Modern Portfolio Theory of Harry Markowitz

Portfolio Weights Are Optimal

- When they optimize an objective function while satisfying the constraints

Possible Objectives	Possible Constraints
Maximize expected return	Only positive weights
Minimize the variance	Weights sum to 1 (all capital needs to be invested)
Maximize the Sharpe Ratio	Portfolio expected return equals a target value

Harry Markowitz

- Nobel Prize Winner

- Recommends finding optimal portfolios by minimizing portfolio variance

  - Expected return should be equal to a pre-specified target return

The H. Markowitz Approach

Does Not Exist

Mean Portfolio Return

1. Fix a target return

2. Find the portfolio that minimizes variance

0

Volatility of Portfolio