The ddm and peg methods of equity valuation, the risk premium, the best investmen...

Finance

The paper " The Dividend Discount Model and PEG Methods" is a good example of an assignment on finance and accounting. The dividend discount model (DDM) is typically used by Bay Street analysts to establish the fair market value of a stock. The DDM includes the following:

Estimates of a company’s growth rate, as measured by the growth in dividend, or a substitute

Risk premium - likelihood of achieving the growth rate

Risk-free rate (government bond rate)

According to the DDM, two companies with comparable risk profiles should have approximately the same risk-free rate. Required:

i. Test the assumptions of the DDM by using Johnson & Johnson vs. Shoppers Drugmart

a. Calculate the risk premium of each company in the pair. (5 marks)

• Use the estimated 5 year future EPS growth rate, not the dividend growth rate.

• Use the annual dividend which is calculated by adding up the dividends paid in the last 4 quarters. (Note: Apple has only paid 2 quarters of dividends; annualize the 2 payments)

Solution

Whilst using the estimated 5 year future EPS growth rate, calculations of the risk premium will be obtained from the following steps:

Step1: Estimating the Expected Total Return on Stocks:

Expected return on stock (%), k = Earnings per share, E / Stock Price, P

Johnson and Johnson

But, P/E of Johnson and Johnson is 22. 70;

Therefore, k, which is E/P is the reciprocal of P/E = 13. 4023, is 7. 46%

This is also obtained from the above formula, k = EPS/P

= 5. 17 / 69. 29 = 7. 46%

Shoppers Drugmart

Using the above formula, the k for Shoppers Drug Mart = 6. 96%

Step 2: Calculating/finding the risk free rate

Johnson and Johnson

The risk-free rate for US Treasury Bond = 3. 40%

Shoppers Drug Mart

The risk-free rate for UK Treasury Bond = 4. 55%

Step 3: Equity risk premium

The equity risk premium = Rf + beta (Expected rate – Rf)

For Johnson and Johnson = 3. 4 + 0. 52 (7. 46 – 3. 4)

= 5. 5112%

And for Shoppers Drug Mart = 4. 55 + 0. 35(6. 96 – 4. 55)

= 5. 3935%

b. Is the risk premium what you would expect, given what you know about the respective industries in which the companies operate? Explain your answer. (5 marks)

Yes, the risk premium is what I would expect given the known aspects of the pharmaceutical industry. Since 1990 when the risk premium was 8. 7%, the industry has seen a significant drop in the risk premium. Therefore, I expected that the risk premium would be around the figure of 5%. What’s more, the two firms have risk premiums that are very close to each other

hence the confirmation on the risk premium.

c. Do you conclude from the comparison of the risk premium for each company in the pair that the DDM has been applied in some form to arrive at the market price? Explain your answers. (5 marks)

Yes, I conclude that from the comparison of the risk premium of Johnson and Johnson and Shoppers Drug Mart DDM has been applied in some form to arrive at the market price especially considering the fact that the two calculated risk premium are very close to each other. Hence, there is no doubt that DDM has been applied in some form to arrive at the market price of the two firms within the selected pair.

ii. PEG ratio

a. Calculate the PEG ratio for each company in the pair that you have selected. (5 marks)

PEG ratio is obtained by

Johnson and Johnson PEG ratio = 13. 4352 /5. 099

= 2. 635

Shoppers Drug Mart PEG Ratio = 14. 3599/2. 89

= 4. 969

b. Which company in the pair represents the best investment opportunity according to the PEG ratio? Explain your answer. (5 marks)

PEG ratio represents the ratio between the stock’s price/earnings ratio to the growth rate of the earnings. A lower value of PEG ratio means that the investors would be paying a lesser amount in every unit of earnings. A lower PEG indicates cheaper expenses that investors meet hence it is the better one. Therefore, Johnson and Johnson's firm is the company in the pair that

represents the best investment opportunity according to the lower PEG ratio.

c. Compare the DDM and PEG methods of equity valuation. What are the advantages and disadvantages of each? (5 marks)

DDM method of Equity Valuation

Advantages of DDM

Relatively easy to use in valuing equity

Works best for organizations, companies, or firms that experience stable growth

Disadvantages of DDM

Only works best for stocks that have paid dividends

Requires numerous assumptions

PEG Method of Equity Valuation

Advantages

Gives a definite value in respect to expected growth in earnings of a firm

Provides suggestions to firms on whether the high P/E ratios mean higher stock prices or promising growth

Disadvantages

Inappropriate for firms or companies that do not have a high growth rate

A growth rate estimate is subjected to limitations of projected future events

Question #3: Working Capital Management – Accounts Receivable financing (15 marks)

Jessica Cosmetics pledges receivables of $250 million per year to the Flint Finance Company, which advances cash equal to 80% of the face value of the accounts pledged. Jessica's receivables are usually collected in about 36

days, so 10% of the annual amount advanced is generally outstanding at any time. Flint charges 14% interest, plus an administrative fee of 1. 6% of the amount pledged.

Jessica is considering factoring its receivables. The factor operates without recourse and pays immediately upon taking over the accounts. It discounts the gross amount factored by 10% and pays Jessica immediately. Because the factor doesn’t collect from customers until they pay, it charges interest at 10% in the interim.

Required:

a. Calculate Jessica’s cost of pledging its receivables. State the result in dollar terms and as a percentage rate. Show your calculations. (5 marks)