HEC Paris **Financial Markets** **Practice Quiz 2**

10 minutes

The following bonds are default risk-free. They make annual coupon payments.

Name	Face value (par value)	Coupon rate	Maturity
Bond A	1,000 €	2%	3 years
Bond B	1,000 €	3%	3 years
Bond C	100 €	5%	3 years

1) Which bond has the highest price?

- ❑ Bond A
- ❑ Bond B
- ❑ Bond C
- ❑ Cannot tell

2) If all interest rates at all maturities increase, the price of Bond A increases.

- ❑ Always true
- ❑ True only if the bond trades at a discount
- ❑ True only if the bond trades at par
- ❑ Always false

In questions 3 and 4, you will assume that the yield curve is upward slopping and that:

- the 1-year risk-free interest rate is 0.5%
- the 2-year risk-free interest rate is 1%
- the 3-year risk-free interest rate is 2%

3) What is the price of Bond B?

- ❑ 972.47 €
- ❑ 987.42 €
- ❑ 999.90 €
- ❑ 1,029.85 €

4) Bond D is a risk-free zero-coupon bond with a maturity of 5 years and a face value (par value) of 1,000 €. Its price is:

- ❑ Necessarily below 1,000 €
- ❑ Equal to 1,000 €
- ❑ Necessarily above 1,000 €
- ❑ Above 1,000 € only if the yield is greater than 2%

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1) Which bond has the highest price?

- ❑ Bond A
- ❑ Bond B
- ❑ Bond C
- ❑ Cannot tell

Bond B has higher cash flows than Bond A (same face value and higher coupon rate) and Bond C (higher face value). Since all three bonds have the same discount rates (equal to the risk-free rates), then Bond B has higher price.

2) If all interest rates at all maturities increase, the price of Bond A increases.

- ❑ Always true
- ❑ True only if the bond trades at a discount
- ❑ True only if the bond trades at par
- ❑ Always false

The price of a bond decreases when interest rates go up.

In questions 3 and 4, you will assume that the yield curve is upward slopping and that:

- the 1-year risk-free interest rate is 0.5%
- the 2-year risk-free interest rate is 1%
- the 3-year risk-free interest rate is 2%

3) What is the price of Bond B?

- ❑ 972.47 €
- ❑ 987.42 €
- ❑ 999.90 €
- ❑ 1,029.85 €

Yield of Bond B is < 2% and coupon rate is 3%, therefore the bond trades at a premium, i.e., its price if > € 1,000.
(Or do the calculation.)

4) Bond D is a risk-free zero-coupon bond with a maturity of 5 years and a face value (par value) of 1,000 €. Its price is:

- ❑ Necessarily below 1,000 €
- ❑ Equal to 1,000 €
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- ❑ Above 1,000 € only if the yield is greater than 2%

Prices of zeros are always strictly below face value (provided interests rates are positive).