EXERCISES

EXERCISE 1

In a perfectly competitive market where the interest rate r remains constant over time, security A pays 1200 euro after three years and it costs 1000 euro.

Security B pays 1100 euro after one year. If there is a 20% tax on financial profits, how much does the investor who buys B earn after one year?

EXERCISE 2

A project requires an initial investment of 10000 euro and is expected to generate a positive cash flow of 5000 euro after one year and one of 8000 euro after two years. What is the maximum cost of capital with which the project is profitable?

EXERCISE 3

A three-year 1000-euro coupon bond pays a 200-euro coupon each year.

Knowing that a bond that pays 100 euro after one-year costs 97 euro, one that pays 100 euro after two years costs 95 euro, and one that pays 100 euro after three years costs 90 euro, what is the price at which the coupon bond should trade in a market in which the law of one price holds?

EXERCISE 4

The security S pays 990 euro after one year and it costs 900 euro.

If there is a 20% tax on financial profits and the inflation rate is 2% per year, what is the real return paid by security S after taxes?

EXERCISE 5

An amortized loan of 100000 euro is paid back in five payments done at regular intervals. If the interest rate is 5%, what is the total amount paid in interests?

EXERCISE 6

A zero-coupon bond with a face value of 10000 euro expires 3 months from now and costs 9800 euro.

Compute the Modified duration for this bond.