[redacted]

Lecture 6: Industry Analysis

- Why do industry analysis?
  - The purpose:
    - help find profitable investment opportunities
    - part of the three-step, top-down plan
      - For valuing individual companies &
      - selecting stocks for a portfolio.

- What do we learn from industry analysis?
  - Is there a difference between
    - the returns for alternative industries during specific time periods?
  - Do firms within an industry show consistent performance over time?
  - will an industry that performs well in one period continue to perform well in the future?
    - That is, can we use past relationships between the market and an individual industry
    - to predict future trends for the industry?
  - Is there a difference in the risk for alternative industries?
  - Does the risk for individual industries vary or
    - does it remain relatively constant over time?

- Cross-sectional industry performance:
  - Wide dispersion in rates of return in different industries
  - performance varies from year to year
  - These results imply that industry analysis is important & necessary to uncover these substantial performance differences — that is, it helps identify both unprofitable & profitable opportunities.

- Industry performance over time
  - there is almost no association in individual industry performance year to year or over sequential rising or falling markets
  - variables that affect industry performance change over time.
- **performance of** companies within an industry.
  - there is wide dispersion in the performance of companies within an industry.
  - this reinforces the need for company analysis in addition to industry analysis.
- differences in industry risk
  - Empirical studies
  - have found a wide range of risk among different industries at a point in time,
  - and that differences in industry risk typically widened during rising and falling markets.
  - Although risk measures for different industries have shown substantial dispersion during a period of time,
    - individual industries' risk measures are stable over time.

- Industry analysis process
  - is similar to the analysis of the economy & the aggregate equity market:
  - The macroanalysis of the industry
    - The business cycle & industry sectors
    - Structural economic changes & alternative industries
    - Evaluating an industry's life cycle
    - Analysis of the competitive environment in an industry
  - The microvaluation of the Industry
    - The usual techniques

Business cycle and industry sectors

- economic trends can and do affect industry performance
  - By identifying and monitoring key assumptions & variables,
    - we can monitor the economy and gauge the implications of new information on our economic outlook & ~~ana~~ industry analysis.

- different industries differentially affected by business cycle.
  - Rotation strategy
    - Is when one switches from one industry group to another over the course of a business cycle.

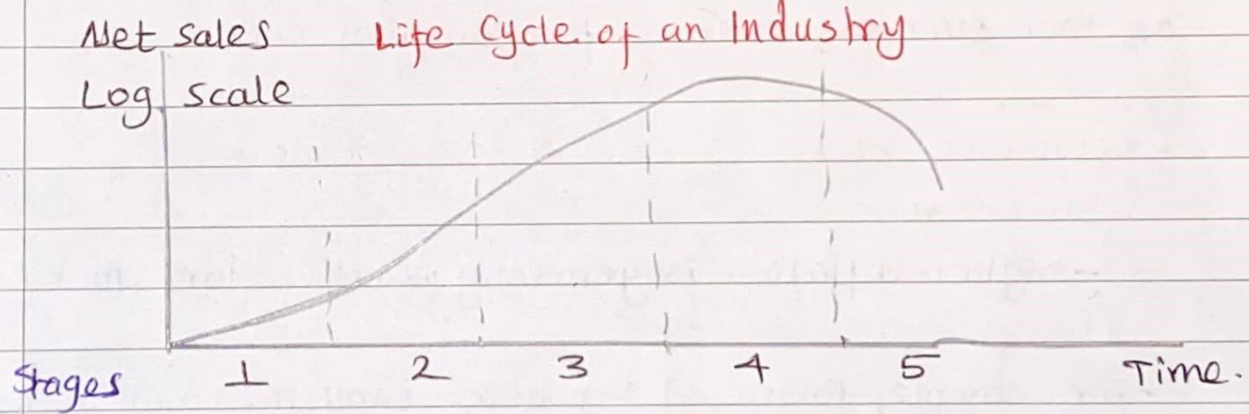
- Economic variables and different industries
  - Inflation
    - higher inflation is generally negative for stocks
  - Interest rates
    - For example, financial & housing industries will be adversely affect by high interest rates.
  - International economics
    - economic growth in world regions or specific countries benefits industries with a large presence in the areas
  - Consumer sentiment
    - the performance of consumer cyclical industries will be affected by changes in consumer sentiment
  - Social Influences
    - Demographics — rise or fall in certain age groups
    - Lifestyles — fads and fashions, eg, smart phones...
  - Technology — IT
  - Politics and Regulations
    - Economic reasoning — Fairness
    - regulatory changes affect numerous industries
    - regulations affect international commerce.

Evaluating the industry life cycle

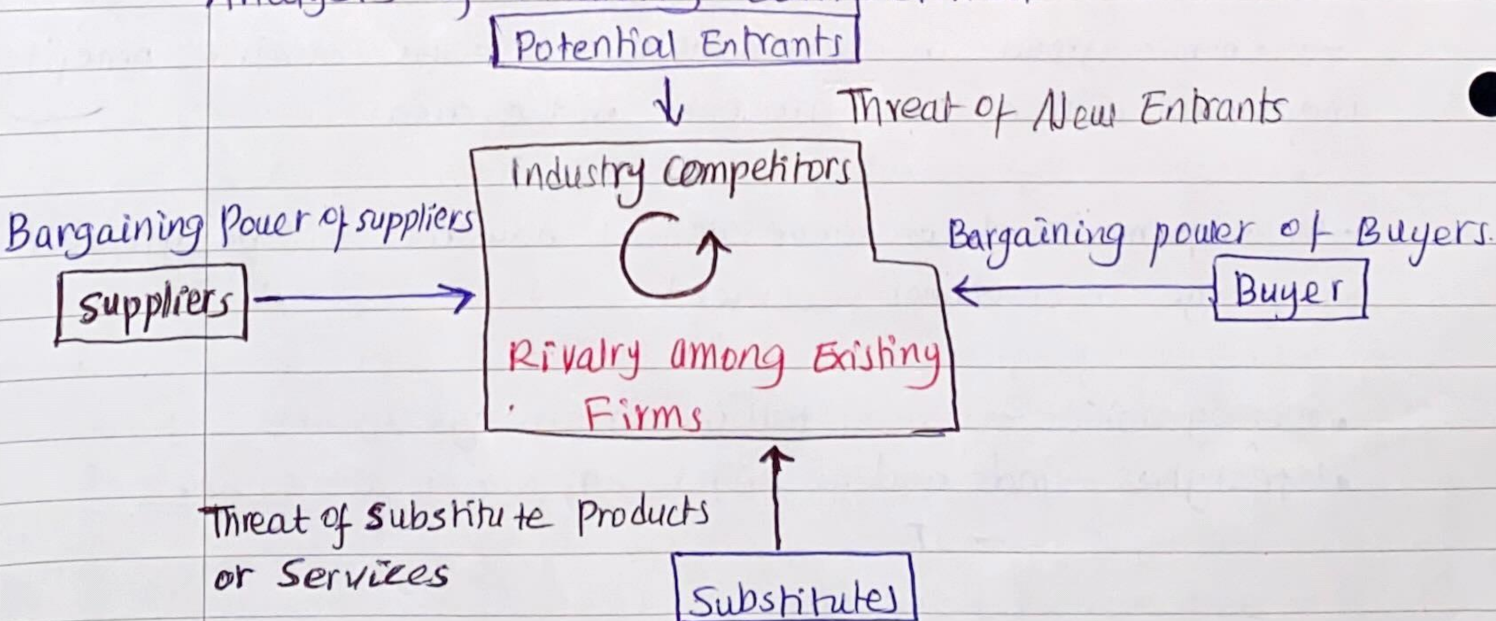
- when predicting the industry sales and trends in profitability, an insightful analysis is to view the the industry over time in different stages

- The Five-Stage Model:
  - Pioneering development — Stage 1
  - Rapidly accelerating industry growth — stage 2
  - Mature industry growth — stage 3
  - stabilization and market maturity — stage 4
  - Deceleration of growth and decline — Stage 5

Life Cycle of an Industry



Analysis of industry competition



Industrial Competition

- Above average returns on an industry depends on
  - the intensity of competition among firms in the industry
  - (the competitive environment)
- 5 aspects to consider from the flow diagram (Michael Porter)
- Each aspect has an effect on Industry returns.

Microvaluation of industries

- The same general techniques we used for markets can be applied at the industry level:
  - Discounted Cash Flows:
    - The Dividend Discount Model (DDM)
    - The Free Cash Flow to Equity Model (FCFE)
  - Relative Valuation Techniques:
    - The Earnings Multiplier Technique
    - Other Relative Valuation Ratios.
- The main difference is in
  - the estimates of the individual variables,
  - In particular, the required rate of return.

Microvaluation of industries

Estimating industry rates of return

- Estimating the Required Rate of Return (k)
  - Start with an estimate of the market k
  - Then, estimate the risk premium for the industry vs the market. Two alternative approaches:
    1) individually estimate the components of risk for the industry:
       - business risk (BR)
       - financial risk (FR)
       - liquidity risk (LR)
       - exchange rate risk (ERR)
       - country political risk (CR)
    2) compute the required rate for industry from the CAPM:

$$E[R_j] = R_f + \beta_j \cdot (E[R_m - R_f]).$$

Global Industry analysis

- The macroeconomic environment in the major producing & consuming countries for this industry.
- An overall analysis of the significant companies in the industry & the products they produce.
- What are the accounting differences by country & how do these differences impact the relative valuation ratios?
- What is the effect of currency exchange rate trends for the major countries?