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Valuation of Stocks

Presented by

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Learning Objectives

By the end of this chapter, participants will be able to:

- Explain the meaning and purpose of stock valuation
- Distinguish common stock from preferred stock
- Identify the sources of shareholder returns
- Explain intrinsic value and market price
- Estimate the required rate of return
- Value preferred stock
- Apply the Dividend Discount Model
- Apply zero-growth and constant-growth models
- Value stocks with multiple growth stages
- Apply free-cash-flow valuation
- Use relative valuation multiples
- Assess whether a stock is overvalued or undervalued
- Conduct sensitivity and scenario analysis
- Make evidence-based investment recommendations

Chapter Roadmap

This chapter covers:

1. Introduction to stocks
2. Equity ownership and shareholder returns
3. Stock-value concepts
4. Required rate of return
5. Preferred-stock valuation
6. Dividend Discount Models
7. Constant-growth valuation
8. Multistage-growth valuation
9. Free-cash-flow valuation
10. Relative valuation
11. Risk and sensitivity analysis
12. Investment decisions

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Introduction to Stocks

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What Is a Stock?

A stock represents an ownership interest in a company. A shareholder may have rights to:

- Receive dividends
- Vote on major corporate matters
- Share in future profits
- Benefit from increases in share price
- Receive residual assets after creditors are paid

Equity Financing

Equity financing occurs when a company raises capital by issuing ownership shares. Unlike debt financing, equity generally:

- Has no mandatory repayment date
- Does not require fixed interest payments
- Gives investors ownership rights
- Shares business risk with investors
- May dilute existing ownership

Why Companies Issue Stocks

Companies may issue shares to:

- Finance expansion
- Acquire new assets
- Fund research and development
- Enter new markets
- Reduce debt
- Acquire another company
- Strengthen working capital
- Improve financial flexibility

Types of Stocks

The two main types are:

Common Stock

Represents ordinary ownership in a company.

Preferred Stock

Provides priority over common shareholders in dividends and liquidation.

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Common and Preferred Stocks

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Common Stock

Common shareholders generally have:

- Voting rights
- Variable dividends
- Residual claims on earnings
- Potential capital gains
- Higher investment risk
- Unlimited upside potential

Preferred Stock

Preferred shareholders usually have:

- Fixed or stated dividends
- Priority over common shareholders
- Limited voting rights
- Priority in liquidation
- Lower risk than common stock
- Characteristics of both debt and equity

Common vs Preferred Stock

Common Stock	Preferred Stock
Variable dividends	Usually fixed dividends
Voting rights	Usually no voting rights
Greater capital-gain potential	Limited price appreciation
Residual claim	Priority over common stock
Higher risk	Relatively lower risk
No maturity	Usually no maturity

Cumulative Preferred Stock

Cumulative preferred stock requires unpaid dividends to accumulate. Before common shareholders receive dividends:

- Current preferred dividends must be paid
- Any accumulated preferred dividends must be paid
- Common dividends may then be considered

Convertible Preferred Stock

Convertible preferred stock allows investors to exchange preferred shares for common shares. Conversion may be attractive when:

- Common-stock prices increase
- Company growth improves
- Investors want voting rights
- Capital-gain potential exceeds fixed dividends

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Shareholder Returns

Sources of Stock Returns

Shareholders may earn returns from:

1. Dividends
2. Capital gains
3. Rights issues
4. Bonus shares
5. Share repurchases
6. Other distributions

Dividend Income

A dividend is a distribution of company earnings to shareholders. Dividends may be:

- Cash dividends
- Stock dividends
- Special dividends
- Regular dividends
- Interim dividends
- Final dividends

Capital Gain

A capital gain occurs when a stock is sold for more than its purchase price.

$$\text{Capital Gain} = \text{Selling Price} - \text{Purchase Price}$$

A capital loss occurs when the selling price is below the purchase price.

Holding-Period Return

The holding-period return combines dividend income and price change.

$$\text{HPR} = (\text{Dividend} + \text{Ending Price} - \text{Beginning Price}) / \text{Beginning Price}$$

Holding-Period Return Example

An investor purchases a share for ETB 100. After one year: dividend received ETB 6; share price ETB 112.

$$\text{HPR} = (6 + 112 - 100) / 100$$

$$\text{HPR} = 18\%$$

Dividend Yield

Dividend yield measures annual dividend income relative to share price.

$$\text{Dividend Yield} = (\text{Annual Dividend per Share} / \text{Current Market Price}) \times 100$$

Capital-Gain Yield

Capital-gain yield measures the percentage change in stock price.

$$\text{Capital-Gain Yield} = ((P_1 - P_0) / P_0) \times 100$$

Where:

P_0 = beginning price

P_1 = ending price

Total Shareholder Return

A stock may produce:

$$\text{Total Return} = \text{Dividend Yield} + \text{Capital-Gain Yield}$$

- High dividends and low price growth
- Low dividends and high price growth
- Both dividends and price appreciation
- Losses where price declines exceed dividends

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Meaning of Stock Valuation

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What Is Stock Valuation?

Stock valuation is the process of estimating the economic value of a company's shares. It helps investors determine whether a share is:

- Fairly valued
- Undervalued
- Overvalued
- Suitable for purchase
- Suitable for holding
- Suitable for sale

Purpose of Stock Valuation

Stock valuation supports:

- Investment selection
- Portfolio management
- Merger and acquisition decisions
- Initial public offerings
- Share repurchases
- Private-company transactions
- Financial analysis
- Strategic decision-making

Market Price

Market price is the price at which a share currently trades. It is influenced by:

- Supply and demand
- Investor expectations
- Company performance
- Market sentiment
- Interest rates
- Economic conditions
- Political and regulatory developments

Intrinsic Value

Intrinsic value is the estimated economic value of a stock based on:

- Expected future cash flows
- Dividends
- Growth
- Risk
- Required rate of return
- Company fundamentals
- Long-term prospects

Intrinsic Value vs Market Price

Relationship	Interpretation
Intrinsic value > market price	Stock may be undervalued
Intrinsic value = market price	Stock may be fairly valued
Intrinsic value < market price	Stock may be overvalued

Valuation estimates are subject to assumptions and uncertainty.

Price and Value Are Different

Price

What investors currently pay.

Value

What the stock is economically worth based on expected benefits and risk.

A popular stock may have a high price but a lower intrinsic value.

Fundamental Analysis

Fundamental analysis examines:

- Revenue
- Profitability
- Cash flow
- Assets
- Liabilities
- Dividend history
- Competitive position
- Management quality
- Industry conditions
- Economic environment

Technical Analysis

Technical analysis focuses on:

- Historical prices
- Trading volume
- Price trends
- Market patterns
- Momentum
- Support and resistance levels

Stock valuation primarily relies on fundamental analysis.

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Factors Affecting Stock Value

Major Value Drivers

A stock's value is influenced by:

- Expected dividends
- Expected cash flows
- Earnings growth
- Required return
- Business risk
- Financial risk
- Competitive advantage
- Economic conditions
- Corporate governance

Company-Specific Factors

Company-specific factors include:

- Sales growth
- Profit margins
- Asset efficiency
- Debt level
- Management competence
- Product quality
- Innovation
- Market share
- Dividend policy

Industry Factors

Industry factors include:

- Competition
- Market growth
- Regulation
- Technology
- Barriers to entry
- Customer demand
- Supplier power
- Product substitution
- Industry life cycle

Macroeconomic Factors

Macroeconomic factors include:

- Inflation
- Interest rates
- Exchange rates
- Economic growth
- Unemployment
- Government policy
- Political stability
- Tax policy
- Capital-market conditions

Interest Rates and Stock Values

Required Returns Rise

Discount rates increase.
Present values decrease.
Stock values may fall.

Required Returns Fall

Discount rates decrease.
Present values increase.
Stock values may rise.

Risk and Stock Value

Higher risk generally requires a higher return. A higher required return:

- Reduces present value
- Reduces intrinsic value
- Makes future cash flows less valuable
- May reduce investor demand

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Required Rate of Return

Required Rate of Return

The required rate of return is the minimum return investors expect for accepting a stock's risk. It reflects:

- Time value of money
- Inflation
- Business risk
- Financial risk
- Market risk
- Opportunity cost

Components of Required Return

A simplified required return includes:

$$\text{Required Return} = \text{Risk-Free Rate} + \text{Risk Premium}$$

Riskier stocks require a larger risk premium.

Capital Asset Pricing Model

The Capital Asset Pricing Model estimates the required return on equity.

$$k_e = R_f + \beta(R_m - R_f)$$

Where:

k_e = required return on equity

R_f = risk-free rate

β = beta

R_m = expected market return

Market Risk Premium

$$\text{Market Risk Premium} = R_m - R_f$$

It represents the additional return investors expect from the market above the risk-free rate.

Meaning of Beta

Beta measures a stock's sensitivity to market movements.

Beta	Interpretation
1.0	Similar risk to the market
Above 1.0	More volatile than the market
Below 1.0	Less volatile than the market
0	No systematic market sensitivity
Negative	Moves opposite to the market

CAPM Example

Assume: risk-free rate 6%; expected market return 14%; beta 1.25.

$$k_e = 6\% + 1.25(14\% - 6\%)$$

$$k_e = 16\%$$

The investor requires a 16% return.

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Preferred-Stock Valuation

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Valuing Preferred Stock

Preferred stock is commonly valued as a perpetuity because it usually pays a fixed dividend indefinitely.

$$P_0 = D_p / k_p$$

Where:

P_0 = preferred-stock value

D_p = annual preferred dividend

k_p = required return

Preferred-Stock Valuation Example

A preferred share pays an annual dividend of ETB 12. The required return is 10%.

$$P_0 = 12 / 0.10$$

$$P_0 = \text{ETB } 120$$

Preferred Dividend from Par Value

If the dividend is quoted as a percentage:

$$D_p = \text{Dividend Rate} \times \text{Par Value}$$

- Par value: ETB 100
- Dividend rate: 8%

$$D_p = 8\% \times 100 = \text{ETB } 8$$

Preferred-Stock Decision

Assume intrinsic value ETB 120 and market price ETB 105 — the stock may be undervalued by ETB 15. However, the investor should also assess:

- Credit risk
- Dividend-payment history
- Liquidity
- Call provisions
- Conversion features

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Dividend Discount Model

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Dividend Discount Model

The Dividend Discount Model values a common share as the present value of expected future dividends.

$$P_0 = D_1/(1+k_e) + D_2/(1+k_e)^2 + \dots$$

Foundation of the DDM

The model assumes that shareholder value is derived from:

- Future dividends
- Expected sale price
- Growth in dividends
- Required rate of return

The future sale price also reflects dividends expected after the sale.

General Dividend Valuation Model

$$P_0 = \sum_{t=1}^{\infty} D_t / (1+k_e)^t$$

Where:

P_0 = current intrinsic value

D_t = dividend in period t

k_e = required return

Types of Dividend-Growth Models

The main Dividend Discount Models are:

- Zero-growth model
- Constant-growth model
- Two-stage growth model
- Three-stage growth model
- General multistage model

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Zero-Growth Model

Zero-Growth Stock

A zero-growth stock pays the same dividend every year indefinitely.

$$D_1 = D_2 = D_3 = \dots$$

The stock is valued as a perpetuity.

Zero-Growth Valuation Formula

$$P_0 = D / k_e$$

Where:

D = constant annual dividend

k_e = required return

Zero-Growth Example

A stock pays ETB 15 per year indefinitely. Required return: 12%.

$$P_0 = 15 / 0.12$$

$$P_0 = \text{ETB } 125$$

Application of Zero-Growth Model

The model may be appropriate for:

- Mature companies
- Stable dividend policies
- Companies with no expected dividend growth
- Certain preferred stocks
- Stable-income investments

It is unsuitable for rapidly growing companies.

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Constant-Growth Model

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Gordon Growth Model

The Gordon Growth Model assumes dividends grow at a constant rate indefinitely.

$$P_0 = D_1 / (k_e - g)$$

Where:

D_1 = dividend expected next year

k_e = required return

g = constant dividend-growth rate

Conditions for the Model

The constant-growth model requires:

$$k_e > g$$

- Constant long-term dividend growth
- A stable payout policy
- A mature company
- Required return greater than growth rate
- Sustainable growth assumptions

Current vs Expected Dividend

The model uses the expected dividend:

$$D_1 = D_0(1 + g)$$

Where:

D_0 = most recent dividend

D_1 = next expected dividend

Using D_0 (the current dividend) directly is a common valuation mistake.

Constant-Growth Example

Assume current dividend ETB 8; expected growth 5%; required return 13%.

$$D_1 = 8(1.05) = \text{ETB } 8.40$$
$$P_0 = 8.40 / (0.13 - 0.05)$$

$$P_0 = \text{ETB } 105$$

Investment Interpretation

Assume intrinsic value ETB 105 and market price ETB 92 — the stock may be undervalued by ETB 13.

$$\text{Margin of Safety} = ((105 - 92) / 105) \times 100$$

$$= 12.38\%$$

Expected Return from Gordon Model

The model can also estimate expected return.

$$k_e = D_1 / P_0 + g$$

- Expected dividend yield
- Plus expected growth rate

Expected-Return Example

Assume current market price ETB 80; expected dividend ETB 6; growth rate 7%.

$$k_e = 6 / 80 + 7\%$$

$$k_e = 14.5\%$$

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Estimating Growth

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Sources of Dividend Growth

Dividend growth may be estimated using:

- Historical dividend growth
- Earnings growth
- Analyst forecasts
- Industry growth
- Economic growth
- Retention ratio
- Return on equity

Sustainable Growth Rate

A common estimate is:

$$g = b \times \text{ROE}$$

Where:

g = sustainable growth rate

b = earnings-retention ratio

ROE = return on equity

Retention Ratio

If a company distributes 40% of earnings:

$$b = 1 - \text{Dividend Payout Ratio}$$

$$b = 1 - 0.40 = 0.60$$

The company retains 60% of earnings.

Sustainable-Growth Example

Assume return on equity 15%; dividend payout ratio 40%; retention ratio 60%.

$$g = 0.60 \times 15\%$$

$$g = 9\%$$

Evaluating Growth Assumptions

Growth should be assessed against:

- Industry growth
- Economic growth
- Company capacity
- Competition
- Financing needs
- Return on reinvested earnings
- Historical consistency
- Long-term sustainability

A company cannot grow faster than the economy indefinitely.

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Multistage Dividend Growth

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Why Use Multistage Models?

Many companies experience:

- High initial growth
- Gradual decline in growth
- Stable long-term growth

A constant-growth model may not capture these stages accurately.

Two-Stage Dividend Model

The two-stage model assumes high or unusual growth for a defined period, then stable perpetual growth. The stock value equals:

- Present value of high-growth dividends
- Plus present value of terminal value

Two-Stage Valuation Process

1. Forecast dividends during high growth
2. Calculate terminal value
3. Discount annual dividends
4. Discount terminal value
5. Add all present values

Terminal Value

At the beginning of stable growth:

$$P_n = D_{n+1} / (k_e - g_s)$$

Where:

P_n = terminal value at Year n

D_{n+1} = first stable-growth dividend

g_s = stable growth rate

Two-Stage Example — Assumptions

Assume:

- Current dividend: ETB 4
- High growth: 20% for three years
- Stable growth after Year 3: 6%
- Required return: 14%

Forecast the Dividends

$$D_1 = 4(1.20) = 4.80$$

$$D_2 = 4.80(1.20) = 5.76$$

$$D_3 = 5.76(1.20) = 6.912$$

$$D_4 = 6.912(1.06) = 7.327$$

Calculate Terminal Value

$$P_3 = 7.327 / (0.14 - 0.06)$$

$$P_3 = \text{ETB } 91.59$$

This is the estimated value of all dividends beginning in Year 4.

Discount the Cash Flows

$$P_0 = 4.80/1.14 + 5.76/1.14^2 + 6.912/1.14^3 + 91.59/1.14^3$$

The present values are added to estimate today's intrinsic value.

Three-Stage Growth Model

A three-stage model may include:

1. High-growth stage
2. Transition stage
3. Stable-growth stage

It may be suitable for companies moving gradually from rapid growth to maturity.

Limitations of Dividend Models

Dividend models may be difficult to use when:

- The company pays no dividend
- Dividends are irregular
- Dividend policy does not reflect profitability
- Growth is unstable
- Required return is difficult to estimate
- The company is experiencing financial distress

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Free-Cash-Flow Valuation

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Why Use Free Cash Flow?

Free-cash-flow models may be more appropriate when:

- Dividends do not reflect earnings capacity
- The company pays no dividend
- Dividend policy is unstable
- Investors want to value operating cash generation
- Control of the company is being evaluated

Free Cash Flow to Equity

Free Cash Flow to Equity represents cash available to common shareholders after:

- Operating expenses
- Taxes
- Capital expenditure
- Working-capital investment
- Debt financing effects

FCFE Formula

A simplified formula is:

$$\text{FCFE} = \text{Net Income} + \text{Depreciation} - \text{Capital Expenditure} - \Delta \text{Working Capital} + \text{Net Borrowing}$$

FCFE Valuation

The value of equity is:

$$\text{Equity Value} = \sum \text{FCFE}_t / (1 + k_e)^t$$
$$\text{Value per Share} = \text{Total Equity Value} / \text{Shares Outstanding}$$

Free Cash Flow to the Firm

Free Cash Flow to the Firm represents cash available to:

- Equity holders
- Debt holders
- Other capital providers

It is discounted using the weighted average cost of capital.

FCFF Valuation Process

1. Forecast FCFF
2. Discount FCFF using WACC
3. Calculate enterprise value
4. Subtract debt
5. Add excess cash where appropriate
6. Estimate equity value
7. Divide by shares outstanding

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Relative Valuation

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What Is Relative Valuation?

Relative valuation estimates a stock's value by comparing it with similar companies. Common multiples include:

- Price-to-Earnings
- Price-to-Book
- Price-to-Sales
- Dividend Yield
- Enterprise Value-to-EBITDA

Price-to-Earnings Ratio

$$P/E = \text{Market Price per Share} / \text{Earnings per Share}$$

The ratio shows how much investors are willing to pay for each unit of earnings.

P/E Valuation

Estimated value can be calculated as:

$$\text{Estimated Price} = \text{Comparable P/E} \times \text{Company EPS}$$

P/E Valuation Example

Assume comparable-company P/E 12 and expected EPS ETB 9.

$$\text{Estimated Price} = 12 \times 9$$

$$\text{Estimated Price} = \text{ETB } 108$$

Interpreting a High P/E

A high P/E may indicate:

- Strong expected growth
- High-quality earnings
- Lower perceived risk
- Strong competitive advantage
- Investor optimism
- Possible overvaluation

Interpretation requires comparison with industry and history.

Price-to-Book Ratio

$$P/B = \text{Market Price per Share} / \text{Book Value per Share}$$

It compares market value with accounting net assets.

Appropriate Use of P/B

P/B may be useful for:

- Banks
- Insurance companies
- Asset-intensive businesses
- Companies with reliable balance-sheet values

It may be less useful for companies with significant intangible assets.

Price-to-Sales Ratio

It may be useful when:

$$P/S = \text{Market Capitalization} / \text{Annual Sales}$$

- Earnings are negative
- Profit margins are temporarily unstable
- Companies have similar business models

Enterprise Value-to-EBITDA

It allows comparison across companies with different:

$$\text{EV/EBITDA} = \text{Enterprise Value} / \text{EBITDA}$$

- Debt levels
- Tax rates
- Depreciation policies
- Capital structures

Selecting Comparable Companies

Comparable companies should have similar:

- Industry
- Products
- Growth
- Risk
- Size
- Profitability
- Capital structure
- Geographic exposure
- Accounting policies

Advantages of Relative Valuation

- Simple to understand
- Uses current market information
- Useful for comparison
- Requires fewer long-term forecasts
- Commonly used by investors
- Useful as a cross-check

Limitations of Relative Valuation

- The entire market may be overvalued
- Comparable firms may not be truly comparable
- Accounting differences distort ratios
- Multiples may ignore risk differences
- Temporary earnings affect valuation
- It provides relative rather than absolute value

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Earnings and Dividend Measures

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Earnings per Share

$$\text{EPS} = \text{Profit Available to Common Shareholders} / \text{Weighted Average Common Shares}$$

EPS measures earnings attributable to each common share.

Dividend per Share

$$\text{DPS} = \text{Common Dividends} / \text{Number of Common Shares}$$

DPS measures the cash dividend assigned to each share.

Dividend Payout Ratio

$$\text{Payout Ratio} = (\text{DPS} / \text{EPS}) \times 100$$

It measures the proportion of earnings distributed to shareholders.

Dividend-Cover Ratio

$$\text{Dividend Cover} = \text{EPS} / \text{DPS}$$

It shows how many times earnings cover the dividend. Higher coverage may indicate greater dividend security.

Return on Equity

$$\text{ROE} = (\text{Net Income} / \text{Average Shareholders' Equity}) \times 100$$

ROE measures how effectively the company uses shareholder capital.

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Qualitative Valuation Factors

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Management Quality

Assess:

- Experience
- Integrity
- Strategic capability
- Capital-allocation record
- Transparency
- Governance
- Succession planning
- Treatment of shareholders

Competitive Advantage

Sources of competitive advantage may include:

- Strong brand
- Patents
- Low-cost operations
- Distribution network
- Customer loyalty
- Technology
- Regulatory licenses
- Economies of scale

Corporate Governance

Governance factors include:

- Board independence
- Financial transparency
- Shareholder rights
- Audit quality
- Conflict-of-interest management
- Related-party transactions
- Executive compensation
- Risk oversight

Earnings Quality

High-quality earnings are:

- Supported by cash flow
- Derived from core operations
- Sustainable
- Consistently measured
- Free from excessive manipulation
- Based on reasonable estimates

Warning Signs

Potential warning signs include:

- Profits rising while cash flow declines
- Frequent accounting-policy changes
- Unusual related-party transactions
- Excessive debt
- Repeated share dilution
- Unexplained margin changes
- Weak audit opinions
- Unstable dividend policy

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Sensitivity and Scenario Analysis

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Sensitivity Analysis

Sensitivity analysis examines how intrinsic value changes when one assumption changes. Common variables include:

- Growth rate
- Required return
- Dividend
- Earnings
- Payout ratio
- Terminal value
- Profit margin

Gordon Model Sensitivity

Assume $D_1 = \text{ETB } 8$ and $k_e = 13\%$.

Growth Rate	Intrinsic Value
3%	ETB 80.00
5%	ETB 100.00
7%	ETB 133.33

Small changes in growth can significantly affect value.

Required-Return Sensitivity

Assume $D_1 = \text{ETB } 8$ and $g = 5\%$.

Required Return	Intrinsic Value
11%	ETB 133.33
13%	ETB 100.00
15%	ETB 80.00

Higher required returns reduce value.

Scenario Analysis

Optimistic

Strong growth
Stable margins
Lower risk

Base

Most likely assumptions

Pessimistic

Weak growth
Lower dividends
Higher required return

Margin of Safety

Margin of safety measures the difference between estimated value and market price.

$$\text{Margin of Safety} = ((\text{Intrinsic Value} - \text{Market Price}) / \text{Intrinsic Value}) \times 100$$

Margin-of-Safety Example

Assume intrinsic value ETB 150 and market price ETB 120.

$$\text{Margin of Safety} = ((150 - 120) / 150) \times 100$$

$$= 20\%$$

APPLICATION

Practical Exercise

Practical Exercise

Value a Common Stock — participants will:

- Estimate the required return
- Calculate sustainable growth
- Apply the Gordon Growth Model
- Calculate expected return
- Apply a P/E multiple
- Conduct sensitivity analysis
- Make an investment recommendation

Exercise Scenario

A company reports:

- Current dividend: ETB 7.50
- Earnings per share: ETB 15
- Return on equity: 16%
- Beta: 1.20
- Risk-free rate: 5%
- Expected market return: 13%
- Current market price: ETB 100
- Industry forward P/E: 10

Step 1 — Calculate Required Return

$$k_e = R_f + \beta(R_m - R_f)$$
$$k_e = 5\% + 1.20(13\% - 5\%)$$

$$k_e = 14.6\%$$

Step 2 — Calculate Retention Ratio

$$\text{Payout Ratio} = 7.50 / 15 = 50\%$$

$$b = 1 - 50\% = 50\%$$

The company retains half of its earnings.

Step 3 — Estimate Growth

$$g = b \times \text{ROE}$$

$$g = 50\% \times 16\%$$

$$\mathbf{g = 8\%}$$

Step 4 — Forecast Next Dividend

$$D_1 = D_0(1 + g)$$
$$D_1 = 7.50(1.08)$$

$$D_1 = \text{ETB } 8.10$$

Step 5 — Calculate Intrinsic Value

$$P_0 = D_1 / (k_e - g)$$
$$P_0 = 8.10 / (0.146 - 0.08)$$

$$P_0 = \text{ETB } 122.73$$

Step 6 — Compare with Market Price

- Intrinsic value: ETB 122.73
- Market price: ETB 100.00
- Difference: ETB 22.73

The stock appears undervalued under the assumptions used.

Step 7 — Calculate Expected Return

Using the market price:

$$k_e = D_1 / P_0 + g$$
$$\text{Expected Return} = 8.10 / 100 + 8\%$$

$$= 16.1\%$$

Step 8 — Apply P/E Valuation

Assume expected EPS ETB 15 and industry P/E 10.

$$\text{Estimated Price} = 15 \times 10$$

$$\text{Estimated Price} = \text{ETB } 150$$

Comparison of Valuation Results

Method	Estimated Value
Gordon Growth Model	ETB 122.73
P/E Method	ETB 150.00
Current Market Price	ETB 100.00

Different models produce different estimates because they use different assumptions.

Sensitivity Exercise

Recalculate the Gordon value if:

- Growth falls to 6%
- Growth rises to 9%
- Required return rises to 17%
- Required return falls to 13%
- Dividend payout changes
- ROE falls to 12%

Group Recommendation

Each group should present:

1. Required return
2. Sustainable growth rate
3. Dividend-based value
4. P/E-based value
5. Sensitivity findings
6. Major investment risks
7. Buy, hold or sell recommendation
8. Conditions that could change the recommendation

REVIEW

Chapter Review

Common Stock-Valuation Mistakes

- Using the current dividend instead of the next dividend
- Assuming unrealistic perpetual growth
- Using a required return below the growth rate
- Ignoring risk
- Relying on only one valuation model
- Using unsuitable comparable companies
- Ignoring debt and dilution
- Treating forecasts as certain
- Ignoring governance and earnings quality
- Failing to conduct sensitivity analysis

Stock-Valuation Checklist

Before making a decision, confirm:

- Business model is understood
- Financial statements are reliable
- Dividend assumptions are realistic
- Growth is sustainable
- Required return reflects risk
- Cash flows support earnings
- Comparable firms are appropriate
- Governance risks are reviewed
- Sensitivity analysis is completed
- Market price is compared with intrinsic value

Knowledge Check

1. What does a common stock represent?
2. How does preferred stock differ from common stock?
3. What is intrinsic value?
4. What is the relationship between risk and required return?
5. How is preferred stock valued?
6. What assumptions support the Gordon Growth Model?
7. How is sustainable growth estimated?
8. When is a multistage model appropriate?
9. What does the P/E ratio measure?
10. Why should more than one valuation method be used?

Knowledge Check Answers

1. An ownership interest in a company
2. Preferred stock generally provides priority and fixed dividends
3. Estimated economic value based on future benefits and risk
4. Higher risk requires a higher expected return
5. Annual preferred dividend divided by required return
6. Constant growth, stable policy and required return above growth
7. Retention ratio multiplied by return on equity
8. When growth changes through identifiable stages
9. Market price paid per unit of earnings
10. Different methods provide alternative perspectives and checks

Action Plan

Select one company and prepare:

- Business overview
- Recent dividend
- Earnings per share
- Dividend payout ratio
- Return on equity
- Estimated growth
- Required return
- Dividend-based value
- Relative valuation
- Sensitivity analysis
- Final investment recommendation

Chapter Summary

- Stocks represent ownership claims in companies.
- Shareholder returns come from dividends and capital gains.
- Market price and intrinsic value are different concepts.
- Stock value depends on expected cash flows, growth and risk.
- Preferred stock can be valued as a perpetuity.
- Dividend Discount Models value expected future dividends.
- The Gordon model applies to stable perpetual growth.
- Multistage models apply when growth changes over time.
- Free-cash-flow models are useful when dividends are unsuitable.
- Relative valuation compares a stock with similar companies.
- Sensitivity analysis tests the reliability of valuation conclusions.

Key Message

Stock valuation is not about predicting an exact market price. It is about developing a reasonable value range using:

Financial Evidence → Growth Expectations → Risk
Assessment → Valuation Models → Investment Judgment

THANK YOU

Questions and Discussion

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Effective stock valuation combines financial analysis, realistic growth expectations and disciplined risk assessment. A sound investment decision is based not on market excitement, but on the relationship between price, intrinsic value and the investor's required return.