MASTER'S DEGREE PROGRAMME IN BUSINESS ADMINISTRATION

Module: ***Financial Management and Accounting (MBA51)***
Academic Year: ***2021-22***

4th Written Assignment (WA4)

Subject 1 (30%)

Part A (22%)

The MEDCOM firm is currently selling for €32, with trailing 12-month earnings and dividends of €1.23 and €0.64, respectively. The Price to Earnings ratio (P/E) is 26, the Price to Book Value ratio (P/BV) is 6.5 and the Price to Sales ratio (P/S) is 2.8. The return on equity is 27 percent and the profit margin on sales is 11 percent. The Treasury bond rate is 4.5 percent, the equity risk premium is 6 percent and MEDCOM's beta is 1.3.

i. Calculate the MEDCOM's required return, based on the Capital Asset Pricing Model.
ii. Assume that the dividend and earnings growth rates are 9.5%. Calculate the P/E, P/BV and P/S ratios that would be justified given the required rate of return in i) and current values of the dividend payout ratio, ROE and profit margin.
iii. Given that the assumptions of the constant growth model are appropriate, state whether MEDCOM is fairly priced, overpriced, or underpriced.

Part B (8%)

You work in an Investment Bank and you have a client who has inquired about the most suitable valuation ratio in order to compare the companies in an industry with the following characteristics:

- The companies in the industry are located in the USA, Japan, France and Brazil.
- The industry is currently operating at a cyclical low, i.e. many companies in the industry report losses.

Determine which *one* of the three valuation ratios, P/E, P/BV and P/S is most appropriate for comparing companies in this industry and advice your client.

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Subject 2 (40%)

Part A (20%)

ABC Investment Bank is evaluating LaFurge Company, headquartered in Paris, France. In 2021, when ABC is performing the analysis, LaFurge is not profitable and it pays no dividends on its common shares. ABC decides to use the forecasts of the Free Cash Flows to the Equity to value LaFurge. To this end, the analyst makes the following assumptions:

- LaFurge has 18 billion outstanding shares.
- LaFurge's sales in 2022 will be €6.5 billion and they expect to increase at 25% for the next four years (through 2026).
- The Net Income is expected to be 32% of sales.
- Investment in fixed assets is expected to be 36% of sales, investment in working capital 6% of sales, and depreciation 8% of sales.
- The 20% of the investment in assets will be financed with debt.
- Interest expenses will be 2% of sales.
- The tax rate is 10%.
- LaFurge's beta is 2.1, the risk-free rate is 4.6%, and the equity risk premium is 4%.
- At the end of 2026, ABC projects that LaFurge's price will be 17 times its Net Income.

Estimate the value per share of the LaFurge Company.

Part B (15%)

The price of WatchBit's stock is €45. ABC Investment Bank attempts to determine whether WatchBit is fairly priced. The financial information ABC has assembled for this valuation is as follows:

- The required rates of return on WatchBit debt, common stock and preferred stock are 7%, 12% and 8%, respectively.
- The target capital structure is: 30% debt, 15% preferred stock, and 55% common stock.
- The market value of debt is €145 million.
- The market value of preferred stock is €65million.
- The Free Cash Flow to the Firm (FCFF) for the year just ended is €28 million and is expected to grow at a constant rate equal to 5% for the years that follow.
- WatchBit has 8 million outstanding shares.
- The tax rate is 30%.

Calculate the estimated value per share for WatchBit stock and decide whether it is underpriced or overpriced.

Part C (5%)

Assume a €100 increase in the depreciation expense. Indicate the effect on this year's Free Cash Flow to Equity (FCFE) if the tax rate is 40% and all the other variables, including the capital expenditures, remain constant. Explain your answer.

<u>Subject 3</u> (30%)

Part A (24%)

Assume that you own shares of company "ALPHA". The current price is € 49.84 per share, while last week it paid a dividend of € 1.67. Consider whether you should sell your shares or increase the number of "ALPHA" shares you hold. Based on the estimates for future dividends you will evaluate the following scenarios:

<u>*Scenario 1:*</u> Dividends will increase over the next three years at a rate of 30%, 28% and 24% respectively. After three years, the dividend growth rate is expected to stabilize at 8% per year.

<u>*Scenario 2:*</u> The annual dividend will remain constant (€ 1.67) for all years.

The return you require for shares in this risk category is 14%. Consider the following:

i. If scenario 1 applies, estimate the value of the "ALPHA" share today. What should be your investment decision regarding "ALPHA" shares? Justify your answer.
ii. If the 2nd scenario applies, estimate the value of the "ALPHA" share today. What should be your investment decision regarding "ALPHA" shares? Justify your answer.
iii. Using the forecasts of the 1st scenario calculate the share price of "ALPHA" in the 2^{nd} year (P_2).

Part B (6%)

Discuss the main differences between the Dividend Discount Model and the Free Cash Flow to Equity Discount Model.

Learning Outcomes

Subject 1: Students should be able to:

- Understand and implement a relative valuation framework based on P/E, P/BV, P/S.
- Define, describe, analyse and apply the multiples.
- Understand the fundamentals that drive the multiples.
- Value a stock using the relative valuation method.

Subject 2: Students should be able to:

- Apply the free cash flow to equity (FCFE) approach to estimate the value of equity of a company and the free cash flow to firm (FCFF) approach to estimate the value of an enterprise.
- Calculate the cost of equity and the cost of capital, the future free cash flows based on a growth rate, the terminal value, and then combine all these to apply the valuation models.
- Comprehend the primary use of the valuation tools that of stock selection, i.e. apply the tools of equity valuation and decide whether a stock is fairly priced, overpriced, or underpriced relative to its estimated value.

Subject 3: Students should be able to:

- Implement in practice the dividend discount model and its extensions in order to evaluate the fair value of a share.
- Understand the main differences between the Dividend Discount Model and the Free Cash Flow to Equity Discount Model.

Suggested References

Damodaran A., 2012. Investment Valuation: Tools and Techniques for Determining the Value of Any Asset (3rd ed.). New Jersey: John Willey and Sons, (Chapters: 1, 2, 4, 7, 8, 11, 12, 13, 14, 15).

Damodaran A., Relative Valuation (http://people.stern.nyu.edu/adamodar/pdfiles/country/relval.pdf)

Damodaran A., Discounted Cash Flow Valuation (https://pages.stern.nyu.edu/~adamodar/pdfiles/eqnotes/dcfallOld.pdf)

Damodaran A., The Dividend Discount Model (http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/ddm.pdf)

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Assignment guidelines

- *It is important that the coursework reflects your **knowledge** rather than it being simply an accumulation of information.*
- *The assignment should be **well structured** and **easy to read**.*
- *The assignment should clearly present all aspects and perspectives of the subject area, i.e.:*
    - *efficiently develop all necessary elements*
    - *refer to actual case studies or statistics if required*
    - *present reasonable argumentation*
    - *omit irrelevant material*
- *All questions are compulsory. The assignment, including possible diagrams, tables, references etc., should not exceed the word limits.*
- *Each question accounts for a percentage of the total mark. This is clearly marked at the beginning of each question.*
- ***The assignment is due on Tuesday, May 3, 2022. Please note that no assignment will be acceptable after this date as the electronic submission system automatically locks at 23:59 on the last day of submission.***
  You should submit your assignment via http://study.eap.gr using your username and password.
- *You may use any of the following file formats:*
    - *Rich Text Format (*.rtf)*
    - *Microsoft Word 97-2003 (*.doc)*
    - *Microsoft Word Open XML (*.docx)*

  Other document formats or read only file formats such as Portable Document Format (.pdf) are not acceptable formats for the submission of your assignment.*
- *Please use the **template** offered by the MBA Programme and pay attention to the proper naming of your assignment. The file should be named as follows: **Surname-Initial-WAnumber-YourClass**. For example, if your name is **Peter Drucker**, you are sending in your 3rd assignment, and you are in ATH1 Class, then you should name your file as follows: **Drucker-P-WA3-ATH1**. Assignments that fail to comply with this requirement will receive a lower mark in the presentation grade.*
- *Copying is considered cheating and is not acceptable in any form. **Copying large parts or whole paragraphs of text found in any of the sources used for an assignment (printed books, academic articles, or electronic media of any kind) is totally unacceptable. It is considered plagiarism and leads to a severe penalty for the student(s) involved.** Students should cite all sources from which they take data, ideas or words, whether quoted directly or paraphrased.*

Good luck!!