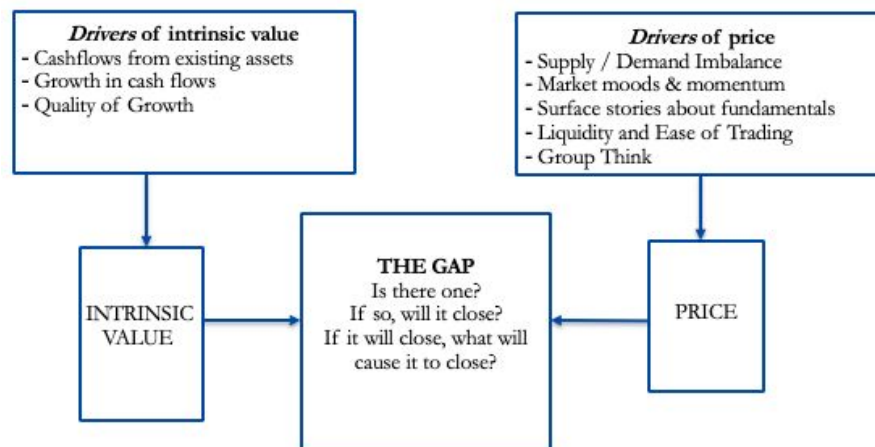


FINC3015 - Financial Valuations

25/2 - Lecture 1 - Introduction to Valuations

- Value can mean **usefulness** in one sense and **purchasing power** in another
 - ↳ Utility and price are not always correlated, so price and value are not always correlated
- 'Value' is a derived result based on 3 factors
 - ↳ Cash flows
 - ↳ Growth
 - ↳ Opportunity cost and risk
- Price is a reflection of risk and return, but can be based on other factors
- 'Price' evolves in an open market environment
 - ↳ Influenced by the forces of supply and demand
 - The uncertainty of these can create a diversion between price and value
- We rely on markets (financial or otherwise) to price value
 - ↳ At every point in time markets provide us with an instant estimate of exchange value
 - If markets are efficient, the price is a reflection of underlying value
 - However, market efficiency is driven by:
 - The type of asset being traded
 - The type of market the asset trades in
 - The scarcity of the asset
 - The types of traders in that market
 - As such, distortions between price and value can continue over the long term
- Valuation is about determining where value lies
 - ↳ Value lies where return exceeds the risk

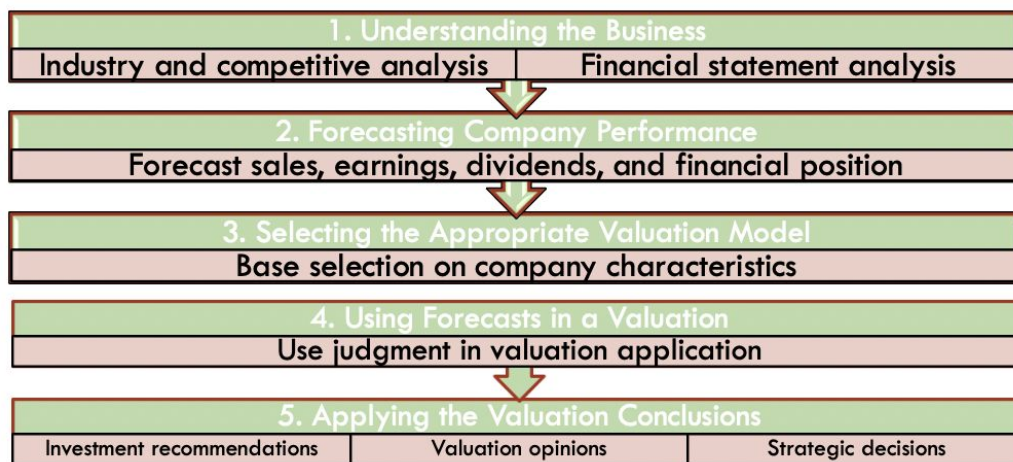


- Predicting price
 - ↳ Price is set by the market, so consider the perceptions of the market to predict price, rather than considering your own perceptions
 - Don't base actions on own rational thoughts, but on predictions of actions of other 'rational agents'
 - ↳ Prices of shares are based on what people think about the company, or what everybody else would predict the average assessment to be, instead of their actual fundamental value
- Market noise and incentives can influence price
 - ↳ eg. Snapchat
 - ↳ In 2017 all major investment banks has price targets for Snapchat of approx \$30
 - ↳ Morgan Stanley (the underwriter of the stock's IPO) noted 1 day later that earnings had been overestimated by \$5bn over a 5 year period
 - HOWEVER, there was no change in the price target
- Bubbles and rationality
 - ↳ Prices can be set by agents acting irrationally
 - eg. Tech bubble 1992-2000
 - Even when agents know that assets are overvalued, they may still invest if other are making money around them
 - Based on idea that bubble can last in the near future
 - ↳ Fund managers can be forced to inflate the price bubble
 - If they choose to 'buck the trend', the investors will take their money out of the fund, and will send the fund broke
- Valuations tries to make sense out of uncertainty
 - ↳ Uncertainty is always with us and cannot ever be eliminated
 - ↳ Our uncertainty of the past and our anticipation of the future will always be obscured by uncertainty
- A valuation analysis can be a perilous task
 - ↳ As the future unfolds mid-course corrections are made to take into account new information and developments
- What is valuation analysis used for?
 - ↳ Stock/asset selection; inferring market expectations; evaluating corporate events; rendering fairness opinions; evaluating business strategies and models; communicating with analysts and shareholders; appraising private business
- Stock/asset selection concerns the questions of what should I buy/sell?
 - ↳ The efficient market hypothesis suggests that financial markets are efficient and that trying to outperform market averages is futile (suggests matching market is best)
 - ↳ The reality is that markets, while generally efficient, have periods of irrationality
 - Investors stand to take advantage of these anomalies

→ Inferring market expectations

- ↳ Can take the market price, to determine market expectations for: cash flows, cost of capital, growth rates
- ↳ eg. Intel corporation in 2000
 - Intel announce revenue growth for Q3 to be 7-9% below expectations (and 8-12% short of analyst expectations)
 - In response to this, the stock price fell 30%
- ↳ Was the market being irrational by prices falling so much?
 - Possibly
 - The stock price of \$61.50 just prior to the release implied a gross margin for intel of 62.5% - this is not realistic
 - So the price before the announcement was likely inflated

→ An investment formula



1. Understanding the business

- ↳ All stocks are firms, so must understand the firm to properly value the stock
- ↳ Valuation cannot be independent of the environment the firm operates in
- ↳ This involves understanding a company's economic and industry context and management's strategic responses
 - To value a company one needs to understand if variations with the economic cycle are pro-cyclical or counter-cyclical
 - Must also be aware of industry factors (eg. if valuing Qantas, must know the critical input drivers that will determine the future position of the firm)
- ↳ Questions that need to be addressed in valuation analysis:
 - How attractive are the industries in which the company operates in terms of offering prospects for **sustained profitability**?
 - What is the company's relative competitive position within the industry?
 - What is the company's competitive strategy?
 - How well is the company executing its strategy?

- ↳ If an asset has value then **what is principally driving that value?**
 - A value driver is a performance variable which impacts the results of a business (eg. production effectiveness or customer satisfaction)
 - Value drivers should be linked to shareholder value creation and measured by both financial and operational KPI's, which must cover long-term growth and operating performance
 - eg. can include sales, costs, investments, or alternatively earnings growth, cash flow growth and ROI
 - Miller et al. (2004) suggest profitability, growth and capital intensity are key considerations
 - Operational KPIs can be quantified and are important valuation tools
 - eg. customer satisfaction is important to value service businesses

2. Forecasting company performance

- ↳ This involves economic forecasting and company specific forecasting
 - Economic forecasting
 - May be top-down / bottom-up
 - eg. start with forecasted economic growth, market size, and market share to arrive at revenue forecasts
 - Financial forecasting
 - Analysts will integrate the analysis of industry prospects and competitive corporate strategy with financial statement analysis (FSA) to formulae specific numerical forecasts
 - > This is called pro-forma analysis
 - This is particularly important for pro-cyclical firms such as consumer discretionary, but is less useful when valuing non-discretionary firms
- ↳ Issues in financial statement analysis
 - Non-numeric analysis - most firms on ASX cannot be valued well using financial statements, will need to use other methods (they are too unreliable)
 - eg. recent IPO, new companies, private companies
 - Regression towards to mean - relative valuation may be more useful
 - Mature vs start up firms - stage of business cycle impacts valuation method
 - Sources of information - reliability of information is uncertain but important
 - Quality of earnings - \$1 from one company may not equate with another
 - All companies have scope for bending the truth in accounting when estimating the true flows in a company
 - Profit figures differ to cash flows
- ↳ Sources of information are not perfect and can be misleading
 - The same information can be interpreted differently by 2 entities

- Most information in modern day is data processed by an algorithm and distributed to people - this is easily corruptible/misleading
- ↳ Quality of earnings risk factors
 - Poor quality of accounting disclosures; related-party transactions; frequent management or director turnover; pressure to make earnings targets; auditor conflicts of interest or frequent turnover; incentive compensation tied to stock price; external/internal pressures on profitability; debt covenant pressures; previous regulatory/reporting issues
 - If you don't know where the risks of a company are coming from, you cannot value it with any confidence - must understand the business

3. Valuation Approaches

- ↳ Absolute valuation (intrinsic valuation)
 - Present value model, discounted cash flow model (DCF), intrinsic value model, dividend discount model (DDM)
 - Based on expected future cash flows of an asset
- ↳ Relative valuation
 - Comparable asset valuation based on common variable
 - eg. earnings, cash flows, sales
 - Note this can be misleading - if the target price is higher than the current stock price, it just means the stock is undervalued compared to the group, not necessarily that the stock is undervalued in absolute terms
- ↳ Contingent Claims valuation
 - Real options analysis measures the value of assets that possess option like characteristics

→ Absolute Valuation

- ↳ **Logic:** intrinsic value can be measured by forecasting expected cash flows, growth and risk
 - Markets are assumed to make errors over time and correct as information is released to the market - can capitalise on these errors
- ↳ **Advantages**
 - Based on fundamentals and therefore less exposed to market moods
 - Gets you to think about the underlying characteristic of the firm
- ↳ **Disadvantages**
 - Wide array of inputs that can be quite noisy
 - Does not necessarily tell you if something is overvalued/undervalued
 - Does not indicate when (if ever) price will equal value

→ Relative Valuation

- ↳ **Logic:** Value is based on what someone else is willing to pay for it
 - Market can make pricing errors across similar comparable assets

↳ **Advantages**

- Much more likely to reflect market perceptions/moods
 - This is what determines price
- Assets are always **relatively** undervalued/overvalued
- Not as computationally intensive as other approaches

↳ **Disadvantages**

- An asset may be **undervalued in comparison** but **overvalued intrinsically**
- Assumes that stock markets are valued correctly in aggregate but that mistakes exist of single securities
- Simplicity in the model means that there may still exist many implicit assumptions
- Need to have a good comparable set - data can be easily skewed

→ **Contingent Claims (Real Options) Valuation**

↳ **Logic:** Particular assets can share similar qualities to options

- You may have equity in a deeply troubled firm with negative earnings and high valuation, or may be trying to value rights to expand an investment or a patent that is exclusively owned by the firm

↳ **Advantages**

- Allow us to value assets that we would otherwise not be able to
- Valuation according to DCF says that greater risk affects value downwards
 - Option pricing challenged this assumption
 - Considers the distinction between good risk and bad risk

↳ **Disadvantages**

- Inputs are extremely difficult to obtain
- Not a primary model per se

↳ Example - cabcharge

- Investors are pulling out of the company and expect a max 10 year life
- The company needs to take risks that may be haphazard, but are necessary to ensure the longevity of the company
 - This is positive risk - is beneficial & preferable to shareholders

→ How are valuation models selected?

↳ The broad criteria for model selection is that the model should be:

- Consistent with the characteristics of the company being valued
- Appropriate given the availability and quality of data
- Consistent with the purpose of valuation, including the analyst's ownership perspective
- Timeframe

↳ In addition, there are 3 other specific issues that may affect the use and interpretation of valuation models

- Control premium
 - Control rights (of having a majority share) has value so is charged at a premium
- Marketability discount
 - Small companies are less known, so do not have an established market for them - can cause liquidity issues
- Liquidity discount
 - Thin trading bias

5/3 - Tutorial 1

- JB Hi-Fi case study
- Start with income statement
- Forecast horizon goes until company has matured or it becomes too unreliable to continue to forecast values
- When comparing valuation techniques:
 - ↳ Discuss certainty on the numbers and the history of values
- When a company has lots of products, and operates in lots of industries, it may be more worthwhile to do a bottom up approach
 - ↳ Consider segments, and then examine how macro factors affect that
- JB Hi-Fi acquired Good Guys in 2016 which caused the spike in revenue growth in 2017
 - ↳ As such, exclude 2017 and 2018 growth rates