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Stock valuation models

The importance of stock valuation

- Stock valuation is one of the most important tasks when making investment decisions
- If the current price is below its value, then a stock is undervalued and purchasing it should generate excess profits
- If the current price is above its value, then a stock is overvalued and selling it should generate excess profits
- Stock valuation is also relevant in mergers & acquisitions as well as initial public offerings

Theory and practice of stock valuation

- Many techniques to value stocks have been developed, often based on practical experience
- A stock might be valued by looking at the valuation of other stocks, after making suitable adjustments
- We will here look at a basic valuation of stocks based on the benefits that accrue to their owners


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Discounted Cash Flows

Valuation using discounted cash flows

- Stocks should be valued using the present value of future dividends or earnings
- While past performance can give an indication of future prospects, the analysis is based on future prospects only

? You find that two stocks have different price-earnings ratios, does this imply that at least one of the stocks is mispriced?

! The stocks might have different risks and hence different discount rates, or their earnings might have different growth rates

Stock prices reflecting information

- Stocks are valued using the present value of future expected dividends or earnings
- To form such expectations, information on the company's future prospects have to be formed
- This information is incorporated into the stock value and should then be reflected in the stock price
- We will evaluate how stock prices evolve if information is included accurately into stock prices

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Market efficiency

Absence of autocorrelation

- In efficient markets, stock returns should have no autocorrelation
- Any autocorrelation in information should be anticipated and the stock price adjust accordingly

? You observe that a market is not efficient, can you make profits using this knowledge?

! Profits can only be made by investors that have access to information, otherwise it would be impossible to develop a trading strategy

Defining profitable investments

- Companies require capital to pursue investments from which they obtain earnings
- Only profitable investments should be pursued and we will discuss the criterion to assess whether an investment is profitable
- Making investments will affect the company value and we will determine the size of this effect

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Investment decisions by companies

Investment decisions and financing

- Whether investment are pursued should be assessed by using Net Present Value
- The Net Present Value will depend on the way an investment is financed

? A company announces a new investment that was well anticipated by investors, how much should the stock price increase?

! The stock price should not change as it was anticipated and in an efficient market this information should already have been included into the stock price

Summary

- Stock valuation and valuing individual investments by companies are driven by the present value of future earnings
- The discount factor depends on who the earnings accrue to
- The Weighted Average Cost of Capital is used if they accrue to the company
- The cost of equity is used if they accrue to equity holders
- If markets are efficient, stock prices cannot be predicted

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