

Introduction to Finance

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MGM 237

Interest Rates and Financial Markets

Lecture 5



Chapter

5

Interest Rates and Financial Markets

Learning Outcomes

Students will be able to:

- Explain interest rates as the price paid for using funds over time.
- Apply the loanable funds framework to supply, demand, and equilibrium rates.
- Break nominal rates into real rate, inflation, and risk premiums.
- Interpret yield curves and term-structure theories.
- Connect interest rates to bond prices, stock valuation, cost of capital, borrowing, and capital budgeting.

Interest Rates and Financial Markets

How money is priced, why rates differ, and how rates guide financial decisions.



Lecture Overview

Interest rates represent the price of money over time. They affect borrowing, saving, investment decisions, and financial market performance.

01

How interest rates are determined.

02

Why interest rates differ across financial instruments.

03

How inflation, risk, maturity, and liquidity affect rates.

04

How yield curves help interpret market expectations.

05

How interest rates influence bond prices, stock valuation, cost of capital, and capital budgeting.

MANAGER'S INSIGHT

Rates discipline every valuation, financing, and investment decision.

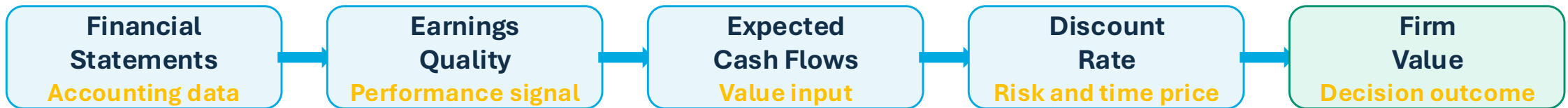
Link with Earnings and Cash Flows

Interest rates convert accounting performance into economic value.

VALUE BRIDGE

From accounting results to financial value

Interest rates translate expected cash flows into today's firm value by linking profitability, risk, and financing cost.



MANAGER'S INSIGHT

A profitable project can be rejected if the required return rises enough to reduce present value.

QUICK EXAMPLE

A \$100,000 cash flow next year is worth less today when the discount rate increases.

Why Interest Rates Matter in Finance

Rates influence value, financing cost, investment decisions, and market behavior.

01

For savers, interest rates represent compensation for delaying consumption.

02

For borrowers, rates represent the cost of obtaining funds today.

03

For firms, rates affect the cost of debt, cost of equity, WACC, and project acceptance.

04

For markets, rates influence bond prices, equity valuations, exchange rates, and credit conditions.



MANAGER'S INSIGHT

Interest rates connect financial markets with firm value and risk.

QUICK EXAMPLE

A 2% rate increase may change borrowing cost, NPV, and share value.

Interest Rate as the Price of Money

The interest rate is the price paid to use purchasing power now rather than later.

PRICE OF MONEY

Interest rate = price for using money over time

The borrower receives purchasing power now; the lender earns compensation for waiting and accepting risk.

BORROWER SIDE

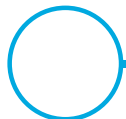
Receives funds today and pays interest.

INTEREST RATE

Price of using money over time

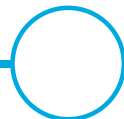
LENDER SIDE

Supplies funds today and earns interest.



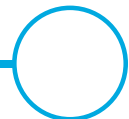
TODAY

Principal received



USE PERIOD

Funds employed



FUTURE

Principal + interest

MANAGER'S INSIGHT

When rates rise, managers must reassess debt-financed expansion.

QUICK EXAMPLE

Borrowing \$10,000 at 8% for one year costs \$800 interest.

Borrowers and Lenders

Financial markets transfer funds from surplus units to deficit units.

01

Surplus units save more than they spend and supply funds to the financial system.

02

Deficit units spend or invest more than current income and demand funds.

03

Banks, bond markets, and equity markets connect lenders and borrowers.

04

The rate must be acceptable to both sides: enough return for lenders, affordable cost for borrowers.



MANAGER'S INSIGHT

The finance manager must know where funds come from and where they go.

Supply of Loanable Funds

The supply curve shows the amount savers are willing to lend at each interest rate.

Core explanation

01

The supply of loanable funds usually slopes upward: higher rates reward saving.

02

Sources include household savings, business retained earnings, government surpluses, and foreign capital inflows.

03

More saving shifts the supply curve to the right and tends to reduce rates.

04

Less saving shifts supply left and tends to increase rates.

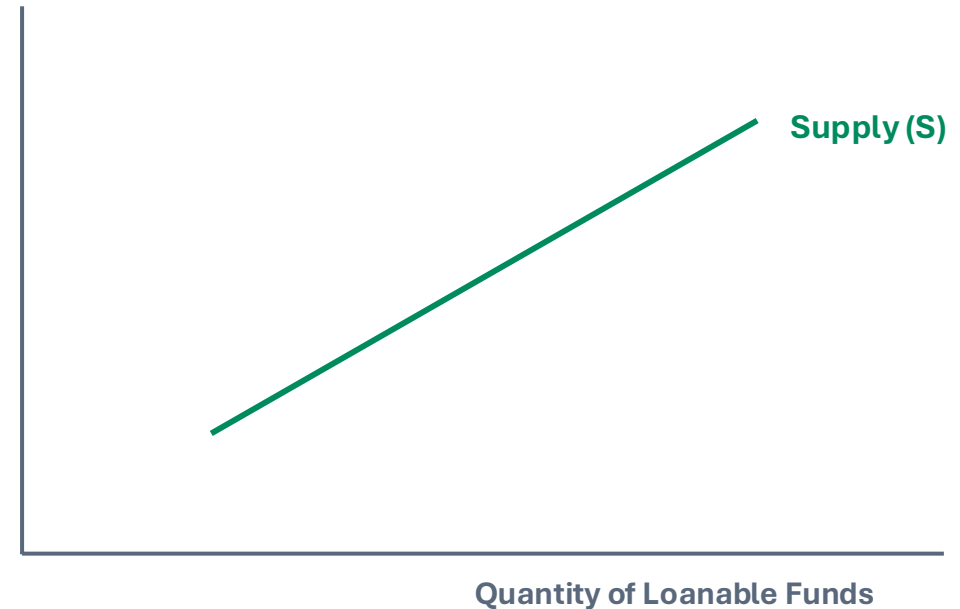
MANAGER'S INSIGHT

More saving can reduce borrowing costs when demand is unchanged.

QUICK EXAMPLE

If households save more, supply shifts right and rates tend to fall.

Interest Rate (r)



Supply curve: higher interest rates increase funds supplied.

Demand for Loanable Funds

The demand curve shows the amount borrowers want at each interest rate.

Core explanation

01

The demand for loanable funds usually slopes downward: higher rates discourage borrowing.

02

Firms borrow to finance inventories, equipment, acquisitions, and growth projects.

03

Households borrow for houses, cars, education, and credit-card spending.

04

Governments borrow when expenditures exceed revenues.

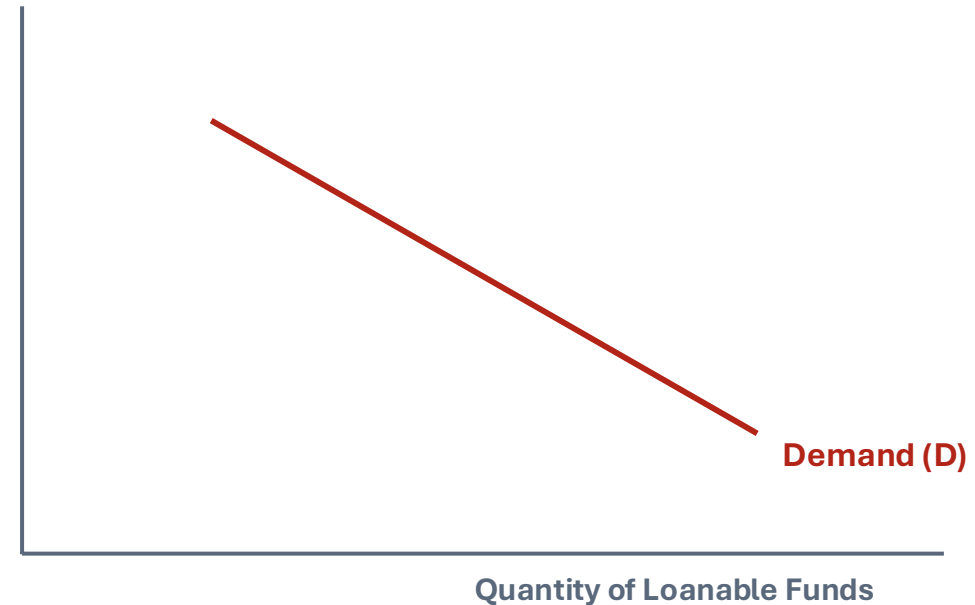
MANAGER'S INSIGHT

Stronger investment demand can push interest rates upward.

QUICK EXAMPLE

A boom in profitable projects shifts demand right and raises rates.

Interest Rate (r)



Demand curve: higher interest rates reduce funds demanded.

Equilibrium Interest Rate

The market rate balances the quantity of funds supplied and demanded.

Core explanation

01

Equilibrium occurs where supply of funds equals demand for funds.

02

At rates above equilibrium, excess supply places downward pressure on rates.

03

At rates below equilibrium, excess demand places upward pressure on rates.

04

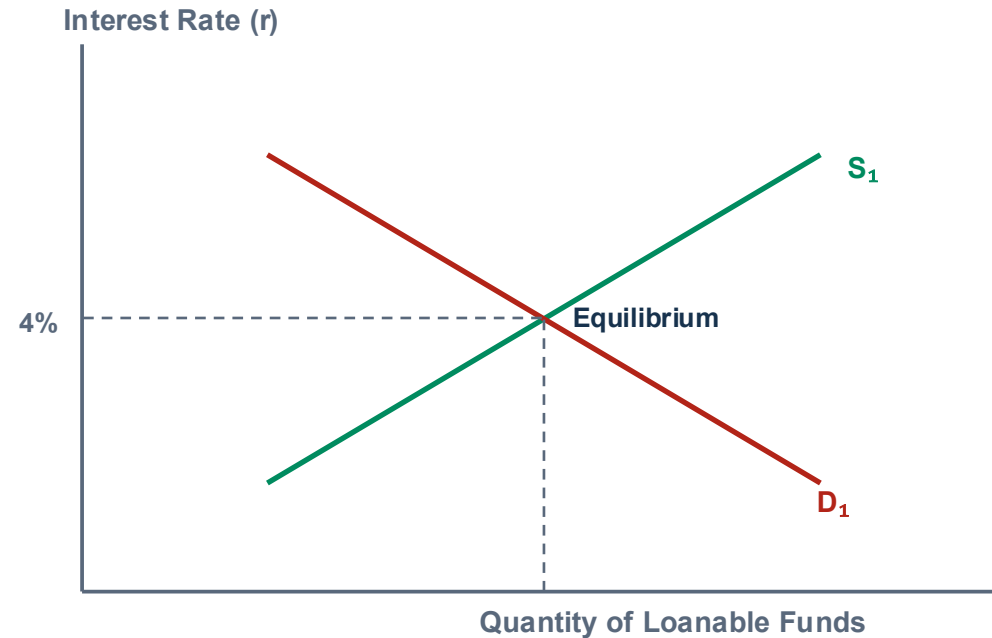
The observed market rate changes when supply or demand shifts.

MANAGER'S INSIGHT

Equilibrium rates coordinate plans of savers and borrowers.

QUICK EXAMPLE

If supply exceeds demand, lenders compete and rates decline.



Equilibrium occurs where S_1 equals D_1 .

Factors Shifting Supply of Funds

Saving behavior and capital flows determine how much money is available to lend.

Core explanation

01

Household income and saving habits: higher savings increase available funds.

02

Business cash generation: stronger retained earnings can increase internal and market funding supply.

03

Government fiscal position: budget surpluses can add funds, while deficits absorb funds.

04

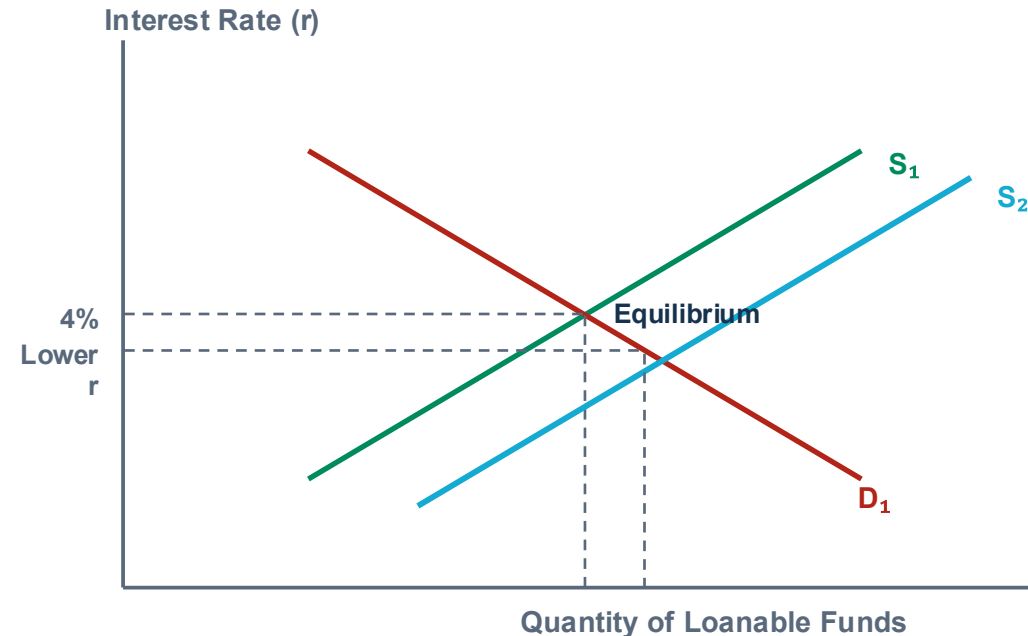
Foreign capital inflows: international investors can expand the domestic supply of funds.

MANAGER'S INSIGHT

Capital inflows increase available funds and may reduce rates.

QUICK EXAMPLE

Pension saving increases the supply of loanable funds.



Higher saving or capital inflows shift supply right.

Factors Shifting Demand for Funds

Investment opportunities, consumption, and government borrowing drive fund demand.

Core explanation

01

Expected profitability: stronger investment opportunities increase corporate borrowing.

02

Economic expansion: rising sales and inventories increase working-capital needs.

03

Government deficits: public borrowing competes for funds in credit markets.

04

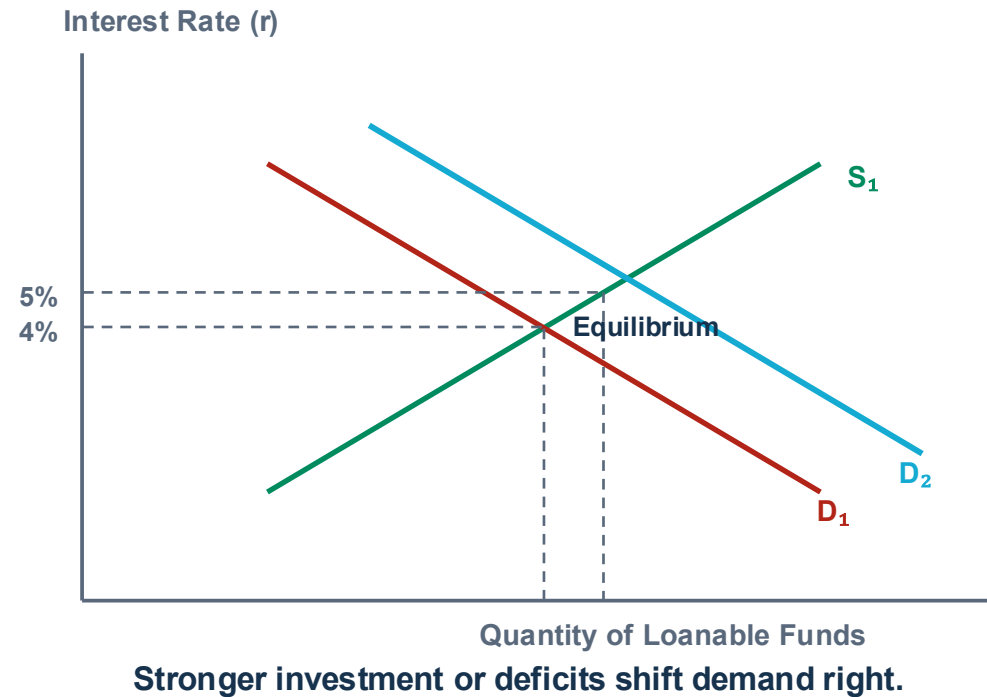
Consumer confidence: higher credit demand for homes and durable goods shifts demand right.

MANAGER'S INSIGHT

Large borrowing needs can raise rates if supply does not expand.

QUICK EXAMPLE

Government deficits may increase total demand for funds.

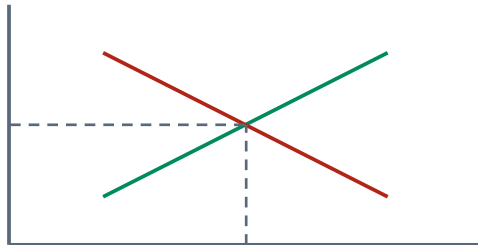


Interest Rate Determination in Financial Markets

Supply and demand shocks move loanable funds and equilibrium rates.

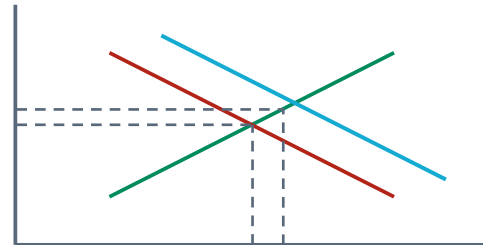
Loanable funds framework: market rates move when demand or supply unexpectedly shifts.

Graph A: Initial equilibrium



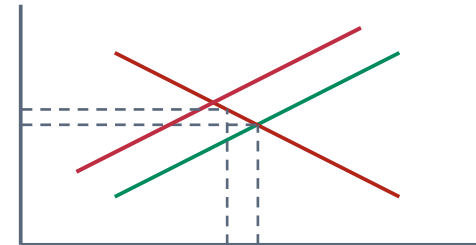
D_1 and S_1 meet at 4%

Graph B: Demand increases



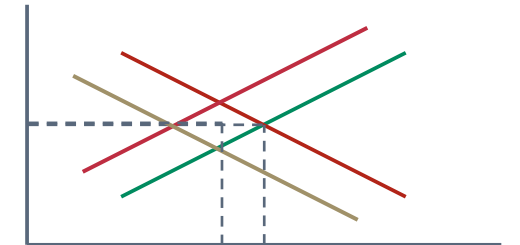
$D_1 \rightarrow D_2$ raises r to 5%

Graph C: Supply decreases



$S_1 \rightarrow S_2$ raises r to 6%

Graph D: Supply and demand shift



S left + D left: r near 5%

Teaching note: Graph B represents stronger investment demand; Graph C represents lenders requiring higher rates; Graph D shows that a downward demand shift can partly offset the upward supply-shock pressure.

Nominal Interest Rate

The nominal rate is the stated market rate observed in contracts and quotations.

01

Nominal rates are the rates commonly shown on loans, bonds, and bank products.

02

They include compensation for expected inflation and various risk premiums.

03

Nominal rates are used for actual cash payments, such as coupon interest or loan interest.

04

Comparing nominal rates across periods can be misleading when inflation changes.

Nominal rate = Stated market rate paid or received

Nominal rate = real risk-free rate + expected inflation + risk premiums.

MANAGER'S INSIGHT

Nominal rates guide contracts, but not real purchasing power.

QUICK EXAMPLE

10% nominal return with 4% inflation gives about 6% real return.

Real Interest Rate

The real rate measures the increase in purchasing power after inflation.

01

Real rates adjust nominal returns for the loss of purchasing power caused by inflation.

02

Investors care about real returns because money is valuable only for what it can buy.

03

Approximate real return = nominal return – inflation rate.

04

Exact real return = $[(1 + \text{nominal rate}) / (1 + \text{inflation rate})] - 1$.

Approximate: $r_{\text{real}} = r_{\text{nominal}} - \text{inflation}$

If nominal return is 9% and inflation is 5%, approximate real return is 4%; exact real return is about 3.81%.

MANAGER'S INSIGHT

Real rates show whether wealth actually grows.

QUICK EXAMPLE

Exact real return = $(1.10 / 1.04) - 1 = 5.77\%$.

Inflation Premium

Lenders require compensation for expected loss of purchasing power.

Core explanation

01

Inflation reduces the real value of future interest and principal payments.

02

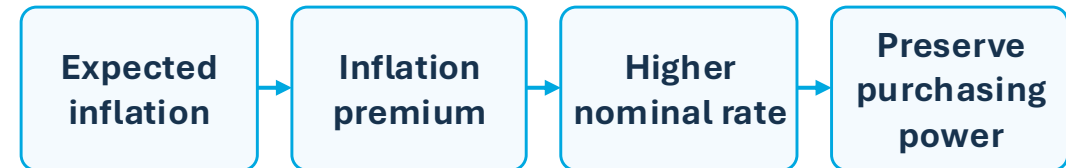
The inflation premium is added to nominal rates when future prices are expected to rise.

03

Longer maturities often contain greater uncertainty about future inflation.

04

Unexpected inflation hurts lenders and benefits borrowers if nominal rates are fixed.



MANAGER'S INSIGHT

Inflation expectations are priced before inflation is actually observed.

QUICK EXAMPLE

Expected inflation rising from 3% to 6% pushes lenders to demand more.

Types of Inflation and Price Movements

Inflation can originate from costs, money supply, expectations, or administrative pressures.

Cost-push inflation

Prices rise when production costs increase, such as wages, materials, or energy.
Finance effect: firms need more working capital and lenders price higher inflation risk.

Demand-pull inflation

Prices rise when aggregate demand exceeds available supply, often during expansion or monetary growth.
Finance effect: demand for loanable funds and nominal rates tend to rise.

Speculative inflation

Expectations of future price increases lead people to buy earlier, reinforcing current price increases.
Finance effect: inflation expectations move before actual cash-flow costs appear.

Administrative inflation

Prices tend to rise during expansion and resist decline during recession due to contracts and institutional pricing.
Finance effect: traditional policy may control prices only with growth and employment costs.

Managerial implication: nominal interest rates rise when lenders expect inflation to erode the purchasing power of future interest and principal payments.

Default Risk Premium

Borrowers with higher probability of nonpayment must offer higher promised returns.

Core explanation

01

Default risk is the chance that interest or principal will not be paid as promised.

02

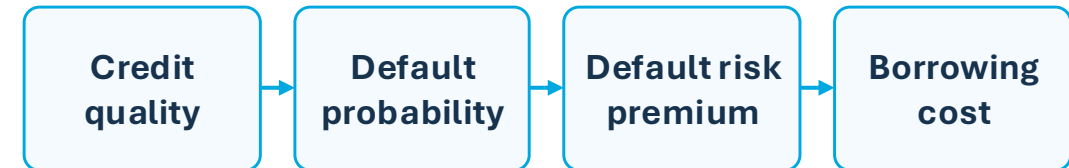
Credit ratings, leverage, earnings stability, collateral, and cash-flow coverage affect default risk.

03

The default risk premium compensates lenders for expected credit losses and uncertainty.

04

Higher default risk increases borrowing cost and can restrict access to capital.



Measurement logic

$$r = RR + IP + DRP + MRP + LP$$

$$DRP = \text{Corporate bond yield} - \text{Treasury yield}$$

Example: 5% – 3% = 2%

MANAGER'S INSIGHT

Credit analysis protects lenders from expected nonpayment.

QUICK EXAMPLE

A weak borrower may pay 11% while a strong borrower pays 7%.

Liquidity Premium

Investors prefer assets that can be sold quickly without large price concessions.

Core explanation

01

Liquidity means the ability to convert an asset into cash quickly at a fair price.

02

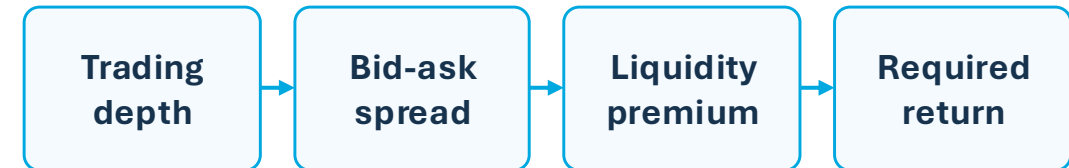
Highly liquid securities usually require lower returns because investors value flexibility.

03

Illiquid securities require higher returns to compensate for transaction cost and price uncertainty.

04

Liquidity can disappear during financial stress, causing spreads to widen.



MANAGER'S INSIGHT

Liquidity has value because rapid conversion to cash reduces risk.

QUICK EXAMPLE

A thinly traded bond may require a higher yield.

Maturity Risk Premium

Longer maturities expose investors to greater interest-rate and inflation uncertainty.

Core explanation

01

Long-term securities have prices that are more sensitive to changes in market rates.

02

Investors may demand a maturity risk premium for holding longer-term debt.

03

Longer time horizons increase uncertainty about inflation, policy, and business conditions.

04

The premium helps explain why long-term rates are often above short-term rates.



MANAGER'S INSIGHT

Longer maturities require compensation for greater uncertainty.

QUICK EXAMPLE

A 10-year loan usually has more maturity risk than a 3-month loan.

Tax Considerations in Interest Rates

Investors compare after-tax returns, not only stated before-tax yields.

01

Interest income can be taxable, tax-exempt, or taxed differently across jurisdictions.

02

Tax-exempt securities can offer lower stated yields but attractive after-tax returns.

03

The relevant comparison is after-tax yield: before-tax yield $\times$ (1 – tax rate).

04

Tax status helps explain yield differences among otherwise similar instruments.

After-tax yield = Taxable yield $\times$ (1 – tax rate)

A 7% taxable yield at a 30% tax rate gives 4.9% after tax; a 5% tax-exempt yield may be better.

**MANAGER'S
INSIGHT**

Investors choose based on after-tax returns, not stated yields alone.

QUICK EXAMPLE

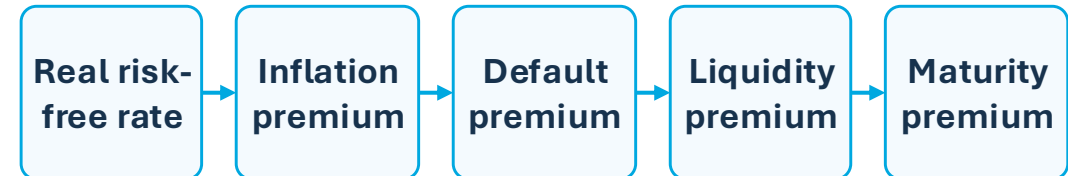
After-tax yield = taxable yield $\times$ (1 - tax rate).

Required Return Formula Overview

Required return combines time value, inflation, and risk compensation.

Core explanation

- 01 Investors require a base return for giving up current use of funds.
- 02 They add expected inflation to preserve purchasing power.
- 03 They add premiums for default risk, liquidity risk, maturity risk, and other relevant risks.
- 04 The required return becomes the discount rate used in valuation and capital budgeting.



MANAGER'S INSIGHT

Required return combines a base rate with risk compensation.

QUICK EXAMPLE

If $r_f=4\%$ and premiums total 5%, required return = 9%.

Risk-Free Rate

The risk-free rate is the return on an investment with no default risk under the same currency and horizon.

BASE RATE

Risk-free rate: base rate before risk premiums

The risk-free rate is the starting return before adding compensation for credit, liquidity, and maturity risk.



Required Return = Risk-Free Rate + Risk Premium

Risk-free rate is the floor; premiums are added for uncertainty.

TREASURY BILLS

Short horizon

TREASURY NOTES

Medium-term benchmark

TREASURY BONDS

Long maturity

MANAGER'S INSIGHT

Match the risk-free rate to the currency and maturity of the cash flows.

QUICK EXAMPLE

Do not discount EGP cash flows using a USD Treasury yield.

Treasury Securities as Benchmarks

Government securities provide reference yields for pricing other financial instruments.

01

Treasury bills are short-term instruments and often benchmark short-term rates.

02

Treasury notes and bonds benchmark medium- and long-term rates.

03

Corporate and municipal securities are frequently priced as a spread over Treasury yields.

04

The spread reflects credit risk, liquidity, taxes, and market conditions.



MANAGER'S INSIGHT

Treasury yields anchor pricing across financial markets.

QUICK EXAMPLE

Corporate bond yield = Treasury yield + risk spread.

Short-Term versus Long-Term Rates

Rates differ across maturities because cash-flow timing and risk differ.

Core explanation

01

Short-term rates are strongly influenced by current monetary policy and near-term liquidity.

02

Long-term rates reflect expected future short-term rates, inflation expectations, and risk premiums.

03

A firm's short-term bank loan and long-term bond will usually carry different rates.

04

Maturity matching reduces refinancing and interest-rate risk.

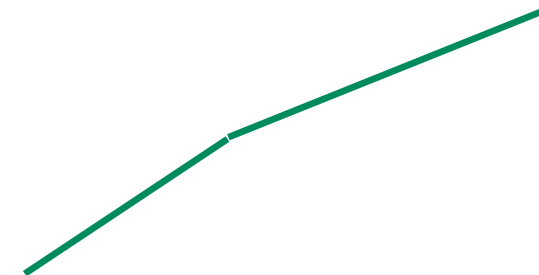
MANAGER'S INSIGHT

Match financing maturity with the useful life of the asset.

QUICK EXAMPLE

Use short-term credit for inventory and long-term debt for equipment.

Short rates: policy-sensitive



Long rates: expectations + premiums

Maturity

Yield Curve Definition

The yield curve plots interest rates on similar-quality securities across maturities.

Core explanation

01

The horizontal axis shows time to maturity; the vertical axis shows yield.

02

A Treasury yield curve is commonly used because credit risk is relatively low.

03

The curve summarizes market expectations and risk premiums across time.

04

Managers use the curve to time borrowing, investment, and refinancing decisions.

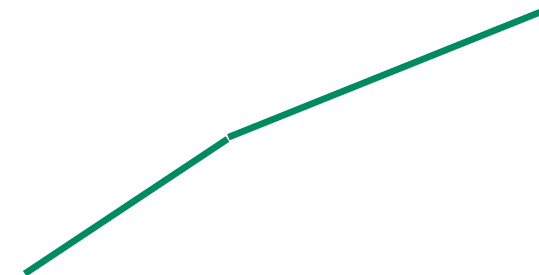
MANAGER'S INSIGHT

The yield curve summarizes market pricing across maturities.

QUICK EXAMPLE

Compare 1-year, 5-year, and 10-year yields.

Yield



Yield curve = rates by maturity for similar-quality securities.

Maturity

Normal Yield Curve

A normal curve slopes upward: long-term rates exceed short-term rates.

01

Normally, investors require higher yields for longer maturities.

02

The upward slope can reflect expected future rate increases, inflation uncertainty, and maturity risk premiums.

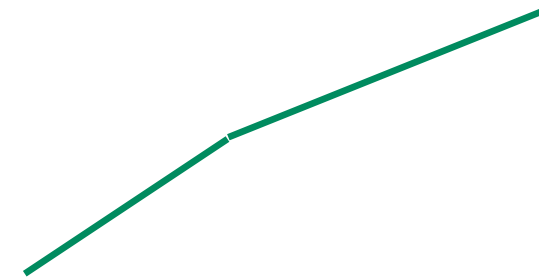
03

A normal curve often occurs during economic expansion or normal credit conditions.

04

Borrowers pay more for long-term certainty but reduce refinancing risk.

Yield



Upward slope: longer maturities carry higher yields.

Maturity

MANAGER'S INSIGHT

A normal curve supports long-term investment planning with caution.

QUICK EXAMPLE

Long-term borrowing may cost more than short-term borrowing.

Inverted Yield Curve

An inverted curve slopes downward: short-term rates exceed long-term rates.

01

Short-term rates may rise when central banks tighten monetary policy.

02

Long-term rates may fall if markets expect slower growth or lower future inflation.

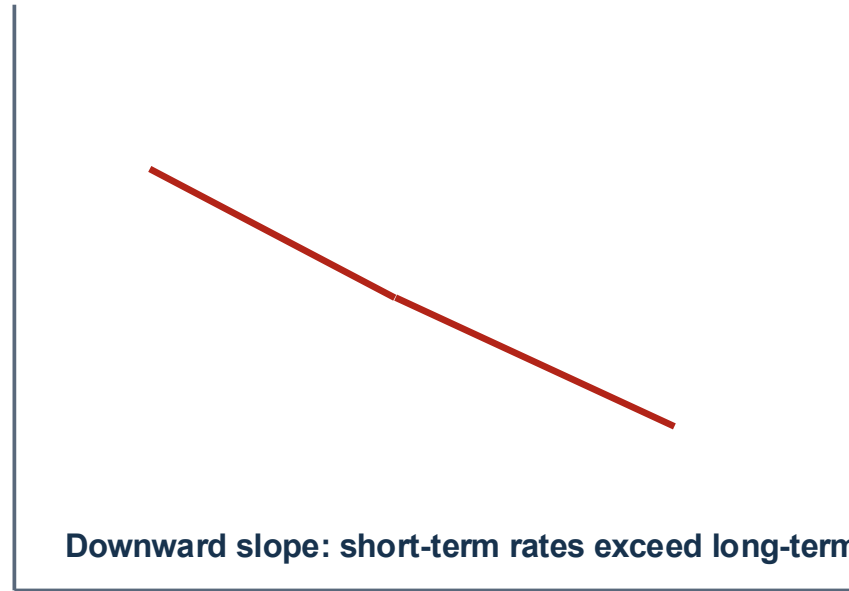
03

An inverted curve is often interpreted as a warning signal about future economic weakness.

04

Borrowers may face expensive short-term financing and tighter credit standards.

Yield



Downward slope: short-term rates exceed long-term rates.

Maturity

MANAGER'S INSIGHT

An inverted curve should trigger cash-flow stress testing.

QUICK EXAMPLE

Refinancing risk rises when short-term rates jump.

Flat Yield Curve

A flat curve shows similar yields across maturities.

01

A flat curve can occur during transitions between expansion and slowdown.

02

It suggests uncertainty or balance between current policy and future expectations.

03

The reward for extending maturity is limited.

04

Managers should compare fixed versus floating rates carefully when the curve is flat.

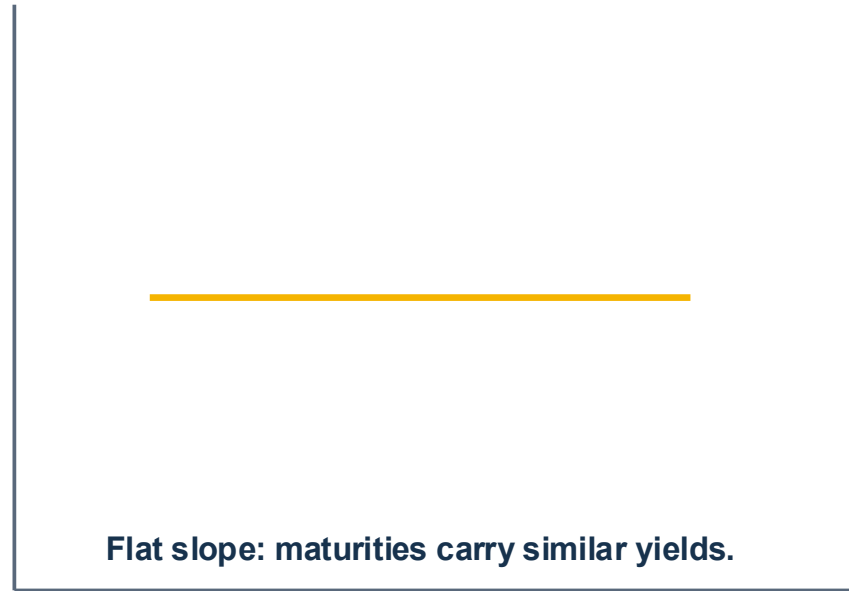
MANAGER'S INSIGHT

A flat curve signals uncertainty about the future rate path.

QUICK EXAMPLE

Short and long borrowing costs become close.

Yield



Maturity

Yield Curve Interpretation

The curve is a compact market signal, not a perfect forecast.

Core explanation

01

The level of the curve shows the general cost of money.

02

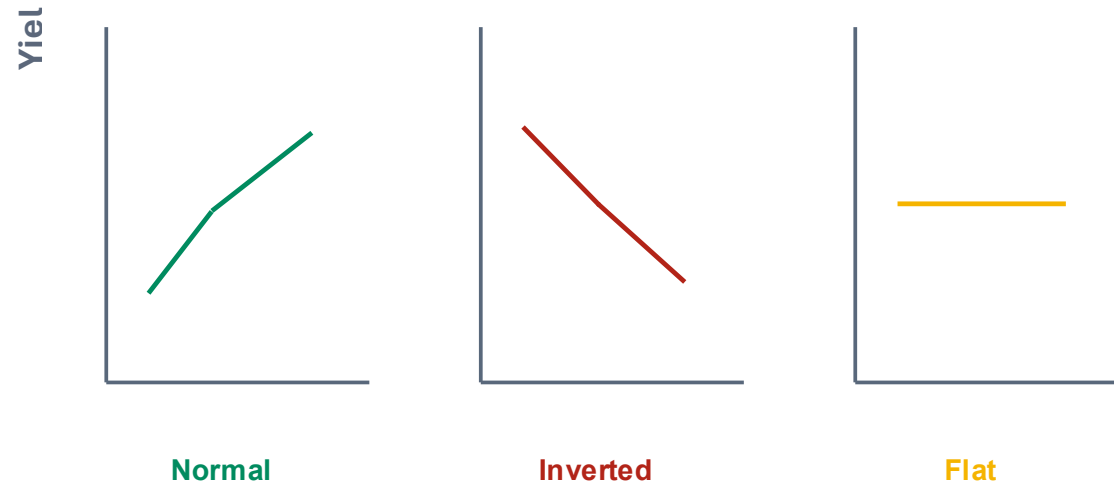
The slope shows how rates change with maturity.

03

The curvature or humps show special pressures in specific maturity segments.

04

Interpretation should include inflation expectations, central-bank policy, liquidity, and risk appetite.



Level = general cost of money | Slope = expectations + premiums |
Shape = maturity-specific pressures

MANAGER'S INSIGHT

Use the yield curve as a market signal, not a guaranteed forecast.

QUICK EXAMPLE

Combine the curve with inflation, policy, and credit-risk analysis.

Term Structure of Interest Rates

The term structure explains why rates differ by maturity.

Core explanation

01

Term structure refers to the relationship between yield and maturity for securities with similar credit quality.

02

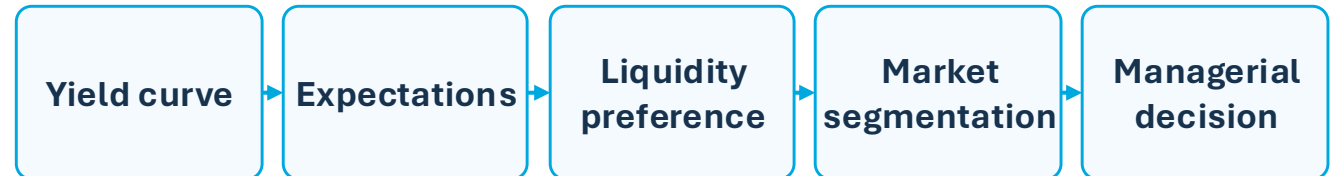
It is commonly observed through the yield curve.

03

Three major views are expectations theory, liquidity preference theory, and market segmentation.

04

Each theory emphasizes a different driver of the maturity-rate relationship.



MANAGER'S INSIGHT

Term structure helps the CFO choose debt maturity.

QUICK EXAMPLE

Compare 2-year and 10-year rates before issuing debt.

Expectations Theory

Long-term rates reflect expected future short-term rates.

01

Investors are assumed to be mainly concerned with expected return across maturities.

02

A long-term rate can be viewed as an average of expected future short-term rates.

03

An upward-sloping curve suggests short-term rates are expected to rise.

04

A downward-sloping curve suggests short-term rates are expected to fall.

Yield



Maturity

MANAGER'S INSIGHT

Expected future rates influence today's long-term yields.

QUICK EXAMPLE

Expected rate cuts may reduce long-term yields.

Liquidity Preference Theory

Investors prefer shorter maturities and require a premium for longer maturities.

Core explanation

01

Short-term securities are usually more liquid and less price-sensitive to rate changes.

02

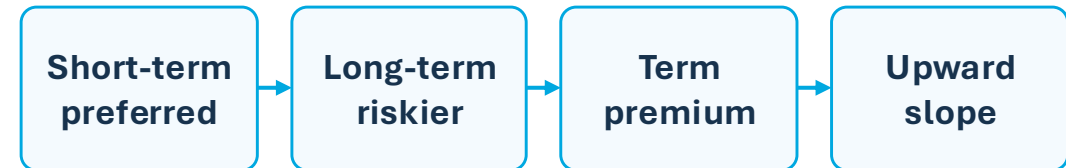
Long-term securities expose investors to greater interest-rate risk.

03

Therefore, long-term rates may include a positive liquidity or maturity premium.

04

This theory helps explain why yield curves are often upward sloping.



MANAGER'S INSIGHT

Investors demand extra yield for tying up money longer.

QUICK EXAMPLE

A 10-year bond may need a premium over a 1-year bond.

Market Segmentation View

Different investors and borrowers prefer different maturity segments.

Core explanation

01

Banks, pension funds, insurers, corporations, and governments may operate in preferred maturity ranges.

02

Supply and demand within each segment can set that segment's yield.

03

A shortage of long-term lenders can raise long-term yields even without changes in expected short rates.

04

This view explains unusual shapes or humps in the yield curve.



MANAGER'S INSIGHT

Different investor clienteles create separate maturity segments.

QUICK EXAMPLE

Banks may prefer short assets; pension funds may prefer long bonds.

Interest Rates and Bond Prices

Bond prices move inversely with market interest rates.

01

A bond promises fixed cash flows, so its price is the present value of coupons and principal.

02

When market rates rise, existing fixed coupons become less attractive, so bond prices fall.

03

When market rates fall, existing fixed coupons become more attractive, so bond prices rise.

04

Longer maturity and lower coupon bonds are more sensitive to rate changes.



**MANAGER'S
INSIGHT**

Rising market rates reduce fixed-rate bond prices.

QUICK EXAMPLE

A bond paying 6% falls when new bonds offer 8%.

Interest Rates and Stock Valuation

Stock values fall when required returns rise, holding cash flows constant.

01

Stock price equals the present value of expected future cash flows to shareholders.

02

A higher risk-free rate raises the required return on equity.

03

Higher discount rates reduce present values, especially for growth stocks with distant cash flows.

04

Rates also affect sales, financing costs, and investor appetite for risky assets.

$$\text{Stock value: } P_0 = D_1 / (r - g)$$

In a constant-growth model: $P_0 = D_1 / (r - g)$. If r increases while D_1 and g stay constant, price decreases.

**MANAGER'S
INSIGHT**

Higher required returns reduce equity value if cash flows stay constant.

QUICK EXAMPLE

PV of dividends falls when the required return rises.

Interest Rates and Cost of Capital

Interest rates affect both debt and equity components of WACC.

01

The cost of debt rises when market rates rise or credit spreads widen.

02

The cost of equity rises when the risk-free rate or equity risk premium increases.

03

WACC is the minimum expected return needed to compensate capital providers.

04

A higher WACC makes fewer investment projects acceptable.

$$WACC = wD \times rD \times (1-T) + wE \times rE$$

Higher interest rates usually increase the hurdle rate used to evaluate new projects.

MANAGER'S INSIGHT

WACC changes with market rates and risk premiums.

QUICK EXAMPLE

A higher risk-free rate raises both debt and equity cost.

Interest Rates and Capital Budgeting

Rates determine the discount rate used in NPV analysis.

01

NPV compares the present value of future cash inflows with the initial investment.

02

When the discount rate increases, present value decreases.

03

Projects with long-dated cash flows are more sensitive to rate increases.

04

Interest-rate scenarios should be included in sensitivity analysis.

$$NPV = \sum CF_t / (1 + r)^t - \text{Initial investment}$$

Accept projects with $NPV > 0$ using a discount rate that reflects project risk and financing conditions.

MANAGER'S INSIGHT

Update discount rates before approving long-term projects.

QUICK EXAMPLE

NPV may turn negative when WACC rises.

Interest Rates and Corporate Borrowing

Rates influence debt capacity, coverage ratios, covenants, and refinancing choices.

Core explanation

01

Higher rates increase interest expense and reduce net income and cash-flow coverage.

02

Floating-rate debt exposes firms to future rate increases.

03

Fixed-rate debt locks in cost but may be expensive when the yield curve is steep.

04

Firms may refinance, lengthen maturity, reduce leverage, or delay investment when rates rise.



MANAGER'S INSIGHT

Borrowing policy must protect coverage and flexibility.

QUICK EXAMPLE

Higher rates reduce the interest coverage ratio.

Interest Rates and Consumer Credit

Consumer borrowing affects demand for goods, housing, and business revenue.

Core explanation

01

Higher rates increase payments on mortgages, auto loans, credit cards, and personal loans.

02

Consumer demand for interest-sensitive products may decline when rates rise.

03

Lower consumer spending can reduce business sales and cash flows.

04

Firms must consider how rate changes affect customers as well as the firm's own financing cost.



MANAGER'S INSIGHT

Consumer credit affects demand for durable goods and firm revenue.

QUICK EXAMPLE

Car sales may fall when auto-loan rates rise.

Central Bank Influence on Interest Rates

Central banks guide short-term rates and liquidity conditions.

01

Central banks set or influence policy rates used as anchors for short-term market rates.

02

They manage liquidity through open-market operations and other policy tools.

03

Policy expectations affect bond yields, exchange rates, and equity prices.

04

Central banks aim to balance inflation control, employment, growth, and financial stability.



MANAGER'S INSIGHT

Central bank policy guides short-term funding conditions.

QUICK EXAMPLE

A policy-rate hike can raise bank funding costs.

Monetary Policy and Financial Markets

Policy affects asset prices through discount rates, expectations, and risk appetite.

01

Tightening policy usually raises short-term rates and can reduce borrowing and asset valuations.

02

Easing policy usually lowers short-term rates and can support credit growth and valuations.

03

Markets often react to expectations before official policy changes occur.

04

Communication and credibility are important because expectations shape long-term yields.



MANAGER'S INSIGHT

Policy affects markets through discount rates and risk appetite.

QUICK EXAMPLE

Tighter policy can lower asset prices.

International Interest Rate Differences

Rates differ across countries because inflation, risk, policy, and capital flows differ.

01

Countries with higher expected inflation usually have higher nominal interest rates.

02

Political risk, default risk, and currency risk can increase required returns.

03

Capital controls and market development affect liquidity and investor access.

04

Global investors compare risk-adjusted returns across markets.



MANAGER'S INSIGHT

Country rates differ because inflation, policy, and risk differ.

QUICK EXAMPLE

High-inflation economies often have higher nominal rates.

Exchange Rates and Interest Rates

Interest-rate differences influence currencies through capital flows and expectations.

Core explanation

01

Higher interest rates can attract foreign capital if risk is acceptable.

02

Capital inflows may appreciate the domestic currency.

03

High inflation or default risk can offset the attraction of high nominal rates.

04

Exchange-rate expectations affect the total return for international investors.



MANAGER'S INSIGHT

Rate differentials influence capital flows and currency pressure.

QUICK EXAMPLE

Higher local rates may attract foreign capital.

Mini-Case: Rate Increase and Firm Decisions

How a firm should respond when borrowing costs rise sharply.

01

Scenario: A manufacturing firm planned to finance a new production line with a variable-rate loan.

02

Market rates increased from 8% to 12%, raising expected interest expense and reducing NPV.

03

Management must re-estimate WACC, debt-service coverage, project timing, and price assumptions.

04

Possible decisions: delay project, reduce scale, switch to fixed-rate debt, seek equity, or renegotiate suppliers.



MANAGER'S INSIGHT

Rate shocks require updated financing and investment analysis.

QUICK EXAMPLE

Recalculate loan cost, WACC, NPV, and cash coverage.

Numerical Practice: Nominal versus Real Return

Use both approximate and exact methods.

01 Given: nominal return = 12%; inflation rate = 7%.

$$\text{Exact real return} = (1 + \text{nominal}) / (1 + \text{inflation}) - 1$$

02 Approximate real return = 12% – 7% = 5%.

Approximate real return = 5%; exact real return = 4.67%.

03 Exact real return = $(1.12 / 1.07) - 1 = 4.67\%$.

04 The exact method is more accurate because it adjusts multiplicatively rather than subtracting rates.

**MANAGER'S
INSIGHT**

Separate nominal return from inflation-adjusted return.

QUICK EXAMPLE

Approximate real return = nominal return - inflation.

Discussion: Why Do Lenders Require Higher Rates?

Lenders must be compensated for time, inflation, and risk.

Core explanation

01

They give up current consumption and liquidity.

02

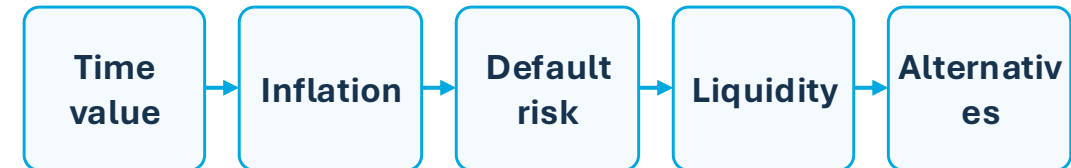
They face uncertainty about inflation and future purchasing power.

03

They face borrower default risk and market price risk.

04

They require a return that is competitive relative to alternative investments.



MANAGER'S INSIGHT

Lenders price time, inflation, default, liquidity, and maturity risk.

QUICK EXAMPLE

Two borrowers can pay different rates for the same amount.

Key Terms Review

A compact glossary for revision.

Core explanation

01

Interest rate: the price of using money over time.

02

Loanable funds: funds available from savers and demanded by borrowers.

03

Risk premium: extra return required for bearing risk beyond a risk-free benchmark.

04

Yield curve: relationship between yields and maturities for similar-quality debt.



MANAGER'S INSIGHT

Key terms become useful when tied to decisions.

QUICK EXAMPLE

Use the glossary to explain why rates differ across instruments.

Chapter 05

INTEREST RATES

Lecture Summary and Preparation for Time Value of Money

Interest rates are the bridge between financial markets and valuation.

01

Interest rates are determined by supply and demand for loanable funds.

02

Nominal rates include real return, expected inflation, and risk premiums.

03

Yield curves summarize the term structure and market expectations.

04

Rates affect bond prices, stock valuation, WACC, borrowing, and project selection.

05

Next lecture connects interest rates directly to future value, present value, annuities, and valuation calculations.



MANAGER'S INSIGHT

Interest rates prepare students for discounting and valuation.

QUICK EXAMPLE

Time value of money starts with the discount rate.

QUESTION 01/10

Which statement best describes the interest rate in finance?

A A tax charged only on corporate profits

B The price paid for using money over time

C The accounting value of total assets

D The dividend paid to shareholders

ANSWER

B

The price paid for using money over time

EXPLANATION

Interest is the cost to borrowers and the return to lenders for the use of funds over time.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

Solved questions: concepts, calculations, and applications.

QUESTION 02/10

In the loanable funds framework, what usually happens when the supply of savings increases, holding demand constant?

A Equilibrium interest rate decreases

B Equilibrium interest rate increases

C Default risk disappears

D Inflation becomes zero

ANSWER

A

Equilibrium interest rate decreases

EXPLANATION

More funds supplied shifts supply to the right, placing downward pressure on the equilibrium rate.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 03/10

A nominal return is 10% and inflation is 4%. What is the approximate real return?

A 4%

B 6%

C 10%

D 14%

ANSWER

B 6%

EXPLANATION

Approximate real return = nominal return - inflation = 10% - 4% = 6%.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 04/10

Which premium compensates investors for the chance that the borrower will not pay as promised?

A Inflation premium

B Default risk premium

C Liquidity premium

D Tax premium

ANSWER

B

Default risk premium

EXPLANATION

Default risk premium compensates lenders for credit risk and expected nonpayment uncertainty.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 05/10

What usually happens to the price of an existing fixed-rate bond when market interest rates rise?

A The bond price rises

B The bond price falls

C The coupon rate changes automatically

D The maturity disappears

ANSWER

B

The bond price falls

EXPLANATION

Existing fixed coupons become less attractive when market rates rise, so bond prices fall.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

Solved questions: concepts, calculations, and applications.

QUESTION 06/10

A 9% taxable bond is evaluated by an investor with a 30% tax rate. What is the after-tax yield?

A 2.7%

B 6.3%

C 9.0%

D 12.9%

ANSWER

B 6.3%

EXPLANATION

After-tax yield = $9\% \times (1 - 0.30) = 6.3\%$.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 07/10

Which yield-curve shape has short-term rates higher than long-term rates?

A Normal yield curve

B Inverted yield curve

C Upward yield curve

D Stable yield curve

ANSWER

B

Inverted yield curve

EXPLANATION

An inverted curve slopes downward because short-term yields exceed long-term yields.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 08/10

If the discount rate used in NPV analysis increases, holding expected cash flows constant, what happens to present value?

A It increases

B It decreases

C It remains exactly the same

D It becomes equal to book value

ANSWER

B

It decreases

EXPLANATION

A higher discount rate reduces the present value of future cash flows.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

Solved questions: concepts, calculations, and applications.

QUESTION 09/10

According to expectations theory, an upward-sloping yield curve can suggest that investors expect future short-term rates to:

A Decrease sharply

B Remain negative forever

C Increase

D Become unrelated to inflation

ANSWER

C

Increase

EXPLANATION

Expectations theory interprets long-term rates as reflecting expected future short-term rates.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.

QUESTION 10/10

A firm planned to borrow at 8%, but the market rate increased to 12%. Which action is most financially appropriate before accepting the project?

A Ignore the rate change because accounting profit is unchanged

B Recalculate WACC, debt-service coverage, and project NPV

C Increase dividends immediately

D Remove the project from all future analysis without evaluation

ANSWER

B

Recalculate WACC, debt-service coverage, and project NPV

EXPLANATION

A higher borrowing cost changes required return, cash-flow coverage, and NPV; the decision should be recalculated.

EXAM TECHNIQUE: read the concept, apply the rule, eliminate weak options, then confirm the answer.



Interest Rates and Financial Markets

Thank You