Cash Flow Statement and Ratio Analysis

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FIU Roundtable
Financial Analysis

Users of Financial Statements:

• Financial Analysts
• Investment Bankers
• Creditors
• SEC
• Individual Investors
• Credit Rating Agencies
Financial Analysis

One Type of Financial Analysis is Ratio Analysis
Financial Analysis

One Type of Financial Analysis is Ratio Analysis

- Ratio Analysis Shows Relationships Between Two Numbers

- The Numbers Can Be From the Same Financial Statement or From Different Financial Statements

- Four Categories of Financial Ratios Are:
  - Liquidity
  - Activity
  - Coverage
  - Profitability
Ratio Analysis

- **Liquidity Ratios** Measure a Firm’s Ability to Pay its Current Debts on Time
- **Activity Ratios** Measure How Effectively the Business is Using its Assets
- **Coverage Ratios** Measure the Degree of Protection for Long-Term Creditors and Investors
- **Profitability Ratios** Measure the Degree of Success or Failure of a Given Business from an Owner’s Perspective
# Liquidity Ratios

Typical Ratios That Measure Liquidity Include:

<table>
<thead>
<tr>
<th>Current Ratio</th>
<th>Current Assets</th>
<th>Current Liabilities</th>
</tr>
</thead>
</table>

Use: An Indication of a Company’s Ability to Meet Short-Term Debt Obligations; the Higher the Ratio, the More Liquid the Company is. However, Requires Careful Analysis of the Quality of Receivables and Inventory.
Liquidity Ratios

<table>
<thead>
<tr>
<th>Acid Test</th>
<th>Quick Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current Liabilities</td>
</tr>
</tbody>
</table>

Typical Ratios That Measure Liquidity Include:

Use: Same as Current Ratio Except that it Excludes Inventory and Other Prepaid Items from Current Assets. It is a More Severe Test of the Firm’s Debt Paying Ability in the Short - Term.
## Activity Ratios

Typical Ratios That Measure Activity Include:

<table>
<thead>
<tr>
<th>Accounts Receivable Turnover</th>
<th>Credit Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Accounts Receivable</td>
</tr>
</tbody>
</table>

**Use:** The Number of Times Accounts Receivable Turn Over During the Year. If the Firm’s Credit Policy is 2/10, Net 30, the Ratio Should be Close to 12. It is Dependant Upon the Firm’s Credit Policy.
Activity Ratios

<table>
<thead>
<tr>
<th>Typical Ratios That Measure Activity Include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory Turnover</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Use: The Number of Times Inventory Turns Over During the Year. Usually, the Higher the Ratio the Better. A Declining Ratio May Indicate Slow Selling Items or Obsolete Inventory. Cravat, Too High a Ratio Could Indicate that Not Enough Inventory is Being Stocked with the Potential for Lost Sales and Lost Profits.
## Coverage Ratio

A Typical Ratio That Measures Coverage Includes:

<table>
<thead>
<tr>
<th>Times Interest Earned</th>
<th>Income Before Interest Charges &amp; Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interest Charges</td>
</tr>
</tbody>
</table>

Use: The Number of Times that Interest Charges are Earned. It Measures a Firm’s Ability to Pay Interest on Debt. Creditors Prefer a High Ratio.
Profitability Ratios

Typical Ratios That Measure Profitability Include:

<table>
<thead>
<tr>
<th>Profit Margin on Sales</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net Sales</td>
</tr>
</tbody>
</table>

Use: This Ratio Measures How Much of Each Sales Dollar Reaches the Bottom Line. A Higher Ratio Means that More Profit is Being Made on Each Dollar of Sales. It does not Measure, However, the Profitability of the Assets Being Used.
### Profitability Ratios

**Use:** This Ratio Measures How Efficiently a Firm Uses its Assets to Generate Sales. A Higher Ratio Indicates that Assets Are Being Employed Efficiently. Could Also Be Classified as an Activity Ratio.

| Typical Ratios That Measure Profitability Include: |
|-----------------------------------|----------------|
| Asset Turnover Ratio              | Net Sales      |
|                                   | Average Total Assets |

Use: This Ratio Measures How Efficiently a Firm Uses its Assets to Generate Sales. A Higher Ratio Indicates that Assets Are Being Employed Efficiently. Could Also Be Classified as an Activity Ratio.
Profitability Ratios

Typical Ratios That Measure Profitability Include:

<table>
<thead>
<tr>
<th>Rate of Return on Assets</th>
<th>Net Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Total Assets</td>
</tr>
</tbody>
</table>

Use: This Ratio is a Good Measure of Profitability Because it Combines Both Profit Margin and Asset Turnover.
Profitability Ratios

Typical Ratios That Measure Profitability Include:

<table>
<thead>
<tr>
<th>Earnings Per Share</th>
<th>Net Income – Preferred Dividends</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weighted Shares Outstanding</td>
</tr>
</tbody>
</table>

Use: This Ratio Indicates the Amount of Income Earned on Each Share of Common Stock After Subtracting Preferred Dividends. Arguably, the Most Important Indicator of Profitability to Those With an Interest in Wall Street.
Profitability Ratios

Typical Ratios That Measure Profitability Include:

<table>
<thead>
<tr>
<th>Return on Equity</th>
<th>Net Income – Preferred Dividends Average Common Stockholders’ Equity</th>
</tr>
</thead>
</table>

Use: A Widely Used Ratio that Measures Profitability From the Common Stockholders’ View Point. It Shows How Many Dollars of Net Income are Earned for Each Dollar Invested by the Owners.
Ratio Characteristics

The Ratios Listed Above Share Two Characteristics:

• Many Include, or Are Influenced by, Net Income Taken From the Income Statement

• They Involve Only the Balance Sheet and Or the Income Statement
GAAP

- Public Corporations Must Prepare Financial Statements in Accordance With GAAP

- Public Corporations that Present GAAP Based Statements Must Also Present Earnings per Share {EPS} on the Face of the Income Statement

- GAAP Based Financial Statements Are Often Based on Estimates, Not Exact Numbers

- Financial Analysts and Others Have Often Criticized GAAP Based Statements, as Well as EPS, as being Subject to Manipulation and Earnings Management

- They Would Argue that Cash Flow Taken from the Cash Flow Statement is Less Easily Manipulated than Net Income Since it is Based on Actual Net Cash Flow
Earnings Per Share

EPS Data Are Used:

- In Evaluating the Past Operating Performance of a Business
- In Forming an Opinion as to its Potential for Investment
- In Presenting Information Through Prospectus, Proxy Materials & Reports to Stockholders
- In the Compilation of Business Earnings Data for the Press, Statistical Services and Other Publications
A Past Chairman of the SEC Has Criticized the Attitude of Earnings Management Which is Defined as Taking Deliberate Steps Within GAAP to Bring About a Desired Level of Earnings. The Desire to Maintain Corporate Growth & Share Prices Provides Management With the Motivation to Manage Earnings, & Accrual Basis Accounting, With its Use of Estimates and Judgments, Provides the Means to Do So.

- Recent Corporate Failures (Global Crossing & Tyco)
- Misbehavior by Management (Tyco, Enron & Adelphi)
- Accounting Irregularities (Enron & AA)
Financial Difficulties and Why You Need Cash Flow Statements

In 1975 W.T. Grant Co., the Nation’s Largest Discount Retail Chain at the Time, Surprised the Investment Community by Going Bankrupt. The Grant Co. Had Shown Strong Earnings Based on GAAP for the Prior Ten Years but an Analysis of its Operating Cash Flows Reveled that it Had Been a Net User for Most of Those 10 years. The Failure of Grant and Several Other Notable Companies During the Late 70’s and 80’s is One of the Reasons that the FASB Begin Requiring a Statement of Cash Flows as One of the Primary Financial Statement.
In APB Opinion Number 3, Statement of Source and Application of Funds, The Board Encouraged But Did Not Require Presentation of a Funds Statement.

- Offered Considerable Latitude As to Form and Content
- Was Widely Accepted by the Business Community and Regulatory Agencies
- Was Sometimes Prepared On a Cash or Cash Equivalent Basis
- Was Sometimes Prepared on Working Capital Basis
- Often Excluded Certain Financing and Investing Activities that Did Not Directly Affect Cash or Working Capital
In APB Opinion Number 19, the Board Replaced Opinion Number 3 With a Statement, Reporting Changes in Financial Position, and Made the Statement Mandatory When Both a Balance Sheet and Income Statement Were Presented in Accordance with GAAP. The Statement:

- Should Include All Changes in Financial Position
- Could Be Based On Either Cash or Working Capital
- Working Capital or Cash Provided From Operations Was Not a Substitute for or an Improvement Upon Properly Determined Net Income
- Discouraged Isolated Statistics of Working Capital or Cash Provided From Operations, Especially Per Share Amounts.
SFAS Number 95 Superceded APB Number 19 and Required the Preparation of A Statement of Cash Flows. The Objective of the Statement is to Provide Users With Information About a Firm’s Net Cash Flow and Should Help Them in Evaluating the Following:

- The Ability of an Entity to Generate Positive Cash Flows in the Future
- The Ability of an Entity to Pay its Obligations and Dividends
- An Entity’s Need for External Financing
- The Reasons for the Difference Between Net Income and Net Cash From Operations
- The Impact of Noncash Investing and Financing Activities
Recommendation


Additional Cash Ratios

<table>
<thead>
<tr>
<th>Current Cash Debt Ratio</th>
<th>Net Cash Provided by Operating Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Current Liabilities</td>
</tr>
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</table>

Use: This is a Liquidity Ratio That Indicates Whether a Company Can Pay Off its Current Liabilities in A Given Year From Current Operations.
**Recommendation**


### Additional Cash Ratios

<table>
<thead>
<tr>
<th>Cash Debt Coverage Ratio</th>
<th>Net Cash Provided by Operating Activities</th>
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<td>Average Total Liabilities</td>
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**Use:** This Ratio Indicates a Company’s Ability to Repay its Liabilities From Net Cash Provided by Operations Without Having to Liquidate the Assets Employed in its Operations. A High Ratio Indicates Financial Flexibility.
Recommendation

One Branch of Investment Theory Evaluates a Business on its Ability to Generate Cash Flow Available to Owners. A Business that Has Adequate Cash Flow:

- Can Spend Aggressively on Brand Building
- Invest in Research and Development of New Products
- Fund New Business Lines
- Increase Employee Benefits
- Buy Back Its Own Shares of Stock or Increase Dividends
Recommendation

Each of the Previous Activities Listed Can Contribute to Growth and the Value of a Business. Investors Should Look for Companies With Two Traits:

1. Cash Conservation

2. Cash Generation
Cash Flow Ratio


Inventory Can Be a Major Current Asset. In the Cash Flow Ratio Inventory May Be Seen as a Liability. As Long as it Sits on the Shelf Inventory Generates Costs Such as Insurance and Storage Cost and Generates No Cash Inflow.

Accounts Receivable Can Also Be a Major Current Asset. They Represent Payments that the Company Has Not Yet Collected and is Not Working For the Company. However, It’s Delayed Collection Can Be Considered a Liability When Using the Cash Ratio.
Cash Flow Ratio

Current Liabilities Represent Costs that Will Have to Be Paid Down Within the Next Year. Many Businesses Would Like to Hold Off Paying Non-Interest Bearing Payments For as Long as Possible. If They Can Earn More By Holding their Cash Than They Can By Paying It Out to Suppliers, Then They Should Want to Hold on to it. Cash That is Not Paid Out, or At Least Delayed, Can Be Invested to Earn a Return. Therefore, We Can Think of Current Assets As Actually Being Current Liabilities and Current Liabilities As Being Current Assets. Current Assets Should Be Minimized Compared to Current Liabilities And Current Liabilities Should be Maximized Compared to Current Assets.
# Cash Flow Ratio

<table>
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<th>Typical Ratio That Measures Cash Flow:</th>
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<tbody>
<tr>
<td>Cash Flow Ratio</td>
</tr>
<tr>
<td>Current Assets – Cash &amp; Equivalents</td>
</tr>
<tr>
<td>Current Liabilities – ST Debt</td>
</tr>
</tbody>
</table>

Use: A Ratio of 1.25 is Considered Adequate, and Below 1.0 Would Be Ideal. A Ratio Below 1.0 Means That the Firm is Able to Delay More Payments Than They are Carrying In Cost of Inventory or Unpaid Bills.
## Cash Flow Ratio

### Intel Fiscal Year 1999

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash &amp; Cash Equivalents</td>
<td>$11.8 Billion</td>
</tr>
<tr>
<td>Current Assets</td>
<td>17.8 Billion</td>
</tr>
<tr>
<td>Short Term Debt</td>
<td>0.2 Billion</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>7.1 Billion</td>
</tr>
</tbody>
</table>

**Calculation:**

\[
\text{Cash Flow Ratio} = \frac{(17.8 - 11.8)}{(7.1 - 0.2)} = 0.87
\]
Cash Margin Ratio

To Determine A Firm’s Ability to Generate an Adequate Cash Flow, We Can Calculate the Cash Margin Which is Similar to the Profit Margin (Net Income/Sales) Taken From the Income Statement. By Using Data From the Cash Flow Statement, We Can Eliminate the Possibility of Managed Earnings.

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<tr>
<th>Typical Ratio That Measures Cash Flow</th>
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<td>Cash Margin</td>
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For 1996 Intel Spent $3.4 Billion on Capital Expenditures & Had Cash Provided by Operations of $11,335 Billion Leaving a Free Cash Flow of $7.9 Billion or Slightly More Than Net Income. If We Take Free Cash Flow and Divide by Sales of $29.4 Billion That Yields a Ratio of 26.9%. This is Intel’s Cash Margin.