



AUGUST 2016 UPDATE

THE WORLD'S FASTEST EXCHANGE
WITH A SPEED OF 6 MICROSECONDS

LIQUIDITY • LOWER COSTS • MARKET MAKERS • TIGHT SPREADS • LARGE PARTICIPANT BASE



THE WORLD'S FASTEST EXCHANGE WITH A SPEED OF
6 MICROSECONDS

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About BSE



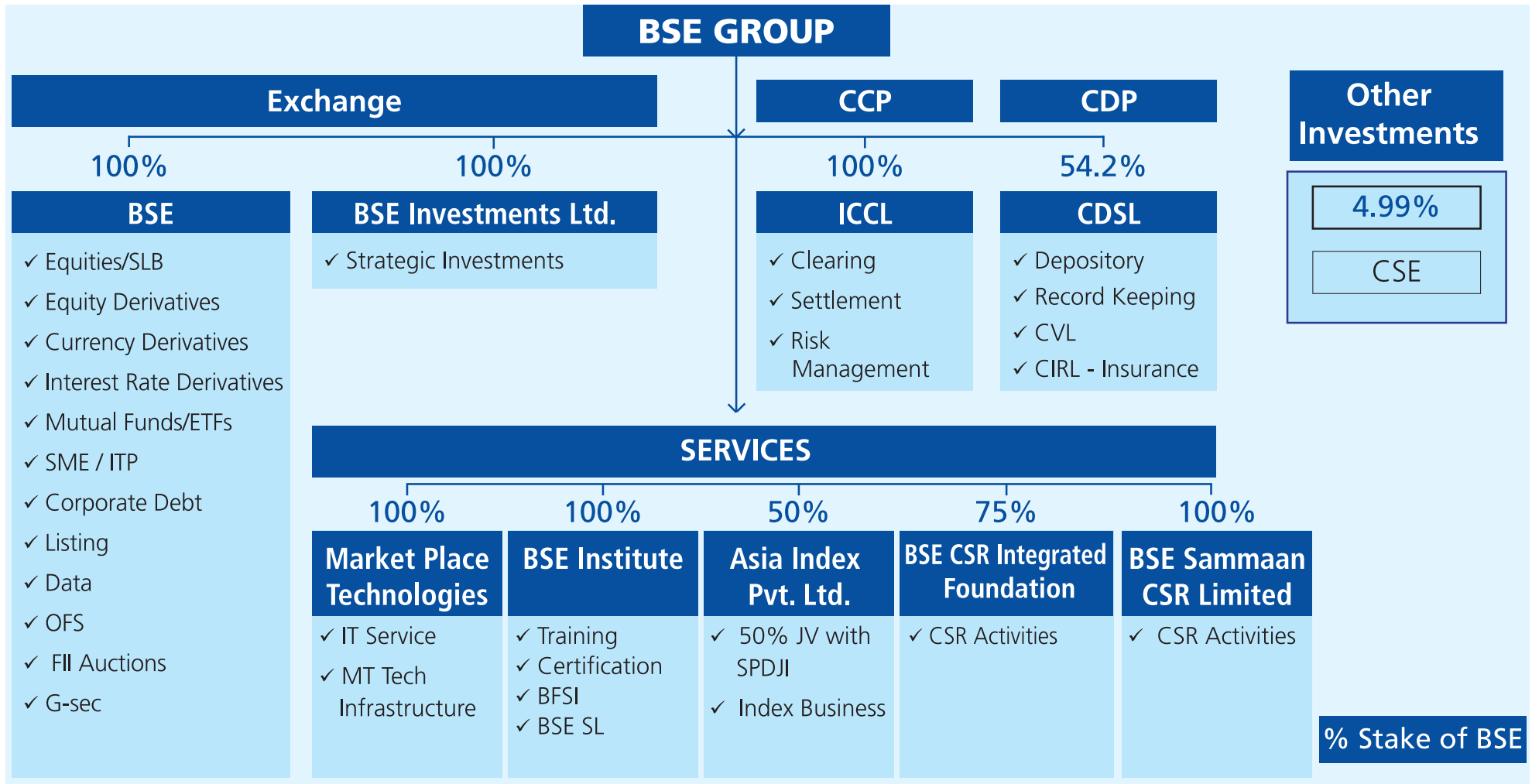
Evolution Of The Exchange



Key Milestones

| Date | Milestones |
|----------------------------|---|
| 25 th July 2016 | BSE signs Memorandum of Understanding with Mauritius Stock Exchange |
| 9 th July, 2016 | Shri Arun Jaitley, Hon'ble Minister of Finance Unveiled the Commemorative Postage Stamp Celebrating 140 glorious years of BSE |
| 21 st Jun, 2016 | BSE gets SEBI approval to launch "BSE-BOND"- Electronic Book Mechanism for issuance of debt securities on private placement |
| 9 th Jun, 2016 | BSE announces commencement of trading of Sovereign Gold Bonds |
| 28 th Apr 2016 | BSE signs Memorandum of Understanding with Korea Exchange (KRX) to launch S&P BSE Sensex based derivatives contracts at KRX |
| 05 th Apr 2016 | BSE & CMIE launch world's first high-frequency data on unemployment and consumer sentiments |
| 2 nd Jan 1986 | S&P BSE SENSEX , country's first equity index launched (Base Year:1978-79 =100) |
| 31 st Aug 1957 | BSE granted permanent recognition under Securities Contracts (Regulation) Act (SCRA) |
| 9 th Jul 1875 | The Native Share & Stock Broker's Association formed |

BSE Group – A Complete Securities Eco-system



Partners in Progress

Highlights



- Alliance with leading global exchanges
 - Deutsche Börse
 - Singapore Exchange
- Key local Indian investors provide credibility and support
- Cross listing of benchmark index S&P BSE SENSEX in BRICS countries



- SGX has invested 4.75% investment in BSE to build Asian gateway of securities and derivatives



- 4.68% investment in BSE as key user and supporter of platform
- Board Presence



- Calculation & maintenance of all BSE Indices
- Index Product sales abroad
- Partnership on Index products



- Sensex Licensing to Korea Exchange



- Board Presence
- Eurex T7 trading architecture
- 4.75% investment in BSE to expand Asia presence and increase footprint in multiple time zones



- 4.75% investment in BSE as key user and supporter of platform

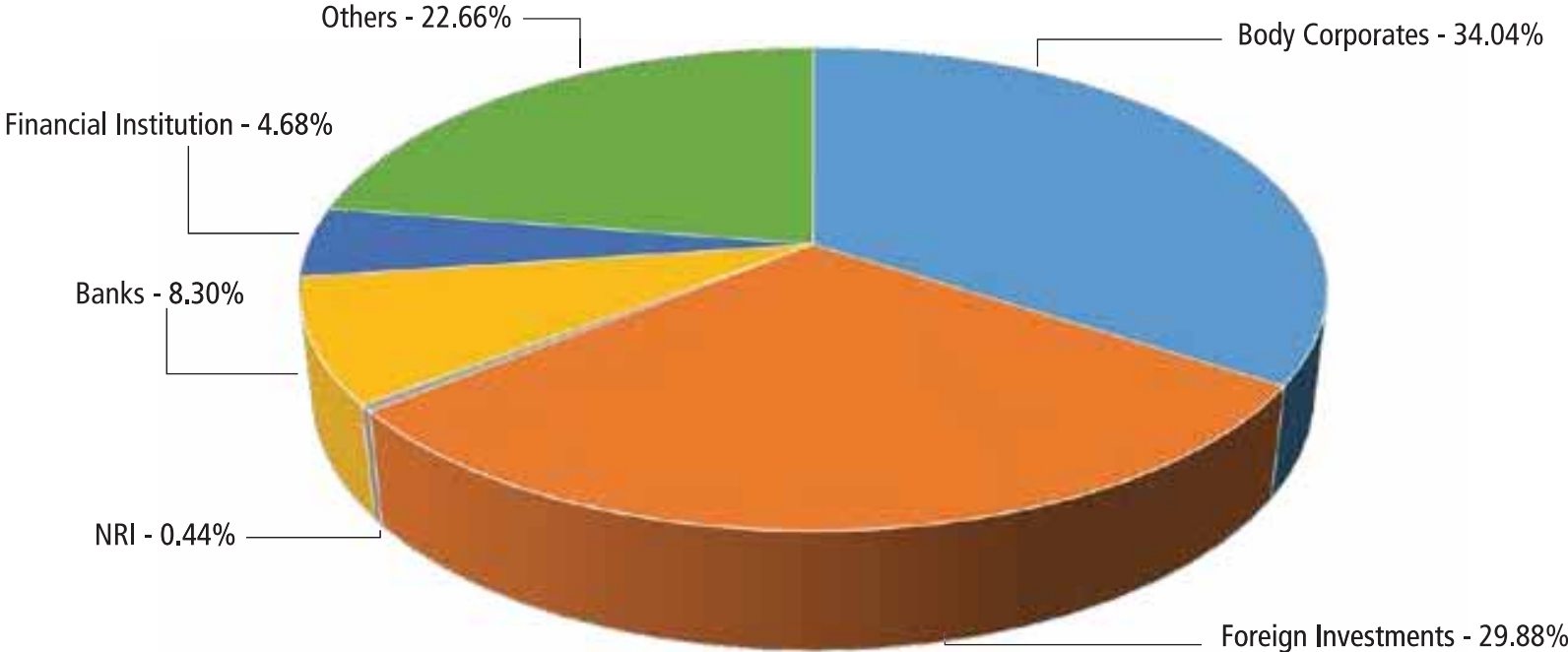


- Listing of Sensex

Shareholding Pattern

Paid up Capital Rs. 10.74 crs. | Face Value per share 1/- each




Categorywise Shareholding Pattern (%)






All 19 nationalized banks are our shareholders

Data as of July 2016




Board of Directors

| | NAME / TITLE | DESCRIPTION |
|---|---|---|
|  | <p>Mr. Sudhakar Rao IAS (Retd.) Chairman, Public Interest Director</p> | <ul style="list-style-type: none"> Mr. Sudhakar Rao is a Director on the boards of several companies including BSE Institute Limited, L&T Infrastructure Development Projects Limited, Healthcare Global Enterprises Limited, Nitesh Estates Limited and IFFCO-TOKIO General Insurance Company Limited. He is currently also Chairman of BSE Training Institute and BFSI Sector Skill Council of India. |
|  | <p>Mr. Ashishkumar Chauhan Managing Director & CEO</p> | <ul style="list-style-type: none"> Ashish is the MD & CEO of BSE (Bombay Stock Exchange), the first stock exchange of Asia. He is one of the founders of India's National Stock Exchange ("NSE") where he worked from 1992 to 2000. He is best known as the father of modern financial derivatives in India due to his work at NSE. He was instrumental in setting up India's first fully automated screen based trading system and first commercial satellite communications network. He also created several path breaking frameworks including Nifty index, NSE certifications in financial markets etc. From 2000 to 2009, he worked as the President and Chief Information Officer of Reliance group and was also the CEO of the cricket team Mumbai Indians in its formative years. He currently serves as the Chairperson on the Board of Governors (BoGs) of the National Institute of Technology (NIT) Manipur. He is an Advisor to the Technical Evaluation Committee set up by the Department of Posts for Postal Bank and also a part of several other committees of World Federation of Exchanges ("WFE"), Government of India ("GOI"), Reserve Bank of India ("RBI"), Securities and Exchange Board of India ("SEBI"), Confederation of Indian Industry ("CII"), Federation of Indian Chambers of Commerce and Industry ("FICCI"), Indian Merchants Chamber ("IMC"), India UK council ("UKIBC") etc. He is also associated with several NGOs and education institutions. His quotes and writings have been published in various newspapers, magazines and journals in India and abroad. He holds a B Tech in Mechanical Engineering from IIT Bombay and a PGDM from IIM Kolkata. He is a Distinguished Visiting professor at Ryerson University, Toronto, Canada. In recognition of his contribution to industry he has received many awards at National and International levels. |
|  | <p>Dr. Krishnaswamy Kasturirangan Former Chairman, ISRO Public Interest Director</p> | <ul style="list-style-type: none"> Dr. Krishnaswamy Kasturirangan is currently the Chancellor of Jawaharlal Nehru University, an Honorary Distinguished Advisor, Indian Space Research Organisation, an Emeritus Professor at the National Institute of Advanced Studies and holds the Satish Dhawan Chair for Engineering Eminence instituted by Indian National Academy of Engineering. Earlier, as Chairman of ISRO, he oversaw the space programme in India between the years 1994 and 2003. He was also a Member, Upper House of the Indian Parliament, and subsequently, Member of the erstwhile Planning Commission. His interests include astrophysics, space science and technology as well as science related policies. |



Board of Directors

| | NAME / TITLE | DESCRIPTION |
|---|---|---|
|  | <p>Mr. Dharendra Swarup Secretary (Retd), Finance Ministry Public Interest Director</p> | <ul style="list-style-type: none"> Mr. Dharendra Swarup has over four decades of experience across Finance, Budgeting, Public Debt Management, Public Policy and Pension Reforms. A former Chairman of Pension Funds Regulatory and Development Authority, he has been a career civil servant retiring as Secretary to the Government of India, Ministry of Finance. He is an IMF expert on fiscal affairs and has worked in UK, Turkey and Georgia. He is a Director on the Board of Eros International Media Limited, PTC India Limited, Berger Paints India Limited and PTC Energy Limited. |
|  | <p>Mr. Vikramajit Sen Former Supreme Court Judge and Chief Justice, High Court of Karnataka Public Interest Director</p> | <ul style="list-style-type: none"> Mr. Vikramajit Sen retired from the Supreme Court of India on 31st December 2015. Prior thereto practised mainly commercial law in the Courts in Delhi. Presently on the Board of several Corporations. In addition, conducting Arbitrations and giving legal opinion on complicated questions of law. Studied in St. Xavier's School in Delhi, followed by a BA (Honours) degree after attending St. Stephen's College, Delhi University. Received Law Degree from the Faculty of Law, Delhi University in 1974. |
|  | <p>Mr. Sumit Bose IAS (Retd.) Former Union Finance Secretary Public Interest Director</p> | <ul style="list-style-type: none"> Mr. Sumit Bose is Independent Director of Coromandal International Limited and Tata AIG General Insurance Company Ltd, Vice Chairman, National Institute of Public Finance and Policy, New Delhi, Chairman, Board of Directors of Vidhi Centre for Legal Policy, New Delhi, an independent legal think tank, a Member, Board of Governors of The Doon School, Dehradun, a Member, Governing Body, Parivaar Education Society, Kolkata. |



Board of Directors

| | NAME / TITLE | DESCRIPTION |
|---|---|--|
|  | <p>Mr. Sethurathnam Ravi FCA, Practising Chartered Accountant Public Interest Director</p> | <ul style="list-style-type: none"> Mr. S. Ravi is the Managing Partner of Ravi Rajan & Co., Chartered Accountants. He is an Independent Director on the board of IDBI Bank Ltd and UTI Trustee Company Ltd, amongst other reputed companies. He is a member of the Takeover Panel and Mutual Funds Advisory Committee of SEBI. |
|  | <p>Dr. Sriprakash Kothari Gordon Y Billard Professor of Accounting and Finance Massachusetts Institute of Technology, Sloan School of Management, Shareholder Director</p> | <ul style="list-style-type: none"> Dr. Sriprakash Kothari is Gordon Y Billard Professor of Accounting and Finance at the Sloan School of Management, Massachusetts Institute of Technology. With close to two decades at this premier institute, Mr. Kothari recently completed a six-year stint as Deputy Dean at the Sloan School of Management. He is also faculty director of the MIT-India Program http://web.mit.edu/misti/mit-india/ and an editor of the world-renowned academic publication Journal of Accounting & Economics. Recently, in the year 2014 Mr. Kothari was a recipient of the American Accounting Association's (AAA) Notable Contributions to the Accounting Literature award. His other awards include honorary doctorates, Doctor Honoris Causa, from the University of Technology, Sydney in May 2013 and University of Cyprus in 2016 and a Distinguished Alumnus Award from Birla Institute of Technology and Science, Pilani, in 2013. Dr. Sriprakash Kothari holds a bachelor of engineering degree from the Birla Institute of Technology and Science, Pilani, and has also earned his MBA (PGDM) from one of India's finest institutes, the Indian Institute of Management, Ahmedabad. Mr. Kothari completed his PhD from University of Iowa, United States. His highly-cited research focuses on the US and international financial reporting practices, the pricing of financial information, investment analysis and valuation. |
|  | <p>Ms. Usha Sangwan MD, Life Insurance Corporation of India Nominee Director</p> | <ul style="list-style-type: none"> Ms. Usha Sangwan, is the first ever woman Managing Director of Life Insurance Corporation of India since its inception. She is the whole time Director of LIC of India, Board Member of General Insurance Corporation of India, LIC Housing Finance Ltd., Axis Bank, Ambuja Cements Ltd. and Voltas Ltd., Director on the board of LIC (Singapore) Pte. Ltd., LIC (Lanka) Ltd., LIC (Nepal) Ltd. and LIC Cards Services Ltd., Member of Governing Council of National Insurance Academy, a Trustee of LIC Golden Jubilee Foundation, Chairman of Trust - LIC of India (Regular Part-time employees) Pension Fund and a Member of Policyholder Protection Committee, Executive Committee, Risk Management Committee and Investment Committee of LIC of India. |





Board of Directors

| | NAME / TITLE | DESCRIPTION |
|---|--|--|
|  | Mr. Thomas Bendixen Representative, Deutsche Boerse AG Shareholder Director | <ul style="list-style-type: none">■ Mr. Thomas Bendixen represents Deutsche Boerse AG as a Shareholder Director on the BSE Board and is responsible for managing and developing the BSE - DBAG partnership. |
|  | Ms. Rajeshree Sabnavis Fellow Member of ICAI, Company Secretary Shareholder Director | <ul style="list-style-type: none">■ Ms. Rajeshree Sabnavis is part of the Direct Taxation Committee with the Bombay Chamber of Commerce where she is a Co-Chairperson. She is also a member of the EU Chamber of Commerce. |

Management Team

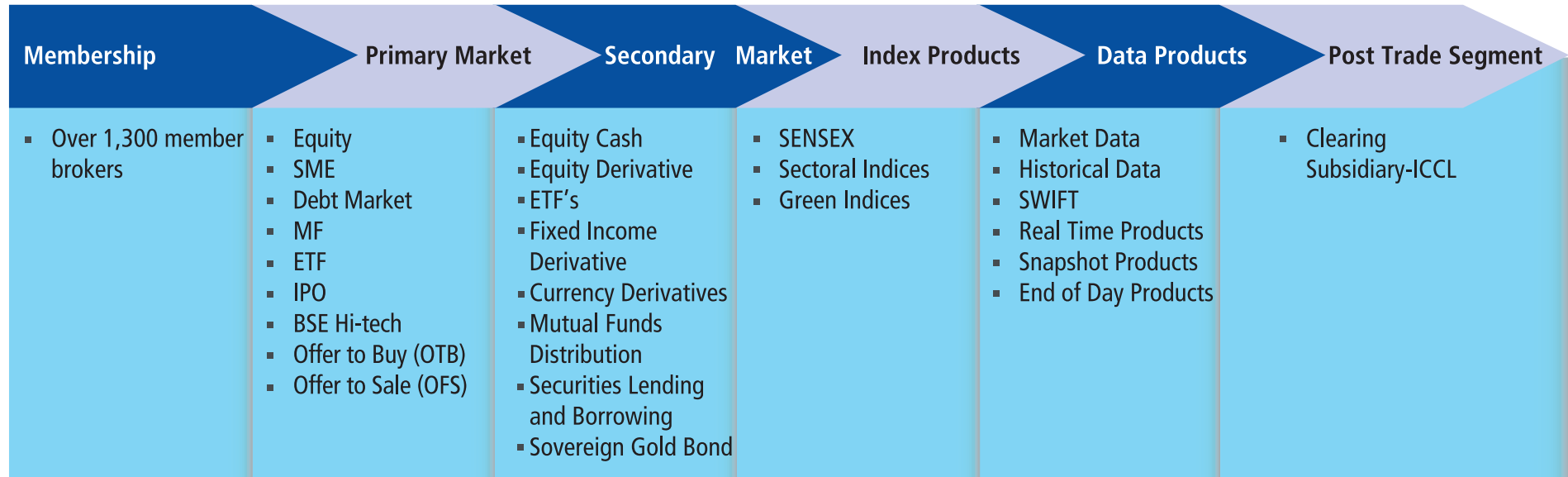
| | NAME / TITLE | DESCRIPTION |
|--|--|---|
|  | Ashishkumar Chauhan Managing Director & Chief Executive Officer | <ul style="list-style-type: none"> Ashish is the MD & CEO of BSE (Bombay Stock Exchange), the first stock exchange of Asia. He is one of the founders of India's National Stock Exchange ("NSE") where he worked from 1992 to 2000. He is best known as the father of modern financial derivatives in India due to his work at NSE. He was instrumental in setting up India's first fully automated screen based trading system and first commercial satellite communications network. He also created several path breaking frameworks including Nifty index, NSE certifications in financial markets etc. From 2000 to 2009, he worked as the President and Chief Information Officer of Reliance group and was also the CEO of the cricket team Mumbai Indians in its formative years. He currently serves as the Chairperson on the Board of Governors (BoGs) of the National Institute of Technology (NIT) Manipur. He is an Advisor to the Technical Evaluation Committee set up by the Department of Posts for Postal Bank and also a part of several other committees of World Federation of Exchanges ("WFE"), Government of India ("GOI"), Reserve Bank of India ("RBI"), Securities and Exchange Board of India ("SEBI"), Confederation of Indian Industry ("CII"), Federation of Indian Chambers of Commerce and Industry ("FICCI"), Indian Merchants Chamber ("IMC"), India UK council ("UKIBC") etc. He is also associated with several NGOs and education institutions. His quotes and writings have been published in various newspapers, magazines and journals in India and abroad. He holds a B Tech in Mechanical Engineering from IIT Bombay and a PGDM from IIM Kolkata. He is a Distinguished Visiting professor at Ryerson University, Toronto, Canada. In recognition of his contribution to industry he has received many awards at National and International levels. |
|  | V Balasubramaniam Chief Business Officer | <ul style="list-style-type: none"> V Bala heads the business development encompassing Equities, Equity Derivatives, Debt, Interest Rate Futures, Currency Derivatives, Mutual Fund Distribution platform and SME platform at BSE and is also in-charge of all the new initiatives planned by BSE including the setting up of Commodities Market and the international exchanges in GIFT City. He is a board member for Futures Industry Association – ASIA, CDSL (Central Depository Services (India) Ltd), BSE Institute Limited, BSE SAMMAN Limited and a Co-Chair of the Capital Markets Working Group of FICCI. He has over two decades of experience in the capital markets industry and has previously worked with Reliance Group and as co-founder of Marketplace Technologies. He has completed his Masters in Commerce from the University of Mumbai and is a Rank holder from the Institute of Cost Accountants of India. |

Management Team (Contd...)

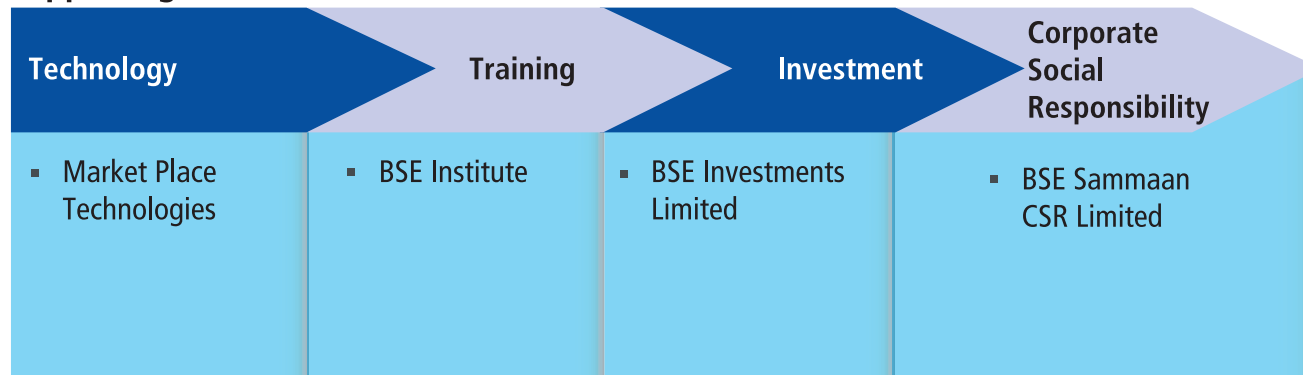
| | NAME / TITLE | DESCRIPTION |
|---|---|--|
|  | Nehal Vora Chief Regulatory Officer | <ul style="list-style-type: none"> ■ Nehal Vora heads the regulatory functions of the exchange including membership compliance, surveillance, inspection, investigation, regulatory communication, investor services, listing compliance, regulatory legal and corporate secretarial. He is a Board member of Indian Clearing Corporation Limited (ICCL) and of Central Depository Services Limited (CDSL). His other Board Memberships include that of National Power Exchange Limited, BSE Investments Limited, BSE Sammaan – CSR Exchange ■ He has more than 19 years of experience in the area of legal and compliance. He has previously worked at the Securities and Exchange Board of India (SEBI) for 10 years and as Director, Law & Compliance at DSP Merrill Lynch Ltd heading Broking and Investment Banking Compliance ■ Nehal has completed his Bachelors of Commerce from Mumbai University and Master of Management Studies from Narsee Monjee Institute of Management Studies, University of Mumbai |
|  | Nayan Mehta Chief Financial Officer | <ul style="list-style-type: none"> ■ Nayan Mehta currently heads all finance, accounting, treasury and taxation functions of the Exchange. He represents BSE as the Senior Vice Chairman on the Executive Board of the South Asian Federation of Exchanges. He represents BSE on the Boards of group companies and joint ventures of BSE and as a member of the Qualified Audit Review Committee of SEBI. ■ He has previously worked at Credit Analysis & Research Ltd. as Joint General Manager (Accounts), CFO at Multi Commodity Exchange of India Limited and has also worked at the National Stock Exchange. ■ He holds a Bachelors in Commerce degree from University of Mumbai. He is a qualified Chartered Accountant as well as a qualified Cost and Management Accountant. |
|  | Kersi Tavadia Chief Information Officer | <ul style="list-style-type: none"> ■ Kersi Tavadia has over 30 years of experience in the area of Application Systems/ IT Infrastructure development and management, managing all aspects of IT operations in Financial Services, Capital markets and manufacturing companies. He has played a leading role in transforming BSE into the fastest exchange in the country ■ He is instrumental in promoting, adaption of Open Source technologies and has successfully deployed one of the largest Data Warehouse on Open source platform. ■ He has provided technical leadership & architectural vision in implementation of Mission Critical Applications across the organization including IT Infrastructure, Web portals, web based and non-web based customized solutions. ■ He is amongst the Pioneers to implement single-window Multi-Exchange online trading systems to facilitate trading across multiple asset classes. |
|  | Neeraj Kulshrestha Chief of Business Operations | <ul style="list-style-type: none"> ■ Neeraj Kulshrestha is in charge of Trading, Listing and Membership Operations. ■ He has about 27 year experience in Capital markets, which includes Securities Markets and General Insurance. ■ Prior to BSE he was an Executive Director in Morgan Stanley India for 10 years. He was earlier with National Stock Exchange and has managed various functions like Trading Operations, Inspection and Investigation, Futures and Options Clearing and Trading. He was also the CEO of India Index Services Ltd. and Dotex International Ltd.. ■ He has completed his Bachelors in Computer Science from Delhi University and a MBA (Finance) from Indore University. |

Lines of Business

Revenue Segments



Supporting Business



BSE Global Ranking

| PRODUCT | MEASURE | RANK |
|---------------------|--|------------------|
| CURRENCY OPTIONS | 18 Million Contracts Approx | 2 nd |
| CURRENCY FUTURES | 33 Million Contracts Approx | 3 rd |
| EQUITY CASH SEGMENT | 35 Million Trades Approx | 11 th |
| | 1.52 (Amount in USD Trillion) Market Capitalisation | 11 th |

**Source: World Federation of Exchanges*

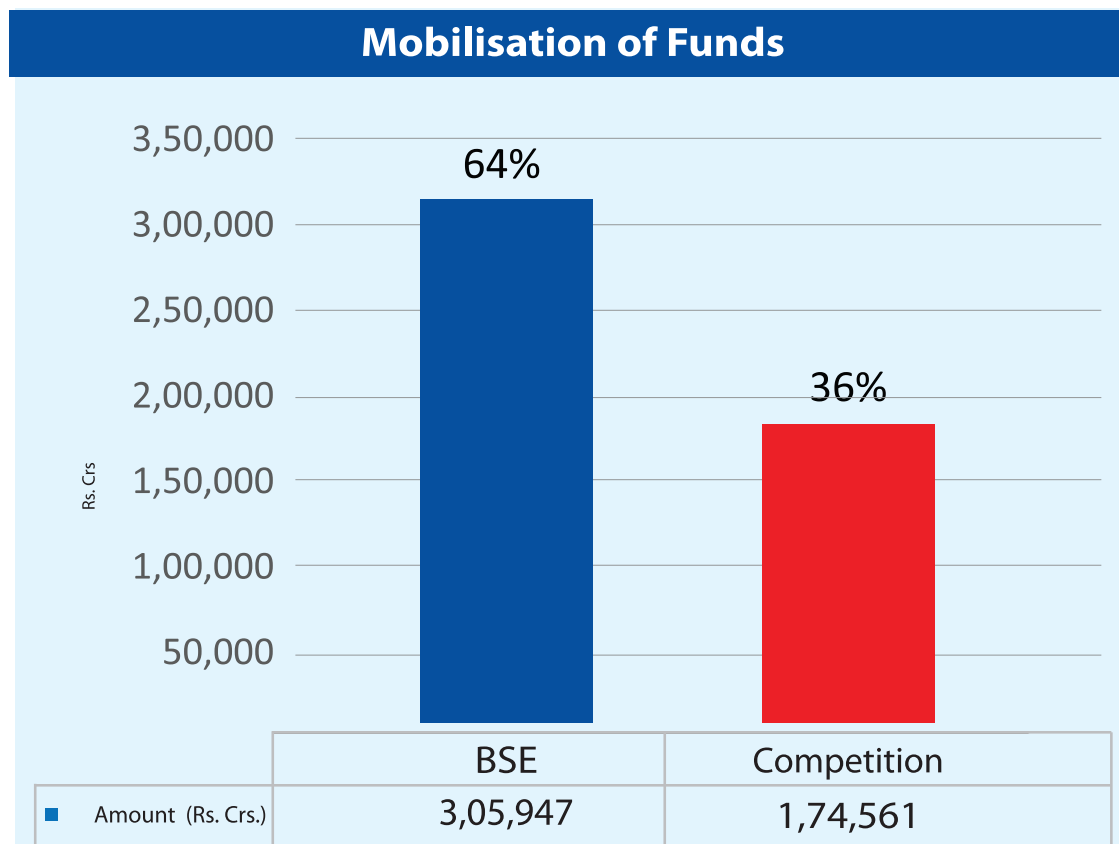
Data as of June 2016



**Primary
Markets**

BSE
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Equity and Debt Mobilization of funds

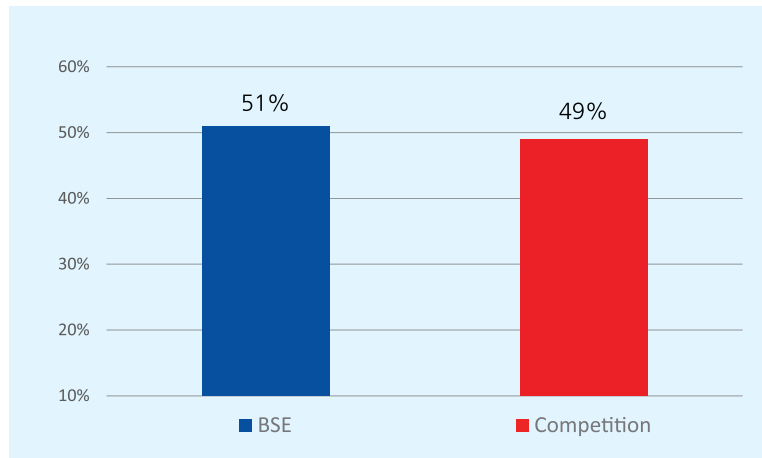


5525
Companies listed
with Equities

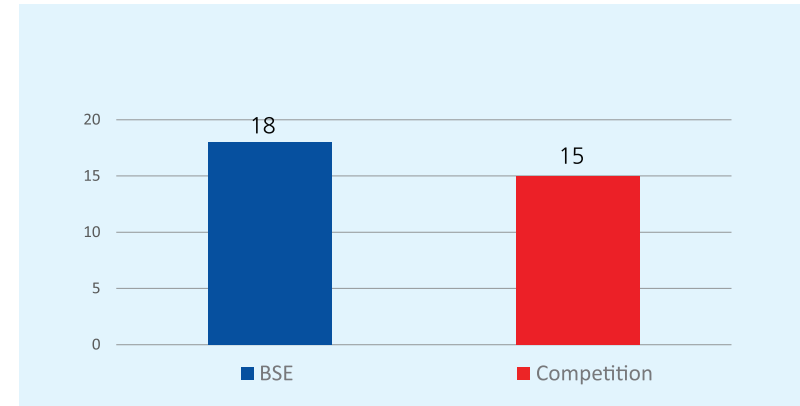
- Amount raised across the Exchanges since April 2015 till July 2016

Equity and Debt Market

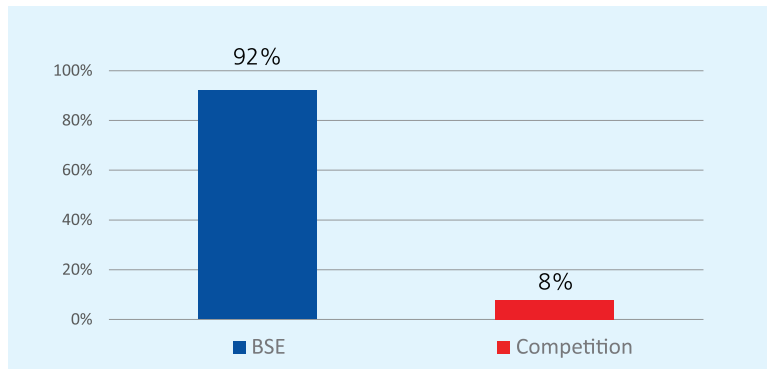
Bidding Statistics for Equity IPO (%)*



**Designated Stock Exchange for Equity IPO
No .of Issues***



Bidding Statistics for Debt (%)*

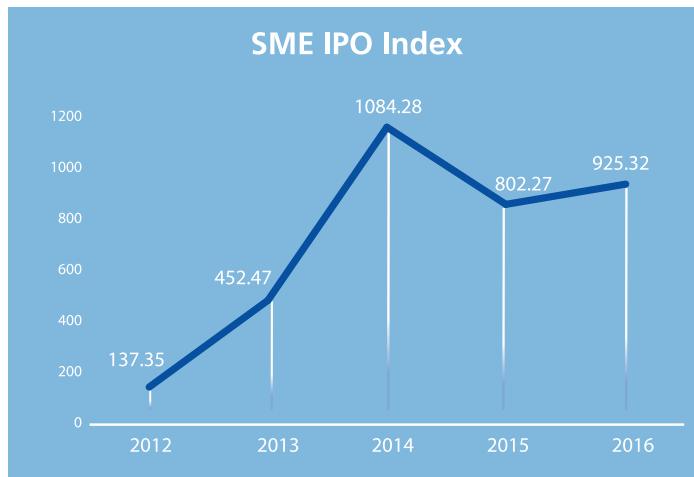
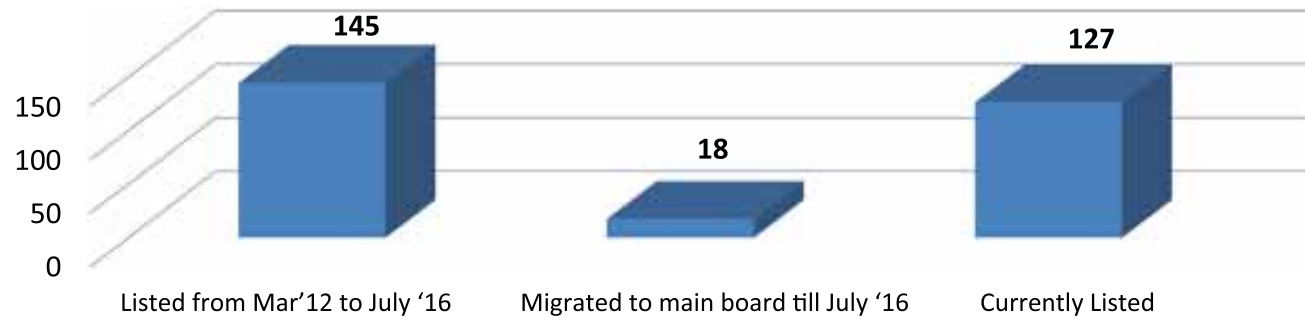


- BSE is the preferred choice for listing Privately Placed Debt Instruments (PPDI). In FY15-16, BSE has listed 1760 Instruments vis-a-vis 1339 on other Exchange. In F.Y. 2016-17 till July 2016 , BSE Ltd has listed 795 instruments with a market cap of Rs. 97842.67 crores vis a vis 471 instruments on the other Exchange.
- In F.Y 2015-16, 20 Debt Public issues have tapped the market. BSE is the Designated Stock Exchange for 20 issues with 15 issues being listed only on BSE. In F.Y 2016-17 till July 2016, 5 Debt Public issues have tapped the market and BSE is the Designated Stock Exchange for all the 5 public issues.

*Since April 2015

SME Platform

Companies on BSE-SME Platform

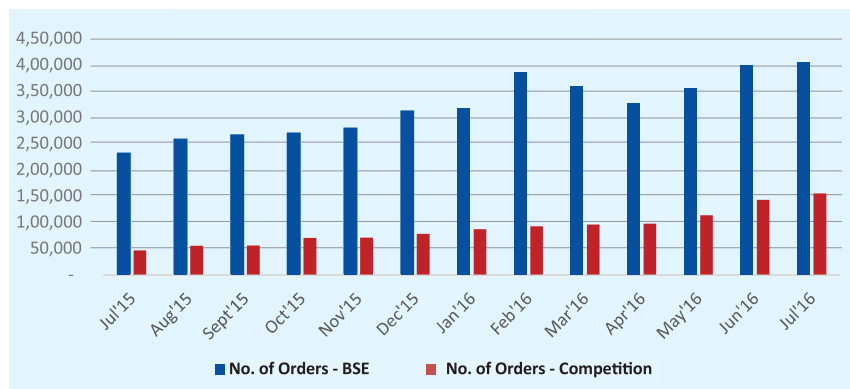


- BSE is the first stock exchange in India to receive approval from SEBI on 26th September 2011 to launch SME Platform. SME IPO Index was launched on 14th December, 2012 aimed at tracking the companies listed on SME platform with a Base value of 100. As on 29th July, 2016 its value was 925.32.
- The Platform facilitates capital raising by small and medium enterprises including start-up companies which are in their early stages of growth. It also provides easier entry and exit options for informed investors like angel investors, VCFs and PEs etc. and equity financing which lowers the debt burden leading to lower financing cost and healthier balance sheet.
- Total Market Capitalization of 127 companies –Rs.7,311.43 Crs.
- Total Market Capitalization of 18 companies Migrated to main Board – Rs.3310.86 Crs.

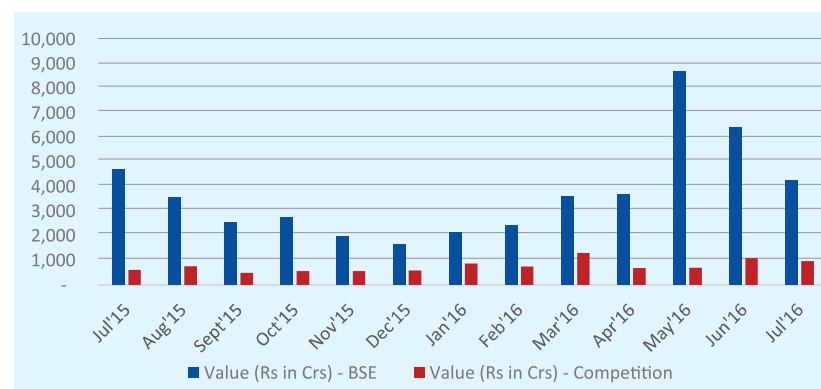
Data as of July 2016

Mutual Fund Distribution Platform-StAR MF

No. of Orders



Value (Rs. Crs.)



PLATFORM FEATURES

- Completely digital- Demat and Non Demat /Mutual Fund transactions , while facilitating the benefits of Physical mode
- 24x7 order acceptance
- Investors can choose the mode of payment option any pay via NEFT / RTGS /PG-Direct / PG-Nodal / OTM / Cheques , AFTER order placement
- 6 day order holding facility
- SMS / Email based order authentication

CONNECTIVITY & USPs

- Multi-mode of platform access
- Unique overnight investments framework
- Completely digital and REAL Time Investors registration / onboarding
- Widely accepted by NDs / Custodians / Brokers / IFA Platform / New age Digital Distributors / IFAs

PLATFORM STATISTICS

- Over 33 Lakh orders aggregating to Rs 44,235 Crs has been transitioned on BSE StAR MF Platform during FY 15-16
- Market Share 85% in FY'15-16, Over 400000 SIPs/XSIPs registered, Market Share 90% in FY 16-17
- Largest number of transaction executed in our platform

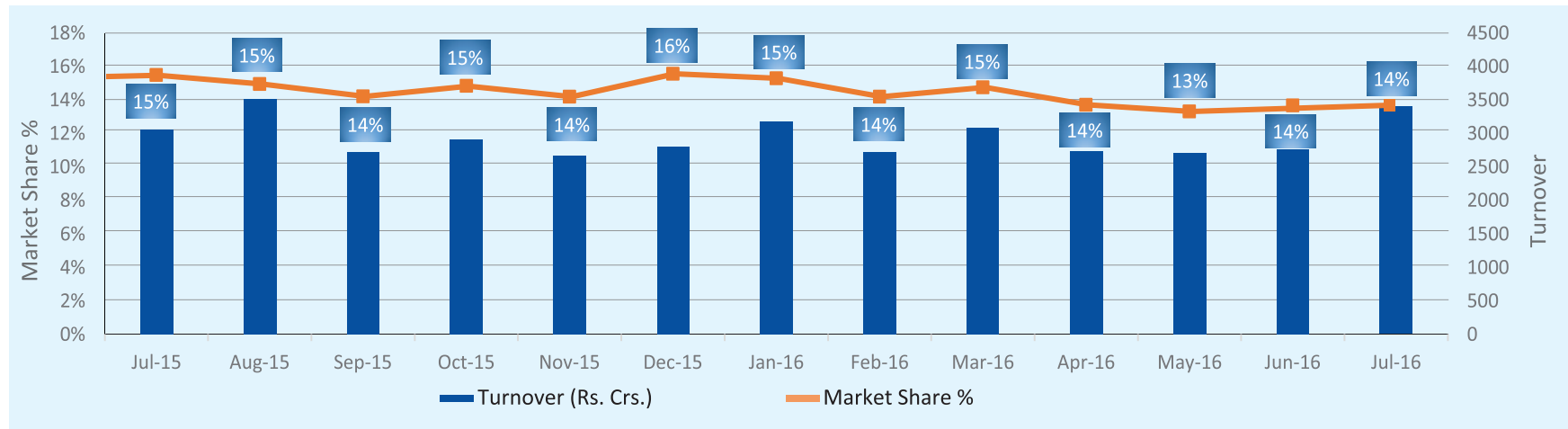


Secondary Markets

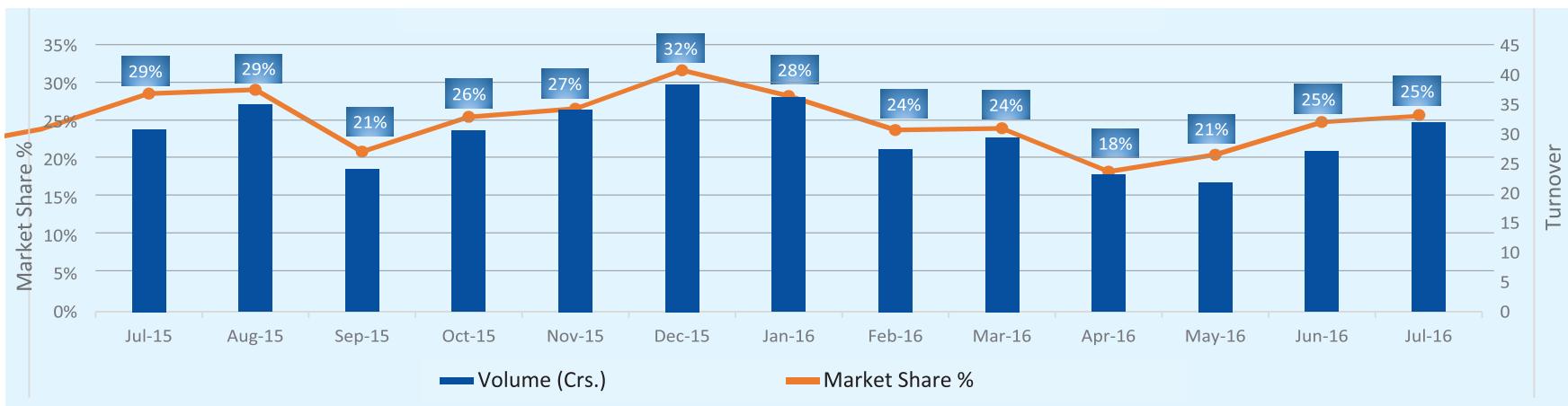
BSE
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Equity Cash Market

Avg. Equity Turnover (Rs.Crs) and Market Share (%)



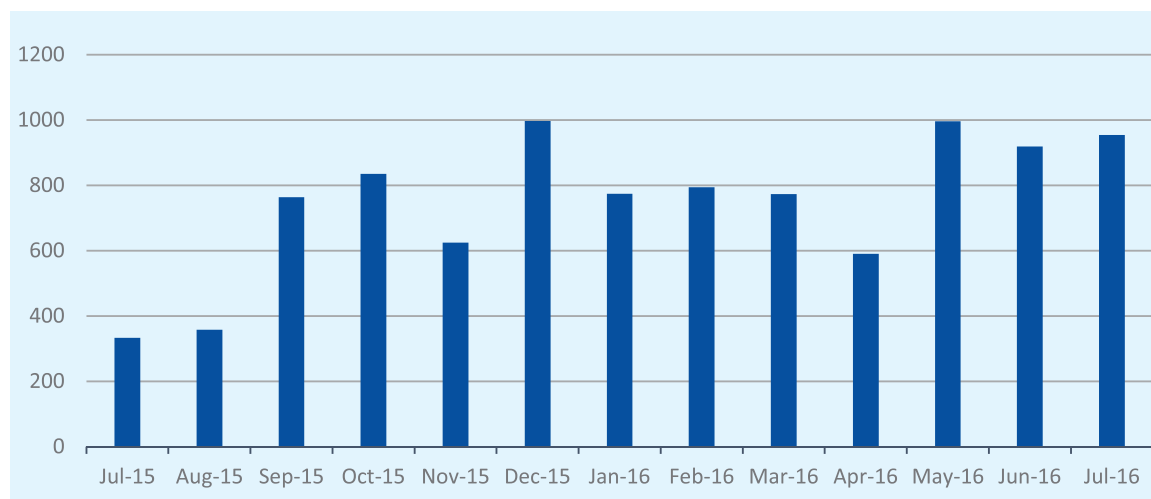
Avg. Equity Volume (No. Of Shares Traded in Crs.) & Market Share (%)



Data as of July 2016

Equity Traded Funds

Turnover (Rs Crs.)



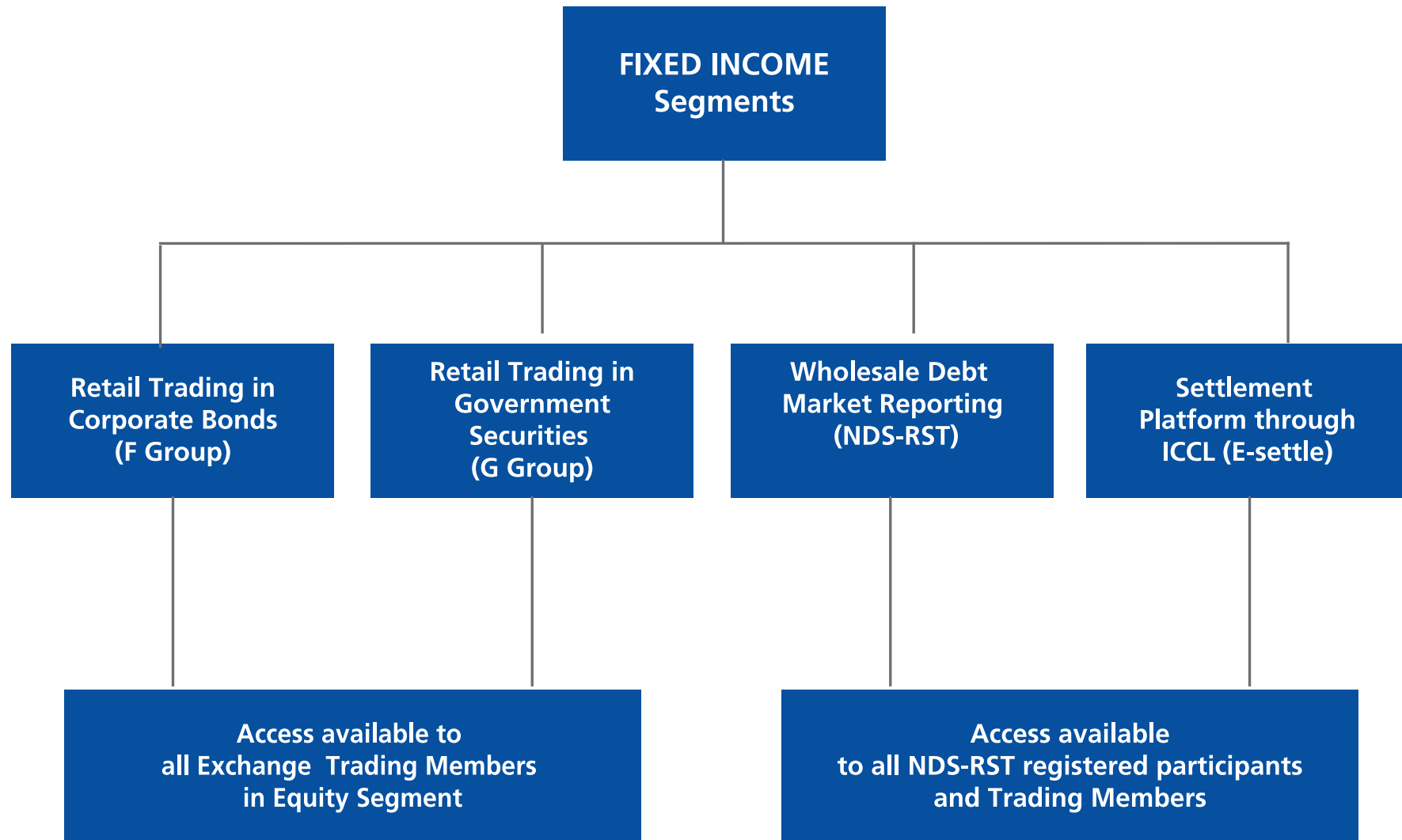
Exchange Transaction Fee for ETF

| Turnover Slab | BSE | Competition | Cost Saving @ BSE |
|------------------------|-----|-------------|-------------------|
| Up to 1250 Crs | 275 | 325 | 15.38% |
| >1250 Crs < 2500 Crs | 275 | 320 | 14.06% |
| >2500 Crs < 5000 Crs | 275 | 315 | 12.70% |
| >5000 Crs < 10000 Crs | 275 | 310 | 11.29% |
| >10000 Crs < 15000 Crs | 275 | 305 | 9.84% |
| >15000 Crs | 275 | 300 | 8.33% |

- Exchange traded fund is a security that tracks an index, a commodity or a sector like an index fund or a sectoral fund but trades like a stock on an exchange
- It is similar to a close ended mutual fund listed on stock exchanges
- BSE in its effort to bring greater participation for retail investors in the Indian landscape has tied up with market makers for ETF's
- 41 ETF listings on BSE as on June 2016*

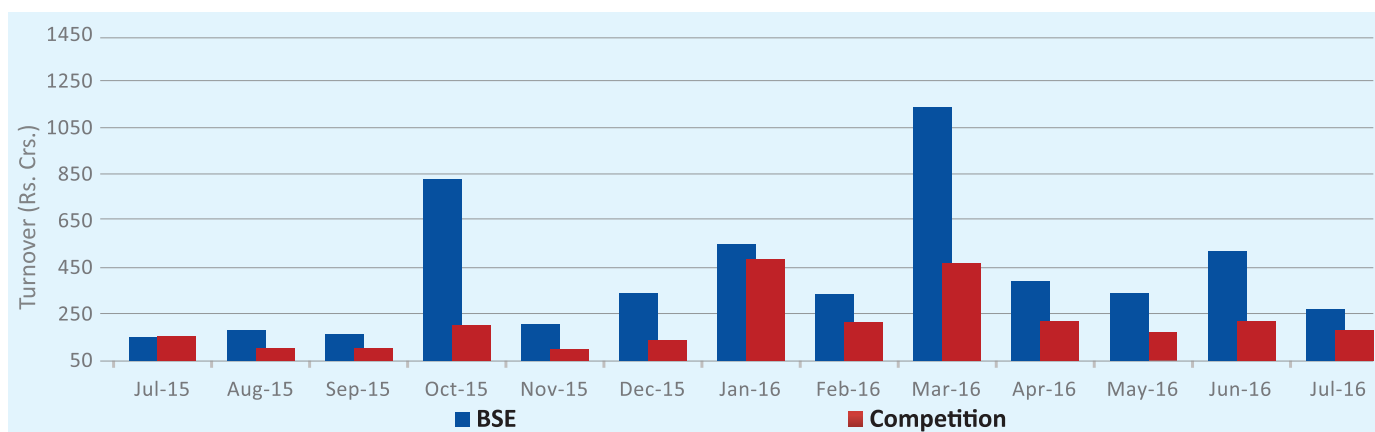
Data as of July 2016

Fixed Income Segments Overview



Fixed Income Segments

Retail Trading in Corporate Bonds (Rs. Crs.)



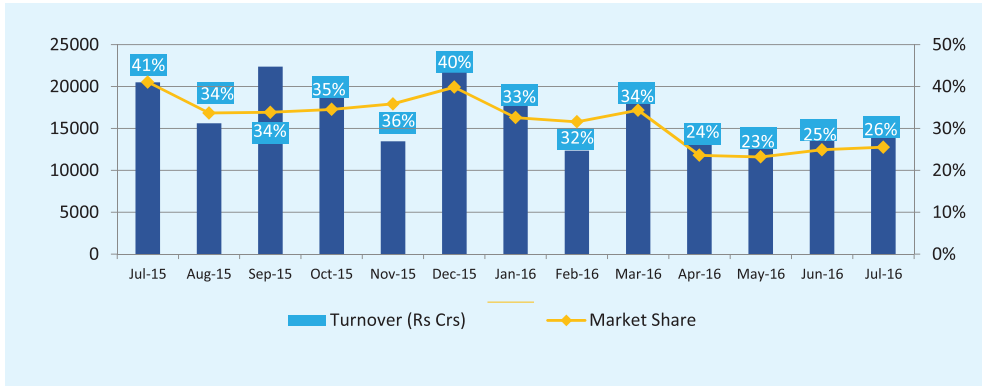
| Retail Trading In Corporate Bonds (F Group) | FY 2014-15 | FY 2015-16 | 2016-17 |
|---|------------|------------|----------|
| Turnover (Rs. Crs.) | 3,756 | 4,608 | 1,528 |
| Number of Member / Participants | 1353 | 1,358 | 1,372 |
| Wholesale Segment Reporting Of Government Bonds | FY 2014-15 | FY 2015-16 | 2016-17 |
| Turnover (Rs. Crs.) | 2,21,233 | 2,27,124 | 61,223 |
| Number of Member / Participants | 130 | 130 | 130 |
| Wholesale Segment Reporting Of Corporate Bonds (ICDM) | FY 2014-15 | FY 2015-16 | 2016-17 |
| Turnover (Rs. Crs.) | 2,03,387 | 2,07,652 | 66,904 |
| Number of Member / Participants | 1169 | 1,302 | 1,325 |
| Settlement Of Corporate Bonds and CP/CD (E- Settle) | FY 2014-15 | FY 2015-16 | 2016-17 |
| Settlement Of Corporate Bonds (Rs. Crs.) | 44,432 | 57,874 | 22,045 |
| Settlement of CPs/CDs (Rs. Crs.) | 1,90,407 | 4,63,134 | 1,26,939 |
| Number of Member /Participants | 1169 | 1,232 | 1,325 |

- BSE has maintained the dominant market share in Retail trading of Corporate Bonds. BSE Market share was 63.7% in FY 14-15 and 62% in FY15-16. Market share for July 2016 was 60%
- Market Share reporting volumes in Wholesale Debt Market of Government Bonds in July 2016 was 26%. In FY 15-16 volume in this segment was Rs. 2,27,125 Crs with a market share of 35%
- Settlement volumes of Corporate bonds for FY 15-16 is Rs. 57,874 Crs , for July '16 Rs. 5045.75 Crs.

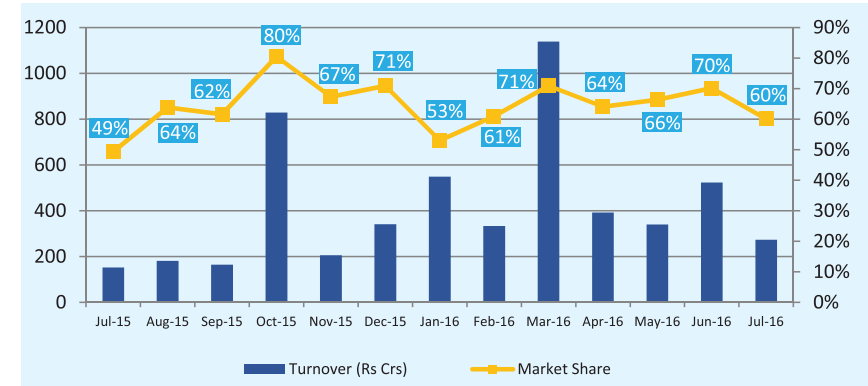
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Fixed Income Segments (cont..)

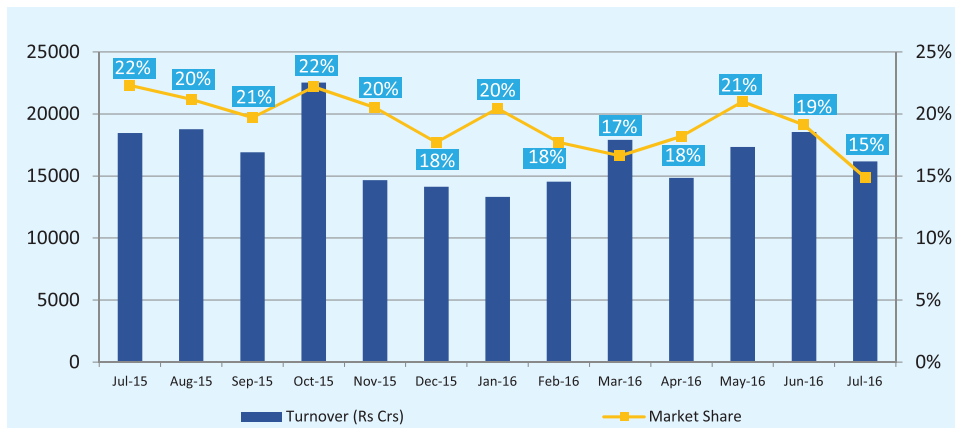
G-Sec Reporting



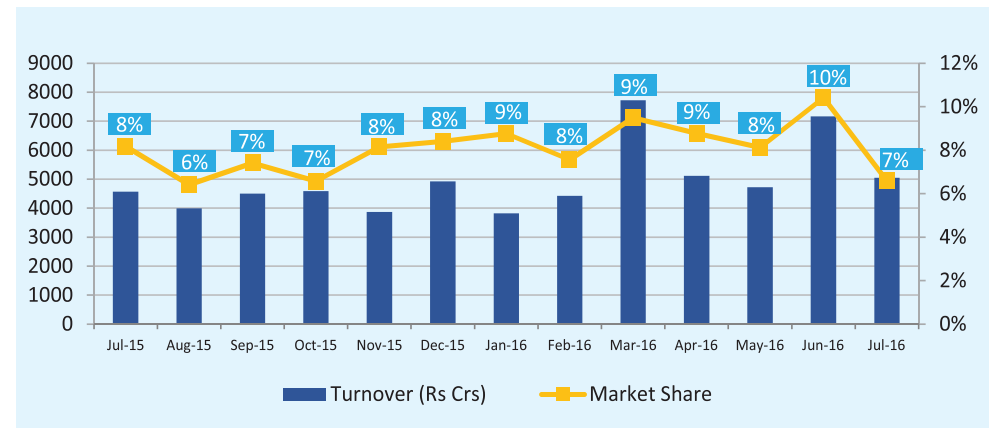
F - Group



Corporate Bond Reporting

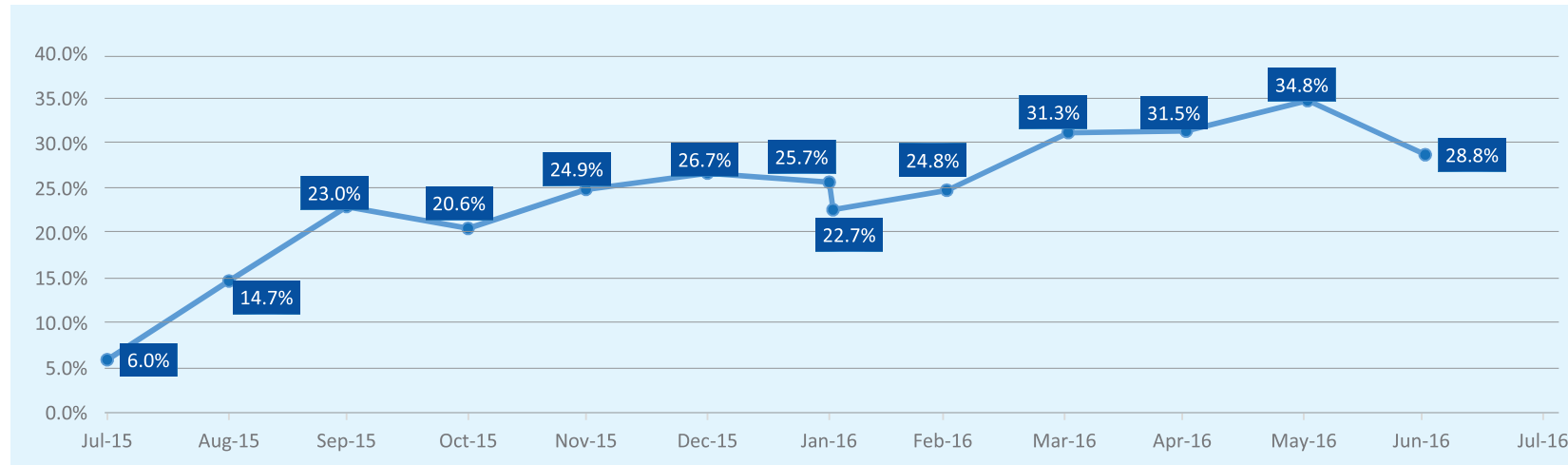


ICCL Settlement



Interest Rate Derivatives

Avg Market Share %



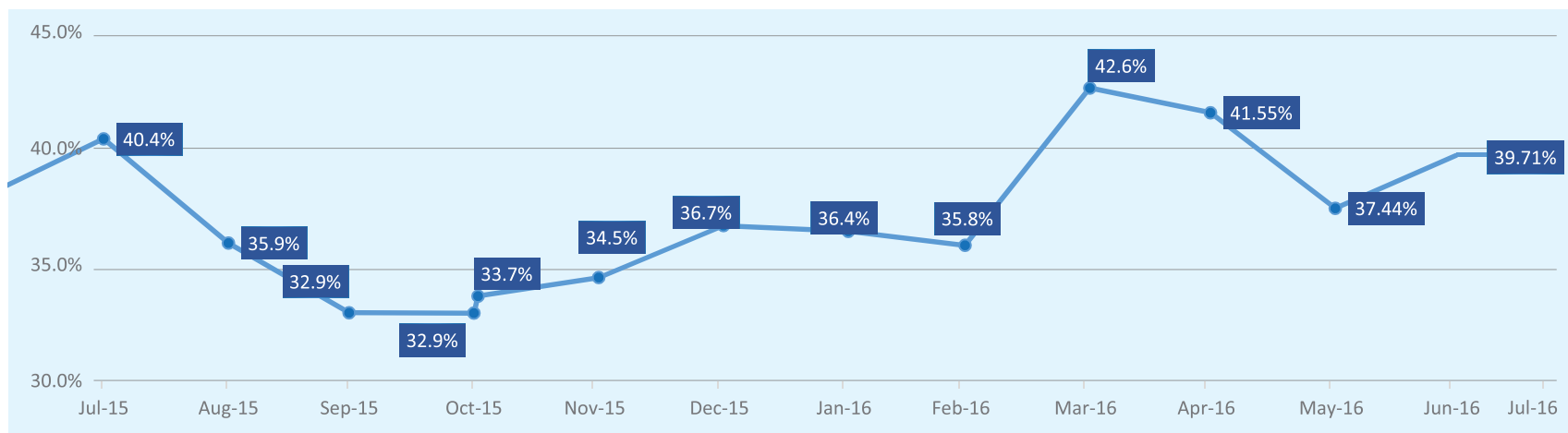
Competitive Advantage

| Interest Rate Derivatives | | | |
|---|-----|-----|------|
| | BSE | NSE | MSEI |
| Exchange Transaction Fees (Rs. / Per Cr) | 8 | 10 | 10 |
| Cost Saving @ BSE up to | 20% | | |

Data as of July 2016

Currency Derivatives

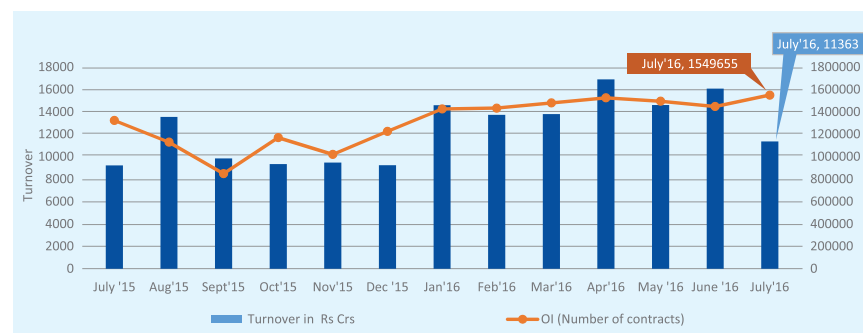
Avg Market Share %



Competitive Advantage

| Currency Futures | BSE | NSE | MSEI |
|--|--------|-------|-------|
| Exchange Transaction Charges (Rs / Per Cr) | 10 | 110 | 105 |
| Exchange Transaction Charges for 1 Million Dollar (1000 Lots) in Rs. | 130 | 1,430 | 1,365 |
| Cost Saving @ Bse up to | 90.91% | | |
| Currency Option | BSE | NSE | MSEI |
| Exchange Transaction Charges (Rs. / Per Cr.) | 10 | 4000 | 1000 |
| Cost Saving @ BSE up to | 99.75% | | |

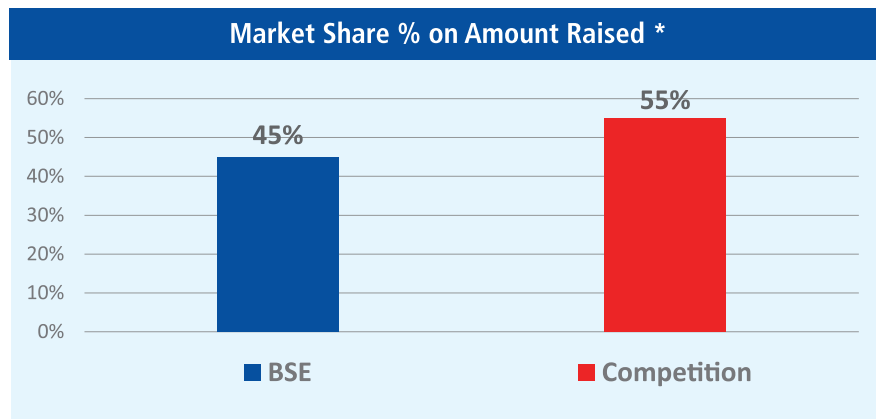
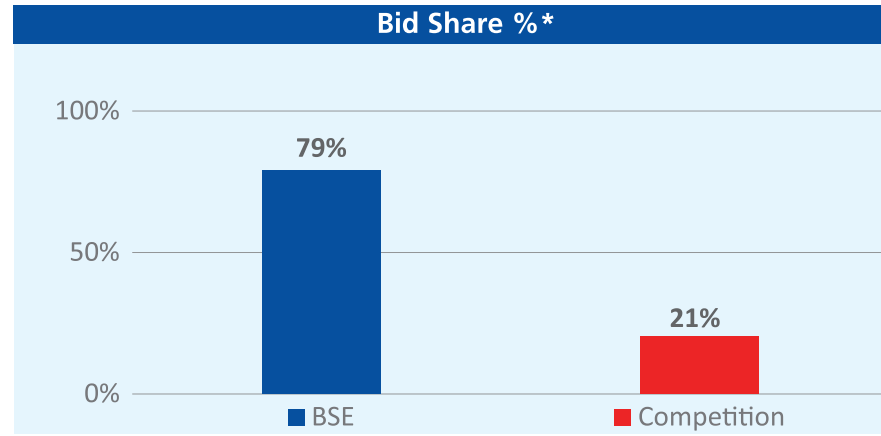
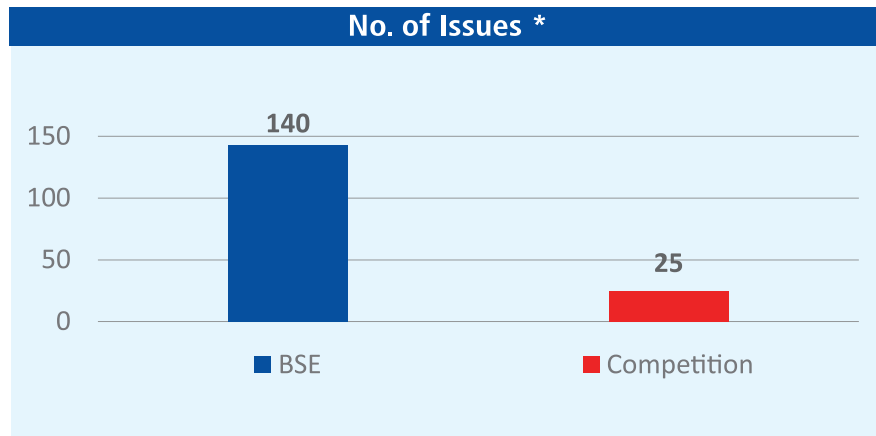
Currency Turnover & OI



Data as of July 2016

Offer For Sale (OFS)

- BSE launched the Offer For Sale (OFS) module on iBBS (Internet based book building System) platform on 24th February, 2012.
- Since then ,165 companies have completed OFS issues of which BSE was appointed the Designated Stock Exchange in 140 issues. Over 700 members have participated in OFS via BSE platform.
- The process has helped the Government to raise over Rs. 84,084 Crs through divestment of holdings in PSUs.



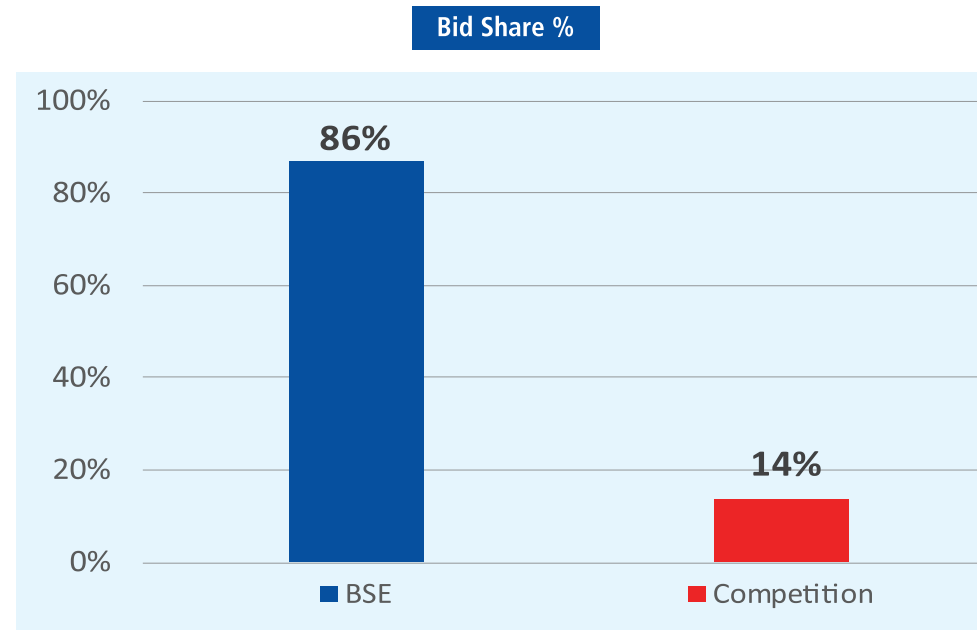
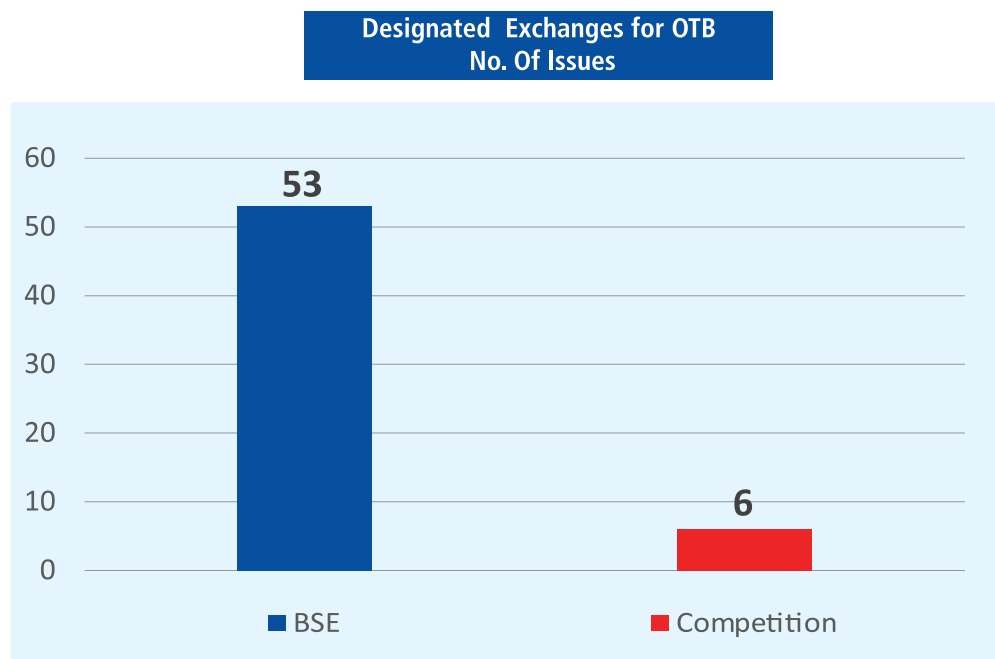
94 OFS issues were conducted Exclusively on BSE platform

*Since April 2015

Data as of July 2016

Offer to Buy (OTB) – Acquisition Window

OTB Avg Bid Share Details on Designated Stock Exchanges*



- An Offer to Buy is a new mechanism to facilitate tendering of shares by the shareholders and settlement of the same, through the stock exchange in the form of a separate window (the "Acquisition Window").
- BSE launched the Offer to Buy (OTB) module on iBBS (Internet based book building System) platform on 1st July, 2015.
- In July 16, 59 companies have completed their OTB issues of which BSE was appointed the Designated Stock Exchange in 53 OTB issues.

*Since April 2015

48 issues were conducted exclusively on BSE platform

BSE Hi-Tech

BSE Hi-Tech is a platform that enables a young fast growing company to list on an exchange with much easier criteria and gain access to capital from a larger base of sophisticated investors.



The Company Advantage

- Increased visibility with brand creation, research coverage and media coverage
- Access to funds through well-established platform and mechanism
- High credibility amongst all stakeholders
- Listing entails robust corporate governance and internal controls and systems
- Sophisticated investors enabling better valuations
- Companies can attract global investors as FPIs
- Merger & acquisitions made easier and swifter with company's stock used as currency
- Compensating employees without affecting cash flows through ESOPs becomes a powerful tool to attract and retain

The Investor Advantage

- A credible exit route for early investors
- VC/PE investors can churn their portfolio
- The platform will offer a new asset class to investors
- Listing leads to better and timely disclosures and thus also protects the interest of the investors

Bolt Plus on Web (BoW)



| One Window with Multiple Utilities | | | |
|--|---|---|---|
| Exchanges | Products | Users | Connectivity |
| <ul style="list-style-type: none"> ▪ BSE ▪ NSE ▪ MCX ▪ NCDEX | <ul style="list-style-type: none"> → Equity – F&O – Currency – IRF – OFS – Mutual Fund – SLB – Debt – ITP → Equity – F&O – Currency → Commodities → Commodities | <ul style="list-style-type: none"> ▪ Dealers ▪ Investors ▪ Admin for HO ▪ Multiple Mini Admin for Regions & Branches ▪ RMS | <ul style="list-style-type: none"> ▪ Leased Line ▪ Internet |

User friendly features

- Dual Market Depth Display
- AMO – After Market Orders
- Time base Square up for Intraday transactions and One click square up on M2M Alert.
- Corporate Information Analysis
- Top Gainers / Top Losers - Most Active by VOLUME / VALUE
- User define short keys - predefine Key Mapping Styles for ODIN-NOW
- NEWS Plus with RSS feeds and Twitter
- Web links for 100 + Visual Operational Help Video's
- Member Branding through EXE

Application for Desktop and Mobile

- Web links for 100 + Visual Operational Help Video's
- Tip of the Day prompt on login – notifying what all can be done
- Member Branding through EXE
- Trade commencement in one day
- No Extra hardware like TAP-IML server required.

- Bolt + on Web (BoW) – Free of cost for all members



Information Products

3SE
EXPERIENCE THE NEW

Information Products Offered

Market Data

- Equity Level 1 – Real-time & 1 minute Snapshots
- Equity Level 2 – Real-time
- Indices – Real-time & 1 minute Snapshots
- Derivatives (Equity , Index , Currency & Interest Rate Derivatives) – Real-time

Corporate Data

- Corporate Announcement
- Financial Results
- Shareholding Pattern
- Corporate Action through SWIFT

End of day or Historical

- Quotation files
- Annual report
- Daily Bulletin
- Sector Classification
- Trade and Order book data



**Technology
Initiatives**

3SE
EXPERIENCE THE NEW

New Trading Architecture – BOLT PLUS

Bolt Plus Live

- Products available for trading
 - Currency Derivatives – 29th November 2013
 - Interest Rates Futures - 28th January 2014
 - Equity Derivatives - 10th February 2014
 - Equity – 7th April 2014

Member Access

- API based access
 - Through existing IML API
 - Advanced High performance APIs (ETI, MDI/EMDI, EOBI)

Peripheral Systems connecting to BOLT Plus

- Reference Data, Risk Management, Surveillance, Clearing & Settlement & Data Warehouse

Performance Testing & Benchmarking

- Latency : < 6 μ s (Gateway in to Gateway out)
- Network latency for Colo users – 10 μ s
- Throughput Capacity: 5 lacs order per second
- Scalability: Horizontally scalable by adding partitions

Technology Programme - Co-location Facilities

Fastest Co-location

- BSE is the fastest Exchange in the world with a speed of 6 microseconds.
- Co-location service to BSE members is provided and managed entirely by a third party data centre service provider - NTT Netmagic IT Services Pvt Ltd, a subsidiary of NTT Communications.
- Netmagic provides the fastest Co-location service in India with round trip network latency of less than 10 microseconds.
- At Netmagic Co-location, BSE response for an order has round trip latency of about 16 microseconds (including 10 microseconds of Co-location network latency).
- Market access across Equity, Equity Derivatives and Currency Derivatives segments.
- Extension of Precision Time Protocol (PTP) from BSE's Grandmaster clock to the Co-location enables members to synchronize with the Exchange clock.
- Equitable distribution of market data to all members by usage of same length cables for all members.
- Full order book multicast (EOBI) is provided to Co-location members at no cost.
- State-of-the-art Data Centre services from NTT – Netmagic.

Co-location : NTT Netmagic Data Centre

Co-location is entirely managed by a third party service provider - NTT Netmagic. Key technical highlights are:

- 10 Gbps Fibre optic cable connection with BSE trading system with full redundancy
- 24 X 7 operations support
- 24 X 7 High security zone
- Uninterrupted Power Supply with DG back up
- ITIL and ISO 27001 compliant
- FM200 Fire suppression facility
- Market Data feed from Thomson Reuters Electron network
- 99.999% uptime

Technology Programme - Software and Hardware

For services opted by member, BSE bears the cost on behalf of the member for;

- The software license cost for ALGO trading and market access
- The infrastructure cost on Co-location rack space
- The ALGO trading servers at Co-location
- The internet connectivity between Co-location and member's office

ALGO Trading

Algo Trading software is available from following vendors for quoting and market making in Eq. Derivatives including auto hedging capabilities across Exchanges and Segments:

- Greeksoft Technologies Pvt. Ltd.
- uTrade Solutions Pvt. Ltd.
- Omnesys Technologies Pvt. Ltd.
- Symphony Fintech Solutions Pvt. Ltd.
- Resolute Softech

Cost Comparison

| Service | BSE | Other Exchange |
|---|-------------------------------|--|
| Colocation Network Bandwidth (NTT Netmagic) | 10 Gbps fiber optic network | 10 Gbps fiber optic network |
| Roundtrip Latency (in μ sec): Exchange Response Time | 6 | 500 # |
| Roundtrip Latency (in μ sec): Colo Network* | 10 | 500 # |
| Roundtrip Latency (in μ sec): Exchange Response Time + Colo Network Latency | 16 | 1000 # |
| 10G Switch at Member Rack | Not Mandatory | Mandatory |
| 10G NIC Card from Exchange per member | 2 Solarflare Cards (SFN7322F) | NIL |
| Additional cost to member for 10G migration | NIL | INR 10 – 20 Lakhs |
| Full Racks | Free | One Time Cost : Rs. 1 Lakh plus AMC : Rs.12 Lakhs |
| Half Racks | Free | One Time Cost : Rs. 50,000 plus AMC : Rs.6 Lakhs |
| Quarter Racks | Free | Not Available |
| Servers | Free | Not Available |
| Algo software | Free | Not Available |
| Interactive connectivity cost | Free | Annual Cost per connection Rs.10 Lakhs for 400 messages/sec |
| Market data connectivity cost | Free (including EOBI feed) | TBT feed Annual Cost per feed Full Rack : Rs.1.00 Lakh / Half Rack: Rs.0.50 Lakh |

*10G network with Solarflare card SFN7322F with onload # Based on market feedback

Sponsored Market Access

Implementation of 'Sponsored Market Access' (SMA) at Co-location

- SMA is a software distribution model in which applications are hosted by a service provider and made available to customers over a network.
- Free of cost rack space is allocated by BSE to the SMA Service providers to install their algo trading application server in Netmagic Co-location. The members can connect to this SMA algo server at Co-location via Internet.
- The algo strategy parameters can be triggered from the member front-end application and sent to the SMA algo server at Co-location.
- The corresponding algos will generate orders to be sent to BSE trading system through Co-location network.
- The algo orders will be sent to the BSE Trading system via the high speed Co-location gateway for minimum latency.
- Members can execute orders over high speed Co-location network without installation of any infrastructure at Co-location by the members.

Advantages

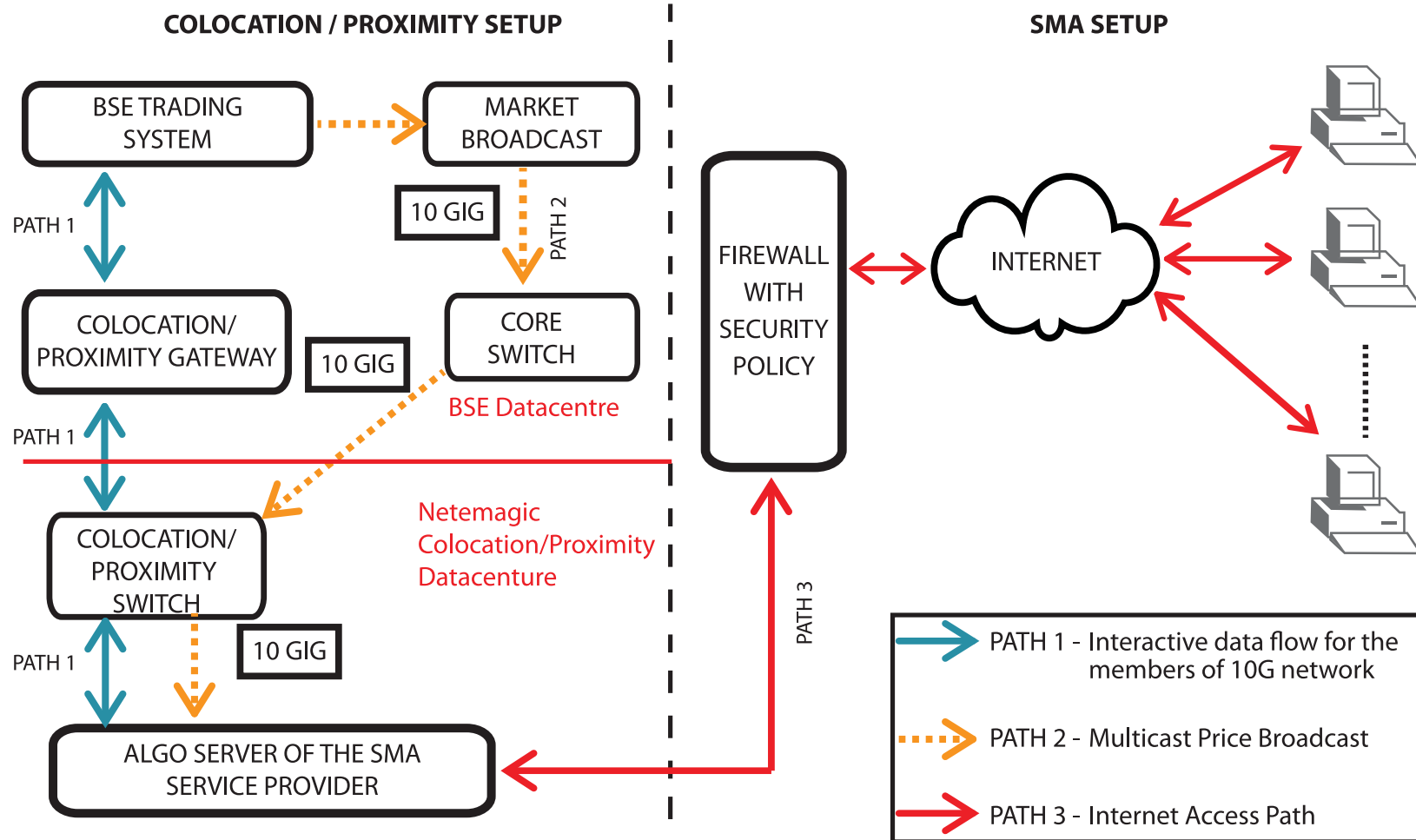
For Members

- Zero capital expenditure on infrastructure at Co-location.
- The algo orders will be generated at Co-location and sent to the BSE Trading system via the high speed 10G Colocation network for minimum latency.

For Vendors

- Free of cost rack space is allocated by BSE to SMA service providers to install their algo trading application server in Netmagic Co-location.
- Vendor can service multiple clients with a centralized algo server installed at Co-location. Hence, vendor's cost of maintenance is low.

Sponsored Market Access- New Facility at Co-location



Contract Symbols

| Bloomberg Ticker | Category | Type |
|--------------------|------------------------------|------------------|
| SENSEX Index CT | S&P BSE SENSEX Index futures | Futures contract |
| BSE100 Index CT | S&P BSE 100 index futures | Futures contract |
| SENSEX Index OMON | S&P BSE SENSEX Index options | Options contract |
| BSE100 Index OMON | S&P BSE 100 Index Options | Options contract |
| LUSA Currency OMON | S&P BSE Currency Options | Options Contract |
| LUSA Curncy | Currency USDINR Futures | Futures Contract |
| LERA Curncy | Currency EURINR Futures | Futures Contract |
| LGBA Curncy | Currency GBPINR Futures | Futures Contract |
| LJPA Curncy | Currency JPYINR Futures | Futures Contract |
| TBBA Comdty | T-Bill | Futures Contract |
| IISA Comdty | Gov Bond 8.4% | Futures Contract |
| IIPA Comdty | Gov Bond 7.72% | Futures Contract |

| Thompson Reuters Symbols | Category | Type |
|--------------------------|-----------------------------|------------------|
| 0#BIF | S&P BSE SENSEX Equity Index | Futures contract |
| 0#BHI | S&P BSE 100 Index futures | Futures contract |
| 0#BIF*.BO | S&P BSE SENSEX Equity Index | Options contract |
| 0#BHI*.BO | S&P BSE 100 Index Options | Options contract |
| 0#BIR | Currency USD/INR | Futures contract |
| 0#BEU | Currency EUR/INR | Futures contract |
| 0#BGB | Currency GBP/INR | Futures contract |
| 0#BJP | Currency JPY/INR | Futures contract |
| 0#BSE91 | Treasury Bill | Futures contract |
| 0#B883 | 10 Yr G-Sec | Futures contract |
| 0#B716 | 10 Yr G-Sec | Futures contract |

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Presenting Government Sovereign Gold Bonds issued by RBI. An opportunity to invest in gold without risk of theft, storage cost or impurity.

- TRADE ON BSE LIKE ANY SECURITY
- REDEEMABLE AFTER 5 YEARS AT MARKET VALUE
- GET 2.75% ANNUAL INTEREST
- NO STT OR CAPITAL GAINS TAX*

Contact your BSE registered broker for more information.

*AS PER GOVERNMENT OF INDIA GUIDELINES



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