EC4050 Economics of Securities Markets

Tutorial 4

22nd November 2007

Arbitrage pricing theory is based on the law of one price. Two assets with the same risk characteristics cannot sell at different prices. Suppose that the process generating returns is a two-factor model written as

$$R_i = a_i + b_{i1}I_1 + b_{i2}I_2 + \varepsilon_i \tag{1}$$

We observe three different portfolios:

Portfolio	Expected return	b_{i1}	b_{i2}
A	12	1	0.5
B	13.4	3	0.2
C	12	3	-0.5

1. Find the equation of the plane that must describe equilibrium returns.

2. Illustrate the arbitrage opportunities that would exist if a portfolio D with the following properties were observed: $ER_D = 10$, $b_{D1} = 2$, $b_{D2} = 0$.