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Statistics C183/C283 **Instructor: Nicolas Christou**

Diversification - simple example

Consider the following 3 assets with their expected returns for each state of the market (good, average, poor). See also, *Modern Portfolio Theory and Investments Analysis* by Elton, Gruber, Brown, Goetzmann, Wiley 6th Edition, 2003.

Market	Return		
Condition	Asset 1	Asset 2	Asset 3
Good	0.16	0.01	0.16
Average	0.10	0.10	0.10
Poor	0.04	0.19	0.04
Mean return	0.10	0.10	0.10
Variance	0.0024	0.0054	0.0024
Standard deviation	0.0490	0.0735	0.0490

Find the return of the following portfolios for each state of the market:

a. 60% in asset 1, 40% in asset 2.

b. 50% in asset 1, 50% in asset 3.