

THE CHALLENGE

Destiny invested \$25,000 entirely in five tech stocks and Bitcoin, convinced "traditional diversification is outdated." For three years, her strategy seemed brilliant—her portfolio grew to \$95,000. Then tech crashed and crypto collapsed. Within six months, she was back to \$38,000—a 60% loss from peak. Her friend Jordan, with a diversified 80/20 stock/bond portfolio, saw smaller gains but only lost 17% during the crash. Destiny panic-sold at the bottom; Jordan stayed invested and recovered. By age 35, Jordan had \$74,000 while Destiny had \$40,000.

How does diversification protect your wealth while still allowing you to achieve long-term growth?

Learning Objectives

- Analyze how diversification reduces portfolio risk through correlation principles.
- Construct balanced investment portfolios using appropriate asset allocation strategies.
- Apply rebalancing strategies to maintain target allocation over time.

CORE CONCEPTS

Term	Definition
Diversification	Spreading investments across different assets that don't move in lockstep to reduce risk.
Correlation	How two investments move together. +1.0 = perfect lockstep; -1.0 = opposite directions.
Asset Allocation	The percentage breakdown of your portfolio across stocks, bonds, and other assets.
Rebalancing	Periodically adjusting back to target allocation by selling overweight assets and buying underweight.
Target-Date Fund	A fund that automatically becomes more conservative as retirement approaches.

Background: Diversification is the only "free lunch" in investing—you can reduce risk by 30-50% **without** sacrificing returns. When one investment falls 10% and another rises 5%, your combined portfolio only falls 2.5%. Research shows diversifying across 15-20 stocks eliminates 70% of company-specific risk. Adding bonds, international stocks, and real estate can reduce volatility by an additional 20-30%. The key: combine assets

with **low correlation** (they don't move together). This mathematical principle—Modern Portfolio Theory—won Harry Markowitz a Nobel Prize.

APPLY IT

PART A: CORRELATION AND DIVERSIFICATION

Asset Combination	Correlation	Diversification Benefit
Tech Stock A + Tech Stock B	+0.85	Low
US Stocks + Bonds	+0.15	High
US Stocks + International Stocks	+0.70	Moderate
Stocks + Gold	-0.10	High

1. Based on the table, why does combining two tech stocks provide less diversification than combining stocks and bonds?

2. You have \$10,000. Investment A drops 20% while Investment B rises 10%. Calculate your loss if: (a) 100% in A; (b) 50/50 split.

Show your work:

100% in A loss: \$_____ | 50/50 loss: \$_____

Hint: Lower correlation = better diversification. Assets that move opposite directions (-0.10) provide better protection than those moving together (+0.85).

PART B: AGE-APPROPRIATE ASSET ALLOCATION

Design appropriate allocations for each investor using the "120 minus age" guideline as a starting point.

Investor 1: Age 25, 40 years to retirement

Stocks: _____ %

Bonds: _____ %

Rationale: _____

Investor 2: Age 55, 10 years to retirement

Stocks: _____ %

Bonds: _____ %

Rationale: _____

PART C: REBALANCING SCENARIO

3. Marcus starts with 70% stocks (\$70,000) / 30% bonds (\$30,000). After a great year, stocks rise 20% to \$84,000 while bonds rise 3% to \$30,900. What is his new allocation percentage, and what should he do to rebalance?

Calculate new allocation:

New allocation: _____ % stocks / _____ % bonds | Action: _____

CHECK YOUR UNDERSTANDING

1. Risk that can be eliminated through diversification is called:

- A. Systematic risk
- B. Unsystematic risk
- C. Market risk
- D. Interest rate risk

2. Explain why Destiny's concentrated portfolio (5 tech stocks + Bitcoin) was riskier than Jordan's diversified portfolio, even when Destiny was initially making more money.

3. Calculation: \$500/month invested for 30 years at 8% (diversified) vs. 10% (concentrated but behavioral errors reduce actual returns to 5%). Which accumulates more?

Show calculations or estimates:

Diversified (8%): \$_____ | Concentrated (5% actual): \$_____

4. Why does rebalancing force you to "buy low and sell high," and why does this feel counterintuitive to most investors?

5. Reflection: Design a diversified portfolio for yourself. What allocation feels comfortable enough that you'd stay invested through a 30% market crash? What rule would you follow for rebalancing?
