Relative Multiples Approach

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P/E Ratio

- Why it is used?
  - Intuitively appealing (as it proxies for growth and risk)
  - Simple to compute
- Why it is often displayed in reports?
  - An analyst need not be explicit about their assumptions of growth, risk, dividend payout ratios, etc.
  - Comparable P/Es would more likely to reflect market moods and perceptions
  - Prone to make systematic errors

Estimating P/E Ratio

- P/E Ratio for a stable firm
  - Positively linked to payout ratio and growth
  - Negatively linked to its riskiness
- Make a guess on P/E multiple for 2-wheel automobiles
- P/E Ratio for a high growth firm
- This formula can also be applied to firms which are not paying dividends
- Can we try it on South Asian Petrochemicals
- Portfolio managers use shortcuts by comparing P/E ratios with the expected growth rates to identify stories
- Prone to errors (say, National Steel and Cauvery Software)

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Comparisons of P/E Ratios

- Can we make a guess on the P/E multiple of a country's index
- How can this be manipulated?
- At the country level (adjust indices)
- Take Home: P/E Ratios should never be looked on a stand-alone basis (the context has to be taken into account)
- Another method is regressions using independent variables:
- P/E = 41.85 – 0.2 Short Term Rate – 3.44 Long Term Rate + 3.21 Growth in GNP
- Different styles of portfolio management
- What does research say?

Comparisons of P/E Ratios

- Using P/E ratios of comparable firms
- Several problems: (a) definition of a comparable firm is subjective (b) differences in fundamentals
- Using the regression approach (and hence the entire cross-section)
- P/E = 2.77 + 22.89 Payout – 0.13 Beta + 13.87 Earnings Growth Rate over the previous years
- Caution: (a) Regressions assume linear relation (b) Correlation among independent variables (c) the basic relation between P/E and the financial variables need not be stable

Problems with P/E Ratios

- Cannot handle firm's with negative earnings (or very low earnings)
- Volatility in earnings is much higher
- Depends on the accounting conventions
- Can be managed (for a short-time)
- Variants:
- Price/FCFE ratio
- Price/FCFF ratio
- Price/Dividend ratios and Dividend Yields
- Dividend Yields versus Treasury Rates

P/BV Ratios

- Two ways of measuring it
- Problem with modern software
- Nagarjuna Fertilizers & Chemicals
- Advantages
- (a) can be used for firms with negative earnings (b) not prone to volatility and year-on-year accounting manipulations (c) an intuitive measure
- Disadvantages
- (a) affected by accounting decisions on depreciation and other variables; (b) cannot be used if varying GAAP are followed; (c) does not carry much meaning for service firms; (d) cannot handle negative book values

Estimating P/BV Ratios

- P/BV for a stable firm
- $P_0/BV_0 = (ROE - g) / (k_e - g)$
- Try this one on HLL
- Can use the estimation route for private firms
- P/BV for a high growth firm
- Try this out on Pioneer Distilleries
- You can modify the above discussion by using Expected growth rate = Retention ration X ROE
- P/BV ratio Vs ROE has been covered
- You can think of using porter's framework OR any other good strategy framework for analyzing companies capability to earn supernormal profits

Using Comparable Firms

- Using P/BV ratios of comparable firms
- Several problems: (a) definition of a comparable firm is subjective (b) differences in fundamentals
- Using the regression approach (and hence the entire cross-section)
- P/BV = 1.11 + 0.35 Payout – 0.65 Beta + 1.01 Earnings Growth Rate over the previous years + 10.51 ROE
- Caution: (a) Regressions assume linear relation (b) Correlation among independent variables (c) the basic relation between P/E and the financial variables need not be stable
- Using P/BV as investment screens … related issues

Variants on P/BV Ratios

- Tobin's Q Ratio
- Link to takeovers
- Link to bull market crashes
- The Estep T score
- This model by Estep (1985) splits the past returns into three components: (a) growth; (b) cash-flow yield; (c) valuation change and helps analysis
- Very similar to the value unlocking story of the retail store (discussed in the other class)

P/S Ratios

- Advantages
- (a) does not become negative (b) not influenced by accounting decisions (c) not volatile (d) provides a convenient framework to handle the effects of change in pricing policy and even some corporate strategy decisions
- Disadvantages
- (a) stability can become an issue; (b) does not take into account costing issues across firms and hence margins

P/S Ratios

For a stable firm

- P_0/S_0 = (profit margin X payout ratio) / (k_e – g)
- Assume profit margin in the next time period
- P/S for a high growth firm
- We can try this on Andhra Petrochemicals
- Expected growth rate = Retention ratio X profit margin X (Sales/BV of equity)
- Can link it to the firm's pricing policy and overall game plan
- Value of a brand name = (P/S_b – P/S_g) X Sales
- P/S = 0.52 + 0.27 Payout – 0.25 Beta + 0.49 Expected Growth Rate + 8.17 Margin