Part IV: Report and Measure Financial Results

CHAPTER 10:

FINANCIAL & OPERATING RATIOS 
AS PERFORMANCE MEASURES
The Importance of Ratios

Ratios are important because they are so widely used.

Financial ratios are especially important because they are used for credit analysis.

See Appendix 18-A for multiple examples of financial ratios as used for credit analysis and financing purposes.
The Importance of Ratios

3 types of ratios:

**Liquidity, solvency, and profitability**

These three types include eight basic ratios that are widely used in health care organizations.

- **Liquidity** — current ratio; quick ratio; days cash on hand; days receivables.
- **Solvency** — debt service coverage; liabilities to fund balance.
- **Profitability** — operating margin; return on total assets.
Liquidity Ratios

Current Ratio — A measure of short-term debt-paying ability (but it must be carefully interpreted).

Computed as:

\[
\text{current ratio} = \frac{\text{current assets}}{\text{current liabilities}}.
\]

(Also see practice exercises for this chapter.)
Liquidity Ratios

Quick Ratio — An even more severe test of short-term debt-paying ability (it also must be carefully interpreted).

Computed as:

quick ratio = cash & cash equivalents + net receivables / current liabilities

Also see practice exercises for this chapter.
Liquidity Ratios

Days Cash on Hand (DCOH) — Indicates cash on hand in relation to amount of daily operating expenses.

Computed as:

$$DCOH = \frac{\text{unrestricted cash \& cash equivalents}}{\text{cash operating expenses}} / \# \text{ of days in period}.$$
Liquidity Ratios

Days Receivables — Represents number of operating days in receivables (a measure of worth as well as performance).

Computed as:

days receivables = net receivables / net credit revenues / # of days in period

Also see practice exercises for this chapter.
Solvency Ratios

**Debt Service Coverage (DSCR) — Represents the ability to meet required debt service (this ratio is universally used in credit analysis).**

Computed as:

\[ \text{DSCR} = \text{change in unrestricted net assets (net income)} + \text{interest, depreciation, and amortization} / \text{maximum annual debt service} \]

*Also see practice exercises for this chapter.*
Solvency Ratios

Liabilities to fund balance — Represents the relationship of liabilities to fund balance (or liabilities to net worth). A quick indicator of bad debt.

Computed as:

liabilities for fund balance = total liabilities / unrestricted net assets (fund balances) or (net worth)

Also see practice exercises for this chapter.
Operating Margin (expressed as a percentage) — Represents the relationship of operating revenues to operating income. A multi-purpose measure, used for many managerial purposes; sometimes also used for credit analysis.

Computed as:

operating margin = operating income (loss) / total operating revenues.

Also see practice exercises for this chapter.
Profitability Ratios

Return on total assets (expressed as a percentage) — Represents the yield received in relation to total assets. A broad measure in common use.

Computed as:

return on total assets = earnings before interest and taxes (EBIT) / total assets.

Also see practice exercises for this chapter.
Importance of Ratios

Remember, ratio analysis should be conducted as a comparative analysis.

When interpreting ratios, the differences between periods must be considered, and the reasons for such differences should be sought.
1. Current Ratio

\[
\frac{470,000}{345,000} = 1.362
\]

Current Assets

Current Liabilities
### Quick Ratio

2. Quick Ratio

\[
\frac{190,000 + 250,000}{345,000} = \frac{345,000}{\text{Current Liabilities}}
\]

Cash and Cash Equivalent + Net Receivables

= 1.275
### Days Cash on Hand Ratio

#### Step 1

<table>
<thead>
<tr>
<th>Days Cash on Hand (DCOH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days Cash on Hand (DCOH)</td>
</tr>
<tr>
<td>1,885,000</td>
</tr>
<tr>
<td>(40,000)</td>
</tr>
<tr>
<td>1,845,000</td>
</tr>
</tbody>
</table>

#### Step 2

<table>
<thead>
<tr>
<th>Unrestricted Cash and Cash Equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Operating Expenses divided by # days in period (365)</td>
</tr>
<tr>
<td>1,845,000</td>
</tr>
<tr>
<td>365</td>
</tr>
<tr>
<td>= 5,055</td>
</tr>
</tbody>
</table>

#### Step 3

<table>
<thead>
<tr>
<th>= 37.5 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>190,000</td>
</tr>
<tr>
<td>5,055</td>
</tr>
<tr>
<td>= 37.5 days</td>
</tr>
</tbody>
</table>

3. Days Cash on Hand (DCOH)

\[
\frac{\text{Unrestricted Cash and Cash Equivalents}}{\text{Cash Operating Expenses divided by # days in period (365)}}
\]
Days Receivable Ratio

Step 1
2,000,000
x 90%
1,800,000

Step 2
1,800,000
365
= 4931

Step 3
250,000
4931
= 50.7 days

4. Days Receivables
Percent of Credit Revenues
Information obtained elsewhere

Net Receivables
Net Credit Revenue divided by # days in period (365)
Return on Total Assets

Step 1

<table>
<thead>
<tr>
<th></th>
<th>120,000</th>
<th>(20,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100,000</td>
<td></td>
</tr>
</tbody>
</table>

5. Return on Total Assets (%)

\[
\text{EBIT (Earnings Before Interest and Taxes)} \div \text{Total Assets} = 10.03\%
\]
### Operating Margin Ratio

<table>
<thead>
<tr>
<th>Operating Income (Loss)</th>
<th>Total Operating Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>115,000</td>
<td>.0575%</td>
</tr>
<tr>
<td>2,000,000</td>
<td></td>
</tr>
</tbody>
</table>
### Liabilities to Fund Balance Ratio

<table>
<thead>
<tr>
<th>Total Liabilities</th>
<th>Unrestricted Fund Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>545,000</td>
<td></td>
</tr>
<tr>
<td>418,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.304</td>
</tr>
</tbody>
</table>

7. Liabilities to Fund Balance
**Debt Service Coverage Ratio**

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>120,000</td>
<td>180,000</td>
</tr>
<tr>
<td>20,000</td>
<td></td>
</tr>
<tr>
<td>40,000</td>
<td></td>
</tr>
<tr>
<td><strong>180,000</strong></td>
<td><strong>180,000</strong></td>
</tr>
</tbody>
</table>

8. Debt Service Coverage Ratio (DSCR)

\[
\text{Change in Unrestricted Net Assets (net income)} + \text{Depreciation-Amortization} + \text{Interest} = 2.5
\]

Maximum Annual Debt Service

Information derived elsewhere