Corporate Finance

# RISK AND RETURN:

# A DEEP DIVE

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# DEFINING RISK AND RETURN

## RISK

The potential for loss or variability in investment outcomes. Measured as standard deviation or volatility.

## RETURN

The profit or loss generated from an investment. Calculated as a percentage of the initial investment.

# SYSTEMATIC AND UNSYSTEMATIC RISK

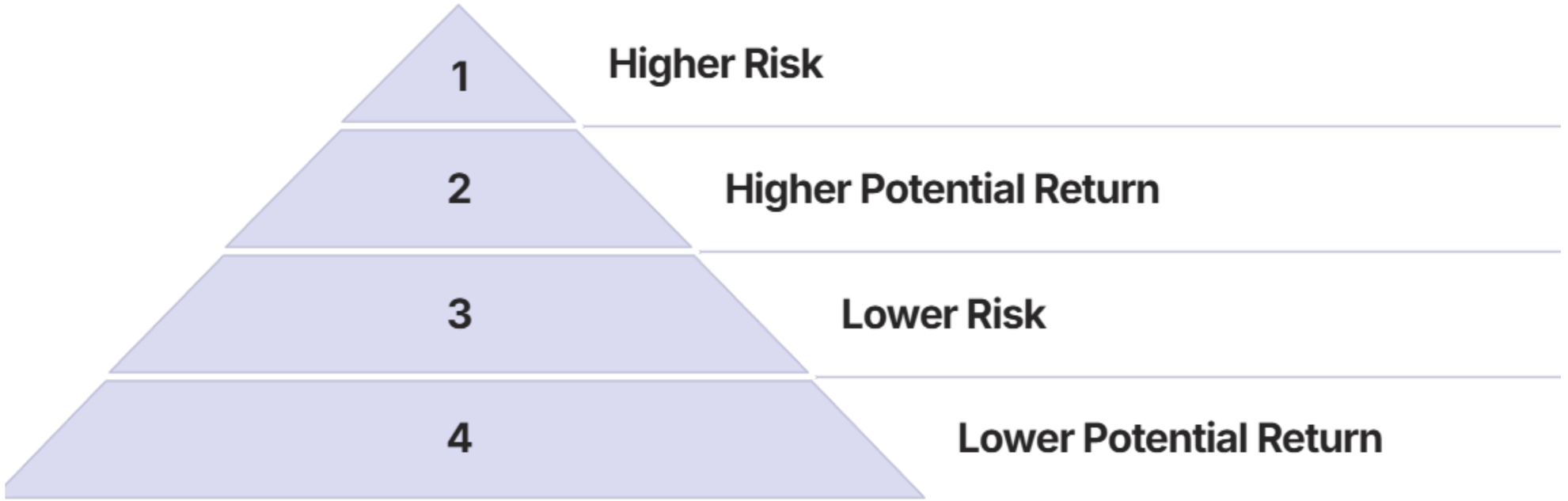

Systematic Risk

Market-wide risk, impacting all investments. Examples: inflation, economic recession.

Unsystematic Risk

Specific to a particular investment, can be diversified away.

# RISK-RETURN TRADEOFF



# PORTFOLIO DIVERSIFICATION

## REDUCE RISK

Invest in diverse assets across different sectors, industries, and asset classes.

## ENHANCE RETURNS

Increase overall potential returns by investing in assets with potentially higher returns.

# THE CAPITAL ASSET PRICING MODEL (CAPM)

## CAPM Formula

Expected Return = Risk-Free Rate + Beta * (Market Risk Premium)

## Risk-Free Rate

Return on a risk-free investment, typically government bonds.

## Beta

Measure of a security's volatility relative to the market.

## Market Risk Premium

The additional return investors expect for investing in the market versus risk-free assets.

# CALCULATING EXPECTED RETURN USING CAPM

**10%**

**Risk-Free Rate**

US Treasury Bond yield

**1.2**

**Beta**

Company stock's volatility

**5%**

**Market Risk Premium**

Expected return on the market over risk-free assets

**16%**

**Expected Return**

Calculated using CAPM formula

# ESTIMATING BETA AND THE RISK-FREE RATE

CAPM = Rf + [B x (Rm - Rf)]

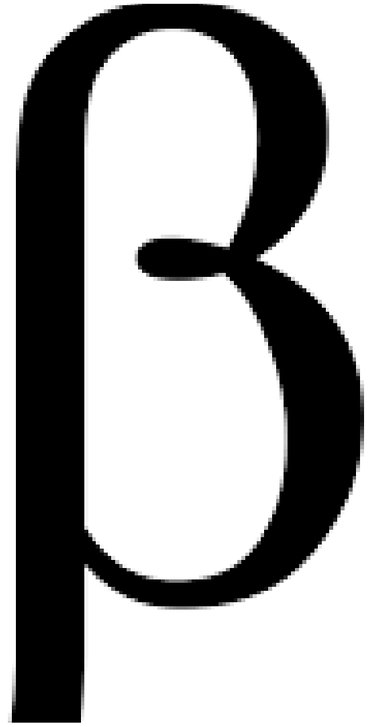
## BETA

Historical stock price data

Beta = Covariance (Stock Returns, Market Returns) / Variance (Market Returns)

## RISK-FREE RATE

Current yield on US Treasury bonds



# IMPLICATIONS AND LIMITATIONS OF CAPM

1

### Investment Decisions

Inform investment choices based on expected risk and return.

2

### Performance Evaluation

Assess the performance of investments against expected returns.

3

### Assumptions

CAPM assumes rational investors and efficient markets, which may not always hold true.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