



HOW TO ASSESS AND ENHANCE

FINANCIAL HEALTH

By Lawrence R. Hudack,
Larry L. Orsini,
and Brenda M. Snow

Saint Bonaventure uses a ratio analysis based on a composite financial index to communicate financial strengths and weaknesses and carry out the strategic plan.

SAINT BONAVENTURE IS ON ITS WAY TO FULFILLING A SIGNIFICANT health resolution. In accordance with its strategic plan, the university must achieve financial vibrancy with a composite financial index equal to 5.0 or greater by its sesquicentennial celebration in 2008.

This effort began in the spring of 2000 when the president, with the backing of the board of trustees, established a large ad hoc committee to develop a strategic plan for the university. The Commission for the Future, cochaired by a faculty member and a member of the board, included representatives from all major constituencies, including members of the board of trustees, faculty, administrators, clerical staff, alumni, and students. After working for more than a year and for thousands of hours, the committee issued a report calling for the formation of a permanent stakeholder-inclusive planning committee. The long-range planning committee's first task was to transform the report into a strategic plan, which trustees unanimously approved and the university community overwhelmingly endorsed. The plan calls for everything from revised recruiting strategies to improved campus-wide technology to increased financial vibrancy.



How does a Catholic Franciscan institution with adequate resources plan to achieve financial vibrancy, while implementing ambitious mission-driven initiatives...?

How does a Catholic Franciscan institution with adequate resources plan to achieve financial vibrancy, while implementing ambitious mission-driven initiatives that require substantial increases in funding for curriculum improvement, physical plant facilities, and technological resources? How can the financial decision makers quantify and measure the accomplishment of this ambitious goal?

In responding to these challenges, we decided to use a special type of financial ratio analysis developed by Ronald E. Salluzzo, the former national practice director for higher education and not-for-profit organizations at KPMG LLP, who is currently serving on the university's board of trustees and chairs the finance committee, and Fredric J. Prager, managing director and chairman of the executive committee of Prager, McCarthy & Sealy, LLC. (To obtain their financial model, see the accompanying box.)

CFI Ratio Analysis

Ratio analysis is certainly not new to higher education. However, Salluzzo and Prager suggest an approach that can accomplish two objectives: improve the communication of financial strategies and bring discipline to strategic planning.

University financial reporting includes extensive detail, which is intended to provide information for decision making. In many cases, those with little or no financial expertise are reading the information and—for better or worse—reacting to it. Even those with extensive expertise tend to weigh some of the details more than others. Unlike the report of a commercial entity, which at least has net income as the bottom line, readers of university financial statements often have difficulty interpreting whether the report is positive or negative.

To avoid erroneous interpretations, we recommend the composite financial index, a financial tool that helps to answer the fundamental question, “What is the overall level of financial health of the institution?” The composite financial index assumes that an institution adequately funds its mission-critical components, including well-maintained facilities and high-quality programs. Otherwise, an entity may create a false illusion of being financially healthy.

We encourage business officers and other university decision makers to use the composite financial index for both assessment and long-range planning to facilitate continuous improvement. Salluzzo and Prager believe that “fewer measures [of financial strength] are better, as long as they are the correct ones, and everyone in an organization should have key performance metrics to drive the mission and assess performance.” For this reason, we will focus on just five measures: the composite financial index and the primary reserve, net income, return on net assets,

and viability ratios. The four core ratios are presented first because they are combined and weighted to develop the composite financial index.

Exhibit 1 illustrates the four core ratios for Saint Bonaventure based on the five-year averages from the fiscal years ended May 31, 1998, through 2002. Salluzzo and Prager recommend the use of averages to avoid any distortions caused by a one-year phenomenon.

Except for expendable net assets, all of the underlying variables that are used to calculate the core ratios are presented as separate line items in the financial statements. The number for expendable net assets is important to monitor because it represents the resources that a university can readily use to satisfy its debt obligations. Expendable net assets can be easily calculated from the information in financial statements prepared under GAAP.

A. Primary Reserve Ratio focuses on expendable net assets, which are those assets quickly available to an institution. It is calculated by dividing expendable net assets by total expenses. By itself the ratio means very little, as it measures the amount of time during which an institution could pay its expenses without relying on additional net assets from operations. An institution increasing its net worth at a faster rate than its increase in operations would be viewed positively, while one with a decreasing trend would be the profile of an institution getting into financial difficulty.

According to Salluzzo and Prager, a ratio of .40X or better is necessary to give institutions the financial flexibility necessary for positive transformation. For Saint Bonaventure, this ratio is a healthy 0.56X for the five-year average, which means the university can cover about seven months of expenses (56 percent of 12 months). The university, which has managed to maintain its net expendable asset position with respect to its operations, has the financial flexibility necessary for a positive transformation.

B. Net Income Ratio focuses on the surplus/deficit revenues that the university generates. This ratio is equal to the excess/deficiency of unrestricted operating revenues over unre-

SALLUZZO AND PRAGER RESOURCE

For more detailed information about the financial model, see *Ratio Analysis in Higher Education: Measuring Past Performance to Chart Future Direction*, Fourth Edition, by Ronald E. Salluzzo and Fredric J. Prager, KPMG LLP, and Prager, McCarthy & Sealy, LLC, 1999. The 133-page book is available for \$30 from www.nacubo.org/shop or by calling (866) 348-6300. Please specify NC2060.



Exhibit 1: FINANCIAL CORE RATIOS

Five-Year Averages for FY98–02

A. Primary Reserve Ratio	0.56
B. Net Income Ratio	1.5%
C. Return on Net Asset Ratio	6.5%
D. Viability Ratio	1.04

Formulas to Calculate Core Ratios

$$\text{A. Primary Reserve Ratio} = \frac{\text{Expendable Net Assets}}{\text{Total Expenses}} = \frac{\$ 23.5 \text{ million}}{\$ 41.7 \text{ million}}$$

- Expendable net assets equal total net assets less permanently restricted net assets less (property, plant, and equipment less long-term debt).
- Total expenses are all expenses on the statement of activities.

$$\text{B. Net Income Ratio} = \frac{\text{Excess (Deficit) of Unrestricted Operating Revenues Over Unrestricted Operating Expenses}}{\text{Total Unrestricted Operating Income}} = \frac{\$ 0.6 \text{ million}}{\$ 42.3 \text{ million}}$$

- The excess/deficit in the numerator is reported on the statement of activities.
- Total unrestricted operating income equals total unrestricted operating revenues, gains, and other support including net assets released from restrictions.

$$\text{C. Return on Net Asset Ratio} = \frac{\text{Change in Net Assets}}{\text{Total Net Assets}} = \frac{\$ 3.6 \text{ million}}{\$ 55.0 \text{ million}}$$

- The change in net assets includes the change in unrestricted net assets, the change in temporarily restricted net assets, and the change in permanently restricted net assets.
- Total net assets refer to the beginning balance of total net assets.

$$\text{D. Viability Ratio} = \frac{\text{Expendable Net Assets}}{\text{Long-Term Debt}} = \frac{\$ 23.5 \text{ million}}{\$ 22.5 \text{ million}}$$

- Expendable net assets equal total net assets less permanently restricted net assets less (property, plant, and equipment less long-term debt).
- Long-term debt includes all amounts borrowed for long-term purposes and includes all notes, bonds, and leases payable.

stricted operating expenses divided by the total unrestricted operating income. The net income ratio, often perceived as one of the most important from a budgetary and management standpoint, indicates the degree of surplus or deficit for the year.

However, as Salluzzo and Prager point out, "...a note of caution is necessary, if surpluses are obtained by underspending on mission-critical investments, then the surplus achieved should be questioned." They believe the net income ratio should be between 2 to 4 percent over an extended period. For Saint Bonaventure, this ratio is only 1.5 percent for the five-year average. The lower-than-recommended returns can be attributed to

the overall poor performance in the financial markets, especially during FY01 and FY02.

C. Return on Net Assets Ratio measures total economic return. It is calculated by dividing the change in net assets by the total net assets. This ratio is best viewed as the real rate of return. For example, if the return on assets is 7 percent and inflation is running at an annual rate of 3 percent, the real rate of return is 4 percent. Using this measurement, the actual long-term benefits to the institution are more apparent.

According to Salluzzo and Prager, the return on net assets ratio should be between 6 to 7 percent; this allows a return of 3 to 4 percent when the inflation rate equals 3 percent. For Saint Bonaventure, this ratio is a healthy 6.5 percent for the five-year average. Generating an acceptable return on net assets is critical for an institution's long-term operations. For instance, many of the facility expansion projects are funded from donors so they appear free, when in fact the original gift does not cover all acquisition costs, which adds to borrowing and increased interest costs.

Furthermore, the donation for a new facility usually ignores operating and maintenance costs that become core expenses to the institution. This ratio measures, at the institutional level, whether the entity has invested in items that generate resources.

D. Viability Ratio measures the availability of expendable net assets to cover long-term debt at the balance sheet date. The higher the ratio, then the more funds available to cover debt. It is calculated by dividing expendable

net assets by long-term debt. According to Salluzzo and Prager, a viability ratio equal to 1.00X indicates that an entity has sufficient expendable net assets to satisfy debt obligations at the balance sheet date. For Saint Bonaventure, this ratio is 1.04X for the five-year average. The entity has sufficient expendable net assets to satisfy debt obligations at the balance sheet date.

It should be noted that the university opted to make substantial repairs and renovation expenditures rather than retiring debt because the improvements to the operating facilities were critical to the institution's mission, whereas the debt repayment would have merely been a cosmetic illusion of improved financial health. ►

The strategic plan calls for a complex, multidimensional achievement of goals rather than a simplistic attainment of financial vibrancy.

Assessing Financial Well-Being

While important to understanding the degree of health of an institution, the above measures do not adequately quantify the overall degree of financial health. For instance, to measure the financial strength of commercial entities, you might use earnings per share or the price earnings ratio. What is the universal measure for universities? To help overcome this communication deficiency, Salluzzo and Prager developed the

HISTORICAL CONTEXT

Two previous articles in *Business Officer* explained Saint Bonaventure's financial difficulties and subsequent recovery. In the December 1995 article, "Beyond Financial Exigency," Donald L. Zekan pointed to market forces as the root cause of the university's financial difficulty. In the June 1999 article, "Adding Value," Larry L. Orsini, Lawrence R. Hudack, and Donald L. Zekan recommended the use of a value-added statement to enhance the ability of stakeholders to understand the allocation of scarce resources, including the need to make capital improvements.

After a decade of relative financial stability and capacity enrollments throughout the 1980s, Saint Bonaventure experienced a four-year period of declining enrollments and increasing operating deficits. In hindsight, the difficulties encountered in the early 1990s were exacerbated by previous administrative decisions to use surpluses to build quasi-endowments rather than to properly allocate adequate funding for general maintenance of facilities. Difficulties were also created by a student market that increasingly demanded newer and more diverse facilities.

The lack of investment in physical plant and curriculum revision finally caught up with the university, which found itself with little to attract prospective students outside of its dedicated personnel and strong Catholic Franciscan traditions. As deficits grew and admission applications dropped, the problem snowballed into a financial crisis. For a detailed description of actions taken to stabilize financial health, see "Beyond Financial Exigency."

The academic year 1994–95 was pivotal in bringing financial stability to the institution. From 1995 through 1998, the university sought a balance between funding that was allocated for the future of the institution through significant capital improvements and that expended in normal operations. To see the drastic changes in the financial expenditures, refer to "Adding Value." Improved management of financial resources has enabled the university to gain control over expendable resources and lay the groundwork for change.

composite financial index, which calculates an institution's overall financial well-being.

The composite financial index is based on the four core ratio values previously described. These values are converted to strength factors by using a common scale from 1 to 10. Within this scale, a measure equal to 3 would represent an institution with moderate financial strength, 1 would indicate financial weakness, and 10 would point out a financially superior institution. The strength factors have been established for each ratio, based upon an assessment of industry experience subsequent to the implementation of Statement of Financial Accounting Standard Numbers 116 and 117. The relevant strength scale for each of the core ratios is:

Primary Reserve Ratio	.133X
Net Income Ratio	0.7%
Return on Net Assets Ratio	2.0%
Viability Ratio	.417X

To obtain the composite financial index, the strength factors are weighted, giving more weight to the primary reserve and viability ratios (35 percent each) than to the net income and return on net assets ratios, at 10 and 20 percent, respectively. While you may disagree with this approach, you should remember that the major strength of the composite financial index is the comparison with other institutions. Salluzzo and Prager suggest the same weights be used, for comparison purposes, by all institutions. They do recommend different weights for institutions with no long-term debt.

Calculating the composite financial index requires three steps:

1. Strength Factor = $\frac{\text{Core Ratio}}{\text{Relevant Value}}$
2. Score = Strength Factor X Weight Factor
3. Composite Financial Index = Sum of Scores

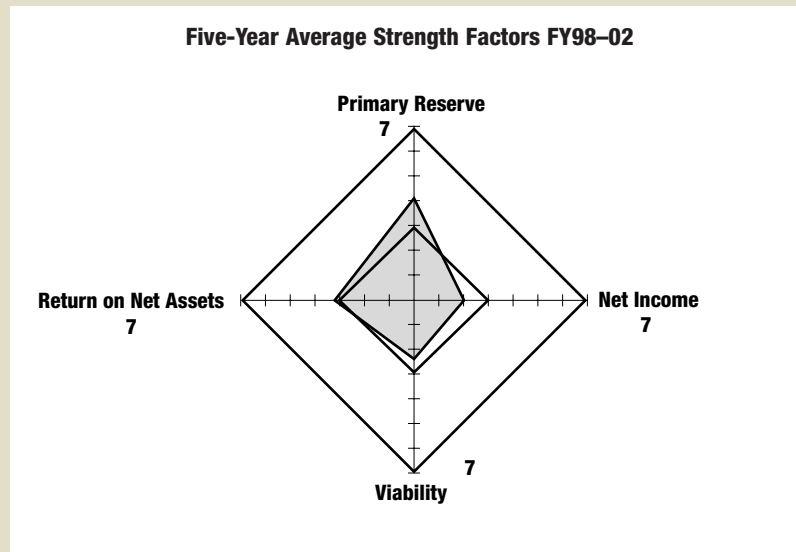
A Picture of Moderate Financial Health

FIVE-YEAR AVERAGE: FY98-02	CORE RATIO	RELEVANT VALUE	STRENGTH FACTOR	WEIGHT FACTOR	SCORE
Primary Reserve	0.56	0.133	4.22	35%	1.48
Net Income	1.5%	0.7%	2.11	10%	0.21
Return on Net Assets	6.5%	2.0%	3.23	20%	0.65
Viability	1.04	0.417	2.50	35%	0.87
Composite Financial Index					3.21

These supporting data, which determine Saint Bonaventure University's composite financial index for the five-year average, include fiscal years ended May 31, 1998 through 2002. The composite financial index indicates an institution of moderate financial health. ►



Exhibit 2: GRAPHIC FINANCIAL PROFILE



	FIVE-YEAR AVERAGE FY98-02 STRENGTH FACTOR	WEIGHT FACTOR	SCORE
Primary Reserve	4.22	35%	1.48
Net Income	2.11	10%	0.21
Viability	2.50	35%	0.87
Return on Net Assets	3.23	20%	0.65
Composite Financial Index			3.21

Strength Factor ≤ 1.00 indicates trouble and ≥ 3.00 is a financially healthy attribute. This information is adapted from *Ratio Analysis in Higher Education: Measuring Past Performance to Chart Future Direction*, Fourth Edition.

Communicating Strength

The accompanying chart represents a rather typical analysis of the financial statements with ratios more relevant than may have been used in the past. Unfortunately, this type of presentation often turns nonfinancial types glassy eyed. This gets us back to the basic question for decision makers, “Just how well is the institution doing?” Yes, it is true that you can see trends in the individual ratios, as well as the composite financial index. Certainly, if each ratio is improving, you can conclude that an institution is gaining in financial health. But, seldom do you find such an easy pattern to evaluate.

How do you even try to communicate financial strength, particularly to nonfinancial decision makers? The solution is to use

the timeless axiom of “a picture is worth a thousand words.” When you graph the core ratios, after converting to strength factors, the true beauty of Salluzzo and Prager’s approach becomes evident. Exhibit 2 contains a graphic profile of Saint Bonaventure’s financial strength for the five-year average involving the fiscal years ended May 31, 1998 through 2002.

This diamond-shaped graph analyzes an institution’s financial status in a given year. If any of the four core ratios’ strength factors (i.e., the graph’s coordinates) are less than a 3.0, then the entity is below the expected norm for the attribute being measured. As a strength factor approaches the maximum 10.0, the attribute is deemed to be improving. The graphs in both Exhibits 2 and 4 are based on Salluzzo and Prager’s 10-point scale for the strength factors. The zoomed illustrations enhance clarity, since a 3.0 level indicates adequate resources and financial vibrancy is achieved at a 5.0 level. The diamond-shaped graph effectively illustrates both financial weaknesses and strengths, especially to nonfinancial trustees, administrators, and faculty members.

The failure to completely cover the internal diamond with its four coordinates set at 3.0 clearly identifies where administrative action for improvement is necessary since a specific attribute is emphasized. By referring back to the formulas in Exhibit 1 to calculate the core ratios, you can see which

underlying variables must be changed to improve any of the four attributes measured. At Saint Bonaventure, the administration should increase the expendable net assets and decrease long-term debt.

A noteworthy point: If the university’s investments had generated an average expected 9 percent return rather than 0.4 percent return and 4.1 percent loss for the past two years, then the diamond would have been completely covered. Hence, if the appropriate increase or decrease occurs, both the net income and viability ratios would extend beyond the 3.0 benchmarks for a financially healthy entity. In this case, the necessary adjustments would be relatively minor since the shaded portion already covers most of the internal diamond. ➤

Strategic Financial Plan

The shared vision of every member of the Commission for the Future is to achieve financial vibrancy by the university's 150th anniversary. Members have unanimously agreed to the goal of attaining a composite financial index equal to or greater than 5.0 by the fiscal year ended May 31, 2008, in addition to improving the curriculum, physical plant facilities, and technological resources.

Moving Toward Vibrant Financial Health

UNDERLYING VARIABLES (AMOUNTS IN MILLIONS)	TARGET FY08	CURRENT FIVE-YEAR AVERAGE	PROJECTED INCREASE
Unrestricted Revenues	\$ 83.2	\$ 42.3	\$ 40.9
Total Expenses	\$ 80.3	\$ 41.7	\$ 38.6
Operating Surplus	\$ 2.9	\$ 0.6	\$ 2.3
Expendable Net Assets	\$ 66.0	\$ 23.5	\$ 42.5
Change in Net Assets	\$ 14.7	\$ 3.6	\$ 11.1
Long-Term Debt	\$ 37.7	\$ 22.5	\$ 15.2
Net Assets	\$ 147.5	\$ 55.0	\$ 92.5

Exhibit 3: TARGETED FINANCIAL CORE RATIOS

For the Year Ended 2008

A. Primary Reserve Ratio	0.82
B. Net Income Ratio	3.4%
C. Return on Net Asset Ratio	10.0%
D. Viability Ratio	1.75

Formulas to Calculate Core Ratios

$$\text{A. Primary Reserve Ratio} = \frac{\text{Expendable Net Assets}}{\text{Total Expenses}} = \frac{\$ 66.0 \text{ million}}{\$ 80.3 \text{ million}}$$

- Expendable net assets are projected to grow by \$42.5 million from reinvested returns related to investments (34%) and capital campaign unrestricted gifts (66%).
- Total expenses are estimated to increase by \$38.6 million. This increase is due to costs related to the strategic plan initiatives (45%) and cost increases for regular operations (55%).

$$\text{B. Net Income Ratio} = \frac{\text{Excess (Deficit) of Unrestricted Operating Revenues Over Unrestricted Operating Expenses}}{\text{Total Unrestricted Operating Income}} = \frac{\$ 2.9 \text{ million}}{\$ 83.2 \text{ million}}$$

- The excess from unrestricted operations is projected to increase by \$2.3 million.
- Total unrestricted operating income is projected to increase by \$40.9 million. This increase is expected to come from the following six sources: tuition (29%), grants (36%), annual fund (11%), investment income (4%), auxiliaries (9%), and other (11%).

$$\text{C. Return on Net Asset Ratio} = \frac{\text{Change in Net Assets}}{\text{Total Net Assets}} = \frac{\$ 14.7 \text{ million}}{\$ 147.5 \text{ million}}$$

- The change in net assets is projected to increase by \$11.1 million. Normal operations and unrestricted resources will contribute (28%) and the balance will come from increases in plant facilities and restricted assets (72%).
- Total net assets are projected to increase by \$92.5 million from reinvested returns related to investments (15%), capital campaign unrestricted gifts (29%), and capital campaign restricted gifts (56%).

$$\text{D. Viability Ratio} = \frac{\text{Expendable Net Assets}}{\text{Long-Term Debt}} = \frac{\$ 66.0 \text{ million}}{\$ 37.7 \text{ million}}$$

- Expendable net assets are projected to grow by \$42.5 million from reinvested returns related to investments (34%) and capital campaign unrestricted gifts (66%).
- Long-term debt is estimated to increase by \$15.2 million.

The transition from moderate to vibrant financial health requires the university to expand. The targeted amounts are the products from both multiyear operating and multiyear capital budgets FY03–08. These budgets were prepared in accordance with the strategic plan to facilitate implementation of six strategic initiatives.

Exhibit 3 illustrates the targeted financial core ratios for the fiscal year ended May 31, 2008. The implementation of six strategic initiatives—university community, resources and priorities, academic excellence, technology, financial vibrancy, and marketing—are expected to have a significant impact on all of the underlying variables for the core ratios via sizeable increases to revenues, expenses, assets, liabilities, and fund balances.

Who Does What?

The strategic plan calls for a complex, multidimensional achievement of goals rather than a simplistic attainment of financial vibrancy. These ambitious plans require special attention and present significant challenges to many of the university's constituents. Four areas of responsibility include:

- The president must ensure that all six strategic initiatives have implementation processes that allow achievement. This requires a special focus on the long term, particularly with respect to the significant additional funding for curriculum improvement, physical plant facilities, and technological resources, while also pursuing the attainment of financial vibrancy.



- The vice president for academic affairs, with cooperation from deans, academic chairs, and faculty, must improve the curriculum in accordance with the university's primary mission of academic excellence.
- The vice president for business and finance is charged with allocating the appropriate funding necessary to achieve all six strategic initiatives and monitoring progression toward long-term financial goals on an annual basis.
- The vice president for university advancement must conduct a successful major capital campaign and is expected to significantly increase annual gifts and grants.

Exhibit 4 illustrates the targeted graphic profile of Saint Bonaventure's financial strength for the fiscal year ended

May 31, 2008. The projected strength factors are all well beyond the inner diamond; this clearly indicates a financial scenario that exceeds the benchmarks of an institution that possesses adequate financial resources. The attainment of financial vibrancy (with a composite financial index equal to 5.00) would give the university the ability to significantly transform itself, if necessary, due to a change in competitive market forces.

Bringing Discipline to Planning

The composite financial index facilitates the integration of a quantifiable financial goal that brings discipline to the planning effort and provides a basis for assessing how the strategic plan is implemented. The operational and financial objectives can be attained only if the stakeholders who are involved with the planning effort, as well as those responsible for its implementation, understand how the goals have been developed and how their subsequent actions will affect the goals.

Author Bios

Lawrence R. Hudack is a professor of accounting at Barry University and an alumnus of Saint Bonaventure University, New York. **Larry L. Orsini** is a former accounting department chair and retired professor of accounting at Saint Bonaventure. **Brenda M. Snow** is the university's vice president for business and finance. The authors thank David Carpenter, professor of psychology and co-chair of the strategic planning committee, and Donald L. Zekan, the former vice president for business and finance, Saint Bonaventure, for their contributions.

Email lhudack@mail.barry.edu;
lorsini@sbu.edu;
bsnow@sbu.edu



Lawrence R. Hudack

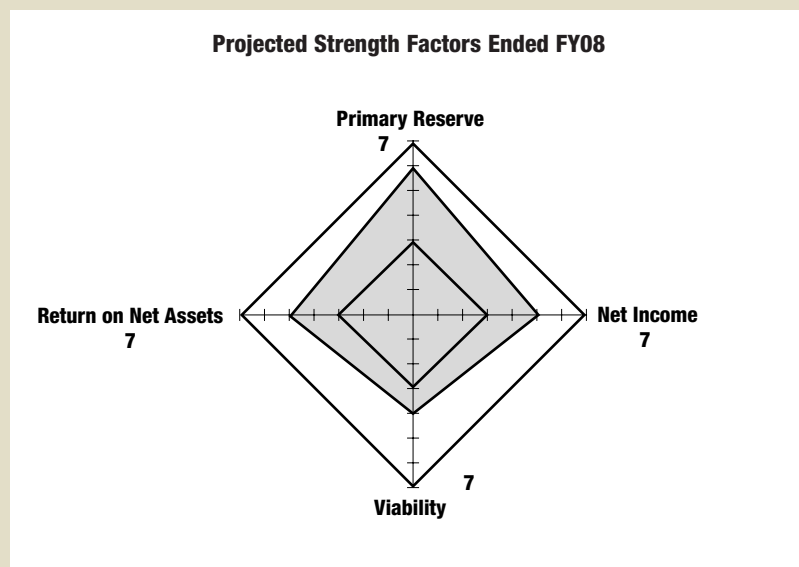


Larry L. Orsini



Brenda M. Snow

Exhibit 4: GRAPHIC FINANCIAL PROFILE



	ESTIMATED FY08 STRENGTH FACTOR	WEIGHT FACTOR	SCORE
Primary Reserve	6.18	35%	2.16
Net Income	4.91	10%	0.49
Viability	4.20	35%	1.47
Return on Net Assets	5.00	20%	1.00
Composite Financial Index			5.12

Strength Factor ≤ 1.00 indicates trouble and ≥ 3.00 is a financially healthy attribute. This information is adapted from *Ratio Analysis in Higher Education: Measuring Past Performance to Chart Future Direction*, Fourth Edition.