Securities Training Corporation

Research Analyst Qualification Examination (Part I)

# Series 86

Learning Guide

v06

# Securities Training Corporation
# Series 86 *Part I*
# Crunch Time Facts

*The Crunch Time Facts are a collection of statements we believe are valuable as you engage in the final preparation to sit for your examination. These facts are not designed to raise questions; instead, they're to be part of your final review and used with any notes created during your studies.*

## CHAPTER 1 INTRODUCTION TO ECONOMICS

- Building permits for single family homes is a leading indicator for the residential housing market.
- If a U.S.-based company manufactures and sells products overseas and the dollar weakens against a basket of currencies, operating margins remain the same and profits rise.
- Higher interest rates in the U.S. will cause the dollar to appreciate.
- Inflation, strong growth, and low unemployment are reasons for the FRB to tighten credit (increase rates).
- Retail company stocks are early cycle stocks.
- Efficiencies in promoting products are referred to as economies of scope.
- In a market with commodity pricing characteristics, the entry or exit of one business will have little impact on prices.
- Companies with a high percentage of fixed costs can increase their margins faster when more units are sold (operating leverage).

## CHAPTER 2 INTRODUCTION TO INDUSTRY AND COMPANY ANALYSIS

- On an annual basis, a company is required to file three 10-Qs and one 10-K. The required timing for the filing of these reports is based on the following filer categories:
  - A *large* accelerated filer has a public float of $700 million or more, has filed one annual report (Form 10K), and has been subject to SEC reporting requirements for least 12 months.
  - An accelerated filer has a public float of at least $75 million (but less than $700 million), has filed one annual report (Form 10K), and has been subject to SEC reporting requirements for at least 12 months.
  - A non-accelerated filer has a public float of less than $75 million.
- High barriers to entry protect the profit margin of entrenched businesses which results in higher valuations.
- The price of oil is sensitive to the worldwide economy.
- Product prices will fall if there are low barriers to entry in industries with commodity pricing.
- Information that relates to stock options granted, exercised, and terminated is found in the footnotes of Form 10-K.
- Healthcare is a defensive industry, especially when it's compared to retail, financial services, and technology.
- A proxy statement contains detailed information concerning executive compensation, including option grants.
- Capitalizing R&D is aggressive and increases EBITDA.
- Utility companies have balance sheets that show significant amounts of fixed assets and long-term debt; it's a capital intensive business.

 

- Luxury goods retailers rely on growing consumer incomes to drive unit sales and profits.
- A growth company can exhibit cyclical characteristics; sales and earnings can rise over time, but both can fall during an economic downturn.
- Capital spending benefits industrial producers and technology significantly more than retail companies or service industries.

## CHAPTER 3 FINANCIAL STATEMENT ANALYSIS

- Compared to a finance lease, an operating lease shows higher net income in the early years.
- Both finance and operating leases will increase assets and liabilities on the balance sheet.
- In a finance lease, total lease expenses decline over time as the interest component of the lease decreases.
- The equity method of accounting is used for investments in stock when ownership is 20 to 50%.
- Capitalized interest is added to the carrying value of a constructed asset.
- The equity method of accounting permits a shareholder to reflect a proportionate share of any profit or loss on his books as other income or profit in an unconsolidated subsidiary.
- If Company A owns less than 20% of Company B's shares, it doesn't report a proportionate share of profits or losses on its books as other income; however, it does report dividends received as other income.
- One analyst may have a significantly different valuation of a company based on an assessment of intangible assets.
- If the entry for accounts receivable or inventory is bracketed on the cash flow statement, it's a use of cash.
- If the entry for accounts payable or another short-term liability has a bracket on the cash flow statement, it's a use of cash.
- Treasury stock represents stock that has been repurchased by the company, a use of financing cash, and a reduction in stockholders' equity.
- An increase in accrued vacation payable or any accrued payable is a source of cash.
- When a company capitalizes interest, there's no change to operating income or taxable income.
- Pension obligations decline when a high discount rate is used; a high discount rate in a defined benefit plan is aggressive accounting.
- Asset turnover measures the efficient use of assets and is measured by Sales/Average Assets.
- EBITDA is a non-GAAP measurement that's used by analysts and company management to describe their financial results.
- Non-controlling interest reduces the consolidated income of the parent company.
- Days of Sales Outstanding rises when accounts receivable growth exceeds the sales growth rate.
- FIFO inflates earnings during a period of rising prices.
- Under the percentage of completion method, revenue recognition is based on the percentage of costs incurred.

 

## CHAPTER 4 VALUATION OF CORPORATE STOCK

- A cyclical company can have a high relative P/E or a low relative P/E depending on where it is in the earnings cycle.
- The formula for dividend payout ratio is: P/E x Dividend Yield
- To determine growth rate, the compliment of the dividend payout ratio is multiplied by the ROE.
- Slow growth industries may have higher than expected P/Es due to high barriers to entry.
- The risk premium is the difference between the expected return of the market and the risk-free return.
- Technology shares tend to have high price-to-sales ratios; the same is true for social media shares.
- Strong cash flow in a capital intensive industry is the reason that dividends can equal or exceed accounting income.
- The DCF model may be used to determine the intrinsic value of an oil and gas exploration company.
- Higher margins usually result in higher relative valuation.
- If FCFF is less than dividend and interest payments, the current dividend may not be sustainable.
- Earnings yield is the inverse of the P/E ratio; a P/E of 20 represents an EY of 5.
- Since book value has limited application, the price-to-book value ratio is unlikely to be manipulated.
- Interest bearing short-term debt is included in the enterprise value of a company.
- Information on components, parts, and supply chain bottlenecks are discussion points with a plant manager.
- The weakness of EBITDA as a cash flow tool is that it ignores capex.
- If a company engages in a stock buyback, the weighted cost of equity capital declines.
- When earnings and cash flow are negative, EV/sales is a useful ratio.
- If an expense item declines, the net benefit is the reduction multiplied by the complement of the tax rate.
- The intrinsic value of a company's share price is based on its cash flows, which may be from dividends or operating cash flows.
- For conventional brick and mortar retail companies, price-to-sales is often less than 1.
- In a DCF model, valuations rise if the risk-free rate declines and/or capex declines.
- The marginal rate of taxation may be used to isolate a one-time gain or loss and to project next year's income (with other things being equal).
- A company with two distinct operating divisions could be analyzed using sum-of-the-parts. Heavy industry could be valued using an EBITDA multiple, while financial services could use net tangible book value.
- Another approach to sum-of-the-parts analysis is that a rapidly growing division of a company could be valued at 25x earnings, whereas a division growing modestly could be valued at 10x earnings.
- If a company fails to achieve its required growth rate, the Gordon Growth Model suggests that its stock price will fall.
- EV/EBITDA can be used to calculate a terminal multiple.
- To determine the after-tax cost of debt, the coupon rate is multiplied by the complement of the tax rate.
- The formula for determining earnings yield is: 100 ÷ P/E. Therefore, if P/E is 20, the EY is 5.
- If earnings yield is used to value companies with negative earnings, the more negative number is viewed as the most richly valued.

 

- Uncertainty over the outcome of a lawsuit could put downward pressure on P/E.
- A price target can be developed by multiplying growth rate by PEG to find the P/E. After the P/E is determined, multiply by the EPS forecast.

## CHAPTER 5 EXAMINATION AND REVIEW OF SPECIFIC COMPANIES

- Issuing additional debt lowers the WACC.
- Rising interest rates will increase the cost of equity if it's assumed that the market premium will remain the same.
- When a company incurs an accounting loss, determine whether adjustments have been made in the operating cash flow section since the company may have booked non-cash charges.
- An evaluation of ROIC-WACC can be used to determine whether an acquisition is accretive to shareholder value.
- In a DCF model, a higher WACC results in a lower valuation.
- FCFF starts with EBIT x (1 –tax rate); while FCFE starts with net income.
- ROE increases when a leveraged company covers its after-tax cost of debt.

 

# Summary of Formulas

## *Balance Sheet / Leverage Formulas:*

**Working Capital:** Current Assets – Current Liabilities

**Current Ratio:** $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

**Quick Ratio:** $\frac{\text{(Cash + Cash Equivalents + Accounts Receivable)}}{\text{Current Liabilities}}$

**Book Value:** $\frac{\text{Common Shareholders' Equity}}{\text{Number of Common Shares Outstanding}}$

**Tangible Book Value:** Total Assets – Total Liabilities – Intangible Assets – Goodwill

**Debt to Total Cap. Ratio:** $\frac{\text{Total Debt}}{\text{Total Capital}}$

**Debt to Equity Ratio:** $\frac{\text{Total Debt}}{\text{Total Shareholders' Equity}}$

**Common Shareholder Equity:** Total Shareholder Equity – Preferred Shareholder Equity

**Days Sales Outstanding:** $\frac{\text{Accounts Receivable}}{\text{Total Credit Sales}} \times \text{Number of Days}$

**Interest Coverage Ratio:** $\frac{\text{EBITDA}}{\text{Interest Expense}}$

**Debt to EBITDA Ratio:** $\frac{\text{(Short + Long-Term Debt)}}{\text{EBITDA}}$

**Accounts Receivable Turnover:** $\frac{\text{Sales on Credit (current year)}}{\text{Average Accounts Receivable}}$

**Inventory Turnover Ratio:** $\frac{\text{COGS}}{\text{Average Inventory}}$

## *Income Statement / Profitability Formulas:*

**Gross Profit:** Revenue – Cost of Goods Sold (COGS)

**Gross Profit Margin:** $\frac{\text{Gross Profit}}{\text{Sales or Revenue}}$

**Operating Profit:** Gross Profit – Operating Expenses

**Operating Profit Margin:** $\frac{\text{Operating Profit}}{\text{Sales or Revenue}}$

**Operating Income (EBIT):** Operating Profit +/- Other Income or Expenses

# Securities Training Corporation
# Series 86 *Part I*
# Crunch Time Facts

**Net Income:** Operating Income – Interest – Taxes

**Net Profit Margin:** $$\frac{\text{Net Income}}{\text{Sales or Revenue}}$$

**Earnings Available to Common:** Net Income – Preferred Dividends

**Basic EPS:** $$\frac{\text{Earnings Available to Common}}{\text{Average Common Shares Outstanding}}$$

**Return on Equity:** $$\frac{\text{Earnings Available to Common}}{\text{Average Common Shareholders' Equity}}$$

**EBITDA Margin:** $$\frac{\text{EBTIDA}}{\text{Sales or Revenue}}$$

**EBITDAR Margin:** $$\frac{\text{EBITDAR}}{\text{Sales or Revenue}}$$ (Note: "R" is for rent)

**Return on Assets:** $$\frac{\text{Net Income}}{\text{Average Assets}}$$

## *Valuation Formulas:*

**P/E Ratio:** $$\frac{\text{Market Price of Common}}{\text{EPS}}$$

**P/E to Growth (PEG) Ratio:** $$\frac{\text{P/E Ratio}}{\text{Annual Growth Rate}}$$ (Note: Growth rate is an integer)

**Dividend Yield:** $$\frac{\text{Annual Dividend}}{\text{Market Price of Common}}$$

**Dividend Payout Ratio:** $$\frac{\text{Annual Dividend}}{\text{EPS}}$$

**Earnings Yield:** $$\frac{\text{EPS}}{\text{Market Price of Common}}$$

**Price to Book Ratio:** $$\frac{\text{Market Price of Common}}{\text{Book Value}}$$

**Price to Free Cash Flow:** $$\frac{\text{Market Price of Common}}{\text{Free Cash Flow Per Share}}$$

**Free Cash Flow Yield:** $$\frac{\text{Free Cash Flow Per Share}}{\text{Market Price of Common}}$$

**Price to Sales Ratio:** $$\frac{\text{Market Price of Common}}{\text{Sales or Revenue}}$$

**Enterprise Value (EV):** Market Cap Common and Preferred + LT and ST Debt + Finance. Leases + Minority Interest – Cash and Equivalents or Market Cap + Net Debt

# Securities Training Corporation
# Series 86 *Part I*
# Crunch Time Facts

**Market Value per Share:** $\dfrac{\text{Market Cap of Common}}{\text{Number of Common Shares Outstanding}}$

**Enterprise Value (EV) to EBITDA:** $\dfrac{\text{EV}}{\text{EBITDA}}$

**Enterprise Value (EV) to Sales:** $\dfrac{\text{EV}}{\text{Sales or Revenue}}$

**After Tax Cost of Debt (WACC):** Pre-Tax Cost x (1-Tax Rate)

**Cost of Equity (CAPM):** $R_i = R_f + \beta(R_m - R_f)$

**Risk Premium (Excess Mkt Return):** Rm – Rf

**Cost of Equity (Gordon Growth):** $k^* = \dfrac{D_t}{P_0 + g}$

**WACC:** Cost of Equity x Weight of Equity + Cost of Debt x Weight of Debt

**Free Cash Flow to Firm (FCFF):** EBIT x (1 – Tax Rate) + Depreciation and Amortization – Capital Expenditures +/- Change to Working Capital

**Free Cash Flow to Equity (FCFE):** Net Income + Depreciation and Amortization – Capital Expenditures +/- Change to Working Capital

**Present Value of Free Cash Flow:** $P_0 = \sum_{t=1}^{\infty} FCFF_t \div (1+WACC)^t$

**Terminal Value (DCF):** $\dfrac{\text{Expected Cash Flow}}{(\text{Discount Rate} - \text{Terminal Growth Rate})}$

**Enterprise Value (DCF):** $P_0 = \sum_{t=1}^{t=n} n \;\; FCFF \div (1+r)^t + \text{Terminal Value}/(1+r)^n$

**Dividend Discount Model:** $P_0 = \sum_{t=1}^{n} d_1 \div (1+r)^t$

**Intrinsic Value (Gordon Growth):** $P_0 = \dfrac{(D_0(1+g))}{(k - g)}$

**Exchange Ratio (Acquisition):** $\dfrac{\text{Offer Price of Target Company}}{\text{Market Price of Acquiring Company}}$

## *Financial Metric Review:*

| | |
|---|---|
| $\frac{\text{Price}}{\text{Book}}$ | Financial service companies |
| $\frac{\text{Price}}{\text{Funds from Operations}}$ | REITs |
| $\frac{\text{Normalized}}{\text{Relative P/E}}$ | Cyclical companies |
| $\frac{\text{Price}}{\text{Sales Ratio}}$ | Companies with negative earnings or retail companies; same leverage |
| **Earnings Yield:** | Companies with negative earnings |
| $\frac{\text{EV}}{\text{EBITDA}}$ | Basic (heavy) industry companies |
| $\frac{\text{EV}}{\text{Sales}}$ | Retail companies; different leverage |
| **PEG Ratio:** | Companies with high P/E ratios |

 