FINANCIAL STATEMENTS AND RATIO ANALYSIS

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OVERVIEW OF THE SESSION

A  Provide information on how ratios can provide insight into financial statements
B  Give information about key ratios and what the data can tell you
C  Provide insight into what management should focus on in understanding numbers
D  Clarify when ratios are not helpful
E  Overview ready to access ratios available for Florida Government’s
**Traditional F/S Measures – Balance Sheet**

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Payables and Accruals</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>Current portion of Debt</td>
</tr>
<tr>
<td>Inventory</td>
<td>Current Liabilities</td>
</tr>
<tr>
<td>Investments</td>
<td>Long-Term Debt</td>
</tr>
<tr>
<td>Current Assets</td>
<td>Total Liabilities</td>
</tr>
<tr>
<td>Total Assets</td>
<td>Retained Earnings</td>
</tr>
<tr>
<td></td>
<td>Total Equity</td>
</tr>
</tbody>
</table>
TRADITIONAL F/S MEASURES – OTHER STATEMENTS

Income Statement
• Revenue
• Costs of Goods Sold
• Gross Margin
• Other Expenses
• Operating Income
• Net Income

Cash Flows
• Cash flows from operations, investing, and financing
• Net change in cash
• Activity of PPE, Investments, Debt, and Equity
UNIQUE GOVERNMENTAL MEASURES – ALL STATEMENTS

- Deferred outflows of resources
- Deferred inflows of resources
- Net investments in capital assets
- Unrestricted Net Position / unassigned fund balance
- Restricted Net Position / assigned fund balance
- Nonspendable fund balance
- Intergovernmental revenues
- Cash flows form noncapital financing activates
- Cash flows from capital and related financing activities
When the Numbers Don’t Add Up

“Our books are balanced. 50% of our numbers are real and 50% are made up.”
VALUE OF INFORMATION

- Gives reader understanding of:
  - the size of organization and its activities
  - composition of resources and liabilities
  - results of operations and impacts on cash

- Generally comparative allowing easy comparison to prior year
  - Generally governmental statements are single year

- Footnotes contain detailed information
  - MD&A can provide insight into reasons
STATEMENT USERS

- Creditors
- Bondholders
- Owners
- The Market
- Potential Buyers / Investors
- Competitors
- Management
- Citizens
**USER FOCUS – THIRD PARTIES**

- Liquidity of an entity and its ability to make interest and principal payments
- Long-term cash flow of the entity as well as the entities future level of risk and return, which impacts return on investment
- Ability to provide dividends (public co’s)
- Operational results for comparative purposes
USER FOCUS – MANAGEMENT

- Liquidity of an entity and its ability to make interest and principal payments
- Planning – Assessing current financial position and evaluating potential opportunities
- Asset Management – Use of assets for efficiency and best return on investment
- Understanding – How external parties analyze the entity
USE OF FINANCIAL ANALYSIS

1. Analysis of the entities funding needs

Trend / Seasonal Component
- How much funding will be required in the future?
- Is there a seasonal component?

Analytical Tools Used
- Sources and Uses Statement
- Statement of Cash Flows
- Cash Budgets
USE OF FINANCIAL ANALYSIS

2. Analysis of the entities financial condition and profitability.

Entity Financial Condition

Financial Ratios

1. Individually
2. Over time
3. In combination
4. In comparison
3. Analysis of the business risk of the firm.

Business risk relates to the risk inherent in the operations of the firm.

Examples:
Volatility in sales
Volatility in costs
Proximity to break-even point
Management should consider all three analysis types: funds needs, financial condition and profitability and business risk, when determining the financial needs of an entity.
Proper evaluation of financing needs puts the entity in the best position to negotiate with potential capital suppliers.

Proper determination of an entity's financing needs.
**Types of Ratio Comparisons**

- **Cross-sectional analysis** - comparison of different entities’ financial ratios at the same point in time; involves comparing the your entity’s ratios to those of other entities in its industry or to industry averages.

  - Benchmarking – entity ratios compared to those of a key competitor or group of competitors.

  - Comparison to Industry Averages – use of industry averages for the analysis of entity’s results.
Example of Cross-Sectional Analysis

<table>
<thead>
<tr>
<th>RATIO</th>
<th>50th Percentile</th>
<th>Company 1</th>
<th>Company 2</th>
<th>Company 3</th>
<th>Company 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>LONG-TERM DEBT TO CAPITALIZATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>16.72%</td>
<td>15.24%</td>
<td>9.25%</td>
<td>23.66%</td>
<td>31.08%</td>
</tr>
<tr>
<td>Yr2</td>
<td>14.69%</td>
<td>18.59%</td>
<td>0.00%</td>
<td>21.56%</td>
<td>36.49%</td>
</tr>
<tr>
<td>Yr3</td>
<td>14.59%</td>
<td>22.94%</td>
<td>8.52%</td>
<td>19.86%</td>
<td>42.08%</td>
</tr>
<tr>
<td>RETURN ON ASSETS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>7.47%</td>
<td>9.55%</td>
<td>7.69%</td>
<td>-7.16%</td>
<td>11.20%</td>
</tr>
<tr>
<td>Yr2</td>
<td>5.80%</td>
<td>14.58%</td>
<td>13.28%</td>
<td>-4.49%</td>
<td>12.91%</td>
</tr>
<tr>
<td>Yr3</td>
<td>5.54%</td>
<td>17.98%</td>
<td>1.11%</td>
<td>3.39%</td>
<td>6.23%</td>
</tr>
<tr>
<td>CURRENT RATIO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>2.48</td>
<td>2.67</td>
<td>1.60</td>
<td>1.41</td>
<td>2.90</td>
</tr>
<tr>
<td>Yr2</td>
<td>2.50</td>
<td>2.62</td>
<td>1.62</td>
<td>1.41</td>
<td>2.99</td>
</tr>
<tr>
<td>Yr3</td>
<td>2.28</td>
<td>3.29</td>
<td>0.77</td>
<td>1.49</td>
<td>2.30</td>
</tr>
<tr>
<td>DAYS IN NET ACCOUNTS RECEIVABLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>32.36</td>
<td>40.10</td>
<td>31.10</td>
<td>26.66</td>
<td>23.80</td>
</tr>
<tr>
<td>Yr2</td>
<td>40.43</td>
<td>56.84</td>
<td>24.58</td>
<td>34.52</td>
<td>21.78</td>
</tr>
<tr>
<td>Yr3</td>
<td>34.71</td>
<td>36.51</td>
<td>29.30</td>
<td>46.95</td>
<td>33.57</td>
</tr>
<tr>
<td>TOTAL PROFIT MARGIN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>3.65%</td>
<td>3.28%</td>
<td>2.10%</td>
<td>-3.10%</td>
<td>7.98%</td>
</tr>
<tr>
<td>Yr2</td>
<td>3.98%</td>
<td>5.48%</td>
<td>2.83%</td>
<td>-2.23%</td>
<td>8.90%</td>
</tr>
<tr>
<td>Yr3</td>
<td>2.83%</td>
<td>13.03%</td>
<td>0.25%</td>
<td>1.75%</td>
<td>4.82%</td>
</tr>
<tr>
<td>DAYS CASH ON HAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yr1</td>
<td>68</td>
<td>30</td>
<td>50</td>
<td>44</td>
<td>110</td>
</tr>
<tr>
<td>Yr2</td>
<td>59</td>
<td>21</td>
<td>36</td>
<td>51</td>
<td>129</td>
</tr>
<tr>
<td>Yr3</td>
<td>62</td>
<td>59</td>
<td>32</td>
<td>62</td>
<td>115</td>
</tr>
</tbody>
</table>

Requires access to financial statements of competitors
USE AVAILABLE BENCHMARK DATA

<table>
<thead>
<tr>
<th>Measure</th>
<th>FITCH ¹</th>
<th>Thomson Reuters ²</th>
<th>Premier Inc. ³</th>
<th>S&amp;P All Ratings ⁴</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size (n)</td>
<td>248</td>
<td>577</td>
<td>450-480</td>
<td>561</td>
</tr>
<tr>
<td>Average length of stay (days)</td>
<td>N/A</td>
<td>4.15</td>
<td>4.41</td>
<td>N/A</td>
</tr>
<tr>
<td>Maintained bed occupancy (%)</td>
<td>N/A</td>
<td>59.13</td>
<td>57.73</td>
<td>N/A</td>
</tr>
<tr>
<td>Operating margin (%)</td>
<td>2.6</td>
<td>2.64</td>
<td>2.93</td>
<td>2.4</td>
</tr>
<tr>
<td>Excess margin (%)</td>
<td>3.9</td>
<td>5.11</td>
<td>3.71</td>
<td>4.0</td>
</tr>
<tr>
<td>Debt services coverage (x)</td>
<td>3.5</td>
<td>3.05</td>
<td>N/A</td>
<td>3.7</td>
</tr>
<tr>
<td>Current ratio (x)</td>
<td>N/A</td>
<td>2.30</td>
<td>2.3</td>
<td>N/A</td>
</tr>
<tr>
<td>Cash on hand (days)</td>
<td>180.5</td>
<td>150.70</td>
<td>N/A</td>
<td>164.6</td>
</tr>
<tr>
<td>Cushion ratio (x)</td>
<td>13.6</td>
<td>6.06</td>
<td>N/A</td>
<td>14.2</td>
</tr>
<tr>
<td>Accounts receivable (days)</td>
<td>43.8</td>
<td>46.38</td>
<td>50.1</td>
<td>44.5</td>
</tr>
<tr>
<td>Average payment period (days)</td>
<td>63.4</td>
<td>49.88</td>
<td>N/A</td>
<td>56.8</td>
</tr>
<tr>
<td>Average age of plant (years)</td>
<td>10.2</td>
<td>9.51</td>
<td>N/A</td>
<td>10.0</td>
</tr>
<tr>
<td>Debt-to-capitalization (%)</td>
<td>42.1</td>
<td>34.17</td>
<td>50.74</td>
<td>38.1</td>
</tr>
<tr>
<td>Capital expense (%)</td>
<td>N/A</td>
<td>6.85</td>
<td>3.25</td>
<td>N/A</td>
</tr>
</tbody>
</table>
SOURCES OF INFORMATION

Financial Statements

• Public Companies – Various Sources*
• Non-profits – Guidestar.org (Form 990’s)*
• Public Debt (Municipal Bonds) – Dacbond, EMMA*

Benchmarks

• BizStats.com*
• Trade associations Published Statistics
• Dunn & Bradstreet’s Industry Norms and Key Stats
• Risk Management Assoc Annual Statement Studies
TYPES OF RATIO COMPARISONS

• **Vertical Analysis (Common Size)** – process of preparing financials statements as a percentage of sales or other account category. Allows analysts to see the composition of different categories of financial statements.

  ➢ In the evaluation of the income statement sales is commonly used as the reference category.

  ➢ Evaluation of the balance sheet incorporates total assets, liabilities and equity.
EMPHASIS FOR MANAGEMENT – VERTICAL ANALYSIS

- This is simple to do on your own company
- Works really well for certain industries (e.g., manufacturing, retail) to allow comparison
- Allows management to focus on areas that go against the trend
  - In a high growth environment; financial numbers generally go up. This can factor out growth to isolate variances
<table>
<thead>
<tr>
<th>Example Company X – opens new plant in 2014</th>
<th>2014</th>
<th>2013</th>
<th>$ Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>$ 1,800,000</td>
<td>$ 1,000,000</td>
<td>$ 800,000</td>
</tr>
<tr>
<td>Costs of Sales</td>
<td>(1,404,000)</td>
<td>(800,000)</td>
<td>622,000</td>
</tr>
<tr>
<td>Gross Marin</td>
<td>396,000</td>
<td>200,000</td>
<td>196,000</td>
</tr>
<tr>
<td>Marketing Exp</td>
<td>110,000</td>
<td>40,000</td>
<td>70,000</td>
</tr>
<tr>
<td>General Admin Exp</td>
<td>190,000</td>
<td>100,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Net Income</td>
<td>$ 96,000</td>
<td>$ 60,000</td>
<td>$ 36,000</td>
</tr>
<tr>
<td>Using Vertical Anal All Items Divided By Revenues</td>
<td>2012</td>
<td>2011</td>
<td>$ Change</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------</td>
<td>------</td>
<td>----------</td>
</tr>
<tr>
<td>Revenue</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Costs of Sales</td>
<td>(78%)</td>
<td>80%</td>
<td>(2%)</td>
</tr>
<tr>
<td>Gross Marin</td>
<td>22%</td>
<td>20%</td>
<td>2%</td>
</tr>
<tr>
<td>Marketing Exp</td>
<td>6.1%</td>
<td>4%</td>
<td>2.1%</td>
</tr>
<tr>
<td>General Admin Exp</td>
<td>10.6%</td>
<td>10%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Net Income</td>
<td>5.3%</td>
<td>6.0%</td>
<td>(0.7%)</td>
</tr>
</tbody>
</table>

**Profit would have been $38,000 higher if marketing was at prior year’s 4%**
LIMITS OF INFORMATION

- Requires understanding of accounting policies
- Trending information is limited to comparative numbers
- Generally, information in footnotes to understand changes is limited
- Fair value changes can impact profitability
RATIO ANALYSIS - DEFINED

- A method or process by which the relationship of items or groups of items in the financial statements are computed, and presented.

- Tool for the financial analysis of an entity.

- Method utilized to interpret the financial statements. Including the identification of an entities strengths and weaknesses from a current and historic view point.
**TYPES OF RATIO COMPARISONS**

- **Time-series (Horizontal) analysis** - evaluation of the entity’s financial performance over time using financial ratio analysis
  
  - Comparison of current to past performance, using ratios, enables analysts to assess the entity’s progress.
  
  - Developing trends can be seen by using multiyear comparisons.

- **The most informative approach** - combines multiple analyses.
• Be mindful of company’s accounting policies and the impact on ratios
• Ratios can look much better under accounting policies
RATIO CLASSIFICATIONS

Ratios are generally classified into the follow groups:

- Short Term Debt Paying and Liquidity ratios ("STDL")
- Capital structure/leverage ratios
- Profitability ratios
- Activity ratios
STDL RATIOS

Analyze the ability of an entity to pay its debt from existing current assets, collect receivables quickly, convert inventory into cash. Better performance is indicated by ratios that result in lower number of days or higher number of times per year.

- Immediate Liquidity
- Receivables Liquidity
- Inventory Liquidity
- Operating Cycle
- Other Considerations
Immediate Liquidity Ratios Include:

- Working Capital – ($CA – $CL)
- Sales to working capital – (NS/AWC)
- Current Ratio – CA/CL
- Acid/Quick Ratio – (CA-Inv/CL)
- Conservative Acid/Quick Ratio – (CCE+MS=NAR)/CL
- Cash Ratio – (CCE+MS)/CL
STDL RATIOS

Receivables Liquidity Include:

- A/R Turnover – NS/Avg Gross Rec
- AR Turnover in Days – Avg Gross Rec/(NS/365)
- AP Turnover – Avg AP/(COGS/365)
STDL RATIOS

Inventory Liquidity Include:

- Inventory Turnover – COGS/Avg Inventory
- Inventory Turnover in Days – Avg Inventory/(COGS/365)
STDL RATIOS

Operating Cycle Ratio:

- Operating Cycle Ratio – AR Turnover in Days/Inventory Turnover in Days
STDL RATIOS

• Other Considerations:

  – Lines and Letters of Credit generally disclosed in the notes to the financial statements and provide information on short term funding available to an entity.

  – If available obtain the entities short term debt rating from a commercial source S&P, Moody’s etc. to evaluate if ratio results are in line with the rating.
CAPITAL STRUCTURE/ LEVERAGE RATIOS

These ratios indicate the long term solvency of a firm and indicate the ability of the firm to meet its long-term commitment with respect to

(i) repayment of principal on maturity or in predetermined instalments at due dates and

(ii) periodic payment of interest during the period of the loan.
CAPITAL STRUCTURE/ LEVERAGE RATIOS

• **Debt Ratios** – these ratios measure the magnitude of liabilities.

• **Income Related Ratios** – these ratios provide insight into how much income exists to protect creditors.
Debt ratios are:

- Debt ratio – Total Liab/Total Assets
- Debt to equity ratio – Total Liab/Sh Eq
- Debt to tangible net worth – Total Liab/(Sh Eq-Intang Assets)
CAPITAL STRUCTURE/ LEVERAGE RATIOS

Income Related Ratios:

- Times interest earned – \( \frac{EBIT}{(Int \ Exp + Capitalized \ Int)} \)

- Fixed charge coverage – \( \frac{(EBIT + 1/3 \ of \ CY \ Operating \ Lease \ Rentals)}{(Int \ Exp + Capitalized \ Int + 1/3 \ of \ CY \ Operating \ Lease \ Rentals)} \)
CAPITAL STRUCTURE/ LEVERAGE RATIOS

- Other Considerations:
  - Pension obligations review the footnotes for consistency of assumptions with professional standards (interest rates, compensation increases etc.).
  - If available obtain the entities long term debt rating from a commercial source S&P, Moody’s etc. to evaluate if ratio results are in line with the rating.
PROFITABILITY RATIOS

These ratios measure the operating efficiency of the firm and its ability to ensure adequate returns to its shareholders.

The profitability of a firm can be measured by its profitability ratios.

Further the profitability ratios can be determined (i) in relation to sales and (ii) in relation to investments.
PROFITABILITY RATIOS

Profitability ratios in relation to sales:
• Gross profit margin – GP/Net Sales
• Net profit margin – Earnings Available to Owners/Net Sales
**Profitability Ratios**

Expense ratios are calculated by dividing the various expenses by sales:

Material consumed ratio – \((\text{Material consumed}/\text{Net Sales})\times 100\)

Manufacturing expenses ratio – \((\text{Manuf. Exp}/\text{Net Sales})\times 100\)

Administration expenses ratio – \((\text{Admin Exp}/\text{Net Sales})\times 100\)

Selling expenses ratio – \((\text{Selling expenses}/\text{Net Sales})\times 100\)

Operating ratio – \((\text{COGS}/\text{Net Sales})\times 100\)
PROFITABILITY RATIOS

Profitability ratios in relation to investments

• Return on assets (ROA) – \( \frac{\text{Net Prof. After Taxes}}{\text{Total Assets}} \times 100 \)

• Return on capital employed (ROCE) – \( \frac{\text{Net Prof. After Taxes} + \text{Int}}{\text{Capital Employed}} \times 100 \)

• Return on shareholder’s equity (ROE) – \( \frac{\text{Net Prof. After Taxes} - \text{Pref Div}}{\text{Ordinary SH Equity or Net Worth}} \times 100 \)
PROFITABILITY RATIOS

Profitability ratios in relation to investments

- Earnings per share (EPS) = (Net Profit After Tax- Pref. Div)/Number of Eq Shares
- Dividend per share (DPS) = Dividends Paid/Number of Equity Shares
GAAP (User Vs User)

• Accounting Principles continue to focus more on fair value
• Considered more relevant information to markets
• May cloud decision making

“And this is where our ROI became an IOU.”

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# Reader Focus

<table>
<thead>
<tr>
<th></th>
<th>Wall Street / Investors</th>
<th>Lenders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Metrics</strong></td>
<td>Earnings Per Share, Stock Price, Return on Equity, Return on Assets</td>
<td>Debt Service Coverage Ratio, Current Ratio, Cash Flows from Operations, Days Cash on Hand</td>
</tr>
<tr>
<td><strong>Fair Value</strong></td>
<td>Considered Relevant</td>
<td>Disregarded</td>
</tr>
</tbody>
</table>
LENDER’S FOCUS

• Debt Service Coverage Ratio:

<table>
<thead>
<tr>
<th>Income Available For Debt Service</th>
<th>Annual Debt Service (Principal + Interest)</th>
</tr>
</thead>
</table>

ITEMS EXCLUDED TYPICALLY ARE (A) DEPRECIATION AND AMORTIZATION (B) INTEREST INCOME (C) UNREALIZED GAINS AND LOSSES & (D) EXTRAORDINARY ITEMS
## Lenders

<table>
<thead>
<tr>
<th>COMMON DEBT COVENANTS (Goal)</th>
<th>FV Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Service Coverage Ratio (Goal: cash available to cover debt service)</td>
<td>FV impacts adjusted out of calculation</td>
</tr>
<tr>
<td>Days Cash On Hand (Goal: measure ability to pay operating expenses with existing cash reserves)</td>
<td>To degree investments are marked to market</td>
</tr>
</tbody>
</table>

A primary reader of the financial statements largely ignores fair value when measuring ability to service debt and stability of entity.
**The Irony of Fair Value in Lending**

Standard setting bodies focus on fair value measures in financial statements.

Financial institutions provide fair value to auditors.

Auditor uses fair value in financial statements.

Financial institutions adjust financial statements to remove fair value to focus on cash and cash generation (Can they pay their loans?)
ACTIVITY RATIOS

These ratios are also called efficiency ratios / asset utilization ratios or turnover ratios. These ratios show the relationship between sales, cost of goods sold and various assets of a firm. There are several ratio groups used to analyze activities including:

- A/R ratios
- Inventory/stock turnover ratio
- Asset turnover ratio
- Creditors turnover ratio and average credit period
ACTIVITY RATIOS

Accounts Receivable Ratios

- AR Turnover – Credit Sales/Avg Receivable Balance
- Days In Receivables – 365/Turnover Ratio
- AR to Sales – Avg Receivable Balance/Credit Sales
- AR to Assets – AR/Total Assets
A/R Key Questions:

1. Do You Know What Your Average Days in Accounts Receivable Are?

2. How long would it take to discover a collection issue?

3. Do you know what your industry benchmarks are?
**EMPHASIS FOR MANAGEMENT – A/R**

- The **days in accounts receivable** should be actively monitored by management.
- Measures how long it takes to collect payment after the delivery of product or service.
- The important thing to monitor is the trend line (helps to identify early warnings of collection problems in the future).
EMPHASIS FOR MANAGEMENT – A/R

• The relationship between how often you pay and how quickly you collect can have a major “shift” in your cash position

• Most companies have a net 15 or net 30 for vendor payments. Payroll also occurs on regular basis

• Every additional day in accounts receivable represents an investment
### EXAMPLE

<table>
<thead>
<tr>
<th></th>
<th>Sales of $30.0MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash $2.0 MM</td>
<td>COS of $27.0MM</td>
</tr>
<tr>
<td>Accts Receivable $2.5MM</td>
<td>Margin 10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Days in A/R</th>
<th>30 Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor Payments</td>
<td>30 Days</td>
</tr>
</tbody>
</table>

**What is the impact on cash from going days in accounts receivable of 30 to 40 days on a permanent basis?**

A/R at 40 days would now be ~$3.3MM ($30MM * 40/365). The Company would have now invested $800K in accounts receivable reducing the cash balance to as much as $1.2MM.
Collections

Payments

Cash

$2.5 million per month

$2.25 million per month

Lowers overall average cash balance
EMPHASIS FOR MANAGEMENT – A/R

- Equally important to compare days in accounts receivable with and without the allowance (Gross versus Net)
- The net accounts receivable can mask that collections have gotten worse or that more is being reserved
# Allowance Masking of Days

<table>
<thead>
<tr>
<th>Year One</th>
<th>Gross Days in A/R</th>
<th>Net Days in A/R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>30,000,000</td>
<td>Same</td>
</tr>
<tr>
<td>Accounts Receivable Gross</td>
<td>3,000,000</td>
<td>Same</td>
</tr>
<tr>
<td>Allowance</td>
<td>(500,000)</td>
<td>Same</td>
</tr>
<tr>
<td>Days in Accts Receivable</td>
<td>36.5 Days</td>
<td>30</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year Two</th>
<th>Gross Days in A/R</th>
<th>Net Days in A/R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>30,000,000</td>
<td>Same</td>
</tr>
<tr>
<td>Accounts Receivable Gross</td>
<td>4,000,000</td>
<td>Same</td>
</tr>
<tr>
<td>Allowance</td>
<td>(1,500,000)</td>
<td>Same</td>
</tr>
<tr>
<td>Days in Accts Receivable</td>
<td>48.7 Days</td>
<td>30</td>
</tr>
</tbody>
</table>
EMPHASIS FOR MANAGEMENT – A/R

- A significant increase in sales is often accompanied by a permanent increase in the average balance of A/R
- The one time “build-up” of A/R represents an investment of sorts in growth and will have a one-time impact on cash
- Monitoring of days in accounts receivable is important during growth periods
### EXAMPLE

<table>
<thead>
<tr>
<th></th>
<th>Sales of $30.0MM</th>
<th>COS of $27.0MM</th>
<th>Margin 10%</th>
<th>Sales of $35.0MM</th>
<th>COS $31.5MM</th>
<th>Margin 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days in A/R</td>
<td>30 Days</td>
<td>30 Days</td>
<td></td>
<td></td>
<td>30 Days</td>
<td></td>
</tr>
</tbody>
</table>

A/R will have gone up from $2.5MM (30MM * 30/365) to $2.9 Million ($35MM *30/365). There is $400K investment in accounts receivable from growth.

This assumes that days in A/R would remain at 30 days despite growth in volume of receivables.
EMPHASIS OF MANAGEMENT – A/R

• Be wary of cycles in operations
• Some companies pick the slow season for the year-end when A/R is at the lowest. This will artificially lower the number of days in year-end A/R (hence, important to monitor peak seasons as well)
CASE STUDY - HEALTHCARE

• Healthcare is an example of:
  – A) An area where benchmarks can be helpful
  – B) An area where the metrics differ significantly between different types of “providers”

• Example for Days in Accounts Receivable
  – Hospitals: 45 days
  – Nursing Home: 35 days
  – Physician Practice: 20 days
CASE STUDY - HEALTHCARE

• Examples of Operating Margin
  – Hospitals: 2.6%
  – Nursing Homes: 8.0%
  – Physician Practices: 11%

• Labor Costs – 60% to 65%
  – Specific stat that should be tracked and monitored
SAMPLE – PUBLIC HOSPITALS (MUNIOS)
ACTIVITY RATIOS

Inventory Ratios

• Inventory Turnover – COGS/Avg Inventory
• Net Sales to Inventory – Net Sales/Inventory
• Inventory to Net Working Capital – Inventory/Net Working Capital
Inventory Key Points:

1. Do You Know What Inventory Turnover Is?

2. What is the latest trend on your cost of sales margin % and gross margin %?

3. Do you know what your industry benchmarks are?
EMPHASIS OF MANAGEMENT - INV

• Gross margin and inventory turnover are key metrics for manufacturers and retailers
• There is really good data available that is specific to the industry (and the sub industry)
**Emphasis of Management - Inv**

- The trending on these metrics needs to monitored
- These can also be manipulated as well
  - FIFO versus LIFO
  - Sale-offs without replenishing inventory levels equal high turnover but a potential problem to future
Example BizStats Reports

Furniture and related product manufacturing
Corp Annual Average Sales, Income & Expense

Sales
Cost of Sales
Gross Profit

Furniture and related product manufacturing
Corp Average Financial Ratios

<table>
<thead>
<tr>
<th>Ratio</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Sales</td>
<td>5.63%</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>9.20%</td>
</tr>
<tr>
<td>Return on Net Worth</td>
<td>24.20%</td>
</tr>
<tr>
<td>Quick Ratio</td>
<td>0.81</td>
</tr>
<tr>
<td>Current Ratio</td>
<td>1.56</td>
</tr>
<tr>
<td>Inventory Turnover</td>
<td>12.15</td>
</tr>
<tr>
<td>Assets:Sales</td>
<td>0.61</td>
</tr>
<tr>
<td>Tot Liabilities:Net Worth</td>
<td>1.63</td>
</tr>
</tbody>
</table>
EMPHASIS OF MANAGEMENT - INV

• For management, inventory turns and margins should be looked at by product line
• Identify possible obsolete; slow moving items
• Reprioritize inventory and or location
ACTIVITY RATIOS

Asset Turnover Ratios

• Total Asset Turnover – Net Sales/Avg Total Assets
• Fixed Asset Turnover – Net Sales/Avg Fixed Assets
• Working Capital Turnover – Net Sales/Avg Net Working Capital
“We’ve been doing great since we redefined success as a slowing of failure.”  Dilbert
**ACTIVITY RATIOS**

Accounts Payable Ratios
- Accounts Payable Days – \((\text{AP/COGS}) \times 365\)
- Accounts Payable Turnover – Total Supplier Purchases/\((\text{AP Beginning} + \text{AP Ending})/2\)
- AP Turnover Days – \(365/\text{AP Turnover Ratio}\)
EMPHASIS OF MANAGEMENT - AP

- The opposite impact is true on Days in Accounts Payable. Permanently increasing the days in A/P will have a one-time increase in cash
- Be wary of giving up early payment discounts
- Be careful with critical vendors
BE WARY OF STATISTICS ALONE

• “There are lies, damned lies, and statistics” Mark Twain
• “Statistics Defined – The science of producing unreliable facts from reliable figures” Evan Esar
• “There are two types of statistics, the kind you look up and the kind you make up” Rex Stout
• “60% of the time, it works every time” Ron Burgandy
CAUTION

- There are no generally accepted rules for computing ratios.

- Ratios alone do not provide answers, they are a tool to be utilized with others for the user to draw a conclusion from.

- An entity’s knowledge of common ratios used to evaluate an entities financial condition may lead to the possibility of manipulation of the key ratio components.
CAUTION

- Large deviations or unexpected results merely indicate a possible problem.

- Use financial statements dated at the same point in time.

- Preferable to use audited financial information.

- Results can be distorted if financial data is not developed in the same manner or if inflation or other market events occur which could significantly impact the results.
CAUTION

• Problems Disguised

- Ratios that use multiple financial statement line items (e.g. Current Ratio –Combines; Cash, A/R, Inventory, etc.) can disguise poor performance in one.

- Always evaluate ratios that look at single line items and if the results seem acceptable then utilize those ratios that combine these with others.

- Be wary of small numbers (large % changes)
“Success is where preparation and opportunity meet. Failure is where they meet, but can’t stand each other.”
FINANCIAL FAILURE?

• If some of the basic ratios appear to be indicating an entity experiencing problems there is a group of ratios which have been shown as indicators of this.

• Caution should be used however, as the results can only say the results are similar to those of entities that have failed in the past.

• Ratios alone cannot predict financial failure.
FINANCIAL FAILURE?

Univariate Models – use of one variable for analysis.

- **Cash flow to total debt** – insufficient cash flows indicate possible problems
- **ROA** – low earnings on committed assets indicates problems making assets work for the entity
- **Debt Ratio** – assets financed with too much debt put the entity in a position where it may not be able to make interest and/or principal payments
**FINANCIAL FAILURE?**

**Other Useful Indicators** – these must be compared to industry standards to determine the entity results.

- **Vertical Common Size % Inventory** – failed entities have less inventory. Commonly due to poor credit to obtain additional inventory and sell as much inventory as possible to generate cash flow.
- **Vertical Common Size % Cash** – failed firms have less cash often using credit to “float” operations.
BENCHMARKING AVAILABLE FOR FLORIDA GOVERNMENTS

• Florida requires auditors to perform a financial condition assessment
  • Required reporting if the auditor determines there is a deterioration in financial condition
  • Serves as an early warning against Florida’s state and local governments becoming insolvent

• Available on Florida Auditor General Website
  • http://www.myflorida.com/audgen/
FLORIDA AUDITOR GENERAL WEBSITE

Florida Auditor General - Local Government/ NonProfit page

State of Florida Auditor General
David W. Martin, CPA

Local Government / Nonprofit / For-Profit

Rules and Guidelines

Local Government / Nonprofit / For-Profit
For more information about the Rules and Guidelines, contact Audit Manager Marilyn Rosetti, CPA

Local Governmental Entity Financial Condition Assessment Procedures
For more information about these Procedures, contact Lead Senior Auditor Kathryn Brewer, CPA

NEW Financial Emergency Guidelines
For more information about the Financial Emergency Guidelines, contact Lead Senior Auditor Kathryn Brewer, CPA

Florida Single Audit Act
For more information about the Florida Single Audit Act, contact Lead Senior Auditor Rick Voss, CPA

Audit Report Reviews / Significant Findings and Financial Trends
For more information about audit report reviews, contact Audit Manager Marilyn Rosetti, CPA
Benchmarking available for Florida Governments

- Local Governmental Entity Example Financial Condition Assessment Indicators and Related Procedures
  - Appendix A - Financial Indicators
  - Appendix B - Data Elements
  - Appendix C - Guide for Analysis of Financial Indicators
  - Appendix D - Potential Factors that Could Cause Deteriorating Financial Condition
  - Appendix E - Web Sites with Information Useful for Assessing Financial Condition

Auditor General website has these appendixes which contain detailed information to understand and help in your analysis
<table>
<thead>
<tr>
<th>Counties</th>
<th>Municipalities</th>
<th>Special Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counties (A-K)</td>
<td>Municipalities (A-B)</td>
<td>Special Districts (A-B)</td>
</tr>
<tr>
<td>Counties (L-Z)</td>
<td>Municipalities (C-D)</td>
<td>Special Districts (C)</td>
</tr>
<tr>
<td></td>
<td>Municipalities (E-G)</td>
<td>Special Districts (D-E)</td>
</tr>
<tr>
<td></td>
<td>Municipalities (H-J)</td>
<td>Special Districts (F-G)</td>
</tr>
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<td></td>
<td>Municipalities (K-L)</td>
<td>Special Districts (H-I)</td>
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<tr>
<td></td>
<td>Municipalities (M-N)</td>
<td>Special Districts (J-L)</td>
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<td>Municipalities (O-P)</td>
<td>Special Districts (M-N)</td>
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<tr>
<td></td>
<td>Municipalities (Q-T)</td>
<td>Special Districts (O-P)</td>
</tr>
<tr>
<td></td>
<td>Municipalities (U-Z)</td>
<td>Special Districts (Q-S)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Special Districts (T-Z)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>County Benchmarks</th>
<th>Municipality Benchmarks</th>
<th>Special Districts Benchmarks</th>
</tr>
</thead>
</table>

Change in Net Position / Beginning Net Position

- Goal is to determine how the government’s position changed as a result of resource flow

- A decrease would indicate the government’s financial position is becoming weaker
Trend Information

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 to Y5 Diff</td>
<td>95%</td>
</tr>
<tr>
<td>Y2 to Y5 Diff</td>
<td>99%</td>
</tr>
<tr>
<td>Y3 to Y5 Diff</td>
<td>-102%</td>
</tr>
</tbody>
</table>

Benchmark Comparison Information

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y5 Entity</td>
<td>-0.05%</td>
</tr>
<tr>
<td>Y5 Bench</td>
<td>0.20%</td>
</tr>
<tr>
<td>Y5 Entity to Bench Diff</td>
<td>-125%</td>
</tr>
</tbody>
</table>

Trend: Favorable

Benchmark Comparison: Inconclusive

Overall Rating: Favorable
AUDITOR GENERAL INDICATOR 2

Unassigned and Assigned Fund Balance / Unrestricted Net Assets

- Declining results suggest there could be difficulty in maintaining a stable tax base or revenue structure
- Deficits may indicate financial emergency
AUDITOR GENERAL INDICATOR 3

Unassigned and Assigned Fund Balance / Total Expenditures

- Decreasing percentages over time may indicate budgetary issues that may lead to future budgetary problems
AUDITOR GENERAL INDICATOR 4

Cash & Investments / Current Liabilities

- Decreasing percentages may indicate that the government has overextended itself in the long run and may have difficulty raising the cash needed to meet its current needs
AUDITOR GENERAL INDICATOR 5

Cash & Investments / Total Expenditures

- Denominator is operating expenses for a proprietary fund
- Decreasing percentages may indicate that the government has overextended itself in the long run and may have difficulty raising the cash needed to meet its current needs
AUDITOR GENERAL INDICATOR 6

Current Liabilities / Total Revenues

- Denominator is operating revenues for a proprietary fund
- Increase percentages may indicate liquidity problems, deficit spending, or both
AUDITOR GENERAL INDICATOR 7

Long-Term Debt / Population

- Increasing percentages may indicate a decrease in level of flexibility in how resources are allocated and decreasing ability to pay long-term debt
AUDITOR GENERAL INDICATOR 8

Excess of Revenues Over Expenditures / Total Revenues

- Decreasing surpluses or increasing deficits may indicate that current revenues are insufficient
AUDITOR GENERAL INDICATOR 9

Operating Income (Loss) / Total Operating Revenues

- Decreasing income and increasing losses may indicate that current revenues are not supporting current expenses
AUDITOR GENERAL INDICATOR 10

Intergovernmental Revenues/ Total Revenues

- Proprietary funds use Operating Revenues as the denominator
- Percentages increasing over time indicate a greater risk assumed to increased dependence on outside revenues
AUDITOR GENERAL INDICATOR 11

Unassigned and Assigned Fund Balances/ Total Revenues

- Proprietary funds use unrestricted net assets / total operating revenues

- Decreasing results may indicate a reduction in the local government’s ability to withstand financial emergencies and/or its ability to fund capital projects
AUDITOR GENERAL INDICATOR 12

Total Revenues/Population

- Decreasing trends indicate that the local government may be unable to maintain existing service levels with current resources
GUIDANCE AVAILABLE TO UNDERSTAND MEASURES AND RATIOS

- Local Governmental Entity Example Financial Condition Assessment Indicators and Related Procedures
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AUDITOR GENERAL INDICATOR 13

Debt Service/
Total Expenditures

- Increasing trends indicate that the cost of providing services is outpacing the ability to pay for them
AUDITOR GENERAL INDICATOR 14

Total Expenditures/Population

- Increasing trends indicate that the cost of providing services is outpacing the ability to pay for them.
AUDITOR GENERAL INDICATOR 15

Accumulated Depreciation/Depreciable Capital Assets

- Increasing trends indicate that capital outlay is inadequate increasing deferred replacement or maintenance costs
Pension Plan Funded Ratio

&

OPEB Funded Ratio

- A declining trend suggest that there is inadequate funding that may increase future tax burden
AUDITOR GENERAL INDICATOR 18

Millage Rate

- Millage rates approaching statutory limits may indicate that the government has a reduced ability to raise additional funds.
MANAGEMENTS USE OF RATIOS

Achieve Balanced Corporate Management
Further Enhance Soundness, Profitability, Efficiency and Growth

Growth

Profitability Efficiency

Soundness

Establish a Robust Management Foundation and Ensure Sustainable Growth

Increase Corporate Value
QUESTIONS

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