Forecasting Fundamentals

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Return forecasting

There are two ways to predict investment returns

1. Predicting fundamentals
   - Identifying indicators of future sales, profits etc.
   - Have you identified an indicator that is not already incorporated into stock returns
2. Predicting flows
   - Identifying indicators of investor buying and selling behavior
   - Example: Can you predict when the Robinhood investors will stop accumulating AMC stock?

How does investor investment horizons depend on whether they are predicting flows or fundamentals?

Predicting Fundamentals

Applications go well beyond investment analysis

1. Valuation of your own stock price
   - An important component of capital structure choice – should you issue debt or equity?
   - Raising capital and investment
2. Evaluating your competitors
   - Are they likely to be able to raise capital?
   - How does this affect how aggressively they will compete?
3. Evaluating your customers
   - Should you be extending credit?
   - To what extent do you want to "invest" in your customer?
4. Evaluating your suppliers
   - Are they reliable suppliers?

You may want to also want to forecast fundamentals for the companies offering you jobs

What fundamentals?

1. Sales
2. Earnings and Cash flows
3. Solvency
   - Bankruptcy
   - Credit downgrades

How should we think about linking the fundamental of interest to the situation?

What do you want to forecast if you are considering an expansion of capacity?

What do you want to forecast if you are concerned about the reliability of a supplier?

Indicators of fundamentals

- Fundamentals are indicators of fundamentals
  - Homebuilders predict future housing starts as functions of changes in employment, interest rates, and demographics
  - Oil companies use forecasts from the futures market to predict future profits
- Management choices can be indirect indicators of future fundamentals
  - Increased investment in division 1 can be a negative indicator of the prospects in industry 2 as well as a positive indictor of industry 1 prospects
  - Firms may issue equity when their executives believe their stock is attractively priced and they repurchase equity when their executives believe their stock is underpriced

Predicting Insolvency

1. Bankruptcy
   - We can operationalize bankruptcy as delistings preceded by at least an 80% drop in stock prices in the previous 12 months

2. Drop below investment grade
   - Identify each firm that had an investment grade rating (BBB or above) in the previous quarter and a below investment grade rating in the current quarter

Designing a forecasting model

What variables do you think forecasts future insolvency?

- One quarter ahead forecasts
- One year ahead forecasts

What fundamental indicators would you use?

- Accounting variables, e.g., earnings and sales growth
- Financial variables, e.g., stock volatility

What decision variables would you use?

- Equity issuance

What non-financial information might be useful?

More on Designing Models

- How do you decide on the variables?
- How many variables?
- Functional form?

When would you use linear regression models versus LASSO models versus Machine Learning models?