Chapter – 1

Capital Markets, Financial Instruments and Financial Intermediaries – An introduction

Introduction

Indian Industry, since its presence in organized form, has contributed substantially and continuously for the growth of its economy by transforming itself as one of the important sources for economic welfare and prosperity. The industry provides the required resources to its incumbents and creates optimal employable opportunities for its resources (natural, human, technical, financial, etc). The changing nature and structure of business from domestic to transnational has seen a metamorphic change. It has also brought about a synergic growth contributing significantly to its Gross Domestic Product (GDP). Indian economy strives to create opportunities to its industries for mobilizing the required financial resources by integrating the one with surplus investible funds (investors) with another who needs such funds (borrower-organisations). The capital requirements for the industries could be for infrastructural development, business diversification, strategic requirements (such as amalgamation, absorption, restructuring, etc).

Such capital requirements could be for a short term or long term, and the organisation seeking for capital requirements might look for equity financing or
debt financing or both. A number of factors are considered while deciding the
mode of capital resources. Short term capital requirements are met by money
markets and the long term capital requirements by the capital markets. Both
money market and capital market create diverse investment opportunities for the
diverse groups of investors offering a diverse group of investment securities that
meet their investment objectives. At the same time, money and capital markets
facilitate the industries/organisations to mobilize the required capital resources
based on their objectives. The markets also enable the fund-seeking organizations
to have the optimal capital structure which minimizes their costs of capital and
provide for necessary leverage to their operations. The organizations intending to
minimize the costs of capital and retain the ownership in their hands would look
for more debt financing. On the other hand, the organizations which intend to have
their own internal source of capital and estimate that they cannot generate high
volume sales and profits, and feel that it would not possible for them to have
interest cover would seek for more equity financing. It all depends upon a number
of factors such as corporate objectives, ability to mobilize the resources internally,
market interest rate, required funds, company’s performance records, etc.

**Capital Markets Vs Money Markets**

Capital Markets refer to the markets which provide for long-term capital
sourcing for the industrial enterprises and opportunities for long-term investment
for the investors. These markets are dominated by the equity participation.
However, an equal participation can also be seen from the debt instruments. It
depends upon the discretion of the organization – whether it wishes to have
leveraged capital structure or an unleveraged capital structure (zero equity or zero debt capital structure). The primary objective of the capital markets is to provide a platform for the investors (one with liquidity) and the borrowers (one seeking liquidity) by bringing together both the parties to exchange their liquidity. This exchange is with a promise to return the same on demand by the investors at any time during the life of the investment or the investment period depending upon the terms and conditions on which the exchange took place. Further, return of cash may be either by the receiving company or the through the secondary market where the instruments are traded on (i.e., exchange of hands between one interested to liquidate and another interested to invest in such instruments).

Capital Markets are broadly classified into two categories as organized markets and unorganized markets wherein each is further divided into two or more as presented below (Figure – 1.1).
Organized Markets

Organized Markets are regulated markets and have an organized system of operations. They provide for standardized contracts for trading and carry credibility in the minds of the investors ensuring sound investment environment and providing efficiency to the markets. They also allow the instruments to
perform to their potential. These markets are classified into Money Markets and Capital Markets.

01. **Money Markets** cater to the short-term capital requirements and provide opportunities for short-term investors to participate in these markets. Money markets are dominated by the financial institutions and Banks. They are regulated by the Reserve Bank of India (RBI) under the Reserve Bank of India Act, 1934.

02. **Capital Markets** provide for long-term capital sources and create opportunities for long-term investors to invest in these markets. Capital Market operations are normally through recognized stock exchanges which provide for origination of capital (primary markets) and trading on allotted and listed equity capital (secondary markets). These markets are regulated by the Securities and Exchange Board of India (SEBI) under SEBI Act, 1992. The objective of the investors in the Money Markets is the safety of their principal amount and the investment is for short period. On the other hand, the objective of investors participating in Capital Markets is to look for investment optimization/asset accumulation, liquidity and long-term investments.

Banks and Financial Institutions also participate in long-term lending in the form of secured loans and advances, term loans, purchase of debt instruments, providing seed capital and venture capital for newly established organizations. Institutional financing to the corporate enterprises is strictly stipulated by RBI under its Monetary Policies. Besides the conventional participants, there are a number of institutions which are moving towards Capital Markets like Post Offices, Insurance Companies and Mutual Fund Organizations, etc. Insurance companies
have brought about a major transformation in their operations and have started issuing hybrid forms of instruments. They are into equity linked insurance policies, ULIPs (Unit Linked Insurance Policies), Bancassurance (Banks selling Insurance Policies on behalf of Insurance Companies), etc., and they are becoming very attractive avenues for investments for various sections of investment community. Mutual Fund Organizations (operating under the regulations of SEBI Act, 1992) create opportunities for small investors (who cannot directly participate in the Capital Markets and Money Markets directly or those who have very little or no knowledge about the Capital Market trading) to subscribe to the units of mutual funds through which they could realize the benefits of participating in the Capital Market and also the benefits of efficiently managed portfolios.

**Unorganized markets**

Unorganized markets are those segments of markets which do not come under any regulatory framework but do the business of capital mobilization and extend credit to those who need fund normally, at a high rate of interest. For the purpose of attracting more and more investors and investments, these markets promise and provide higher rates of returns for their investors. As they provide for easy access to capital and involve less cumbersome procedure for availing capital, they are attractive for borrowing. This is more so in the case of those who face hindrances to meet their capital requirements from the organized segments. Major participants in these markets are Money Lenders, Pawn Brokers, Chit Fund Organizations, and Indigenous Bankers (i.e., the institutions which are not banking
institutions but do all functions of banking). The investors in these markets carry high degree of risk of loss of capital as these markets do not come under any regulatory framework. Therefore, any loss due to the illiquidity or bankruptcy of the invested organizations would not be recovered. It may be noted here that, in the case of Banks, loss caused to the investors due to illiquidity of the banks would be made good by RBI as it regulates them (i.e., banks) and acts as bankers’ bank. It is the customized services and ease of access that make these segments attractive, and higher rates of returns promised to its investors attract a fair section of the investment community.

Financial Instruments

A number of financial instruments are issued by the organizations to mobilize the required capital. It may be noted, at this stage, that the Issue of Capital\(^1\) refers to the issue or creation of securities whether for cash or otherwise. It includes the capitalization of profits or reserves for the purpose of (a) converting partly paid-up shares into fully paid-up shares, and/or (b) increasing the share value of the shares already issued. Further, Securities\(^2\) represent any of the instruments, enumerated in Section 2 (1) (e), issued or to be issued, or created or to be created, by or for the benefit of a company. These instruments include (a) shares, stocks and bonds; (b) debentures; (c) mortgage – deeds, instruments of pawn, pledge or hypothecation and any other instrument, creating or evidencing a charge or lien on the asset of the company; and (d) instruments acknowledging loan to, or indebtedness of, the company and guarantee by a third party. This definition is inclusive and includes a number of forms of investments that are
created by the financial markets catering to the needs of both the borrowing firms as well as the investors. An investment security represents both debt and equity instruments, and also includes various forms of assets in which the investment could be made. Some investments provide for safety, and some others ensure creation of wealth or asset maximization. Following are some of the forms of financial instruments available for investment.

01. **Equity or Common Stock** refers to equity share capital of the company. These are listed securities which the investors can buy at the time of initial allotment (Initial Public Offer, IPO) or in the secondary market where they are traded. These instruments carry the ownership right and provide for voting power to the holders. They also provide the investors with the benefits of claiming a share in the profit of the company (dividends) and market linked returns (capital appreciation) which depend upon the demand for such shares in the market.

02. **Bonds** are secured investments which carry a fixed rate of interest and fixed maturity period. They are securitized against the assets of the issuer-company or the promise of the government (RBI) to honour the face value of the bond on the date of maturity to the bearer of the instruments. Normally, bonds are bearer instruments and therefore, they are readily marketable.

03. **Government Securities** are the instruments issued by the government/quasi-government bodies or agencies on behalf of the government. These securities are highly secured and they are readily marketable. Of course, ad-hoc treasury bills are exception to this as they are not bearer instruments. However, individual investors cannot participate in
these instruments except bonds and certificates, as the issue prices of the securities are normally very high.

04. **Insurance Policies** are financial instruments which are used by the investors today for the purpose of hedging the risk of loss of interest in any asset/life. Another driving force behind investors’ decision to invest in insurance policies is the tax benefits under Section 80 (C) of Income Tax Act. These are also becoming attractive to all sections of the investment community as they ensure a bundle of benefits to the investors such as capital appreciation, safety of principal amount, equity linked/market linked performance, risk cover for the loss of interest in asset/life assured under the policy, etc.

05. **Mutual Funds** are the investments made in corpus created by a fund management/mutual fund company for small units of investments made by the small investors. These small investors have very minimum or no knowledge about the technicalities of the market. Hence, the investors transfer the task of managing their funds to a specialized fund manager who manages their investment. These are attractive forms of investments in the market. This is because of the reasons that they create opportunities for all sections of the market to participate in money market/capital markets. Further, they enable the investors to reap the benefits of market linked performance with the help of well managed portfolio which they cannot do individually.

06. **Realty or Real Estate** refers to investments in land, buildings, commercial infrastructures, etc., and also cover investments made in infrastructure bonds. These investments normally require huge capital investments and are normally made with the intention of earning better returns on principal
amount invested (capital appreciation). These markets, today, are highly skeptical as the rate of appreciation in the real estate is reducing day-by-day due to skeptical mind sets of the public towards the probable appreciation in the value of the assets influenced by political instability and fluctuating policies. However, infrastructure bonds are continuing to attract investments towards them.

07. **Gold and other Metals** such as silver, platinum, etc., always carry a high degree of capital appreciation. When the Capital Markets/Money Markets are subject to high degree of volatility, investors find these forms of investments very lucrative. It is due to the fact that they have ready market for liquidity and ensure an optimal reward in terms of capital appreciation. When these metals are non-renewable and are scarce carrying the feature of continuous demand, they act as attractive forms of investments especially for investors who are looking for capital appreciation, capital safety and better liquidity platforms in the market.

08. **Art** provides an opportunity to investors to invest in unique art and architectures (ancient and unique paints, photographs, monuments, etc) which are scarce. In this type of cases, investments require huge amount of investment and they normally carry high capitalization. Because, some sections of investors find these as very lucrative forms of investments.

09. **Hybrid Investments** refer to investment in securities that combine two or more different financial instruments. Hybrid securities generally combine both debt and equity characteristics. Convertible bond is an example to hybrid securities. However, it is heavily influenced by the price movements of the stock into which it is convertible. New types of hybrid securities are being introduced to meet the needs of sophisticated investors.
10. **Futures and Options**: Here, analysis is made only to equity derivative contracts. Equity Derivatives are instruments with underlying assets based on equity securities. An equity derivative's value fluctuates with changes in the value of equity in the cash segment. Investors use Equity Derivatives to hedge the risk associated with taking position of stock in the cash segment by setting limits to the losses that might be incurred by price changes in the cash market/spot market. The investor receives this insurance by paying the cost of the derivative contract which is termed as **premium**. If an investor purchases a stock, he or she can protect against loss in share value by purchasing a put option. On the other hand, if the investor has shorted shares (sold the shares in the cash market), he or she can hedge against gain in share price by purchasing a call option. Options are the common equity derivatives as they directly grant the holder the right to buy or sell equity at a pre-determined value. More complex equity derivatives include Equity Index Swaps, Convertible Bonds or Stock Index Futures.

11. **Currencies** refer to investment in foreign exchange and they are normally referred to as **Forex**. A small section of investors who are speculative in terms of future price movements in the market for the foreign currencies and who feel that they could capitalize on the opportunities provided by the market in terms of inverse movement of prices than they anticipate could provide them with high rewards take positions in the currency market. Banks and Financial Institutions, International Markets, Multinational Corporations (MNCs) and Transnational Corporations (TNCs) and the business houses involved in international trade are the major participants in these markets.
12. **Global Securities:** Economic liberalization and free reign economic system have extended the opportunities for the organisations to look for mobilizing capital from international markets by cross broader listing or listing the equities in international stock exchanges. Investors also find it attractive for investing as it provides them opportunities to have international investment securities in their portfolio, and diversify their risk of performance of their portfolio linking them to diverse economies. Investment here refers to investment in ADR/GDR (American Depository Receipts and Global Depository Receipts). Foreign Investment into Indian economy comes in the form of direct equity participation or in the form of Participatory Notes (PNs).

13. **Bank Deposits** are the conventional forms of investments. They refer to investments in banking system in the form of Savings Account, Recurring Deposits, Term Deposits, Certificates of Deposits, Bonds issued on behalf of Government or Government bodies, etc. Now the banks have also moved into the business of providing for pension solutions, Bancassurance (insurance policies provided by Banks) which are attracting more investors.

14. **Other** forms of investments which are attractive for investments are Post Office Investment solutions, Public Provident Funds, Indigenous Bank investments, Unorganized investments such as Chit Funds, Unrecognized Provident Funds, investment in co-operative investment solutions offered by Co-operative Societies or Banks, etc. These are attractive as they promise their investors higher returns.
Innovations in Securities Market

With the integration of markets all over the world providing for mutual economic benefits, the world economies are providing for inclusive growth of economies. The integrations are done at various levels – at the production level, market level, and industrial level that can create more opportunities for optimal utilization of their resources which can help them to create economic benefits to their stakeholders. With the membership of WTO, Indian economy has been liberalized and it has emerged as free reign economy creating opportunities for free movement of resources across boundaries. This has made them to become mutually dependable and any adverse movement experienced in one economy has a great impact on all other dependable economies.

The concern of world economies today is to look for sustainable growth opportunities and effectively manage their resources and provide for employment of resources in the most efficient manner. In the process, they look for hedging any sort of uncertainties associated with their operations. The regulatory system in any economy looks for creating financial innovations and engineer the system that can provide for most effective and efficient risk management tools which can help its stakeholders to hedge their risk and realize the optimal rewards for the resources deployed into the system. The Financial Markets have transformed themselves and emerged as integrated systems fostering to the requirement of not only the domestic stakeholders but also to the international markets.
It may be observed from the Capital and Money Markets that the participants are not only the domestic players but a major part of the activities is done (investment and borrowing) by the international participants in the form of equity participation, infrastructural development, foreign direct investments (FDI) and in financial institutions, in the form of PNs (Participatory Notes). Though these integrations are providing additional liquidity platforms, they are also destabilizing the markets whenever those markets experience economic plunge, and whenever there is resurgence (recovery), the market would also recover. This very nature of the markets creates uncertainties in the market and would destabilize the performance of the resources deployed with an anticipation of realizing most plausible economic rewards from their investments.

These factors create a need for innovating risk management tools that can facilitate the markets in creating hedging opportunities that can transfer the risk associated with their investments to the one who is intending to buy such risk in the market (speculators) from the one who intends to transfer the risk (hedger). The markets’ most preferred forms of risk management tools are (a) Insurance, (b) Mutual Funds, (c) Portfolio Management, and (d) Derivatives.

**01. Insurance** is a subject matter of solicitation. Insurance Policies or Products are financial instruments which are used for the purpose of investment and hedging the risk of loss of interest in asset or life to the one who undertakes to buy the risk and insure such loss. They also assure the buyer of the instrument to reimburse the loss incurred due to loss of such interest depending upon the extent to which the risk is covered.
02. Mutual Funds: Performance of Mutual funds is subject to market risk. Mutual Fund refers to the corpus created by a fund management company out of small units of investments mobilized from the small investors from the markets who cannot directly participate in the capital/money markets. It is also mobilized from the investors who have minimum or no knowledge about the markets but wish to transfer the risk of managing their funds to a specialized fund management organization (mutual fund organization). The fund management company undertakes the responsibility of managing the funds on behalf of its investors minimizing the risk in efficient and effective manner and delivers the optimal reward for the investment made. Some of the important terminologies used in the contract are as follows.

a. **Entry Load and Exit Load** refer to the amounts of charge levied by the fund management company to the investors when they (i.e., investors) enter into, and exit from, the contract with the fund management company. It may be noted here that the term load refers to the charges levied.

b. **Trust** is the one which is vested with the responsibility of managing the funds on behalf of the investors. In other words, it is the fund management company or the fund manager.

c. **Open and Close Ended Funds**: Open-ended funds are those where the investors can enter into, and exit from, the funds at their own discretion. There is no pre-stated time for participation. In the case of close-ended funds, the investors can participate in the funds only during a specified period.
d. **Minimizer and Maximizer Funds:** These funds refer to the nature of risk associated with the investment funds. Minimizer funds get channelized into secured investment tools and offer lower returns. On the other hand, maximizer funds get channelized into equities and other market linked securities, and carry high risk and offer high returns.

e. **Units** refer to division of total funds intended to be mobilized from the issue into a number of units that can be purchased by the investors for participation in the funds.

**03. Portfolio Management:** This is one of the preferred forms of risk management tool adopted by the investors. This is an efficient strategic measure adopted by the investors who intend to diversify the risk of non-performance of their investment from a single security investment to a multiple security investment portfolio wherein the non-performance of one security can be mitigated by the performance of the other. Because, the market risk exposed by the investment is not synonymously affecting all the securities uniformly. Hence, the one affected by the market risk could be made good by the other security which would either have no impact or less impact of the market risk. Important terms associated with portfolio management are as follows.

a. **Portfolio** refers to a pool of securities in which the investment is made. Market offers a diverse pool of investment securities to the investors which the investor evaluates and selects the one which best fits into his objectives.
b. **Market Risk** refers to systematic risk which is normally uncontrollable. The macro environmental factors which are subject to high degree of volatility due to dynamic nature of the environment influence the degree of market risk. The investors do not have either the direct or the indirect control over these forces. Therefore, these risks are uncontrollable.

c. **Diversification** refers to channelizing the funds invested into various forms that can help them to mitigate the impact of market forces on their investment performance.

d. **Portfolio Manager** is the person who manages the investment portfolio. Investment manager may be an individual who acts on behalf of the investors or a specialized fund management company which undertakes the responsibility of managing the funds on behalf of the investors.

e. **Portfolio Diversification**[^5] is a risk management technique that mixes a variety of instruments within a portfolio. The rationale behind this technique is that a portfolio of different kinds of instruments will, on an average, yield higher returns and pose lower risk than any individual investment found within the portfolio. Diversification strives to smoothen out unsystematic risk events in a portfolio so that the positive performance of some investments will neutralize the negative performance of others. Therefore, the benefits of diversification will hold only if the securities in the portfolio are not perfectly correlated. A number of studies have shown that maintaining a well-diversified portfolio of 25 to 30 stocks will yield the most cost-effective level of risk
reduction. Investing in more securities will still yield further diversification benefits, albeit at a drastically smaller rate. Further, diversification benefits can be gained by investing in foreign securities as they tend to be less closely correlated with domestic investments. For example, an economic downturn in the US economy may not affect Japan's economy in the same way. Therefore, having Japanese instruments would allow an investor to have a small cushion of protection against losses due to an American economic downturn. Most of the non-institutional investors have a limited investment budget, and may find it difficult to create an adequately diversified portfolio. This fact explains as to why the mutual funds have been gaining popularity. Buying shares in a mutual fund can provide investors with an inexpensive source of diversification.

04. Derivatives are the most innovative forms of risk management tools in the hands of investors and the market participants (Financial Institutions, Banks, and Business Centers involved in International Trade). This being the core area of the research, an extensive coverage of different aspects of Derivative Markets is provided in the following paragraphs.

Derivatives

The breakthrough for the concept of Derivative was seen in the works of Black schools (1973) and Merton (1974). However, Mark Rubinstein (1976) described the role of Derivatives in the Capital Market performance. However, the factors behind growth of Derivatives are summarized below.
Financial Derivatives, since their introduction into the markets, have transformed themselves from a mere risk management tool to an investment tool more particularly in the hands of speculators. Today, a major section of the investors is moving from cash markets to Futures and Options (F&O) segments as they provided opportunities for performance optimization and larger profit. Requirement for participation includes lower margin money and cost of transactions is very low and therefore, these factors are acting as vital factors behind popularity of Derivative Instruments. Other important factors which are driving these markets are as follows.

01. Instability in markets, higher risk and volatility experienced during 1970s due to collapse of Breton Wood System, volatile commodity price (price instability) and uncertain interest rates are some of the influencing factors.

02. During post-1980s, due to economic liberalization, opportunities for global portfolio are created, realizing the need for risk hedging tools like Derivatives.

03. Development of derivative pricing tools such as Black and Scholes Model has provided for better price discovery in the hands of investors making trading transparent and attractive.

04. Deregulation of financial markets, easy accessibility to market, reduced cost of investments, reduced cost of information and informational efficiency in the market have also contributed significantly for the development of this market.

05. Opportunity to hold naked position and non-mandatory requirement to hold a covered position in the market makes these contracts attractive - Naked
position is where the investor does not have the possession of the underlying asset when he enters into the contract (open position) and Covered position is where he writes or buys the contract against the asset which he actually possesses.

The Security Contracts (Regulations) Act, 1956 defines ‘Derivative’ as security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security. A contract which derives its value from the prices or Index of prices of underlying securities. Further, Derivative Instrument is defined by International Accounting Standards Board (IASB) in IAS - 39 as, “a derivative contract characterized by all the three features that,

01. Its value changes in response to the change in Specific Interest Rate, Financial Instrument Price, Commodity Price, Foreign Exchange Rate, Index of Price or Rates, Credit Rating or Credit Index or Other Variables; however, in the case of a non-financial variable, the variable is not specific to a party to the contract.

02. It requires no initial investment or an initial net investment that is smaller as compared to other contract to have similar response to change in market factor and

03. It is settled in a future date”.

Keith Redhead defines financial derivatives as financial instruments whose prices are derived from the prices of other financial instruments. Financial derivatives include Forwards, Futures, Options and Swaps drawn on
instruments such as stocks, bonds, interest rate and currencies. SSS Kumar defines Financial Derivative as a financial instrument whose pay off is based on the price of an underlying asset, reference rate or an index. Sankarshan Basu defined derivatives as financial products whose value is derived out of one or more basic products. For example, an Option on stocks is a derivative as the value of the Option is derived out of the current and expected market value of the stock itself. Mathematically, a derivative can be broadly treated as a function of the current value, expected value, expected future value, volatility of the price, time to maturity and the interest rate prevalent. Liu Jun and Pan Jun (2003) viewed Derivatives as extending the risk and return tradeoff associated with the stochastic volatility and price jumps. As a means of exposure to volatility risk, Derivative enables non-myopic investors to exploit the time-varying opportunity set, and a means of exposure to jump risk. They enable the investors to disentangle (separate or straighten out) the simultaneous exposure to diffusive and jump risk in the stock market. According to LC Gupta Committee, Derivative has no independent value, i.e., its value is entirely derived from the value of the cash asset. A derivative contract or product, or simply derivative is to be sharply distinguished from the underlying cash asset, i.e., the asset bought/sold in the cash market on normal delivery terms.

Like the above, many have defined Derivatives. A careful observation of the above definitions and/or opinions enables the identification of the features of Derivatives Contracts as presented below.
01. Derivatives are notional instruments whose value depends upon value of other financial instruments. And they themselves have no presence.

02. Derivatives are instruments which provide liquidity cushion to the underlying assets.

03. Derivatives carry a high degree of leverage as with a small amount of investment and without physical possession of the asset, their trader can enter into the market and earn phenomenally high rate of returns which is marked to performance of the market.

04. Derivatives, when used effectively, help the investors to hedge the risk associated with the cash market with positions in the futures market

**L. C. Gupta Committee on Derivatives**

L. C. Gupta Committee\(^{14}\) constituted by SEBI to develop the regulatory framework and to develop the trading infrastructure for these instruments made few important observations which make Derivatives more attractive for adoption in the investment portfolio of the investors.

Derivatives are meant essentially to facilitate temporarily (usually for few months) hedging of price risk of inventory holding or a financial/commercial transaction over a certain period. In practice, every Derivative Contract has a fixed expiration date, mostly in the range of 3 to 12 months from the date of commencement of the contract. In the market’s idiom, they are "risk management tools". The use of Forward/Futures Contracts as hedging techniques is a well-established practice in
commercial and industrial operations. Their application to financial transactions is relatively new having emerged only about 25 years ago.

Among **Financial Futures**, the first to emerge were **Currency Futures** in 1972 in USA followed soon by **Interest Rate Futures, Stock Index Futures** and **Options** first emerged only in 1982. Since then, Financial Futures have quickly spread to an increasing number of developed and developing countries. They are recognized as the most cost-efficient way of meeting the felt need for risk-hedging in certain types of commercial and financial operations. Countries not providing such globally accepted risk-hedging facilities are disadvantaged in today’s rapidly integrating global economy.

The Committee noted that the Derivatives are not always clearly understood. A few well-publicized debacles involving Derivatives trading in other countries had created widespread apprehension in Indian public mind also. While the economic literature recognizes the efficiency-enhancing effect of Derivatives on the economy in general and the financial markets in particular, the Committee feels that there is a need for educating the public and also the need to ensure effective regulatory checks. Such regulation should be aimed not only at ensuring the market’s integrity but also at enhancing the market’s economic efficiency and protecting investors.

Though the Committee’s main concern was with Equity-based Derivatives, it had tried to examine the need for Financial Derivatives in a broader perspective.
Financial transactions and asset-liability positions are exposed to three broad types of price risks viz.,

a. **Equities’ Market Risk**, also called **systematic risk**, which cannot be diversified away. Because, the stock market as a whole may go up or down from time to time.

b. **Interest Rate Risk**, as in the case of fixed-income securities like treasury bond holdings, the market price could fall heavily if interest rates shot up, and

c. **Exchange Rate Risk** where the position involves a foreign currency as in the case of imports, exports, foreign loans or investments.

The above classification of price risks explains the emergence of (a) Equity Futures, (b) Interest Rate Futures and (c) Currency Futures respectively. Equity Futures have been the last to emerge.

**Financial Instruments – Financial Assets and Financial Liabilities**

In general, financial instruments are assets of an entity or organization that act as a basis for mobilization of capital required for the organisation. IASB\textsuperscript{15} defines **financial instrument** as a contract that gives rise to financial asset to one entity and the financial liability or equity instrument to another entity. Financial instruments include primary financial instruments like receivables, payables, loans and advances, debentures and bonds and derivative instruments like, options, futures, forwards, swaps, caps, collar, floor, FRA, etc. Derivative is a positive value in financial asset and negative value in financial liability. These financial
instruments are classified into two categories as financial assets and financial liabilities. Financial asset\textsuperscript{16} includes the following.

01. **Cash:** Examples are currency cash and bank deposits; bank deposit reflects a contractual right to receive cash; but gold bullion is commodity.

02. **An Equity** is an instrument of another entity. Investment in equity shares of a company is an example.

03. **A Contractual Right** (a) to receive cash or another financial asset from another entity or (b) to exchange financial assets or financial liabilities with another entity for terms which are potentially favourable.

On the other hand, Financial Liability\textsuperscript{17} includes the following.

01. **A contractual obligation** (a) to deliver cash or any other financial asset to another entity, and (b) to exchange financial instruments with another entity for terms which are potentially unfavourable.

02. **A contract that will or may be settled in the entity’s own equity instruments** and is (a) non-derivative for which the entity is or may be obliged to receive a variable number of the entity’s own equity instruments or (b) a derivative which will or may be settled other than by exchange of a fixed amount of cash or another financial asset for a fixed number of entity’s own equity instruments.

**Classification of Financial Derivatives**

Though there are a number of variables on which Financial Derivative Contracts can be classified into two or more, an attempt is made in the following
paragraphs to classify them based on (a) nature of underlying assets and (b) nature of markets.

Basic Financial Derivatives are classified into two or more categories based on nature of underlying assets as presented below (Figure – 1.2) followed by a brief analysis.

**Figure - 1.2: Classification of Derivatives based on Underlying Assets**

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<thead>
<tr>
<th>Stock Derivatives</th>
<th>Foreign Exchange</th>
<th>Interest Rate/Bond/Credit</th>
<th>Commodity</th>
<th>Natural Phenomena</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Stock Futures</td>
<td>Foreign Exchange</td>
<td>Bond Future and Options</td>
<td>Futures &amp; Options on Agricultural Commodities like Wheat, Soybean, etc</td>
<td></td>
</tr>
<tr>
<td>Single Stock Options</td>
<td>Forward Contracts</td>
<td>Forward Rate Agreements and Interest Rate Futures</td>
<td>Energy Derivatives like Craned Oil, Natural Oil, Natural Gas and Electricity</td>
<td></td>
</tr>
<tr>
<td>Stock Index Options</td>
<td>Currency Futures</td>
<td>Caps, Floors, Swaps and Swaptions</td>
<td>Credit Default Swaps &amp; Other Credit Derivatives</td>
<td>Futures and Options on industrial metals like Copper and Aluminum</td>
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<td>Stock Index Futures</td>
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Financial Derivatives are those assets whose values are determined by the value of some other assets called, underlying. Such underlying assets could be index, currency, commodities or single stock (equity). However, popular forms of Financial Derivative Contracts are Forwards, Futures, Options and Swaps. There are few other complex forms of Derivative Contracts available in the market. They include plain vanilla contracts, simple or straight forward, composite, joint or hybrid (option in futures, futures on options, call and puts, forwards and options, futures on forwards, etc), synthetic, leveraged, mildly leveraged, customized or OTC traded, standardized or organized exchange traded, etc.

01. **Forward Contract** is a simple customized contract between two parties to buy or sell an asset at a certain time in future for a certain price. Unlike Futures, Forward Contracts are not only traded on an exchange (as they are customized or un-standardized), they are also available for investors who intend to invest in over-the-counter (OTC) market. The trade is usually between two financial institutions or between a financial institutions and one of its clients.

02. **Futures Contract**, like a Forward Contract, is an agreement between two parties to buy or sell a specified quantity of an asset at a specified price at a specified time and place. Futures Contracts are normally traded on an exchange which sets certain standardized norms for trading in these contracts.

03. **Options Contract** is a contract between two parties whereby one party obtains the right but not the obligation to buy or sell a particular asset at a specified price on or before a specified date. The person who acquires the
right is called option buyer or the holder and the person who confers the right is called the option seller or the writer. Important terminologies associated with Option Contract are summarized below.

a. Option Period is the gestation period of the contract representing the date of entering into the contract till the expiration date of the contract.

b. Option Premium is the cost of the contract. It is the price that the option buyer pays to the option writer for receiving the right to exercise the contract either to buy or sell the underlying security/assets.

c. Underlying Assets of the contract could be shares, stock indices, foreign currencies, bonds, commodities, future contracts, etc.

d. Expiration Date is the date on which the contract expires or the period within which the option buyer possess the right to act on behalf of the option seller/writer (in case of the American type contracts) and the date on which the contract gets exercised (in case of European type contract).

04. Warrants and Convertibles are other important categories of Financial Derivatives which are frequently traded in the market. Warrant is just like an Option Contract where the holder has the right to buy shares of a specified company at a certain price during the given time period. Convertibles are hybrid securities which combine the basic attributes of fixed interest and variable return securities. Most popular instruments are Convertible Bonds, Convertible Debentures and Convertible Preference Shares.
05. **Swap Contract** is an agreement between two counter parties to exchange cash flows in future. Swap contracts are of two types, viz., Interest Rate Swaps and Currency Swaps.

a. **Interest Rate Swaps** are contracts where one party agrees to pay the other party interest at a fixed rate on a notional principal amount and in return, he receives interest at a floating rate on the same principal amount for certain pre-specified period.

b. **Currency Swaps** are contracts where two sets of cash flows (interest amount) of a similar amount denoted in two different currencies exchange hands of two parties (individual/institutions or organizations).

Derivative Contracts can also be classified into two categories as Exchange Traded Derivatives and OTC Derivatives on the basis of the nature of markets traded as presented below (Figure – 1.3) followed by a brief analysis.
**Figure - 1.3: Classification of Derivatives on the basis of the nature of Market in which they are Traded**

**Financial Derivatives**

- Exchange Traded Derivatives
  - Futures Contract on Stocks, Currencies, Commodities
  - Exchange traded Options on Stocks, Currencies and Commodities
  - Swap note Futures and Interest Rate Futures

- Over-the-Counter Derivatives
  - Forward Contracts on Stocks, Currencies and Commodities
  - OTC Options on Stocks, Currencies and Commodities
  - Interest rate Swaps, Caps, Floors and Forward Rate Agreements


**Exchange Traded Derivatives** are contracts which are standardized contracts in terms of the volume traded, margin requirements and drawn on standardized (qualified assets) assets. These Derivatives are listed on the exchange and they ensure liquidity and carry the benefits of settlement/delivery as both the parties are binding to the contract and have to discharge their obligations on the date of expiration. These Derivatives supplement the cash market as they add cushion to the underlying securities traded on the cash segment. Requirement for entering into the market is to provide small margin money (as a guarantee with the exchange for settlement of the contract) and there is no need for the parties to have physical possession of the instruments to trade on. These markets are attracting
larger sections of participants in the cash market towards them. Among the participants, speculators are the most attracted participants towards them.

Contrarily, **OTC Derivatives** are customized transactions and are normally entered into by the parties based on their convenience. Retail investors who cannot participate in the organized segments of the market or ETF’s (Exchange Traded Funds) due to higher transaction volumes and margin requirements, and those who look for customized transactions enter into OTC segment. These transactions being non-regulated and non-standardized are not listed and transacted on exchanges. Therefore, they are illiquid and there is no certainty of delivery and are normally cash settled.

**Futures and Options (F&O)**

The history of futures can be traced back to middle ages where these contracts were used by the farmers and middlemen to counter the risk of price fluctuations and to overcome the risk of short supply of commodities with protection of required quality. Chicago Board of Trade (CBOT) was established in the year 1848 as a medium of integration between farmers and middlemen with the objective of ensured exchange of quality commodities and gave birth to the first future contract, **to arrive contract**. This was followed by Chicago Produce Exchange which was established in the year 1874, Chicago Butter and Egg Board was established in the year 1898 which was later named as CME (Chicago Mercantile Exchange) in 1919. CME was instrumental in introducing the Stock
Index Futures (i.e., S&P 500 Index) in the year 1982 and Foreign Currency Futures was introduced much earlier in the year 1972 under its division.

The International Monetary Market (IMM) and few other major exchanges dealing with Futures Contracts are Chicago Rice and Cotton Exchange (CRCE), the New York Futures Exchange (NYFE), the London International Financial Futures Exchange (LIFFE), the Toronto Futures Exchange (TFE) and the Singapore International Monetary Exchange (SIMEX) either dealing in commodities or in financial assets such as bonds or portfolio of stocks. Indian Markets started taking interest to adopt Futures Contracts by the introduction of Stock Index Futures in 2000 by NSE followed by BSE in the year 2001. This was followed by trading on individual stock, commodities and latest is Currency Futures in the year 2010.

There are more than 25 futures exchanges worldwide. The biggest exchanges are the Chicago Board of Trade (CBOT) and the Chicago Mercantile Exchange (CME). These are followed by London International Financial Futures and Options Exchange (LIFFE) and the Marche a Terme International De France (MATIF- Paris).

Majority of Futures Exchanges also deal in Option Contracts. However, few exchanges deal only in Options but not in Futures Contracts. They are European Options Exchange (EOE, Amsterdam) and Marche des Options Negotiable de Parries (MONEP).
Similarly, the first trading of Puts and Calls\textsuperscript{21} began in Europe and in the United States as early as 18\textsuperscript{th} century. In 1900, a group of firms started an association called \textbf{Put and Call Brokers and Dealers Association} to provide for Option Contracts which later failed. Because, the contracts written were Over-The-Counter which did not have secondary market lacking liquidity and being non-standardized contracts did not carry any certainty of execution as the contracts were not binding on either of the parties. The first organized exchange came into picture in 1973 by the setting up of CBOT and CBOE particularly for trading on Stock Options.

American Stock Exchange (AMEX) and the Philadelphia Stock Exchange (PHLX) began trading in 1975 followed by Pacific Stock Exchange (1976). NSE introduced trading on Stock Index Options in the year 2000 on 29 stocks followed by BSE in the year 2001. Today, Option Contracts are traded on individual stocks, commodities (on select commodities) and latest inclusion is the ETF’s (Gold and Commodities) and Currencies which was recently introduced by SEBI in the year 2010. The recent developments in F&O segment include, among others, the introduction of physical settlements of the transactions. It may be noted here that earlier, only cash settlement transactions were available.

\textbf{Single Stock Futures:} OneChicago Exchange defines Single Stock Futures (SSF) as futures contracts on individual stocks. A OneChicago single stock futures contract is an agreement to deliver 100 shares of a specific stock at a designated
date in future called, the expiration date. In most of the cases, four expiration dates are available for trading on OneChicago single stock futures.

Margin requirements are generally 20% of the cash value of contract though this requirement may be lower if the investor also holds certain offsetting positions in cash equities, stock options or other security futures in the same securities account. Single-stock futures (SSFs) are the futures contracts with the underlying asset being one particular stock usually in batches of 100. When purchased, no transmission of share rights or dividends occurs. Being futures contracts, they are traded on margin, thus offering leverage, and they are not subject to the short selling limitations. Keith Redhead defined Financial Futures as a notional contract to buy or sell on a specified future date, a standard quantity of a financial instrument at a price determined in the present (the future price). It is a rate for a Futures Contract to be used for the exchange of financial instrument.

N. D. Vohra and B. R. Bagri defined Futures Contract on a stock as, a contract where the party with long position agrees to buy a certain number of shares of a company at a certain price at a certain date in future and the party with short position agrees to deliver the same and receive the amount. Single Stock Futures are leveraged products that provide opportunity to participate in the market without having physical possession of the security nor paying full price of the security to take right or ownership of the same.

S. L. Gupta defines Option Contracts as a contract between two parties whereby one party obtains the rights, but not the obligation to buy or sell a
particular asset at a specified date. The person who acquires the right is called as Option Buyer or the holder and the person who confers such right is called option Seller or Writer. Keith Redhead defined Financial Option as a right (but not an obligation) to buy/sell at a specified price (the strike or exercise price) during a period of time (or at a point in time).

Options, therefore, represent financial contracts between two parties (option writer and the option buyer) to exchange rights but not an obligation to buy (call) or sell (put) an underlying asset at a predetermined price (option price) and within a predetermined period (option period). The underlying assets could be Commodities, Currencies, Indices or Common Stock.

**F&O in International Markets**

F&O are traded in various financial markets including those in United States, United Kingdom, Spain, India and others. South Africa currently hosts the largest single stock futures market in the world trading, on average, 7,00,000 contracts daily. In the United States, they were disallowed from any exchange listing in the 1980s as the Commodity Futures Trading Commission and the U.S Securities and Exchange Commission were unable to decide which would have the regulatory authority over these products.

After the Commodity Futures Modernization Act, 2000 became law, the two agencies eventually agreed on a jurisdiction-sharing plan and SSF (Single Stock Futures) began trading on 8th November, 2002. Two new exchanges initially offered security futures products including single-stock futures though one of
these exchanges has since closed. The remaining market is known as OneChicago as it is a joint venture of three previously-existing Chicago-based exchanges, viz., the Chicago Board Options Exchange, Chicago Mercantile Exchange and the Chicago Board of Trade. In 2006, the brokerage firm, Interactive Brokers, made an equity investment in OneChicago and is now a part owner of the exchange.

Participants in F&O Markets

There are three major participants in F&O markets. They are Hedgers, Speculators and Arbitrageurs.

01. **Hedgers** are those who presume risk from their investments and look for opportunities to hedge.

02. **Speculators** are those who carry a contrarian (parallel/相反) opinion in the market and when the market presumes downswing in the future prices, they assume the market gains and therefore, they buy the risk from the hedgers intending to transfer the risk.

03. **Arbitrageurs** are those who are looking for gains from inefficiencies in the market. The markets are always said to be in temporary disequilibrium and this provides the opportunities for them to gain from such disequilibrium which are consistent in nature.

A speculator in the futures market is the one seeking returns and aims to enter into trade with the idea that profit is made based on the identified strategy. The primary objective of using Futures is to generate gains in the portfolio of the speculator through either short-term strategies or long term investment plan. On
the other hand, a hedger is a user of Futures for the purpose of off-setting perceived loss potential in the underlying instruments. In other words, hedgers use Futures Contracts as insurance policies like many people use Options to protect their underlying assets in the event of adverse moment that may result in loss.

**Strategies using F&O Contracts**

F&O contracts provide a number of strategic advantages to the investors in terms of hedging the risk associated with their securities or portfolio performance. These contracts also provide opportunities to the investors to earn speculative gains and also create opportunities to earn risk-less profit (i.e., arbitrage gains). This is more so when the markets are inefficient or in temporary disequilibrium due to unstable macro environment. Investors with the help of F&O instruments formulate a number of strategies to gain from the market opportunities. Three important strategies are identified (Figure – 1.4) and analyzed below very briefly.
Figure - 1.4: Derivatives Strategies for Optimization of Portfolio Performance

**Derivative Strategies**

**Basic Strategies**

**Index-based Strategies**
- a. Naked and Covered Hedge Strategy
- b. Equity Option as a strategy for Financial Institutions
- c. Stop-loss Strategy

**Single Stock Options**
- 01. Strategies using Spreads
  - a. Bull Spread
  - b. Bear Spread
  - c. Butterfly Spread
- 02. Strategies using Combination Trading
  - a. Straddles
  - b. Strips and Straps
  - c. Condors
  - d. Box Spread

**Single Stock Futures**
- 01. Short position in Cash and Long Position in Futures
- 02. Short position in Futures and Long Position in Cash
- 03. Combination trading
  - a. Shorting against Box
  - b. Buy Write Portfolio
  - c. Pairs Trade
  - d. The Spread Trade

**F&O Strategies**

**Index-based Strategies**
- 01. Short position in Stock and Long Position in Index
- 02. Buy Spot and Sell Stock Index Futures when Bearish
- 03. Immunize stock loss by gains in Index

**Options Strategies**
- a. Naked and Covered Hedge Strategy
- b. Equity Option as a strategy for Financial Institutions
- c. Stop-loss Strategy

**Single Stock Options**
- 01. Strategies using Spreads
  - a. Bull Spread
  - b. Bear Spread
  - c. Butterfly Spread
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**Single Stock Futures**
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  - d. The Spread Trade
I. Basic Strategies

Basic strategies are generic strategies that are adopted by the market participants to take cover over the risks associated with the anticipated performance of their investment activities. These basic strategies comprise of three important strategies as analyzed below.

01. Naked and Covered Hedge Strategies: Naked Strategy\(^{28}\) involves a position in an Option without holding position in the underlying stock. It is designed in such a way that the investor can avoid buying stock in the cash market with an anticipation of favourable price movements and incurring loss when the market takes a opposite move than expected. The position held in the Derivative Market can help him to take cover over the unfavourable price movement and take delivery of the assets (stock) only when the market performs to his expectation and thereby realize profits by the positions held either with the help of covered call writing and protective put buying. Covered or Hedge Option Strategies involve taking position in an Option as well as a position in the underlying stock designed so that one position helps to offset any unfavourable price movement in the other including covered call writing and protective put buying.

02. Equity Option as a Strategy by Financial Institutions: This strategy\(^{29}\) facilitates the financial institutions to provide a guarantee against the prices of new issues of stock on a future date. In the event the prices of the stock reduce below the assured price of Option, the financial institution has to make good the loss to the investor.

03. Stop–Loss Strategy: Under this strategy, the investor buys the stock at a price ‘x’ when it increases and sells the same when it reduces below the
price ‘x’. This strategy’s objective is to take naked position when the price is less and taking lower position when the price increases.

**II. Strategies using Single Stock Option Contracts - Strategies using Spreads**

A Spread strategy\(^{30}\) involves an investor taking position in two or more Options of the same type. Some of the strategies using Spreads are analyzed below very briefly.

**01. Bull Spreads:** This represents the bullish sentiment of the trader and is created by purchasing a Call Option on a stock and selling another Call on the stock with the same expiry but at a higher price. On expiration, if stock price remains below the strike price and both the Options remain unexercised, the loss is limited to the initial cost of the Spread.

**02. Bear Spread:** When the market is on the bearish sentiment (anticipation of future price decrease), the investor buys a Call with one exercise price and selling another one with a different exercise price. Here, the exercise price of the Call purchased is higher than that of Call Option sold.

**03. Butterfly Spread:** This is a result of buying a Call Option with a relatively low exercise price, buying another Call Option with relatively large exercise price and selling two Call Options at a price which would be average of low price Option and high price Option. This will be in proximity with the current price of the underlying security (i.e., equity shares on which contracts is drawn) and the payoff would be where the market price is approximately nears the average price at which the Option Contracts are sold. The loss incurred is minimum if the price moves in either direction.
III. Strategies using Combination Trading

These strategies involve taking position in both Calls and Puts on the same stock. Some of the important strategies are as follows.

01. Straddles: This strategy involves buying a Call and a Put Option with the same exercise price and date of expiration. This strategy involves higher cost as both contracts are purchased. Loss occurs when the contracts remain unexercised and larger profit occurs when there is large price change expected in the stock. When prices are low, Put Option is exercised and when prices are high, Call Option is exercised.

02. Strips and Straps: A strip strategy is one where the investor couples long position in Call Option with long position in two Put Options with same exercise price and date of expiration. Here, the investor expects a larger price movement. Further, he believes that there is greater chance of price increasing than a price decrease, and in this event, his position in two Put Options pays him a higher reward. Contrarily, when the investor expects a greater chance of price increase than decrease, he would consider strategy of strap. This strategy consists of a long position in two Calls and one Put with the same exercise price and expiry date, and payoff would occur when the prices move positively in the direction expected. If the prices move inversely, the position in Put Options helps in the recovery of loss due to position in Call Option.

03. Condors: This strategy involves four Call Options or four Put Options. This could be a Long Condor or a Short Condor. A long condor results in buying two Call Options – one with very low exercise price, and another with relatively high exercise price, and selling two Call Options – one with
a price higher than or close to the price at which the lower price Call Option was purchased, and the other Call Option sold at a price lower than or close to the price of higher price Call Option was purchased. A similar position would be created using Put Options too. A short condor results in reversing the strategy of Long Condor. In this case, the investor sells two Call Options (using Call Options) – one with very low price and another at a relatively higher exercise price and contrarily buys a Call Option at a price higher or close to the price at which the lower price Call Option is sold and the other Call Option at a price lower than or close to the price of higher price Call Option sold.

**04. Box Spread**: Under this strategy, the profit or loss made is independent of the stock price. Here, the investor may decide to buy one Call and write one Put, with an exercise price ‘x’ and write one Call and buy one Put at a price ‘y’ \((y > x)\). When the stock price does not exceed the lower price, none of the Call Option is exercised and both Put Options are exercised. Payoff here is equal to ‘\(y - x\)’ as the stock purchased at ‘x’ is sold for ‘y’. And inverse would be the condition when it exceeds the lower exercise price.

**IV. Strategies using Single Stock Futures Contracts**

Stock future contracts facilitate the investors to take the hedge over the unanticipated price movements of the underlying securities against the downward movement of prices of securities held and upside movement of prices of the securities intending to buy. A number of strategies are formulated using Stock Futures Contract. Important strategies are as follows.

**01. Short Position in Cash and Long Position in Futures**: Under this strategy, an investor who has a short position in cash can obtain a
hedge/cover by taking a long position in the Futures if he anticipates that the particular security he holds would witness an upward movement in future.

02. Short Position in Futures and Long Position in Cash Market: Under this strategy, investor who holds a long position in a particular security in cash market can obtain a hedge cover by taking a short position in the Futures Market if he anticipates that the price of the security he holds would witness a downward movement.

03. Combination Trading: Under this strategy, investor adopts an aggressive investment plan where he takes multiple positions in the market – buys securities (i.e., stock) in cash market and hedges the probable downside movement of prices of the securities by taking long position in the Future Market when the markets are bullish. On the other hand, when the markets are bearish, he sells the securities held by him and buys the same in the Future Market. Some of the important strategies adopted using Combination Trading are as follows.31

a. Shorting against the Box: This strategy is more effective particularly by active investors (individuals) and professional investment managers. Under this strategy, the investor shorts on equity and take a long core position in the same underlying equity. This strategy holds that when securities are performing low due to a number of reasons, it would do well in the long term especially when the investors have long stake.

b. Buy write Portfolio is a method of investing involving purchase of an underlying equity and selling Call Option Premium against the position
with the objective of achieving above average gains from the sale of Option Premium.

c. **Pairs Trade:** This involves taking positions in two or more individual securities within the same sector with a Short and Long Position in different instruments. Pair’s trading has long been a method of investing that limits systematic risk or market risk. By establishing a Pair’s relationship, the investor is implementing the strategy of enjoying the benefits of reduced correlation to the major market indices. This is the inherent benefit of the strategy. Because, market dynamics tend to suggest that individual has to access the opportunities within a particular sector and assume that securities held will out-perform or other sectors would under perform.

d. **Spread Trade:** This strategy involves the purchase or sale of multiple security futures in the same issue spread over different delivery months. This technique is popular among experienced futures traders as it allows an investor to take advantage of specific issues relating to a particular security over a predetermined time horizon. Typically, spread transaction requires less margin than a traditional position, which is limited to one delivery month date held as an offsetting position for a farther dated delivery month of the same security futures contract.

V. **Index-based Strategies:**32 SEBI provided its approval to trade on Index Derivatives on NSE terminals. Later, BSE also entered into this segment. Index Derivatives, being the first to be introduced on the organized exchanges, are used as strategic tools by the investors to hedge the risk of downside movement of prices of the stock held by them when anticipating the bearish movement of the
stock and vice-versa when anticipated the bullish trend/movement. The investor adopts these in instruments (i.e., Equity Index Derivatives) as strategic tools to hedge their risk effectively. Some of the important strategies are identified and discussed below very briefly.

01. **Short Position in Stock and Long Position in Index:** Under this strategy, the investors take short position in stock when they think the shares are overvalued and would reduce their profit if they hold for long period. Hence, they go short in cash market and with this anticipation, buy some amount of Index Futures. By doing this, they hedge their index movement risk and minimizes the total risk.

02. **Buy Spot and Sell Stock Index Future when Bearish:** When the investor experiences a bearish trend in the current/spot market and anticipates a positive trend in future, he would buy stock in cash/spot market. To hedge himself against the probable downside movement of price, he sells Index Futures and takes an inverse position when market is bullish - ‘sell spot and buy stock index futures’.

03. **Immunize Stock Loss by Gains in Index:** Under this strategy, the objective of the investor is to minimize or negate the possible loss he might suffer in the cash market due to negative trends in the market by taking an opposite position in the Index Derivatives either buying/selling Index Options or buying/selling the Index Futures. In other words, the investor
tries to mark/link the performance of his securities held to the market movements.

Negatives of Derivatives

Derivative Contracts, as the global risk hedging tools, also carry the bad experiences in terms of their delivered utilities to the market. Derivatives which saw their origination in US Markets acted as benchmark for most of the global markets to develop and adopt Derivative Instruments in their economies. Derivatives have also experienced crisis due to failure of few Derivative Instruments introduced in the market. Few crises experienced in the Derivative Instruments in the market could be traced as under.33

01. Summers Massive Interest Rate Gamble: Summers, President of Harvard University and member of Harvard Corporation entered into a contract worth US $3.52 billion of interest rate swaps, for hedging or assumed speculative requirement. During late 2008, Harvard’s position lost a sum of US $1 billion in value forcing Harvard to borrow huge sum in distressed market conditions. This was to meet margin calls on the swaps and had to end up paying US $497.6 million as the termination fee to the investors (investment banks). Further, it had to agree to pay another US $425 million over 30–40 years, and this is referred to as Summers Massive Interest Rate Gamble.

02. Commodity Futures Modernization Act, 2000: Exemption of Derivative Contracts, under Commodity Futures Modernization Act, 2000 from regulation, supervision, trading on established exchanges, and capital reserve requirements for major participants lead to the concerns of the
counterparties to Derivative deals. Because, as these contracts are not regulated, they do not provide for certainty of execution. Hence, the parties to the contract would not be obligated to meet their obligations at the time of the expiration. This acted as a major cause for the crises experienced by USA during their sub-prime crises which was due to invasive/persistent uncertainty of execution of the contracts during the crises. Factors that contributed to the crises were defaults experienced by the credit default swaps (CDS) which was referred by Warren Buffett as financial weapons of mass destruction in early 2003.

03. Derivative and Impact on Insurance Companies: Insurance companies such as American International Group (AIG), MBIA, and Ambac faced major ratings downgrade due to widespread mortgage defaults and increased their potential exposure to CDS (Credit Default Swaps) losses. These firms had to obtain additional funds (capital) to offset this exposure. AIG's having CDSs insuring US $ 440 billion of MBS (Mortgage Back Securities) resulted in its seeking and obtaining a Federal Government's bailout – an initiative of the government to facilitate the financial institutions to overcome their liquidity crisis by funding their debts and defaults.

04. Derivatives and Turmoil experienced by Investment Banks: Investment bank, Lehman Brothers, went bankrupt in September 2008 when there was uncertainty of as much as US $ 600 billion of bonds outstanding to which financial firms were required to honour the CDS contracts. The top five US investment banks significantly increased their financial leverage during 2004–07 which increased their vulnerability to the MBS losses. These five institutions reported over US $ 4.1 trillion in debt for 2007, a figure roughly
30% of the size of US economy. Three of the five either went bankrupt (Lehman Brothers) or were sold at fire-sale prices to other banks (Bear Stearns and Merrill Lynch) during 2008 creating instability in the global financial system. The remaining two converted into commercial bank models in order to qualify for Troubled Asset Relief Program Funds (Goldman Sachs and Morgan Stanley).


Financial Crises of 2008 and worldwide recession resulted in a halt on the three-decade expansion of global capital and banking sectors/markets. Now, the markets have started seeing the growth primarily fuelled by the expansion in developing economies with an increase of US $ 4.4 trillion in the sovereign (countries) debt. The total value of the world’s financial stock comprising of equity market capitalization and outstanding bonds and loans has seen an increase from US $ 175 trillion in 2008 to US $ 212 trillion by the end of 2010 surpassing all the previous peaks. Cross-border capital flows have also increased to US $ 4.4 trillion in 2010 after seeing a decline during 2008 and 2009.

In its 2011 update, McKinsey analyzed more than 75 countries from the points of view of the size of their outstanding equity and debt, cross-border capital flows, and the stocks of foreign investment assets and liabilities. MGI (Mapping Global Institutes) finds that the recovery of financial markets remains uneven across geographies and asset classes, and also the significant risks remain in these economies. The report identifies that the emerging markets are accounting for a disproportionate share of growth in capital-mobilizing as most of the mature
economies are struggling. Debt markets remain fragile in many parts of the world – the growth of government debt and of lending in China is accounting for the major part of the increase in credit globally. Highlights of McKinsey’s Report, 2011 are presented below.

01. The global stock of debt and equity grew by US $ 11 trillion in 2010. The major portion of this growth came from a rebound in global stock market capitalization reflecting new equity issuance and stronger earnings expectations. Net new equity issuance in 2010 totaled US $ 387 billion, and the majority of that issuance came from emerging market companies. Initial public offerings (IPOs) continued to migrate to emerging markets with 60% of IPO deal volume occurring on stock exchanges in China and other emerging markets.

02. The overall amount of global debt outstanding grew by US $ 5 trillion in 2010 with global debt to GDP increasing from 218% in 2000 to 266% by 2010. But the growth pattern varied. Government bonds outstanding rose by US $ 4 trillion while other forms of debt had mixed growth. Bonds issued by financial institutions and securitized assets both declined, while the corporate bonds and bank loans each grew.

03. On-balance sheet loans of financial institutions increased by US $ 2.6 trillion in 2010 (i.e., by 5.9%). However, this global total hides key differences between regions. Since 2007, outstanding loan volumes in both Western Europe and the United States have been broadly flat with a decline in 2009 followed by a modest increase in 2010. In Japan, the stock of loans outstanding has been declining since 2000 reflecting deleveraging by the corporate sector. Lending in emerging markets has grown at 16% annually.
since 2000 and by 17.5% a year in China. Mainland China has added US $1.2 trillion of net new lending in 2010 and other emerging markets US $800 billion.

04. Cross-border capital flows grew in 2010 for the first time since 2007, reaching US $4.4 trillion, but remain 60% below their 2007 peak. This reflects a dramatic reduction in inter-bank lending as well as less foreign direct investment and fewer purchases of debt securities by foreign investors. Contrary to conventional wisdom, this report finds that the capital flows to developed countries are the most volatile.

05. The world’s investors and companies continue to diversify their portfolios internationally. The stock of foreign investment assets grew to US $96 trillion hitting a historical high in 2010 – a ten-fold increase since 1990. Of this, central banks had accumulated US $8.7 trillion in foreign-exchange reserves by the end of 2010, a sizeable share of the world’s financial stock is invested in government bonds and other low-risk securities. Foreign direct investment assets reached a new high of US $21 trillion, as did the stock of foreign debt securities held by institutional and private investors. Banks have once again expanded their international lending, albeit only by a little, with the stock of cross-border loans returning to its 2007 level at US $31 trillion.

06. Cross-border investment is growing fastest outside the traditional centers of financial wealth. In 1999, the web of cross-border investments centered on the United States which was a partner to 50% of all outstanding international financial positions. By 2009, the US’s share of total cross-border investment had shrunk to 32%. This reflected both a surge in cross-border investments within Western Europe following the creation of the
Euro, and phenomenal growth in the size and complexity of linkages with emerging markets. Prior to the 2008 financial crisis, cross-border investments between Latin America, emerging Asia, and the Middle East were growing at 39% annually – roughly twice as fast as these regions’ investments with developed countries.

**Need for Regulatory Framework for Derivative Trading**

There were a number of factors which contributed for the development of regulatory framework for trading on Derivative Instruments. Some of the committees which contributed significantly towards the development of regulatory frameworks are summarized below.

01. WR Natu, former chairman, Forward Market Commission, opined that “the private interest of an operator can thus be at considerable variance with the interest of the trade and public interest. It is because of this divergence that the need for regulation arises”.

02. R. V. Gupta, chairman of the Committee on Hedging through International Commodity Exchange (1997) constituted by RBI opined that, efficient regulatory system will provide for genuine underlying commodities for hedging through offshore commodity F & O markets creating genuine hedge opportunities for price exposure and curtailing the opportunities for speculative gains.

03. L. C. Gupta Committee (1996) constituted by SEBI for developing appropriate regulatory framework for Derivative trading in India recommended that, proper regulatory initiatives should provide for clear description about the concept of Derivatives, how they should provide for
market efficiency and remove the differences in the trading cycles of
different stock exchanges, improve administrative and monitoring
machinery and the acceleration of progress towards a Depository System.

Regulatory Framework for Derivative Trading in Indian Capital Markets

The trading of Derivatives is governed by the Provisions contained in the
Securities Contract (Regulations) Act, 1956, the SEBI Act of 1992, the rules and
regulations framed there under, and the rules and bye-laws of stock exchanges.
The salient features of these regulations are summarized below.36

01. Securities Contracts (Regulations) Act, 1956: Securities Contracts
(Regulations) Act, 1956 aims at preventing undesirable transactions in
securities by regulating the business of dealing therein and by providing for
certain other matters connected therewith. This is the principal Act which
governs the trading of securities in India. The term securities has been
defined in the Securities Contracts (Regulations) Act. As per Section 2 (h),
the ‘Securities’ include, (a) Shares, Scrips, Stocks, Bonds, Debentures,
Debenture Stock or other Marketable Securities of a like nature in or of any
incorporated company or other body corporate, (b) Derivative, (c) Units or
any other instrument issued by any collective investment scheme to the
investors in such schemes, (d) Government Securities, (e) Such other
instruments as may be declared by the Central Government to be securities,
(f) Rights or interests in Securities.

02. Securities and Exchange Board of India Act, 1992: SEBI Act, 1992
provides for establishment of Securities and Exchange Board of India
(SEBI) with statutory powers for (a) protecting the interest of investors in
securities (b) promoting the development of securities market and (c)
regulating the securities market. Its regulatory jurisdiction extends over corporates in the issuance of capital and transfer of securities, in addition to all intermediaries and persons associated with securities market. It has powers for the following.

a. Regulating the business in stock exchanges and any other securities markets.
b. Registering and regulating the working of stock brokers, sub-brokers, etc.
c. Promoting and regulating self-regulatory organizations.
d. Prohibiting fraudulent and unfair trade practices.
e. Calling for information from, undertaking inspection, conducting inquiries and audits of the stock exchanges, mutual funds and other persons associated with the securities market, and intermediaries, and self-regulatory organizations in the securities market.

As per SEBI (Stock Brokers and Sub-Brokers) Regulations, 1992, SEBI shall take into account, for considering the grant of a certificate, all matters relating to buying, selling or dealing in securities and whether the stock broker (a) is eligible to be admitted as a member of a stock exchange (b) has the necessary infrastructure like adequate office space, equipment and man-power to effectively discharge his activities (c) has any past experience in the business of buying, selling or dealing in securities (d) is subjected to disciplinary proceedings under the rules, regulations and bye-laws of a stock exchange with respect to his business as a stock broker involving either himself or any of his partners, directors or employees.
SEBI set up a 24-member committee under the Chairmanship of Dr. L. C. Gupta to develop the appropriate regulatory framework for Derivatives Trading in India. The committee submitted its report in March 1998. On 11th May, 1998, SEBI accepted the recommendations of the committee and approved the phased introduction of Derivatives Trading in India beginning with Stock Index Futures. SEBI also approved the suggestive bye-laws recommended by the committee for regulation and control of trading and settlement of Derivatives Contracts. The Provisions in the Securities Contracts (Regulations) Act and the regulatory framework developed there under govern trading in securities. The amendment to the Securities Contracts (Regulations) Act to include Derivatives within the ambit of ‘securities’ in the Securities Contracts (Regulations) Act made trading in Derivatives possible within the framework of the Act.

01. Any Exchange fulfilling the eligibility criteria as prescribed in the L. C. Gupta Committee Report may apply to SEBI for grant of recognition under Section 4 of the Securities Contracts (Regulations) Act, 1956 to start trading Derivatives. The Derivatives Exchange/Segment should have a separate governing council and representation of trading/clearing members shall be limited to maximum of 40% of the total members of the governing council. The exchange shall regulate the sales practices of its members and will obtain prior approval of SEBI before start of trading in any Derivative Contract.

02. The Exchange shall have minimum 50 members.
03. The members of an existing segment of the exchange will not automatically become the members of Derivative segment. The members of the Derivative segment need to fulfill the eligibility conditions as laid down by the L. C. Gupta committee.

04. The clearing and settlement of Derivatives trades shall be through a SEBI approved clearing corporation or house. Clearing corporations or houses complying with the eligibility conditions as laid down by the committee have to apply to SEBI for grant of approval.

05. Derivative brokers/dealers and clearing members are required to seek registration from SEBI. This is in addition to their registration as brokers of existing stock exchanges. The minimum net worth for clearing members of the derivatives clearing corporation/house shall be ₹ 300 lakh.

06. The minimum contract value shall not be less than ₹ 2 lakh. Exchanges should also submit details of the futures contract they propose to introduce.

07. The initial margin requirement, exposure limits linked to capital adequacy and margin demands related to the risk of loss on the position shall be prescribed by SEBI/Exchange from time to time.

08. The L. C. Gupta Committee Report requires strict enforcement of Know Your Customer rule and requires that every client shall be registered with the derivatives broker. The members of the Derivatives segment are also required to make their clients aware of the risks involved in Derivatives trading by issuing to the client the Risk Disclosure Document and obtain a copy of the same duly signed by the client.
09. The trading members are required to have qualified approved user and sales person who have passed a certification programme, approved by SEBI.

Eligibility Criteria for Trading on Equity Derivatives

Regarding the eligibility criteria for introducing Futures & Options Contracts on stocks and indices, the following revised eligibility criteria are applicable with effect from 22nd September, 2006 to determine the eligibility of stocks and indices on which Futures & Options contract could be introduced for trading in Derivatives. Eligibility criteria for introducing Futures & Options Contracts on Stocks are as follows.37

01. The stocks would be chosen from among top 500 stocks in terms of average daily market capitalization and average daily traded value in the previous six-month period on a rolling basis.

02. For a stock to be eligible, the median quarter-sigma order size over the last six-month period should not be less than ₹ 1,00,000. For this purpose, a stock's quarter sigma order size shall mean the order size (in value terms) required to cause a change in the stock price equal to one-quarter of a standard deviation.

03. The Market Wide Position Limit in the stock shall not be less than ₹ 50 crores. The Market Wide Position Limit is valued taking into consideration 20% of number of shares held by the Non-promoters (i.e., free-float holding) in the relevant underlying security (i.e., free-float holding) and the closing prices of the stock in the underlying cash market on the date of expiry of contract in the month. Market Wide Position Limit is calculated at the end of every month.
Conclusion

Indian Capital Markets, since their integration into the global financial markets, have transformed themselves as one of the centers for optimal solutions not only for the Indian investment participants but also for Foreign Institutional Investors (FII) and Foreign Direct Investors (FDI) creating potential platforms for investments offering solutions to their dynamic investment objectives. The capital markets have been highly innovative in creating products and services that can foster to the dynamic requirements of diverse investments groups. The regulatory authorities have also strived hard to create congenial investment environment by creating efficient legal infrastructure that can protect the interest of the investors and the right Market Infrastructure to create better liquidity platforms for the investors which can help them to have aggressive investment management opportunities.

Managing risks associated with their investment by the market intermediaries and the regulators have been a major challenge and the markets now have been efficient in creating various Risk Management Tools such as, Mutual Funds, Insurance Products, Financial Derivatives (Currency Derivatives, Index Derivatives, Stock Derivatives, Commodity Derivatives, etc) and there are a number of complex Derivative instruments that are not only acting as mere risk management tools but also extend opportunities to capitalize on the market opportunities and earn aggressive profits by adopting Aggressive Investment Strategies. With the help of these risk management tools, a number of strategies are developed and adopted by the investors which are helping them to manage
risks associated with their investment effectively. Derivatives today are acting as a major supplement for the Cash Market trading adding leverage to their performance and creating additional liquidity platform for their instruments on which the contracts are written.

Notes and References


2. Ibid., pp. 122-3.


14. Ibid.


