Assignment 1

Valuation Fundamentals

1. Calculate the ROE using the Gordon Growth Model formula.

Exercise:

Given the following information, use the Gordon Growth Model to estimate the price-to-book ratio for a company:

Required return on equity (r) = 0.12

Payout ratio (k) = 0.35

Return on equity (ROE) = 0.18

Book equity = $200 million

Answer:

To find the price-to-book ratio, we can use the formula provided in the Gordon Growth Model:

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price-to-book = k × ROE/r−(1−k)×ROE

Substituting the given values, we get:

css

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price-to-book = 0.35 × 0.18 / 0.12 - (1 - 0.35) × 0.18

price-to-book = 2.34

The estimated price-to-book ratio for the company is 2.34.

1. Calculate the ROE using the Dupont Analysis.

Quantitative Investing

Exercise:

Consider the following scenario:

A buy-side analyst works for an investment fund and has been tasked with picking stocks for the fund. They have been given the choice of using either fundamental analysis or technical analysis to make their recommendations.

The analyst has come across a company that they believe could be a good investment opportunity. The company is in the technology sector and has been growing rapidly over the past few years. The analyst has access to the following information:

Earnings per share (EPS) growth rate = 25%

Price-to-earnings (P/E) ratio = 20

Short interest = 10% of total shares outstanding

The company's stock price has been steadily rising for the past six months

Using the information available, the analyst must make a recommendation for whether or not to invest in the company.

Answer:

The analyst must first decide whether to use fundamental analysis or technical analysis. If they choose fundamental analysis, they would use the earnings per share (EPS) growth rate and the price-to-earnings (P/E) ratio to estimate the company's future earnings and come up with a target price for the stock.

If the analyst decides to use technical analysis, they would look at the stock's price trend over the past six months and the short interest as signals for whether to invest in the company. They might also look at chart patterns and moving averages to determine if the stock is currently in an uptrend.

Regardless of which approach the analyst chooses, they should keep in mind that all relevant information is already impounded into prices, and higher expected returns come only with higher risks. They must also consider that smart investors may not scoop up all opportunities and that there are costs of trading, such as margin calls when shorting a stock.

Factor Investing

1. Explain the Fama-French factors.

Green-Hand-Zhang SQL Database

1. Obtain the Return on Equity and Book to Market ratios for the most recent 5 observations in the Green-Hand-Zhang dataset for a selected stock of your choice.  
     
   Note: Post a screenshot of the whole data frame you get.