A study on Present Scenario of Derivative Markets in India

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Abstract
Life has many options, but when it comes to the world of derivatives or trading futures, forwards and options, there are certain points you need to keep in mind. Derivatives are hot property, but if you are looking to break the ice and get acquainted with this trading segment, you have come to the right place. Derivatives markets in most countries are more popular than cash markets on an exchange. But what are derivatives? Derivatives are increasingly becoming an important tool for risk management. Derivatives contracts help in reducing risk by transferring the risk associated with the underlying asset to the party willing to take that risk. Some of the risks are Credit risk, Liquidity risk and market risk. Derivative is best used as risk management tool by which you can transfer the risk associated with the underlying asset to the party who is willing to take that risk. It is an effort to demonstrate the growth and expansion of financial derivative of NSE in India the time period i.e 2014-2015 to 2016-17.

I. Introduction
A derivative is a financial instrument that derives its value from an underlying asset. The underlying asset can be equity, currency, commodities, or interest rate. Thus, a change in the underlying asset leads to an equivalent change in the derivative. Derivative markets are investment markets where derivative trading takes place.

- **Classification of derivatives**
  Derivatives can be broadly divided into two distinct groups:
  - **Over the Counter (OTC):** The OTC derivative market is the largest market for derivatives. Here, the derivatives are traded privately without an exchange. Products such as swaps, exotic options, and forward rate agreements are traded between highly sophisticated financial entities such as hedge funds and banks in private.
  - **Exchange-traded derivative contracts (ETD):** ETDs are derivative instruments that are traded in a derivatives exchange. This exchange acts as an intermediary in all related transactions. As a guarantee, an initial margin is submitted by both the buyer and the seller of the contract.

II. Literature Review
Rajeswari, T. R. and Moorthy, V. E. R. (2005) Concluded that expectations of the investors influenced by their perception and human generally relate perception to action. The study revealed that the foremost preferred vehicle is deposit with mutual funds and equity on fourth and sixth respectively. The survey also revealed that the investment decision is formed by investors on their own, and other sources influencing their selection decision are newspapers, magazine, brokers, television and friends or relatives.
Mayank Raturi (2005) reasoned that the benefit of remarkable subsidiary agreements keeps on extending, in spite of certain misfortunes because of the repercussions of the Baring Bank and comparable liquidations stories. Endurance of Credit Derivatives was additionally addressed.

III. Objective Of The Study
- To analyze the current position of NSE in the derivative exchanges.
- To examine the growth of derivative market in India.
- To find out new opportunities in equity derivative market.

IV. Research Methodology
The present study has been undertaken with empirical analysis of status of financial derivatives in India with the use of secondary data. Data and information for the research study were collected and analyzed from secondary published sources like newspapers, web sited, books etc.

V. Concept Of Derivatives
Derivatives are financial contracts whose value/price is dependent on the behavior of the price of one or more basic underlying asset (often simply known as underlying). These contracts are legally binding agreements, made on trading screen of stock exchange, to buy or sell an asset in future. The asset can be share, index, interest rate, bond, rupee dollar exchange rate, sugar, crude oil, soya bean, coffee etc.

1. Types of derivatives
   i. Futures: These are arrangements to buy or sell a fixed quantity of a particular security or currency for a fixed price and date in the future.
   ii. Option: The owner of an option does not have the obligation but the option to buy or sell a particular security, currency on or before a predetermined date.
   iii. Swap: A derivative is a financial instrument that derives its value from an underlying asset. The underlying asset can be equity, currency, commodities, or interest rate. Thus, a change in the underlying asset leads to an equivalent change in the derivative. Derivative markets are investment markets where derivative trading takes place.

2. Traders in the derivatives Market
   i. Hedgers: Hedging is a market mechanism by which an investor protects erosion of asset value due to an adverse price movement. Hedgers therefore, use derivatives especially during market volatility. This is to streamline future cash flow and ensure that there is minimal loss of asset value in the future.
   So, for example, an investor has a stock portfolio of Rs5 lakh. He may not be keen on liquidating any positions ahead of key macroeconomic events such as budget or monetary policy announcements. He may, therefore, choose to protect his portfolio by shorting index futures. He can also choose to pay a fixed cost in the form of a premium and purchase a put option instead.
   ii. Speculators: Speculators, in a way are the exact opposite of hedgers. Rather than protecting their portfolio, they look at making higher gains in a shorter time frame. A speculator may therefore want to take advantage of price movements during times of volatility and make a large profit in the process.
   For example, if a speculator has the idea that the price of company A may fall in a few days due to policy announcements, he would choose to short sell the shares of company A ahead of the event. If the fall takes place as per his expectations, he has the opportunity to make a good profit. On the other hand, if the stock price of A rises against his expectations, he will suffer a hefty loss.
   iii. Arbitrageurs: The main objective of an arbitrageur is to exploit the price differentials in different markets. He will therefore buy an asset at a cheaper rate in one market and sell it at a higher rate in another. This results in a low risk profit opportunity. However, such windows of opportunities are very brief in the derivatives market and may turn out to be a risky trade.
   For example, say, the stock of company X is trading at Rs50 in the spot market and simultaneously quoting at Rs55 in the future market. An arbitrageur would buy 100 shares of company X at Rs50
in the cash market. Simultaneously, he would sell 100 shares at Rs55 in the futures market. As a result, he will make a profit of Rs5 per share.

3. Applications Of Financial Derivatives

i. Real Assets, Financial Assets and Derivative Assets

Financial markets deal with financial assets and derivative assets. Derivative assets (positions in forwards, futures, options and swaps) derive values from changes in real assets or financial assets, and sometimes changes of other specific indices, for example temperature index. Derivative assets are assets whose prices and values are derived from some primary assets. Derivatives are claims on primary assets: real or financial underlying assets. Derivative market is much greater than primary assets market.

Real assets tangible or physical (be it land, buildings, machinery, equipment, commodities – gold, oil metals or raw materials) are primary assets. Financial assets are claims on real assets. For derivatives, financial instruments are also primary assets.

Financial asset markets deal with treasury bills, bonds, stocks, loans, deposits and currencies. The owner of a primary asset has a direct claim on the benefits provided by a real asset.

Financial markets are places where borrowers (issuers of securities, sellers) requiring cash (deficit units) can meet with lenders (investors, buyers) able to supply it (surplus units). The financial markets allow firms to realize their investment decisions and financial decisions.

ii. Spot Markets and Forward/Futures Markets

Spot transactions assume that delivery of an asset is realized instantly or within two or sometimes several days. For example, in currency spot transaction in the interbank market delivery date is usually exactly two working days after transaction. Forward/futures transactions assume that delivery is at some future date, such as one month or six months into the future.

a) Forward and Futures

Forward Contract

A forward contract obliges its purchaser to buy a given amount of a specified asset at some stated time in the future at the forward price. Similarly, the seller of the contract is obliged to deliver the asset at the forward price. Non-delivery forwards (NDF) are settled at maturity and no delivery of primary assets is assumed.

Futures Contracts

Futures contracts are created and traded on organized futures exchanges. Contracts are highly standardized in terms of the amount and type of the underlying asset involved and the available dates in which it can be delivered. The exchanges themselves provide assurances that contracts will be honored through clearinghouses. One of the primary roles of the clearinghouse is to be the opposite party to all trades. Buyers and sellers of future contracts do not deal directly with each other but with a clearinghouse.

Types of Futures Contracts

There are five broad types of futures contracts:

- futures on commodities (grains, metals, food),
- futures on currencies,
- futures on interest bearing instruments (Eurodollar deposits, treasury bonds, notes and bills)
- futures on stocks
- futures on stock indexes

. Options

Options are traded on exchanges and OTC market. An option is a derivative security that gives the buyer (holder) the right, but not the obligation, to buy or sell a specified quantity of a specified asset within a specified time period. An option contract differs from the futures contract in that the
option contract gives the buyer the right, but not the obligation, to purchase or sell a security at a later date at a specified price.

- **Swaps**
  Swaps are considered to be interest rate risk management tools because they give an efficient means of adjusting the interest rate exposure of a company’s assets and liabilities. It should be noted that other financial instruments, such as exchange-traded interest rate futures and option contracts, are often capable of achieving similar results. Swaps are long-term OTC instruments. A great flexibility in setting the terms of the swap agreement makes it a very effective instrument in risk management.

**iii. Products available for trading in derivative segment**
Accordingly BSE and NSE were permitted to introduce trading in derivatives on June 09, 2000 with launch of Equity Index futures followed by Index options. Subsequently, Futures & Options on Individual stocks were permitted in 2001. Currently, the following products are available for trading in the equity derivative segment of exchanges.

<table>
<thead>
<tr>
<th>Product</th>
<th>Settlement Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index Futures Cash Settled</td>
<td>Index Futures Cash Settled</td>
</tr>
<tr>
<td>Index Options Cash Settled (European style)</td>
<td>Index Futures Cash Settled</td>
</tr>
<tr>
<td>Stock Futures Cash/Physical Settled</td>
<td>Stock Futures Cash/Physical Settled</td>
</tr>
<tr>
<td>Stock Options Cash/Physical Settled (European style)</td>
<td>Stock Options Cash/Physical Settled</td>
</tr>
</tbody>
</table>

**4. Growth in Derivatives market in India**

i. The following table shows the trend in volumes in equity cash segment and equity derivative segment at BSE and NSE:

<table>
<thead>
<tr>
<th>Financial Year(FY)</th>
<th>Market Capitalisation of the Exchange (BSE)</th>
<th>Turnover in Equity cash segment (Rs. Crores)</th>
<th>Turnover in Equity Derivatives segment (Notional Values) (Rs. Crores)</th>
<th>Ratio: Turnover in Equity derivatives / Equity cash</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>74,15,296</td>
<td>33,30,152</td>
<td>4,74,30,842</td>
<td>14.24</td>
</tr>
<tr>
<td>2014-15</td>
<td>1,01,49,290</td>
<td>51,84,500</td>
<td>7,59,69,194</td>
<td>14.65</td>
</tr>
<tr>
<td>2015-16</td>
<td>94,75,328</td>
<td>49,77,072</td>
<td>6,93,00,842</td>
<td>13.92</td>
</tr>
<tr>
<td>2016-17</td>
<td>1,21,54,525</td>
<td>60,54,174</td>
<td>9,43,77,241</td>
<td>15.59</td>
</tr>
</tbody>
</table>
ii. Table shows the name of the jurisdictions where derivative contracts on such Indices are available.

<table>
<thead>
<tr>
<th>Exchange</th>
<th>International Stock exchange on which Indian Index / indices are traded</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSE</td>
<td>Singapore Exchange Ltd. (SGX)</td>
</tr>
<tr>
<td></td>
<td>Osaka Exchange Inc. (OSE)</td>
</tr>
<tr>
<td></td>
<td>Chicago Mercantile Exchange Inc. (CME)</td>
</tr>
<tr>
<td></td>
<td>London Stock Exchange</td>
</tr>
<tr>
<td>BSE</td>
<td>Hong Kong Exchange and Clearing Ltd</td>
</tr>
<tr>
<td></td>
<td>BM &amp; BOVESPA SA, Brazil</td>
</tr>
<tr>
<td></td>
<td>Johannesburg Stock Exchange, SA</td>
</tr>
<tr>
<td></td>
<td>Public Joint Stocks Company MICEX RTS, Moscow</td>
</tr>
<tr>
<td></td>
<td>The Korea Exchange Incorporated</td>
</tr>
<tr>
<td></td>
<td>Dubai Gold &amp; Commodities Exchange, Dubai</td>
</tr>
</tbody>
</table>

iii. The participation of individual investors and their contribution in the derivative segment has been shown in the Table

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>No of Individual Investors (in Lakhs)</th>
<th>Contribution of Individuals in equity derivative as a % of total turnover in equity derivative segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>6.84</td>
<td>26.32</td>
</tr>
<tr>
<td>2014</td>
<td>6.87</td>
<td>26.83</td>
</tr>
<tr>
<td>2015</td>
<td>7.28</td>
<td>26.99</td>
</tr>
<tr>
<td>2016</td>
<td>7.26</td>
<td>28.50</td>
</tr>
<tr>
<td>2017*</td>
<td>5.70</td>
<td>29.71</td>
</tr>
</tbody>
</table>

iv. Table shows Individual investors:-Comparative trading pattern of Cash and derivative segment

<table>
<thead>
<tr>
<th>Cash Market turnover of Individual Investors (A)</th>
<th>Percentage of Individual Investors to total Individual Investors traded in Derivatives. (B)</th>
<th>Percentage of turnover to total turnover by Individual Investors in Derivative Segment.(C)</th>
<th>Percentage of turnover by individual investor in derivative to total investors in derivatives. (D) = (C) x 25.67 ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above Rs. 1 Crore</td>
<td>22.80</td>
<td>55.90</td>
<td>14.34</td>
</tr>
<tr>
<td>Between Rs. 50 Lakhs and Rs. 1 Crore</td>
<td>8.50</td>
<td>7.30</td>
<td>1.87</td>
</tr>
<tr>
<td>Between Rs. 10 Lakhs and Rs. 50 Lakhs</td>
<td>20.40</td>
<td>13.50</td>
<td>3.48</td>
</tr>
<tr>
<td>Between Rs. 2 Lakh and Rs. 10 Lakhs</td>
<td>16.50</td>
<td>7.50</td>
<td>1.92</td>
</tr>
<tr>
<td>Below Rs. 2 lakhs</td>
<td>17.40</td>
<td>5.90</td>
<td>1.51</td>
</tr>
<tr>
<td>Not traded</td>
<td>14.40</td>
<td>9.90</td>
<td>2.54</td>
</tr>
</tbody>
</table>

Source: NSE
• Investors with trades of less than equal to Rs.10 lakhs accounts for about 6% of the total derivative trading by individual investor, of these investors not traded in cash market accounts for 2.5% of total derivative trading by individual investor.

• Approximately 68% of total Individual Investors traded in the derivative segment are falling in the category of trades greater than Rs.2 lakhs in cash segment. These Individual Investors account for more than 84% of turnover in Derivative Segment in the Individual Investor category.

• Number of Individual Investors traded in the derivative segment are scattered in terms of their turnover in cash segment.

• Individual investors traded for value greater than Rs.10 lakhs in cash segment have around 77% of concentration in turnover in derivative segment (in the category of Individual Investors).

• Approximately 23% of individual investors who have traded in the equity derivatives have a cash market turnover of less than Rs.10 lakhs.

• Around 14% of Individual Investors who have contributed approximately 10% of the turnover of equity derivatives segment have not traded in the cash segment. Such trading could be speculative in nature.

• More than 50% trading in the derivative segment in the category of Individual Investors is concentrated by investors who have greater than Rs.1 crore exposure in cash market.

32. Derivatives products by nature are complex instruments. The valuation of derivatives such as options depends on many variables and option writers are exposed to significant risk if that do not have corresponding position. Therefore it is important that investors have a good understanding of derivatives and the ability to absorb the risk of their position. Indian market does not have the concept of product suitability framework. Investors may not have adequate understanding and financial capability to withstand risk posed by complex derivative instruments. It may be pertinent to mention that L C Gupta committee in its report has also given emphasis on Regulation of Sales Practices and Disclosures for Derivatives.
5. Business Growth in FO Segment

6. Conclusion:

Financial derivative market has played a major role in risk management and for the growth of the economy. Derivatives have been used as a tool by all the investors in derivatives markets for reducing their risk. Financial derivatives have gained significant place in all the financial instruments. It is an opportunity for all the investors to pass on the risk from one person to another. Launch of equity derivatives in Indian market has been extremely encouraging and successful.

References:
5. www.nseindia.com

Year | Index Futures | Vol Futures | Stock Futures | Index Options | Stock Options | Total
---|---|---|---|---|---|---
2019-20 | 81305442 | 5934950.58 | 0 | 0.00 | 237054659 | 13969417.05 | 434124432 | 914716.43 | 188424797 | 205484.67 | 484802930 | 328913441.31
2018-19 | 69824522 | 5568914.47 | 0 | 0.00 | 255533869 | 16147010.86 | 265245748 | 654099.95 | 186986542 | 200010.31 | 3167183212 | 237590973.69
2017-18 | 57674584 | 4810454.34 | 0 | 0.00 | 214758366 | 15597519.71 | 1515034222 | 460653.71 | 126411376 | 148217.50 | 1913878548 | 164948589.05
2016-17 | 6655070 | 4335940.78 | 1 | 0.09 | 173860130 | 11129587.14 | 1067244916 | 350281.53 | 92106008 | 95570.09 | 1399746129 | 9437030.61
2015-16 | 140538674 | 4557113.64 | 94 | 10.23 | 234243967 | 7828606.00 | 162352846 | 351221.01 | 100299174 | 61118.39 | 2096610395 | 6482583.30
2014-15 | 129030344 | 4107215.20 | 11274 | 2256.43 | 237604741 | 8291766.27 | 1378642863 | 265315.63 | 91479209 | 61732.59 | 1837041131 | 55606453.39
2013-14 | 105252983 | 3083103.23 | 17546 | 2193.24 | 170414186 | 4949281.72 | 928565175 | 244090.71 | 80174431 | 46428.41 | 1284424321 | 38211408.05

Source: NSE Website

www.theinternationaljournal.org> RJCBS : Volume: 09, Number: 08, June 2020