

Financial Accounting

Chapter 16

Financial Statement Analysis and The Valuation Of Common Stock

16 FSA and Valuation

Valuing a Corporation

Expected present value is one widely accepted method of valuing a company.

This method requires two inputs:

- » Estimates of future cash flow
- » Estimates of appropriate interest rates

Projection of Cash Flows

Projected cash flow from operations

minus

Projected cash flow from investing

equals

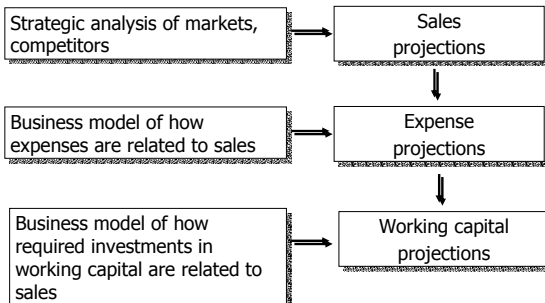
Projected net cash flows to input valuation model

Projected Cash Flows From Operations

Projected cash flows from operations is a function of:

- Sales projections
- Expense projections
- Working capital projections

Type of Information Needed To Project Cash Flows from Operations



Type of Information Needed To Project Cash Flows from Investing

The information needed to project cash flows from investing is derived from a business model of how required capital investments are related to sales.

Time Series Benchmarks - The comparison of a company against itself through time. A benchmark is a comparison point against which an item is judged.

- » Current Ratio
- » Quick Ratio
- » Debt to Equity Ratio
- » Long-Term Debt to Equity

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Liquidity Ratios

Current Ratio - Measures the company's short-term ability to pay its obligations

$$= \text{Current Assets} \div \text{Current Liabilities}$$

Quick Ratio - A more conservative measure of a company's short-term ability to pay its obligations

$$= \text{Cash, Marketable Securities, Receivables} \div \text{Current Liabilities}$$

A Solvency Ratio

Debt to Equity Ratio - measures the relationship of creditors' claims to the assets to the shareholders' claims to the assets.

Total debt includes both current and long-term liabilities.

Total Debt to Total Equity

$$= \text{Total Debt} \div \text{Total Shareholders' Equity}$$

Cross-Sectional Analysis

- » a comparison of a company's financial statements to others in the industry.
- » can be done using either the balance sheet or the income statement.
- » Standard Industrial Classification (SIC) codes are used.
- » SIC codes put firms in groups using common characteristics; for example, Lands End's SIC code is 5961, "catalog=mail order houses".

Balance Sheet:

each item is restated as a percentage of total assets.

In addition, for a more detailed analysis, each item in current assets also could be restated as a percentage of total current assets.

Example: Cross-Sectional Analysis

Rigas has total assets of \$60 mn, of which Cash is \$5 mn and Accounts Receivable are \$12 mn and total current assets are \$28 mn. Restate these assets using cross-sectional analysis.

Rigas's cash represents

8.3% ($\$5 \text{ mn} \div \80 mn) of its total assets,

accounts receivable represents

20% ($\$12 \text{ mn} \div \60 mn) of its total assets.

Of the total current assets reveals that cash represents

17.6% ($\$5 \text{ mn} \div \28 mn) of its current assets and accounts receivable represents

42.9% ($\$12 \text{ mn} \div \28 mn) of its current assets.

Example: Cross-Sectional Analysis

Rigas has total sales of \$80 mn, of which cost of goods sold is \$44 mn and selling, general, and administrative expenses are \$23 mn.

Rigas's cost of goods sold represents

55% ($\$44 \text{ mn} \div \80 mn) of its total sales, while

selling, general, and administrative expenses represent 28.8% ($\$23 \text{ mn} \div \80 mn) of its total assets.

As with cross-sectional analysis of the balance sheet, these items would be compared to other companies in the same industry.

Cross-Sectional Analysis

Income Statement: To perform cross-sectional analysis on a company's income statement, each item is restated as a percentage of total sales.

Horizontal Analysis

A comparison of a company's financial statements to itself over time.

» is typically done using either the balance sheet or the income statement.

» is done just like cross-sectional analysis except it is an internal comparison of the company over time.

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Articulation

» the linking of the balance sheet with the income statement. One method of linking these two financial statements is through turnover ratios (e.g. inventory turnover).
or treat all balance sheet items as a percentage of sales (e.g., inventory as a percentage of sales).

Free Cash Flow

Free Cash Flow – is cash flow from operating activities minus cash flow for investing minus required increase in cash.

Valuation

In projecting the value of an entity, the goal is to calculate free cash flow per year for each year in the projection period plus the present value of a perpetuity.
The present value of a perpetuity is equal to the amount received divided by the interest rate.

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Inventory Turnover Ratio

» Cost of goods sold ÷ Average inventory
Average Inventory = (Beginning Inv. + Ending Inv.) ÷ 2

Assume that Rigas's inventory turnover is 3.5 times and that its projected cost of goods sold for next year is \$150 mn. Its inventory at the beginning of the year was \$36 mn. What is Rigas's ending inventory?

Inventory Turnover Ratio:

= Cost of goods sold ÷ Average inventory

3.5 times = \$150 mn ÷ [(\$36 mn + \$X mn) ÷ 2]

$(36 \text{ mn} + X) \div 2 = 150 / 3.5$

$X = (150 \div (3.5 \times 1/2)) - 36 \text{ mn}$

$X = 49.75 \text{ mn}$

Assumptions For Calculating Free Cash Flow

Income Statement

- ' Sales growth
- ' Cost of sales as percentage of sales
- ' Operating expenses as percentage of sales
- ' Tax rate

Balance Sheet

- ' Cash as percentage of sales
- ' Inventory as percentage of sales
- ' Other Current Assets
- ' Noncurrent assets as a percentage of sales
- ' Accounts payable as a percentage of sales
- ' Other current liabilities as a percentage of sales