

Problems for Financial Mathematics

July 31, 2019

1 Problem Set 1

Time value of money, financial equivalence, one-period transactions

Problem 1

For each of the following cases, decide, if possible, which of the following financial payments is preferable:

1. (150, 2007) vs (100, 2010)
2. (100, 2008) vs (100, 2012)
3. (100, 2009) vs (125, 2009)
4. (100, 2010) vs (150, 2016)

Problem 2

In the previous exercise, verify if the two last financial payments are financially equivalent using the simple capitalization rule with a 20% annual interest rate and annual capitalization.

Problem 3

You are the manager of jamones.mof, a firm specialized in selling jamón on the web. One of your clients has to pay you 10.000€ today. You receive an email asking to can settle the payment next year. You agree on a 10% annual interest rate (and annual capitalization) ¿How much will the client pay you next year?

Problem 4

You have 1500€ you want to save (the provision). Determine the financial equivalent **dated payment** in you enter into the following transactions:

1. You put the money in a savings account that offers a 4% annual account and you leave it there for one year
2. You put the money in a business that guarantees that you will receive a 5% return in one year
3. You lend the money to a friend that promises to pay you 10% interest in one year