

Homework 1

Problem 1

The market price of the two-year bond at time $t=0$ is 100\$. The bond has the following payments: 10\$ in the first year and 118\$ in the second year. Determine the yield to maturity of the bond.

Problem 2

It is necessary to build a theoretical yield curve based on the bonds existing in the market:

years	0.5	1.0	1.5	2.0	Price at 0
B(1)	104				100
B(2)		116			108
B(3)	8	8	118		112
B(4)	10	10	10	120	130

Problem 3

The term structure of interest rates in the market is given as follows: 3%-first year, 4%-second year, 5%- third year. Find the market price, yield to maturity and duration of a three-year bond that pays an annual coupon of 4% and has a nominal value of 100\$.