

FN211 Quiz 2

Provide precise and concise responses to the following questions referring to theories, concepts, and frameworks as discussed in the class materials and the main textbook. For quantitative problems, demonstrate the process of calculation and clearly highlight your answers as appropriate. Write down your answers clearly so that the lecturer can read them easily. If you feel that there is insufficient data, you may choose your own figures for your calculations. Please state these clearly.

1. (6 points) Answer the following questions
 - 1.1 (3 points) Explain three differences between forward and futures contracts.
 - 1.2 (3 points) Explain three limitations of dividend discount model.

[See lecture notes](#)

2. (10 points) Answer the following questions
 - 2.1 (2 points) Tesla is selling at \$22.00 per share. The most recent annual dividend paid was \$0.80. Using the Gordon Growth model, if the market requires a return of 11%, what is the expected dividend growth rate for Tesla?
 - 2.2 (2 points) A start-up technology company has projected earnings per share of \$4.50. If the average technology industry PE ratio is 30, what would the company's projected stock price?
 - 2.3 (6 points) R&M has a current dividend of \$1.00 and a required rate of return of 12%. A dividend growth rate of 15% is projected for the next two years, followed by a 10% growth rate for the next four years before settling down to a constant 4% growth rate thereafter. Calculate the current value of R&M.

2.1

$$P_0 = \frac{D_0(1+g)}{k_e - g}, \text{ or } 22.00 = \frac{0.80(1+g)}{0.11 - g}. \text{ Solving, } g = 7.1\%$$

2.2

$$P_0 = \frac{P}{E} \times E, \quad P_0 = 30 \times \$4.50 = \$135$$

2.3

Time	Value	Calculation	D_t or V_t
1	D_1	$\$1.00(1.15)$	$\$1.150$
2	D_2	$\$1.150(1.15)$	$\$1.323$
3	D_3	$\$1.323(1.10)$	$\$1.455$
4	D_4	$\$1.455(1.10)$	$\$1.600$
5	D_5	$\$1.600(1.10)$	$\$1.760$
6	D_6	$\$1.760(1.10)$	$\$1.936$
6	V_6	$[\$1.936(1.04)] / (0.12 - 0.04)$	$\$25.168$

Now we enter the cash flows into our calculator, noting that the total cash flow at Time 6 is $\$1.936 + \$25.168 = \$27.104$; $CF_0 = 0$; $C_01 = 1.150$; $C_02 = 1.323$; $C_03 = 1.455$; $C_04 = 1.600$; $C_05 = 1.760$; $C_06 = 27.104$; $I = 12$; $CPT \rightarrow NPV = 18.864$.

3. (6 points) Answer the following questions.

3.1 (3 points) A put option on Iowa stock specifies an exercise price of \$71. Today the stock's price is \$68. The premium on the put option is \$8. Assume the option will not be exercised until maturity, if at all. Complete the following table for a speculator who purchases the put option (and currently does not own the stock):

Assumed Stock Price at the Time the Put Option Is About to Expire	Net Profit or Loss per Share to Be Earned by the Speculator
\$64	-1
\$68	-5
\$70	-7
\$72	-8
\$74	-8
\$76	-8

3.2 (3 points) A call option on Illinois stock specifies an exercise price of \$38. Today's price of the stock is \$40. The premium on the call option is \$5. Assume the option will not be exercised until maturity, if at all. Complete the following table:

Assumed Stock Price at the Time the Call Option Is About to Expire	Net Profit or Loss per Share to Be Earned by the Writer (Seller) of the Call Option
\$37	5
\$39	4
\$41	2
\$43	0
\$45	-2
\$48	-5