

# EXERCISES

## EXERCISE 1

*Suppose that the conditions of CAPM are fully respected. The market portfolio expected return is 5% and the risk-free rate is 1%. We create a portfolio in which 30% of the wealth is placed on security A, whose beta is equal to that of the market, 50% on security B, whose beta is twice that of the market, and the remaining 20% is invested in the risk-free asset. What is the expected return of the portfolio?*

## EXERCISE 2

*The market portfolio has an expected return of 5%, and the risk-free rate is 1%. Suppose that the conditions for CAPM are fully respected. The expected return of a portfolio in which 40% of the wealth is placed in stock A and 60% in an ETF that perfectly replicates the market portfolio is 7%. What is the beta of stock A?*

## EXERCISE 3

*In a perfect capital market, a company has outstanding shares worth 100 million euro, and has 40 million euro of debt. The annual cost of equity is 8%, while the annual cost of debt is 5%. What would be the cost of equity if the company had no debt?*

## EXERCISE 4

*Consider the following series of unadjusted monthly closing prices (in euro) of a stock that undergoes the corporate events indicated next to the price.*

*January: 7*

*February: 6.5    Dividend of 1 euro per share is paid*

*March: 7.5*

*April: 7.2*

*May: 4            2 for 1 stock split*

*June: 4.5*

*Compute the adjusted stock returns.*

### *EXERCISE 5*

*In order to implement a straddle strategy you buy for 2 euro a call stock option and for 2 euro a put stock option, both with a 20 euro strike price. At the expiration date the price of the stock on the market is 25 euro. What is the net profit that you earn from the entire operation?*