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A Comparative Study of the Indian Stock Market with Two International Stock Markets between 2012-17

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Abstract
The stock market of any economy serves as a barometer to check the health of the economy. Ever since the LPG reforms in India, the nation has been on a re-energized path towards a stable and minimally volatile stock market. The study at hand compares the Indian Stock Market through BSE and the stock markets in the USA (New York Stock Exchange) and Japan (Tokyo Stock Exchange) to measure and comparatively study where the BSE stands, in comparison with the world's biggest stock markets.

INTRODUCTION

The performance of a stock market is an indicator of the economy on multiple levels. At the face of it, the indices show the facts and figures of the price movements in the market. However, at a deeper level, the way a stock market reacts to economic crises and also shows the nature, type and characteristics of the investing class of the country on one hand and the industries and companies on the other. Thus, comparison of the data of stock markets can help develop useful insight into the differences and similarities in the way stock markets have performed and are likely to perform in the future, based on estimates made from past trends. However, this area remains unexplored to its full potential in research.

Stock Markets

A stock market can be defined as a coalition of buyers and sellers which is a loose network of economic transaction – which may not necessarily be a physically located or discrete entity – of stocks. Stocks, also known as shares, essentially represent the ownership claims of an investor on any business or firm. Thus, in simple terms – any platform where there are stock-centric trade and transactions is a part of the stock market.

Stock Market Indices

The movements of stock market prices are captured in price indices also known as stock market indices (singular – index), such as the S&P Indices, the Dow Jones Indices and the Euronext Indices. Indices are usually calculated using weighted stocks, which are weighted by market capitalization. In such a calculation, the weight of the stock reflects the contribution of a particular stock to the index under consideration. Further, the constituents each market – in order to check the validity for indices – are reviewed and updated frequently, to ensure that the index reflects the ever-changing and dynamic business environment better.

Size of Stock Markets

At the close of 2012, the size of the world stock market (total market capitalisation) was about US$55 trillion. By country, the largest market was the United States (about 34%), followed by Japan (about 6%) and the United Kingdom (about 6%).

As of 2015, there are a total of 60 stock exchanges in the world with a total market capitalization of $69 trillion. Of these, there are 16 exchanges with a market capitalization of $1 trillion or more, and they account for 87%

of global market capitalization. Apart from the Australian Securities Exchange, these 16 exchanges are based in one of three continents: North America, Europe and Asia.

Relation to the Economy

"The financial system in most western countries has undergone a remarkable transformation. One feature of this development is disintermediation. A portion of the funds involved in saving and financing, flows directly to the financial markets instead of being routed via the traditional bank lending and deposit operations. The general public interest in investing in the stock market, either directly or through mutual funds, has been an important component of this process."

"Statistics show that in recent decades, shares have made up an increasingly large proportion of households' financial assets in many countries. In the 1970s, in Sweden, deposit accounts and other very liquid assets with little risk made up almost 60 percent of households' financial wealth, compared to less than 20 percent in the 2000s. The major part of this adjustment is that financial portfolios have gone directly to shares but a good deal now takes the form of various kinds of institutional investment for groups of individuals, e.g., pension funds, mutual funds, hedge funds, insurance investment of premiums, etc."

"The trend towards forms of saving with a higher risk has been accentuated by new rules for most funds and insurance, permitting a higher proportion of shares to bonds. Similar tendencies are to be found in other developed countries. In all developed economic systems, such as the European Union, the United States, Japan and other developed nations, the trend has been the same: saving has moved away from traditional (government insured) "bank deposits to more risky securities of one sort or another". A second transformation is the move to electronic trading to replace human trading of listed securities**."**

The Stock Exchanges Under Consideration

Bombay Stock Exchange

"The Bombay Stock Exchange (BSE) is an Indian stock exchange located at Dalal Street, Kala Ghoda, Mumbai (formerly Bombay), Maharashtra, India."

"Established in 1875, the BSE is Asia's first stock exchange, It claims to be the world's fastest stock exchange, with a median trade speed of 6 microseconds, The BSE is the world's 11th largest stock exchange with an overall market capitalization of more than $ 2 Trillion as of July, 2017. More than 5500 companies are publicly listed on the BSE. Of these, as of November 2016, there are only 7,800 listed companies of which only 4000 trade on the stock exchanges at BSE and NSE. Hence the stocks trading at the BSE and NSE account for only about 4% of the Indian economy."

"BSE 100 is significantly correlated with the stock indices of other emerging markets. The S&P BSE SmallCap Index accounts for 45% of the annual turnover, while the S&P BSE MidCap Index and the S&P BSE LargeCap Index account for 21% and 30% respectively."

New York Stock Exchange

"The New York Stock Exchange (abbreviated as NYSE and nicknamed "The Big Board"), is an American stock exchange located at 11 Wall Street, Lower Manhattan, New York City, New York. It is by far the world's largest stock exchange by market capitalization of its listed companies at US$21.3 trillion as of June 2017. The average daily trading value was approximately US$169 billion in 2013."

"The NYSE is owned by Intercontinental Exchange, an American holding company that it also lists (NYSE: ICE). Previously, it was part of NYSE Euronext (NYX), which was formed by the NYSE's 2007 merger with Euronext. NYSE and Euronext now operate as divisions of Intercontinental Exchange."

"The New York Stock Exchange provides a means for buyers and sellers to trade shares of stock in companies registered for public trading. The NYSE trades in a continuous auction format, where traders can execute stock transactions on behalf of investors. The auction process of NYSE moved toward automation in 1995 through

the use of wireless handheld computers (HHC). The system enabled traders to receive and execute orders electronically via wireless transmission."

"As of January 24, 2007, all NYSE stocks can be traded via its electronic hybrid market (except for a small group of very high-priced stocks). Customers can now send orders for immediate electronic execution, or route orders to the floor for trade in the auction market. In the first three months of 2007, in excess of 82% of all order volume was delivered to the floor electronically. NYSE works with US regulators like the SEC and CFTC to coordinate risk management measures in the electronic trading environment."

Tokyo Stock Exchange

"The Tokyo Stock Exchange, which is called Tōshō or TSE/TYO for short, is a stock exchange located in Tokyo, Japan. It is the fourth largest stock exchange in the world by aggregate market capitalization of its listed companies, and largest in East Asia and Asia. It had 2,292 listed companies with a combined market capitalization of US$4.09 trillion as of April 2015."

"In July 2012, a planned merger with the Osaka Securities Exchange was approved by the Japan Fair Trade Commission. The resulting entity, the Japan Exchange Group (JPX), was launched on January 1, 2013."

"Stocks listed on the TSE are separated into the First Section for large companies, the Second Section for mid-sized companies, and the Mothers (Market of the high- growth and emerging stocks) section for high-growth start-up companies. As of October 31, 2010, there are 1,675 First Section companies, 437 Second Section companies and 182 Mothers companies.

The main indices tracking the TSE are the Nikkei 225 index of companies selected by the *Nihon Keizai Shimbun* (Japan's largest business newspaper), the TOPIX index based on the share prices of First Section companies, and the J30 index of large industrial companies maintained by Japan's major broadsheet newspapers."

LITERATURE REVIEW

Paramati and Gupta (2011) researched upon the relation between the performance of a country's stock markets and their corresponding relationship with the economic growth prevailing in the country. The study, which was conducted on data in the duration between April 1996 and March 2009, seeked to establish a relationship between the variables under consideration – in the long run and in the short run. Using a series of different empirical tests, the study was able to find that in the short run, there was a causal relationship between economic growth and stock prices in the country. In the long run too, they found a relationship between the variables, on a quarterly as well as a monthly scale.

Dhal, Sarat (2009), in his study on the global crisis and the integration of India's stock market, ran multivariate co-integration analysis of the indices of stock markets in US, UK, Japan and a few regional markets including Hong Kong, etc. The study was able to draw an interesting insight that Indian stock index prices were integrated with the regional as well as global markets when they were taken into account only in US Dollar values. If local currencies were used, then the tests for integration did not show as much of a significance. This suggests a strong tendency of influence of foreign investors in India. Moreover, this lack of integration among the markets under consideration, bearing in mind the evidence found regarding the diminished role of domestic investors in the country.

Biswas, Joydeep (2006) in his paper comparing the Indian stock market before and after the liberalization decade states that though the trading in the post liberalization era of the country became more focused on the trading of specific sectors and the volatility has remained more or less unchanged. Thus, the investors, according to him, are at a higher risk of greater instability. The findings also indicate that unless the Indian economy becomes more driven by news rather than noise, the progress of the stock market remains at stake.

Pakac-McMiken (1997) used the unit root test and the co-integration test to examine five ASEAN markets. His findings from the unit root test suggest that the markets are weak form efficient. Further, from the co-integration tests, he found that besides Indonesia, all the other market movements were related and linked with

each other, ie, Malaysia, Singapore, Thailand and the Philippines. However, though he did make some findings, there is yet to be found any establishment of statistical nature in the regard.

Schollhammer and Sand (1985) studied the inter-dependence of stock markets across the world. For this, he focused on the markets of major European Countries – contrasted against those in the United States, in an empirical investigation. This was among the first comprehensive works to study the potential relation between stock exchanges in different countries. The study found an interdependence in the stock markets of Germany, UK, Netherlands and Switzerland with each other, but not France. Further, the former countries also showed a positive indication towards a relation with the markets of the US.

NEED AND SCOPE FOR THE STUDY

The proposed study aims to contribute to the body of work that exists in the discipline of Commerce, Economics and Finance, in the category of studies conducted and articles written in the area of various stock exchanges, in the subcategory of a comparison of these exchanges. Further, being based on the information derived from reliable secondary sources (official websites), the study, centered around the performance trends seen in the different stock markets of India, USA and Japan at large give a detailed view on the scenario of the relative positions of the stock markets, over the past five financial years – 2012-17.

RESEARCH QUESTIONS

1. What is the relative position of the various indices with respect to each other?
2. How strong is the correlation between the trends, in terms of direction and magnitude of movement?
3. Where do each of the foreign stock exchanges stand, as compared to India – in terms of volume, fluctuations and trend movements?

RESEARCH OBJECTIVES

The main areas of focus of this study are the following:

PRIMARY OBJECTIVE

To compare the performance of 3 different stock exchanges through their respective indices – namely, BSE 100 (INDIA), NYSE COMPOSITE (NYSE) and Nikkei 225 (TOKYO)

SECONDARY OBJECTIVES

- To know which stock exchange has the highest and lowest number of fluctuations, the highest volumes and the most dynamic trend movements
- To compare the data of each exchange with the data of India
- To find the correlation between the economic growth of each country and the market index, and compare the nations on this basis
- To infer any possible precautionary measures for the investing class – discerning a possible trend in the future

RESEARCH DESIGN AND METHODOLOGY

The proposed study is quantitative in nature with scope for inference that is also qualitative in nature. The study is exploratory in the terms that it deals with an area that has not been researched upon as much as the others, in the past. The data to be used in the study are from the official websites of the respective stock exchanges and is secondary in nature. Further, official reports of analytics companies like Ernst and Young which compare the various stock exchange statistics have also been used.

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FRAMEWORK OF STATISTICAL ANALYSIS

This study uses a comprehensive set of economic analysis of the data under consideration, such as Descriptive Statistics, Correlation, Regression and Graphical Analysis in Microsoft Excel.
All the econometric models used in the paper were estimated in Microsoft Excel as well as confirmed using SPSS. The statistical inferences are drawn based on the Correlation and Regression Analyses and their graphical representations.

RESEARCH VARIABLES

The variables intended to be used in this research are the following:

- **Independent Variables –** The monthly trend of the indices of the five international stock exchanges (2012-17):
  - NYSE Composite
  - NIKKEI 225
- **Dependent Variable –** The monthly trend of the index of the Bombay Stock Exchange in the period between 2012 to 2017

HYPOTHESIS

H_0 – There is no significant relation between the index values and movements of BSE with NYSE and TSE
H_1 – There exists a relation between the index values and movements of the BSE with NYSE and TSE.

METHOD OF COMPARISON

- Initial comparison of the trends of each stock exchange with Descriptive Statistics, to understand the correlation and regression between the stock exchanges
- Running Correlation and Regression Tests on the Market Index Trends
- Superimposition of trend lines of the movement of the indices
- Based on result, comparison of each exchange with BSE 100
- Derivation of resultant rankings on recovery

DATA ANALYSIS AND INTERPRETATION

Descriptive Statistics

INDEX VALUE DESCRIPTIVE STATISTICS			
	BSE	***NYSE***	***TSE***
Mean	7308.317	10022.70933	15433.40083
Standard Error	174.4080294	135.5978359	443.7862023
Median	7817.585	10431.39	16100.14
Standard Deviation	1350.958786	1050.33632	3437.553142
Sample Variance	1825089.642	1103206.386	11816771.6
Kurtosis	-1.510214067	-0.316244366	-0.515156309
Skewness	-0.22859809	-0.869782652	-0.625156975
Range	4552.23	4048.43	12042.51
Minimum	4942.13	7463.96	8542.73
Maximum	9494.36	11512.39	20585.24
Sum	438499.02	601362.56	926004.05
Count	60	60	60
Confidence Level (95.0%)	348.9896606	271.3306429	888.0141397

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HIGH VALUES DESCRIPTIVE STATISTICS			
	BSE	***NYSE***	***TSE***
Mean	7494.822333	10208.78717	15949.93967
Standard Error	175.092484	133.716428	455.7123146
Median	7997.95	10544.23	16454.025
Standard Deviation	1356.260549	1035.762998	3529.93241
Sample Variance	1839442.676	1072804.987	12460422.82
Kurtosis	-1.549625051	-0.333100877	-0.521876925
Skewness	-0.237519994	-0.900459368	-0.645541054
Range	4239.3	3885.23	11908.67
Minimum	5283.02	7801.84	9044.04
Maximum	9522.32	11687.07	20952.71
Sum	449689.34	612527.23	956996.38
Count	60	60	60
Confidence Level (95.0%)	350.3592511	267.5659544	911.8782352

LOW VALUES DESCRIPTIVE STATISTICS			
	BSE	***NYSE***	***TSE***
Mean	7004.929833	9694.533	14619.26117
Standard Error	167.6437453	137.1045631	426.2530491
Median	7429.56	9914.13	14983.63
Standard Deviation	1298.562867	1062.007379	3301.741921
Sample Variance	1686265.521	1127859.674	10901499.71
Kurtosis	-1.465485215	-0.44542777	-0.566939957
Skewness	-0.195758592	-0.708839731	-0.535649344
Range	4359.47	4101.62	11751.59
Minimum	4786.41	7222.88	8238.96
Maximum	9145.88	11324.5	19990.55
Sum	420295.79	581671.98	877155.67
Count	60	60	60
Confidence Level (95.0%)	335.4543596	274.3455971	852.9303811

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Correlation Matrix

	INDEX PRICE CORRELATION			**HIGH VALUES CORRELATION**			**LOW VALUES CORRELATION**		
	BSE	***NYSE***	***TSE***	***BSE***	***NYSE***	***TSE***	***BSE***	***NYSE***	***TSE***
BSE	1			1			1		
NYSE	0.8612	1.0000		0.8722	1.0000		0.8404	1.0000	
TSE	0.8656	0.8897	1.0000	0.8610	0.8948	1.0000	0.8627	0.8858	1.0000

Regression Matrices

INDEX VALUES REGRESSION

SUMMARY OUTPUT

Regression Statistics								
Multiple R	0.8883							
R Square	0.7890							
Adjusted R Square	0.7816							
Standard Error	631.2921							
Observations	60							
ANOVA								
	df	***SS***	***MS***	***F***	***Significance F***			
Regression	2	84964096.1	42482048.05	106.5969444	5.49137E-20			
Residual	57	22716192.79	398529.698					
Total	59	107680288.9						
	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***
Intercept	-1218.2097	1067.9869	-1.1407	0.2588	-3356.8165	920.3971	-3356.8165	920.3971
NYSE	0.5623	0.1714	3.2801	0.0018	0.2190	0.9056	0.2190	0.9056
TSE	0.1873	0.0524	3.5759	0.0007	0.0824	0.2922	0.0824	0.2922

HIGH VALUES REGRESSION

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.8907							
R Square	0.7933							
Adjusted R Square	0.7861							
Standard Error	627.3195							
Observations	60							
ANOVA								
	df	***SS***	***MS***	***F***	***Significance F***			
Regression	2	86095920.58	43047960.3	109.389334	3.06517E-20			
Residual	57	22431197.32	393529.778					
Total	59	108527117.9						
	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***
Intercept	-1805.9048	1128.3962	-1.6004	0.1150	-4065.4793	453.6697	-4065.4793	453.6697
NYSE	0.6683	0.1766	3.7847	0.0004	0.3147	1.0219	0.3147	1.0219
TSE	0.1554	0.0518	2.9983	0.0040	0.0516	0.2591	0.0516	0.2591

LOW VALUES REGRESSION								
SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.8782							
R Square	0.7713							
Adjusted R Square	0.7633							
Standard Error	631.8228							
Observations	60							
ANOVA								
	df	***SS***	***MS***	***F***	***Significance F***			
Regression	2	76735265.55	38367632.8	96.11130381	5.49151E-19			
Residual	57	22754400.17	399200.003					
Total	59	99489665.72						
	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***
Intercept	-348.4354	995.3181	-0.3501	0.7276	-2341.5256	1644.6547	-2341.5256	1644.6547
NYSE	0.4328	0.1669	2.5934	0.0121	0.0986	0.7669	0.0986	0.7669
TSE	0.2160	0.0537	4.0246	0.0002	0.1085	0.3235	0.1085	0.3235

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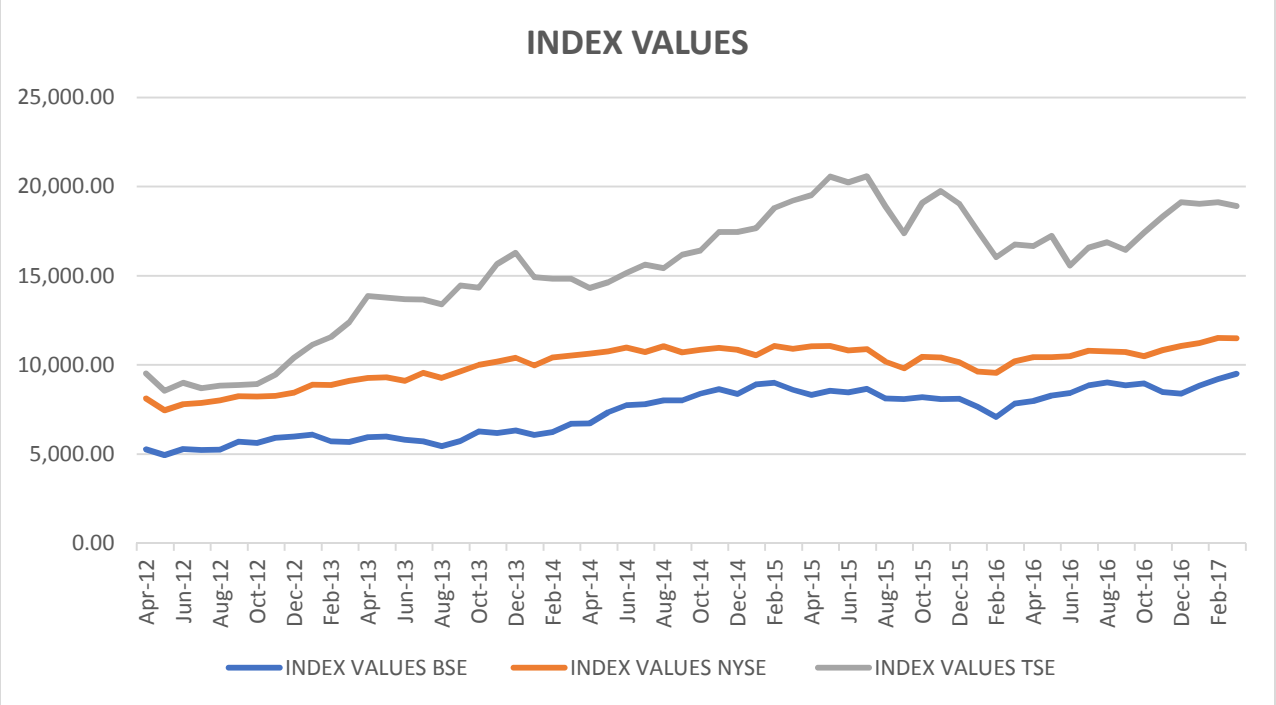
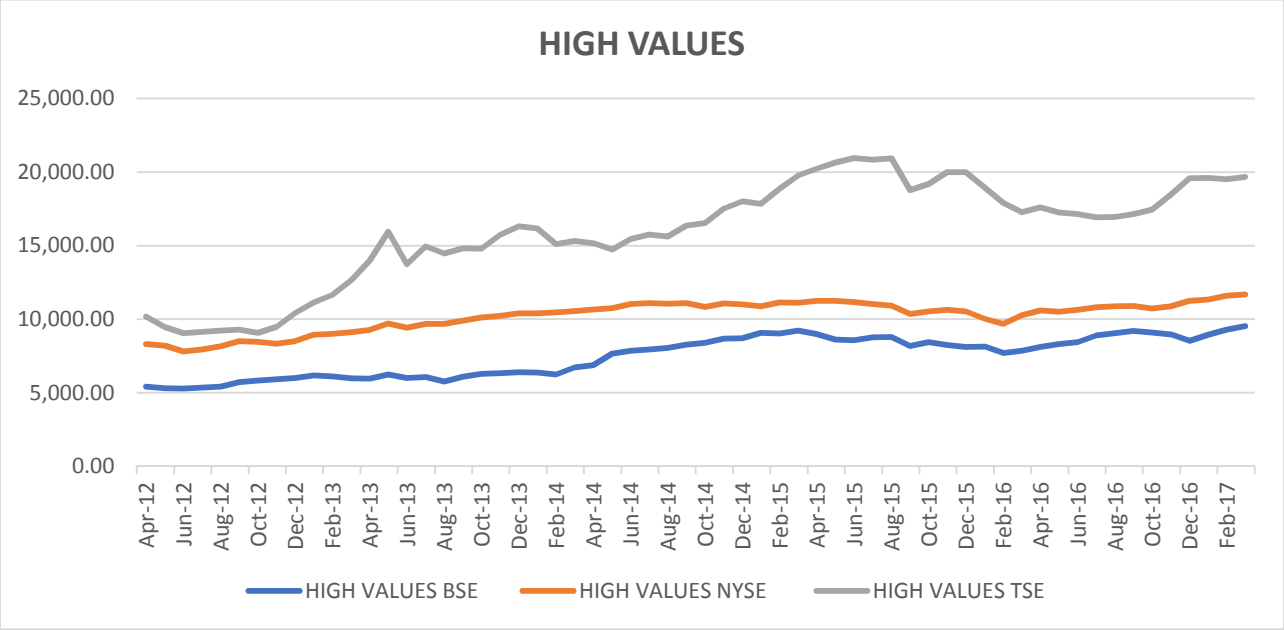
Graphical Analysis



As seen from the illustration, the index values of Tokyo Stock Exchange (TSE), as represented by the Nikkei 225 Index, has the highest values as well as fluctuations. The trend seen in the NYSE Composite and the BSE 100 indices are strikingly similar, especially post October 2015. In the duration for which this study was conducted, the former half showed a trend similarity between BSE and TSE and the latter, a trend similarity between BSE and NYSE. Further, in terms of volatility and index fluctuations, NYSE has shown the lowest fluctuations and volatility, and BSE follows close. However, Nikkei 225 of the TSE is the most volatile of the three indices under consideration.



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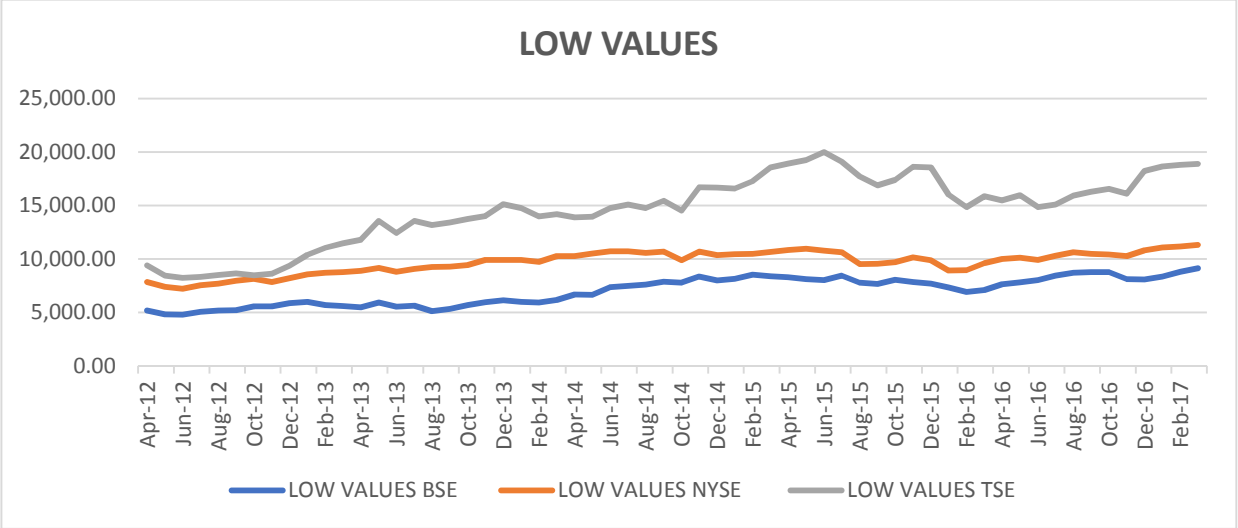

On an average, though the values of BSE are in a lower range than that of NYSE and TSE, it is interesting to note how the former has been quite stable over the span of the study while the lattermost has shown some highly variant figures. Further, it is also interesting to note that though the economies of each of these countries had a significantly impactful event towards the end of the period of study chosen, NYSE and BSE have shown greater resilience in market performance than TSE.

INFERENCES AND FINDINGS:

Descriptive Statistics

MEAN TABLE			
	BSE	***NYSE***	***TSE***
Index	7308.32	10022.71	15433.40
High Values	7494.82	10208.79	15949.94
Low Values	7004.93	9694.53	14619.26

Standard Deviation			
	BSE	***NYSE***	***TSE***
Index	1350.96	1050.34	3437.55
High Values	1356.26	1035.76	3529.93
Low Values	1298.56	1062.01	3301.74

Range			
	BSE	***NYSE***	***TSE***
Index	4552.23	4048.43	12042.51
High Values	4239.30	3885.23	11908.67
Low Values	4359.47	4101.62	11751.59

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Based on the descriptive statistics run on the data of the BSE, NYSE and TSE, it can be seen that BSE 100 shows a very high trade volume and mean for the size of the stock market it deals with. The index also shows a higher standard deviation as compared to NYSE and the relative value for TSE. Besides this, BSE 100 also shows a greater range in its values as compared to the other indices. Thus, all indicators point at the fact that the BSE is at par with the two biggest stock exchanges of the world – or surely getting there, in terms of volume. However, care must be taken by policy makers and influential investors to be prudent in enabling the driving of the economy forward.

Correlation Inferences

From the correlation matrix given above, the observation that can be made is that BSE has a very high correlation in the index values as well as low values with TSE. However, in the case of high values, the correlation of BSE is more with NYSE.

One of the major reasons for this could be the similarity in the market psyche of investors in Japan and India. However, being a growing country, India, though initially inclined more towards east Asian philosophies, has slowly and surely started earning itself a name in the social sphere.

Regression Inferences

Based on the findings of the regression analysis run on the data of BSE, NYSE and TSE, there is a moderately significant but clearly positive relation between the BSE 100 Index, the NYSE Composite and the Nikkei 225. In terms of the regression of BSE with NYSE, the index values, high values and low values are regressed at 0.56, 0.67 and 0.43, respectively. On the other hand, with the TSE, ie Nikkei 225 Index, the regressed values of the BSE are 0.19, 0.16 and 0.21. These findings, when coupled with the extremely low p-values in all the aforementioned cases enable the proving wrong of the null hypothesis and the proving right of the alternative hypothesis that there exists a significant relation between the index values and trend movements between the BSE and NYSE and TSE.

Overall Findings:

1. The trends in Index values followed by the BSE was initially not similar to that of NYSE. However, from 2015 – the trend of the Index values has been very similar.
2. The trend of BSE 100 is found to be similar to that of NIKKEI 225 as well as that of the NYSE Composite. The range values, however, are not in tandem with these two.
3. Nikkei 225 shows the highest values as far as indices go along with the highest index fluctuations and greatest volatility.
4. The highest visible correlation is seen between the trend of BSE and the New York Stock exchange, that is – the BSE 100 and the NYSE Composite, especially after June 2015.
5. Of all the indices used, the dips seen in the trend of the Nikkei 225 index from August 2015 can be attributed to the numerous major and minor natural calamities faced by the economy of Japan in the period.
6. The null hypothesis of the study has been proven wrong and the alternate hypothesis that there does exist a significant relation between BSE, NYSE and TSE index values, has been proven right.

LIMITATIONS OF STUDY

Some of the limitations of the conducted study include:

1. The data used for the study is essentially secondary in nature and hence, the biases which took effect in the original sourcing of data will have spilt over into this study as well. Indices are all calculated in the respective currencies of the various countries. This limits comparison to a great extent unless the units of money are taken as absolute values as is done in this study. However, adjusting the currency discrepancies in the testing of these indices in future studies is essential to eliminate errors.

2. The study has focused on one index per stock market – which is not enough to cover all the aspects and companies that are traded in the market. While the indices used in the study have been chosen with great care, they are not all encompassing as far as the market as a whole goes.
3. The study is not qualitative in nature. Given that most stock markets are predominantly governed by market psyche and the amount of information available to investors and companies alike, the study does not focus on those external factors that have a major influence on the markets and their indices.
4. The study has been conducted for a relatively short span of time. Being focused on the five-year period between 2012 and 2017, the study has taken place for a period of 60 months – which is often not long enough a period to identify the intricacies of the workings of the stock market index.
5. The study looks at the world's top 5 stock markets – one from each country. However, for deeper and more significant understanding, it is important to:

   a. take more stock markets into consideration

   b. take stock markets from different countries into consideration

SCOPE FOR FURTHER RESEARCH

Based on the finding and conclusions drawn from the comparative study of the Indian stock market with other international stock markets, the following areas have been identified with a great amount of potential for future research endeavours:

1. A study by taking all the index Index values in the same currency for even more accuracy in the results derived.
2. A study with more qualitative elements explored, which will help to discern the causes of the movements which affect the stock markets.
3. A greater number of stock markets and indices used for comparison and higher representation of emerging markets in the global average. This will enable the prediction and establishment of the level of co-integration between the various economies.
4. Usage of a longer time duration for making observations will help make more concrete contributions in terms of findings, in the future; as this will enable the study of the volatility of the economies and the stock markets and their reactions to adversities in the past.
5. The exploration of existing statistical models or the creation of a new model which can help to bring greater focus and streamlining to the process of carrying out a defined comparison of stock markets using their indices.
6. Based on existing study, a more predictive study can be done – which will help us enable prediction of how the economies are expected to perform in the foreseeable future, based on statistical prediction tools.

CONCLUSION

Thus, as seen from the findings of the paper, there does exist a significant relation between the index values of the BSE, with those of the NYSE and the TSE. The existence of such a relationship enables the increase in the likelihood of predictability for investors, especially in the foreseeable future. Bearing in mind that India is a growing economy, this is further a matter of unusual significance because now, using the past reactivity trend of the NYSE and the TSE, the investors in the Indian stock markets can make more educated and rational investments. In all, as found, the greater correlation found between BSE and NYSE is indicative of the likely rapid growth of the economy in the predictable future.

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