

Growth of India's Equity Derivatives Market: An Analytical Study (2000-2015)

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Abstract

This paper explores the exponential growth of equity derivatives market in India. Equity F&O segment on the nation's stock exchanges recorded a turnover 15 times of the cash market in 2014-15. The total turnover in equity derivatives market rose by 59.7 % when compared to 2013-14. This paper traces the growth and present status of India's equity derivatives market. It further attempts to infer reasons for this phenomenal growth from extant literature and secondary data sources.

Keywords: Equity Derivatives, Cash market, Stock Exchanges, SEBI, NSE

JEL Classification: G 15, G19, G20

Introduction

“Financial Futures represent the most significant financial innovation of the last twenty years” - Merton Miller, 1990 Nobel Laureate

Equity derivatives trading in India started in the year 2000. Index Futures were launched in June 2000, followed by Index Options in June 2001, Individual Stock Options in July 2001, Single Stock Futures in November 2001. Equity Derivatives in India have progressed a long way since then. This market has witnessed expanding list of eligible investors, increase in volumes, best risk management framework for exchange traded derivatives & innovation in market microstructure and design. A vibrant exchange traded derivatives market is the hall mark of India. This is achieved through nation-wide market access, anonymous electronic order book trading and a predominantly retail market. In India, various studies emphasize the major role of equity derivatives market in shaping price discovery. This study focuses on NSE as it forms major share in India's equity derivatives volume.

Literature Review

There are extensive studies, reports and books available on Indian Securities markets. I have reviewed some recently published literature pertaining to equity derivatives markets.

Indian Securities Market: A review (2013) publishes the latest statistics and developments in India's securities markets and notes that NSE ranks number 4 in single stock futures, number 2 in stock index options contracts traded and number 5 in stock index futures contracts traded.

NSE Fact Book (2013) lists all the statistics related to NSE .Various facts & figures like trading value of different market segments, market capitalization of different market segments ,Business growth of CM ,F & O segment , internet trading in the F & O segment , Records achieved in the F & O segment , participant wise trading value in the F & O segment.

SEBI Annual Report (2013) describes the development in Indian capital markets in the wake of Global Financial crisis and ensuing recovery phase. The report elaborates the policies under taken during the year to strengthen the Indian regulatory framework of capital markets. The report further notes that over the years, derivatives markets have evolved as the single largest segment in Global Financial Markets with the turnover greater than that of equity and bond markets. It is observed that equity derivatives segment is the most vibrant, active and dominant segment in the Indian securities markets.

Bhagwat (2012) in their study titled “An analysis of Indian financial Derivatives market and its position in Global financial Derivatives market” report the phenomenal growth of derivatives market. The study explains the increasing turnover of derivatives trading which surpassed the cash segment. They further observe the major role of derivatives in shaping price discovery.

Kumari (Oct 2011) in her paper titled “An Insight Into Derivative Markets: Indian Perspective” studies the genesis of derivatives trading and traces its historical developments, types of traded derivatives products, regulation and policy developments, trend and growth, future prospects and challenges of derivatives markets in India .The author concludes that Indian derivatives markets is still in a nascent stage and asserts the great scope for further development.

Kohli (2010) in her article titled “Journey of equity derivative market at NSE–analysis for the decade (2000 – 2010)” notes that equity derivatives form an important component of the Indian securities market. The article high lights that index options have witnessed the highest growth followed by Index Futures, Stock Futures and Stock Options.

Ajay Shah & Susan Thomas (2000) in their paper entitled “David and Goliath: Displacing a primary market” Provides explanation of how the start up NSE surpassed the BSE in only one year. The authors attribute the success of NSE to innovation in market design, availability of extreme opportunity in India’s securities market, ability to execute radical surgery in the areas of trading, clearing and settlement with the support of India’s political economy.

Ajay Shah & Susan Thomas (1998) in their paper titled “Market Microstructure considerations in index construction” proposes methods for construction of India’s NSE – 50 index. This paved the way for vibrant index futures and index options market. Their study emphasizes the importance of the choice of an index for use in financial products. The author’s report is useful for creating market indexes in any market where the limit order book is observed .The NSE – 50 indexes speeded up progress through sophistication in product development.

Objectives of the study

To examine the business growth of different equity derivative products at NSE.

To examine the shift in trend in terms of usage of different products.

To analyze the position of NSE in the World Derivative Exchanges.

Growth of Indian Equity Derivatives Market

India holds a significant place in the area of world derivatives markets. Volumes of derivatives market far exceeded that of cash segment. At the close of 2014-15, F&O turnover is 15 times that of cash segment turnover.

Growth of Index Futures

Index futures is the first type of derivatives instruments to be launched in Indian Markets. The Index futures instrument’s percentage share in terms of total turnover has decreased from a high of 34.5% in 2006-07 to 7.4% in 2014-15. SEBI’s policy of discouraging retail investors in F&O segment is partially responsible for this phenomenon as it discontinued MINI-NIFTY contracts.

Table 1: Business Growth of Index Futures at NSE

Year	Index Futures			
	Contracts Traded	Trading Volume	Percentage share of Index Futures in terms of Total	
	(No.)	(Rs. cr.)	No .of Contracts	Turnover
2000-01	90,580	2,365	100.00	100.00
2001-02	10,25,588	21,483	24.44	21.08
2002-03	21,26,763	43,952	12.68	9.99
2003-04	1,71,91,668	5,54,446	30.22	26.02
2004-05	2,16,35,449	7,72,147	28.09	30.32
2005-06	5,85,37,886	15,13,755	37.14	31.38

2006-07	8,14,87,424	25,39,574	37.57	34.52
2007-08	15,65,98,579	38,20,667	36.85	29.19
2008-09	21,04,28,103	35,70,111	32.01	32.42
2009-10	17,83,06,889	39,34,389	26.25	22.27
2010-11	16,50,23,653	43,56,755	15.96	14.90
2011-12	14,61,88,740	35,77,998	12.13	11.41
2012-13	9,61,00,385	25,27,131	8.49	8.01
2013-14	10,52,52,983	30,83,103	8.2	8.1
2014-15	12,93,03,044	41,07,215	7.03	7.4

Source: NSE Website

Growth of Index Options

The Index Options segment was the leader in the F&O segment in the NSE in 2014-15. According to the

Federation of Exchanges Survey, NSE's CNX Nifty Index options were ranked first in the world. Table 2 depicts the phenomenal growth of Index Options Market.

Table 2: Business Growth of Index Options at NSE

Year	Index Options			
	No. of Contracts Traded	Notional Trading Volume (Rs. cr)	Percentage Share of Index options in terms of	
No. of Contracts			Turnover	
2000-01	-	-	-	-
2001-02	1,75,900	3,765	4.19	3.69
2002-03	4,42,241	9,246	2.64	2.10
2003-04	17,32,414	52,816	3.05	2.48
2004-05	32,93,558	121,943	4.28	4.79
2005-06	129,35,116	338,469	8.21	7.02
2006-07	251,57,438	791,906	11.60	10.77
2007-08	553,66,038	13,62,111	13.03	10.41
2008-09	21,20,88,444	37,31,502	32.26	33.89
2009-10	34,13,79,523	80,27,964	50.26	45.45
2010-11	65,06,38,557	183,65,365	62.91	62.80
2011-12	86,40,17,736	227,20,031	71.70	72.50
2012-13	82,08,77,149	227,81,574	72.55	72.20
2013-14	92,85,65,175	277,67,341	---	72.7
2014-15	137,86,42,863	399,22,663	-----	71.8

Source: NSE Fact Book (2015)

Growth of Single Stock Futures (SSF)

Table 3: Business Growth of Stock Futures

Year	Stock Futures			
	No. of Contracts Traded	Trading Value (Rs. Cr)	Percentage share of Stock Futures in terms of total	
No. of contracts			Turnover	
2000-01	-	-	-	-
2001-02	19,57,856	51,515	46.65	50.54
2002-03	1,06,76,843	2,86,533	63.67	65.14
2003-04	3,23,68,842	13,05,939	56.90	61.29
2004-05	4,70,43,066	14,84,056	61.08	58.27
2005-06	8,09,05,493	27,91,697	51.33	57.87

2006-07	10,49,55,401	38,30,967	48.39	52.08
2007-08	20,35,87,952	75,48,563	47.90	57.66
2008-09	22,15,77,980	34,79,642	33.71	31.60
2009-10	14,55,91,240	51,95,247	21.43	29.41
2010-11	18,60,41,459	54,95,757	17.99	18.80
2011-12	15,83,44,617	40,74,671	13.14	13.00
2012-13	14,77,11,691	42,23,872	13.05	13.40
2013-14	17,04,14,186	49,49,281	----	13.0
2014-15	23,76,04,741	82,91,766	-----	14.9

Source: SEBI Website

Single Stock Futures (SSF) product is an instant hit when it was launched in 2001. This is due to the market participants' familiarity with Badla system. But due to stringent margining system and increased volatility in markets due to the Global Financial Crisis (GFC) the share of SSF had declined substantially over the years and now form 14.9 percent in 2014-15.

Growth of Stock Options

Stock Options product seems to be picking up in terms of

both the number of contracts and turnover. The percentage share of stock options in terms of total turnover is steadily increasing from 2 percent in 2008-09 to 5.9 percent in 2014-15. This may be attributed to the market participants' learning of options behavior, pricing and technology easily accessible to price options. NSE's role in educating market participants via NCFM, investor awareness programs, MDP's, Collaborative educational programs with institutes and Universities have significantly contributed to sophistication of investors.

Table 4: Business Growth of Stock Options

Month/Year	Stock Options			
	No. of Contracts Traded	Trading Value (Rs. cr)	Percentage share of Stock Options in terms of total	
			No. of contracts	Turnover
2000-01	-	-	-	-
2001-02	10,37,529	25,163	24.72	24.69
2002-03	35,23,062	1,00,131	21.01	22.76
2003-04	55,83,071	2,17,207	9.81	10.19
2004-05	50,45,112	1,68,836	6.55	6.63
2005-06	52,40,776	1,80,253	3.32	3.74
2006-07	52,83,310	1,93,795	2.44	2.63
2007-08	94,60,631	3,59,137	2.23	2.74
2008-09	1,32,95,970	2,29,227	2.02	2.08
2009-10	1,40,16,270	5,06,065	2.06	2.87
2010-11	3,25,08,393	10,30,344	3.14	3.50
2011-12	3,64,94,371	9,77,031	3.03	3.10
2012-13	6,67,78,193	20,00,427	5.90	6.30
2013-14	80,17,44,31	24,09,448	----	6.30
2014-15	91,47,92,09	32,82,552	----	5.90

Source: NSE Website

Trend of Usage of Equity Derivative Products

The equity derivatives markets experienced remarkable

shifts in the share of different derivative products in recent years as shown in Table 5.

Table 5 : Percentage Share of different Equity Derivative products in India

Year	Index Futures	Index Options	Stock Futures	Stock Options
2000-01	100	-	-	-
2001-02	21.08	3.69	50.54	24.69
2002-03	9.99	2.10	65.14	22.76
2003-04	26.02	2.48	61.29	10.19
2004-05	30.32	4.79	58.27	6.63
2005-06	31.38	7.02	57.87	3.74
2006-07	34.52	10.77	52.08	2.63
2007-08	29.19	10.41	57.66	2.74
2008-09	32.42	33.89	31.60	2.08
2009-10	22.27	45.45	29.41	2.87
2010-11	14.90	62.80	18.80	3.50
2011-12	11.40	72.50	13.00	3.10
2012-13	8.00	72.20	13.40	6.30
2013-14	8.1	72.7	13.0	6.3
2014-15	7.4	71.8	14.9	5.9

Source: SEBI Annual Report (2014-15)

Till 2007-08, Single Stock Futures (SSF) product is the most traded product in India. During 2014-15, Index options contributed largest share in total derivatives turnover. SSF share has decreased drastically over the years and constitute a mere 14.9 percent at NSE. Index Futures share decreased from 32.42 percent in 2008-09 to mere 7.4 percent in 2014-

15. However the stock options product increased its share from 2 percent in 2008-09 to 5.9 percent in 2014-15.

NSE's ranking in World Exchanges

Table 6 shows the ranking of NSE in terms of number of contracts traded in 2012 among world's exchanges.

Table 6: NSE's ranking among World's Exchanges

Product	NSE's ranking number of contracts traded (2015)
1. Single Stock Futures	2
2. Single Stock Options	6
3. Stock Index Options	1
4. Stock Index Futures	6

Source: NSE Market Pulse (Dec 2015)

In terms of single stock futures, NSE held the fourth position, second in terms of stock index options and fifth in terms of stock index futures contracts traded in 2015. These rankings are based on the world federation of exchanges (WFE) market highlights 2015.

Findings & Conclusions

Based on the various secondary data sources and their analysis in terms of percentage growth and relative share the following conclusions are drawn in this study.

- Equity Derivatives Markets experienced tremendous shifts in the share of different derivative products in recent years.
- Index Futures share decreased from 32.42 percent in 2008-09 to mere 7.4 percent in 2014-15.

- Index Options contributed largest share in total derivatives turnover in 2014-15. Its' share increased from 33.89 percent in 2008-09 to 71.80 percent in 2014-15.
- Single Stock Futures product which is the most traded in India till 2007-08 decreased substantially to 14.9 percent in 2014-15.
- Single Stock Options product increased its' share from 2 percent in 2008-09 to 5.9 percent in 2014-15.
- NSE is ranked at number 2 in Single Stock Futures contracts, at number 1 in Single Stock Index Options, at number 6 in Index Futures & Stock Options contracts traded in 2015.

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