

Learning Module 5: Company Analysis: Past and Present

LOS 5a: describe the elements that should be covered in a thorough company research report

Financial analysts utilize specialized models when examining financial statements. The objective is to assess and offer investment guidance on issuers' equity securities. These aren't just any models; they're quantitative blueprints that echo an analyst's anticipations for the future – encompassing future earnings scenarios, cash flows, and the financial stance of the company in question.

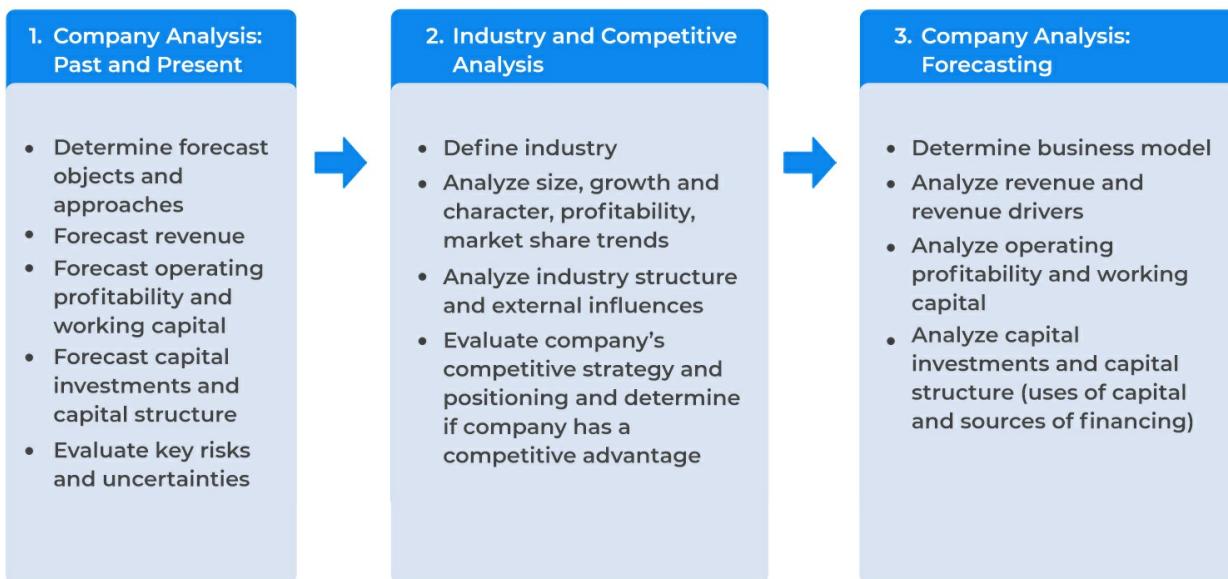
It's crucial to understand that these models don't equate to mathematical problems with a singular correct answer. They're reflections of the analyst's viewpoints. And like any professional viewpoint, they should be anchored in evidence and fortified by thorough scrutiny.

Company and Industry Analysis

Company and industry analysis is the process of forming and justifying a view of an issuer's future financial results and position. This involves studying past and present financial statements to form a view of future financial results.



Company and Industry Analysis Framework



The above figure summarizes company and industry analysis. Starting from the left:

- **Company Analysis: Past and Present:** This is the foundational block, where analysts dive deep into a company's historical data and present circumstances. It involves understanding the business model, revenue streams, and capital structures. For example, an in-depth examination of a company's historical financial statements would fall under this category.
- **Industry and Competitive Analysis:** Moving a step further, analysts venture into the broader industry landscape. This is where they gauge the industry's size, growth trajectories, profitability metrics, and market share trends. Additionally, they gauge the industry's size, growth trajectories, profitability metrics, and market share trends.
- **Company Analysis: Forecasting:** The final stretch of the analysis focuses on the future. Using insights gleaned from the previous stages, analysts project future revenue, profitability, capital investments, and potential risks. It's this forward-looking perspective that helps analysts predict a company's future earnings and cash flows, forming the basis for investment recommendations.

In essence, the framework provides a structured approach, ensuring that analysts consider all critical factors before making investment recommendations.

Company Research Reports

Initial Reports

The company research reports contain analysts' company and industry analysis, as well as their valuation and investment recommendations. The structure, content, and tone of a company research report are dependent on the analyst's setting.

In the case of public issuer equity securities, reports created for external clients, known as "sell-side reports," typically include a comprehensive initial report when the analyst starts covering the security. This is often called an "initiating coverage" report or "initiation."

The structure of the initial company research report is given in the following table:

Initial Company Research Report Elements

Section	Details
Front Matter	Issuer, security, analysts recommendation, target prices, disclosures, disclaimers, legal
Recommendation	Analysts' summary reasons.
Company Description	Issuer's business model, strategy, key charts and figures.
Industry Overview and Competitive Positioning	Analysis of industry metrics, competitive landscape, external influences, industry position, strategy.
Financial Analysis and Model	Evaluation, forecasting of revenue, costs, profitability, cash flows, financial statements.
Valuation	Estimation of company, security values, target prices, discussion on key inputs, analyses.
ESG Considerations	Assessment of ESG indicators, risks, ownership structure, management composition, executive compensation.
Risks	Evaluation of potential risks impact on financial analysis and valuation.

Subsequent Company Research Report

Follow-up reports are more concise compared to the initial ones. These reports are designed for readers already acquainted with the issuer or security, seeking updates related to new data, analyses, or shifts in the analyst's recommendations.

The structure of a subsequent report depends on the analyst's setting and the nature of the report. For example, an analyst might deliver a short verbal report or a few presentation slides to update the internal team on the latest financial results of Microsoft Corp.

The typical elements of subsequent elements are given in the table below:

Subsequent Company Research Report Elements

Section	Details
Front Matter	<ul style="list-style-type: none"> - Analysts' names - Issuer name - Security and exchange identifiers (e.g., symbol, CUSIP) - Analysts' recommendation: buy, hold, sell - Current security price and analysts' target price - Disclosures, disclaimers, and other legal requirements
Recommendation	<ul style="list-style-type: none"> - Analysts' updated recommendation - Summary of changes from the prior recommendation - Supporting explanations for any changes
Analysis of New Information	<ul style="list-style-type: none"> - Comparison of quarterly results to projections - Interpretation of new data - Adjustments to prior forecasts based on new data
Valuation	<ul style="list-style-type: none"> - Review of prior financial statement forecasts - Updated forecasts based on new data - Updated company and security value estimates - Discussion of any changes from the prior report's valuation
Risks	<ul style="list-style-type: none"> - Updated risk factors - Detailed discussion of any changes from prior risk assessments

Question

Which of the following is the *most likely* primary factor that determines the structure of a subsequent report after the initiating coverage report?

- A. The analyst's setting and the nature of the report.
- B. The financial models used in the report.
- C. The future earnings and cash flows of the issuer.

The correct answer is A.

The primary factor that determines the structure of a subsequent report after the initiating coverage report is the analyst's setting and the nature of the report. The analyst's setting refers to the context in which the analyst is working, including the type of firm, the analyst's role, and the audience for the report. The nature of the report refers to the purpose of the report, such as whether it is an update on a company's financial performance, a response to a significant event affecting the company, or a change in the analyst's recommendation.

The report's structure is customized to fit specific circumstances. For instance, a report about a company's quarterly earnings may emphasize comparing actual results with the analyst's past forecasts and consensus estimates. In contrast, a report addressing a major event might center on analyzing how the event affects the company's future outlook.

B is incorrect. While the financial models used in the report are an important part of the analysis, they do not determine the structure of the report. The models are tools that the analyst uses to support his or her analysis and recommendations. It's noteworthy that the structure of the report is determined by the analyst's setting and the nature of the report.

C is incorrect. The future earnings and cash flows of the issuer are important factors that the analyst will consider in their analysis, but they do not determine the

structure of the report. The analyst will use financial models to forecast the issuer's future earnings and cash flows and to value the issuer's securities, but the structure of the report is determined by the analyst's setting and the nature of the report.

LOS 5b: determine a company's business model

Understanding a company's business model is the first step in conducting an industry and company analysis. This process is crucial as it helps in summarizing the key drivers of a company's financial results and position. It also assists in focusing on areas that require further investigation and sets the analyst's expectations for the issuer.

For instance, if we consider a company like Apple Inc., understanding its business model would involve understanding its revenue streams, key products and services, its target market, and its competitive advantage in the technology industry.

Key Elements of a Business Model

A business model describes a company's operations and includes several elements. Analysts investigate these elements by answering key questions. The answers to these questions are company-specific, but the key questions are common across industries and companies. Some companies have a conventional business model, such as a retailer like Walmart or a natural resource producer like ExxonMobil, which simplifies business model identification. Analysts often focus their analysis on the differences in a company's business model from a conventional model or those of its competitors.

Detailed Business Model Analysis for Analysts

Business Model Element	Key Questions for Analysts	Explanation
Goods or Services offered	What offerings does the company bring to the market?	Core of any business. Analysts assess offering nature, features, benefits, and uniqueness.
Primary customers and customer Segments	Who is the company's target demographic?	Crucial for determining scale, pricing, and marketing. Identify main customer segments.
Sales channels, including customer acquisition and product/service delivery mechanisms	How does the company reach potential and current customers and deliver products?	Effective ways to get product to the customer. Understand distribution, retail, online platforms. Evaluate product/service delivery.
Pricing Model and Payment Conditions	How does the enterprise set its pricing, and what are the payment conditions?	Influence on company's revenue. Analyze pricing strategy and payment terms.
Dependencies: Suppliers and Collaborative Entities	Which external entities does the company depend upon, and how does it manage relationships?	Gauge company's dependency, risks, and bargaining power. Understand relationships with external entities.

Sources of Information for Determining a Business Model

To analyze and understand a company's business model, analysts require various information sources. These sources provide insights into a company's operations, financial performance, strategies, and market positioning. Let's delve deeper into these sources and understand their significance and utility.

1. Issuer Sources

Issuer sources are directly provided by the company and tend to be the most reliable for understanding company-specific operations and strategies.

- **Regulatory filings:** These, especially annual (10-K) and quarterly reports (10-Q), contain a wealth of information about a company's financial performance, risk factors, strategies, and more.
- **Earnings calls:** Management discusses recent performance and future outlooks, and analysts can ask questions directly.
- **Investor events:** These provide deeper insights into specific segments or strategies of the company.
- **Press releases:** Offer timely updates on recent developments, product launches, or mergers and acquisitions.
- **Direct communications:** Conversations with company personnel can provide nuanced insights.
- **Company website:** A hub of information, including company history, product details, and more.

2. Public Third-party Sources

These are external sources that provide a broader perspective on industry trends, economic factors, and more.

- **Industry reports:** Offer a comprehensive view of industry trends, challenges, and opportunities.
- **Economic indicators:** Help in understanding the macroeconomic environment in which the company operates.
- **News outlets:** Provide current events and developments that might impact the company.

- **Social media:** Offers real-time insights and public perception about the company and its products.
- **Search engines:** A vast resource for miscellaneous information, from customer reviews to academic papers.

3. Proprietary Third-party Sources

These are specialized sources that provide in-depth, often paid, insights and analyses.

- **Analyst reports:** Detailed reports by experts on company performance, industry comparison, and forecasts.
- **Data platforms:** Platforms like Bloomberg and FactSet offer real-time data, analytics, news, and more.
- **Consultancy reports:** In-depth industry insights, such as Rystad in energy, Gartner, and IDC in information technology, are often based on proprietary research methodologies.

4. Proprietary Primary Research

This involves firsthand research conducted or commissioned by the analyst. It's tailored to the analyst's specific requirements.

- **Surveys:** Gather data directly from customers, suppliers, or other stakeholders.
- **Product comparisons:** In-depth analyses of how a company's product stands against competitors.
- **Interviews:** Conversations with industry experts, former employees, or others can provide unique insights.

A blend of these information sources provides a comprehensive understanding of a company's business model, its competitive positioning, and potential future performance.

Question

What is *most likely* the role of issuer sources in determining a company's business model?

- A. They provide information about the company's competitors.
- B. They provide information about the company's stock price.
- C. They provide information through regulatory filings, especially the annual and quarterly reports, and other issuer-related sources.

The correct answer is **C**.

Issuer sources are vital for understanding a company's business model, and they do this by sharing information in regulatory filings, particularly in the annual and quarterly reports and other documents related to the company. These sources are a goldmine of information about the company's activities, financial health, future plans, and the risks it faces. They offer a glimpse into the company's business model, including how it makes money, manages costs, targets specific customer groups, defines its unique value, and competes in the market.

Regulatory filings, such as the annual report (Form 10-K) and quarterly report (Form 10-Q), are required by securities regulators and are publicly available. They contain audited financial statements, management's discussion and analysis (MD&A), disclosures about market risk, and other important information. Other issuer-related sources may include press releases, investor presentations, conference call transcripts, and corporate websites. These sources can provide timely and detailed information about the company's recent developments, management's outlook, and other relevant issues.

A is incorrect. While issuer sources may contain some information about a company's competitors, their primary role is not to provide information about the competition. Information about competitors is typically obtained from industry

reports, market research, news articles, and other external sources.

B is incorrect. Issuer sources do not directly provide information about the company's stock price. The stock price is determined by the market and can be influenced by a variety of factors, including the company's financial performance, market conditions, investor sentiment, and other factors. While issuer sources can provide information that may affect the stock price, they do not provide the stock price itself.

LOS 5c: evaluate a company's revenue and revenue drivers, including pricing power

Revenues represent the total sales a company achieves within a specific period, often before any expenses or deductions. This metric offers a snapshot of a company's ability to sell its goods or services. In many ways, it serves as the lifeblood of the business, and consistent revenue growth often signals a company's expanding customer base, increased sales volume, or successful price increases.

Understanding Revenue Drivers

Revenue drivers are underlying mechanisms or factors that have a direct impact on the revenue of a company. These can range from macroeconomic factors, like overall economic growth, to micro factors, like the launch of a new product line. Grasping the intricacies of these drivers is essential to forecast future revenues accurately and to interpret past revenue trends. Additionally, understanding these drivers can help analysts anticipate changes in revenue based on projected changes in these drivers.

Methodologies to Determine Revenue Drivers

While financial statements give us the 'what' of revenue figures, they don't necessarily explain the 'why.' To truly grasp what's driving revenue changes, analysts employ methodologies to unravel the underlying causes. Two principal methods, the bottom-up approach and the top-down approach, offer distinct perspectives on this.

Bottom-up Approach

This approach is about understanding revenue from the ground level and building upwards. It's akin to assembling a puzzle by scrutinizing each piece before viewing the whole picture.

- **Granularity:** The bottom-up approach demands a granular view. For instance, if we consider a bookstore, this method would involve looking at sales for each book genre, then perhaps each author, and even individual titles.

- **Focus on Components:** Using the bookstore example further, one might study how many copies of each title were sold and at what price. This provides clarity on which titles or genres are the most lucrative.
- **Internal Factors:** The bottom-up approach heavily leans on internal data. It evaluates how individual segments contribute to the overall revenue, allowing a deeper understanding of the company's operations and product performance.

Example: Consider a global sportswear brand like Adidas. Using a bottom-up approach, one might start by analyzing revenue from distinct product lines such as footwear, apparel, and accessories. Further, each product line can be dissected by regions like North America, Asia, and Europe. This granular analysis helps pinpoint the product in which region is driving growth or lagging behind.

Top-down Approach

This method is the opposite of the bottom-up approach. Instead of starting with the smallest revenue components, it begins by analyzing the broader market and then narrowing down to the company's specific revenue.

- **Market Overview:** The top-down approach starts by gauging the total market size. For a tech company like Apple, it would involve looking at the global electronics or smartphone market's total value.
- **Market Share Analysis:** After understanding the market's size, the focus shifts to the company's slice of the pie. Using Apple as an example again, one would analyze its share in the global smartphone market.
- **External Factors:** This approach emphasizes external data and trends. It factors in market growth rates, competitor activities, and regulatory changes, giving a holistic view of the external factors influencing revenue.

Example: Brands like Rolex can charge premium prices for their watches not just because of the product's inherent quality but also due to the brand's legacy, exclusivity, and prestige associated

with owning a Rolex.

Pricing Power: A Critical Determinant of Revenue

At the heart of a company's revenue stream lies its pricing strategy. While on the surface, it might seem like companies have total control over their prices, the actual dynamics are deeply interwoven with market conditions and the company's position within its industry. **Pricing Power** refers to a company's ability to alter its product or service prices without seeing a corresponding drop in sales volume.

It's an indicator of the company's resilience to price changes in relation to customer demand.

Example: Imagine a brand 'HydroClear' that sells a unique water purification system. If they slightly increase their price due to the unmatched quality they offer, and sales remain stable, they demonstrate a strong pricing power.

Factors Influencing Pricing Power

Several elements come into play when determining the extent of a company's pricing power:

1. **Market Structure:** The competitive landscape of the industry significantly impacts pricing decisions. Monopolies may have high pricing power due to lack of competition, whereas in a competitive market, companies might have to adhere to industry price standards.
2. **Company's Competitive Position:** The company's reputation, brand loyalty, product uniqueness, and standing in comparison to competitors can heavily influence its ability to set and change prices.

Challenges in Highly Competitive Markets

Highly competitive markets present unique challenges for companies trying to establish themselves and remain profitable. Here's a deeper dive into the intricacies of such markets:

- **Price Takers, Not Makers:** In saturated markets, companies often have limited flexibility in setting prices. They are typical "price takers," meaning they have to adjust

to the prevailing market price. For instance, in the smartphone market, if one brand offers similar features as a popular brand but at a much higher price, consumers might opt for the more affordable, well-known option.

- **Threat of Price Wars:** Companies might be tempted to undercut competitors by reducing prices. However, this can lead to "price wars," where everyone drops prices, often to the detriment of profit margins. A classic example is the airline industry, where frequent price wars can erode profitability.
- **Marginal Profits:** With prices often driven down to the marginal cost due to intense competition, there's little room for significant profits. Only those with a cost advantage, like companies that have achieved economies of scale, can hope for better returns.
- **Homogeneity Over Uniqueness:** With little to no product differentiation, products become almost indistinguishable from one another. Think of bottled water brands; many offer the same product, making it hard for consumers to distinguish based on the product alone.
- **Low Barriers to Entry:** The easier it is for new companies to enter the market, the tougher the competition. For instance, setting up an online retail store has become relatively easy, leading to a plethora of choices for consumers and fierce competition among sellers.
- **High Substitutability:** With numerous alternatives available, brand loyalty can be hard to achieve. For instance, if one brand of toothpaste is unavailable, consumers might easily switch to another brand without much thought.
- **Commoditization:** Over time, as products become more standardized and innovation slows, markets can become commoditized. A product that was once unique becomes commonplace. An example is the television market, where flat-screen TVs, once a novelty, have become the standard.

Advantages in Less Competitive Markets

Companies operating in less saturated markets or those with unique offerings often enjoy distinct advantages that allow them to maintain and grow their profitability. Here's a detailed look at the benefits of operating in such environments:

- **Pricing Power:** With limited competition, these firms can set their prices without much concern for undercutting or price wars. For instance, a unique software solution that addresses a specific industry pain point can demand premium pricing due to its distinctiveness.
- **Product Differentiation:** In less competitive markets, the products or services often stand out. They're not just another option among many; they're THE option. Apple, for instance, has carved a niche for itself with its ecosystem, making its products distinct from other tech offerings.
- **Barriers to Entry:** Certain markets are hard to penetrate due to high startup costs, stringent regulations, or the need for specialized knowledge. Pharmaceutical companies with patented drugs enjoy a period of market exclusivity where they face no competition.
- **Switching Costs:** In industries where changing a provider involves significant cost, time, or effort, existing companies enjoy customer loyalty. For example, businesses using a specific CRM system might find it expensive and time-consuming to migrate data to a new system.
- **Brand Loyalty:** When customers are deeply loyal to a brand, they're less price-sensitive and more forgiving of occasional missteps. Luxury brands like Louis Vuitton or Chanel command loyalty and can charge premium prices due to the perceived value and status they offer.
- **Value and Cost-based Pricing:** Companies with pricing power can strategically set prices based on the perceived value to the customer or based on costs, ensuring healthy profit margins. A unique artisanal café can charge more for its handcrafted brews compared to regular coffee shops.
- **Diversified Offerings:** Beyond the core product, companies in less competitive

markets can offer auxiliary services or products, enhancing the overall customer experience. A software company might offer dedicated customer support, training, or customization, adding layers of value to the primary product.

While highly competitive markets require firms to be razor-sharp in their strategies and operations, less competitive markets offer breathing room and avenues for sustained profitability. However, it's worth noting that such advantages don't grant companies a free pass—they still need to innovate, deliver value, and maintain their unique position to continue enjoying these benefits.

Analyzing Pricing Power

For analysts, gauging a company's pricing power isn't solely about tracking its price tags. It's also about comparing these prices with operational costs, leading to insights on **profit margins**. If a company can't raise its prices in the face of rising costs, it may indicate weak pricing power.

Example: Consider an artisanal bakery using high-quality ingredients. If ingredient costs rise and the bakery can't increase prices due to fierce competition from commercial bakeries, it suggests limited pricing power.

Question

Which of the following *most likely* describes pricing power as a revenue driver? A company's ability to:

- A. Raise prices without losing customers.
- B. Lower prices without losing customers.
- C. Maintain prices without losing customers.

The correct answer is A.

Pricing power refers to a company's ability to raise prices without losing customers. This is a significant revenue driver as it directly impacts a company's profitability. Companies with strong pricing power can increase their prices over time, thereby increasing their revenues and profits, without experiencing a significant drop in demand for their products or services.

This is often a sign of a strong brand, high-quality products, or a lack of competition. Pricing power is a key indicator of a company's competitive advantage and its ability to generate sustainable profits over the long term. It is a crucial factor for investors to consider when evaluating a company's investment potential.

B is incorrect. A company's ability to lower prices without losing customers does not refer to pricing power. While being able to lower prices can be a competitive advantage in certain situations, it does not necessarily translate into higher revenues or profits. In fact, it could lead to lower profit margins if not managed properly.

C is incorrect. A company's ability to maintain prices without losing customers is not the definition of pricing power. While maintaining prices can be important, especially in a competitive market or during periods of inflation, it does not provide the same potential for increasing revenues and profits as the ability to raise prices.

LOS 5d: evaluate a company's operating profitability and working capital using key measures

Operating profitability and working capital are two key measures used to evaluate a company's financial health. Operating profitability measures how much profit a company makes on a dollar of sales after paying for variable production costs but before paying interest or tax. Working capital, on the other hand, is a measure of both a company's operational efficiency and its short-term financial health. It is calculated as current assets minus current liabilities.

Operating Costs

Operating costs are expenses associated with the day-to-day operations of a business. For example, in a manufacturing company, these costs might include raw materials, direct labor costs, and overheads such as rent and utilities. Operating costs also include the management of business activities and compliance with laws and regulations. For instance, a pharmaceutical company would have to bear costs related to regulatory compliance and quality control.

Operating costs account for the majority of costs for most companies and are primarily determined by the company's business model and size. For instance, a software development company would have high research and development costs, while a retail company would have high inventory costs.

Recall that financing costs include payments to debt and equity investors as a return on their investment. For example, a company that has issued bonds would have to bear interest costs, which are a type of financing cost. On the other hand, Financing costs include payments to debt and equity investors as a return on their investment. For example, a company that has issued bonds would have to bear interest costs, which are a type of financing cost.

Classification of Operating Costs

Operating costs can be categorized into three groups: by their behavior with output, their nature, or their function. Consider the following table:

Categories	Description	Types
Behavior with Output	Costs change with production or service levels (short term)	Variable and Fixed costs, short-term fluctuation regardless of volume
Nature (Type of costs)	Specific expenditure category or nature	Raw goods and Office essentials
Function (Purpose of Cost)	Primary expense reason or objective	Employee salaries, Product manufacturing, Promotional activities, Administrative tasks, Innovation, improvement

Fixed and Variable Costs

Operating costs are essential components of a company's financials, influencing profitability. To analyze a firm's potential profitability and cost structure, these costs can be divided into fixed and variable components.

1. Fixed Costs (FC)

Fixed costs remain unchanged over a specific period or range of production levels. Even if a company produces more or fewer units, these costs stay constant.

- **Examples:**

- *Salaries:* Monthly salaries paid to employees are fixed costs. Whether the company produces 100 or 1,000 units, these salaries remain the same.
- *Depreciation:* The depreciation of machinery or equipment doesn't change with the number of units produced.
- *Rent:* Rent for a factory or office space remains constant, regardless of production levels.

2. Variable Costs (VC)

Variable costs change with the level of production or services provided. When production

increases, variable costs go up, and vice versa.

- **Examples:**

- *Materials:* The more units produced, the more materials are required, increasing the cost.
- *Direct Labor:* In some industries, labor costs may increase with more units produced, especially if overtime or additional shifts are needed.
- *Utilities:* Operating machinery for longer periods might increase electricity costs.

Operating Profit Calculation

The relationship between fixed and variable costs, the number of units sold, and the sale price determines the operating profit of a company. Here's how it's calculated:

$$\text{Operating Profit} = [Q \times (P - VC)] - FC$$

Where:

Q = Units of outputs sold in a period.

P = Price per unit of output.

VC = Variable operating costs expressed per unit of output.

FC = Fixed operating costs, which do not change within a given range of output in the short run.

Example: Calculating Operating Profit

Let's consider a company, 'ToyBox Inc.', that manufactures toys:

- Fixed Costs (FC) = \$10,000 monthly (includes salaries, rent, and depreciation)
- Variable Costs (VC) = \$5 per toy (includes materials and direct labor)

- Each toy is sold for a price (P) = \$20

If ToyBox Inc. sells 1,000 toys (Q) in a month, the operating profit can be calculated as:

$$\text{Operating Profit} = [1,000 \times (\$20 - \$5)] - \$10,000 = \$5,000$$

This means that after covering all fixed and variable costs, ToyBox Inc. has made a profit of \$5,000.

Operating Leverage

The amount of fixed costs in the operating cost structure of a company is referred to as **operating leverage**. The **contribution margin** is the difference between the price of a unit and the variable costs. It is calculated as ($P - VC$).

Operating leverage presents both benefits and risks. If operating costs are largely fixed, and the contribution margin is positive, operating profit can increase rapidly with increases in Q . However, if Q declines, since fixed costs do not change, operating profit will fall.

Degree of Operating Leverage (DOL)

Operating leverage can be measured and compared across firms using the degree of operating leverage (DOL). A firm can increase its DOL by increasing the fixed costs and decreasing the variable costs in its cost base.

Degree of Operating Leverage can be calculated as

$$DOL = \frac{\% \Delta \text{Operating Profit}}{\% \Delta \text{Sales}}$$

Where:

- % Operating Profit = Percentage change in operating profit.
- % Sales = Percentage change in sales.

Example: Calculating the Degree of Operating Leverage (DOL)

Based on the data below, the degree of operating leverage for TechPulse Inc. for the year ended 31 December 20Y2 is closest to:

Description	31 December 20X2 (in millions of EUR)	31 December 20X1 (in millions of EUR)
Revenue	15,000	14,000
Costs of goods sold	7,500	7,000
Selling, general, and administrative expenses	2,000	1,900
Research and development expenses	1,800	1,700
Other operating expenses	500	480
Interest expense	350	330
Other (income) expense	50	(80)
Income before income taxes	2,900	2,670
Provision for income taxes	580	534
Net income	2,320	2,136

Solution:

Given the financial data for TechPulse Inc., we can calculate the percentage change in Sales and the percentage change in Operating Profit to determine the Degree of Operating Leverage (DOL).

Step 1: Calculating the Percentage Change in Sales

$$\% \Delta \text{Sales} = \frac{\text{Sales}_{20X2} - \text{Sales}_{20X1}}{\text{Sales}_{20X1}} \times 100$$

Using the provided data:

$$\% \Delta \text{Sales} = \frac{15,000 - 14,000}{14,000} \times 100 = 7.14\%$$

Step 2: Calculating the Percentage Change in Operating Profit

$$\% \Delta \text{Operating Profit} = \frac{\text{Operating Profit}_{20X2} - \text{Operating Profit}_{20X1}}{\text{Operating Profit}_{20X1}} \times 100$$

Using the provided data:

$$\text{Operating Profit}_{20X1} = 14,000 - 7,000 - 1,900 - 1,700 - 480 = 2,920$$

$$\text{Operating Profit}_{20X2} = 15,000 - 7,500 - 2,000 - 1,800 - 500 = 3,200$$

$$\% \Delta \text{Operating Profit} = \frac{3,200 - 2,920}{2,920} \times 100 = 9.59\%$$

Step 3: Calculating the DOL

$$\text{DOL} = \frac{\% \Delta \text{Operating Profit}}{\% \Delta \text{Sales}} = \frac{9.59}{7.14} = 1.34$$

The Degree of Operating Leverage (DOL) for TechPulse Inc. for the year is 1.34. This indicates that for every 1% increase in sales, the operating profit would increase by 1.34%.

Natural and Functional Operating Cost Classifications

Instead of classifying operating costs as fixed and variable, both the International Financial Reporting Standards (IFRS) and the US Generally Accepted Accounting Principles (GAAP) allow companies to present operating costs in two main ways: Natural cost classification and Functional cost classification. Each presentation method is influenced by accounting standards and the specifics of a company's industry and history.

Natural Cost Classification

The natural cost classification method classifies costs based on their nature. For instance, salaries, rent, utilities, and raw materials. In a company's income statement with natural classification, expenses are listed as they are, without grouping them under broader functional categories.

Functional Cost Classification

In Functional cost classification, costs are grouped based on the function they serve in the business. Common functions include Cost of Sales (or Cost of Goods Sold), Selling Expenses, General and Administrative Expenses, and Research and Development Expenses.

For example, salaries might be divided between "Selling Expenses" (for sales staff) and "General and Administrative Expenses" (for office staff). This provides a clearer picture of how much is being spent on each business function.

If a company uses the functional classification method, its income statement will have a standardized structure. This makes it easier for stakeholders to compare financials across companies in the same industry.

The way a company classifies its costs gives stakeholders insights into its operations and spending patterns. Whether you're looking at costs by their nature or by the function they serve, understanding these classifications helps in analyzing a company's financial performance.

Measures of Operating Profitability

The functional classification of operating costs allows analysts to calculate and distinguish crucial operating profitability measures used in analysis and forecasting. Operating profitability provides insights into a company's core business performance without considering external factors like interest, taxes, or other non-operational costs.

Key measures of operating profitability include:

Gross Profit:

Gross profit is the difference between revenues and the direct costs associated with producing goods or services (Cost of Sales or Cost of Goods Sold). That is:

$$\text{Gross Profit} = \text{Revenue} - \text{Cost of Sales}$$

Gross profit provides an initial insight into a company's production efficiency and pricing strategy.

Gross Margin:

Most of the cost of sales tends to be variable, implying that gross margin can serve as an approximate measure of the contribution margin. Gross margin is calculated using the gross profit as:

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

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

EBITDA measure provides a view of profitability from core operational activities by excluding interest, taxes, and the non-cash expenses of depreciation and amortization. It is calculated as:

$$\text{EBITDA} = \text{Revenue} - (\text{Cost of Sales} + \text{Operating Expenses})$$

EBITDA is often used to compare profitability between companies and industries as it eliminates the effects of financing and accounting decisions.

EBITDA Margin:

EBITDA margin is calculated using the EBITDA as:

$$\text{EBITDA Margin} = \frac{\text{EBITDA}}{\text{Revenue}}$$

Operating Profit [EBIT (Earnings Before Interest and Taxes)]:

Also known as operating profit, EBIT further narrows down profitability by considering depreciation and amortization costs but still excluding interest and taxes. It is calculated as:

$$\text{Operating Profit (EBIT)} = \text{Revenue} - (\text{Cost of Sales} + \text{Operating Expenses} + \text{Depreciation and Amortization})$$

EBIT offers a snapshot of a company's operational profitability and its ability to cover its operating expenses.

EBIT or Operating Margin:

EBIT margin is calculated using EBIT as:

$$\text{EBIT margin} = \frac{\text{EBIT}}{\text{Revenue}}$$

Cost Drivers

The notes accompanying financial statements offer invaluable insights about the composition and nature of operating costs. Analysts and investors can dive into these notes to gain a deeper understanding of a company's cost structure and operational efficiency.

For most companies, the major driver of operating costs over the long run is output. This is because output growth often requires growth in assets, human capital, and purchased goods and services. Since output or revenue is a major cost driver, analysts often express operating costs as a percentage of revenue. Moreover, analysts consider industry profitability, economies of scale, and economies of scope.

Industry Profitability, Economies of Scale, and Economies of Scope

- The **profitability of an industry** is not just a function of the goods and services it produces. The internal competitive dynamics and the relative positioning of firms within that industry deeply influence it. Over the long term, the intensity of competition, barriers to entry, threats from substitutes, and bargaining power of both suppliers and customers collectively determine how lucrative an industry is.

For example, The smartphone industry is dominated by a few key players like Apple and Samsung. These giants have established strong brand identities and have significant market shares. Their dominant position and the high costs associated with entering the smartphone market deter new entrants, keeping the industry profitability high for these established players.

- **Economies of scale** refer to a decline in costs per unit as output grows. This generally

results from having fixed costs in the cost structure that are spread over more units of output. A company with entirely variable costs can also exhibit some economies of scale over time if it increases its bargaining power over suppliers as it grows, driving down variable costs per unit.

- **Economies of scope** refer to a decline in costs per unit as the number of products or business lines increases. This generally results from shared costs between the product lines. Examples of economies of scope can be found in financial services, where there are customer, client service, compliance, technology, and back-office similarities (and thus cost efficiencies) across various lines of business.

For example, A bank offers both credit card services and home loans. While these are distinct services, they might share customer service platforms, IT infrastructure, or even regulatory compliance systems. By leveraging these shared resources, the bank reduces the per-unit cost for each service, showcasing economies of scope.

It's important to note that claims of economies of scale or scope should be corroborated empirically.

Working Capital and Working Capital Management

Recall that working capital is calculated as:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Where:

- Current Assets are assets that are expected to be used, consumed, or converted into cash within one year or within the normal operating cycle of a business, whichever is longer.
- Current Liabilities are the company's debts or obligations that are expected to be settled within one year or within the firm's normal operating cycle, whichever is longer.

Working capital management is a key measure of a company's financial health. It involves managing the company's current assets and current liabilities to ensure it has enough to meet its short-term obligations and operating expenses.

The primary measures of a company's working capital management are activity ratios that determine the cash conversion cycles and net working capital to sales ratios.

Cash Conversion Cycle

The cash conversion cycle is a key measure of a company's working capital management. It determines how quickly a company can convert its investments in inventory and other short-term assets into cash. It is calculated as:

$$\text{Cash Conversion Cycle} = \text{DOH} + \text{DSO} - \text{DPO}$$

Where:

DOH = Days of inventory on hand.

DSO = Days sales outstanding.

DPO = Days payable outstanding.

A short cash conversion cycle means that the company requires less external financing to fund operations. This is beneficial as it reduces the company's reliance on external financing and can improve its profitability.

Net Working Capital to Sales Ratio

The net working capital to sales ratio determines the level of investment, in addition to capital investments, that cannot be distributed to investors. This ratio is important as it provides an indication of the company's ability to generate sales from its working capital. A high ratio may indicate that the company is not efficiently using its working capital to generate sales.

The Net Working Capital to Sales Ratio is calculated as:

$$\text{Net Working Capital to Sales Ratio} = \frac{\text{Net Working Capital}}{\text{Sales}}$$

Where:

$$\text{Net Working Capital} = (\text{Current assets, excluding cash and marketable securities}) - (\text{Current liabilities, excluding short-term and current debt})$$

Negative net working capital means that the company's current liabilities exceed its current assets. This implies that suppliers are a source of financing for the company. While this can provide short-term financing, it may not be sustainable in the long term and could indicate financial distress.

Question #1

Which of the following *most likely* indicates a negative net working capital?

- A. Suppliers are a source of financing for the company.
- B. The company is efficiently using its working capital to generate sales.
- C. The company requires less external financing to fund operations.

The correct answer is A.

Negative net working capital implies that a company's current liabilities exceed its current assets. This situation indicates that suppliers are a source of financing for the company. When a company has negative net working capital, it means that it is financing its operations largely through trade credit, i.e., by delaying payments to its suppliers. This can be a sign of financial distress, as it suggests that the company is not generating enough cash from its operations to meet its short-term obligations.

In certain industries, like retail, having negative net working capital might indicate effective inventory management. It means companies can sell their goods rapidly, generating revenue before they owe their suppliers. So, while negative net working capital could seem concerning, it doesn't always mean a company is in bad financial shape.

B is incorrect. Negative net working capital does not necessarily indicate that the company is efficiently using its working capital to generate sales. While it is true that a company with negative net working capital may be able to quickly turn over its inventory, this is not always the case. In fact, negative net working capital can also be a sign of financial distress, as it suggests that the company is not generating enough cash from its operations to meet its short-term obligations.

C is incorrect. Negative net working capital does not imply that the company requires less external financing to fund operations. On the contrary, it suggests that the company is relying heavily on external financing, specifically trade credit, to fund

its operations. This can be a sign of financial distress, as it suggests that the company is not generating enough cash from its operations to meet its short-term obligations.

Question #2

Industry profitability is largely dictated by market structure and a company's competitive positioning. What *most likely* determines industry profitability in the long run?

- A. Competitive forces within the industry.
- B. The company's operating costs.
- C. The company's financing costs.

The correct answer is A.

Long-term industry profitability hinges on the competitive forces at play. This idea originates from Michael Porter's Five Forces Framework, which states that the competitive landscape within an industry impacts the profitability of all its companies. These five forces consist of new entrant threats, buyer negotiation power, supplier negotiation power, threats from substitute products or services, and the level of competitive rivalry.

These forces shape the pricing power, costs, and investment required in an industry, thereby influencing the industry's overall profitability. A highly competitive industry, for example, may have low profitability due to high competition, low barriers to entry, and high bargaining power of buyers and suppliers. Conversely, an industry with few competitors and high barriers to entry may have high profitability.

B is incorrect. While a company's operating costs can affect its individual profitability, they do not determine industry profitability in the long run. Operating costs can vary widely between companies within the same industry due to differences in efficiency, scale, technology, and other factors. Therefore, while controlling operating costs is crucial for a company's profitability, it does not dictate the profitability of the industry as a whole.

C is incorrect. Similar to operating costs, a company's financing costs can impact its individual profitability but do not determine industry profitability in the long run. Financing costs are related to the way a company finances its operations and investments and can vary significantly between companies based on their capital structure, creditworthiness, and interest rates. Therefore, while financing costs can affect a company's bottom line, they do not dictate the profitability of the entire industry.

LOS 5e: evaluate a company's capital investments and capital structure

Sources and Uses of Capital

Companies invest capital that they acquire from debt and equity investors. Their primary goal is to earn returns that exceed the investors' required rates of return. A significant part of company analysis involves assessing whether these required rates of return have been met or exceeded, thereby creating economic value for investors over time.

The company analysis also includes evaluating the risks and opportunities associated with the company's capital structure, such as the use of financial leverage. The table provided below provides a snapshot of how businesses manage their financial resources, ensuring they have enough funds to operate smoothly while also making strategic investments for the future.

Sources of Capital (Where it comes from)	Uses of Capital (Where it's spent)
Operational profits including savings from working capital	- Reserving cash and making investments
Raising funds through issuing debt	- Allocating to working capital needs
Raising funds through issuing equity	- Investing in physical and intangible assets
Selling off assets	- Buying other businesses or assets (acquisitions) - Reducing outstanding debt - Distributing profits as dividends or buying back shares

Evaluation of Capital Investments

Assessing the efficiency of management in utilizing investor capital can be achieved by comparing long-term returns on invested capital to the required rates of return. Independent investment analysts, who lack the same information as management, utilize aggregated measures to gauge if there have been changes in value creation, whether positive or negative.

For example, if a company has consistently shown a high return on invested capital, it indicates effective management of investor's capital.

Understanding and Assessing Risks Related to Capital Structure

Risks associated with the capital structure can be measured using leverage and coverage ratios, credit ratings by third-party rating agencies, and the degree of financial leverage.

The **degree of financial leverage**, which is the sensitivity of net income to changes in operating income, increases with higher interest expenses that are fixed with respect to operating income. It is similar to the degree of operating leverage but is determined by financing costs rather than fixed operating costs. For example, a company with a high degree of financial leverage may see a significant change in net income with a small change in operating income.

The Degree of Financial Leverage (DFL) is calculated as:

$$DFL = \frac{\% \Delta \text{Net income}}{\% \Delta \text{Operating income}}$$

Where:

DFL = Degree of Financial Leverage.

%Net income = Percentage change in net income.

%Operating income = Percentage change in operating income.

Financial Leverage and Levered Returns

Unlevered returns, represented by Return on Invested Capital (ROIC) and return on assets (ROA), are enhanced by financial leverage to yield levered returns or return on equity (ROE).

Both Return on Invested Capital (ROIC) and Return on Equity (ROE) are fundamental metrics that provide insights into a company's efficiency in generating returns. ROIC focuses on returns generated from the capital invested in the business, while ROE emphasizes returns to equity shareholders. Financial leverage can amplify the difference between these two metrics.

Let's use an example of a company, TechFirm Inc., to illustrate this:

1. **Starting Point:** TechFirm Inc. has an initial investment (equity) of \$100,000 and generates a profit of \$10,000. Therefore, its ROE is 10% ($10,000 / 100,000$).
2. **Introducing Debt:** Now, imagine TechFirm Inc. borrows \$100,000 at an interest rate of 5%. With this, it now has a total capital (equity + debt) of \$200,000. Let's assume that by effectively using this borrowed amount, it manages to double its profit to \$20,000. After paying off the interest of \$5,000 (5% of \$100,000), it's left with a profit of \$15,000.
3. **Calculating ROIC:** ROIC would consider the returns generated by the entire capital. So, $ROIC = \$15,000 / \$200,000 = 7.5\%$.
4. **Calculating ROE:** ROE focuses only on equity shareholders. Given that equity remains \$100,000 and profit (after interest) is \$15,000, ROE becomes 15% ($15,000 / 100,000$).

From this example, we see how TechFirm Inc., by using financial leverage (debt), increased its ROE from 10% to 15%, even though its ROIC went down from 10% to 7.5%. This amplification in returns due to leverage is precisely why companies like Google with high ROE are seen as highly profitable.

However, it's essential to be cautious. While leverage can enhance returns, it also introduces additional risks. If TechFirm Inc. had not been able to utilize the borrowed funds effectively, it could have ended up with reduced profitability or even losses.

This example provides a clearer picture of how financial leverage can influence a company's returns and the difference between ROIC and ROE.

Question

What is *most likely* the main benefit of using financial leverage?

- A. Stabilizes the fluctuations in ROE.
- B. Increases the available capital for new investments.
- C. Enhances unlevered return to produce levered returns.

The correct answer is **C**.

The primary benefit of employing financial leverage is its potential to amplify unlevered returns, thereby generating higher levered returns. By leveraging, companies employ borrowed capital for investment and earn a return on it, which is hoped to exceed the interest expense. Financial leverage is the use of various financial instruments or borrowed capital to amplify the potential return of an investment.

A is incorrect. Financial leverage does not stabilize fluctuations in return on equity; in fact, it can increase the volatility of returns on equity because it adds fixed financing costs (interest expenses) that must be paid regardless of the company's earnings performance. Hence, it can make returns on equity more volatile rather than stabilizing them.

B is incorrect. While financial leverage does indeed make more capital available for investment by allowing businesses to invest borrowed funds, this is a characteristic of leveraging and not the main benefit. The main benefit is the enhancement of returns on equity, provided the investments funded with borrowed funds generate returns above the cost of borrowing.