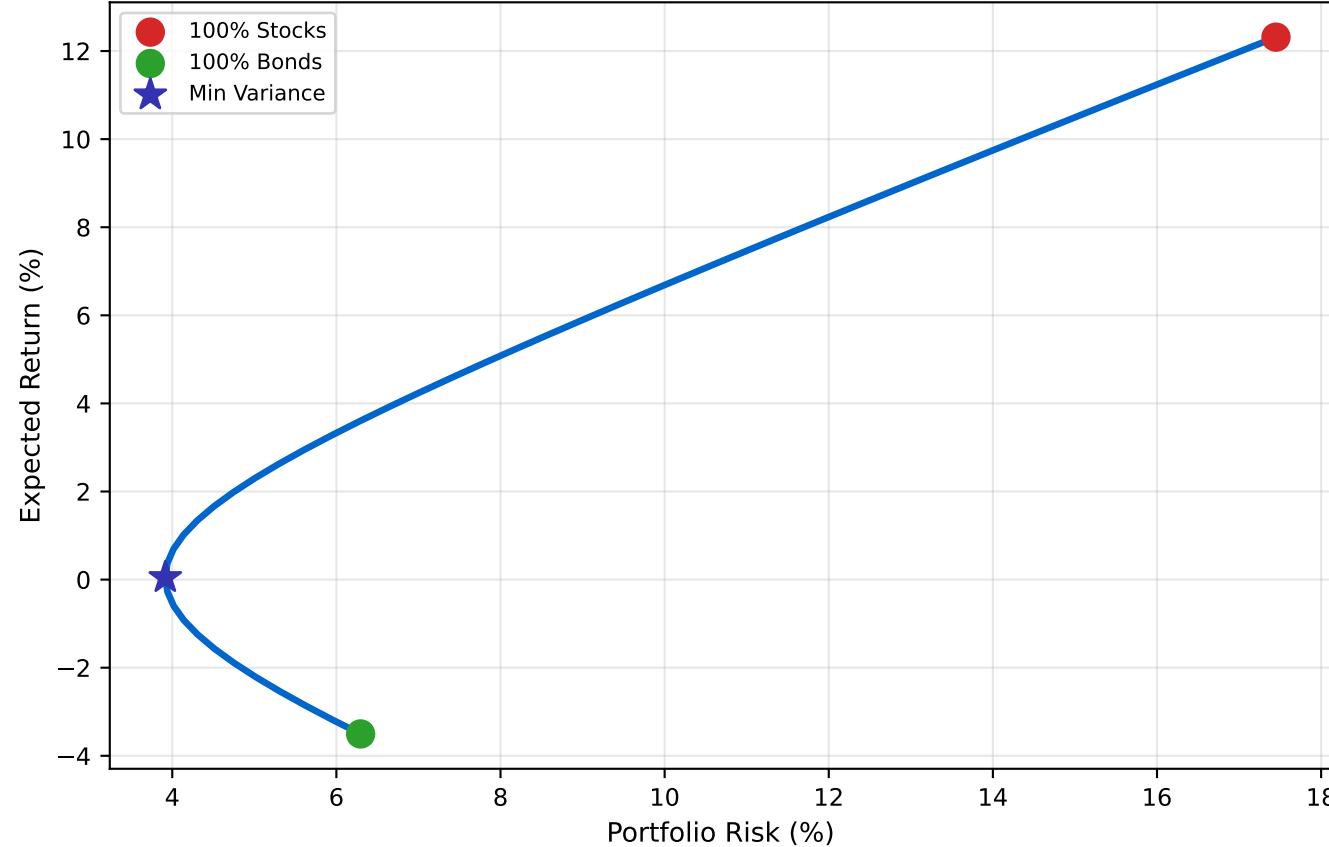
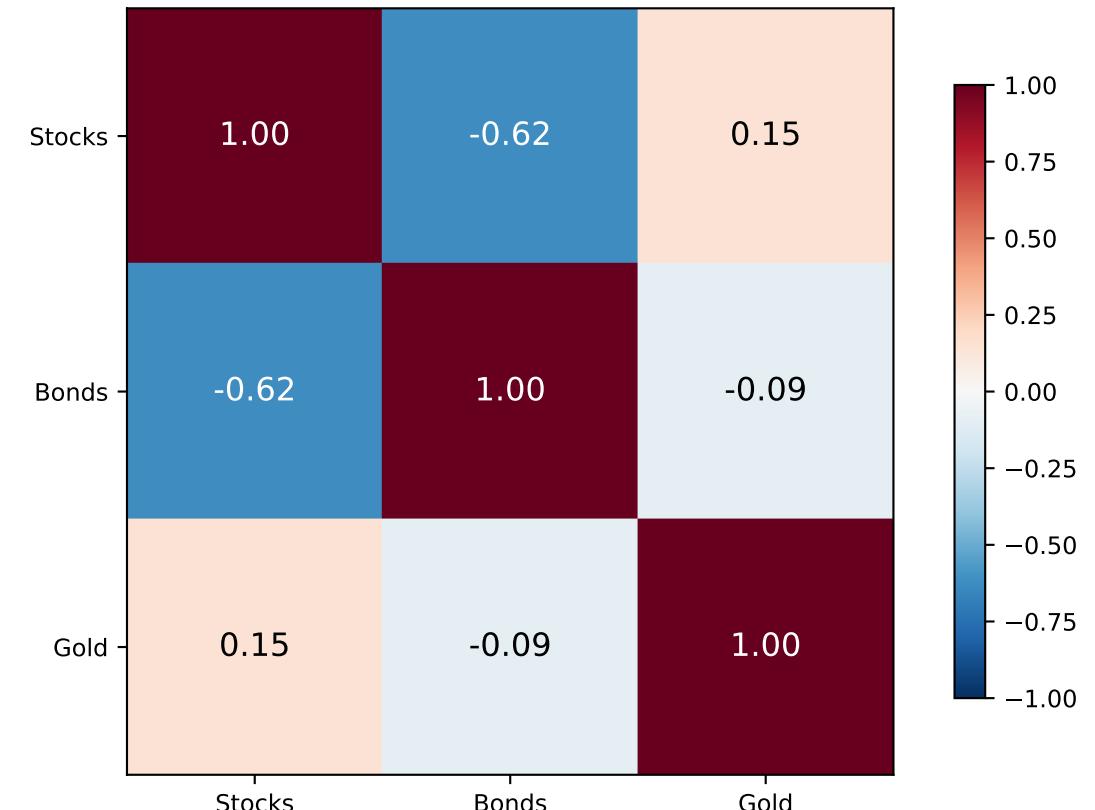


# Portfolio Correlation and Diversification

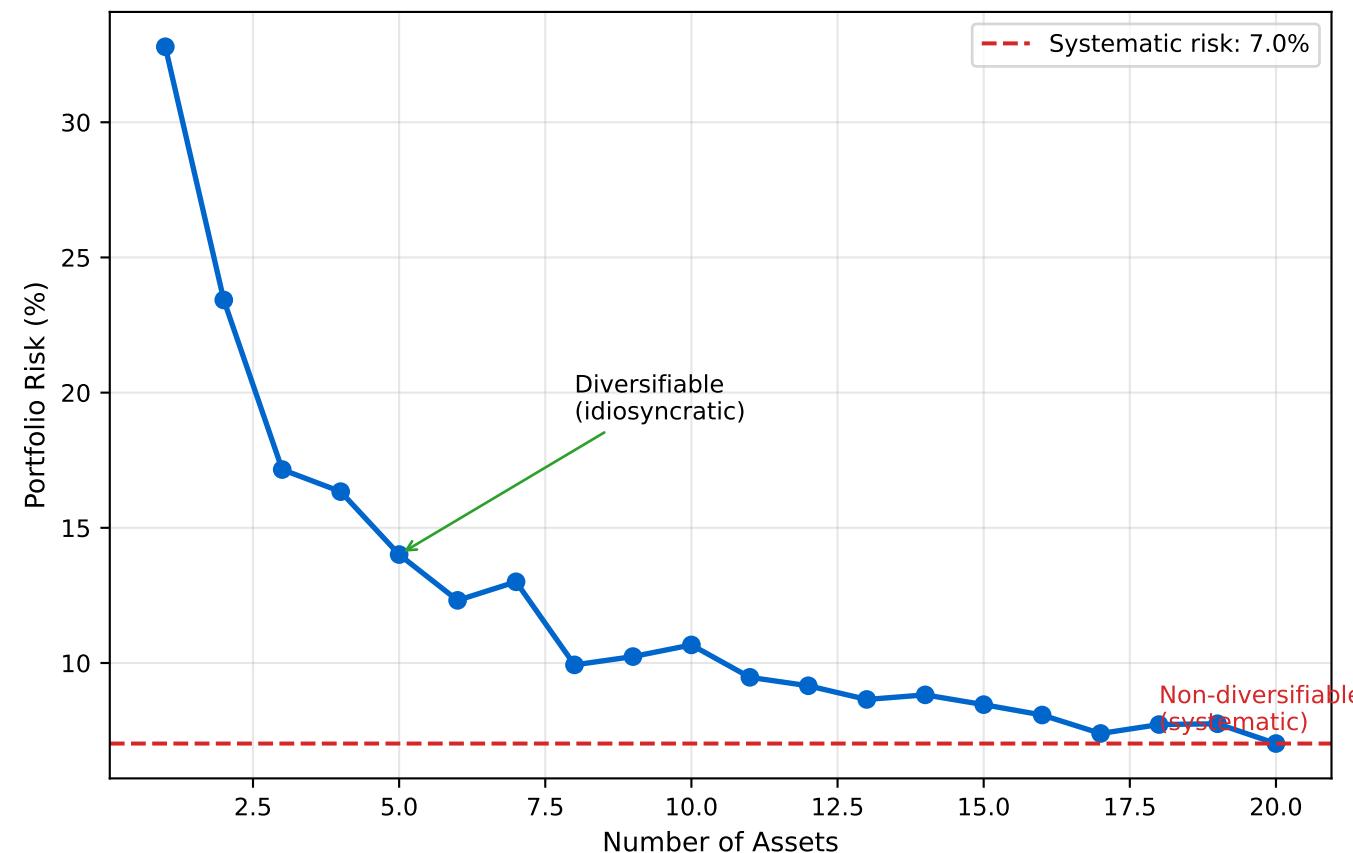
Efficient Frontier (Stocks + Bonds)



Asset Correlation Matrix



Diversification: Risk vs Number of Assets



## Diversification Insights

### Lower Correlation = Better Diversification

Negative correlation is ideal but rare

### Diminishing Returns

~15-20 stocks capture most diversification

### Systematic Risk Remains

Cannot diversify away market risk

### Correlations Rise in Crises

Diversification fails when needed most

$$\text{Portfolio\_Var} = \sum(w_i * w_j * \text{cov}_{ij})$$