9 Problem Set 5.iii

Problem 1

You expect the dividends from shares of the company X will grow indefinitely at a 5% per annum. The dividend per share for the next year is 10 euros and the expected return required by shareholders is 8%. If no other change is expected to occur in the future to this dividend, compute the current price of the share, as well as the price expected for next year and the year after that.

Problem 2

Shares of a company are sold at 57€. The market expects for such shares a return of 10% per year. The expected dividend this year is 3€ per share and it is expected that this dividend will grow at a 5% per year. Determine whether the share is overvalued or undervalued.

Problem 3

One day you receive a letter from Mr. Madoffini. It tells you that if you send 1€ to the enclosed address you will benefit from perpetual good fortune. Furthermore, you will enter a global contact network that guarantees you 1€ at the end of each year for ever. Naturally, this 1€ will come from those who join the network. The country where this is taking place has a flat term structure of interest rates, where the interest rate is 5%.

- What is the profit (in present value terms) from joining this network?
- What would the profit be if, in exchange for bringing new members into the network your income increases by 2% per year after the first year?

Suppose that at the end of the 5th year in the network you realize that you are the victim of a scam, but you have received all payments promised so far (including the bonus for brining in new members).

- What would be the profit (in the 5th year) of having joined membership in the network?

Problem 4

A company issues new shares at par at a 3:7 (new:old) ratio. The current share price is 15.67€ and the nominal value of the shares is 5€. Determine the market price of the priority rights.

Problem 5

A company issues new shares at a 140% premium and a 2:12 (new:old) ratio. The current share price is 25.67€ and the nominal value of the shares is 15€. Determine the market price of the new shares.

Past Exam Questions

Problem 6 (EX 2014)

Suppose you bought shares of a company on 1/1/2010 and paid 46590€ for them. Six months later you decided to sell them and obtained 51130€. Determine the real effective APR for you from the transaction taking into account that you have to pay a broker fee of 0.5% of the total cash value of transactions BOTH at the moment of purchase and at that of the sale.

Problem 7 (EX 2013)

Suppose today is january 1, 2020. The X corporation pays a dividend of 0.5€ per share each end of year (dec 31) for ever. The risk of the company suggests that the return should be 6%. Determine

1. The theoretical price of each share
2. The theoretical price of each share if dividends grow at a 2% per year
3. The theoretical price of each share with constant dividends but today is july 1, 2020 (not january)

Problem 8 (EX 2017)

Indixtek announces that the dividend at the end of this year will be 1.5 euros. Dividends are expected to grow at 4% per year. The expected return for shares like those of Indixtek is 9%.

1. What is the theoretical price of the shares in Indixtek?
2. What is the expected price of the share for next year (after the dividend is paid)?
3. Determine the return of an investor who buys the shares today and sells them in one year's time, right after the dividend is paid. Use theoretical prices both for the purchase and the sale.

Problem 9 (EX 2018)

The MuffinContacts LLC (Limited Liability Company) has 200000 shares outstanding which trade at £23 each. The company wants to issue 5 new shares for 9 old shares at a price of £10 each. Determine the market value of the subscription rights of the old shares and the theoretical price of a new share after the new share issue