



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. 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.
5. 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
6. You want to deposit 50 thousand CZK to the bank for one year. One bank offers you a Quarterly interest rate of 2.8% p.a. and the second bank a Continuous compounding interest rate 2.7% p.a.
 - a) What is more advantageous for you?
 - b) What will be the situation in both banks after 2 and 3 years?
7. 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
8. What will be the value of 12 thousand CZK after 5 years for all those interest rates from the previous example?



9. 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.
10. What is the effective average interest rate if the account is continuously compounded at 2.7%?
11. The CNB treasury bill of nominal value 100 thousand CZK with a maturity of one year, the market price is CZK 89,000. Calculate the present value Factor and the corresponding alternative cost.
12. Imagine you won 100,000 CZK today in a lottery. You are going to save them on your bank account and buy a used car in 5 years. You assume that you need CZK 161,050 at that time. What is the interest rate for your account? Is this rate real nowadays?
13. Mrs. ZHANG plans to buy lucrative land around the future highway. The land is now for sale for CZK 8.5 million and experts expect the price to rise to around CZK 9.1 million in one year. This would amount to a profit of CZK 600,000.
 - a) Is such an investment advantageous if Mrs. ZHANG can invest money with a yield of 10% p.a.
 - b) What would the interest rate have to be in order for Mrs. ZHANG to make a profit of 600 thousand CZK?