

SESSION 11

Bond Valuation: Basic Terms and Valuation of Convertibles

Par Value- Par Value is the Face Value of Bond. If face value of bond is not given then face value can be assumed either Rs. 100 or Rs. 1000 or Rs. 10000 depending upon question.

Coupon Rate- Coupon Rate is the fix Rate of Interest which a bondholder receives as Interest Payment. Coupon Rate remains same until the bond matures.

Yield Rate- Current Yield/Yield Rate is Rate at which a bondholder receives as Interest Income on the Current Value of Bond.

Current Yield = Interest/Market Price of Bond

Yield to Maturity (YTM)- Yield to Maturity (YTM) is Rate of Earning if bond is held until Maturity.

$$YTM = \frac{[(Interest + (Redemption Value (RV) - Net Proceeds (NP)) / Maturity Period of Bond]}{[(RV + NP) / 2]}$$

YTM = IRR can be used

Value of Bond

Value of Bond = \sum PV of Interest Receivable + PV of Redemption Value

Value of Perpetual Bond = Interest/Yield Rate

Value of Bond if Company offers any Discount then

Value of Bond = Value of Bond As usual – Discount on Bond

Value of Discount on Bond

For 1st Year = $[1 - 1 / (1 + Discount Rate)] \times Face Value$

For 2nd Year = $[1 - 1 / (1 + Discount Rate)^2] \times Face Value$

And so on

If Redemption value of bond is not given then, face value of will be assumed as redemption value.

Yield to Call (YTC)

Return an Investor gets if bond is called after lock in period.

$$YTC = \frac{[(Interest + (Call Price - Market Price (MP)) / Lock in Period of Bond]}{[(Call Price + MP) / 2]}$$

Yield to Put (YTP)

Return an Investor gets if bond is retained after lock in period.

$$YTP = \frac{[(Interest + (Put Price - Market Price (MP)) / Lock in Period of Bond]}{[(Put Price + MP) / 2]}$$

Relation between Current Yield and Value of Bond – Bond Value Theorems

If Current Yield (Yield Rate) = Coupon Rate

Then Bond is selling at Par.

If Current Yield (Yield Rate) > Coupon Rate
Then Bond is selling at Discount.

If Current Yield (Yield Rate) < Coupon Rate
Then Bond is selling at Premium.

Forward Rate

Current Price = $\text{Interest}_1 / (1 + r_1) + \text{Interest}_2 / [(1 + r_1) \times (1 + r_2)] + \dots + \{\text{Interest}_n + \text{Redemption Value}\} / [(1 + r_1) \times \dots \times (1 + r_n)]$

Commercial Paper

Effective Interest Rate = $[(\text{Redemption Value} - \text{Issue Price}) \times 100] / \text{Issue Price}$

Stock Value of Bond = (No of Share per bond) x (Market Price per share)

Downside Risk

If the Actual Market Price of Assets (Bond) is greater than fundamental price then the Assets (bond) may correct i.e. there is probability of price going down.

Upside Premium

If the Actual Market Price is less than fundamental price then there is possibility of the price going up.

Downside Risk = $[\text{Market Price of Convertible Bond} - \text{Straight Value (Fundamental Value of Bond)}] / \text{Theoretical (Straight) Value of Bond}$

Conversion Premium = $[(\text{Market Price of Convertible Bond} - \text{Stock Value of Bond}) \times 100] / \text{stock Value of Bond}$

Conversion Parity Price of Stock

Price of share is to be issued in lieu of convertible debenture (bond) such that there is no arbitrage opportunity to investor.

Conversion Parity Price = $(\text{Market Price of Convertible Bond}) / \text{No of Shares per Bond}$

Interest Rate Risk

Re – Investment Risk

It is the risk of interest rate falling because if the interest rate falls, then investor would be able to re – invest the coupon amount at lower rate [Compounding Effect].

Bond Valuation: Risk Measurement: Bond Duration

Price Risk- It is the risk of rising of Interest Rate because if the interest rate rises, then value of bond will fall [Discounting Effect].

So both the effects act in the opposite direction. They tend to cancel each other and the period at which both cancel each other is known as Macaulay's Duration. So duration is that immunizing period at which re-investment effect cancels out the effect and realized yield is equal to promised yield irrespective of interest rate changing.

Duration- Duration is nothing but the average time taken by an investor to collect his investment. If an investor receives a part of his investment over the time on specific intervals before the investment will offer him duration which would be less than the maturity of the bond.

$$\text{Duration} = \sum W_x / W$$

Where, W_x = Weight x Discounted Annual Cash flows; W = value of Bond

$$\text{Duration} = [\text{Current Yield} \times \text{PVAF}_{(YTM, n)} \times (1 + YTM)] / YTM + \{ [1 - (\text{Current Yield}) / YTM] \times n \}$$

If Bond Trades at par

Current Yield = YTM = Coupon Rate

Then

$$\text{Duration} = \text{PVAF}_{(YTM, n)} \times (1 + YTM)$$

Duration of ZCB is the life of ZCB

Immunization Theorem:

$$\text{Duration of Liability} = \text{Duration of Assets}$$

$$\text{Duration of Portfolio} = D_A \times W_A + D_B \times W_B$$

Price Volatility of Bond- Price Volatility of a bond is the sensitivity of bond price to the interest rate i.e. if interest rate changing by 1% then what would be % change in Bond Price.

$$\text{Modified Duration} = \text{Duration} / (1 + YTM)$$

Example 1: Determine the duration of a Bond having following characteristics:

BOND A : 15 PERCENT COUPON; 6 years time to maturity, INR 100 FV

YEAR	CASH FLOW	PRESENT VALUE AT 18 PER CENT	PROPORTION OF THE BOND'S VALUE	PROPORTION OF THE BOND'S VALUE TIME
1	15	12.71	0.142	0.142
2	15	10.77	0.120	0.241

3	15	9.13	0.102	0.306
4	15	7.74	0.086	0.346
5	15	6.56	0.073	0.366
6	115	42.60	0.476	2.856

DURATION 4.257 YEARS

VALUATION - 1

Valuation is the art/science of determining what a security or asset is worth.

Sometimes we can observe a market value for a security and we are interested in assessing whether it is over or under valued (e.g., stock analysis); sometimes there is no market value and we are trying to construct one for bargaining or transaction purposes (e.g., a corporation is interested in selling a division).

The value of a security or asset is going to depend crucially on the asset pricing model we choose.

The most common kind of valuation problem is equity valuation.

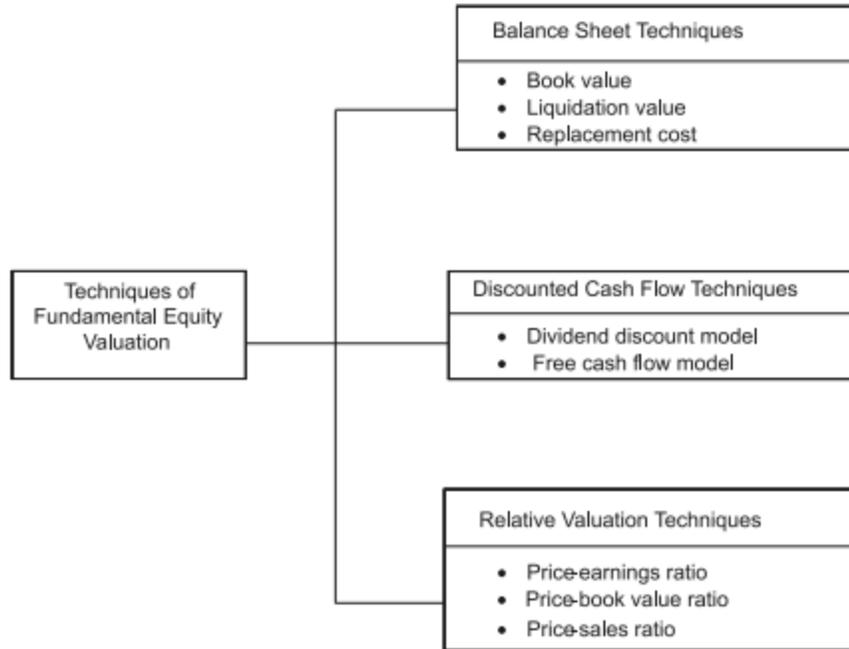


Figure 1: Techniques of Equity Valuation (Source: Investment Analysis and Portfolio Management, Prasanna Chandra, 5thE)

Present Value Models:

These models assume that the stock is bought, held for some time (dividends and other cash distributions are collected), and then sold. The stock is valued as the present value of the expected cash distributions and the expected proceeds from the sale. This is called the “intrinsic value.”

For brevity and notational simplicity, we refer to periodic cash distributions generically as “dividends.” Therefore, dividends, when relevant, should be understood to include any cash distributed to shareholders, in particular through share buybacks.

DIVIDEND DISCOUNT MODEL

1. Single-period Valuation model

The price of the equity share will be:

$$P_0 = \frac{D_1}{(1+r)} + \frac{P_1}{(1+r)}$$

where P_0 is the current price of the equity share, D_1 is the dividend expected a year hence, P_1 is the price of the share expected a year hence, and r is the rate of return required on the equity share.

If the price of the equity share is expected to grow at a rate of g percent annually,

$$P_0 = \frac{D_1}{r - g}$$

2. Multi-period Valuation Model

Since equity shares have no maturity period, they may be expected to bring a dividend stream of infinite duration. Hence the value of an equity share may be put as:

$$P_0 = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_\infty}{(1+r)^\infty} = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t}$$

Where P_0 is the price of the equity share today, D_1 is the dividend expected a year hence, D_2 is the dividend expected two years hence, D is the dividend expected at the end of infinity, and r is the expected return.

3. Zero Growth Model If we assume that the dividend per share remains constant year after year at a value of D

$$P_0 = D/r$$

4. Constant Growth Model (Gordon Model)

$$P_0 = \frac{D_1}{r - g}$$

5. Two Stage Growth Model The simplest extension of the constant growth model assumes that the extraordinary growth (good or bad) will continue for a finite number of years and thereafter the normal growth rate will prevail indefinitely. Assuming that the dividend moves in line with the growth rate, the price of the equity share will be:

$$P_0 = D_1 \left[\frac{1 - \left[\frac{1+g_1}{1+r} \right]^n}{r - g_1} \right] + \frac{P_n}{(1+r)^n}$$

Where P_n will be equal to:

$$\frac{D_{n+1}}{r - g_2}$$

where D_{n+1} is the dividend for year $n + 1$, and g_2 is the growth rate in the second period. D_{n+1} , the dividend for year $n+1$, may be expressed in terms of the dividend in the first stage. $D_{n+1} = D_1 (1 + g_1)^{n-1} (1 + g_2)$

$$P_0 = D_1 \left[\frac{1 - \left[\frac{1+g_1}{1+r} \right]^n}{r - g_1} \right] + \left[\frac{D_1 (1 + g_1)^{n-1} (1 + g_2)}{r - g_2} \right] \left[\frac{1}{(1+r)^n} \right]$$

6. H Model The H model of equity valuation is based on the following assumptions: While the current dividend growth rate, g_a , is greater than g_n , the normal long-run growth rate, the growth rate declines linearly for $2H$ years. After $2H$ years the growth rate becomes g_n . At H years the growth rate is exactly halfway between g_a and g_n .

$$P_0 = \frac{D_0 [(1 + g_n) + H(g_a - g_n)]}{r - g_n}$$

where P_0 is the intrinsic value of the share, D_0 is the current dividend per share, r is the rate of return expected by investors, g_n is the normal long-run growth rate, g_a is the current above-normal growth rate, H is one-half of the period during which g_a will level off to g_n .

EQUITY VALUATION 2

FREE CASH FLOW MODEL

Free Cash Flow is the amount of cash flow a firm generates (net of taxes) after taking into account non-cash expenses, changes in operating assets and liabilities, and capital expenditures.

Free Cash Flow is a more accurate metric than EBITDA, EBIT, and Net Income as they leave out large capital expenditures and change in cash due to changes in operating assets and liabilities. Also, metrics such as EBIT and Net Income include non-cash expenses, further misrepresenting the true cash flow of a business.

Due to the reasons mentioned above, Free Cash Flow is often used in a DCF analysis and therefore, a clearer understanding of the concept is important for finance interviews, especially for Investment Banking and Corporate Finance roles.

Difference between FCFF vs FCFE

The key difference between Unlevered Free Cash Flow (FCFF) and Levered Free Cash Flow (FCFE) is that Unlevered Free Cash Flow excludes the impact of interest expense and net debt issuance (repayments), whereas Levered Free Cash Flow includes the impact of interest expense and net debt issuance (repayments).

How to Calculate FCFF

$EBIT * (1 - \text{Tax Rate}) + \text{Non-Cash Expenses} - \text{Changes in Operating Assets \& Liabilities} - \text{CapEx}$

$\text{Cash Flow from Operations} + \text{Tax Adjusted Interest Expense} - \text{CapEx}$

$\text{Net Income} + \text{Tax Adjusted Interest Expense} + \text{Non-Cash Expenses} - \text{Changes in Operating Assets \& Liabilities} - \text{CapEx}$

How to Calculate FCFE

$\text{Net Income} + \text{Non-Cash Charges} - \text{Changes in Operating Assets \& Liabilities} - \text{CapEx} + \text{Net Debt Issued (Repaid)}$

$\text{Cash Flow from Operations} - \text{CapEx} + \text{Net Debt Issued (Repaid)}$

Example:

In 2019, the food products division of ABC Corp had revenues of \$ 7 billion on which it earned \$1.5 billion before interest and taxes.

The division had capital expenditures of \$660 million and depreciation of \$550 million in 2018.

The working capital as a percent of revenues has averaged 5% between 2017 and 2018. (Working capital increased \$350 million in 1994)

The beta of comparable firms in the food products business is 1.05 and the average debt ratio at these firms is 23.67%. (The cost of debt at the largest of these firms is approximately 8.50%).

The tax rate is assumed to be 36%.

The cash flows to the firm are expected to grow 5% a year in the long term. Find the value of the food products division.

Solution:

The estimated free cash flows to the firm (division) are as follows

	Current	Next Year
EBIT (1-t)	\$ 960.00	\$ 1,008.00
- (Cap Ex - Depreciation)	\$ 110.00	\$ 115.50
- Change in Working Capital	\$ 150.00	\$ 17.50
= FCFF	\$ 700.00	\$ 875.00

The cost of capital is computed, based upon comparable firms (in the food products business)

Beta (based upon comparable firms) = 1.05

Cost of Equity (based upon comparable firms) = 7.5% + 1.05 (5.50%) = 13.275%

Pre-tax Cost of Debt = 8.50%; After-tax cost of debt = 8.50% (1-.036) = 5.44%

Debt Ratio (based upon comparable firms) = 23.67%

Cost of Capital (based upon comparable firms) = 13.275% (0.7633) + 5.44% (0.2367) = 11.42%

The value of the division, using this cost of capital and an expected growth rate of 5%, were estimated as follows:

Value of Food Products Division = \$ 875 / (.1142 - .05) = \$13.629 billion

Example 2: FCFE

Earnings per Share = 154.53

Capital Expenditures per share = 421

Depreciation per share = 285

Change in Working Capital / Share = None

Debt Financing Ratio = 50%

Earnings, Capital Expenditures and Depreciation are all expected to grow 10% a year

The beta for the stock is 0.90, and the Spanish long bond rate is 9.50%. A premium of 6.50% is used for the Spanish market.

Valuation

Cost of Equity = 9.50% + 0.90 (6.50%) = 15.35%

Expected Growth Rate = 10.00%

Base Year FCFE

Earnings per Share = 154.53

- (Capital Expenditures - Depreciation) (1 - Debt Ratio) = (421-285)(1-.5) = - 68.00

- (Change in Working Capital) (1 - Debt Ratio) = 0 (1-.5) = - 0.00

= FCFE = 86.53; Value per Share = 86.53 (1.10) / (.1535 - .10) = 1779

EQUITY VALUATIONS 3

VALUATION RATIOS (Source: Fidelity)

Relative valuation: A relative valuation model is a business valuation method that compares a company's value to that of its competitors or industry peers to assess the firm's financial worth.

1. Price-to-earning

Price-to-earnings ratio (P/E) looks at the relationship between a company's stock price and its earnings. The P/E ratio gives investors an idea of what the market is willing to pay for the company's earnings. The ratio is determined by dividing a company's current share price by its earnings per share. For example, if a company is currently trading at \$25 a share and its earnings over the last 12 months are \$1.35 per share, the P/E ratio

for the stock would be 18.5 ($\$25/\1.35). As the P/E goes up, it shows that current investor sentiment is favorable. A dropping P/E is an indication that the company is out of favor with investors.

2. Price-to-book value

Price-to-book value (P/B) is a measurement that looks at the value the market places on the book value of the company. It is calculated by taking the current price per share and dividing by the book value per share. The book value of a company is the difference between the balance sheet assets and balance sheet liabilities. It is an estimation of the value of the company if it were to be liquidated. For example, a company with a share price of \$60 and a book value of \$65 per share would have a P/B ratio of 0.9. A ratio over 1 generally implies that the market is willing to pay more than the equity per share, while a ratio under 1 implies that the market is willing to pay less.

3. Price-to-sales

The price-to-sales ratio (P/S) shows how much the market values every dollar of the company's sales. To calculate it, take the company's market capitalization and divide it by the company's total sales over the past 12 months. A company's market cap is the number of shares issued multiplied by the share price. The P/S ratio can be used in place of the P/E ratio in situations where the company has a net loss. One of the advantages of using the P/S ratio is that sales are much harder to manipulate than earnings. Since a company's sales are generally more stable than its earnings level, any large changes in the P/S ratio are often more likely to indicate a departure from the intrinsic value of the company (either up or down).

4. Price-to-cash flow

Price-to-cash flow ratio (P/CF) evaluates the price of a company's stock relative to how much cash flow the company generates. It is calculated by dividing the company's market cap by its operating cash flow in the most recent 12 months. It can also be calculated by dividing the per-share stock price by the per-share operating cash flow. P/CF ratio is an alternative method to P/E ratio. Many investors prefer to use a P/CF metric because it is considered harder to manipulate cash tallies than it would be to massage earnings reports under generally accepted accounting principles, which could make the cash-based benchmark a more reliable indicator.

Price/earnings-to-growth (PEG)

Price/earnings-to-growth ratio is the relationship between the P/E ratio and the projected earnings growth of a company. It is calculated by dividing the P/E ratio by the earnings-per-share growth. For example, if a company's P/E ratio is 16.5 and its earnings-per-share growth over the next 3 years is expected to be 10.8%, its PEG ratio would be 1.5. A PEG of 1 or less is typically taken to indicate that the company is undervalued. A PEG of more than 1 is typically taken to indicate that the company is overvalued. To get a clearer picture of

value, the PEG of the company should also be compared with the PEG of the market and with the industry that the company competes in.

Other methods of Relative valuation

EV (Enterprise value)

Enterprise value (EV) is a measure of a company's total value, often used as a more comprehensive alternative to equity market capitalization. EV includes in its calculation the market capitalization of a company but also short-term and long-term debt as well as any cash on the company's balance sheet. Enterprise value is a popular metric used to value a company for a potential takeover.

$$EV = MC + Total\ Debt - C$$

where:

MC = Market capitalization; equal to the current stock price multiplied by the number of outstanding stock shares

Total debt = Equal to the sum of short-term and long-term debt

C = Cash and cash equivalents; the liquid assets of a company, but may not include marketable securities

EBITDA = recurring earnings from continuing operations + interest + taxes + depreciation + amortization

ECONOMIC ANALYSIS 1

Researchers have found that stock price changes can be attributed to the following factors:

- Economy-wide factors : 30-35 percent
- Industry factors : 15-20 percent
- Company factors : 30-35 percent
- Other factors : 15-25 percent

Based on the above evidence, a commonly advocated procedure of fundamental analysis involves a three-step examination, which calls for:

1. Understanding of the macro-economic environment and developments

2. Analysing the prospects of the industry to which the firm belongs
3. Assessing the projected performance of the company.

While monitoring the global economy bear in mind the following:

1. Although the economies of most countries are linked, economic performance varies widely across countries at any time.
2. From time to time countries may experience turmoil due to a complex interplay between political and economic factors.
3. The exchange rate is a key factor affecting the international competitiveness of a country's industries.

Important elements to consider in Global Economic Scene

1. Changing Global Economic Order
2. A Strange Global Equilibrium
3. Global Financial Crisis
4. European Sovereign Debt Crisis
5. Need for Multi-Polar Reserve Currency
6. China vs. India

Macroeconomic Analysis

The government employs two broad classes of macroeconomic policies, viz. Demand side policies and supply side policies. Traditionally, the focus was mostly on fiscal and monetary policies, the two major tools of demand-side economics. From 1980s onward, however, supply-side economics has received a lot of attention.

Fiscal Policy

Fiscal policy is concerned with the spending and tax initiatives of the government. It is the most direct tool to stimulate or dampen the economy. An increase in government spending stimulates the demand for goods and services, whereas a decrease deflates the demand for goods and services.

By the same token, a decrease in tax rates increases the consumption of goods and services and an increase in tax rates decreases the consumption of goods and services.

Monetary Policy

Monetary policy is concerned with the manipulation of money supply in the economy. Monetary policy affects the economy mainly through its impact on interest rates.

The main tools of monetary policy are:

1. Open market operation
2. Bank rate
3. Reserve requirements
4. Direct credit controls

ECONOMIC ANALYSIS 2

Supply Side Policies

Demand side policies assume that the economy on its own is not likely to reach full employment equilibrium and, hence, macroeconomic policy intervention is required to achieve that goal. Supply side policies, on the other hand, focus on creating an environment in which the productive potential of the economy is increased.

Supply side economists pay attention to tax policy from a different angle. While the demand-siders focus on the impact of taxes on consumption demand, supply-siders look at the effect of taxes on incentives to work and invest. They believe that lower tax rates encourage investment and strengthen incentives to work, thereby stimulating economic growth. Some even argue that reduction in tax rates eventually leads to increase in tax revenues because the higher level of economic activity and tax base, induced by tax reduction, more than offsets the lower tax rate.

Variables to Describe the State of the Macroeconomy

The macroeconomy is the overall economic environment in which all firms operate. The key variables commonly used to describe the state of the macroeconomy are:

1. Growth rate of gross domestic product
2. Industrial growth rate

3. Agriculture and monsoons
4. Savings and investments
5. Government budget and deficit
6. Price level and inflation
7. Interest rates
8. Balance of payment, forex reserves, and exchange rate
9. Foreign investment
10. Infrastructural facilities and arrangements
11. Sentiments

Sensitivity to the Business Cycle

Industries vary in their sensitivity to the business cycle. For example, the automobile industry is more responsive to the business cycle. During expansionary periods, the demand for automobiles tends to rise sharply and during recessionary periods the demand for automobiles tends to fall sharply.

By contrast, the cigarette industry is more or less independent of the business cycle. The demand for cigarettes is hardly affected by the state of the macroeconomy. This is not surprising because cigarette consumption is largely a matter of habit and hence is not responsive to the business cycle.

The sensitivity of a firm's earnings to the business cycle is determined by three factors: the sensitivity of the firm's sales to business conditions, the operating leverage, and the financial leverage.

PESTLE FRAMEWORK



INDUSTRY ANALYSIS 1

Defining a sector

The term sector is often used to refer to a group of related industries. The healthcare sector, for example, consists of a number of related industries, including pharmaceutical, biotechnology, medical device, medical supply, hospital and managed care industries. These classification schemes typically place a company in an industry on the basis of a determination of its principal business activity. A company's major business activity is the source from which the company derives a majority of its revenues and/ or earnings.

For example, companies that derive a majority of their revenues from the sale of pharmaceuticals include Cipla, Pfizer, Dr Reddy's Lab, Lupin, Aurobindo Pharma, Glaxo SmithKline, etc., all of which could be grouped together as part of the global pharmaceutical industry. Companies that engage in more than one significant business activity usually report the revenues of the different business segments in their financial statements.

Different industries have got different risk-return characteristics during a particular time period. The stages of the industries can also be different. Some might be mature while some industries might be at a nascent stage of development. In a particular industry also,

different companies vary in their performance and stage of development. Hence for the analyst it might be opportune to make buy or sell recommendation based on industry.

Industry Analysis Process

The first thing one has to find out is the industry classification. Because of continuous development in product and process technologies, innovation and technological changes, the structure of different industries change from time to time. Hence it is difficult to categorize the economy into different industries for all the time at once. This keeps changing, if not frequently. There are different ways in which industry classification is done. One such way is two digit/ three digit standard industry codes (SIC). The examples of such codes are as below:

SIC Code	Name of the industry	SIC Code	Name of the industry
01	AGRICULTURAL PRODUCTION-CROPS	29	PETROLEUM AND COAL PRODUCTS
011	Cash Grains	291	Petroleum Refining
013	Field Crops, Except Cash Grains	295	Asphalt Paving and Roofing Materials
016	Vegetables and Melons	299	Misc. Petroleum and Coal Products
017	Fruits and Tree Nuts	49	ELECTRIC, GAS, AND SANITARY SERVICES
018	Horticultural Specialties	491	Electric Services
019	General Farms, Primarily Crop	492	Gas Production And Distribution
		493	Combination Electric And Gas, And Other Utility

Source: <http://exim.indiamart.com/sic-codes/>

Figure 1: Sample 2 digit and 3 digit SIC codes

INDUSTRY ANALYSIS 2

The business cycle and industrial sectors: Business cycle denotes the ups and downs in the economy. Industry performance is related to these movements in the economy. However all the industries do not move in tandem with the economy – where lies the challenge for the analyst to choose an industry for investment. The investors should be prudent to switch from one industry to another at opportune time. This is known as

industry or sector rotation. Investors should be able to identify the industry that is likely to do better than others in a particular stage of the business cycle. This can be done by monitoring relevant economic trends and industry characteristics.

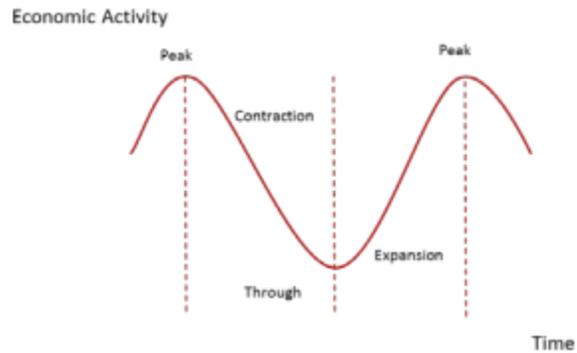


Figure 1: Business Cycle

Study of the Structure and Characteristics of an Industry

1. **Structure of the industry and nature of competition**
2. **Nature and prospects of demand**
3. **Cost, efficiency, and profitability**
4. **Technology and research**

1. Industry life cycle analysis

- Pioneering stage
- Rapid growth stage
- Maturity & stabilizing stage
- Decline stage

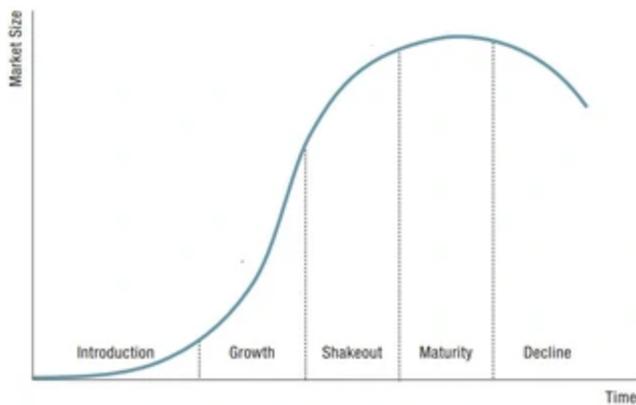


Figure 2: Industry Life cycle

2. Profit potential of industries - Forces driving competition porter model

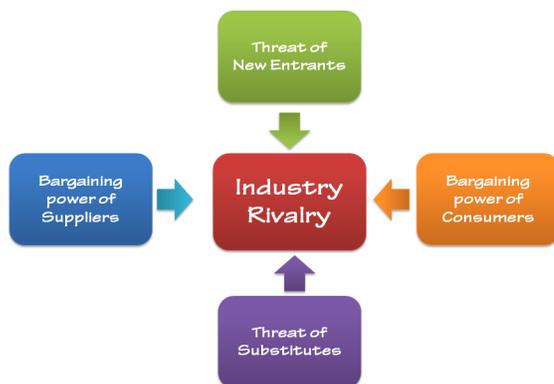


Figure 3: Porter's 5 forces Model

Michael Porter propounded the concept of five forces analysis, which is an integral part of any industry analysis. Under this model, one needs to study the competitive scenario of a company using five parameters to see the competitive landscape. The five forces are (i) barriers to entry (ii) supplier power (iii) threat of substitutes (iv) buyer power and (v) degree of rivalry. All these forces are extensively used while analysing any industry. An industry analysis is not only just about studying the particular industry on a micro level; it is important to incorporate factors that are influencing the industry at the macro level. The macro-level factors include recent industrial developments, innovation in the industry, legal and regulatory frame work, etc.

INDUSTRY ANALYSIS 3

Importance of Industry Analysis

Among other things, the following issues are addressed by industry analysis, thus making it one of the essential tools of security analysis.

- 1. Difference in returns for alternative industries during a specific period of time**
- 2. Relationship between the market and an individual industry**
- 3. Difference in risks for alternative industries**
- 4. How consistent are industry returns over time?**
- 5. How sensitive a particular industry is to changes in business cycle?**

Sector Rotation

As a part of sector rotation, portfolio is adjusted by selecting companies that should perform well for the stage of the business cycle. For example, during peaks – it will be better to invest in natural resource extraction firms and move to defensive industries such as pharmaceuticals and food in the period of contraction. Similarly it may be appropriate to invest in capital goods industries during ‘trough’ and cyclical industries such as consumer durables during expansion phase.

Best performing sectors in each phase of the business cycle				
Sector	Early	Mid	Late	Recession
Financials	+			
Real Estate*	++			--
Consumer Discretionary	++		--	
Information Technology	++	+	--	--
Industrials	++	+		--
Materials		--	++	-
Consumer Staples	-		+	++
Health Care	-		++	++
Energy	--		++	
Communication Services	--			++
Utilities	--	-	+	++

Figure 1: Source: Fidelity Investments

