reserve and Viability ratios. Certain ratios also included unrestricted investment gains, such as the Net Operating Revenues Ratio for Private Institutions that do not have an Operating Measure, and Net Tuition Dependency Ratio; it was also unclear in prior editions whether ratios that used total unrestricted operating income should include investment gains.

UPMIFA also affected institutions' spending on underwater endowments, permitting amounts to be prudently spent from these funds. In addition, UPMIFA also includes an optional provision that allows states to enact safeguards against excessive expenditure by either a general standard or a specific one that creates a rebuttable presumption of imprudence if an institution expends an amount greater than 7 percent of fair market value of a fund, calculated in an averaging formula over three years.

The impact of states adopting UPMIFA and institutions adopting the revised FASB Statement No. 117 (now ASC Topic 958) is that unspent endowment fund gains are reclassified from unrestricted net assets to temporarily restricted net assets; these restricted net assets will not be released from restriction until appropriated by the institution's governing board for spending.

Since temporarily restricted net assets are also included in expendable net assets, this change will not have any effect on the Primary Reserve or Viability ratios. In addition, as indicated above, we have clarified that private institutions should adopt an operating measure for ratio calculations and, accordingly, we have eliminated the Net Operating Revenues Ratio that does not have an operating measure. We have also clarified that unrestricted operating income or revenues should exclude any investment gains or losses in calculating certain other ratios.

Upcoming changes to financial reporting standards

Upcoming proposed changes to FASB standards and GASB standards will significantly affect both private and public institutions. These impacts will be as great as those encountered when FASB Statements Nos. 116 and 117 (now ASC Topic 958) were adopted in the mid-1990s and GASB Statements Nos. 34 and 35 were adopted in 2002. These proposed changes should be significant, at least for private institutions, and there should be more divergence between public and private institutions than now. These proposed changes may alter revenue and liability recognition principles, as well as the format and content of financial statements. These proposed changes will be monitored and any necessary revisions will be made to the ratios and other financial metrics. At this time, these changes may not be implemented until 2012–2014.

Many of these changes for private institutions and other organizations that follow FASB have been brought about by the convergence of U.S. generally accepted accounting principles (GAAP) with international accounting standards issued by the International Accounting Standards Board (IASB). In 2006, the IASB and the FASB agreed to a process to improve accounting standards and substantial convergence between International Financial Reporting Standards (IFRS) and U.S. GAAP. This process has been reviewed, updated and affirmed several times since then, most recently (at the time of this publication) in November 2009. They have established a timetable for convergence, subject to approval by the U.S. Securities and Exchange Commission, which has also endorsed the concept of international accounting standards and convergence.

For private institutions, there are at least three areas that merit monitoring—leases, revenue recognition and financial statement presentation.

The impact of the proposed changes to lease accounting is that the concept of operating and capital leases where currently only capital lease obligations are recorded on the balance sheet is replaced with a concept called the right-of-use approach. For lessees, this proposed approach requires that they recognize, for all leases, an asset representing the right to use the leased item for the lease term (the right-of-use asset) and a liability for the obligation to pay rentals. As a result, this change would result in more assets and liabilities recognized on the balance sheet of higher education institutions. Since most institutions are lessees rather than lessors, this would result in recognizing additional payables under lease obligations and keeping track of each operating lease more thoroughly than currently. This impact is also a good example that operating and capital leases are considered similarly for purpose of credit analysis.

The objective of the revenue recognition project is to clarify the principles for recognizing revenue and to create a joint standard for both U.S. and international financial reporting so that companies can apply it consistently across various industries and transactions. This proposed change will affect all industries including higher education. The basis of the change is to account for revenues and obligations under contracts with customers when the performance obligation has been met by the provider/seller. The AICPA issued a response letter to these proposed changes, noting that several types of transactions routinely entered into by higher education institutions will be affected. These are certain research and development contracts such as clinical drug studies, tuition and fund-raising events.

For tuition and fund-raising events, the amount to be recognized may differ across interim accounting periods but should generally be the same for a fiscal year, except for events and semesters that cross fiscal years. However, accounting for clinical drug studies may change significantly and will be based upon when milestones are reached by the institution in order to bill the sponsor. For sponsored research awards from private sponsors or federal or state governments, it is unclear whether the proposed new standard will have any effect. As noted above, usually milestones must be reached by the institution in order to bill some awards. It is unclear whether this milestone may also include the specific billing arrangements, such as monthly or quarterly billings. The concept of recognizing revenue as expenses are incurred may not be continued under this proposed revision.

The purpose of the financial statement presentation project is to establish a standard that will guide the organization and presentation of information in the financial statements. The results of this project will directly affect how the management of an entity communicates financial statement information to users of financial statements. Currently, it is unclear whether not-for-profit entities will need to follow the proposed revised financial statement presentation. The emphasis is to present coherent and consistent information among the three financial statements—balance sheet, statement of net income (activities) and cash flows. As a result, information will be classified in the three statements much like the three sections of the cash flow statement—operating, investing and financing. In addition, the statement of cash flows will be required to be presented in a direct method.

For public institutions, there are changes to reflect the impact of the codification of the FASB standards project on GASB standards. Since the FASB has eliminated Statements of Financial Accounting Standards and moved to sections that incorporate all accounting principles, certain GASB statements that refer to FASB statements must be modified. In addition, GASB is considering changes to other post-employment liabilities that should require additional recognition of these liabilities on the balance sheet.

It is unclear where public and private institutions will fit under the new global accounting standards model, hierarchy and governance structure. Under current definitions, private institutions with publicly traded debt would follow IASB standards for public companies. Private institutions with no publicly traded debt would follow IASB standards for private companies, which are slightly different in some areas as well as have reduced financial statement disclosures. Since many private institutions have some publicly traded debt, such as bonds or notes issued through a higher education financing authority, they would follow IASB public standards. This may cause a split in the accounting governance for private institutions. It is unclear whether the IASB would alter their definition of public companies. It is also unclear how the IASB views not-for-profit organizations in their hierarchy.

Public institutions that follow GASB currently would follow the pronouncements of the International Public Sector Accounting Standards Board (IPSASB), a related organization to the IASB. However, the IPSASB does not take an independent approach to standard setting like the GASB in the United States, but follows the pronouncements from the IASB and alters them for governmental use. It is also unclear whether the GASB would follow the IPSASB standards or not.

Although these proposed accounting changes may be significant, it is important to note, however, that accounting changes do not affect the credit of an institution, and management should never manage to accounting regulations. From the day before pronouncements take effect to the day after, nothing has changed in the institution itself, including its credit profile, only in the way its financial operations and results are being presented. The information is no more real than before and the risks no greater. However, the changes do have the effect of focusing attention, and for institutions with financial covenants that are impacted by the change, there can be some requirements and potential difficulty in modifying the ratios to ensure continued compliance.

Capitalizing government support

In prior editions, we considered whether public institutions should consider "capitalizing" their government appropriations (e.g., using the perpetuity formula by dividing steady state appropriations by an applicable interest rate, such as 4–5 percent, which would represent a traditional payout rate) for analysis purposes. This approach would capture the value of the appropriations to the institution and identify the level of investments the institution would require to replace government support.

In prior years, steady government support was considered a strength of public institutions and, for some, historically has served to lessen the reliance on endowment funds, which have been critical for private institutions. Although some level of government support will likely continue, we believe these amounts will be diminished for an extended period of time. Accordingly, we do not believe that capitalizing government support is appropriate for purposes of financial analysis and ratio calculations. However, knowing the endowment equivalent of state support is a critical point of information that public institutions should have. This information will be needed when public institutions discuss their compact and future support with their sponsoring government units.

12

CHAPTER 12

Framework for Financial Analysis Using Ratios and Metrics

CHAPTER SUMMARY

This chapter presents concepts that we have developed since the first edition of *Ratio Analysis in Higher Education* and are the foundation of strategic financial analysis. There has been evolution in thought, driven both by changing accounting models for private and public institutions and the increasing sophistication of institutions in understanding their financial risks, condition and needs. We believe the fundamental concept of assessing financial risks by using a limited number of financial metrics has improved the understanding of the financial health of colleges and universities.

Introduction

Several principles guided the earlier editions of *Strategic Financial Analysis for Higher Education*. We have reexamined these principles for using ratios and have adjusted them to reflect the continuously challenging financial environment facing higher education. We have also considered the use of financial ratios and metrics in the context of strategic planning and institution risk management. We have modified our principles over the years to reflect the changing environment. We have found that use of financial ratios and metrics can assist institution management in identifying, monitoring and measuring various aspects of financial risk, and can effectively communicate this to governing boards, senior management and other constituents.

These principles are:

- Use ratios and metrics to assist in identifying financial risks related to the institution's strategic plan
- Focus on summary information to address key questions raised by stakeholders
- Present a few key ratios and metrics to answer these questions
- Focus on trends in institutional ratios and metrics

Financial ratios and metrics can help institutions understand their financial risk. Ratios should be calculated over an extended time period, both historically as well as into the future. We believe that identifying significant past trends will help institutions understand their current position and, when coupled with their financial drivers, inform how the institution came to be at its current state. We also firmly believe that using ratios in combination with long-term financial modeling of the strategic plan, and operating and capital budgets, is a critical process in managing the institution's risks.

While it is important that institution-wide information be used for analysis of financial risks, it is also important that financial management understand, and effectively communicate, higher levels of risks in particular units, schools or activities. This can be accomplished by calculating ratios on a unit basis to determine the range of the ratio by unit since the institution-wide indicator is a weighted average calculation. This is especially important for institutions at which affiliates or certain activities, like athletics or a hospital, are significant. As indicated in earlier chapters, calculation of a few key ratios on a school or division level, combined with concise narrative on the school's key financial drivers, can enable financial management to effectively communicate the individual school's risks, financial condition and operating results.

We believe there are certain fundamental questions that need to be addressed in evaluating an institution's financial health. This is a two-step process for institutions to identify, measure and communicate their financial health to their governing board, senior management and other constituents. This process has evolved from prior editions to reflect current financial markets and user needs and priorities.

The first question that needs to be addressed is:

- Does the institution have sufficient liquidity?

The institution must address this question first before addressing any other questions concerning financial health. If an institution does not have sufficient liquidity to conduct its operations, it does not matter how financially healthy, or not, it is. We have developed the Liquidity Ratio and in Chapter 4 discussed the various financial risks and other matters that institutions need to address, evaluate and communicate.

After liquidity is determined, then questions concerning other facets of the institution's financial health can be addressed. We have determined that there are four fundamental financial questions that need to be addressed. We have developed ratios and metrics over time to inform these four key financial questions:

- Are resources sufficient and flexible enough to support the mission?
- Are financial resources, including debt, managed strategically to advance the mission?
- Does asset performance and management support the strategic direction?
- Do operating results indicate the institution is living within available resources?

We have developed the four core ratios—Primary Reserve, Viability, Return on Net Assets and Net Operating Revenues—to answer these questions. These ratios are described in Chapter 13. These four core ratios are also used to calculate the Composite Financial Index (CFI) discussed in Chapters 10 and 14. We have provided other ratios that can be used for further analysis into each question.

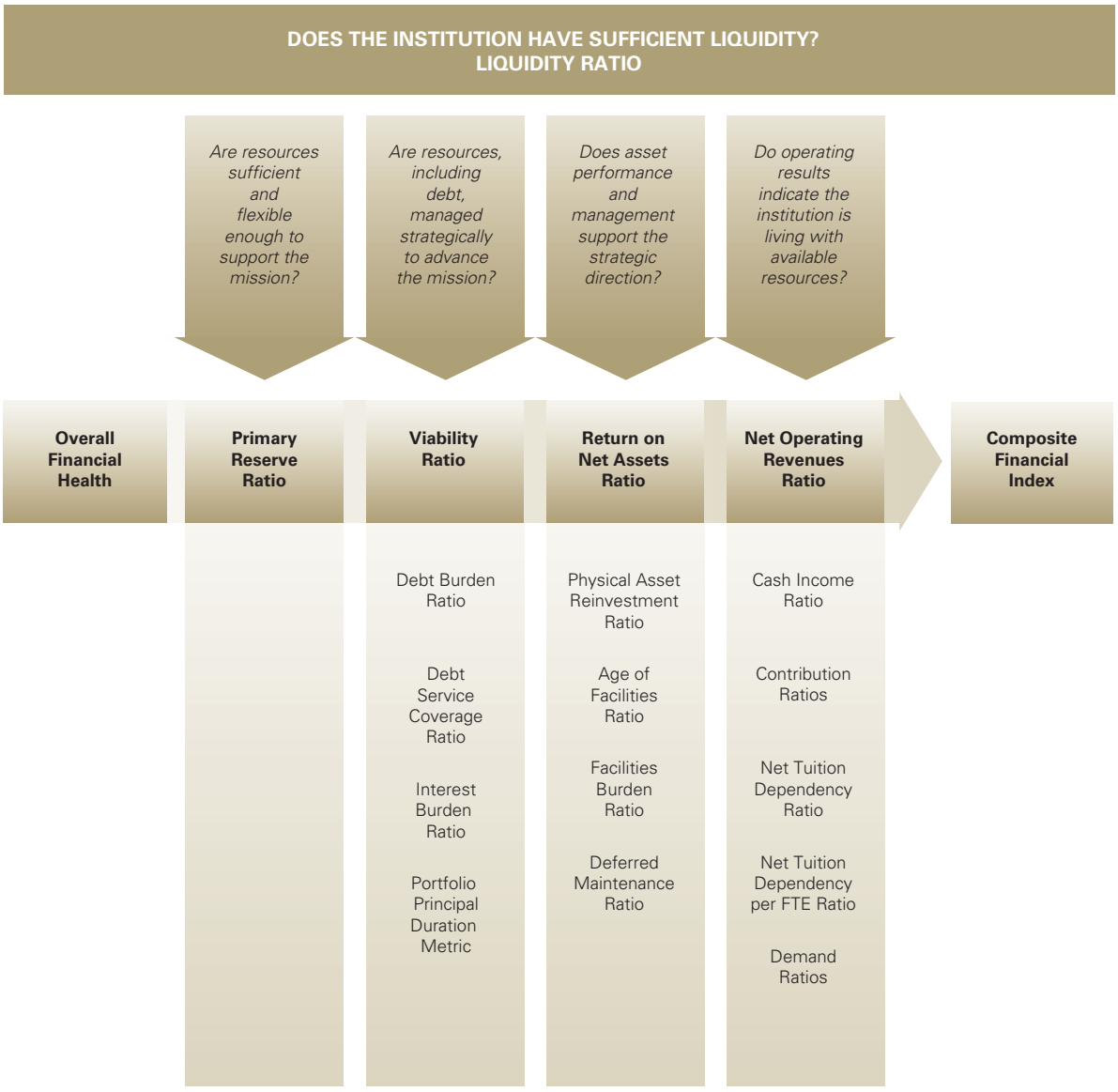
Ratio analysis can measure success factors against institution-specific objectives and provide the institution with the tools to improve its financial profile and carry out its mission. The principles of ratio analysis can serve as a yardstick to measure the use of financial resources to achieve the 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. Senior management 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 mission and strategic goals.

As presented below, a ratio map illustrates the process, questions and ratios that provide information on the overall financial health of the institution and other ratios collected 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 institution should have key performance metrics to drive mission and assess performance.

As discussed above, the first question that needs to be addressed is whether the institution has sufficient liquidity to operate. After this question is answered positively, then the remaining questions on financial health can be addressed. These questions are presented in Table 12.1 that maps all the financial statement ratios discussed in this book into the functional areas they help analyze and the high-order questions they help answer.

TABLE 12.1: RATIO MAP



Special considerations for public institutions and their affiliates

For public institutions, it is important to measure all financial resources, debt and financial performance. This will include the institution itself; its affiliated foundations used for fund-raising, research or real estate; and other special-purpose entities used to construct and/or operate institution-related assets such as student housing. Although individually significant affiliated foundations are now presented in the public institution's financial statements, internal analysts may find it desirable to include all affiliates in the calculations so the entire institution is represented in the calculations.

External analysts may still find it difficult to obtain financial information about all affiliates and should consider materiality in determining which affiliated entities' financial information beyond those already presented is necessary, so that exclusion does not result in the analysis being materially incomplete or misleading. Analysts may also consider doing a "with and without" analysis to determine the impact of these affiliates. Since the affiliates are to be included in the financial measures, indicating a similar impact on institutional financial health as the institution itself, it is important that the efforts and management of such affiliates be coordinated to achieve strategic objectives and manage risk.

Also for public institutions, the financial ratios described here and in subsequent chapters combine entities that follow accounting practices issued by both the GASB and the FASB. Generally, affiliated foundations and special-purpose entities will follow FASB standards that are different from GASB standards. However, these differences are narrowed after adoption of GASB Statements Nos. 33, 34 and 35 by public institutions and are not significant enough to warrant exclusion of the affiliated entities. In addition, since in many cases the majority of the public institution's financial resources, and in some cases a significant portion of debt, reside in the affiliated entities, excluding these entities from financial analysis of the public institution would result in misleading or incomplete analysis.

The financial information required to calculate the ratios for public institutions is contained in the financial statements of the institution or the separate financial statements of the affiliates, if the affiliate information or statements is not presented with the institution's statements. These affiliates are referred to in the calculations as component units (CU). In evaluating the net assets of affiliated fund-raising foundations following FASB standards, the analyst should determine whether the foundation's funds held for the benefit of the institution are reported as liabilities and make adjustments so these funds are reported as net assets. Some information may not be disclosed in the financial statements but can be obtained from the accounting records.

Calculating total expenses for the public institution itself and its component units may result in double-counting certain expenses. For example, an institution's component unit will receive contributions for operating support. It would record revenue when earned and expenses reflecting the distribution to the institution. The institution would record revenue from the receipt from the component unit and the expenses if funds were used. As a result, expenses are counted both in the component unit and the institution. It may be unlikely that expenses would be recorded in the same accounting period by both the institution and the component unit. However, expenses would be counted twice over a period of years. This can only be resolved if the institution calculated a "consolidated" statement of revenues, expenses and changes in net assets, eliminating inter-entity transactions, even though different bases of accounting are used. For purposes of the illustrated ratios, we have not eliminated the double-counting. Another alternative would be to eliminate the transfer from the foundation to the institution which may be disclosed in the foundation's financial statements.

Although the ratio calculations for public institutions should include their component units, in certain cases, that information may not be available from the public institutions' financial statements. For example, institutions are not required to present the statement of cash flows for their component units. Excluding the component units from these calculations is appropriate unless the institutions have access to the detailed financial statements and accounting records. In other cases, inclusion of the component units' information will not be appropriate. For example, including depreciation expense and accumulated depreciation of the FASB component units that are fund-raising entities in the Age of Facilities Ratio would generally not be appropriate. However, if the component units are operating entities, such as a medical practice plan or research foundation, then inclusion should occur.

13 CHAPTER 13 Calculating Financial Ratios and Metrics

CHAPTER SUMMARY

This chapter presents concepts that we have developed since the first edition of *Ratio Analysis in Higher Education* and are the foundation of the strategic financial analysis presented in the prior chapters. There has been evolution in thought, driven by changing accounting models for both private and public institutions and the increasing sophistication of institutions in understanding their financial condition and financial needs. We believe the fundamental concept of assessing financial risks by using a limited number of financial metrics has improved the understanding of the financial health of colleges and universities.

Introduction

Ratio analysis is an important method of strategic financial review to measure and analyze financial information. Earlier editions of *Ratio Analysis in Higher Education* focused on ratios as a tool to understand and communicate financial and operating information to stakeholders. Those publications emphasized the calculation and objective of the ratios, since either many of the ratios were new to higher education or the users of the ratios did not fully understand the uniqueness of higher education financial reporting. Over time, we evolved the concepts and use of ratios and developed some overall indicators of financial health. However, ratios are just one tool of strategic financial analysis to determine whether the institution is using its financial resources effectively to achieve its mission.

Ratio analysis can measure success factors against institution-specific objectives and provide the institution with the tools to improve its financial profile to carry out its mission. 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. Senior management 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 mission and strategic goals.

The questions posed in the previous chapter are to be asked when financial ratios and metrics are presented. In order to effectively communicate answers to these questions, we have determined that there are five fundamental financial questions that need to be addressed. We have developed ratios and metrics over time to inform these key financial questions:

- Does the institution have sufficient liquidity?
- Are resources sufficient and flexible enough to support the mission?
- Are financial resources, including debt, managed strategically to advance the mission?
- Does asset performance and management support the strategic direction?
- Do operating results indicate the institution is living within available resources?

We have developed the core ratios to provide answers to these questions and have structured this chapter into these areas. We have provided other ratios that can be used for further analysis into each question.

Measuring liquidity

The concept of liquidity was discussed in detail in Chapter 4. There we discussed the nature of liquidity, its importance as well as a key metric that institutions need to calculate and monitor. As stated previously, this metric, the Liquidity Ratio, can be calculated in various manners with many different items either included or excluded by institutions. We also stressed that the Liquidity Ratio needs to be calculated in two time dimensions—short term and intermediate term. Preparers should review Chapter 4 for a more complete discussion of the components of the ratio.

$$\frac{\text{Institutional Liquidity Sources (specified term)}}{\text{Institutional Liquidity Uses (same specified term)}} > 1.0x$$

As we have stated, although the ratio MUST be greater than 1.0x, the degree to which it is above that minimum is an institution-specific decision.

The "base" amount for sources for the Liquidity Ratio is calculated below. Think of this as a framework that can be modified depending on institutional circumstances, and be certain to also adjust the uses accordingly:

TABLE 13.1(A): LIQUIDITY RATIO (SOURCES)

	SHORT-TERM MEASURE	INTERMEDIATE-TERM MEASURE
Cash and Operating Funds	Same Day or Same Day + Next Day Assets, noting potential lock up on funds	Same as Short-Term Measure plus assets with <30-day maturity
Operating Funds Held in Long-Term Pool (LTP)	None	Depends on Nature of LTP and investment strategy
Endowment Cash and Other Assets, net of securities lending requirements	Same Day or Same Day + Next Day Assets	Same as Short-Term Measure plus assets with <30-day maturity
Net Capital Redemptions (Calls)	N/A	Expected (or conservative) commitments less distributions
Operating Lines of Credit, Commercial Paper, BANs	Uncommitted and Committed lines, outstanding commercial paper and BANs depending on risk tolerance	Uncommitted and Committed lines depending on risk tolerance
Dedicated Lines of Credit	Only to offset variable rate debt	Only to offset variable rate debt
Philanthropy	N/A	Cash receipts expected within 30 days
Accounts Receivable and Payable, "Float"	None	Depends on Nature of Operations
External Funds	To the extent invested in assets maturing within 30 days	To the extent invested in assets maturing within 30 days

TABLE 13.1(B): LIQUIDITY RATIO (USES)

	SHORT-TERM MEASURE	INTERMEDIATE-TERM MEASURE
Operations	Cash Shortfall (operating deficit) + 30-day reserve	Cash shortfall (operating deficit) + 90-day reserve
Endowment Payout	N/A	Potential—although this is a zero sum with the endowment liquidity
Outstanding Debt	Variable Rate Bonds; Commercial Paper Coming Due within 30 days	Variable Rate Bonds; Commercial Paper; Principal and put bonds due within one year
Capital Investments	N/A	Year's Capital Budget funded from reserves
Drawdown of Reserves	Imminent Reserve Liquidation	Reserve Liquidation within Year
Potential Collateral Posting	Amount Under Assumption	Amount under Assumption
Other Uses	Unknown	Unknown

Measuring resource sufficiency and flexibility

Institutions are continuously evaluating whether or not they have adequate resources and access to sufficient 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 institution to institution. Since demands typically increase over time, the institution must constantly explore methods of managing and expanding its financial base.

The ratio presented in this section of the chapter is 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 objectives. In some institutions, the financial statements will present unrestricted net assets that, while legally available for spending, would be difficult to use on an unrestricted basis due to internal political issues, such as earmarking for departments. Due to year-over-year volatility in investment returns, looking at this trend over a multiyear period can be more informative.

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 governing board. 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 the mission. In addition, considering the link to mission-critical projects is important so that less critical projects do not crowd out future mission-critical investments during flush times, and so the institution can continue reinvesting in its mission during less robust economic periods. If the resources fall short, the institution must analyze the following issues:

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

The Primary Reserve Ratio is the key indicator for these specific questions. This indicator helps determine whether there are sufficient resources and whether the net assets have enough flexibility.

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 the institution can access quickly and spend to meet its operating and capital requirements. 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 recent financial crisis is an example of a time period that has placed substantial pressure on the maintenance of this ratio. However, if in fact the ratio value has fallen precipitously, this is an indication that the institution may have to adjust the scope of its activities (many have reacted this way through reductions in budget levels) and perhaps reassess the scope of at least certain of its strategic initiatives (which again, many did, particularly related to capital expansion).

The Primary Reserve Ratio serves as a counterpoint to the Viability Ratio discussed below. 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 signals a weak financial condition. In these cases, the Primary Reserve Ratio will be a much more valid measure of financial strength.

Table 13.2 Primary Reserve Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Expendable net assets	Expendable net assets plus FASB CU expendable net assets
Denominator	Total expenses	Total expenses plus FASB CU total expenses

For private institutions, 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. The denominator comprises all expenses on the statement of activities. In some instances, an institution may include investment losses with its expenses; in such instances, the amount of investment losses, whether realized or unrealized, should be excluded from total expenses.

For public institutions, the numerator includes all unrestricted net assets and all expendable restricted net assets, excluding those to be invested in plant, on a GASB basis plus unrestricted and temporarily restricted net assets on a FASB basis for its FASB component units, excluding net investment in plant and those temporarily restricted net assets that will be invested in plant. The denominator comprises all expenses on a GASB basis in the statement of revenues, expense and changes in net assets, including operating expenses and nonoperating expenses such as interest expense, plus FASB component unit total expenses in the statement of activities. Again, investment losses should be excluded from expenses for both the institution and its component units.

GASB nonexpendable restricted net assets and FASB permanently restricted net assets are excluded 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 nonexpendable net assets provide a truer picture of the actual funds legally available to the institution and reinforce the desire to maximize unrestricted sources of revenue.

In addition, 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.

For private institutions, if the financial statements separately disclose a net investment in plant amount in the unrestricted net asset classification, that amount would be excluded. However, since many financial statements of private institutions 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, exclusive of debt used for operating, investment or liquidity purposes, which may not be apparent from the audited financial statements). 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 annuity and life income funds and term endowment funds reported as temporarily restricted net assets in the determination of expendable net assets is recommended.

The Primary Reserve Ratio is the first of several ratios that use total expenses to define operating size. For institutions, an analysis of financial statements 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) from reserves. 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. In addition, institutions with a low primary reserve ratio generally lack sufficient resources for strategic initiatives and may have less operating flexibility.

TABLE 13.3: ILLUSTRATION OF THE PRIMARY RESERVE RATIO – PRIVATE INSTITUTIONS

Numerator – Expendable net assets	
+ Unrestricted net assets	86,014
+ Temporarily restricted net assets	2,954
- Property, plant and equipment, net	(77,900)
+ Long-term debt	39,476
Numerator – Expendable net assets	50,544
Denominator – Total expenses	68,469
Value of ratio	.74x

TABLE 13.4: ILLUSTRATION OF THE PRIMARY RESERVE RATIO – PUBLIC INSTITUTIONS

Numerator – Expendable net assets	
+ Institution unrestricted net assets	35,335
+ Institution expendable restricted net assets	9,938
+ CU unrestricted net assets	822
+ CU temporarily restricted net assets	16,734
- CU net investment in plant	(320)
Numerator – Expendable net assets	62,509
Denominator – Total expenses	
+ Institution operating expenses	142,112
+ Institution non-operating expenses	334
+ CU total expenses	2,561
Denominator – Total expenses	145,007
Value of ratio	.43x

Debt management

Previously, in Chapter 5, we discussed debt policy development and its importance. In this section, we present the fundamental ratios that an institution can use to understand its debt position in relation to its overall financial health. These ratios will help an institution understand when the financial burden of taking on debt outweighs its strategic usefulness to achieve mission. The primary driver of this insight is the Viability Ratio, supported by a series of other ratios that measure whether debt payments are appropriately sized for the institution, whether the operations are strong enough to support the debt issued, and the duration of outstanding debt.

It is important to note a few developments surrounding debt management and ratio analysis since the prior publication that may impact the calculation of these ratios, as well as the introduction of two new ratios, a liquidity ratio (discussed in Chapter 4) and a debt portfolio duration metric.

We now distinguish between variable-rate debt measurement for liquidity and for interest rate risk, as these concepts are quite different and require different analysis. The liquidity measurement and the impact of maturing debt or uncommitted capital are discussed in Chapter 4. For measurement of variable-rate debt (adjusted for swaps) as a percentage of fixed-rate debt, indicating interest rate exposure and therefore budget uncertainty, we note that there are a variety of structures that are neither variable nor fixed, such as how to treat a debt issue with a two-year put provision. Accordingly, we developed the portfolio principal duration metric to provide a measurement of the average period of time for which capital is committed to the institution. We further encourage highlighting the impact of swaps, since they impose additional risks that are important to manage from an institutional risk perspective.

The Viability Ratio is an excellent example of the flexibility in calculations that we are proposing due to changes in financial markets and agreements, and perspectives of preparers and users. As discussed in Chapter 5, many users have different perspectives on the nature of debt. Some consider long-term commitments, such as operating lease obligations, equivalent to long-term debt, and others include various long-term liabilities in their considerations. Recent trends in financial accounting standards have resulted in more commitments being recorded on the balance sheet (unfunded pension and post-employment obligations, asset retirement obligations) and we believe this trend will continue, such as operating lease commitments described in Chapter 11.

Accordingly, many preparers and users have begun to include certain long-term liabilities and other commitments as part of debt in the calculations. Some institutions may include unfunded deferred maintenance obligations as they may consider this similar to asset retirement obligations that are recorded as a liability, since these will need to be funded at some time by either a reduction in expendable net assets or issuance of debt. Another development has been an increased use of debt for non-project related purposes, such as for liquidity needs. The institution may decide not to include this debt in the measurement of certain ratios.

Defining what is included and what is not included in the definition of debt is important in communicating to senior management and the board. Some institutions are using various debt definitions and calculating debt-related ratios with different figures included, such as only project-related debt or comprehensive debt including all debt, leases, guarantees and anything else that can impact institutional credit. Whatever approach is chosen, financial management must be very clear as to the items included and excluded from the calculations, as well as the rationale used.

The ratios in this section 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 service. Methods for accessing additional resources to support institutional objectives include the issuance of debt and the use 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 and build competitive advantages. In contrast, if project-related debt is used to fund activities that do not capitalize on its competitive strengths, the financial situation is likely to erode, as debt capacity may cover too broad a range of activities. Thus, the institution would be no closer to having the resources needed to achieve its strategic objectives and, in fact, may have lost crucial ground in the competition for students, faculty and financial support. If the institution remains focused on its mission, it can use leverage effectively to deploy additional resources to achieve its long-term goals.

The following main debt management ratios indicate an institution's ability to assume new debt. The Viability Ratio is a statement of net assets or balance sheet measure that indicates debt capacity and generally is regarded as governing the institution's ability to issue new debt. However, as we have indicated, the debt affordability measures are at least as important, and we consider the Debt Burden Ratio and Debt Service Coverage Ratio to be the primary indicators regarding the ability of the institution to issue (and repay) debt. In interpreting these (or any) ratios, a decrease in one ratio or an increase in another does not, by itself, determine whether debt financing is available or appropriate. The fourth ratio, the Interest Burden Ratio, is similar to the Debt Burden Ratio; however, in this ratio, only interest expense and not principal repayment is measured. For institutions that view debt as a perpetual component of the balance sheet, or for those that do not employ level debt service structures, this ratio may be more meaningful than the Debt Burden Ratio. The fifth metric is the Portfolio Principal Duration Metric utilized to measure the weighted average term for which funding is committed to the institution. This ratio replaces the Fixed-Variable Debt Ratio which has been used by some institutions.

These ratios must be kept in perspective as many other matters are important in assessing creditworthiness, including the specific legal structure of the security, qualitative and programmatic factors, government support for public institutions and, perhaps most significantly, the availability and quality of management. Thus, institutions with similar results on their debt management ratios may possess substantially different levels of debt capacity. This is the art rather than the science of debt and credit management. The more complex an institution's debt portfolio becomes, the more active management is required, and the greater the need for reporting and risk management. Of course, the actively managed portfolio is designed to have a lower expected cost than a more passive portfolio, but the institution should not ignore the need for additional resources necessary in managing a more sophisticated portfolio, not just with respect to the actual debt, but also for compliance purposes and other needs.

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. For illustrative purposes, we have limited the liabilities in the calculations to only project-related debt. As discussed above and in Chapter 5, institutions should devise their own definitions and rationale, depending upon their structure and circumstances. For purposes of calculating the CFI, only project debt should be included, as the strength and weighting factors consider only project-related debt (e.g., excludes borrowings for liquidity purposes).

The formula for this ratio is:

Table 13.5 Viability Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Expendable net assets	Expendable net assets plus FASB CU expendable net assets
Denominator	Plant-related debt	Plant-related debt plus FASB CU plant-related debt

For private institutions, the numerator is the same as the numerator for the Primary Reserve Ratio (unrestricted net assets plus temporarily restricted net assets less plant equity). The denominator is defined as all amounts borrowed for plant 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. Any short-term borrowings that are utilized to fund capital investment should be included as well.

For public institutions, the numerator is also the same as the numerator for the Primary Reserve Ratio. The denominator is defined as all amounts borrowed for plant purposes from third parties and includes all notes, bonds and capital leases payable that impact the institution's credit, whether or not the institution directly owes the obligation. Plant-related debt includes both the current and long-term portions. This would include debt of the institution's affiliated foundations, partnerships and other special-purpose entities. It would also include amounts owed to a system or state-financing agency as it represents debt issued on the institution's behalf.

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 these obligations, this value should not serve as an objective. Many public institutions can operate effectively at a ratio far less than 1:1 since the debt may be reported by a state agency and not the institution, or the institution enjoys the credit rating of the state for its borrowing purposes. Institutions with a ratio of less than 1:1 are, similar to those with a low Primary Reserve Ratio, less self-reliant and have significantly less operating flexibility but can function, and often function well.

The level that is "right" for the Viability Ratio 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, an institution's ability to respond, especially a private institution, to adverse conditions from internal resources diminishes, as does its ability to attract capital from external sources and its flexibility to fund new objectives. If an institution is in the middle of a major capital expansion program, this ratio may well fall to a lower level than an institution that is not. However, all institutions will have limits on how much debt is affordable; establishing targets and thresholds specific to the institution will be helpful in guiding decisions on affordability of debt.

In addition, 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, institutions 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. An institution 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 net assets and to meet its obligations.

Based on the different debt issuance and reporting models used by states and other governmental units, a public institution may report significant plant assets with no corresponding debt used to acquire or construct these assets, as those liabilities are the legal obligation of another entity. This may result in the assets recorded at the institution level while the debt is recorded at the system or other governmental unit level. Under these circumstances, the Viability Ratio may not be applicable to the individual institution since it has no long-term debt. However, the Viability Ratio would be significant for analysis of the system. If information is available, the analyst may consider "pushing down" the debt from the system to the institution for purposes of analysis.

The Viability Ratio is calculated as follows:

TABLE 13.6: ILLUSTRATION OF THE VIABILITY RATIO – PRIVATE INSTITUTIONS

Numerator – Expendable net assets	
+ Unrestricted net assets	86,014
+ Temporarily restricted net assets	2,954
- Property, plant and equipment, net	(77,900)
+ Plant-related debt	39,476
Numerator – Expendable net assets	50,544
Denominator – Plant-related debt	39,476
Value of ratio	1.28x

TABLE 13.7: ILLUSTRATION OF THE VIABILITY RATIO – PUBLIC INSTITUTIONS

Numerator – Expendable net assets	
+ Institution unrestricted net assets	35,335
+ Institution expendable restricted net assets	9,938
+ CU unrestricted net assets	822
+ CU temporarily restricted net assets	16,734
- CU net investment in plant	(320)
Numerator – Expendable net assets	62,509
Denominator – Total Plant-related debt	
+ Institution Total Plant-related debt	8,242*
+ CU Plant-related debt	-
Denominator – Total Plant-related debt	8,242
Value of ratio	7.58x

*Information not obtained from the financial statements directly, since this information is usually contained in the notes.

Debt Burden Ratio

Although not a core strategic financial ratio, the Debt Burden Ratio is a key tool in measuring debt affordability and should be considered a key financial indicator for any institution using debt. 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 interest and principal payments. This ratio is calculated as:

Table 13.8 Debt Burden Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Debt service	Debt service plus FASB CU debt service
Denominator	Total expenditures	Total expenditures plus FASB CU total expenditures

For private institutions, the numerator of this ratio include interest on all indebtedness, which is approximated by interest paid plus the current year's principal payments; both are generally available from the statements of cash flows. However, if an institution or affiliate 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 debt service figure may be adjusted (see below). The denominator is total expenses from the statement of activities (both operating and nonoperating), less depreciation expense plus debt service principal payments. Investment and other losses are excluded from the expenditure amount.

For public institutions, the numerator of this ratio includes interest on all indebtedness, which is approximated by interest paid, plus the current year's principal payments; both generally are available from the GASB and FASB component unit statements of cash flows. However, if an institution or affiliate has refinanced debt, the statement of cash flows would reflect a large principal repayment amount, and the contractual principal amount would be more appropriate to use, which can usually be found in the notes to the financial statements. The denominator is total GASB operating expenses plus nonoperating expenses less depreciation expense plus debt service principal payments, plus FASB component unit total expenses less depreciation expense plus debt service principal payments. Investment losses are excluded from the expenditure amount. Including expenses of fund-raising component units is appropriate. Including the component unit portion in the numerator calculation would not be appropriate unless the component units were operating entities.

Alternatively, some institutions prefer to measure debt service as a percentage of total revenues. The rationale for using a revenue measure is that the revenues represent the actual source of funds to pay debt service, and the use of an expenditure measure provides an incentive to grow rather than limit expenditures, since a growing expense base, even absent growth in revenues, would make the institution look better for this ratio. While we agree with these observations, we find difficulty in managing to a ratio based on revenues, due to the significant volatility in total revenues from year to year caused by operating gifts, investment performance or state appropriations.

Additionally, while the ratio utilizes total expenditures, this may overstate the true affordability of the debt, as the actual amount of the operating budget that is truly fungible and could be dedicated to additional debt service from a practical matter is much lower (although from a legal standpoint, all legally available funds could be accessed).

Another change to consider for internal measurement is whether actual external interest (including swap payments) and principal should be included or whether it is preferable to use a budgeted interest expense amount, such as the blended rate or an assumed variable rate, for short-term debt. Using these figures that are not contained in the audited financial statements presents a better indication of the budget impact (or burden) of the debt and may be helpful from a management perspective.

We believe it is important to calculate the Debt Burden Ratio (and other ratios) for the institution as a whole, since it provides a clearer picture of the overall flexibility available for the institution if it needs to make budgetary trade-offs in order to finance additional capital expenditures. This ratio helps show that all financial decisions made by the institution have an impact on its ability to make other choices and therefore must be considered in this context.

The industry often has viewed an upper threshold for this ratio at 7 percent, meaning that current principal payments and interest expense should not represent more than 7 percent of total expenditures; however, a number of institutions operate effectively with a higher ratio, while others would find this ratio unacceptable.

Because debt service represents required payments from the operating budget, a higher debt service burden indicates that the institution has less flexibility to manage the remaining portion of the budget. Institutions with greater budgetary flexibility will find that they are comfortable with a higher ratio than institutions with little ability to make adjustments to the operating budget, either by increasing revenues or decreasing expenditures. This is the reason institutions with a more diverse revenue stream may be comfortable with a higher Debt Burden Ratio than institutions dependent on tuition or certain public institutions with minimal control of their operating budgets.

Furthermore, those institutions able to withstand a higher debt service burden are in a better position to bear the risks associated with variable-rate debt or other types of financings. At the same time, institutions uncomfortable with a higher debt service burden may be enticed by the lower interest rates typically offered by variable-rate products, yet it is precisely these institutions that have little maneuvering room to adjust the budget if interest rates increase significantly. We therefore recommend that institutions with variable-rate debt budget at an interest rate higher than the actual interest rate (especially in low interest rate environments) and establish a rate stabilization fund.

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. Therefore, allocating a higher percentage of the budget to debt service represents a prioritization made by the institution, such as making needed improvements to the physical plant over increasing financial aid or investing in new programs. As long as this choice is recognized and accepted, a higher ratio can be acceptable, especially for a short period of time. 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 repay debt. Additionally, this ratio can be higher for a planned period of time. The major concern is whether the increase in this ratio is due to unplanned reasons, such as higher costs resulting from the institution's debt structure.

Finally, as with many of the financial ratios presented in this book, it is not the case that a low debt service burden is superior to a higher debt service burden. For most financially healthy institutions, it is advisable to allocate a certain percentage of the operating budget to debt service. Institutions with very low ratios may be forgoing necessary investment in facilities, which, over time, may have a negative impact on their competitive profiles.

TABLE 13.9: ILLUSTRATION OF THE DEBT BURDEN RATIO – PRIVATE INSTITUTIONS

Numerator – Debt service	
+ Interest expense	2,323
+ Principal payments	911
Numerator – Debt service	3,234
Denominator – Total expenditures	
+ Total expenses	68,469
- Depreciation expense	(4,083)
+ Principal payments	911
Denominator – Total expenditures	65,297
Value of ratio	5%

TABLE 13.10: ILLUSTRATION OF THE DEBT BURDEN RATIO – PUBLIC INSTITUTIONS

Numerator – Debt service	
+ Institution interest expense	328
+ Institution principal payments	1,043
+ CU interest expense	-
+ CU principal payments	-
Numerator – Debt service	1,371
Denominator – Total expenditures	
+ Institution total operating expenses	142,112
+ Institution total nonoperating expenses	334
- Institution depreciation expense	(6,978)
+ Institution principal payments	1,043
+ CU total expenses	2,561
- CU depreciation expense	-
+ CU principal payments	-
Denominator – Total expenditures	139,072
Value of ratio	1%

Debt Service 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 revenue 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, especially in the face of future budgetary challenges.

The ratio is calculated as follows:

Table 13.11 Debt Service Coverage Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Adjusted change in unrestricted net assets from operations	Net operating income plus net nonoperating revenues plus interest expense plus depreciation plus FASB CU adjusted change in net assets
Denominator	Debt service	Debt service plus CU debt service

For private institutions, the numerator includes the change in unrestricted net assets from operations 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. It is important that investment gains and losses be excluded from this calculation. As stated earlier, institutions should develop an operating measure at least for internal reporting purposes and financial analysis. Excluding any investment gains or losses from this ratio will enable analysts to determine the levels of debt service needed to be covered by operations.

For public institutions, the numerator is available from the GASB statement of revenues, expenses and changes in net assets, and the FASB component unit statement of activities. The numerator includes net operating revenues, and net nonoperating revenues, interest expense and depreciation expense. The FASB component unit amount is calculated similarly to the private institution's numerator. The denominator includes debt service payments as defined in the numerator of the Debt Burden Ratio. As stated previously, including the component unit portion in the calculation would not be appropriate unless the component units were operating entities.

TABLE 13.12: ILLUSTRATION OF THE DEBT SERVICE COVERAGE RATIO – PRIVATE INSTITUTIONS

Numerator – Adjusted change in unrestricted net assets from operations	
+ Change in unrestricted net assets from operations	1,597
+ Depreciation expense	4,083
+ Interest expense	2,323
Numerator – Adjusted change in unrestricted net assets from operations	8,003
Denominator – Debt service	
+ Interest expense	2,323
+ Principal payments	911
Denominator – Debt service	3,234
Value of ratio	2.47x

TABLE 13.13: ILLUSTRATION OF THE DEBT SERVICE COVERAGE RATIO – PUBLIC INSTITUTIONS

Numerator – Adjusted change in net assets	
+ Institution net operating income	(46,895)
+ Institution net nonoperating revenues	49,796
+ Institution interest expense	328
+ Institution depreciation expense	6,978
+ CU change in unrestricted net assets from operations	647
+ CU depreciation expense	-
+ CU interest expense	-
Numerator – Adjusted change in net assets	10,854
Denominator – Debt service	
+ Institution interest expense	328
+ Institution principal payments	1,043
+ CU interest expense	-
+ CU principal payments	-
Denominator – Debt service	1,371
Value of ratio	7.92x

Due to the volatility inherent in the change in net assets from year to year, many institutions find that it may be helpful to smooth the trend by examining a rolling two-year average for the ratio and establishing a target based on that measure.

Institutions may calculate this ratio and any other debt service ratio with only interest expense and payments.

Interest Burden Ratio

The Interest Burden Ratio is similar to the Debt Service Burden Ratio, except that this ratio excludes principal payments. For institutions that view debt to be a perpetual obligation or do not have a level debt service structure, this ratio can be more informative. Furthermore, it allows greater comparability across institutions with different debt structures. The institution can decide whether to use actual interest expense from the audited financial statements or internally budgeted interest. The ratio is calculated as follows:

For private institutions, the numerator of this ratio includes interest on all indebtedness, which is approximated by interest paid, available from the statement of cash flows. The denominator is total expenses from the statement of activities (both operating and nonoperating), less depreciation expense plus debt service principal payments.

Table 13.14 Interest Burden Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Interest expense	Interest expense plus FASB CU interest expense
Denominator	Total expenditures	Total expenditures plus FASB CU total expenditures

For public institutions, the numerator of this ratio includes interest on all indebtedness, which is approximated by interest paid, available from the GASB and FASB component unit statements of cash flows. The denominator is total GASB operating expenses plus nonoperating expenses less depreciation expense plus debt service principal payments, plus FASB component unit total expenses less depreciation expense plus debt service principal payments.

Because the Interest Burden Ratio includes only interest, the target for this ratio should be lower than that for the Debt Service Burden Ratio, and we recommend that no more than 5–7 percent of an institution's budget be devoted to pay interest. Since interest is not a discretionary expense, the greater the interest burden, the less flexibility the institution has to adjust spending in other areas of the budget, if financial conditions deteriorate. For institutions with greater budget flexibility, a higher interest burden is acceptable.

In calculating an Interest Burden Ratio, institutions with a significant amount of variable rate debt may wish to use an average rate for calculations or use a corporate cost of capital (e.g., internal billing rate) multiplied by the outstanding debt.

Portfolio Principal Duration Metric

The portfolio principal duration metric provides a measure of the period for which debt is committed to the institution, regardless of the stated maturity. In this ratio, for example, weekly reset variable rate debt is treated as a seven-day duration, even if the stated maturity is 30 years. The metric is calculated differently than a true duration measure, as the effect of interest payments is not considered.

Principal Duration measures the average amount of time capital is committed to the institution. It is computed in a nearly identical manner to the weighted average maturity of the portfolio, but reflects the fact that not all debt is committed capital for the entire planned maturity.

Some examples are:

	Term for Planned Maturity Computation	Term for Principal Duration Computation [1]
30-year non-amortizing issue with 5-year put	30 years	5 years
20-year amortizing fixed rate issue	12 years (approx.)	12 years (approx.)
20-year commercial paper issue with 60-day current term	20 years	60 days
30-year weekly reset VRDN (non-amortizing)	30 years	7 days (1/52 year)[2]

[1] We use the term Principal Duration to distinguish this metric from a traditional bond duration computation, which generally applies to an individual bond. Although they are correlated, the calculation is much different.

[2] For letter-of-credit backed issues, a failed remarketing often results in the debt becoming bank bonds, typically termed out over 2–3 years, in which case a 1–1.5-year term may be considered for the Principal Duration computation.

The Portfolio Principal Duration Metric is computed as follows:

Numerator	For each issue outstanding, the sum of (Par Outstanding x Principal Duration Term)
Denominator	Total Par Outstanding

For the following debt portfolio example:

$15 million 30-year amortizing fixed-rate issue (average life: 19 years)

$20 million 20-year non-amortizing weekly reset bonds

$25 million 15-year non-amortizing fixed-rate issue with 5-year put

The Portfolio Principal Duration Metric is:

$$\frac{(\$15M \times 19\ yrs) + (\$20M \times 1/52\ \text{yr}) + (\$25M \times 5\ yrs)}{\$15M + \$20M + \$25M} = 6.8\ \text{Years}$$

For comparison, the weighted average planned maturity is:

$$\frac{(\$15M \times 19\ yrs) + (\$20M \times 20\ \text{yrs}) + (\$25M \times 15\ yrs)}{\$15M + \$20M + \$25M} = 17.7\ \text{Years}$$

The Portfolio Principal Duration Metric helps evaluate the debt portfolio in the context that investors may not continue to lend (or will not lend at reasonable terms), potentially forcing a pay-off of outstanding debt.

Again, while there is no correct level for this measure, the shorter the duration, the greater the need for institutional liquidity. We believe this ratio more accurately reflects the refinancing exposure and other risks than the more simplistic fixed-variable calculation that can overstate the period of capital commitment.

Measuring asset performance and management

All of the assets that are under the stewardship of a board and senior management need to demonstrate some financial return over a long period of time or the institution will be consumed by deficits that draw resources away from other activities. This section helps an institution understand whether the investments it has historically made are obtaining returns that can be reinvested in other programs and/or facilities.

Higher education is an asset-intensive industry, requiring institutions to possess significant amounts of financial and physical assets to fulfill their missions. Institutions must effectively and efficiently manage their assets for optimum performance. Institutions also face critical decisions on the amount, timing and nature of asset deployment and allocation.

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.

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 HEPI, will produce the nominal rate of return. A useful proxy to measure changes specific to an institution from the impact of inflation and programmatic commitments may be the growth of total expenses over a long period of time. 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; likewise, in periods of negative investment returns, net assets can substantially decrease quickly. 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 inadequate. If so, an extended period may be spent attempting to recover, possibly at the expense of necessary programmatic initiatives.

As stated above, institutions may desire to calculate this ratio similar to how they develop a spending rate, using a rolling three-year average. Thus, the ratio for 2008 is the average of the ratio for years 2006, 2007 and 2008, and the ratio for 2009 is the average for 2007, 2008 and 2009. Another approach for institutions with sizable investments is to smooth the results of this ratio by looking at return on net assets over time, for example, 5 to 10 years. Changes in market performance can also significantly impact the numerator of this ratio from year to year. Institutions may also want to segregate investment returns and investment assets to highlight the impact the institution's long-term investments have on this ratio. Accordingly, each institution will need to set its own goal for the Return on Net Assets Ratio. The Return on Net Assets Ratio is calculated as:

Table 13.15 Return on Net Assets Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Change in net assets	Change in net assets plus FASB CU change in net assets
Denominator	Total net assets	Total net assets plus FASB CU total net assets

For private institutions, the numerator is the change in unrestricted net assets, temporarily restricted net assets and 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 include unrestricted net assets, temporarily restricted net assets and permanently restricted net assets.

For public institutions, the numerator is the change in GASB total net assets plus the change in FASB component unit total net assets regardless of whether they are expendable on nonexpendable, restricted or unrestricted. This information can be found in the GASB statement of revenues, expenses and changes in net assets and the FASB component unit statement of activities. The denominator is the beginning of the year total net assets that can also be found in the GASB statement of revenues, expenses and changes in net assets and the FASB component unit statement of activities.

As an alternative to using beginning of the year amounts, the average of the beginning and ending total net assets may be used.

TABLE 13.16: ILLUSTRATION OF THE RETURN ON NET ASSETS RATIO – PRIVATE INSTITUTIONS

Numerator – Change in net assets	4,590
Denominator – Total net assets (beginning of year)	96,030
Value of ratio	4.78%

TABLE 13.17: ILLUSTRATION OF THE RETURN ON NET ASSETS RATIO – PUBLIC INSTITUTIONS

Numerator – Change in net assets	
+ Institution change in net assets	5,137
+ CU change in net assets	6,709
Numerator – change in net assets	11,846
Denominator – Total net assets (beginning of year)	
+ Institution total net assets (beginning of year)	146,341
+ CU total net assets (beginning of year)	22,303
Denominator – total net assets (beginning of year)	168,644
Value of ratio	7.02%

Physical Asset Reinvestment Ratio

This ratio calculates the extent capital renewal is occurring compared with physical asset usage, represented as depreciation expense. A ratio above 1:1 indicates an increasing investment in physical assets, whereas a lower ratio potentially indicates an underinvestment in campus facilities. Since facilities investment is highly variable from year to year, especially for smaller institutions, this ratio should be evaluated on a multiyear basis. This ratio is calculated as follows:

Table 13.18 Physical Asset Reinvestment Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Capital expenditures	Capital expenditures plus FASB CU capital expenditures
Denominator	Depreciation expense	Depreciation expense plus FASB CU depreciation expense

For private institutions, the numerator may be obtained from the statement of cash flows as addition to physical plant assets. Alternatively, the information may be obtained from the accounting records. The denominator is available from the statements of activities, or cash flows, or disclosed in the notes.

For public institutions, the numerator may be obtained from the statement of cash flows as additions to physical plant assets. For the institution's FASB component units, the numerator may be obtained from the statement of cash flows. Alternatively, the information may be obtained from the accounting records. The denominator is either from the statement of revenues, expenses and changes in net assets or from the notes. For the institution's FASB component unit, the information is obtained from the statement of activities or is disclosed in the notes. As stated previously, including the component unit portion in the calculation would not be appropriate unless the component units were operating entities.

A ratio substantially less than 1:1 may indicate that the institution is consistently underinvesting in plant and increasing its deferred maintenance obligation. Substantial ratios above 1:1 indicate a continued growth in facilities. The institution should also analyze its operating measures to ensure that the budget and operating size are growing consistent with the physical asset growth.

TABLE 13.19: ILLUSTRATION OF THE PHYSICAL ASSET REINVESTMENT RATIO – PRIVATE INSTITUTIONS

Numerator – Capital expenditures	2,594
Denominator – Depreciation expense	4,083
Value of ratio	.64x

TABLE 13.20: ILLUSTRATION OF THE PHYSICAL ASSET REINVESTMENT RATIO – PUBLIC INSTITUTIONS

Numerator – Capital expenditures	
+ Institution capital expenditures	8,663
+ CU capital expenditures	-
Numerator – Capital expenditures	8,663
Denominator – Depreciation expense	
+ Institution depreciation expense	6,978
+ CU depreciation expense	-
Denominator – Depreciation expense	6,978
Value of ratio	1.24x

Age of Facilities 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 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 recorded as an unfunded liability in the financial statements, the Age of Facilities Ratio is based on historical accumulated depreciation. This ratio is calculated as:

Table 13.21 Age of Facilities Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Accumulated depreciation	Accumulated depreciation plus FASB CU accumulated depreciation
Denominator	Depreciation expense	Depreciation expense plus FASB CU depreciation expense

For private institutions, the numerator is generally obtained from the notes to the financial statements. The denominator is either from the statement of activities or is disclosed in the notes.

For public institutions, the numerator may be obtained from the notes to the financial statements for both the institution and the institution's FASB component unit. The denominator is either from the statement of revenues, expenses and changes in net assets or from the notes. For the institution's FASB component unit, the information is obtained from the statement of activities or is disclosed in the notes. As stated previously, including the component unit portion in the calculation would not be appropriate unless the component units were operating entities.

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, provided that the investments were not made at the expense of other necessary strategic initiatives. 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 continuing to fund necessary reinvestment in maintaining its facilities.

The Age of Facilities 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. In addition, this ratio does not provide a sense of whether the institution will be able to afford the necessary improvements. Furthermore, some institutions are able to withstand a higher amount of deferred maintenance before witnessing a negative impact on their operations or student demand. Other institutions, however, especially those for whom state-of-the-art facilities represent a competitive requirement, will find that only a minimal level of deferred maintenance is acceptable before consequences are realized.

TABLE 13.22: ILLUSTRATION OF THE AGE OF FACILITIES RATIO – PRIVATE INSTITUTIONS

Numerator – Accumulated depreciation	52,100*
Denominator – Depreciation expense	4,083
Value of ratio	12.8x

* Information not obtained from the financial statements directly since this information is usually contained in the notes.

TABLE 13.23: ILLUSTRATION OF THE AGE OF FACILITIES RATIO – PUBLIC INSTITUTIONS

Numerator – Accumulated depreciation	
+ Institution accumulated depreciation	79,157*
+ CU accumulated depreciation	-
Numerator – Accumulated depreciation	79,157
Denominator – Depreciation Expense	
+ Institution depreciation expense	6,978
+ CU depreciation expense	-
Denominator – Depreciation expense	6,978
Value of ratio	11.3x

* Information not obtained from the financial statements directly since this information is usually contained in the notes.

Facilities Burden Ratio

When determining the impact of capital investment on the institution's budget, often the debt service or interest expense is highlighted. While this may be the most fundamental cost associated with a building, it does not capture the complete extent of the burden of facilities investment on the institution and in fact can make capital investment appear more affordable than it actually is.

There are several reasons for this. First, unless the institution is using debt to fund the construction of a minor project, there are going to be significant additional costs associated with operating, maintaining and programming of the facility. While there may be some offsetting revenue, the net cost should be calculated. Second, debt is repaid in constant dollars, whereas operating expenses are subject to inflationary pressures; therefore, over time, non-debt service related expenses will represent an ever-increasing cost associated with the building.

While the Debt Burden Ratio is widely recognized as a core financial ratio, institutions may not regularly analyze the full impact of growing facilities investment on the budget, as well as the ability of the budget to absorb these costs. The Facilities Burden Ratio calculates the comprehensive cost of facilities investments on the institutional budget.

This ratio is calculated as follows:

Table 13.24 Facilities Burden Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Depreciation expense plus interest expense plus plant operations and maintenance expenses	Depreciation expense plus interest expense plus plant operations and maintenance expenses plus FASB CU depreciation expense plus FASB CU interest expense plus FASB CU plant operations and maintenance expenses
Denominator	Property, plant and equipment, net	Capital assets, net plus FASB CU property, plant and equipment, net

For private institutions, the numerator is generally obtained from the notes to the financial statements or the statement of activities; plant operations and maintenance expenses would be obtained from the accounting records if not disclosed on the notes. Interest expense should be limited to debt whose proceeds were invested in plant; this may need to be obtained from the accounting records. The denominator is either from the balance sheet or disclosed in the notes.

For public institutions, the numerator may be obtained from either the statement of revenues, expenses and changes in net assets, the notes to the financial statements or the accounting records, if not disclosed. Interest expense should be limited to debt whose proceeds were invested in plant. The denominator is either from the statement of net assets or the notes. For the institution's FASB component unit, the information is obtained from the financial statements, the notes or the units' accounting records. As stated previously, including the component unit portion in the calculation is not appropriate unless the component units are operating entities.

Deferred Maintenance Ratio

This ratio measures the size of the institution's outstanding maintenance requirements compared with its expendable net assets. An increasing ratio may be an indicator of growing deferred maintenance and an aging plant or indicative of an institution that is investing funds in new facilities at the expense of taking care of existing facilities. 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:

For both private and public institutions, 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.

Table 13.25 Deferred Maintenance Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Outstanding maintenance requirements	Outstanding maintenance requirements
Denominator	Expendable net assets	Expendable net assets plus FASB CU expendable net assets

The denominator is equal to expendable net assets, as described in the definition of the Primary Reserve Ratio.

This ratio shows whether the institution has sufficient expendable net assets to fund identified deferred maintenance needs. A high ratio indicates that the institution must consider additional funding of deferred maintenance.

The Deferred Maintenance Ratio should be assessed in conjunction with ratios that monitor the institution's ability to raise funds from external sources. If the institution has little or no plant debt, high expendable 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.

Measuring Operating Results

All institutions must, over the long run, operate in either a surplus or at least break-even position, although this may not necessarily require break-even results from operations which can become problematic if other sources utilized to fund the operating deficit, such as investment returns or philanthropy, fall. However, this area often is confused with commercial organizations being required to "make a profit" each year. The primary reason institutions need to generate some level of surplus over long periods of time is because operations are one of the sources of liquidity and resources for reinvestment in institutional initiatives. Conversely, generating a known deficit in the short term may well be the best strategic decision a board makes, if it is an affordable investment in its future and the deficit will clearly be eliminated through specific actions. The issue for institutions arises when the deficits are occurring in the core operations of the institution.

One of the challenges institutions face with respect to an operating measure is that it is politically and culturally difficult for many to have a surplus from operations. Instead, ending the year at break even (or a slight deficit) is viewed not only as desirable but often necessary. This is a problem for several reasons. One is that it distorts the true operating health of the institution, making management difficult. A second is that it encourages increased spending—for the institution to spend whatever revenue they generate from operations or through endowment payout or any other source. Additionally, the inability to generate surpluses and resulting reserves is that there is no cushion for the bad times, when revenues may actually decline.

Since revenues decrease, expenses must decrease or the institution will run at an operating deficit—which, in fact, may be entirely appropriate in a down period, but is difficult to finance if surpluses are not permitted in other years. In other words, those surpluses in good times should not be spent; they should be reserved for spending in less flush times when all revenue sources may be under pressure and when making further cuts to expenses is not desirable, or strategically warranted.

The ratios in this section explore different aspects of an institution's operations. In addition, contribution and demand ratios can also be used to further explore specific aspects of operations. As with the ratios discussed previously, no analysis should be conducted without placing these ratios within the perspective of the institution's mission, other strategic initiatives and financial risks. This is especially important in performing trend analysis. When examining movement in trends, it is vital to consider any change in the strategic initiatives and mission of the institution.

Comparison of operating results between private and public institutions is not meaningful due to significant differences in financial recognition and measurement. The operating statement for public institutions, the statement of revenues, expenses and other changes in net assets does not distinguish items between net asset classes. In addition, the reporting standards for public institutions are very prescriptive as to format and sequencing, including composition of an operating indicator. The standards are also very flexible in that expenses may be reported either by natural classification or by function. Unlike private institutions, public institutions may consider depreciation and plant operations and maintenance expenses to be functions and are not required to allocate these expenses to other functions. On the other hand, private institutions must report revenues and expenses by net asset class, and functional expenses must be reported either in the statement or in the notes. Private institutions may also disclose an operating measure; the reporting standards do not prescribe the components of an operating measure but permit institutions to use a measure they are able to define as long as adequate disclosure concerning its composition is made.

Net Operating Revenues Ratio

This ratio is a primary indicator, explaining how the surplus from operating activities 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, the Return on Net Assets and the Viability ratios.

Private institutions do not have a defined operating indicator by the FASB like public institutions have as defined by GASB. We have determined that enough time has passed since adoption of FASB Statement No. 117 (now ASB Topic 958) in the mid-1990s for private institutions to develop an operating measure, at least for internal reporting purpose, if they do not desire to have one for their external audited financial statements. Accordingly, we have eliminated the dual approach for private institutions with a separate calculation if an operating measure is not used. The Net Operating Revenues Ratio is as follows:

Table 13.26 Net Operating Revenues Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Excess (deficiency) of unrestricted operating revenues over unrestricted operating expenses	Operating income (Loss) plus net nonoperating revenues (expenses) plus FASB CU change in unrestricted net assets
Denominator	Total unrestricted operating revenue	Operating revenues plus nonoperating revenues plus FASB CU total unrestricted revenue

For private institutions, the numerator is available from the statement of activities or other internal financial reports. The denominator is equal to total unrestricted operating revenues and other support, including net assets released from restrictions. Investment gains or losses are excluded from both the numerator and denominator, except for endowment payout and working capital investment gains or losses.

For public institutions, the numerator is available from the GASB statement of revenues, expenses and changes in net assets and the FASB component unit statement of activities. The numerator includes nonoperating revenues and expenses, including governmental appropriations, investment income and operating gifts, since these items support operating activities of the institution. Nonoperating expenses, such as interest on plant debt, are also related to operating activities. Plant and endowment gifts and capital appropriations are excluded since these are not for operating activities. Investment gains or losses are excluded from the numerator and denominator, except for endowment payout and working capital investment gains or losses.

For FASB component units, the numerator includes the total change in unrestricted assets from the statement of activities. The denominator is equal to GASB total operating revenues plus total net nonoperating revenues, excluding capital appropriations and gifts and additions to permanent endowments, plus FASB component units' total unrestricted revenues, gains and other support, including net assets released from restrictions. Investment gains or losses are excluded from both the numerator and denominator, except for endowment payout and working capital investment gains or losses.

For public institutions that use a spending rate, the institution may use the formula similar to private institutions. The numerator would include operating income (loss); government appropriations, grants and gifts for operating purposes; and the spending rate portion of investment income. The institution portion of the denominator would be operating revenues; government appropriations, grants and gifts for operating purposes in the nonoperating section; and the spending rate portion of investment income. The FASB component unit portion of the numerator and denominator would not change unless the component unit also uses a spending rate that is known to the institution; if that is the case, then the numerator and denominator would be similar to the private institution calculation.

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 cautionary note, 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 unplanned deficits and structural deficits are almost always a bad sign, particularly if management has not identified initiatives to reverse the shortfall (note that a surplus or deficit can be manufactured by manipulating a spending rate). If any institution is reporting an operating surplus with a high spending rate, and a similar institution is reporting a deficit with a low spending rate, it may not be appropriate to treat them differently. Instead, it is critical to know the reasons for the surplus or deficit, and to target a long-term equilibrium. 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 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 Operating Revenues Ratio.

For private institutions or public institutions that use a spending rate, the Net Operating Revenues Ratio target should be at least 2–4 percent 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 2–4 percent range may appear somewhat low. However, the determination of net operating revenues includes depreciation expense as a component, indicating that a positive return in this area would suggest the institution lived within its means. For public institutions that do not use a spending rate, a range of 4–6 percent is more appropriate.

TABLE 13.27: ILLUSTRATION OF THE NET OPERATING REVENUES RATIO – PRIVATE INSTITUTIONS

Numerator – Excess (deficiency) of unrestricted operating income over unrestricted operating expenses	1,597
Denominator – Total unrestricted operating revenues	
+ Total unrestricted revenues and gains	68,017
+ Net assets released from restrictions	2,049
Denominator – Total unrestricted operating revenues	70,066
Value of ratio	2.28%

TABLE 13.28: ILLUSTRATION OF THE NET OPERATING REVENUES RATIO – PUBLIC INSTITUTIONS

Numerator – Net operating income	
+ Institution operating income (loss)	(46,895)
+ Institution net nonoperating revenues	49,796
+ CU change in unrestricted net assets	647
Numerator – Net operating income	3,548
Denominator – Total operating revenues	
+ Institution operating revenues	95,217
+ Institution nonoperating revenues	50,130
+ CU total unrestricted revenues	3,208
Denominator – Total operating revenues	148,555
Value of ratio	2.39%

Cash Income Ratio

The inquiry into operating results may be further understood with the Cash Income Ratio. While the change in expendable 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. Cash flow information should be used to further examine the issue of the strength and quality of the income stream that was examined initially in the Net Operating Revenues Ratio.

Net operating revenues include accruals and noncash charges (for example, depreciation). To examine the strength of the net operating revenues that contribute 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:

Table 13.29 Cash Income Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Net cash provided by operating activities	Cash flow from operations plus cash received from appropriations for operating purposes plus gifts and grants for operating purposes plus FASB CU net cash provided by operating activities
Denominator	Total unrestricted income excluding gains or losses	Operating revenues plus appropriations revenues for operating purposes plus gifts and grants revenues for operating purposes plus FASB CU total unrestricted income, excluding gains and losses

The numerator for private institutions 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 SFAS No. 117 generally considers them financing activities rather than operating activities.

The calculation for public institutions is more complicated due to differences in the cash flow statement format and categorizations. This is due to the prescriptive format of both the statements of revenues, expenses, and changes in net assets and cash flows, primarily that governmental appropriations and gifts and grants for operating purposes are considered nonoperating revenues and cash flows from noncapital financing activities. These amounts must be added back to arrive at a more representative operating result.

For public institutions, the numerator is available from the statement of cash flows and the FASB component unit statement of cash flows. Since the definition of cash flow from operations excludes governmental appropriations and gifts and grants used for operating purposes, these must be added back. They are available on the statement of cash flows in the cash flows from noncapital financing activities section. For FASB-related entities, the numerator includes the total cash flow from operations from the statement of cash flows.

The denominator is equal to total operating revenues plus nonoperating revenues from government appropriations, and gifts and grants that are recorded in the nonoperating section, plus FASB component unit total unrestricted revenues, gains and other support, including net assets released from restrictions, excluding gains and losses.

TABLE 13.30: ILLUSTRATION OF THE CASH INCOME RATIO – PRIVATE INSTITUTIONS

Numerator – Net cash provided by operating activities	5,928
Denominator – Total unrestricted income, excluding gains	
+Total unrestricted revenues and gains	68,017
+ Investment return in excess of spending rate	693
+ Net assets released from restriction	2,049
- Net unrestricted realized gains*	(745)
- Net unrestricted unrealized appreciation*	(277)
Denominator –Total unrestricted income, excluding gains	69,737
Value of ratio	8.5%

* 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.

TABLE 13.31: ILLUSTRATION OF THE CASH INCOME RATIO – PUBLIC INSTITUTIONS

Numerator – Net cash provided by operating activities	
+ Institution cash flow from operations	(38,948)
+ Institution cash received from government appropriations	45,863
+ Institution cash received from gifts and grants for operating purposes	2,182
+ CU net cash provided from operating activities	1,750*
Numerator – Net cash provided by operating activities	10,847
Denominator –Total operating income, excluding investment income	
+ Institution operating revenues	95,217
+ Institution government appropriations revenues	45,863
+ Institution gift and grant revenue for operating purposes	2,485
+ CU total unrestricted revenues and gains	1,008
+ CU investment return in excess of spending rate	-
+ CU net assets released from restriction	2,200
- CU net unrestricted realized gains*	(2)*
- CU net unrestricted unrealized appreciation*	(5)*
Denominator –Total operating income, excluding investment income	146,766
Value of ratio	7.39%

* 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.

Contribution Ratios

Using ratios referred to as contribution and demand ratios can also result in further analysis of revenues by source and expenses by type. Contribution and demand ratios address the reasons an institution's overall financial ratios have behaved in the manner observed.

Contribution ratios are derived from the following main sources of revenues:

- Tuition and fees, net of financial aid
- Grants and contracts
- Government appropriations
- Contributions
- Auxiliary enterprises
- Hospital operations
- Endowment payout

The numerator would be each individual source of revenue. The denominator would be total expenses. We believe that it is better to express these sources of revenues as ratios compared with expenses instead of a percentage of total operating revenues. Using total operating revenues can be misleading, especially when expenses are increasing faster than revenues, resulting in a decline in each of these sources. Furthermore, many of these revenue sources may experience significant year-to-year variability and therefore make annual review difficult.

An example of the Net Tuition and Fees Contribution Ratio would be as follows:

Table 13.32 Net Tuition And Fees Contribution Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Net tuition and fees revenues	Net tuition and fees revenues plus government grants for tuition
Denominator	Total expenses	Total expenses

For private institutions, the numerator is tuition and fee revenue, net of tuition discounts, which is from the statement of activities. Total expenses are the same as the denominator in the Primary Reserve Ratio. Again, if expenses include realized or unrealized investment losses, these should be excluded from expenses.

For public institutions, the numerator is composed of tuition and fees revenues, net of discounts, and any government appropriations that are for student tuition and fees; this would include the Pell grant revenues that are reported in addition to tuition and fees. In addition, certain states may also provide grants to the institution to pay for specific student support. These amounts are found on the statement of revenues, expenses and changes in net assets; detailed accounting records may be needed to obtain the necessary information for government grants. The denominator is institutional operating expenses plus institutional nonoperating expenses. For contribution ratios, the denominator should only represent institutional expenses. As stated previously, including the component unit portion in the calculation would not be appropriate unless the component units were operating entities.

For peer comparisons, it is important to consider the differences in the institutions such as whether a hospital is included.

TABLE 13.33: ILLUSTRATION OFTHE NET TUITION AND FEES RATIO – PRIVATE INSTITUTIONS

Numerator – Net tuition and fees	45,836
Denominator –Total expenses	68,469
Value of ratio	66.9%

TABLE 13.34: ILLUSTRATION OFTHE NET TUITION AND FEES RATIO – PUBLIC INSTITUTIONS

Numerator – Net tuition and fees	
+ Institution net tuition and fees	43,647
+ Institution government grant revenues for student tuition	4,305*
Numerator – Net tuition and fees	47,952
Denominator – Institution total expenses	
+ Institution operating expenses	142,112
+ Institution nonoperating expenses	334
Denominator – Institution total expenses	142,446
Value of ratio	33.7%

* Information not obtained from the financial statements directly since this information is usually contained in the detailed accounting records.

Two other ancillary ratios may provide additional information about the strength of the funds available to an institution. 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 as a percentage of total unrestricted operating income for private institutions (the same as the denominator in the Net Operating Revenues Ratio) and total operating income for public institutions (the same as the denominator in the Net Operating Revenues Ratio). 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 tuition 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 of 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, which may mitigate the effect of reduced tuition revenue. 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.

TABLE 13.35: ILLUSTRATION OF THE NET TUITION DEPENDENCY RATIO – PRIVATE INSTITUTIONS

Numerator – Net tuition and fees	45,836
Denominator – Total unrestricted operating income	
+Total unrestricted revenues and gains	68,017
+ Net assets released from restrictions	2,049
Denominator – Total unrestricted operating income	70,066
Value of ratio	65.4%

TABLE 13.36: ILLUSTRATION OF THE NET TUITION DEPENDENCY RATIO – PUBLIC INSTITUTIONS

Numerator – Net tuition and fees	
+ Institution net tuition and fees	43,647
+ Institution government grant revenues for student tuition	4,305*
Numerator – Net tuition and fees	47,952
Denominator – Total operating income	
+ Institution operating revenues	95,217
+ Institution nonoperating revenues	50,130
Denominator – Total operating income	145,347
Value of ratio	33%

* Information not obtained from the financial statements directly since this information is usually contained in the detailed accounting records.

Demand Ratios

Demand ratios measure the extent to which each type of expense is consuming operating revenues. Since both private and public institutions may report expenses by either natural classifications or by function, demand ratios can be calculated either way.

Demand ratios by natural classification would include:

- Salaries and wages
- Fringe benefits
- Payments to suppliers
- Interest
- Depreciation
- Travel
- Utilities
- Other

Demand ratios by functional classification would include:

- Instruction
- Research
- Public service
- Academic support
- Student services
- General services and administration
- Plant operations and maintenance
- Auxiliary enterprises
- Hospital operations

Private institutions may find it more desirable to calculate ratios before allocations of plant operations and depreciation to the other functions. Public institutions may find it desirable to allocate depreciation expense to the other functions to derive a more complete level of total expenses by function.

The numerator would be these types of expenses. The denominator would be total operating income as calculated in the Net Tuition Dependency Ratio. Again, any investment gains would be excluded unless they are from working capital investments and included in the operating measure. The Instruction Demand Ratio is as follows:

Table 13.37 Instruction Demand Ratio Calculation

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
Numerator	Instruction expenses	Instruction expenses
Denominator	Total unrestricted operating revenues	Total operating income

14 CHAPTER 14 Calculating the Composite Financial Index (CFI)

CHAPTER SUMMARY

Assessing the institution's financial health and financial risk is a critical step in developing strategies and effectively managing institutional risks. Using a single financial metric for financial health that offers a more holistic approach to understanding the total financial health of the institution may assist in this process. After looking at the relative strengths and weaknesses of each of the four core ratios, it is useful for an institution to be able to combine them into a single score. This combination, using a reasonable weighting plan, allows a weakness or strength in a specific ratio to be offset by another ratio result, thereby allowing a more holistic approach to understanding the institution's total financial health.

Introduction

A critical step in setting the institution's strategic goals, developing and implementing strategies, and performing institution risk management actions is to determine current financial health and risks, and to assess future conditions as the institution implements its strategic plan. As discussed in Chapter 3, one important process in institution risk management is to determine risk capacity. Although there is no one overall quantitative measure of risk capacity, and its assessment must include qualitative factors such as ability of management, there are several financial aspects that must be considered. These include liquidity, debt capacity, expendable net assets and financial condition. We also discussed how the CFI can be used to communicate certain financial aspects of an institution's strategic plan and its implementation in Chapter 10.

In the sixth edition, *Strategic Financial Analysis for Higher Education*, published in 2005, we applied the methodology we developed for private institutions to public institutions. Although the methodology for public and private institutions remained the same, the calculations differed somewhat. We have since found that the weighting and scoring systems as introduced have worked well and do not require any revision. Therefore, despite the substantial economic turbulence of recent years, we believe that the components and weightings of the CFI factors remain the same and require no adjustment or reconsideration.

For public institutions, we again stress the importance of measuring all financial resources, debt and financial performance. This will include the institution itself; its affiliated foundations used for fund-raising, research or real estate; and other special-purpose entities used to construct and/or operate institution-related assets such as student housing (note that the same consideration applies for private institutions that utilize a controlled entity such as a real estate subsidiary to provide support to the parent organization). These affiliates are referred to in the calculations as component units.

The four-step methodology for calculating the CFI is as follows:

- Values of four core ratios are computed
- These figures are converted to strength factors along a common scale
- Strength factors are then multiplied by specific weighting factors
- 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, a high CFI is not necessarily indicative of a successful institution, although a low CFI generally is indicative of additional challenges. When put in the context of achievement of mission, a very high CFI with little achievement of mission may indicate a failing institution.

Calculating the Core Ratios

The CFI measure is established by first answering the four key specific questions concerning financial health of an institution discussed in Chapters 12 and 13 that address the overall question of whether an institution is financially healthy:

- Are resources sufficient and flexible enough to support the mission? – Primary Reserve Ratio
- Are debt resources managed strategically to advance the mission? – Viability Ratio
- Does asset performance and management support the strategic direction? – Return on Net Assets Ratio
- Do operating results indicate the institution is living within available resources? – Net Operating Revenues 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 Operating Revenues 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, although it is recognized that other ratios are critical components of institutional well-being as well, and should be considered together with the CFI.

As noted in Chapter 13 concerning the Viability Ratio, institutions may calculate the ratio including other long-term liabilities and commitments if it meets the institutions' needs. However, we have established the threshold values and scoring system based on the Viability Ratio only including project-related debt in the calculation. Institutions that include other liabilities or commitments in their calculations may still use the weighting factors and scoring system but should clearly articulate this in their policies and reports.

Converting the Core Ratios into Strength Factors

The second step in calculating the CFI requires that the four ratios articulate to each other on a common scale. The "Scale for Converting the Core Ratios to Strength Factors" is shown in Table 14.1. 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.

Table 14.1 presents the ratios at three selected points—1, 3 and 10—on a scale of -4 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.

We believe that the floor for negative values should be -4, which represents 7 levels from the threshold value of 3. This range, 7 levels above and below the threshold value, reflects our understanding and experience that scores that fall outside of this range do not accurately reflect the institution's financial health or weakness. Extending strength factors beyond the score of 10 or -4 will create a higher (or lower) CFI and may unduly mask a weakness (strength) in another ratio.

Establishing the Threshold Value

We established the threshold values based on our assessments and industry experiences. 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. The Viability Ratio threshold is set at 1.25:1.

The Net Operating Revenues Ratio is set at 2 percent for private institutions. As stated in Chapter 11, we believe that private institutions should use an operating measure at least for internal financial reporting and financial analysis. Even though public institutions have an operating indicator, that indicator excludes certain key elements of operating revenues, such as appropriations

and gifts for operating purposes. Using the income before other revenues, expenses, gains and losses (operating income/loss and net nonoperating revenues) includes total investment income of the institution, resulting in an amount that is consistent with total changes in expendable net assets, unrestricted and restricted, and plant equity. For public institutions that use a spending rate that is obtainable from the accounting records, that amount should be used to calculate the Net Operating Revenues Ratio and the 2 percent threshold should be used.

TABLE 14.1: SCALE FOR CONVERTING THE CORE RATIOS TO STRENGTH FACTORS

SCORING SCALE	1	3	10
Primary Reserve Ratio	.133x	.4x	1.33x
Net Operating Revenues Ratio:			
Private Institutions	0.7%	2%	7.0%
Public Institutions	1.3%	4%	13%
Return on Net Assets Ratio	2.0%	6%	20%
Viability Ratio	.417x	1.25x	4.17x

Calculating Strength Factors

To calculate the strength factor at a point other than those presented in Table 14.1, divide the ratio value by the relevant value for 1 given in the table. As an example, a Viability Ratio of 1.5x converts to a strength factor of 3.6 as follows:

$$\frac{1.5x}{.417x} = 3.597, \text{ or } 3.6$$

Analyzing Strength Factors

In analyzing the strength factor, a composite strength factor of 1 indicates an institution under financial stress. Reading down the table, 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 48 days of annualized expenses (13.3 percent of 365), and that while some net operating revenues 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 ÷ .417x).

A strength factor of 3 on each ratio indicates that an institution is relatively financially healthy, in that nearly 150 days of annualized expenses are retained in expendable resources (40 percent of 365); the net operating revenues generated are 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 operating revenues indicate 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 consistently for each of the ratios. If substantial differences in scores result from year-to-year comparisons, 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 suggested weighting would be more heavily skewed toward measurement of retained wealth and less toward current operations. The principal reason for this is the belief that retained wealth and strategic use of debt are stronger indicators of long-term institutional financial health than measures depending on a single year's performance. As previously stated, we believe that an institution will, at various points in its evolution, find the need to significantly reinvest in itself, and that may mean generating short-term, controlled deficits. These investments may well impact annual operating performance negatively, but may be the most important strategic investments the institution makes. That is not to say that the operating results are unimportant, as evidenced by the use of operating ratios in developing the CFI. With that as a concept, the weighting pattern is as follows in Table 14.2:

TABLE 14.2: CREATING THE WEIGHTING SCHEMA

RATIO	INSTITUTION WITH LONG-TERM DEBT	INSTITUTION WITH NO (OR MINIMAL) LONG-TERM DEBT
Primary Reserve	35%	55%
Net Operating Revenues	10%	15%
Return on Net Assets	20%	30%
Viability	35%	–

Totaling the Calculations

The last two steps in calculating the CFI are to apply the weighting factors against each ratio and then total the four results.

TABLE 14.3: CREATING THE CFI—AN ILLUSTRATION USING UTOPIA UNIVERSITY

RATIO	RATIO VALUE		STRENGTH FACTOR		WEIGHTING FACTOR		SCORE
Primary Reserve	.74X	=	5.56	=	35%	=	1.95
Net Operating Revenues	2.28%	=	3.26	=	10%	=	.33
Return on Net Assets	4.78%	=	2.39	=	20%	=	.48
Viability	1.28X	=	3.07	=	35%	=	1.07
					Composite Financial Index		3.8+

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

U.S. Department of Education Financial Responsibility Standards

Others, including those analyzing the institution's credit and the Department of Education, have developed many financial ratios for higher education institutions. Some of these other developers' ratios are very similar to the ratios in this publication and earlier editions of *Strategic Financial Analysis for Higher Education*, both in name and calculation. It is important to note that the purpose of the ratios and CFI scoring system are substantially different from those used by these other developers because their purposes vary significantly. The Department of Education's purpose is to identify institutions that might bear increased financial risk to its student financial aid programs in a short time horizon. Our ratios assist institutions in understanding the affordability of their strategic plans and monitoring and evaluating the financial results of implementing those strategic initiatives over a longer-time horizon.

Limitations in Calculating the CFI

We have determined that the threshold values and the scoring and weighting systems used in calculating the Composite Financial Index described above should be the same for private and public institutions. These thresholds are more useful for private institutions and public institutions that are managing themselves (or desire to) with direct responsibility for budget, operations, debt and investment management. Many public institutions may find the threshold values too high or cannot attain them due to operating and governance restrictions; however, the values indicate that these institutions possess minimal operating and financial flexibility independent of the state, which we believe limits the institutions' ability to adapt to a changing market and invest in significant new strategic initiatives, absent the identification of a specific new funding source.

Although the ratio calculations for public institutions should include their component units, in certain cases that information may not be available from the public institution's financial statements. For example, institutions are not required to present the statement of cash flows for their component units. Excluding the component units from these calculations is appropriate unless the institutions have access to the detailed financial statements and accounting records. In other cases, inclusion of the component units' information will not be appropriate.

APPENDIX A

Strategic Financial Analysis Framework Questions And Organizational Layers

A

Carrying out the institution's mission is a top-down process starting with the mission statement and continuing through the strategic plan and next level plans and processes. From an organizational perspective, implementing the strategic plan and conducting institution risk management processes starts with the governing board and extends to senior management and all other levels of management and ultimately throughout the organization. A key to an effective institution risk management program is the active engagement of the board in monitoring the risks that are related to governance and areas requiring independence from management, such as audit risk.

As discussed in Chapter 2, we believe that there are three key levels within an institution that need to address, from a financial perspective, the strategic plan, institution risk management and strategic financial analysis. These levels are the governing board, senior management and financial management.

We consider senior management to comprise the institution's president and other senior executives, depending upon the size of the institution and its governance and organizational environment. Senior management would include at least the provost, chief financial officer, general counsel, chief budget officer, chief investment officer, chief risk officer and head of development. In may also include deans of schools or significant divisions (e.g., hospital, auxiliaries, athletics, etc.). Senior management is responsible for carrying out the directives of the governing board and its committees and reports to, and interacts with, the board's members.

The financial management organizational layer would include those responsible for budgeting, finance, treasury, accounting, compliance, insurance and risk management, and similar functions, regardless of whether they work in system, central or school administrative units. They are responsible for executing directives of senior management and are generally responsible for day-to-day activities of the institution.

The key responsibilities of these three levels are summarized below.

The governing board's key responsibilities are to:

- Ensure that the portfolio of institution risks being addressed is institution wide
- Oversee senior management in carrying out risk management activities
- Set the tone and environment through development of the institution's strategies, strategic objectives and high-level resource allocation methods
- Understand and evaluate the institution's risk management processes
- Engage in discussions with senior management in key areas, such as risk tolerance and risk management philosophy
- Review the portfolio of institution-wide strategic risks

Senior management's key responsibilities are to:

- Develop and implement the strategic plan's objectives and institution risk management processes
- Develop the institution's risk tolerance levels as part of the responsibility for managing the institution
- Carefully and objectively evaluate the risks the institution is incurring, and report them candidly to the board
- Articulate the risk tolerance to various constituents
- Ensure that it has a framework in place to gather information on risks assumed for the entire institution
- Oversee the day-to-day management of the institution by lower-level management

Financial management's key responsibilities are to:

- Manage the day-to-day financial activities of the institution
- Develop and report the metrics used in identifying and evaluating risk tolerance and risk capacity
- Determine the institution's risk capacity by determining the institution's liquidity, financial health and debt capacity levels
- Validate information from the critical business processes and report them to senior management for review and evaluation at the institution level
- Develop and communicate financial reports and financial metrics concerning the institution's financial condition and operating results to the governing board and senior management
- Ensure that financial information and its nonfinancial drivers are consistently determined across the institution
- Report, from a financial perspective, the effects and costs of implementing strategies (i.e., the financial metrics of a strategy)

It should be noted that the specific questions within each area are generic and reflective of both public and private institutions. Institutions should develop their own questions to meet their unique mission, strategic plan and risk assessment, and to be reflective of the prevailing environment. However, we believe that the questions posed are broad enough to address many common concerns faced by all higher education institutions in any scenario.

QUESTIONS	HOW DOES THE INSTITUTION ADDRESS STRATEGIC RISKS?	WHAT IS THE INSTITUTION'S LIQUIDITY?	IS DEBT USED STRATEGICALLY?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL OPERATING RISKS?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL CAPITAL RISKS?	ARE FINANCIAL RESOURCES ALLOCATED TO SUPPORT INSTITUTIONAL STRATEGIES?	WHAT IS THE INSTITUTION'S OVERALL FINANCIAL HEALTH?	WHAT ARE THE INSTITUTION'S KEY COMPONENTS OF FINANCIAL HEALTH AND FINANCIAL MEASURES?
GOVERNING BOARD LEVEL QUESTIONS	Does the Institution's governance structure enable the Institution to effectively manage its risks?	Does the Institution have sufficient liquidity in the near, intermediate and long-term?	What are the debt structures used, their risks and how are they managed?	What are the drivers of financial results and are these communicated clearly?	What are the Institution's plant capital needs for the next for years?	What is the financial cost of implementing the strategic plan?	What will be the impact to the Institution's financial health by implementing (or not) the strategic plan?	How did these indicators change over time and why?
	Does the Institution have an integrated compre-hensive risk management process?	What is the Institutions' risk level for its liquidity sources and needs?	Is there a written Institution debt policy and what metrics should be used to monitor the policy?	What are the key financial risks in the short term and long term?	What is the level and nature of deferred maintenance?	How will the strategic plan's costs be funded?	How did this level of financial health change over time and why?	How much of the levels of these indicators are caused by the Institution's separate affiliated foundations, joint ventures or others?

QUESTIONS	HOW DOES THE INSTITUTION ADDRESS STRATEGIC RISKS?	WHAT IS THE INSTITUTION'S LIQUIDITY?	IS DEBT USED STRATEGICALLY?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL OPERATING RISKS?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL CAPITAL RISKS?	ARE FINANCIAL RESOURCES ALLOCATED TO SUPPORT INSTITUTIONAL STRATEGIES?	WHAT IS THE INSTITUTION'S OVERALL FINANCIAL HEALTH?	WHAT ARE THE INSTITUTION'S KEY COMPONENTS OF FINANCIAL HEALTH AND FINANCIAL MEASURES?
GOVERNING BOARD LEVEL QUESTIONS (continued)	What is the Institution's overall risk level and tolerance?	How does the Institution view counterparty risk?	How does the institution use derivates?	What is the institution's capacity for growth and related costs?	What are the key financial risks for capital projects in the short term and long term?	What are the planned versus actual costs and funding sources of implementing the strategic plan ?	How much of the level of financial health is caused by the Institution's separate affiliated foundations, joint ventures or others ?	What will be the impact on these indicators based upon the Institutions' long term budgets?
	How do the Institution's risks correlate to its strategic plan?	What are the sources of the Institution's liquidity?	What is the Institution's level of risk as pertains to debt?	Who are the Institution's' major purchasers or financiers of our services?	How will the capital projects be funded?	How do the allocation of resources in the operating and capital budgets correlate with the strategic plan?	What will be the impact based upon the Institution's long term budgets?	What are the qualitative implications to programs of these measures?
	What are the risk management processes for the Institution's separate affiliated foundations, joint ventures or others?	How often does the Institution mange, report and monitor liquidity?	Does the use of debt correlate to strategic plan priorities?	Does the operating results plan correlate with the strategic plan?	Does the capital project plan correlate with the strategic plan?	How do the separate affiliated foundations, joint ventures and others fit into the strategic plan?	What risks or weaknesses are hidden by the overall level of financial health?	
	How are financial risks identified, analyzed, quantified and balanced with strategic priorities?	How does the endowment support and compare to the Institution's operations and operating needs?	What is the role of the board in debt issuances and governance?	What is the compact between the public Institution and the sponsoring government now and in the future?	How will the public Institution's capital needs be funded by the sponsoring government in the future?			
				What are the significant financial risks being passed from the sponsoring government to the public Institution?				

QUESTIONS	HOW DOES THE INSTITUTION ADDRESS STRATEGIC RISKS?	WHAT IS THE INSTITUTION'S LIQUIDITY?	IS DEBT USED STRATEGICALLY?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL OPERATING RISKS?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL CAPITAL RISKS?	ARE FINANCIAL RESOURCES ALLOCATED TO SUPPORT INSTITUTIONAL STRATEGIES?	WHAT IS THE INSTITUTION'S OVERALL FINANCIAL HEALTH?	WHAT ARE THE INSTITUTION'S KEY COMPONENTS OF FINANCIAL HEALTH AND FINANCIAL MEASURES?
SENIOR MANAGEMENT LEVEL QUESTIONS	How are strategic risks identified?	What is the Institution's cash position?	What is the Institution's exposure and use of derivatives?	What is the financial basis for Institutional budgeting?	How did the Planned plant costs compare with actual?	How are resources allocated among the departments / units?	How do the budgets impact the level of financial health?	How do the operating and capital budgets impact these indicators?
	Are the strategic risks managed, monitored and reported on periodically?	What is the institution's exposure to derivatives?	What are the future debt maturities and what are the sources of repayment?	How are the financial drivers and other key metrics reported?	What were the actual sources of funding versus planned?	Who owns the resources - central or the units?	What is the level of financial health for each unit?	What are the level of these indicators for each operating unit?
	What are the strategic risks for each operating unit?	What is the Institution's endowment or long-term investment pool's liquidity?	How does the debt policy correlate with the Institution's investment policy?	How do the Institutions' strategic risks affect each reporting unit?	What items are not being reported upon period-ically to senior management?	How are the costs of raising funds being funded?	How does implementing the strategic plan affect each unit's financial health?	How does implementing the strategic plan affect each unit's key indicators?
	What is the resource capacity in space, faculty, technology, for changes in student enrollment?	How restrictive are the terms of the Institution's credit line facilities?	How often are the debt policy metrics calculated and reported?	What were the results of the separate affiliated foundations, joint ventures and others?	How are the capital needs of the units determined?	What is the return on funding various development activities?	How does the level of financial health for each unit correlate with their future budgets?	What were the levels of these indicators for each of the separate affiliated foundations?
		Will the Institution's liquidity be sufficient under various stress scenarios and operating and capital budget projections?	How does use of debt correlate with the operating and capital budgets?	Do the separate foundations, joint ventures and other affiliates increase or reduce institution risk?	Are the separate affiliated foundations, joint ventures and others part of the Institution's capital plan for funding, construction or operating projects?	How does the Institution address intergenerational equity of the endowment?		What are the levels of these indicators under different scenarios?
				What is the cost to educate a student and how does it compare to the sponsoring government's subsidy for resident students?				

QUESTIONS	HOW DOES THE INSTITUTION ADDRESS STRATEGIC RISKS?	WHAT IS THE INSTITUTION'S LIQUIDITY?	IS DEBT USED STRATEGICALLY?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL OPERATING RISKS?	HOW DOES THE INSTITUTION IDENTIFY, MEASURE AND MONITOR FINANCIAL CAPITAL RISKS?	ARE FINANCIAL RESOURCES ALLOCATED TO SUPPORT INSTITUTIONAL STRATEGIES?	WHAT IS THE INSTITUTION'S OVERALL FINANCIAL HEALTH?	WHAT ARE THE INSTITUTION'S KEY COMPONENTS OF FINANCIAL HEALTH AND FINANCIAL MEASURES?
FINANCIAL MANAGEMENT LEVEL QUESTIONS	How do the operating results correlate with the Institution's financial risks?	What is included or excluded from the liquidity measures?	What are the levels and sources of debt service payments under various operating budget scenarios?	Are budgets being prepared under different scenarios and for a longer period of time?	How often are capital project costs updated?	How does the operating budget fit with the strategic plan?	What were the key drivers of the changes in the financial health?	How are specific operating units faring financially?
	How do the strategic risks impact the key financial drivers?	Who are the counterparties and for what?	Does the debt policy need to be revised?	What are the Institution's sources and uses of cash?	Do capital project costs include all costs, including financing?	How does the capital budget fit with the strategic plan?	How sensitive is the level of financial health to changes in the Institution's key financial drivers?	What are the sources of funds and how did these changes over time?
	How do the risk management processes correlate with the budget processes?	What happens to the liquidity metrics under different stress scenarios?	How do the debt policy metrics change under different budget scenarios?	Does the format of financial reports assist in reporting key financial information?	How often are the funding sources for capital projects identified and reported?	What metrics are required to measure the strategic plan's goals and costs?	How does the level of financial health change under different budget scenarios?	What are the uses of funds and how did they change over time?
	How do we communicate the financial aspect of strategic risks?	What are the restrictions on the Institution's cash and investments?	When should debt be used for non-capital purposes?	What information is not included in the operating budgets?	What is the ongoing operating costs of planned new projects?	How are the strategic plan costs and results identified and reported?		What is the impact of the separate affiliated foundations, joint ventures and others on the Institution's financial measures?
			What are all sources of debt, such as capital and operating leases, and other debt commitments?	Do the operating budgets include the impact of capital projects?	Are the timing of receipt of the funding sources correlated to capital project outflows?			
				What is the impact of unfunded state liabilities to the Public Institution?	What are the resources to prepare and analyze the information and their skill sets?			

B

APPENDIX B
Ratio Definitions

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
LIQUIDITY		
	Sources of Liquidity	Sources of Liquidity
	Uses of Liquidity	Uses of Liquidity
Note - Ratio should be calculated using a short-term measure and an intermediate term measure as discussed in Chapter 4		
RESOURCE SUFFICIENCY AND FLEXIBILITY		
PRIMARY RESERVE RATIO	Expendable Net Assets	Expendable Net Assets + Component Unit (C.U.) Expendable Net Assets
	Total Expenses	Total Expenses + C.U. Total Expenses
DEBT MANAGEMENT		
VIABILITY RATIO	Expendable Net Assets	Expendable Net Assets + C.U. Expendable Net Assets
	Long-Term Debt	Long-Term Debt + C.U. Long-Term Debt
DEBT BURDEN RATIO	Debt Service	Debt Service + C.U. Debt Service
	Total Expenditures	Total Expenditures + C.U. Total Expenditures
DEBT SERVICE COVERAGE RATIO	Adjusted Change in Net Assets	Adjusted Change in Net Assets + C.U. Adjusted Change in Net Assets
	Debt Service	Debt Service + C.U. Debt Service
INTEREST BURDEN RATIO	Interest Expense	Interest Expense + C.U. Interest Expense
	Total Expenditures	Total Expenditures + C.U. Total Expenditures
PORTFOLIO PRINCIPAL DURATION METRIC	For each issue outstanding, the sum of (Par Outstanding x Principal Duration Term)	For each issue outstanding, the sum of (Par Outstanding x Principal Duration Term)
	Total Par Outstanding	Total Par Outstanding
ASSET PERFORMANCE AND MANAGEMENT		
RETURN ON NET ASSETS RATIO	Change in Net Assets	Change in Net Assets + C.U. Change in Net Assets
	Total Net Assets	Total Net Assets + C.U. Total Net Assets
PHYSICAL ASSET REINVESTMENT RATIO	Capital Expenditures	Capital Expenditures
	Depreciation Expense	Depreciation Expense
AGE OF FACILITY RATIO	Accumulated Depreciation	Accumulated Depreciation + C.U. Accumulated Depreciation
	Depreciation Expense	Depreciation Expense + C.U. Depreciation Expense
FACILITIES BURDEN RATIO	Facility Operation Expenses	Facility Operation Expenses + C.U. Facility Operation Expenses
	Property, Plant & Equipment, Net	Capital Assets, Net + C.U. Property, Plant & Equipment, Net
DEFERRED MAINTENANCE RATIO	Outstanding Maintenance Requirements	Outstanding Maintenance Requirements + C.U. Outstanding Maintenance Requirements
	Expendable Net Assets	Expendable Net Assets + C.U. Expendable Net Assets

	PRIVATE INSTITUTIONS	PUBLIC INSTITUTIONS
OPERATING RESULTS		
NET OPERATING REVENUES RATIO:	Excess (Deficiency) of Unrestricted Operating Revenues Over Unrestricted Operating Expenses	Operating Income (loss) + Net Nonoperating revenues + C.U. Change in Unrestricted Net Assets
	Total Unrestricted Operating Revenues	Operating Revenues + Nonoperating Revenues + C.U. Total Unrestricted Income
CASH INCOME RATIO	Net Cash Provided by Operating Activities	Adjusted Net Cash Provided by Operating Activities + C.U. Net Cash Provided by Operating Activities
	Total Unrestricted Income, Excluding Gains and Losses	Adjusted Operating Income + C.U. Total Unrestricted Income, Excluding Gains
NET TUITION AND FEES CONTRIBUTION RATIO	Net Tuition and Fees	Net Tuition and Fees
	Total Expenses	Total Expenses
NET TUITION DEPENDENCY RATIO	Net Tuition and Fees	Net Tuition and Fees
	Total Unrestricted Operating Revenues	Total Adjusted Operating Income
NET TUITION PER STUDENT FTE RATIO	Net Tuition and Fees	Net Tuition and Fees
	Full-Time Equivalent Students	Full-Time Equivalent Students
DEMAND RATIOS	Specific Types of Expenses	Specific Types of Expenses
	Total Unrestricted Operating Revenues	Total Operating Income

Note : For long-term debt, institutions should either substitute Total project related debt or use a definition that is clearly articulated and communicated.

C

APPENDIX C

Utopia University Financial Statements

UTOPIA UNIVERSITY
STATEMENTS OF FINANCIAL POSITION (AMOUNTS IN THOUSANDS)

ASSETS		CURRENT	PRIOR
Cash and cash equivalents	$	20,693	19,605
Student accounts receivable, net of allowances of $311,000 in the current year and $196,000 in prior year		1,203	1,071
Other receivables			
Contributions receivable, net		1,295	1,215
Deferred charges and prepaid expenses		1,040	1,071
Investments held for long-term purposes, at market		45,062	40,905
Notes receivable, net of allowances of $391,000 in the current year and $371,000 in prior year		9,513	9,230
Property, plant, and equipment, net		77,900	79,305
Total assets		157,881	153,855

LIABILITIES AND NET ASSETS		CURRENT	PRIOR
Liabilities:			
Accounts payable	$	962	1,250
Accrued expenses		5,286	4,810
Deferred revenues		1,227	1,251
Student deposits		211	259
Accrued post-retirement benefits		1,806	1,806
Long-term debt		39,476	40,387
U.S. government grants refundable		8,293	8,062
Total liabilities		57,261	57,825
Net assets:			
Unrestricted	$	86,014	83,724
Temporarily restricted		2,954	2,357
Permanently restricted		11,652	9,949
Total net assets		100,620	96,030
Total liabilities and net assets		157,881	153,855

UTOPIA UNIVERSITY
STATEMENTS OF ACTIVITIES CURRENT YEAR (AMOUNTS IN THOUSANDS)

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

UTOPIA UNIVERSITY
STATEMENTS OF ACTIVITIES CONT'D PRIOR YEAR (AMOUNTS IN THOUSANDS)

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

UTOPIA UNIVERSITY
STATEMENTS OF CASH FLOWS (AMOUNTS IN THOUSANDS)

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

D

APPENDIX D

Sagacious State Financial Statements With Component Unit

SAGACIOUS STATE UNIVERSITY
STATEMENTS OF NET ASSETS (AMOUNTS IN THOUSANDS)

ASSETS	CURRENT	PRIOR
Current Assets:		
Cash and cash equivalents	21,138	21,777
Short-term investments	4,410	3,975
Accounts receivable, net	9,590	9,342
Loans receivables, net	1,508	1,480
Inventories	384	374
Prepaid expenses	5,483	4,957
Deferred charges	2,055	1,839
Total current assets	44,568	43,744
Noncurrent assets:		
Restricted cash and investments	-	1,684
Loans receivables	8,081	7,400
Other assets	515	1,397
Other long-term investments	28,868	24,904
Capital assets, net	113,628	112,580
Total noncurrent assets	151,092	147,965
Total assets	195,660	191,709

SAGACIOUS STATE UNIVERSITY
STATEMENTS OF NET ASSETS (AMOUNTS IN THOUSANDS)

LIABILITIES AND NET ASSETS	CURRENT	PRIOR
Current liabilities:		
Accounts payable	4,851	8,348
Accrued liabilities	4,911	5,096
Deferred revenues	19,407	16,179
Refunds and other liabilities	221	260
Current portion of long-term liabilities	3,589	3,293
Total current liabilities	32,979	33,176
Noncurrent liabilities:		
Long-term liabilities	11,203	12,192
Total Liabilities	44,182	45,368
Net Assets:		
Invested in capital assets, net of related debt	105,386	104,958
Restricted - nonexpendable		
Instruction and research	179	179
Student aid	502	502
Other	2	2
Total restricted non-expendable	683	683
Restricted - expendable		
Instruction and research	992	1,305
Academic Support	-	128
Student aid	8,943	8,442
Capital projects	136	136
Other	3	1
Total restricted expendable	10,074	10,012
Unrestricted net assets	35,335	30,688
Total net assets	151,478	146,341
Total liabilities and net assets	195,660	191,709

SAGACIOUS STATE UNIVERSITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
(AMOUNTS IN THOUSANDS)

OPERATING REVENUES	CURRENT	PRIOR
Tuition and fees	53,986	47,241
Less scholarship allowances	(10,339)	(9,339)
Net	43,647	37,902
Federal grants and contracts	20,143	17,450
State grants and contracts	3,352	3,539
Nongovernment grants and contracts	16,333	14,997
Sales and services	3,414	3,561
Auxiliary enterprises	7,436	6,577
Other sources	892	800
Total operating revenues	95,217	84,826
OPERATING EXPENSES		
Instruction	48,405	44,929
Research	12,143	10,787
Public Service	5,245	5,119
Academic support	27,989	25,787
Student services	6,156	5,965
Institutional support	10,758	10,326
Operation and maintenance of plant	7,724	8,070
Scholarships and fellowships	5,702	5,133
Auxiliary enterprises	11,012	10,114
Depreciation	6,978	6,982
Total operating expenses	142,112	133,212
Operating income (loss)	(46,895)	(48,386)
Nonoperating revenues (expenses)		
State appropriations	45,863	46,151
Gifts	2,485	2,339
Investment income	1,782	1,518
Interest on capital asset related debt	(328)	(318)
Other expenses	(6)	(115)
Net nonoperating revenues	49,796	49,575
Income before other revenues, expenses, gains or losses	2,901	1,189
Capital appropriations	1,723	3,241
Capital grants	513	722
Increase in net assets	5,137	5,152
Net assets at beginning of year	146,341	141,189
Net assets at end of year	151,478	146,341

SAGACIOUS STATE UNIVERSITY
STATEMENTS OF CASH FLOWS (AMOUNTS IN THOUSANDS)

	CURRENT	PRIOR
Cash flows from operating activities:		
Student tuition and fees	43,856	38,248
Grants and contracts	40,884	38,933
Sales and services of educational activities	3,852	3,874
Payments to employees	(68,872)	(64,406)
Payments for benefits	(17,825)	(16,164)
Payments to suppliers	(41,620)	(41,895)
Payments for student aid	(6,122)	(5,602)
Student loans issued	(2,456)	(2,495)
Student loans collected	1,747	1,843
Student loan interest and fees collected	155	144
Auxiliary enterprise sales	7,453	6,725
Net cash used by operating activities	(38,948)	(40,795)
Cash flows from noncapital financing activities:		
State appropriations	45,863	46,151
Gifts	2,182	2,407
Net cash provided by noncapital financing activities	48,045	48,558
Cash flows from capital and related financing activities:		
State capital appropriations	1,723	3,241
Capital grants received	513	722
Purchases of capital assets	(8,663)	(8,181)
Sales of capital assets	128	—
Proceeds from capital debt	—	8,469
Principal paid on capital debt and leases	(1,043)	(5,203)
Interest paid on capital debt and leases	(328)	(318)
	(7,670)	(1,270)
Cash flows from investing activities:		
Proceeds from sales and maturities of investments	45,464	43,701
Interest on investments	927	862
Purchases of investments	(50,141)	(44,674)
Net cash used by investing activities	(3,750)	(111)
Net increase (decrease) in cash and cash equivalents	(2,323)	6,382
Cash and cash equivalents - beginning of year	23,461	17,079
Cash and cash equivalents -end of year	21,138	23,461

SAGACIOUS STATE UNIVERSITY
STATEMENTS OF CASH FLOWS, CONTINUED (AMOUNTS IN THOUSANDS)

	CURRENT	PRIOR
Reconciliation of net operating revenues (expenses) to net cash used by operating activities:		
Operating loss	(46,895)	(48,386)
Depreciation expense	6,978	6,982
Change to allowance for doubtful loans	75	—
Change to allowance for doubtful accounts	24	22
Changes in assets and liabilities:		
Accounts receivable	(1,584)	4
Inventory	(10)	(19)
Prepaid expenses	(189)	(858)
Deferred charges	(216)	(242)
Other assets	882	(1,016)
Accounts payable	(632)	842
Accrued liabilities	(186)	(637)
Deferred revenues	3,227	3,629
Other long-term liabilities	350	(368)
Loans to students	(772)	(748)
Net cash used by operating activities	(38,948)	(40,795)

SAGACIOUS STATE UNIVERSITY FOUNDATION
STATEMENTS OF FINANCIAL POSITION (AMOUNTS IN THOUSANDS)

ASSETS		CURRENT	PRIOR
Cash and cash equivalents	$	739	1,691
Contributions receivable, net		5,831	4,267
Other assets		113	97
Investments held for long-term purposes, at market		23,688	17,227
Property, plant, and equipment, net		320	325
Total assets		30,691	23,607

LIABILITIES AND NET ASSETS		
Liabilities:		
Accounts payable	442	382
Deferred revenues	532	291
Other	705	631
Total liabilities	1,679	1,304
Net Assets:		
Unrestricted	822	175
Temporarily restricted	16,734	13,886
Permanently restricted	11,456	8,242
Total net assets	29,012	22,303
Total liabilities and net assets	30,691	23,607

SAGACIOUS STATE UNIVERSITY FOUNDATION
STATEMENTS OF ACTIVITIES CURRENT YEAR (AMOUNTS IN THOUSANDS)

	Unrestricted	Temporarily restricted	Permanently restricted	Total
Revenues:				
Contributions	993	2,148	3,214	6,355
Investment income	15	2,900	—	2,915
Total revenues and gains	1,008	5,048	3,214	9,270
Net assets released from restrictions – satisfaction of program restrictions	2,200	(2,200)	—	—
Total revenues, gains and other support	3,208	2,848	3,214	9,270
Expenses:				
Payments to Sagacious State University	2,375	—	—	2,375
Institutional support	186	—	—	186
Total expenses	2,561	—	—	2,561
Increase in net assets	647	2,848	3,214	6,709
Net assets at beginning of year	175	13,886	8,242	22,303
Net assets at end of year	822	16,734	11,456	29,012

PRAGER, SEALY & CO., LLC