Financial Analysis Fundamentals

Virginia Institute of Finance and Management

Learning Objectives

- Undertake a comprehensive financial analysis using wide range of ratios
- Use ratios to analyze the income statement and profitability.
- Look at ratios to analyze operating assets and asset utilization.
- Analyze capital structure with ratios.
- Recommend how a business can improve operations, capital structure, and asset utilization.
- Use the DuPont Pyramid of ratios to get a more comprehensive view of a business.

Profitability & Return Ratio Analysis

Virginia Institute of Finance and Management

What Is Best Practice Financial Analysis

1. **Gather**

   Get multiple years of historical financial statements (i.e., income statement, balance sheet, and cash flow statement).

2. **Calculate**

   Calculate financial ratios that provide a broad range of perspectives on the business (e.g., liquidity ratios, profitability ratios, and solvency ratios).

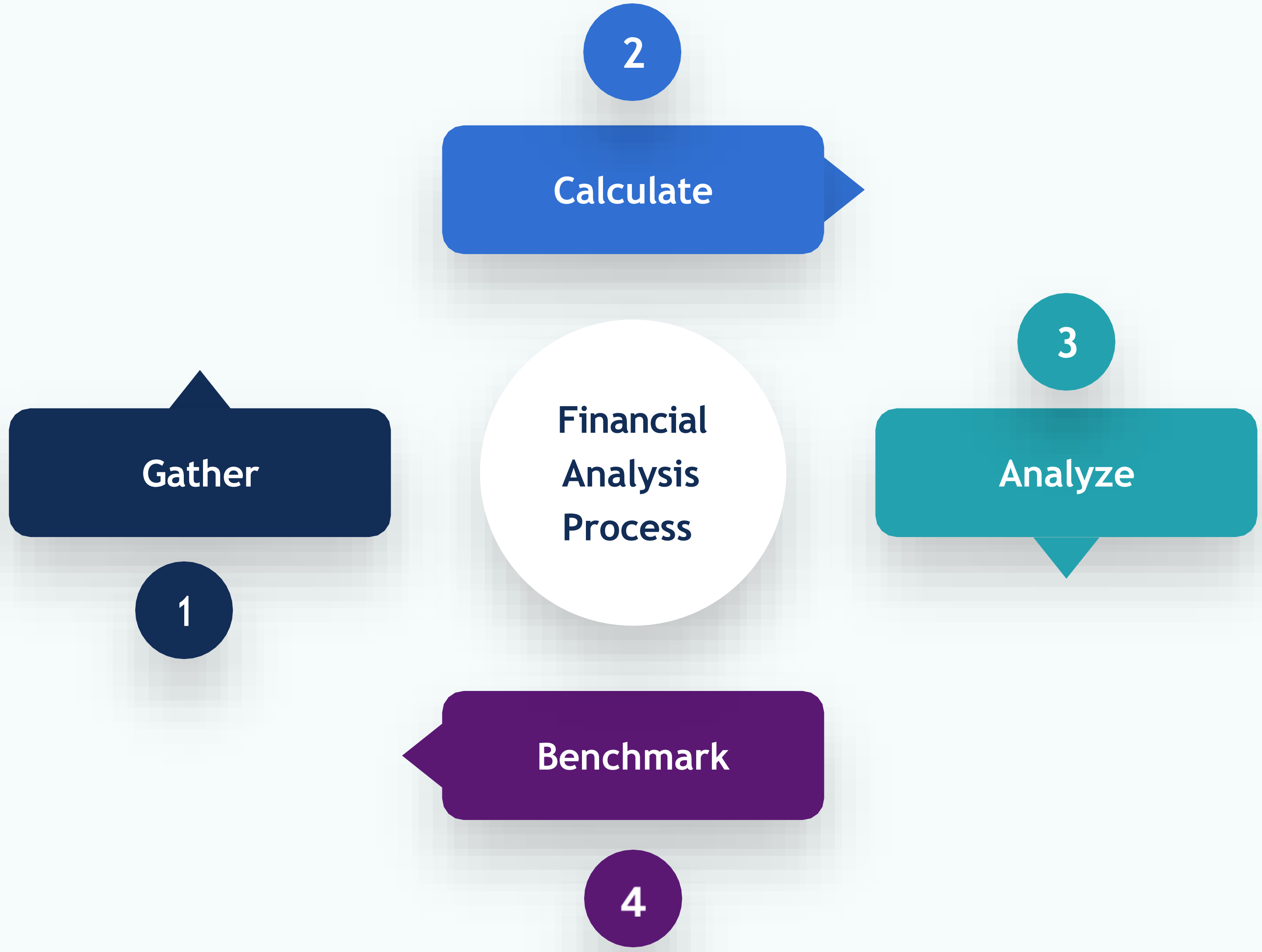
3. **Analyze**

   Interpret the calculated ratios and uncover trends and stories (e.g., a declining profitability ratio may indicate inefficiencies).

4. **Benchmark**

   Benchmark with an appropriate peer group or industry averages (e.g., evaluate how the company fares in relation to its competitors or industry).

What Is Best Practice Financial Analysis



Critical Tips for Effective Financial Analysis

- Gather a minimum of five years of historical financial performance to better identify trends over time.

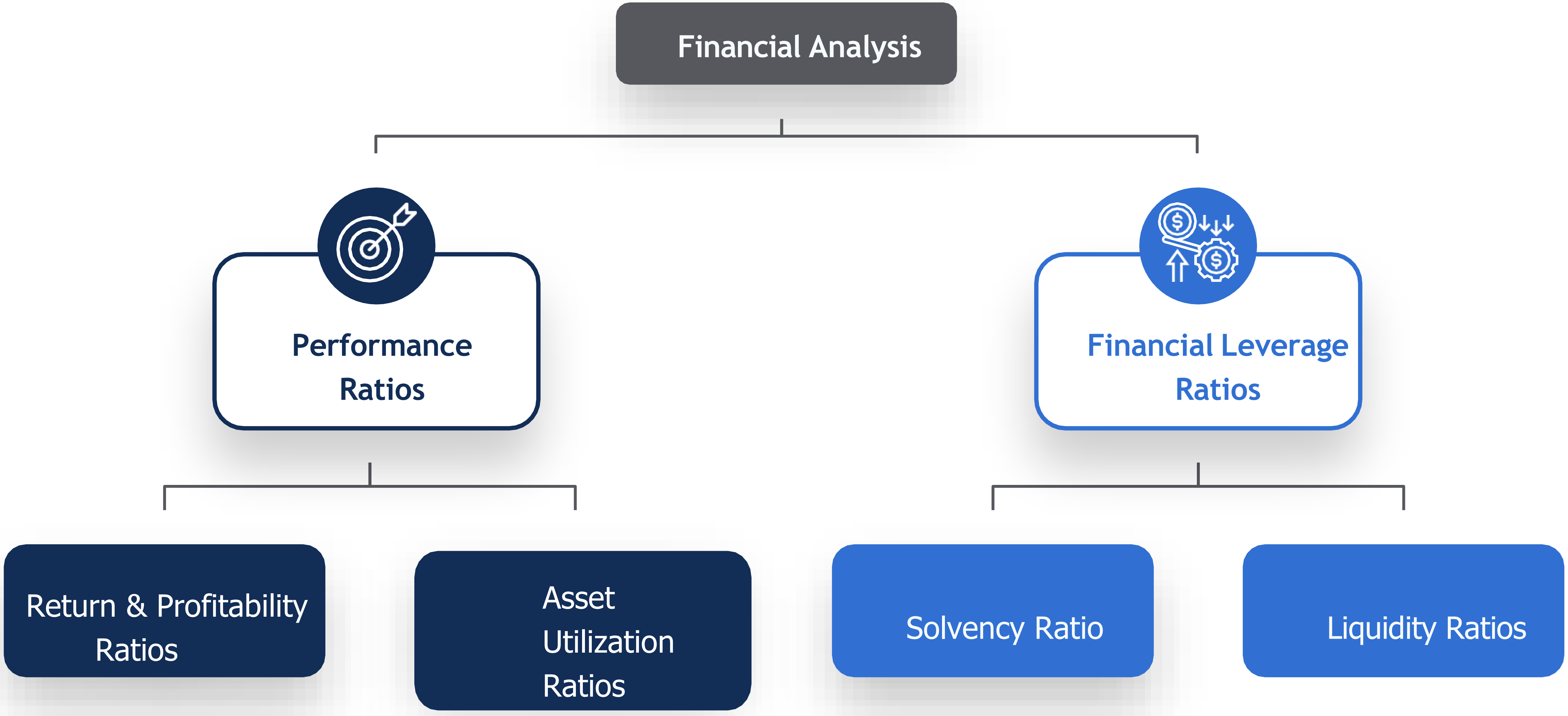
Make your calculations in Excel transparent so that you can trace from financial statements to ratios.

Need to identify an appropriate peer group, which is broader in scope, as it is rare to find two companies that are exactly similar.

Keep adjustments of ratios to a minimum, as there is more room for error to creep in.

Averages are typically more academically sound, but in practice, virtually everyone uses closing balances.

Financial Analysis Ratio Categories



Quick Recap of the Three Financial Statements

Let's do a quick Recap of the three financial statements.

Income Statement

- Revenues
- Expenses
- Profit Or loss

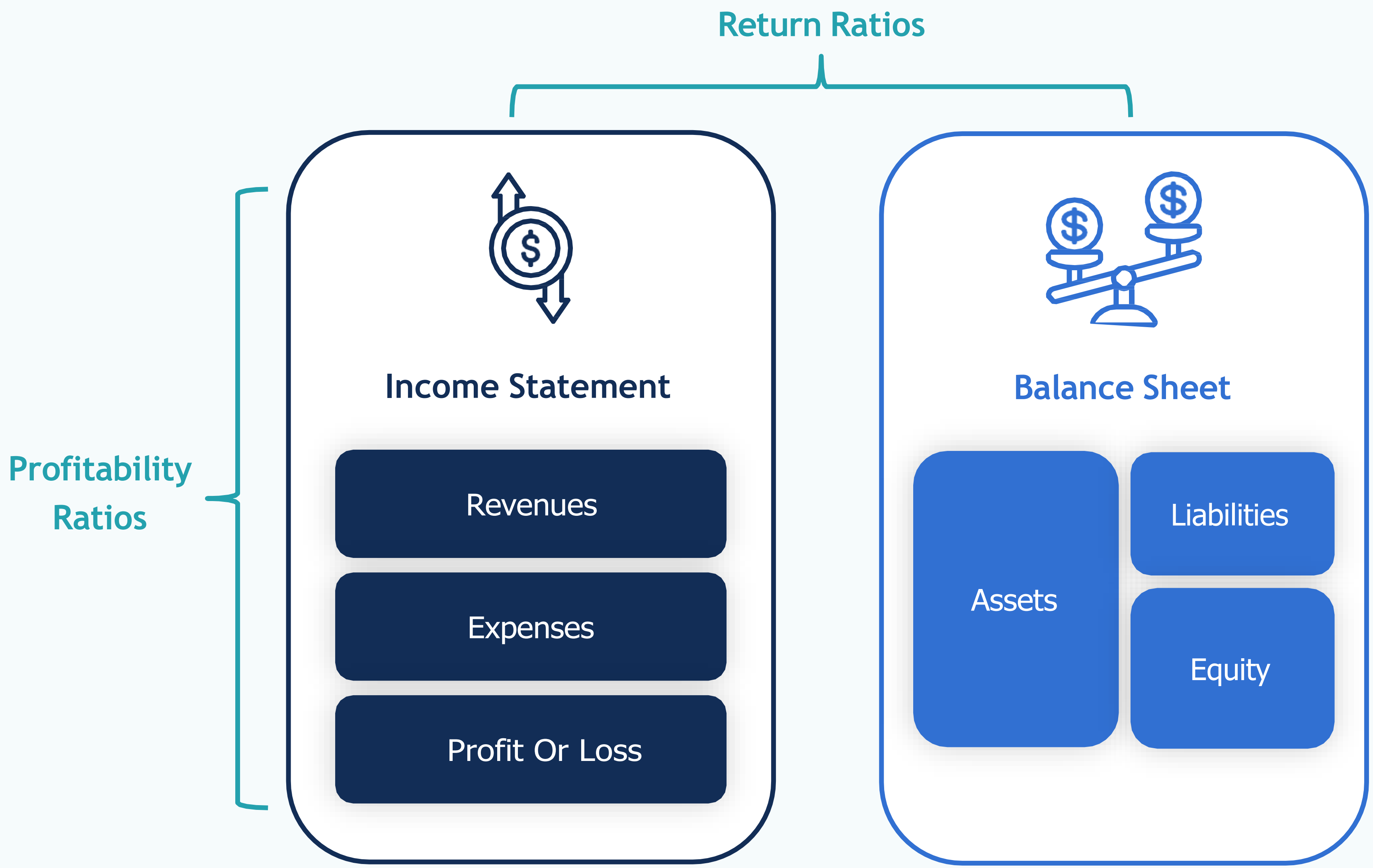
Balance Sheet

- Assets
- Liabilities
- Equity

Statement of Cash Flows

- Operating
- Investing
- Financing

Quick Recap of the Three Financial Statements



Return Ratios

Return ratios are essential for **evaluating investment returns.**

ROA (Return on Assets)

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

ROE (Return on Equity)

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

ROIC (Return on Invested Capital)

$$\text{ROIC} = \frac{\text{Net Operating Profit}}{\text{Net Debt} + \text{Equity}}$$

NOPAT = EBIT x (1 - Tax Rate)

Return Ratios

Finding Comparable

It is Important to ensure the **metrics being compared** are of **same nature and relevance.**

ROE
(Return on Equity)

Profit that belongs to **shareholders** → Net Income

Divide net income by **equity** → Total Equity

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

Focuses on returns generated for **equity investors.**

Return Ratios

Finding Comparables

It is important to ensure that the **metrics being compared** are of the **same nature and relevance.**

ROIC
(Return on Invested Capital)

Profit that belongs to **debtholders and shareholders**

Net Operating Profit

Debt + Equity

Divide the **net debt** by **equity**

Calculates a profit figure that excludes interest expenses, representing the returns to debtholders.

Profitability Ratios

Gross Profit Margin

$$\frac{\text{Gross Profit}}{\text{Revenue}}$$

For these profitability ratios, the **higher the percentage, the better.**

Income Statement

Revenues (Net Sales)

Direct Operating costs

Gross profit

Indirect Operating costs

EBITDA

Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA)

Depreciation & Amortization

EBIT

Earnings Before Interest & Taxes (EBIT)

Cost of debt

EBT

Earnings Before taxes

Net Income

Profitability Ratios

Expense Ratio Examples

$$\frac{\text{Direct Operating Cost}}{\text{Revenue}}$$

or

$$\frac{\text{Indirect Operating Cost}}{\text{Revenue}}$$

Income Statement

Revenues

Direct operating costs

Indirect operating costs

Depreciation and amortization

Cost of debt financing

Taxes

Net Income

Profitability ratios can also **compare individual expense lines** to Revenues.

For these expense ratios, the lower the number, the better.

Additional Tax Ratios

Effective Tax Rate

Total Taxes

Earning Before Tax

This ratio shows how well a company **manages its taxes.**

Tax Burden

Net Income

Earnings Before Tax

This ratio shows how much is **left for shareholders**

Example

Tax Burden =

Shareholders are receiving **70% of earnings before tax.**

Effective Tax Rate = P00% - 70%

Effective Tax Rate = 30%

Additional Interest Ratios

Effective Interest Rate

$$\frac{\text{Total Interest Expense}}{\text{Total Interest-Bearing Liabilities}}$$

It is **crucial** to use the **gross interest expense.**

When using balance sheet figures, some analysts will look at **averages over two years.**

In this course, we are using the **current year's balance sheet accounts.**