

- Risk that can be eliminated by combining assets into portfolios
- "Unique risk"
- "Asset-specific risk"
- Examples: labor strikes, part shortages, etc.

The Principle of Diversification

- Diversification can substantially reduce risk without an equivalent reduction in expected returns
 - o Reduces the variability of returns
 - o Caused by the offset of worse-than-expected returns from one asset by better-than-expected returns from another
- Minimum level of risk that cannot be diversified away = *systematic portion*

Portfolio Conclusions

- As more stocks are added, each new stock has a smaller risk-reducing impact on the portfolio
- Forming well-diversified portfolios can eliminate about half the risk of owning a single stock.

Total Risk = Stand-alone Risk

- Total risk = Systematic risk + Unsystematic risk
 - o The standard deviation of returns is a measure of total risk
- For well-diversified portfolios, unsystematic risk is very small
 - o Total risk for a diversified portfolio is essentially equivalent to the systematic risk

Systematic Risk Principle

- There is a reward for bearing risk
- There is no reward for bearing risk unnecessarily
- The expected return (market required return) on an asset depends only on that asset's systematic or market risk.

Market Risk for Individual Securities

- The contribution of a security to the overall riskiness of a portfolio
- Relevant for stocks held in well-diversified portfolios
- Measured by a stock's beta coefficient, β_j
- Measures the stock's volatility relative to the market

Interpretation of beta

- If $\beta = 1.0$, stock has average risk
- If $\beta > 1.0$, stock is riskier than average
- If $\beta < 1.0$, stock is less risky than average
- Most stocks have betas in the range of 0.5 to 1.5
- Beta of the market = 1.0
- Beta of a T-Bill = 0