

CHAPTER 17

Financial Condition Analysis

- **Purpose of financial condition analysis**
- **Types of analysis**
 - **Financial statement analysis**
 - Statement of cash flows analysis
 - Ratio analysis
 - Du Pont analysis
 - Other techniques
 - **Operating indicator analysis**
 - **EVA analysis**
- **Problems that arise**

Overview

- One of the most important characteristics of a business is its *financial condition*.
- **Financial condition analysis** attempts to answer this question: Does the business have the financial capacity to meet its mission?
- Results often focus on financial *strengths* and *weaknesses*.

Overview (Cont.)

- **Several techniques are used:**
 - **Financial statement analysis** focuses on the information in a business's financial statements with the goal of *assessing* financial condition.
 - **Operating indicator analysis** focuses on operating data with the goal of *explaining* financial performance.
 - **EVA** analysis focuses on assessing overall *managerial performance*.
- **To illustrate, consider the following data for Riverside Memorial Hospital, all in *thousands of dollars*.**

Income Statement

	<u>2007</u>	<u>2006</u>
Net patient service revenue	\$108,600	\$ 97,393
Premium revenue	5,232	4,622
Other revenue	<u>3,644</u>	<u>6,014</u>
Total revenue	<u>\$117,476</u>	<u>\$108,029</u>
Nursing services	\$ 58,285	\$ 56,752
Dietary services	5,424	4,718
General services	13,198	11,655
Administrative services	11,427	11,585
Employee health and welfare	10,250	10,705
Provision for uncollectibles	3,328	3,469
Provision for malpractice	1,320	1,204
Depreciation	4,130	4,025
Interest expense	<u>1,542</u>	<u>1,521</u>
Total expenses	<u>\$108,904</u>	<u>\$105,634</u>
Net income	<u><u>\$ 8,572</u></u>	<u><u>\$ 2,395</u></u>

Balance Sheet: Assets

	2007	2006
	<u> </u>	<u> </u>
Cash and equivalents	\$ 4,263	\$ 5,095
Short-term investments	2,000	0
Accounts receivable	21,840	20,738
Inventories	3,177	2,982
Total current assets	<u>\$ 31,280</u>	<u>\$ 28,815</u>
Gross plant and equipment	\$145,158	\$140,865
Accumulated depreciation	25,160	21,030
Net plant and equipment	<u>\$119,998</u>	<u>\$119,835</u>
 Total assets	 <u><u>\$151,278</u></u>	 <u><u>\$148,650</u></u>

Balance Sheet: Liabilities and Equity

	2007	2006
Accounts payable	\$ 4,707	\$ 5,145
Accrued expenses	5,650	5,421
Notes payable	825	4,237
Current portion of LT debt	2,150	2,000
Total current liabilities	\$ 13,332	\$ 16,803
Long-term debt	\$ 28,750	\$ 30,900
Capital lease obligations	1,832	2,155
Total LT liabilities	\$ 30,582	\$ 33,055
Net assets (equity)	\$107,364	\$ 98,792
 Total claims	 \$151,278	 \$148,650

2007 Statement of Cash Flows (Part 1)

Cash Flows from Operating Activities

Change in net assets (net income)	\$ 8,572
Adjustments:	
Depreciation	4,130
Increase in accounts receivable	(1,102)
Increase in inventories	(195)
Decrease in accounts payable	(438)
Increase in accrued expenses	229
Net cash flow from operations	<u>\$11,196</u>

Cash Flows from Investing Activities

Investment in plant and equipment	<u>(\$ 4,293)</u>
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2007 Statement of Cash Flows (Part 2)

Cash Flows from Financing Activities

Investment in short-term securities	(\$ 2,000)
Repayment of LT debt	(2,150)
Repayment of notes payable	(3,412)
Capital lease principal repayment	(323)
Change in current portion of LT debt	150
Net cash flow from financing	<u>(\$ 7,735)</u>
Net increase (decrease) in cash	<u><u>(\$ 832)</u></u>
Beginning cash and equivalents	<u>\$ 5,095</u>
Ending cash and securities	<u><u>\$ 4,263</u></u>

Statement of Cash Flows Analysis

- Operations provided **\$11.2** million in net cash flow in 2007.
- Riverside invested **\$4.3** million in new fixed assets.
- Riverside paid off **\$5.6** million in debt and invested **\$2.0** million in marketable securities.
- ? What is the most important line on the statement of cash flows?

Financial Ratio Analysis

- **Ratio analysis** is a technique used in financial condition analysis (and in other analyses).
- **Financial ratio analysis** combines values from the financial statements to create single numbers that:
 - Have easily interpretable economic significance.
 - Facilitate comparisons.

Interpreting Ratios

- **A single ratio value has little meaning. For example, a total margin of 7.3%.**
- **Therefore, two techniques are used to help interpret “the numbers.”**
 - **Trend (time series) analysis**
 - **Comparative (cross-sectional) analysis**
- **Both techniques will be illustrated in the examples to follow.**

Ratio Analysis Categories

- **Profitability**: Is the business generating sufficient profits?
- **Liquidity**: Can the business meet its cash obligations?
- **Debt management**: Is the business using the right mix of debt and equity?
- **Asset management**: Does the business have the right amount of assets for its volume?

Profitability Ratios (2007)

$$\begin{aligned}\text{Total margin} &= \frac{\text{Net income}}{\text{Total revenue}} \\ &= \frac{\$8,572}{\$117,476} = 0.073 = 7.3\%.\end{aligned}$$

$$\begin{aligned}\text{ROA} &= \frac{\text{Net income}}{\text{Total assets}} \\ &= \frac{\$8,572}{\$151,278} = 0.057 = 5.7\%.\end{aligned}$$

$$\text{ROE} = \frac{\text{Net income}}{\text{Total equity}}$$

$$= \frac{\$8,572}{\$107,364} = 0.080 = \mathbf{8.0\%}.$$

	2007	2006	Ind.
TM	7.3%	2.2%	5.0%
ROA	5.7%	1.6%	4.8%
ROE	8.0%	2.4%	8.4%

? What is your interpretation?

Liquidity Ratios (2007)

$$\text{CR} = \frac{\text{CA}}{\text{CL}} = \frac{\$31,280}{\$13,332} = 2.3 \text{ times.}$$

$$\begin{aligned} \text{DCOH} &= \frac{\text{Cash + Marketable securities}}{\text{Cash expenses / 365}} \\ &= \frac{\$4,263 + \$2,000}{\$277.93} = 22.5 \text{ days.} \end{aligned}$$

	2007	2006	Ind.
CR	2.3x	1.7x	2.0x
DCOH	22.5	18.9	30.6

? **What is your interpretation?**

Debt Management Ratios (2007)

$$\begin{aligned}\text{Debt ratio} &= \frac{\text{Total debt}}{\text{Total assets}} \\ &= \frac{\$43,814}{\$151,278} = 0.290 = \mathbf{29.0\%}.\end{aligned}$$

$$\begin{aligned}\text{TIE ratio} &= \frac{\text{EBIT}}{\text{Interest expense}} \\ &= \frac{\$10,114}{\$1,542} = \mathbf{6.6 \text{ times}}.\end{aligned}$$

	2007	2006	Ind.
DR	29.0%	33.5%	43.3%
TIE	6.6x	2.6x	4.0x

? What is your interpretation?

Note that the debt ratio is a **capitalization ratio**, while the TIE ratio is a **coverage ratio**. There are many variations of these ratios.

Asset Management Ratios (2007)

$$\begin{aligned}\text{FA turnover} &= \frac{\text{Total revenue}}{\text{Net fixed assets}} \\ &= \frac{\$117,476}{\$119,998} = \mathbf{0.98} \text{ times.}\end{aligned}$$

$$\begin{aligned}\text{TA turnover} &= \frac{\text{Total revenue}}{\text{Total assets}} \\ &= \frac{\$117,476}{\$151,278} = \mathbf{0.78} \text{ times.}\end{aligned}$$

$$\begin{aligned}
 \text{ACP} &= \frac{\text{Net patient accounts rec.}}{\text{Net patient service rev.} / 365} \\
 &= \frac{\$21,840}{\$108,600 / 365} = 73.4 \text{ days.}
 \end{aligned}$$

	2004	2003	Ind.
FATO	0.98	0.90	2.2
TATO	0.78	0.73	0.97
ACP	73.4	77.7	64.0

? What is your interpretation?

Du Pont Analysis

- **Du Pont analysis** *summarizes* and *highlights* a business's financial condition.
- It is based on the fact that ROE can be expressed as the product of three ratios:
 - Total margin (expense control)
 - Total asset turnover (asset utilization)
 - Equity multiplier (debt utilization)

$$\text{Total margin} \times \text{TA turnover} \times \text{Equity multiplier} = \text{ROE}$$

$$\frac{\text{NI}}{\text{Rev}} \times \frac{\text{Rev}}{\text{TA}} \times \frac{\text{TA}}{\text{TE}} = \text{ROE.}$$

$$2006: 2.22\% \times 0.73 \times 1.50 = 2.43\%.$$

$$2007: 7.30\% \times 0.78 \times 1.41 = 7.98\%.$$

$$\text{Ind: } 5.00\% \times 0.97 \times 1.73 = 8.39\%.$$

? What does it all mean?

Other Analytical Techniques

- In addition to ratio and Du Pont analyses, there are two other techniques commonly used in financial statement analysis.
 - In **common size analysis**, all income statement items and balance sheet accounts are expressed as percentages of revenue or total assets, which facilitates comparisons when there are scale differences.
 - In **percentage change analysis**, year-to-year changes in income statement items and balance sheet accounts are expressed as percentage changes, which helps identify items that are “out of control.”

Operating Indicator Analysis

- **Operating indicator analysis** involves the use of operating data (as opposed to financial statement data) to try to *explain* a business's financial condition.
- If managers understand the underlying operating conditions, they can better deal with financial problem areas.
- Here we will present only two examples.

Net Price Per Discharge (2007)

$$\begin{aligned} \text{NPPD} &= \frac{\text{Net inpatient revenue}}{\text{Total discharges}} \\ &= \frac{\$93,740,000}{18,281} = \$5,128. \end{aligned}$$

Industry average = **\$5,510.**

? How is this value interpreted?

Occupancy Percentage (Rate) (2007)

$$\begin{aligned}\text{OR} &= \frac{\text{Inpatient days}}{\text{Number of staffed beds} \times 365} \\ &= \frac{95,061}{450 \times 365} = 0.579 = 57.9\%.\end{aligned}$$

Industry average = 44.9%.

? How is this value interpreted?

Limitations of Financial Performance Analysis

- **Comparison with industry averages is difficult if the business operates many different divisions.**
- **“Average” performance is not necessarily good performance.**
- **Seasonal factors can distort ratios.**
- **Inflation effects can distort financial statement data.**

Limitations (Cont.)

- **Different operating and accounting practices can distort comparisons.**
- **Sometimes, it is hard to tell if any given ratio is “good” or “bad.”**
- **It is often difficult to tell whether a business is, on balance, in a strong or weak financial position:**
 - **Multiple discriminant analysis**
 - **Financial flexibility index**

Economic Value Added (EVA)

- **Economic value added (EVA)** focuses on the ability of the business to cover all costs, including *economic (return on capital) costs*.
- It is often used to measure managerial performance, even in not-for-profit businesses.
- ? Should not-for-profit managers be required to generate economic returns?

EVA (Cont.)

$$\begin{aligned} \text{EVA} &= \text{Dollar earnings to investors} - \text{Dollar cost of capital employed} \\ &= \text{NOPAT} - \text{Dollar capital costs} \\ &= (\text{EBIT} \times [1 - T]) - (\text{Total assets} \times \text{CCC}). \end{aligned}$$

NOPAT = net operating profit after taxes.

CCC = corporate cost of capital.

EVA (Cont.)

- EVA takes into account the total dollar cost of capital, which *includes* the cost of equity.
- EVA is not a cash flow measure. It attempts to measure the true economic benefits and costs of an entire business, division, or project.
- In practice, relatively complex adjustments must be applied to accounting data to obtain EVA.

EVA Example (\$000s)

Here is Riverside's 2007 EVA:

$$\begin{aligned}\text{NOPAT} &= (\$8,572 + \$1,542) \times (1 - 0.0) \\ &= \mathbf{\$10,114}.\end{aligned}$$

$$\begin{aligned}\text{Dollar capital costs} &= \$151,278 \times 0.10 \\ &= \mathbf{\$15,128}.\end{aligned}$$

$$\text{EVA} = \$10,114 - \$15,128 = \mathbf{-\$5,014}.$$

- ? How is this value interpreted?
- ? Does ROE give similar information?

Benchmarking

The process of comparing a business's performance data to selected standards is called **benchmarking**.

Here are Riverside's *total margin* benchmarks:

2004		2003	
National/GFB	9.8%	National/GFB	9.6%
<i>Ind. top quartile</i>	<i>8.4</i>	<i>Ind. top quartile</i>	<i>8.0</i>
St. Anthony's	8.0	St. Anthony's	7.9
Riverside	7.3	Pennant Healthcare	5.0
Industry median	5.0	Industry median	4.7
Pennant Healthcare	4.8	Riverside	2.2
<i>Ind. lower quartile</i>	<i>1.8</i>	<i>Ind. lower quartile</i>	<i>2.1</i>
Woodbridge Memorial	0.5	Woodbridge Memorial	(1.3)

Key Performance Indicators

- Ratio analysis results are often presented in a **dashboard** format that focuses on **Key Performance Indicators (KPIs)**.
- The idea here is to keep the data clutter to the minimum necessary to adequately monitor the financial and operating condition of the business.

Discussion Item

What are some areas of *financial and operating performance* that should be routinely monitored? In other words, if you were creating a “dashboard” to track Riverside’s performance, what *areas* would be covered by the Key Performance Indicators (KPIs)?

Conclusion

- This concludes our discussion of *Chapter 17* (Financial Condition Analysis).
- Although not all concepts were discussed in class, you are responsible for all of the material in the text.
- ? Do you have any questions?