Chp 5. FINANCIAL ANALYSIS AND REPORTING (PART 1)

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STRUCTURE OF A BALANCE SHEET

ASSETS
Non-Current Assets
Goodwill
Intangibles
Fixed Assets
Financial Investments
Other Non-Current Assets
Current Assets
Inventory
Trade Receivables (net)
Other Current Assets
Cash & Equivalents

Goodwill
Premium paid in acquisitions of other companies

Intangibles
Intangible assets, including trademarks, patents, catalogs, brands copyrights, formulas, franchises, and mailing lists, net of accumulated amortizations

Fixed Assets
All property, plant and equipment (PP&E), net of accumulated depreciations or depletion

Financial Investments
Investments in financial assets (classified as AFS or HTM), including investments measured with the equity method

Other Non-Current Assets
Prepaid items and any other non-current assets

Inventory
Anything constituting inventory for the firm, including raw materials, work-in-progress and finished foods

Trade Receivables (net)
All accounts from trade, net of allowance for doubtful accounts

Other Current Assets
Any other current assets, not including prepaid items. May be related to deferred tax assets.

Cash & Equivalents
All cash, marketplace, securities, and other near-cash items. Excludes sinking funds.

SHAREHOLDER'S EQUITY
Initial Capital
Treasury/Own Shares
Reserves
Retained Earnings
Net Income
Minority Interests

Initial Capital
Initial realized capital by shareholders, plus issuance of new capital, less capital reductions.

Treasury/Own Shares
Shares that the company owns, which represents its own Capital. The item includes premiums/discounts when shares were acquired. The item has a negative sign.

Reserves
All amounts that were added as reserves, both voluntary and mandatory by commercial laws.

Retained Earnings
Sum of all previous earnings, deducted by all dividends distributed to shareholders

Net Income
Net Income or Net Loss from the current period

Minority Interests
Fraction of Shareholder's Equity not belonging to the company's shareholders

STRUCTURE OF A BALANCE SHEET / P&L

LIABILITIES
Non-Current Liabilities
Long-Term Debt
Deferred Taxes
Other Non-Current Liabilities
Current Liabilities
Trade Payables
Income Taxes Payable
Other Current Liabilities
Current Maturities of Long-Term Debt
Notes Payable Short-Term

Long-Term Debt
All senior debt, including bonds, debentures, bank debt, mortgages, deferred portions of long-term debt, and capital lease obligations

Deferred Taxes
All deferred taxes, mostly deferred tax liabilities

Other Non-Current Liabilities
Any other non-current liabilities

Trade Payables
Open accounts due to the trade

Income Taxes Payable
Income taxes including current portion of deferred taxes

Other Current Liabilities
Any other current liabilities, including bank overdrafts and accrued expenses

Current Maturities of Long-Term Debt
That portion of long-term obligations that is due within the next fiscal year

Notes Payable Short-Term
All short-term note obligations, including bank and commercial paper. Does not include trade notes payable

P&L
Net Sales
COGS
Gross Profit
Operating Expenses
Operating Income/EBIT
Financial Result
EBT
Taxes
Net Income

Net Sales
Gross sales, net of returns and discounts allowed, if any

COGS
Cost of Goods Sold, especially for industries other than services

Gross Profit
Net sales minus COGS

Operating Expenses
All selling and general & administrative (SG&A) expenses. Includes depreciations, amortizations, rents and restructuring costs.

Operating Income/EBIT
Gross profit minus operating expenses. Operating Income may differ from EBIT in the presence of non-recurring items

Financial Result
Includes interest expenses and interest income

Taxes
Includes the current tax expense, plus the deferred tax expense for the period

APPROACHES TO MODELING REVENUE

Top-Down Approach	Bottom-Up Approach	Hybrid Approach
• Start with the economy • Look at successively more narrowly defined levels	• Begin with individual product lines, locations, or business segments • Aggregate projections over products or segments to reach the company level • Aggregate company revenues to reach the industry level	• Combine top-down and bottom-up approaches

TOP-DOWN APPROACHES TO FORECASTING REVENUE

"**Growth relative to GDP growth**" approach

Forecast the **growth** rate of nominal gross domestic product (**GDP**) → **Relate** the company's growth rate to the growth of nominal GDP → Forecast real GDP and inflation → Forecast **company's revenues**

"**Market growth and market share**" approach

Forecast **growth** in a particular **market** → Evaluate the company's current and anticipated **market share** → **Apply** the expected market share to the forecast → Forecast **company's revenues**

INCOME STATEMENT MODELING: OPERATING COSTS

- Analyst can take a top-down, bottom-up, or hybrid approach to analyzing and forecasting costs.
  - Consider **fixed** and **variable cost** components of operating costs

- **Economies of scale** may exist if the average cost per unit falls as revenues increase.
  - *Indicative of economics of scale*: operating margins positively correlated with revenues.

- Costs are challenging to estimate based on reported accounts
  - For example, companies reserve against losses based on estimates, but the actual losses may differ from the estimates

FORECASTING COSTS

Cost of goods sold: focus on gross margins

- Generally forecasted as a **percentage of sales** and can be broken down **by product line or segment**
- Consider a company's **hedging activity** that may affect costs of raw materials
- Compare with **competitors' gross margins.**

Selling, general, and administrative (SG&A) expenses: focus on type of expense

- Some SG&A expenses **vary with cost of goods sold**, whereas other SG&A expenses are relatively fixed (e.g., **overhead**)
- **Benchmarking against competitors** may be useful

Nonoperating costs: depends on the type of cost

- **Interest income** varies with cash and investments, whereas **interest expense** varies with debt
- **Taxes** are affected by the **jurisdiction** and the **type of business**

BALANCE SHEET MODELING

- **Balance sheet modeling** is the process of forecasting a company's balance sheet based on the following:
  - Items that flow from the income statement (e.g., retained earnings)
  - Items that vary with revenues (e.g., accounts receivable)
  - Items that are the result of investment or financing decisions (e.g., gross plant, property, and equipment)
- Items affected by the level of revenues can often be forecasted by using historical or projected efficiency (e.g., turnover) ratios.
- Forecasts of long-term assets are a function of forecasted capital expenditures and depreciation. Capital expenditures include
  - **maintenance capital expenditures**, needed to sustain the business, and
  - **growth capital expenditures**, needed to expand the business.

EVALUATING PROFITABILITY

- Using forecasted income statement and balance sheet accounts, an analyst can evaluate the company's forecasted profitability.
- Useful measures of profitability include:
  - **Return on invested capital (ROIC)** – there are several formulations for ROIC

$$\text{ROIC} = \frac{\text{Net operating profit less adjusted taxes (NOPLAT)}}{\text{Operating assets} - \text{Operating liabilities}}$$

  - **Return on capital employed (ROCE)**

$$\text{ROCE} = \frac{\text{Operating profit}}{\text{Invested capital}}$$

  - **Return on equity (ROE)**

$$\text{ROE} = \frac{\text{Net income}}{\text{Equity}}$$

- Because of the uncertainty associated with forecasting, analysts can use sensitivity analysis or scenario analysis to evaluate the forecasted profitability.

INVESTED CAPITAL

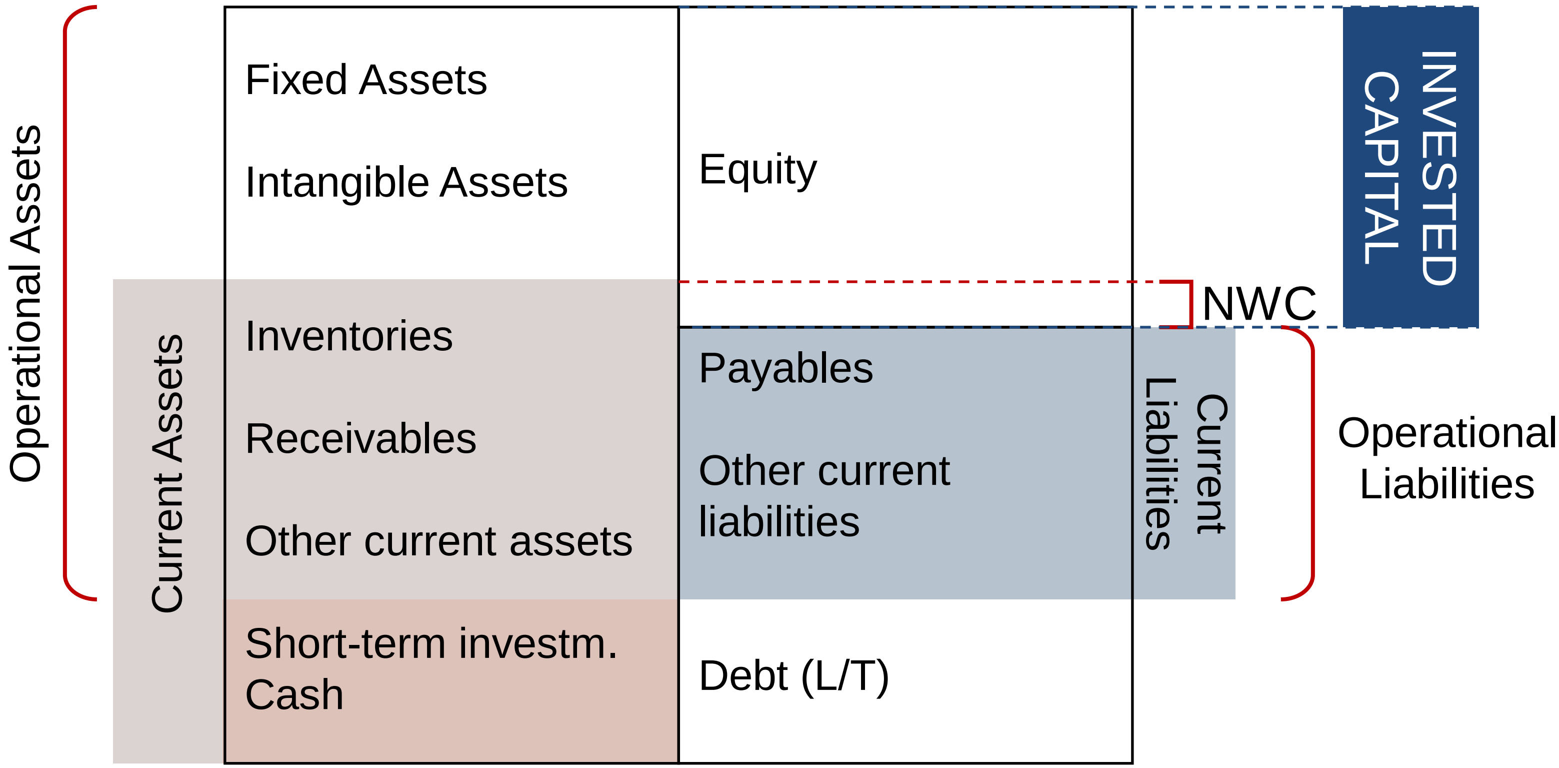
Invested Capital = Equity + Net Debt = 42 + 23 – (3 + 13) = **49**

= Fixed Assets + Intangibles + CA – CL – Cash = 28 + 8 + 62 – 33 – 16 = **49**

= Operating Assets – Operating Liabilities = (28 + 8 + 26 + 16 + 4) – (24 + 9) = **49**

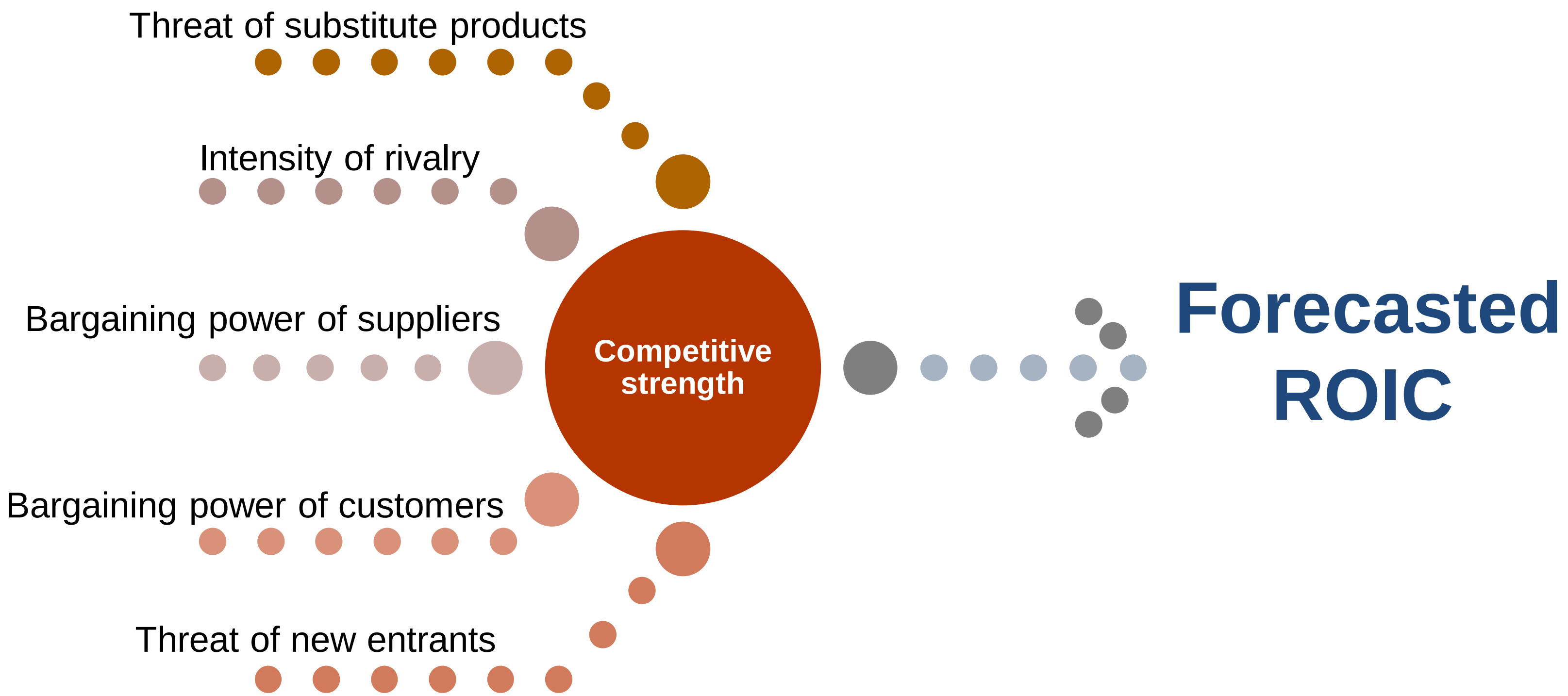
	Fixed Assets	28	Equity	42	
	Intangible Assets	8			
Current Assets	Inventories	26	Payables	24	Current Liabilities
Current Assets	Receivables	16	Other CL	9	Current Liabilities
Current Assets	Other CA	4	Debt (L/T)	23	
Current Assets	Short-term inv.	3			
Current Assets	Cash	13			

INVESTED CAPITAL



ROIC AND COMPETITIVE ADVANTAGE

- **Understanding the competitive strength of the industry** in which a company operates helps an analyst forecast profitability and, hence, ROIC.
- Tools to assess the competitive structure of an industry include Porter's five forces.



COMPETITIVE PRESSURES AFFECTING PRICES AND COSTS

- Ability to **control costs** affects a company's ROIC
  - A company that has <u>weak bargaining power with suppliers</u> has less ability to control costs

- Ability to **control prices** affects a company's ROIC
  - A company that has <u>weak bargaining power with customers</u> is less able to control prices
  - If there are <u>lower barriers to entry</u> for an industry, companies in the industry may not be able to control prices
  - If there is a <u>strong threat of substitutes</u>, a company has less ability to control prices
  - A company in an industry with <u>intense rivalry</u> will not be able to control prices

JUDGING THE COMPETITIVE POSITION: EXAMPLES

Industry	Competitive position
Fast food industry • Many convenient locations • Low start-up costs • Alternatives available	?
Mobile phone industry • Capital requirements for manufacturing • Patents for hardware and software • Innovation-driven market • Many substitutes • Ties to service providers	?

FORECAST HORIZON

- Factors affecting forecast horizon include the following:
  - **Investment strategy** for which the stock is being considered
  - **Cyclicality** of the industry
  - Company-specific factors
  - Analyst’s employer preferences

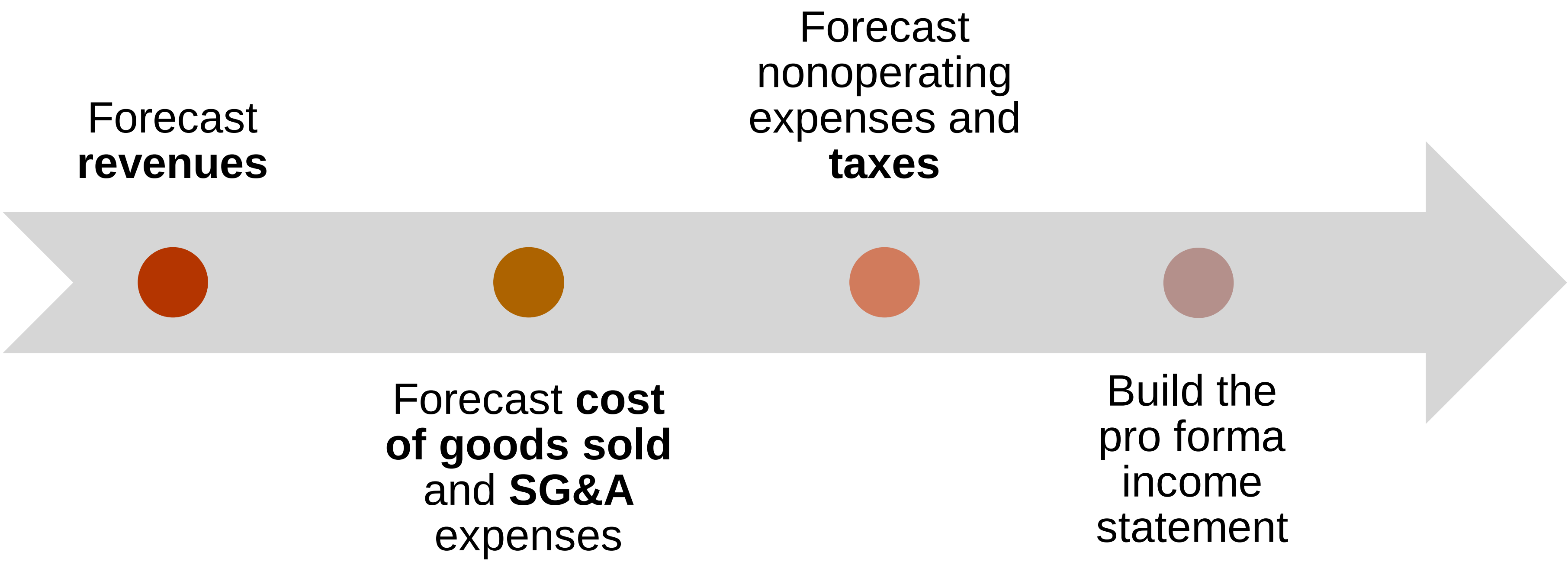
- Longer-term projections may give a better picture of the **normalized** earnings of a company.
  - **Normalized earnings** are the expected level of sales mid-cycle, but without unusual or temporary factors.

PROJECTIONS BEYOND THE SHORT-TERM HORIZON

- Beyond the short-term horizon, an analyst estimates a **terminal value**.
- Methods of estimating a terminal value include
  - multiples (historical or adjusted historical) and
  - discounted cash flow (DCF)
- Considerations
  - When will the future look different than the past—that is, where is the inflection point?

- Economic disruptions
- Regulation
- Technology
- Sustainable long-term growth

CONSTRUCTING THE PRO FORMA INCOME STATEMENT



CONSTRUCTING THE PRO FORMA CASH FLOW STATEMENT AND BALANCE SHEET