2.Tutorium Investition & Finanzierung: Aufgaben 13-21

CARL VON OSSIETZKY universität OLDENBURG

Übungsaufgaben
Investition & Finanzierung
Sommersemester 2011

Introduction to Corporate Finance / Corporate Governance

13) VALUATION: THE ONE-PERIOD CASE Would you be willing to pay £ 500 today in exchange for £ 525 in one year? What would be the key considerations in answering yes or no? Would your answer depend on who is making the promise to repay? 4-A1

14) COMPOUNDING PERIODS As you increase the length of time involved, what happens to future values? What happens to present values? What happens to the future value of an annuity if you increase the rate r? What happens to the present value? 4-A3

15) CALCULATION FUTURE VALUES In the UK, every child born after 1 September 2002 receives a £ 250 voucher from the government that they cannot touch until they reach the age of 18. Assume that growth rate on the funds is 3.5 per cent (this is what the British government suggests): how much will your child have at the age of 18? 4-A7

16) CALCULATING PRESENT VALUES In 2008, British Airways had a pension liability of £ 330 million. Let's assume it must be paid in 30 years' time. To assess the value of the firm's shares, financial analysts want to discount this liability back to the present. If the relevant discount rate is 5.6 per cent, what is the present value of this liability? 4-A8

17) CALCULATING RATES OF RETURN On 8 February 2009 John Madjeski, chairman of Reading Football Club, sold the Edgar Degas bronze sculpture *Petite Danseuse de Quatorze Ans* at auction for a world record price of £ 13.3 million. He

bought the statue in 2004 for £ 5 million. What was his annual rate of return on this sculpture? 4-A9

18) INTEREST You work for a jewellers and have sourced a good goldsmith who is able to sell you 100 ounces of gold for one million rand. You approach your two main customers. Mr Martyn says he will buy the gold from you in six months for R1,040,000, whereas Ms Kuchner tells you that she will be able to buy the gold from you in two years' time for R1,160,000. What is the annual percentage rate that Mr Martyn and Ms Kuchner are offering you? Which option should you go for? 4-A6

19) PERPETUITIES An investor purchasing a British consol is entitled to receive annual payments from the British government for ever. What is the price of a consol that pays £ 4 annually if the next payment occurs one year from today? The market interest rate is 3 per cent. 4-A10

20) NET PRESENT VALUE FIFA rules regarding players contracts are very interesting. If a player whishes to break his contract, the purchasing club must pay the player's club four times the player's annual salary multiplied by the number of years left on the contract. The player must pay 10 per cent of this amount personally, and the agent must also pay 10 per cent of the amount from his own pocket. Consider the footballer Cristiano Ronaldo, who was widely rumored to be leaving Manchester United for Real Madrid during the summer of 2008 (he actually joined in the summer of 2009). At the time Ronaldo was earning € 120,000 a week, and had four years of his contract with Manchester United left.

a) Calculate how much Ronaldo would have personally had to pay Manchsester United if he left with 4 years remaining, 3 years remaining, 2 years remaining and 1 year remaining.

b) If the appropriate annualized discount rate is 8 per cent, what is the present value to Ronaldo of breaking his contract with 4, 3, 2, 1 and 0 years remaining?

c) Assume you are Ronaldo's agent and can personally earn € 5 million today from getting Ronaldo to sign a pre-contract agreement to join Real Madrid in the future.

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Calculate the net present value to you if Ronaldo left with 4 years remaining, 3 years remaining, 2 years remaining, and 1 year remaining. 4-A12

21) FUTURE VALUE What is the future value in four years of € 1,000 invested in an account with a stated annual interest rate of 10 per cent:

a) Compounded annually?

b) Compounded semi-annually?

c) Compounded monthly?

d) Compounded continuously?

e) Why does the future value increase as the compounding period shortens? 4-A16