NO PREP

Risk and Return

How to Make Smart Investment Choices

Includes: Student reading, case study, differentiated questions, teacher key

Name: Period: Date:

Risk and Return: How to Make Smart Investment Choices

Defining Financial Risk and Return

In finance, risk refers to the uncertainty surrounding the return on an investment. Returns—composed of income (dividends or interest) and capital appreciation—reward investors for taking on uncertainty. Different risks affect returns: market risk stems from overall economic fluctuations; credit risk involves the chance of a borrower defaulting; liquidity risk arises when assets cannot be sold quickly at fair prices; and inflation risk erodes purchasing power over time. Understanding that higher potential returns usually accompany higher risks is fundamental. A risk-averse individual may favor stable, low-yield bonds, while a risk-tolerant investor might pursue equities or alternative assets for greater growth prospects. The art of

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Why Higher Returns Often Mean Higher Risk

Investments promising high returns must compensate for elevated risks. Emerging-market equities may offer double-digit growth potential, but political instability, currency swings, and lower liquidity amplify losses during downturns. Junk bonds pay steep coupons, reflecting their issuers' greater likelihood of default, but can plunge in value during economic stress. Even real estate's long-term rewards hinge on property market cycles and leverage risks. Financial theory, notably the Capital Asset Pricing Model (CAPM), quantifies this relationship: the expected return on an asset equals the risk-free rate plus a beta-adjusted market premium. In practice, chasing yield without appreciating the underlying risks can lead to painful drawdowns, as starkly illustrated by the 2008 credit crisis or sudden currency devaluations.

Diversification: The Investor's Shield

Diversification is the process of spreading investments across assets that respond differently to market conditions, reducing portfolio volatility without necessarily sacrificing expected returns. By combining stocks, bonds, real estate, and perhaps commodities, investors can smooth out the ride: losses in one area may be offset by gains in another. The old adage "Don't put all your eggs in one basket" encapsulates this principle. Asset correlation, how asset returns move relative to each other, is key: low- or negatively correlated assets provide the greatest risk reduction when combined. While diversification can't eliminate market risk entirely, it shields against idiosyncratic shocks like a single company's bankruptcy or sectoral downturn, making it a cornerstone of prudent financial planning.

Measuring and Managing Risk

Investors quantify portfolio risk using standard deviation (a measure of volatility) and Value at Risk (VaR) (the potential loss under normal market conditions). These metrics guide allocations: an investor targeting a 10 percent annual volatility might tilt toward bonds and dividend-paying stocks, whereas someone comfortable with 20 percent may overweight growth equities. Risk management tools—stop-loss orders, options hedges, and rebalancing rules—help contain unforeseen losses. Regular portfolio reviews ensure allocations stay aligned with objectives: if equities surge and grow from 60 percent to 70 percent of assets, rebalancing back to the target reduces risk exposure and locks in gains. Effective risk management balances potential rewards against the likelihood and severity of adverse outcomes.

Key Information

Asset Class	Expected Return Range	Primary Risk Type	Correlation with Stocks
U.S. Treasury Bonds	3 – 5 percent	Interest-rate risk	Low
Investment-Grade Bonds	4 – 6 percent	Credit risk	Moderate
Large-Cap Stocks	6 – 10 percent	Market volatility	High

Asset Class	Expected Return Range	Primary Risk Type	Correlation with Stocks
International Stocks	7 – 12 percent	Currency & political	Moderate
Commodities	Varies	Price swings	Low

Case Study Excerpt: The Benefits of Diversification in 2020

During the market turmoil of early 2020, triggered by the COVID-19 pandemic, diversified portfolios demonstrated their worth. A hypothetical 60/40 portfolio—60 percent stocks, 40 percent bonds—saw a maximum drawdown of roughly 20 percent in March, compared with over 30 percent for an all-equity portfolio. International bond holdings and U.S. Treasuries provided ballast, rallying as investors sought safe havens. Meanwhile, certain sectors—technology and healthcare—recovered quickly, benefiting diversified stock allocations. Consider two investors: Alex held a pure S&P 500 index fund, while Jordan maintained a 60/40 mix including U.S. Treasuries and a small allocation to gold. From February to March, Alex's portfolio plunged 34 percent but rebounded sharply, recovering to breakeven by August. Jordan's diversified holdings limited the initial drop to 19 percent and recovered steadily, outperforming Alex in absolute terms by mid-year. Although Alex captured higher upside in the market rally, Jordan's smoother ride provided both psychological comfort and greater capital preservation during the worst phase. This episode underscores that diversification isn't about maximizing returns every cycle—it's about enhancing the risk-adjusted return, measured by metrics like the Sharpe ratio, which divides excess return by volatility. Investors like Jordan, who align portfolio construction with risk tolerance, are more likely to stay the course during downturns, avoiding panic selling that locks in losses. In the end, diversification proves its value not just in theory, but in turbulent real-world conditions.

1. Which asset classes in Jordan's portfolio helped reduce the drawdown during March 2020, and why?

2. How did psychological factors influence Alex's and Jordan's differing recovery experiences?

Multiple Choice

1. According to CAPM, expected return equals the risk-free rate plus:
    a) Standard deviation of returns
    b) Beta times the market premium
    c) Dividend yield of stocks
    d) Inflation rate forecast

2. A primary goal of diversification is to:
    a) Guarantee positive returns every year
    b) Eliminate all market risk entirely
    c) Maximize short-term gains each quarter
    d) Reduce idiosyncratic (unsystematic) risk

3. Value at Risk (VaR) estimates:
    a) The average dividend yield of a portfolio
    b) The highest expected return a portfolio could earn in a typical year
    c) The potential loss over a defined period at a given confidence level
    d) Total portfolio return under best-case scenarios

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ Risk of issuer failing to pay interest or principal	A) Diversification
2. ___ Reduction of risk by holding uncorrelated assets	B) Systematic risk
3. ___ Volatility of returns around the mean	C) Credit risk
4. ___ Chance that an asset cannot be quickly sold at fair value	D) Standard deviation
5. ___ Economy-wide fluctuations affecting all securities	E) Liquidity risk

Fill-in-the-Blank

1. Holding both stocks and bonds can lower portfolio _____ because they often move differently.

2. The ratio of excess return to volatility is known as the _____ ratio.

3. The risk that a borrower fails to repay a loan is called _____ risk.

Short Answer

Answer each question in 2-4 complete sentences.

1. Explain why a higher standard deviation implies greater investment risk.

2. Describe one scenario where diversification might not protect against losses.

3. Summarize how rebalancing contributes to disciplined risk management.