Valuation of Fixed-Income Securities

<u>Advanced exercises (1a-h):</u>

1. The following prices are given for risk-free zero coupon bonds of €1,000 face value with different maturities:

Bond	Maturity	Price
A	1 year	€934.58
B	2 years	€857.34
C	3 years	€772.18

a. Determine the market discount rate for one, two and three-year cash flows:

1 year ………………………………………………………………..

2 years ………………………………………………………………

3 years ………………………………………………………………

b. Computing the value of a coupon bond.

A risk-free 5% coupon bond has a remaining maturity of three years, just having paid its annual interest. Based on the market discount rates determined above, what is its current value?

PV of interest year	1	…………………………………	
,, ,,	2	…………………………………	
,, ,,	3	…………………………………	
Redemption		……………………………………	
Total			……………

c. Is this a par, premium or discount bond value? Motivate your answer.

d. Compute the current yield (a rather old-fashioned concept, but frequently used in practice).

e. Now state the general relationship between coupon rate and current yield:

1) Par bonds:
2) Discount bonds:
3) Premium bonds:

f. If a bond isn't risk-free, what consequence will this have for the coupon rate and/or the price?

g. What is a rating agency? or AAA rating? or junk bonds?

h. What is the risk the holder of a “risk-free” bond will still continue to bear?

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