

GESTÃO FINANCEIRA II

PROBLEM SET 1: Chapters 1, 2, 3, 4 and 5 Revision of Fundamental Concepts

(FROM BERK AND DEMARZO'S "CORPORATE FINANCE")

LICENCIATURA – UNDERGRADUATE COURSE

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Instituto Superior de Economia e Gestão
UNIVERSIDADE TÉCNICA DE LISBOA

Chapter 1

The Corporation

- 1-13. What is the difference between a public and private corporation?
- 1-14. Explain why the bid-ask spread is a transaction cost.
- 1-15. The following quote on Yahoo! Stock appeared on February 11, 2009, on Yahoo! Finance:



If you wanted to buy Yahoo!, what price would you pay? How much would you receive if you wanted to sell Yahoo!?

Chapter 2

Introduction to Financial Statement Analysis

- 2-3. Find the most recent financial statements for Starbucks' corporation (SBUX) using the following sources:
- From the company's Web site www.starbucks.com (*Hint* : Search for "investor relations.")
 - From the SEC Web site www.sec.gov. (*Hint* : Search for company filings in the EDGAR database.)
 - From the Yahoo! Finance Web site <http://finance.yahoo.com>.
 - From at least one other source. (*Hint* : Enter "SBUX 10K" at www.google.com.)
- 2-8. In March 2005, General Electric (GE) had a book value of equity of \$113 billion, 10.6 billion shares outstanding, and a market price of \$36 per share. GE also had cash of \$13 billion, and total debt of \$370 billion. Four years later, in early 2009, GE had a book value of equity of \$105 billion, 10.5 billion shares outstanding with a market price of \$10.80 per share, cash of \$48 billion, and total debt of \$524 billion. Over this period, what was the change in GE's
- market capitalization?
 - market-to-book ratio?
 - book debt-equity ratio?
 - market debt-equity ratio?
 - enterprise value?

Chapter 3

Arbitrage and Financial Decision Making

- 3-12. Suppose Bank One offers a risk-free interest rate of 5.5% on both savings and loans, and Bank Enn offers a risk-free interest rate of 6% on both savings and loans.**
- a. What arbitrage opportunity is available?**
 - b. Which bank would experience a surge in the demand for loans? Which bank would receive a surge in deposits?**
 - c. What would you expect to happen to the interest rates the two banks are offering?**
- 3-13. Throughout the 1990s, interest rates in Japan were lower than interest rates in the United States. As a result, many Japanese investors were tempted to borrow in Japan and invest the proceeds in the United States. Explain why this strategy does not represent an arbitrage opportunity.**

Chapter 4

The Time Value of Money

- 4-8. Your daughter is currently eight years old. You anticipate that she will be going to college in 10 years. You would like to have \$100,000 in a savings account to fund her education at that time. If the account promises to pay a fixed interest rate of 3% per year, how much money do you need to put into the account today to ensure that you will have \$100,000 in 10 years?
- 4-12. You have just received a windfall from an investment you made in a friend's business. He will be paying you \$10,000 at the end of this year, \$20,000 at the end of the following year, and \$30,000 at the end of the year after that (three years from today). The interest rate is 3.5% per year.
- What is the present value of your windfall?
 - What is the future value of your windfall in three years (on the date of the last payment)?
- 4-19. What is the present value of \$1000 paid at the end of each of the next 100 years if the interest rate is 7% per year?
- 4-20. You are head of the Schwartz Family Endowment for the Arts. You have decided to fund an arts school in the San Francisco Bay area in perpetuity. Every five years, you will give the school \$1 million. The first payment will occur five years from today. If the interest rate is 8% per year, what is the present value of your gift?
- 4-23. Your grandmother has been putting \$1000 into a savings account on every birthday since your first (that is, when you turned 1). The account pays an interest rate of 3%. How much money will be in the account on your 18th birthday immediately after your grandmother makes the deposit on that birthday?
- 4-24. A rich relative has bequeathed you a growing perpetuity. The first payment will occur in a year and will be \$1000. Each year after that, you will receive a payment on the anniversary of the last payment that is 8% larger than the last payment. This pattern of payments will go on forever. If the interest rate is 12% per year,
- What is today's value of the bequest?
 - What is the value of the bequest immediately after the first payment is made?
- 4-34. (includes 4.32) You are thinking of purchasing a house. The house costs \$350,000. You have \$50,000 in cash that you can use as a down payment on the house, but you need to borrow the rest of the purchase price. The bank is offering a 30-year mortgage that requires annual payments and has an interest rate of 7% per year.
- What will your annual payment be if you sign up for this mortgage?
 - You can afford to pay only \$23,500 per year. The bank agrees to allow you to pay this amount each year, yet still borrow \$300,000. At the end of the mortgage (in 30 years), you must make a *balloon* payment; that is, you must repay the remaining balance on the mortgage. How much will this balloon payment be?

Chapter 5

Interest Rates

- 5-6. Your bank account pays interest with an EAR of 5%. What is the APR quote for this account based on semiannual compounding? What is the APR with monthly compounding?
- 5-26. If the rate of inflation is 5%, what nominal interest rate is necessary for you to earn a 3% real interest rate on your investment?
- 5-30. Suppose the term structure of risk-free interest rates is as shown below:

Term	1 year	2 years	3 years	5 years	7 years	10 years	20 years
Rate (EAR, %)	1.99	2.41	2.74	3.32	3.76	4.13	4.93

What is the present value of an investment that pays \$100 at the end of each of years 1, 2, and 3? If you wanted to value this investment correctly using the annuity formula, which discount rate should you use?