Core Financial Ratios and Composite Financial Index

FY06 to FY11
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The financial health of the University of Maine System (UMS) can be evaluated through the use of industry benchmarks and ratios. The following ratios and related benchmarks are derived from *Strategic Financial Analysis for Higher Education*, Seventh Edition published by KPMG; Prager, Sealy & Co., LLC; and ATTAIN. This book is widely used in the higher education industry and includes guidance for both private and public institutions.

According to the above publication, there are four fundamental financial questions that need to be addressed. Analysis of four core ratios can help us answer these questions.

- Are resources sufficient and flexible enough to support the mission? - **Primary Reserve Ratio**
- Do operating results indicate the institution is living within available resources? - **Net Operating Revenues Ratio**
- Does asset performance and management support the strategic direction? - **Return on Net Assets**
- Are financial resources, including debt, managed strategically to advance the mission? - **Viability Ratio**

When combined, these four ratios deliver a single measure of the UMS’ overall financial health, hereafter referred to as the **Composite Financial Index**.
The **Primary Reserve Ratio** provides a snapshot of financial strength and flexibility by indicating how long the institution could function using its expendable reserves (both unrestricted and restricted, excluding net assets restricted for capital investments) without relying on additional net assets generated by operations. This ratio is calculated as follows:

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

* Excluding net assets restricted for capital investments

- A ratio of .40 (provides about 5 months) or better is advisable to give institutions the flexibility to manage the enterprise.

- Key items that can impact the numerator for the primary reserve ratio include principal payments on debt, use of unrestricted net assets to fund capital construction projects, operating results (operating revenues – operating expenses + net nonoperating revenues + depreciation) and endowment returns.

- **Components:**

<table>
<thead>
<tr>
<th>$ in thousands</th>
<th>FY06</th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
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<tbody>
<tr>
<td>Expendable net assets</td>
<td>$143,129</td>
<td>$168,618</td>
<td>$167,168</td>
<td>$152,055</td>
<td>$202,237</td>
<td>$251,306</td>
</tr>
<tr>
<td>Expenses</td>
<td>$596,327</td>
<td>$610,265</td>
<td>$651,158</td>
<td>$656,400</td>
<td>$656,969</td>
<td>$675,271</td>
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• The items impacting the net operating revenues ratio impact this ratio, as total operating expenses are factored into both ratios and the amount of return on operating revenues closes to expendable net assets. Therefore, see page 4 for a discussion of the net operating revenues ratio.

• The issuance of revenue bonds in FY07 impacts the primary reserve ratio for FY08 and beyond as the UMS must use either expendable net assets or current year returns to fund the debt service payments. See page 10 for further discussion of the bond issuance.

• Endowment returns impact the balance of expendable net assets. As noted in the discussion of the return on net assets ratio on page 8, endowment returns have fluctuated significantly over the past six years.

• The receipt of State of Maine capital appropriation revenues does not impact expendable net assets as these revenues are used to acquire or construct capital assets and thereby increase net assets invested in capital assets, net of related debt.

• As noted above, the use of unrestricted expendable net assets to fund capital construction impacts the primary reserve ratio. The UMS utilized unrestricted expendable net assets in this manner in each of the six years; however, in FY06 thru FY10, the amounts were not large enough to impact its primary reserve ratio. In FY11, the primary reserve ratio would have been .39 if unrestricted expendable net assets had not been used to fund capital construction projects.

Although the use of unrestricted net assets to fund capital construction does impact the primary reserve ratio; such use does not decrease the UMS’ overall net assets as the constructed asset increases net assets invested in capital assets.
The **Net Operating Revenues Ratio** is a measure of operating results and answers the question, “Do operating results indicate that the University is living within available resources?” Operating results either increase or decrease net assets and, thereby, impact the other three core ratios: Primary Reserve, Return on Net Assets, and Viability. This ratio is calculated as follows:

\[
\text{Net Operating Revenues Ratio} = \frac{\text{Operating Income (Loss) plus Net Non-Operating Revenues}}{\text{Operating Revenues plus Non-Operating Revenues}}
\]

- A target of at least 2% to 4% is a goal over an extended time period, although fluctuations from year to year are likely. A key consideration for institutions establishing a benchmark for this ratio would be the anticipated growth in total expenses.

- The authors of *Strategic Financial Analysis for Higher Education*, note the following:

  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.
Components:

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<th>FY11</th>
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<tr>
<td>Operating income (loss) plus</td>
<td>$8,232</td>
<td>$16,193</td>
<td>$2,499</td>
<td>$10,825</td>
<td>$36,496</td>
<td>$36,913</td>
</tr>
<tr>
<td>net non-operating revenues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating revenues plus</td>
<td>$604,559</td>
<td>$626,458</td>
<td>$653,657</td>
<td>$667,225</td>
<td>$693,465</td>
<td>$712,184</td>
</tr>
<tr>
<td>non-operating revenues</td>
<td></td>
<td></td>
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Operating and nonoperating revenues rose 4.1% in FY06; however, they were outpaced by a 4.3% increase in operating expenses.

In FY07, operating and nonoperating revenues increased 3.6% or $21.9 million while operating expenses grew 2.3% or $13.9 million. Major contributors to the revenue increase included net student fees at 7% ($13 million), noncapital state appropriation at 4% ($7.4 million), and investment income at 32.2% ($2.5 million).

A 4.3% ($27 million) increase in operating and nonoperating revenues was unable to keep pace with the 6.7% ($40.9 million) increase in operating expenses in FY08.

- Net student fees revenue increased 7.7% or $15.3 million.
- Noncapital state appropriation increased 4.5% or $8.6 million.
- A decline in the investment markets resulted in a 64% or $6.7 million decrease in investment revenue.
- A new accounting standard requiring recognition of postemployment health costs accounted for 22% or $9 million of the increase in operating expenses.
- Remaining benefit costs and employee compensation costs accounted for 49% or $20 million of the increase in operating costs.

Facing a 3.4% ($6.8 million) decrease in noncapital state appropriation in FY09 and poor investment market conditions, the UMS made budget cuts and held the increase in total unrestricted and restricted operating expenses to .8% or $4.7 million. These efforts combined with a 9.1% ($19.6 million) increase in net student fees revenue and the late receipt of $6.6 million in State fiscal stabilization revenue enabled the UMS to increase its net operating revenues ratio in FY09.

Factors impacting the FY10 ratio include the following:

- The UMS reduced its unrestricted budget again in FY10 as it faced another decrease in noncapital state appropriation and uncertain investment market conditions. Total operating expenses did, however, increase .2% ($500,000) due to a substantial increase in grant funded activities thanks in part to American Recovery and Reinvestment Act (ARRA) funding.
Although gross student fees revenue increased 4% primarily due to an increase in rates charged to students, net student fees only increased .7% due to a substantial increase in PELL monies awarded to the students as noted in the next bullet.

The UMS received a $12.3 million increase in PELL funding during FY10. Although the exact impact on the ratio is not readily determinable; we do know that it impacted the following components of the ratio calculation: the funding increased operating revenues while expenditure of the funding was split on a student by student basis between scholarship allowance which decreases operating revenues and scholarship expense which is a component of operating expenses.

The UMS received State Fiscal Stabilization revenues in the amount of $7.2 million which were primarily used to fund compensation and benefits and student aid. FY11 will be the last year in which the UMS will receive this revenue stream.

In FY11, total operating and nonoperating revenues increased by 2.7% ($18.7 million); but, were offset by a 2.8% ($18.3 million) increase in total operating expenses, resulting in a net operating revenues ratio that approximates that for FY10. Significant fluctuations included the following:

PELL funding again increased, accounting for $5.6 million of the $12.2 million increase in grants and contracts revenue. As noted above for FY10, increases in PELL funding increase operating revenues while expenditure of the funding is split between scholarship allowance which decreases operating revenues and scholarship expense which is a component of operating expenses.

The remaining $6.6 million increase in FY11 grants and contracts revenue is directly offset by an increase in operating expenses.

Noncapital State of Maine appropriation revenue increased for the first time since FY08, increasing $5 million over the FY10 amount. However, at $195 million, the FY11 appropriation revenue is still below the FY08 high of $201 million.

Total student aid costs (scholarship allowance + student aid expense) increased $10.8 million as a result of the previously mentioned increase in PELL funding and an increase in scholarships funded from unrestricted resources to partially offset the increased tuition rate charged to students.
The **Return on Net Assets Ratio** measures asset performance and management. It determines whether an institution is financially better off than in the previous year by measuring total economic return. It is based on the level and change in total net assets. 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. This ratio is calculated as follows:

\[
\text{Return on Net Assets Ratio} = \frac{\text{Change in Net Assets}}{\text{Total Beginning of the Year Net Assets}}
\]

- The nominal rate of return on net assets is the actual return unadjusted for inflation or other factors. The real rate of return adjusts the nominal rate for the effects of inflation using the Higher Education Price Index.

- Items that may impact this ratio include those that impact the net operating revenues ratio, along with endowment returns, capital appropriations, capital gifts and grants, capital transfers, and endowment gifts.

- Components:

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<th>FY11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in total net assets</td>
<td>$33,875</td>
<td>$43,290</td>
<td>$9,432</td>
<td>$10,245</td>
<td>$55,701</td>
<td>$80,169</td>
</tr>
<tr>
<td>Total net assets (beginning of year)</td>
<td>$554,663</td>
<td>$588,538</td>
<td>$631,828</td>
<td>$641,260</td>
<td>$651,505</td>
<td>$707,206</td>
</tr>
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</table>

Change in Net Assets
Total Beginning of the Year Net Assets

![Graph showing Return on Net Assets Ratio over FY06 to FY11]
This ratio has been impacted over the years by the same items that impacted the net operating revenues ratio and the following items that directly impact capital and endowment assets:

- Capital appropriation revenues from the State of Maine have gradually decreased over the past five years. The UMS received $12.5 million in FY06, $10.1 million in FY07, $9 million in FY08, $9.4 million in FY09, $6.9 million in FY10, and $4.1 million in FY11. The decrease is attributable to both the expenditure of amounts previously approved by the voters and a decrease in the amounts that the State of Maine has presented to the voters for approval.

- The level of capital grants and gifts also fluctuated from year to year, with a low of $4.8 million occurring in FY07 and a high of $22.6 million occurring in FY11. The FY11 level is primarily attributable to grants received for wind energy research at the University of Maine.

- Endowment returns net of amounts used for operations have fluctuated significantly with the market: $5.2 million in FY06, $11.2 million in FY07, -$7.9 million in FY08, -$22.9 million in FY09, $4.9 million in FY10, and $14.4 million in FY11.
The **Viability Ratio** measures expendable resources that are available to cover debt obligations (e.g., capital leases, notes payable, and bonds payable) and generally is regarded as governing an institution’s ability to assume new debt. This ratio is calculated as follows:

\[
\text{Expendable Net Assets}^* \\
\text{Long-Term Debt}
\]

* Excluding net assets restricted for capital investments

- A ratio of 1.25 or greater indicates that there are sufficient resources to satisfy debt obligations.

- The authors of *Strategic Financial Analysis for Higher Education*, note the following:

  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 . . . , to adverse conditions from internal resources diminishes, as does its ability to attract capital from external sources and its flexibility to fund new objectives.

- Like the primary reserve ratio, the viability ratio is impacted by such items as principal payments on debt, use of unrestricted net assets to fund capital construction projects, operating results (operating revenues – operating expenses + net nonoperating revenues + depreciation) and endowment returns. Issuance of new debt would also impact the ratio.
Components:

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<td>Expendable net assets</td>
<td>$143,129</td>
<td>$168,618</td>
<td>$167,168</td>
<td>$152,055</td>
<td>$202,237</td>
<td>$251,306</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>$196,384</td>
<td>$223,779</td>
<td>$217,529</td>
<td>$212,185</td>
<td>$203,455</td>
<td>$196,566</td>
</tr>
</tbody>
</table>

The same totals for expendable net assets are used for this ratio and the primary reserve ratio; therefore, please see discussion of the primary reserve ratio on page 3 for items impacting expendable net assets.

The UMS last issued debt in FY07 when it issued $46.74 million in bonds to advance refund $13.75 million in previously issued bonds and to fund new capital projects.

Payment of annual debt service and strong endowment returns contributed to UMS’ ratio surpassing the industry benchmark in FY11.
The **Composite Financial Index (CFI)** creates one overall financial measurement of the institution's health based on the four core ratios: primary reserve ratio, net operating revenues ratio, return on net assets ratio, and viability ratio. By blending these four key measures of financial health into a single number, a more balanced view of the state of the institution’s finances is possible because a weakness in one measure may be offset by the strength of another measure.

Because 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 of the institution. 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 CFI is calculated by:

1. Determining the value of each ratio;
2. Converting the value of each ratio to strength factors along a common scale;
3. Multiplying the strength factors by specific weighting factors; and
4. Totaling the resulting four numbers to reach the single CFI score.

These scores do not have absolute precision. They are indicators of ranges of financial health that can be indicators 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. However, the ranges do have enough precision to be indicators of the
institutional 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 financial health for the institution.

- A score of 1.0 indicates very little financial health; 3, the low benchmark, represents a relatively stronger financial position; and 10, the top range of the scale.

Performance of the CFI score can be evaluated on a scale of -4 to 10 as shown on the following page. The overlapping arrows represent the ranges of measurement that an institution may find useful in assessing itself. We have overlaid the scoring scale with UMS’ lowest CFI score (FY08) and most recent CFI score to assist in evaluating UMS’ performance.
Although the UMS’ FY11 CFI score is in the middle of the scale, it is important to note that scores for some of the individual campuses of the UMS fall at the lower end of the scale (see separate reports prepared for each campus).
The strength factors that were used in calculating the CFI can be mapped on a diamond to show the shape of an institution’s financial health compared to the industry benchmarks. This Graphic Financial Profile can assist management in determining whether a weakness in one ratio is offset by strength in another ratio.

Illustrated below are two examples of a Graphic Financial Profile (GFP): one based on strength factors valued at the low industry benchmark of 3 and one with strength factors valued above and below the benchmark:

- The center point of the graphic financial profiles is -4 as illustrated in the Seventh Edition of *Strategic Financial Analysis for Higher Education*. An actual value that falls below -4, defaults to a value of -4 and is plotted at the center of the graph.

- The maximum value in the graph is 10; thus, an actual value greater than 10 is not plotted beyond the outer diamond.

- The smaller, heavily lined diamond represents the low industry benchmark of 3.

- The actual values of the institution’s ratio strength factors are plotted and shaded to show how the institution’s health compares with the low (3) and high (10) benchmarks.
The following graphs contain UMS' Graphic Financial Profiles for FY06 thru FY11.

Although three of the strength factors are below the low industry benchmark of 3.0, the shape of the shaded area for FY06 is relatively balanced between returns and capitalization.
For FY07, the shape of the shaded area continues to be relatively balanced although the two capitalization strength factors remain below the low industry benchmark.

Graphic Financial Profile - FY07
UMS
Strength Factors Plotted on a Scale of -4 to 10
CFI Score of 2.5
For FY08, the shape of the shaded area was thinner than the year before as the UMS experienced minimal returns from operations and from total net assets.
Although the UMS’ return from operations increased significantly in FY09, the return on net assets was smaller as the UMS experienced negative endowment investment returns. Capitalization levels decreased slightly from FY08.
Although still below the industry benchmark, the capitalization strength factors rebounded in FY10 as UMS’ operating return and return on total net assets surpassed the benchmark.
Strong returns in FY11, contributed to three of the strength factors surpassing the low industry benchmark of 3. The strength factor for the primary reserve ratio remains just below the low industry benchmark at 2.8.