

Cash, Bonds and Stocks (Real) (constrained)

Assets

Asset Name	Expected Return	Standard Deviation	Low Constraint	High Constraint		
cash	0.63	4.22	0.00	100.00	+	-
bonds	2.10	9.60	0.00	100.00	+	-
stocks	8.56	19.65	0.00	100.00	+	-

Correlations

	cash	bonds	stocks
cash	1.00	0.60	0.11
bonds	0.60	1.00	0.24
stocks	0.11	0.24	1.00

Solve

Warning

Solution

Calculator

Graph

The solution is $w = (1/A)*c + d$, where A is the coefficient of relative risk aversion and c and d are the vectors given in the table below:

There are 4 solution segments and 3 corner portfolios.

Within each segment, the asset states are shown as:

D = down = asset is pinned to its low constraint.

I = in = asset may vary between its low and high constraints.

U = up = asset is pinned to its high constraint.

	Minimum Variance Portfolio	Segment 1 $12.00 \leq A \leq \infty$		Corner Portfolio 1	Segment 2 $3.12 \leq A$	
		c	d		c	
A	∞			12.00		
Expected Return	0.81			2.17		
Standard Deviation	4.20			5.38		
cash	97.75	-2.0561	0.9775	I	80.62	-3.4004
bonds	0.00	0.0000	0.0000	D	0.00	1.4563
stocks	2.25	2.0561	0.0225	I	19.38	1.9441