

Question 1 (25 Points)

Several years ago, Winnie and Bros Inc. issued Bond A and Bond B with a face value of \$1,000 at a yield to maturity of 8 percent. Now, Bond A and Bond B have 25 years and 5 years left until maturity, respectively.

1.1 If both bonds have yield to maturity (YTM) at 14%, what will be the price of each bond? Calculate Current Yield and Capital Gain/Loss Yield of each bond. Explain how these yields are related to each other. **(10 Points)**

Answer:

A (25) => Price = 587.62

B (5) => Price = 794.02

	YTM	Current Y	Cap Y
A	14%	13.61%	0.39%
B	14%	10.08%	3.92%

1.2 What will happen to the prices and the percentage changes in price of these bonds if their yields increase by 2 percent and decrease by 2 percent? Please fill in your answer in the table below. **(10 Points)**

Answer:

	Bond A		Bond B	
	Price	Changes in price (%)	Price	Changes in price (%)
12%	686.27	16.79%	855.81	7.78%
16%	512.23	-12.83%	738.06	-7.05%

Note: Percentage changes are compared with bond prices at 14% of YTM.

1.3 What do you conclude about the relationship between time to maturity and the sensitivity of bond prices to interest rates? **(5 Points)**

Answer:

Longer time to maturity (TTM), greater fluctuation in bond prices due to interest rate changes, implying higher interest rate risk.

Question 2 (25 Points)

Home Por PCL is considering a cash purchase of the stock of Grips Tool. During the year just completed, Grips earned \$4.25 per share and paid cash dividends of \$2.25 per share. Grips' earnings and dividends are expected to growth at 30% per year for the next 2 years and 25% at year 3, after which they are expected to growth at 10% per year to infinity. According to market research, the company's beta is 1.25 when the risk-free rate is 6.875% and the market risk premium is 6.5%.

2.1 Draw an investment time line presenting expected dividend payment of Grips Tool. What is an investor's required rate of return? (5 Points)

Answer:

Year	0	1	2	3	4 (10%)
Div	2.25	2.925	3.8025	4.753125	5.228438
Return	15.00%				

2.2 What is the maximum price per share that Home Por PCL should pay for Grips, given its required rate of return from market research? Would you recommend Home Port PLC to buy Grips' common stocks if its current market price is \$80? (10 Points)

Answer:

Year	0	1	2	3	4 (10%)
Div	2.25	2.925	3.8025	4.753125	5.228438
Return	15.00%				
TV				104.5688	
Sum		2.925	3.8025	109.3219	
Price	\$77.30				

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2.3 Home Pro PLC realized that the expected growth of Grips after year 3 was incorrect. It only knows that Grips' return on equity (ROE) is 17.5% and dividend payout ratio is 60%. What should be an appropriate stock price of Grips under this scenario? Would you recommend Home Port PLC to buy Grips' common stocks if its current market price is \$80? (10 Points)

Answer:

Year	0	1	2	3	4	new g
Div	2.25	2.925	3.8025	4.753125	5.085844	0.07
Return	15.00%					
TV				63.57305		
Sum		2.925	3.8025	68.32617		
Price	\$50.34					

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