1. You do not have any positions in the stocks of Nike as of now. Yesterday, Nike announced that it would pay out cash dividends on July 8, 2024. The ex-dividend date for this stock is May 15, 2024.



Choose whether the following statements are true or false

(A) If you buy a stock of Nike on May 15, 2024, you are entitled to receive a cash dividend on July 8, 2024.



False



(B) If you buy a stock of Nike on May 14, 2024 and sell it on May 15, 2024, you are entitled to receive a cash dividend on July 8, 2024.

True

(C) If you buy a stock of Nike on May 10, 2024 and sell it on May 14, 2024, you are entitled to receive a cash dividend on July 8, 2024.

False

(D) If you buy a stock of Nike on May 10, 2024 and sell it on May 13, 2024, you are entitled to receive a cash dividend on July 8, 2024.

False

You must have held onto the stock on the closing hours of May 14, 2024 so that you can collect cash dividends on July 8, 2024.

2. Below is information about Company ABC.

- There are 4 million shares outstanding for Company ABC.



- It has paid a cash dividend of 8 million dollars just now, and it is expected to make a cash dividend of 8 million dollars every year in the future.



- The current price of this company's stock is 40 dollars per share.



- The tax rate on dividend income is 30% whereas the tax rate on the capital gain is 20%.

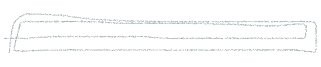


- You initially have 1000 dollars. You plan to buy 25 shares today and sell all of them after one year.



(A) What is the fair price of the stock just before the cash dividend payment at the end of Year 1 if Company ABC is expected to produce the same amount of earnings and dividends? Assume that one year later, the discount rate and dividend policy will remain the same as of today.



Dividend per share = 8 million / 4 million = 2



Using perpetuity, discount rate = 2/40 = 0.05

Current price = 2/0.05 = 40

After the payment of the dividend, the stock price is 40.

Hence, just before the payment of the dividend, the stock price is 42.

(B) If you sell the stock right after the firm pays dividend one year later, how much profit in dollars will you make over the next year, taking into account for the tax on the dividend income?



Future price in Year 1 = 2/0.05 = 40



Initial investment = 25\*40 = 1000

Final wealth = 25\*40 + 25\*2\*(1-0.3) = 1035

Profit = $35

At the end of Year 1, instead of using 8 million dollars to make cash dividend payment, Company ABC decides to use this money to repurchase its stocks.



(C) What is the number of stocks outstanding in the market after the stock repurchase program? Assume that the firm can repurchase shares at the fair price of the stock one year later.



Price just before the share repurchase in Year 1 = 2 + 2/0.05 = 42 per share



The number of stocks outstanding will be gone down by 8 million/42, i.e. 190,476



As a result, there are 3,809,524 (=4,000,000 – 190,476) stocks outstanding and these stocks are entitled to receive 8 million dollars of dividends every year.



(D) How much profit in dollars will you make over the next year if you determine to sell all your stocks at the end of Year 1 during the stock repurchase program, taking into account for the tax on the capital gain?

Using the perpetuity, the stock price in Year 1 after repurchase is

8,000,000/3,809,524/0.05 = 42

Initial investment = 25\*40 = 1000

Final wealth = 25\*42 – 25\*2\*0.2 = 1040

Profit = $40

(E) With respect to tax treatment, explain why dividend policy of Company ABC matters to you.

Due to the favorable tax treatment to capital gains, investors make greater returns per dollar amount of investment when the company makes repurchases stocks instead of paying cash dividends. This is an argument for the relevance of dividend policy.