Corporate Finance – compounding 01
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A simple Future and Present value of investments, EIAR

1. What amount will you be able to withdraw from your bank account after 9 years if you deposit CZK 50,000 today and the deposit bears 2.5% p.a.?

2. What is the present value of the investment, which after 15 years will yield a return of CZK 1 million? Alternative costs can be 8% p.a.

3. The entrepreneur expects this year's profit of 500 thousand CZK. For the year would like to invest in new production technology 580 thousand CZK. At what yield can he realize his plan if the profit invested?

4. The Bank offers an interest rate on deposits of 3% p.a. Calculate the effective average interest rate if the interest is on:

a) annually

b) semi-annually

c) quarterly

d) monthly

e) daily

5. What will be the value of your deposit at the bank if this deposit bears 1.7% p.a. two years, and then another 4 years quarterly? The amount of the deposit is 90 thousand CZK.

6. Compare the two following revenue if the alternative cost is 11% p.a .:

a) after 3 years you will receive CZK 10 million;

b) after 5 years you will receive CZK 20 million

Real cash flow and real vs. nominal interest rates

1. Calculate the real interest rate on deposits under the following conditions:

a) the interest rate shall be 2,5%, the inflation rate shall be 1,7%.

b) the interest rate is 2.3%, the inflation rate is 2.9%.

2. What will be the real value of the deposit of CZK 1 million in two years in the situation from the previous example?

3. What is the real value of a deposit of CZK 42,000 over 3 years at an interest rate of 4.5% and an inflation rate of 1.3%?

4. We want to dispose of a real amount of CZK 550,000 over 25 years. The nominal interest rate is 2.3% p.a. and the inflation rate is 3.1%. How much do you have to deposit today?

5. Calculate the real interest rate if you get CZK 1,115 at the end of the year for CZK 1,000 received for the sale of goods and the price of the goods has risen to CZK 1,095.

Cash flows

1. How much will you dispose of in three years if you deposit CZK 50,000 each year? Your account bears quarterly 4% p.a.

2. You are offered to purchase a bond with a nominal value of CZK 1,500 with a maturity of three years, with the yields in individual years being: CZK 250, CZK 320 and after the third year CZK 410. Will you be willing to buy the bond for 2000 CZK when the alternative investment cost is 8%?

4. What is the present value of a bond with a nominal value of CZK 3,000, if you know that the yield to maturity is 6.7% p.a.? The annual coupon payment is 5.5% and the bond is payable in 5 years.

Annuity and Annuity Payment

1. Calculate the market price of the bond with a nominal value of CZK 10,000, coupon of 10%. Nine years to maturity, coupon payment has not been paid this year. You want a yield of 9%.

2. What is the present value of the receivable, the debtor will pay you 100 thousand CZK for six years? The debtor will start paying after four years. Your money price is 10%.

3. You will deposit CZK 1,500 each month between 2020 and 2040. The deposit bears 6% p.a. with the interest being credited monthly. How much money will you save during that time?

4. What is the present value of a bond with a maturity of 15 years, with a nominal value of 400 thousand CZK, with a coupon payment of 5%, which you intend to sell for 420 thousand CZK after 10 years? You require a yield of 7% p. a.

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5. You want to take a mortgage loan. How high would a 25-year loan be if you were able to repay a maximum of CZK 60,000 per year? The interest rate is 10%.