

**Two Stock Portfolio**

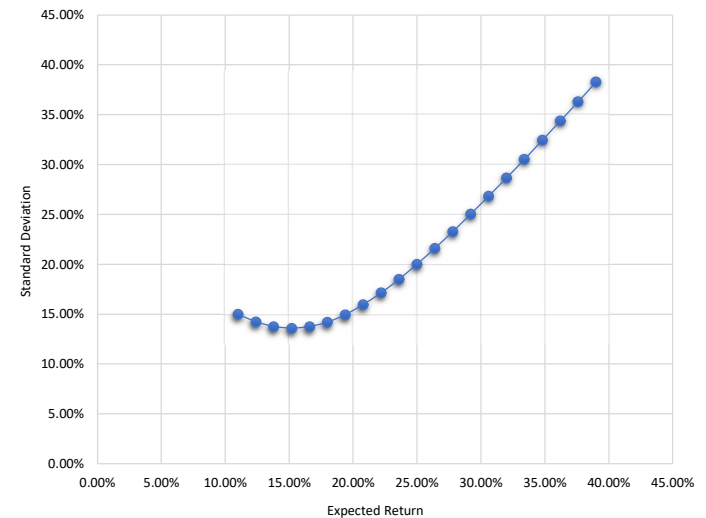
	Stock C	Stock S
Expected Return	11%	25%
Standard Deviation	15%	20%
Correlation	0.3	

**Portfolio Computation**

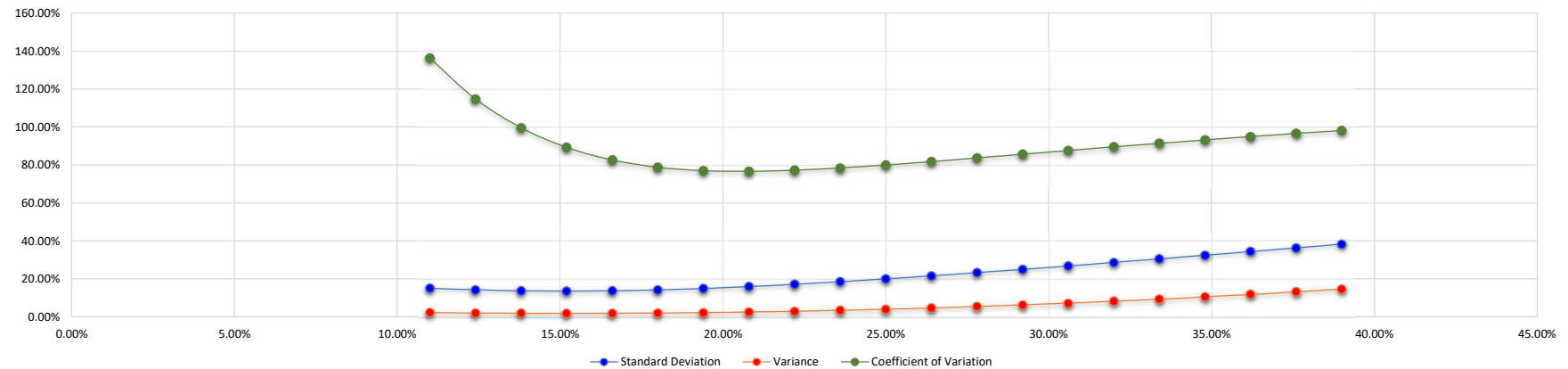
Stock C proportion	0.11	
Stock S proportion	0.89	<-- =1-B8
Portfolio mean	23.46%	<-- =B8*B3+B9*C3
Portfolio sigma	18.36%	<-- =SQRT(B8^2*B4^2+B9^2*C4^2+2*B8*B9*B5*B4*C4)

Weight	Expected Return	Standard Deviation	Variance	Coefficient Of Variation
	23.46%	18.36%	0.03371845	78.27%
-100%	39.00%	38.28%	0.1465	98.14%
-90%	37.60%	36.31%	0.131845	96.57%
-80%	36.20%	34.36%	0.11808	94.92%
-70%	34.80%	32.44%	0.105205	93.20%
-60%	33.40%	30.53%	0.09322	91.41%
-50%	32.00%	28.66%	0.082125	89.55%
-40%	30.60%	26.82%	0.07192	87.64%
-30%	29.20%	25.02%	0.062605	85.69%
-20%	27.80%	23.28%	0.05418	83.73%
-10%	26.40%	21.60%	0.046645	81.81%
0%	25.00%	20.00%	0.04	80.00%
10%	23.60%	18.51%	0.034245	78.41%
20%	22.20%	17.14%	0.02938	77.21%
30%	20.80%	15.94%	0.025405	76.63%
40%	19.40%	14.94%	0.02232	77.01%
50%	18.00%	14.19%	0.020125	78.81%
60%	16.60%	13.72%	0.01882	82.64%
70%	15.20%	13.57%	0.018405	89.25%
80%	13.80%	13.74%	0.01888	99.57%
90%	12.40%	14.23%	0.020245	114.75%
100%	11.00%	15.00%	0.0225	136.36%

Stock C and Stock S (Expected Return vs. Standard Deviation)



Stock C and Stock S (Expected Return vs. Standard Deviation vs. Variance vs. Coefficient of Variation)



	<b>Stock C</b>	<b>Stock S</b>
<b>Expected Return</b>	11%	25%
<b>Standard Deviation</b>	15%	20%
<b>Correlation</b>	0.3	

<b>Weight Stock C</b>	100%	80%	60%	40%	20%	0%
<b>Weight Stock S</b>	0%	20%	40%	60%	80%	100%

**Average portfolio return**

$$\mu = E(r_p) = w_1E(r_1) + w_2E(r_2)$$

where

$w_1$  = weight of first stock

$w_2$  = weight of 2nd stock

**Variance of portfolio return**

$$\sigma_p^2 = w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2Cov_{1,2}$$

**Standard Deviation of portfolio return**

**Coefficient of Variation**

$$CV = \frac{\sqrt{\sigma_p^2}}{|\mu|}$$

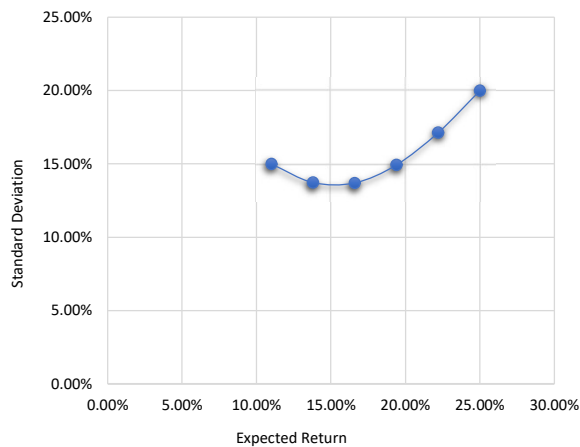
$$CV = \frac{\sqrt{w_1^2\sigma_1^2 + w_2^2\sigma_2^2 + 2w_1w_2Cov_{1,2}}}{|E(r_p) = w_1E(r_1) + w_2E(r_2)|}$$

**Formulas**

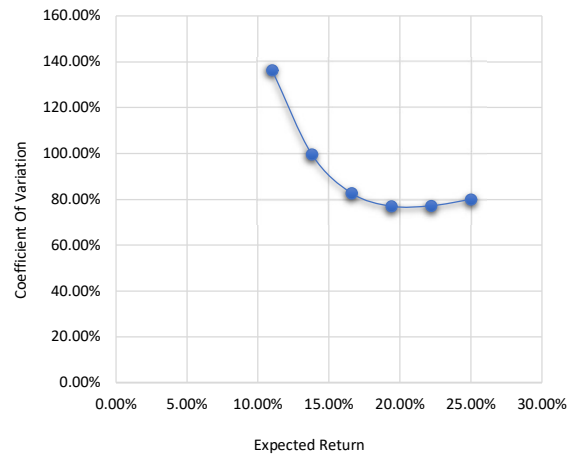
Expected Return	Standard Deviation	Variance	Coefficient Of Variation
B6*\$B\$2+B7*\$C\$2	SQRT(B6^2*\$B\$3^2+B7^2*\$C\$3^2+2*B6*B7*\$B\$4*\$B\$3*\$C\$3)	C19^2	C19/abs(B19)
C6*\$B\$2+C7*\$C\$2	SQRT(C6^2*\$B\$3^2+C7^2*\$C\$3^2+2*C6*C7*\$B\$4*\$B\$3*\$C\$3)	C20^2	C20/abs(B20)
D6*\$B\$2+D7*\$C\$2	SQRT(D6^2*\$B\$3^2+D7^2*\$C\$3^2+2*D6*D7*\$B\$4*\$B\$3*\$C\$3)	C21^2	C21/abs(B21)
E6*\$B\$2+E7*\$C\$2	SQRT(E6^2*\$B\$3^2+E7^2*\$C\$3^2+2*E6*E7*\$B\$4*\$B\$3*\$C\$3)	C22^2	C22/abs(B22)
F6*\$B\$2+F7*\$C\$2	SQRT(F6^2*\$B\$3^2+F7^2*\$C\$3^2+2*F6*F7*\$B\$4*\$B\$3*\$C\$3)	C23^2	C23/abs(B23)
G6*\$B\$2+G7*\$C\$2	SQRT(G6^2*\$B\$3^2+G7^2*\$C\$3^2+2*G6*G7*\$B\$4*\$B\$3*\$C\$3)	C24^2	C24/abs(B24)

Weight	Expected Return	Standard Deviation	Variance	Coefficient Of Variation
100%	11.00%	15.00%	0.0225	136.36%
80%	13.80%	13.74%	0.01888	99.57%
60%	16.60%	13.72%	0.01882	82.64%
40%	19.40%	14.94%	0.02232	77.01%
20%	22.20%	17.14%	0.02938	77.21%
0%	25.00%	20.00%	0.04	80.00%

**Expected Returns vs. Standard Deviations**



**Expected Returns vs. Coefficient of Variation**



**Expected Returns vs. Variance**

