LECTURE 4

Projections

Check Celerity Technology Spreadsheet (Private Company)

CHAPTER 11 (Partial)

The value of the firm is the expected future cash flows generated by the firm. The important input in valuation, especially for high growth firms, is the growth rate to use to forecast future revenue and earnings.

The three basic ways to estimate growth:

1. Based on the past performance
2. Based on industry/economic/market standards
3. Based on investor/analyst expectation ("smart money")

Based on Historical info / Ratio Analysis

1. Revenue Trends / growth rates
2. Profitability Ratios / Activity and operating ratios
3. Balance sheets and Cash Flow statements info (WC. Capex Vs Depreciation)

Based Industry specific / standards

1. Revenue Trends / growth rates
2. Profitability Ratios / Activity and operating ratios
3. Balance sheets and Cash Flow statements info (WC. Capex Vs Depreciation)

Based on Expectation (Analysts)

1. Revenue growth expectation
2. Profitability Ratios / Activity and operating ratios

Revenue Growth Formulas

Rev Growth Rate = (This Year's Rev / Last Year's Rev) – 1

Comp Rate of Ret (geometric) = [(This Year's Rev / 5 Year's ago)^1/5] - 1

- Large firms Vs small firms growth rates and their correlation between on Revenues' and Earnings' growth rates

CHAPTER 12 (Partial)

The Value of the Firm

EV = PV of the sum of future Cash Flows + the PV of the Terminal Value

$$\mathbf{EV = \sum CF / (1 + k)\ ^\wedge\ t + TV / (1 + k)\ ^\wedge\ t}$$

TERMINAL VALUE

- Liquidation Values (Project specific, Leasing, Residual Value, Depreciation method, inflation adjusted, etc)

- Market Value in the future through various methods
  - Multiple Approach (EBITDA x, Rev x, Earnings x)
  - Perpetuity Method (depending on growth and k (disc. Rate)

STARWOOD (public traded) AND ALEXNADRIA (private) EXAMPLE SPREASHEETS – Yahoo finance Input

TV using perpetuity method

$$TV = (CF \text{ next year from Exit}) / (k - \text{growth rate})$$

K is the Discount rate used , i.e WACC

CHAPTER 13

DIVIDEND DISCOUNT MODEL

In a publicly traded company the only cash flow you receive is the dividend. The simplest method of calculating the firms value is Dividend Discount Model (DDM) – the value of the stock is the PV of expected dividents

When an investor is buying a stock he or she expects two types of payments: Dividends and a price of the stock in the future

Value per share of stock = $\sum$ E (DPS) / (1 + k) ^t

E (DPS) is the Expected Dividend per share,
K is the cost of equity at t time

The cost of equity could be determined by using CAPM

The Gordon Growth Model

The Gordon Growth Model can be used to value a firm that is in "steady state" with dividends growing at a rate that can be sustained forever (using the perpetuity method)

Value of stock = Expected Dividends next period / (Cost of equity – Expected growth rate in perpetuity

Few thoughts on the Gordon Growth Model:

- The expected growth rate is very sensitive to the overall value of the stock so a lot of the assumptions to calculate growth are critical.
- The model is best suited for firms that are growing equal or lower than the nominal rate in the economy and have betas of 1.

The 2-stage Dividend Growth Model

The 2-stage model allows the 2 stages of growth – an initial phase where the growth rate is not a stable growth rate and a subsequent steady state where the growth rate is stable and is expected to remain so for the long term.

g (Extraordinary growth or initial) and g_n

Using the Terminal value concept to determine the stock price in the future.