CHAPTER 3

THE THEORETICAL BACKGROUND

After providing an introduction to the study, it is proposed to discuss the Theoretical Background of exchange rate determination and pricing of equities.

3.1 The Exchange Rate

*Exchange rate is the price of a unit of one country’s currency expressed in terms of the currency of some other country.* Like all prices, when flexible, the exchange rate is expected to keep a country’s Balance of Payments in equilibrium with the rest of the world. The exchange rate is therefore believed to be sensitive to all of the influences that typically affect trade and investment decisions, especially expectations about future asset prices. These expectations can dominate in the short term and can change quickly in response to such things as changing news about the economy, changing status for the current account, changing perceptions about policy or even to political events.

The volatility, which can be caused by sudden changes in these expectations, are reflected in the behaviour of market players, who often exhibit herd-like behaviour and adopt trading strategies, which tend to be destabilising. Movements in exchange rate can be driven by market psychology to levels that are
difficult to explain in terms of underlying economic conditions. Any prolonged significant departure of the exchange rate from its equilibrium level can, in turn, produce imbalances in the domestic economy as well as on the external accounts.

There are essentially two sorts of transactions India has with the rest of the world: *viz.* those recorded in the current account - imports, exports and income flows - and those recorded in the capital account - essentially financial flows. Capital flows involve banking transactions, transactions by foreigners in Indian securities - such as shares or government bonds - or overseas borrowings by an Indian company. Some investors have an underlying need to buy or sell Indian assets whereas others are speculators.

### 3.1.1 The Exchange Rate Determinants.

There is no general theory of exchange rate determination. An important premise which has formed the basis for the various approaches to exchange rate determination is the international parity relationships in terms of the Purchasing Power Parity (PPP) and the Interest Rate Parity (IRP). The PPP theory states that exchange rate between currencies of two countries should be equal to the ratio of the countries’ price levels (based on the law of one price$^1$) where as the IRP is an arbitrage condition that must hold when international financial markets are in equilibrium. Some models have been developed over the past few decades which

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$^1$ The law of one price prevails when the same or equivalent things are trading at the same price across different locations of markets
attempt to explain the long range exchange rate and the behavioral aspects of a
country's exchange rate in the long and short run. These include, the purchasing
power parity models, the flexible-price and the sticky-price monetary model, the
random walk model the portfolio balance model, and balance-of-payments structural
model etc.

3.1.1.1 Purchasing Power Parity (PPP) Model

Under this the exchange rate is determined by the relative price levels of the
two countries. When purchasing power parity holds, particular goods and services
cost the same amount in the domestic country as they do in the foreign country.

Purchasing power parity theory states that nominal (spot) exchange rate
(NER) will rise as the domestic price index rises relative to the foreign price index.
This in effect causes the domestic currency to depreciate. This relationship is
expressed as

\[
NER = \frac{P}{P^*}
\]

Where, \( P \) denote the domestic price index and \( P^* \) foreign wholesale price
index respectively.

There is an extensive literature that documents that purchasing power parity doesn’t
hold except perhaps in the very long run.
3.1.1.2 Modified PPP Model

The PPP model in the short run may be modified by including variables other than prices. These variables may include interest rates, investment rates, terms of trade, fiscal deficits, and foreign capital inflows, etc.

3.1.1.3 The Monetary Models.

The monetary models consider the supply and demand for currencies to be determined by stock equilibrium in the money market. If the money supply in the home country rises, but nothing else changes, the average level of prices will tend to rise. Since the price level in the foreign country remains fixed, more units of home currency will be needed to get one unit of foreign currency thus resulting in the depreciation of the home currency. The monetary models are founded on PPP and can be considered as long run theory and not a short run theory of exchange rate determination as it assumes that prices of many commodities and services are fixed over a certain period of time. Although the monetary model had some early success, economists have established that the model fails empirically except perhaps in unusual periods such as hyperinflations.
3.1.1.4 The Flexible-Price Monetary Model

This version of the monetary model states that exchange rate is determined by the economic fundamentals like relative money supply, relative velocities of money supply and the relative national outputs of the two countries. The flexible-price version of monetary model assumes that PPP principle holds continuously, implying that it is valid in the short-run and in the long-run as well.

3.1.1.5 The Sticky-Price Monetary Model.

In the sticky-price version, the prices are assumed ‘sticky’- moving very slowly compared with the movement of the exchange rate - in the short run but flexible in the long run. Hence, the equilibrium value of the exchange rate is provided in the long run. But in the short run the exchange rate may deviate from the long-run equilibrium value and the expected change in the exchange rate depends on the deviation of the current rate from the long-run equilibrium rate.

In a freely-floating exchange rate system, if the domestic money supply increases, the price of domestic money will fall which will lead to a fall in the domestic interest rates and exchange rate would depreciate. This would in turn raise the demand for money until monetary equilibrium is reached.

3.1.1.6 The Overshooting Model\(^2\)

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\(^2\) Rudiger Dornbusch's, "Expectations and Exchange Rate Dynamics" Journal of Political Economy, in 1976
Dornbusch (1976) developed a monetary model by relaxing the assumption of short run PPP. This model assumes that, in the short run the exchange rate can overshoot its long-run value as a result of a change in the fundamentals; but eventually, however, the exchange rate returns to its long-run value.

### 3.1.1.7 Random Walk Models

The random walk hypothesis\(^3\) suggests that the exchange rate follows a random walk with little or no drift. This implies that the exchange rate is unpredictable and the best predictor of tomorrow’s exchange rate is today’s exchange rate itself. This is founded on the Efficient Market Hypothesis\(^4\). Although not completely supported by empirical evidence, it is generally found that exchange rates are non-stationary following a random walk under a system of fully-floating exchange rate and normal inflationary conditions\(^5\).

### 3.1.1.8 Portfolio Balance Model

According to the Portfolio Balance Model, exchange rate is determined by trade and capital flows as recorded on the balance of payments\(^6\). In this model, the exchange rate is determined by the forces of demand for and supply of foreign currency. Supply and demand are determined by several important factors as growth of relative income levels, relative price levels, interest rate differential, foreign

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3 Engel and West (2005)
6 (Sebastian Edwards 1994)
exchange reserves, current account balances, and net flow of foreign capital etc. in the host country. The portfolio balance model assumes that the ratio of domestic assets to foreign assets is determined by their relative returns defined as the sum of interest rate differential and the expected change in the exchange rate. In an economy, given the relative rates of return and the degree of substitutability between domestic and foreign assets, market agents strive to achieve a portfolio balance.

3.1.2 The Exchange Rate And Economic Fundamentals

From the foregoing discussion on the models for determining the exchange rate, it follows that there is an underlying belief that exchange rates are affected by fundamental economic forces, such as money supplies, trade balances and fiscal deficits, interest rates, real output levels, official monetary reserves, the exchange rate regime (fixed, floating or flexible), the strength of the banking and security market infrastructure, forward exchange rate, interest arbitrage led by heavy capital flows, cross border investments and portfolio investment, degree of openness of the economy and political risk, capital controls, exchange rate spreads, risk premium on securities and FDI etc.

Thus, exchange rate\(^7\) is dependent on both endogenous and exogenous factors. However, much emphasis and empirical research evolves around the monetary model. Typically most analysts justify their exchange-rate predictions by

\(^7\) (K. Marwah 1985, Michael Debabrata and Sitikantha Pattanaik 1998)
resorting to some variant of the monetary model. This model is popular because it provides intuitive relationships between the economic fundamentals and is based on standard macroeconomic reasoning on the relative price levels, the demand and supply of money, the level of real output in each country, the relative inflation rate which impact on its price competitiveness than on its trading partners.

3.1.3 The Rationale Of Expectations Theory

Outside the academia economists have found that exchange rates do not seem to be affected by economic fundamentals in the short run\(^8\). When the fundamentals are combined with market expectations of future exchange rates, the model yields the value of the current exchange rate. Future economic fundamentals also matter because they determine the market's expectations about the future exchange rate. If the market expects the rupee price of dollar to become higher in the future than it is today, the dollar will tend to be high today against the rupee. But if the market expects the price to be lower in the future than it is today, the price of the dollar will tend to be low today. Although largely associated with the free market, the rational expectations revolution has been far more wide reaching. In a world of fast-clearing asset markets and slow-clearing goods markets, exchange rate overshooting might be a rational response to monetary shocks.

Two of the most famous rational expectations economists, Robert Lucas and Tom Sargent who have made extensive studies and developed sophisticated

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\(^8\) (Gregory P. Hopper READING 8 Federal Reserve Bank of Philadelphia Business Review, September/October 1997, 17-29.).
models, have gone beyond the simple context of the new classical world of Perfect Markets with instant market clearing and have considered the role of rational expectations when markets are distorted.

According to the George Shackle (1958), each individual constructs in his imagination different scenarios or possible outcomes following on the different actions he is contemplating. Shackle, therefore, regards economic decisions as entirely subjective and not predictable. However, econometric models assert that economic behaviour is predictable and regular. The key stone of econometrics is the implicit assertion that in the mass, individual decisions exhibit regularity even though each individual decision will be quite unpredictable. Individuals when aggregated in a large sample will behave like many typical individuals, to a certain extent supported by central limit theorem, i.e large samples tends to follow normal distribution.

3.1.4 Fixed and Floating Exchange Rates.

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9 Stanley Black’s 1973 Princeton International Finance Discussion Paper appears to have been the first international finance paper to incorporate rational expectations. Dornbusch (1976) was the first paper in international finance to marry sticky prices with rational expectations.

10 Liverpool university economist
Exchange rates may be fixed or flexible. An exchange rate is said to be ‘fixed’ when two countries agree to maintain a fixed rate through the use of monetary policy and the par value is regulated and managed by the government. If the government does not at all interfere in the valuation of the currency, the exchange rate is flexible and it said to be floating. An exchange rate is flexible, or "floating," when two countries agree to let international market forces determine the rate through supply and demand. The rate will fluctuate with a country's exports and imports. Most world trade currently takes place with flexible exchange rates that fluctuate within relatively fixed limits.

A country’s choice as to which currency regime should it follow reflects the national priorities about all facets of the macro economy, including inflation, unemployment, interest rate levels, trade balances and economic growth. Most economies have come through the evolutionary process before reaching a free floating exchange rate regime.

3.1.5 Exchange Rate Regimes
Various types of exchange rate regimes from a totally fixed to free floating exchange rate are prevalent across the world which can be classified\textsuperscript{11} under the following headings.

3.1.5.1 **Exchange Rate Arrangements With No Separate Legal Tender:** The currency of another country circulates as the sole legal tender or the country belongs to a monetary or currency union, like the European Union, in which the same legal tender is shared by the members.

3.1.5.2 **Fixed Exchange Rate:** The country pegs its currency formally or *de facto* at a fixed rate to a major currency or a basket of currencies, where the exchange rate fluctuates within a narrow margin of at most +/- 1 percent around the central rate. The monetary authority ensures fixed parity through intervention.

\textsuperscript{11} IMF Classification – *International Financial statistics August 2002*
3.1.5.3 Currency Board Arrangements: The monetary regime based on an explicit legislative commitment to exchange domestic currency for a specified foreign currency at a fixed exchange rate, combined with restrictions on the issuing authority to ensure fulfillment of its legal obligation.

3.1.5.4 Pegged Exchange Rate Within Horizontal Bands: The value of the currency is maintained within margins of fluctuations around a formal or de facto fixed rate that are wider than +/- one percent around a central rate.

3.1.5.5 Crawling Peg And Crawling Band: The currency is adjusted periodically in small amounts at a fixed pre-announced rate allowing the parity, (and therefore the band), to crawl in response to selective quantitative indicators. The degree of flexibility dependent on the width of the band and the commitment to maintain the exchange rate within the band imposes constraints on the monetary policy.

3.1.5.6 Managed Floating: The monetary authorities influence the movements of exchange rate through active intervention in the foreign exchange market with out specifying or pre-committing to, a pre announced path of exchange rate. They announce no parity or band, but they typically worry if the rate depreciates a lot, and they intervene, or change interest rates, or sometimes seek to influence the flow of capital, with a view to having an impact on the exchange rate. They may also worry about the exchange rate appreciating so much as to threaten the country's trade competitiveness. This has become quite a common regime in recent years and is followed in India.
3.1.5.7 **Free (Independent) Floating:** A regime of free floating is one in which the exchange rates are market determined. The currency is allowed to float independently without any regulation or intervention and allows free capital flow. The authorities trust the market to manage the exchange rate.

Many economies have come through the evolutionary process from a rigidly fixed exchange rate regime and reached a free floating one. A country’s choice as to which currency regime should it follow reflects the national priorities about all facets of the macro economy, including inflation, unemployment, interest rate levels, trade balances and economic growth. Moreover economists strongly believe in the “impossible trinity”\(^\text{12}\) viz. a country simultaneously cannot have i) a fixed exchange rate ii) free international flow of capital and iii) independent monetary policy. While Milton Friedman advocated monetary rules and floating exchange rate, Robert A. Mundell, the supply-side economist who could predict way back in 1960 - with prophetic accuracy - the future development of international monetary arrangements and capital markets including the emergence of common currency zones, is a fan of the fixed exchange rate.

India has followed the philosophy of preferring the middle-path through a calibrated move to convertibility. This philosophy has done reasonably well in

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managing the economic liberalisation since 1991 in which balancing has been the crux. The Indian experience highlights the need for allowing greater flexibility in exchange rates with the authorities having the capacity to intervene in foreign exchange markets with a view to curb rampant volatility. Distinguishing volatility from flexibility is the essential key in the management of the exchange rate and monetary policy in developing countries. “Rather than becoming a prisoner of ideology, preference is given for pragmatism and certain amount of resilience to the process of change in a complex, uncertain and dynamic setting” (Y V Reddy). According to him, certain stylized aspects of foreign exchange market behaviour need to be kept in mind while dealing with monetary and exchange rate management from a medium term perspective. First, the day-to-day exchange rate movements in the short-run in foreign exchange markets have little to do with the so-called fundamentals or a country’s capacity to meet its payments obligations, including debt service. Second, in view of inter-bank activity, which sets the pace in foreign exchange markets, transaction volumes in gross terms are several times higher, and more variable, than net flows. Third, developing countries generally have smaller and localised foreign exchange markets where nominal domestic currency values were generally expected to show a depreciating trend, particularly if relative inflation rates were higher than those of major industrial countries. In this situation, there is a greater tendency among market participants to hold long positions in foreign currencies and adverse and currencies are depreciating, than the other way round when currencies are appreciating and expectations are favourable. In recent years, exchange rate trends have been more mixed despite the existence of
inflation differentials. Fourth, the tendency of importers/exporters and other end-users to look at exchange rate movements as a source of return without adopting appropriate risk management strategies, at times, creates uneven supply-demand conditions, often based on ‘news and views’. “A self-sustaining triangle of supply-demand mismatch, increased inter-bank activity to take advantage of it and accentuated volatility triggered by negative sentiments, not in tune with fundamentals can be set in motion, requiring quick intervention/response by authorities”(Reddy)\(^\text{13}\).

India’s exchange rate policy of focusing on managing volatility with no fixed rate target while allowing the underlying demand and supply conditions to determine the exchange rate movements over a period in an orderly way has stood the test of time.

### 3.2 Equity Pricing Theories and Valuation Methods

A share or stock is the concrete representation of ownership in a publicly traded company and stands for a share in the company's revenues, earnings, cash flows and shareholder’s equity.

Investing in shares, like all economic activity assumes rational decisions. A rational investor follows the basic rules of investing ‘Buy low. Sell high’ and generally takes informed decisions. It is assumed that the investor has access to information and

\(^{13}\)Speech by Y.V Reddy(2006) Governor (RBI)
that all material information that can have a bearing on stock prices is made public through widely available means. The decision to buy, sell or hold a stock depends on the ‘view’ on the stock price. ‘View’ is the investor’s notion about the traded price, whether it is more or less than what it should have been or going to be. The theory of investing essentially deals with how to form this view. In the cornerstone of this theory lies the relationship between the risk – return profile of the stock and the investors’ appetite for taking risk. Risk and return are closely related. Risk is all about uncertainty of the return, and investing in equity goes hand-in-glove with risk taking.

Share prices are governed by investor’s expectations of a company’s future performance that forms the basis for returns and risk is the uncertainty associated with the future returns. Risk is not uniform and therefore, all stocks are not equally risky and the risk associated with a particular stock will vary over time. These two aspects of risk form the important basis for the theoretical framework of investing in stocks. In a scenario driven by market forces the price of a share, theoretically, should reflect the trade-off between risk and return. A rational investor formulates expectations about both the risk and return before investing. The more informed he is, the more logical will be his ‘view’ on the price of the share as well. How to find the right price in the churning, swirling market is a matter of intellectual fortitude and depends on the informational efficiency of the market.
3.2.1 The Efficient Market Hypothesis (EMH)

In the capital market, if asset prices adjust rapidly to new information it is referred to as an efficient market. The Efficient Market Hypothesis relies on the efficient use of information by investors. Fama\textsuperscript{14} defined three forms of market efficiency viz. weak, semi-strong and strong according to the speed of response of the stock-price information. Each one is concerned with the adjustment of stock prices to a relevant information subset. The weak form of the efficient market hypothesis states that prices efficiently reflect all information contained in the past series of stock prices. In this case, simply by looking at historical prices, past price patterns, price changes, trading volumes, etc it is impossible to earn superior returns. The weak form of efficiency forms the foundation for random walk theory\textsuperscript{15} according to which news arrives randomly and because markets are efficient, security prices while adjusting to the news follow a random walk. In the semi-strong efficient hypothesis, it is assumed that all publicly available information are already reflected in the stock prices. In this case it is not possible for a market participant to make abnormal profits by increasing the information set to include publicly available information like, information on

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\begin{itemize}
  \item Fama (1970) Subsequently Fama 1991) changed the categories and coverage of informational efficiency.- the first category now covers the more general areas of tests for return predictability, including forecasting returns with variables like dividend yields and interest rates. Further seasonalities in returns and volatility of security prices are to be considered under the rubric of return predictability. He further continues that semi-strong tests now be called event studies and strong form tests be called tests for private information. Fama (1998) suggests that apparent anomalies require new behavioural based theories of the stock market and the need continue the search for better models of asset pricing.
\end{itemize}
money supply, exchange rate, interest rates, announcement of dividends, annual earnings, stock splits, etc. In the current market scenario, the on-line trading and almost real time data on returns are a major boost for the accuracy and efficiency of the market. By increasing the information set to include private information, if it is not possible for a market participant to make abnormal profits, then the market is said to be strongly efficient. Under the strong form, the consideration is whether only some investors have access to information affecting stock prices. A precondition for the strong version is that information and trading costs are always zero. While operating in the stock market where information has a cost, it is difficult for markets to be informationally efficient. The extreme version of the market efficiency hypothesis is very unlikely to hold good since there are positive trading and information costs. Jensen (1978) pointed out that despite earlier evidence on the randomness of stock price changes there are pieces of evidence for anomalous price behaviour where certain series appeared to follow predictable paths. According to Efficient Market Hypothesis (EMH) only changes in fundamental factors like profits, dividends, etc. ought to affect the price of the share.

3.2.2 How to determine the right price?

Determining the right price is an unduly difficult task. Fundamentally for the prices to be right, it should reflect the value for money. Value seeking investors

16 Grossman and Stiglitz 1980
would look for the worth or the intrinsic value of a share based on its fundamentals. There are investors in financial market who argue that market prices are determined by perceptions of buyers and sellers. Perception matters, but it is not everything. Share prices cannot be justified by merely using the ‘bigger fool’ theory. Without any assessment of fundamental value, one is set adrift in a sea of random short-term price movements and gut feelings.

### 3.2.3 Valuation Methods

Valuation is an objective search for ‘True’ value and is never precise. A good valuation provides the estimate of the close to the true value. Various approaches to valuation are already recognized in the theory of equity valuation. The methods for valuation can be summarized under the following categories.

- **Discounted Cash flow valuation,**
- **Relative valuation**

#### 3.2.3.1 Discounted Cash Flow (DCF) valuation

According to this method, the value of an asset is the present value of the expected future cash flows from that asset. It is based on the philosophy that every asset has an intrinsic value that can be estimated based on the cash flow
characteristics, the growth and risk involved. The cash flows are estimated based on the fundamentals of the company and its business characteristics and the model used takes the generic form.

\[ P = \sum_{t=1}^{n} \frac{CF_t}{(1+k)^t} + \frac{P_n}{(1+k)^n} \]

The cash flows (CF\(_t\)) represent the stream of dividends during the life of the asset (Holding period) and P\(_n\) is the price of the share at the end of the holding period and k is the capitalization rate used for discounting the stream of cash flows; a factor reflective of the required rate of return.

Depending on the time horizon involved, this method can assume various forms viz.

- Dividend Capitalisation model
- Earnings Capitalisation model
- Dividend growth model\(^{17}\)

3.2.3.1.1 Cash Flow-Based Firm Value and Deriving The Equity Value.

Cash flow is literally the cash that flows through a company during the course of a period or the year (as is relevant) after taking out all fixed expenses. Cash flow is normally measured as Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) or as Free Cash Flow to the Firm estimated as FCFF equal

\(^{17}\) Gordon’s dividend growth formula \( V = \frac{D_i}{r - g} \) Where Di is the expected dividend, r the discounting rate and g the growth rate
to EBIT + Depreciation and other non-cash items, adjusted for Tax, investment in working capital and capital expenditure. The value of the firm is computed as the discounted present value (PV) of the cash flows. The value of the equity is arrived at by deducting value of external claims of the company and the value per share of equity is then derived. Despite the fact that most individual investors are completely ignorant of cash flow, it is probably the most common measurement, for valuing public and private companies used by investment bankers.

3.2.3.2 Relative Valuation

It is built on the assumption that markets are correct in the aggregate and there are a large number of assets which are comparable to the one being valued and there exists some common variable that can be used as a multiple or relative to standardize the price. The most commonly used multiples are Price- Earnings (P/E) Ratio, Price to Cash Flow multiple, Price to Sales ratio (PSR), Price to Book Value Ratio and Replacement Value.

3.2.3.2.1 Price/Earnings multiple - P/E Ratio (PER)

Price/Earnings Ratio (PER) is a commonly used price relative for equity valuation. P/E Ratio is calculated as Market Price of Equity Share divided by Earning per Share. It can be based on either past data in which case it is referred to as trailing P/E or on estimated earnings in which case it is referred to as leading P/E. This is then compared with that of similar companies or with average in the industry and/or the
company’s own historical P/E, to assess its sustainability and used as a price relative in arriving at a fair value of the share.

\[
P = \text{EPS} \times \text{P/E multiple},
\]

where EPS is Earnings Per Share (EPS) which is arrived at by dividing the amount of the net earnings (PAT) of a company by the number of shares currently outstanding.

There is a large population of individual investors who are quite dependent on just the P/E and their investment is on the low P/E Stock. Also called a "multiple", the P/E can be used in comparison with the current rate of growth in earnings per share P-E-G. For a growth company, in a fairly valued situation the price/earnings ratio is about equal to the rate of growth in EPS or the P-E-G, is one.

3.2.3.2.2 Price to Cash Flow Multiple - P/CF Ratio.

P/CF ratio is similar to PER and is calculated using Cash Flow as the base instead of EPS. Typically, Cash Flow is measured as operating cash flow, Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA), or as free cash flow.

3.2.3.2.3 Price to Sales Ratio (PSR)

PSR is a revenue based valuation method. The Price/Sales ratio takes the market capitalization\(^{18}\) of a company and divides it by revenues (usually last 12 months’ trailing). The market capitalization is the current market value of a company, arrived at by multiplying the current share price times the shares

\(^{18}\) Market Capitalization = (Shares Outstanding * Current Share Price)
outstanding. This approach is more suitable for investments for short time horizons.

3.2.3.2.4 Price to Book - Value ratio (P/BV) value

Price to Book - Value ratio is mostly used by investors to compare the price they pay and the book value of the equity to assess how overvalued or undervalued the stock is compared to the value arrived by the accounting rules. The accounting value is heavily influenced by the original price paid for the asset and any accounting adjustment made thereafter. This method may not augur well for such companies which are built more on their intangibles than fixed assets.

3.2.3.2.5 Price to Replacement Value

Price to Replacement Value is a betterment over the Book value measure and takes into account the replacement value of the asset. It is popularly known as Q ratio developed by James Tobin.

There are several other indicators which are increasingly getting into price relative matrix like customer base driven, along with conventional financial parameters like Dividend yield, Return on Equity (ROE), Asset turnover etc. which form part and parcel of fundamental valuation.

3.2.3.3 Economic Value Added (EVA) is another sophisticated modification of cash flow that looks at the cost of capital and the incremental return above that cost as a way
of separating businesses that truly generate cash from ones that just eat it up. EVA is also evolving as a method for assessing the value of the company and its share price.

Most theories of rational investing concentrate on, investing on a long term basis. The essence of wise investment is in the art of matching price with value. It is useful to combine these with historical data and trends and shifts in focus and identify growth potential. All-though the above theories lead to identify the value of stocks, their worthiness to the investor will depend on at what price they can be acquired which is largely a function of return and risk. In an ideal world this would expect every investor to be guided the risk- return tangle which forms the corner stone of portfolio theory where various pricing models are already developed viz. Capital Asset Pricing Model(CAPM), Arbitrage Pricing Models(APT), The Markowitz Model etc. Investment science is abound with security analysis and portfolio management theories and techniques of which the one that has attracted the attention of investment analysts along with fundamental analysis is the technical analysis and charting techniques. Proponents of Technical Analysis believe in studying the behaviour of other investors and watching the price movements rather than relying on company’s future performance. Many often the charts are taken as effective tools in explaining the behavior of the stock price and expectations of the investor.

3.2.3.4 Discovering the right price from the market during Initial Public Offer (IPO)

Of late, book building is used in the Indian Market for IPOs as a method of discovering the price of a security when it is being issued in the market for the first
time. The framework and the modalities of the practical aspects of Book Building as applicable in the Indian securities market is governed by SEBI. The price so discovered can act both as a lead and a lag of the price of such shares in the secondary market.

3.2.3.5 The Daily Price Bands

To guard against high volatility the regulator (SEBI) has prescribed a system of daily price bands which act as circuit breakers in the trading +/- 5% and +/- 10% on specified securities depending on volatility to maximum +/- 20% on other securities, which are not covered by derivatives.

3.3 The Exchange Rate - Stock Price Dynamics

There is no theoretical consensus either on the existence of relationship between stock prices and exchange rates or on the direction of the relationship. However, the gyrations in the exchange rate and in the stock prices have come to be recognized as two main indicators of economic activity in developing and developed countries. Theoretical links between exchange rate and stock prices basically emanate from the two fundamental approaches to exchange rate determination viz. *flow oriented goods market approach* or the *stock oriented portfolio balancing approach*. The cardinal difference between the two approaches are that the Flow Models assume that the exchange rate is determined largely by a country’s Current Account or trade balance performance where as the *stock oriented* approach gives more importance to the role of Capital Account transaction in determining the exchange rate dynamics.
Changes in the exchange rate affect the competitiveness of the price of domestic products. Depreciation in the value of the domestic currency will make the domestic goods more competitive in the foreign markets and vice versa in case of appreciation of the currency. Thus exporting firms will benefit from a depreciating domestic currency where as import intensive firms will find it more expensive. The economic exposure depends on the currency structure of the firm’s exports, imports and financing. When the exchange rate fluctuates, it affects the value of the earnings and cost of its funds and impacts the stock price which is reflective of the potential cash flows. This approach subscribes to the “flow oriented model”\(^{19}\) or the “goods market approach” which posits that on a macro basis, the impact of exchange rate fluctuations on the stock prices seems to depend on the extent and significance of the international trade and the current account balances. The changes in exchange rates affect international competitiveness and trade balance of the nation , thereby influencing real economic variables such as real income and output. Stock prices, usually defined as a present value of future cash flows of firms, would adjust to the economic perspectives. Thus, flow oriented models represent a positive relationship between stock prices and exchange rates with direction of causation running from exchange rates to stock prices. The conclusion about positive relationship stems from the assumption of direct exchange rate quotation

The second approach, the stock oriented approach\(^{20}\) also known as the portfolio balance approach gives more importance to the role of capital account

\(^{19}\) Dornbusch and Fisher, 1980.  
\(^{20}\) Frankel and Branson, 1983.
transaction in determining the exchange rate dynamics. The underlying theme of this approach is that, Exchange Rate like any other commodity price is determined by the market mechanism of demand and supply. Such models presume an internationally diversified portfolios and the role of exchange rates is to balance the demand for and the supply of domestic as well as foreign assets. Thus any change in the demand and supply will change the equilibrium in exchange rate. Hence increase in domestic stock prices will increase wealth and demand for money and consequently interest rates will go up. High interest rate in turn will attract foreign capital resulting in appreciation of the domestic currency and lower the exchange parity. Portfolio balance models thus postulate a *negative relationship* between stock prices and exchange rates and come to the conclusion that stock prices have an impact on exchange rates.

However according to *monetary approach* an exchange rate is the price of an asset (one unit of foreign currency) and therefore, similar to pricing of other assets, and the actual exchange rate has to be determined by expected future exchange rate. The only factors influencing the actual exchange rate are those which affect future value of exchange rate. Since developments of stock prices and exchange rates may be driven by different factors, *the asset market approach* emphasizes that there is *no linkage* between stock prices and exchange rates.