Project Dissertation Report on
IMPACT OF FOREIGN EXCHANGE RATE
ON BSE SENSEX

Submitted By

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CERTIFICATE

This is to certify that the project report entitled "Impact of Foreign Exchange rate on BSE Sensex" submitted to Delhi School of Management, DTU in partial fulfilment of the requirement for the award of the post graduate degree of MASTER OF BUSINESS ADMINISTRATION (MBA), is an original work carried out by Mr. Vaiebhav Singh Gupta (Roll No. 2K19/DMBA/107) under the guidance of Associate Prof. Dr. Archana Singh.

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DECLARATION

I, Vaiebhav Singh Gupta, Roll No. 2K19/DMBA/107 declare that the Project Report/Dissertation named "Impact of Foreign Exchange Rate on BSE Sensex" is a true work did by me. The matter typified in this task work has not been submitted before for the honor of any degree or certificate apparently and conviction."

Signature

ACKNOWLEDGEMENT

EXECUTIVE SUMMARY

BSE Profile

The Bombay Stock Exchange (BSE) is that the first and largest exchange in India and was established in 1875 because the Native Share and Stock Brokers' Association. Based in Mumbai, India, the BSE lists near 6,000 companies and is one among the biggest exchanges within the world, together with the New York Stock Exchange (NYSE), NASDAQ, London securities market Group, Japan Exchange Group, and Shanghai securities market.

The BSE has helped develop the country's capital markets, including the retail debt market, and helped grow the Indian corporate sector.

Objectives

The objectives of the study include:

a) To study the relationship between foreign exchange rate and BSE Sensex.
b) To study the impact of foreign exchange rate on BSE Sensex.

Scope of the project

The study includes only one currency pair i.e. INR/USD for the representation of the FOREX market while the one major stock market of India is covered. Thus, the relation and effects of other currencies is out of the preview of the research. The data for the last 30 years is collected and it is collected from secondary sources like websites, research papers and journals.

Research Methodology

The study involved in this project report is collected from secondary source and source of information is website of Bombay Stock Exchange and Book My Forex. The data which is already been collected is the past records i.e. historical data is required, so no primary source of data collection is required in this report. The data has been collected from various research papers, journals, websites, etc.

The techniques used in this research analysis are Correlation and Regression. The Correlation measures the relationship between two data sets that are scaled to be independent of the unit of measurement, while regression analysis analyses how a single dependent variable is affected by the values of one or more independent variables. Here this technique is used to know the impact of foreign exchange rate and also to know how strongly foreign exchange rate affects the BSE Sensex. The statistical tool used is IBM SPSS 20.

Findings

For determining the impact of Foreign exchange rate on BSE Sensex, yearly analysis of data was done. The data were of 30 years (from 1991 to 2020) was used. Hypothesis was tested and the results were that there is significant impact of Foreign exchange rate on BSE Sensex. So, the null hypothesis was rejected and the alternative hypothesis was accepted indicating that there is a significant relationship and impact of foreign exchange rate on BSE Sensex. The objective to study the relationship and the impact of foreign exchange rate on BSE Sensex was achieved. It can be said that because of using only a single variable, namely exchange rate, the impact on stock prices was not felt.

If more of independent variables like interest rates, money supply etc. could be added, then possibly a very good relation could have been established. In reality, stock prices and exchange rate are affected by a myriad of factors such as fiscal and monetary policy, interest rates, inflation, money supply, political factors etc.

Limitations

Secondary data used in this project was not exactly accurate data because of lack of proper sources for collection of data. The error already existing in secondary data can't be judged and so those data will reflect wrong result in study. This is one of the major limitations while using secondary data for analysis. These kinds of study must not be done in short span of time, detailed in depth study is not possible so as to reach at any relevant and appropriate result. Lack of expertise of the researcher will lead to wrong interpretation. Only one pair of exchange rate is used.

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LIST OF ABBREVIATIONS

S.No.	Abbreviated Name	Full Name
1	BSE	Bombay Stock Exchange
2	NSE	National Stock Exchange
3	NYSE	New York Stock Exchange
4	SEBI	Securities and Exchange Board of India
5	BOLT	BSE Online Trading
6	CNX	Credit Rating Information Services of India Limited
7	SME	Small and Medium Enterprises
8	CSR	Corporate Social Responsibility
9	NBFC	Non-Banking Financial Company
10	BPO	Business Process Outsourcing
11	FOREX	Foreign Exchange Market
12	Sig Value	Significance Value
13	DII	Domestic Institutional Investors
14	FII	Foreign Institutional Investor
15	USD	United States Dollar
16	INR	Indian Rupee

CHAPTER - 1
INTRODUCTION

A stock exchange also referred to as securities exchange may be a means through which traders and stockbrokers purchase and sell securities. Stock exchanges also provide facilities for the redemption of securities and capital events like payment of income and dividends. Securities traded on a stock exchange include stock issued by unit trusts, listed companies, derivatives, bonds and pooled investment products. Stock markets function as "continuous auction" markets with buyers and sellers perform transactions at a central location just like the ground of the exchange or by using an electronic trading platform.

Most of the trading within the Indian markets happen on the subsequent two stock exchanges: the Bombay stock exchange (BSE) and therefore the National stock exchange (NSE). a huge majority of Indian companies are listed on both these exchanges. NSE features a dominant share in spot trading (70% of the market share approximately as of 2009) and enjoys monopoly in derivatives market.

The two prominent Indian market indices are Nifty and Sensex. Sensex is that the oldest market index for equities; including shares of 30 firms listed on the BSE, representing 45% of the index's free-float capitalization. Standard and Poor's CNX Nifty includes 50 shares listed on the NSE, representing 62% of free-float capitalization."

"The responsibility of regulation and supervision of the exchange rests with the Securities and Exchange Board of India (SEBI). SEBI initiated in 1992 as an independent authority. Since its inception, SEBI aligns market rules with the most effective market practices. In case of a breach, SEBI has the power of imposing penalties on market participants."

1.1   Profile of Stock Exchange

The Bombay Stock exchange(BSE) is that the first and largest exchange in India and was established in 1875 because the Native Share and Stock Brokers' Association. Based in Mumbai, India, the BSE lists near 6,000 companies and is one among the biggest exchanges within the world, together with the New York Stock Exchange (NYSE), NASDAQ, London securities market Group, Japan Exchange Group, and Shanghai securities market.

The BSE has helped develop the country's capital markets, including the retail debt market, and helped grow the Indian corporate sector.

How the Bombay Stock Exchange (BSE) Works?

In 1995, the BSE switched from an open-floor to an electronic trading system. There are over a dozen electronic exchanges within the U.S. alone with the New York securities market (NYSE) and Nasdaq being the foremost widely known. Today electronic systems
dominate the financial industry overall, offering fewer errors, faster execution, and better efficiency than traditional open-outcry trading systems.

The BSE carries the depth of information of capital markets since its inception. The BSE has been the backbone of the country's capital market. Within the beginning, the operations of the BSE were confined to Bombay only due to natural constraints. In those days, there was open outcry system to bid securities on the ground of the BSE. After the emergence of sophisticated technology and induction of online trading through electronicnetwork, trading ring was dispensed with. During 1995, the BSE had replaced its age old open outcry system with the BSE Online Trading (BOLT). The operational area of the BSE has been widely enlarged because of BOLT. It eliminated physical boundaries. It enables investors to hold out trading activities from any location facilitated by internet.

Foreign Exchange Rate

"Foreign exchange rate or Forex is that the value of 1 country's currency in terms of another currency. the speed of trade might be a key monetary variable that influences choices made by trade financial backers, exporters, shippers, investors, organizations, monetary foundations, policymakers and tourists within both the developing and developed countries. The rate of exchange fluctuations affects the worth of international investment portfolios, competitiveness of exports and imports, value of international reserves, currency value of debt payments, and also the value to tourists in terms of the price of their currency."

Understanding the effect of exchange rate fluctuations

In some situations, the higher the exchange rate, the better for you. While in other cases the lower the exchange rate the better it is. Consider the following cases:

1. **Lower rate of exchange is best during sale of currency.**
2. **Higher exchange rate lifts a country's purchasing power.**
3. **Lower rate of exchange can speed up a country's exports.**

Effect of fluctuations on stock market

High rate of exchange holds a positive effect on firms whose revenue is passionate about exports. Likewise, there is a negative effect on companies which import most of their raw materials.

"We can say that the stock prices and exchange rate fluctuations are directly passionate around each other. The upper the movement in exchange rate the profound the impact on stock prices.".
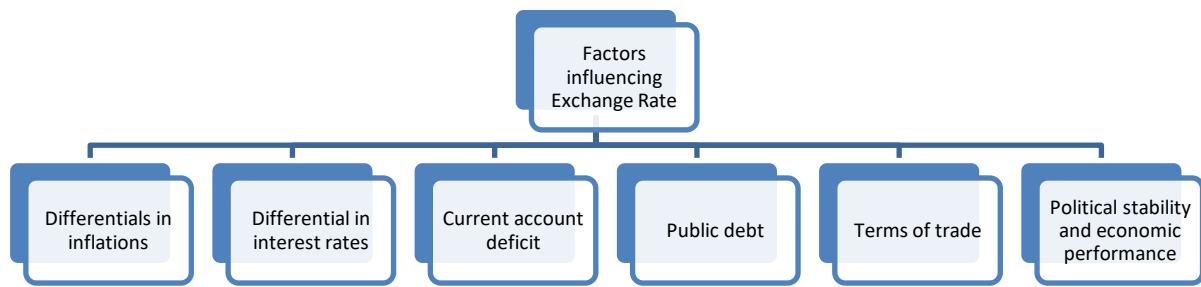
Geographical Location

It is located in Mumbai, Maharashtra, India.

Size of Organization

The BSE is the world's 10th largest stock exchange with an overall market capitalization of more than $2.2 trillion on as of April 2018. The BSE's overall performance is measured by the Sensex, an index of 30 of the BSE's largest stocks covering 12 sectors.

Organisational Structure
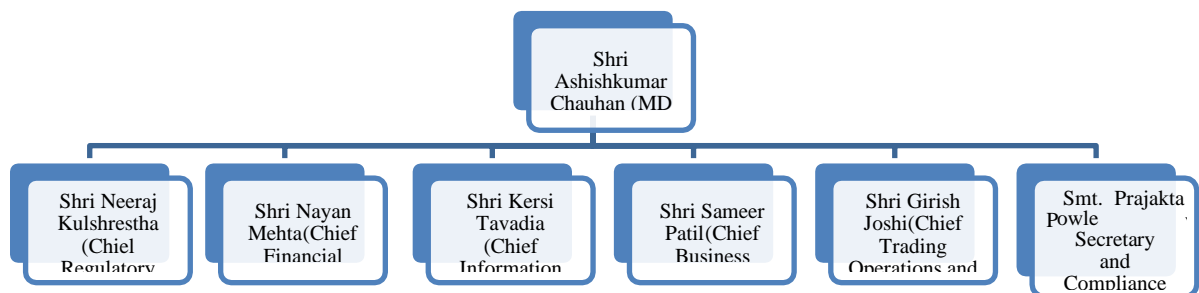
Figure No. - 1.1: Organisational Structure of Bombay Stock Exchange

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Turnover of the Index

The turnover of Bombay Stock Exchange during the financial year 2019 was Rs. 4, 50,388 (in lakhs).

Position of the Index

The BSE ranks at 10th position globally with a market cap of over $1.6 trillion, crossing Rs 100-trillion mark in the rupee terms for the first time ever. It is the largest exchange inthe world in terms of number of listed companies.

Constituents

The 30 constitutes of S&P BSE SENSEX as of April 30, 2021:

Company	Weight in Sensex (%)
INFY	7.3
TCS	5.81
RELIANCE	14.57
ICICIBANK	6.05
HDFCBANK	11.63
HCLTECH	1.62
BHARTIARTL	3.59
INDUSINDBK	0.79
SBIN	1.86
LT	3.07
TECHM	0.93
AXISBANK	2.57
ITC	4.58
BAJAJ-AUTO	0.99

ONGC	0.69
TATASTEEL	0.66
NTPC	1.09
M&M	1.29
ASIANPAINT	2.02
POWERGRID	1.12
BAJAJFINSV	0.97
TITAN	1.08
NESTLEIND	1.59
ULTRACEMCO	1.14
SUNPHARMA	1.4
BAJFINANCE	1.97
MARUTI	2.03
HDFC	8.1
HINDUNILVR	5.09
KOTAKBANK	4.41
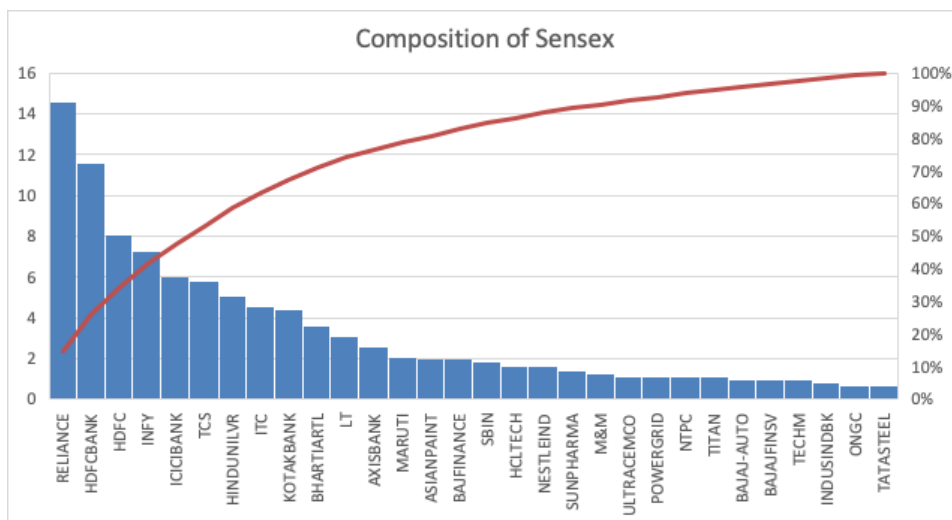
Sectoral Allocation of Sensex
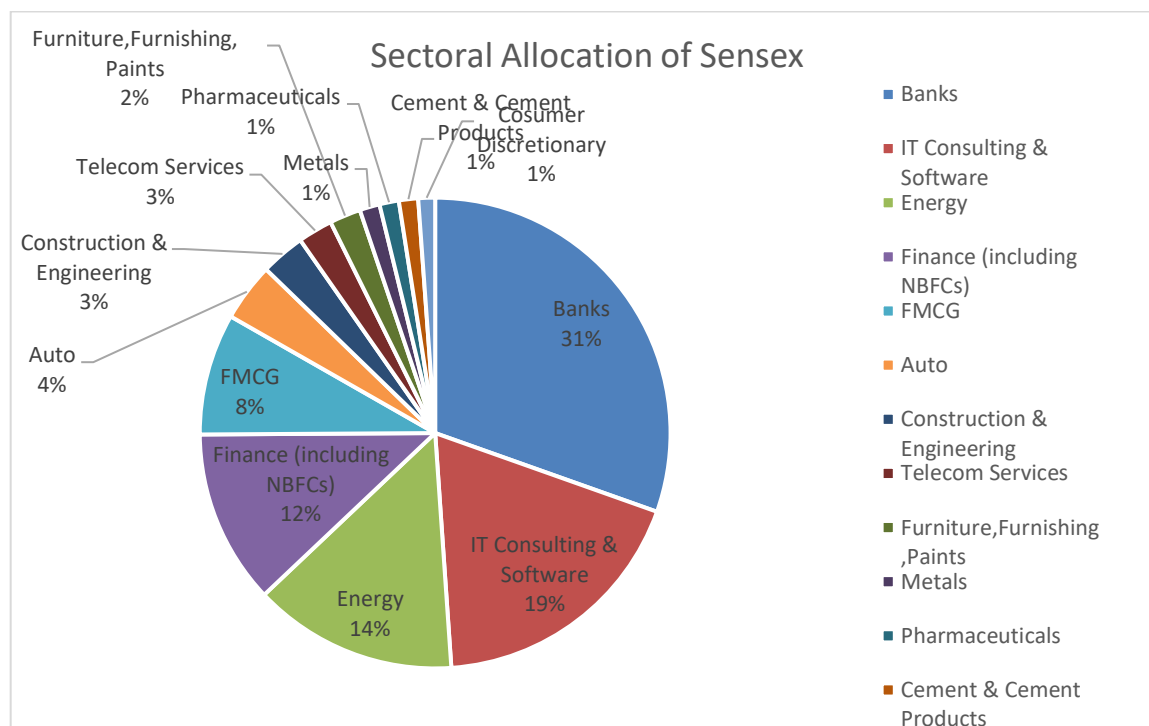
In the above pie chart, we can see that Banking sector is approximately contributing 30.7% weight in the Sensex 30 by far the largest of all sectors followed by IT Consulting and Software at 18.6%.

Sectors	Weights
Banks	30.7%
IT Consulting & Software	18.6%
Energy	14.1%
Finance (including NBFCs)	12.1%
FMCG	8.4%
Auto	4.0%
Construction & Engineering	3.1%
Telecom Services	2.4%
Furniture,Furnishing,Paints	2.2%
Metals	1.4%
Pharmaceuticals	1.3%
Cement & Cement Products	1.3%
Consumer Discretionary	1.2%

1.2   Objectives of the study

The objectives of the study are as follows:

1.21 To study the relationship between foreign exchange rate and BSE Sensex.

1.22 To study the impact of foreign exchange rate on BSE Sensex.

1.3   Scope of the study

The study includes only one currency pair i.e. INR/USD for the representation of the FOREX market while the one major stock market of India is covered. Thus, the relation and effects of other currencies is out of the preview of the research. The data for the last 30 years is collected and it is collected from secondary sources like websites, research papers and journals.

1.4   Methodology of the study

1.41   Data Collection

The study involved in this project report is collected from secondary source and source of information is website of Bombay Stock Exchange and Book My Forex. The data which is already been collected is the past records i.e. historical data is required, so no primary source of data collection is required in this report. The data has been collected from various research papers, journals, websites, etc.

1.42   Data Analysis

i. The techniques used in this research analysis are Correlation and Regression. The Correlation measures the relationship between two data sets that are scaled to be independent of the unit of measurement, while regression analysis analyses how a single dependent variable is affected by the values of one or more independent variables. Here

this technique is used to know the impact of foreign exchange rateand also to know how strongly foreign exchange rate affects the BSE Sensex.

ii. The statistical tool used is IBM SPSS 20.

1.5 Hypothesis

The following hypotheses are used to achieve the desired objectives in the study:

H_{01} (**Null Hypothesis 1**): There is no significant relationship between foreign exchangerate and BSE Sensex.

H_{a1} (**Alternate Hypothesis 1**): There is significant relationship between foreign exchange rate and BSE Sensex.

H_{02} (**Null Hypothesis 2**): There is no significant impact of foreign exchange rate on BSESensex.

H_{a2} (**Alternate Hypothesis 2**): There is significant impact of foreign exchange rate onBSE Sensex.

CHAPTER - 2
LITERATURE REVIEW

Polisetty and Kumar (2016) Anticipating currency movements are possibly one among the hardest activities in financial aspects since it has numerous factors influencing its market development. The progressions inside the capital market bring change inside the whole economy of the country. The blast and sorrow of the capital market are reflected through and through areas of the economy. The unfamiliar trade market and furthermore the stock trade are essential for any very much characterized monetary set-up of a country. Stock cost descending development consistently inside the market admonishes the emergency time frame previously. The examination broke down the unique connection between stock trade and conversion scale and investigates the since quite a while ago run and short-run causal connection between the stock trade and furthermore the conversion scale in India of BSE Sensex. As US Dollar might be a conspicuous cash for unfamiliar exchange, the charge per unit of rupee and US Dollar has been taken for the examination. BSE Sensex record might be a seat stamping file that is acclimated measure the monetary advancement of a nation like India. There's no huge circumstances and logical results connection between the 2 factors. Since the relationship happened between the factors during various periods is because of chance factor and not on account of cause factor. Moreover, signs are that the presence of unfamiliar trade limitations doesn't detach the homegrown capital business sectors. The general expansion in global exchange and furthermore the resultant expansion in monetary combination have likewise expanded monetary coordination and diminished the upside of worldwide enhancement.

Bhunia and Pakira (2014) neatly wraps up that in since quite a while ago run the Indian securities exchange is additionally fixated by Indian macroeconomic causes more energetically than worldwide causes. The signs of the current examination haven't to be excesses seeing that persuading for a speculation. Notwithstanding accommodating Indian protections market established inside the inclusions of the important factors, there stay behind recent huge subjects so on impact the return produces strategy. These

worries is additionally the resource valuation, industry examination, and in close to no time. Any financial backer should consider to each relevant reasons for information at what time fabricating a speculation decision.

Patel and Kagalwala (2013) studied that the exchange rate could be a key financial variable that affects decisions made by interchange investors, exporters, importers, bankers, businesses, economic institutions, policymakers and tourists within the developed additionally as developing world. Exchange rate fluctuations affect the worth of international investment portfolios, competitiveness of exports and imports, value of international reserves, currency value of debt payments, and therefore the cost to tourists in terms of the worth of their currency. Movements in exchange rates thus have important implications for the economy's trade cycle, trade and funds flows and are therefore crucial for understanding financial developments and changes in trade and industry policy. Therefore, to review the impact of changes in exchange rate on Indian stock markets is important. From the data analysis they found that the results of correlation confirmed that there's negligible relation between exchange rate and Nifty and negligible relation between exchange rate and Sensex.

Kumar Dey (2013) examined the association between stock costs unpredictability rate in India. The aftereffects of the examination shows that top connection between unfamiliar swapping scale and BSE-Sensex return and moderate positive relationship between unfamiliar trade stores and BSE-Sensex return. There exists a significant effect of unfamiliar swapping scale, unfamiliar trade saves on BSE-Sensex return on the possibility of relapse examination. The unit root test further affirms that there's a unit root among the factors expressing presence of non-writing material position. For finding causal connection relationship among factors granger causality test chose, the granger causality test presumes that unfamiliar conversion scale causes the BSE-Sensex return however no causation between unfamiliar trade hold and BSE-Sensex return.

Kakhani (2012) examined whether or not a causal relationship exists between exchange rates and stock exchange. By applying the techniques of Granger Causality test and correlation test, relationships between INR/$ rate and Indian stock exchange indices (SENSEX and NIFTY 50) were determined. The granger results suggested that over the course of 8 years there exists no relationship between exchange rates and stock market. However, correlation result shows that there's very less degree positive relationship between the two.

Singh (2012) analyzed the principal factors chargeable for influencing Bombay stock trade (BSE) in India. Further the paper endeavors to dissect the general impact of the variables influencing BSE and along these lines sorting them. it's a broadly known undeniable truth that dollar cost or cash swapping scale and Inflation incorporates an incredible effect on BSE Sensex subsequently; this examination recognizes the degree of impact of conversion standard on BSE Sensex. For building up the connection relapse examination has been utilized by utilizing SPSS. The outcomes propose that rate fundamentally influence the exhibition of BSE Sensex. industry-drove which infers that interest for more noteworthy value account is driven by higher and improved corporate monetary execution. Consequently, the condition of the Indian economy remembers a contacting for the offer costs, yet, the sound wellbeing of the financial exchanges inside the feeling of a rising offer value file isn't intelligent of an improvement inside the strength of the economy. All in all, a bull run or rising lists inside the securities exchanges can't be taken to be a pointer of the restoration of the economy in India and contrariwise. The swapping scale i.e., Rs./US$ is also coming up to be a contrarily huge determinant of Indian financial exchanges. Likewise, the swapping scale depends on the inflows inside the course of FIIs and FDI and furthermore the fare import dissimilarity which is moreover affected by outside variables and circumstances.

Dasgupta (2012) It may be stated that the stock markets in India are demand-driven and industry-led which implies that demand for greater equity finance is led by higher and improved corporate financial performance. Thus, the state of the Indian economy includes a touching on the share prices, but, the sound health of the stock markets within the sense of a rising share price index isn't reflective of an improvement within the health of the economy. In other words, a bull run or rising indices within the stock markets cannot be taken to be an indicator of the revival of the economy in India and contrariwise. The exchange rate i.e., Rs./US$ is additionally coming up to be a negatively significant determinant of Indian stock markets. Also, the exchange rate relies on the inflows within the route of FIIs and FDI and also the export-import disparity which is additionally influenced by external factors and situations.

Yadav and Lagesh (2011) considered that there exists a since a long time ago run connection between conversion standard when the worth variable is that the needy variable. Likewise, the assessment of short-run causality affirmed that swapping scale cause the adjustments in list. In this manner, to keep up value dependability and stay away from inflationary pressing factors inside the economy, the national bank should plan its money related approach by focusing on loan costs. The presence of cointegration between genuine yield, cash, cost, and loan fees when conversion scale depends variable proposes that in post advancement a more prominent job is played by trade rates. Additionally, proof shows that there's a unidirectional causality running from swapping scale to the measure of expenses in India. Hence, conversion standard will be utilized to fill in as a proficient moderate objective for the money related strategy through powerful mediation of RBI in unfamiliar trade market.

Apte (2001) explored the connection between the instability of the stock trade which of the ostensible conversion scale in India. The model detail joins deviated impacts of positive and negative returns shocks on instability both inside a similar market likewise as overflows across the 2 business sectors. Observational investigation with one among the preeminent stock trade records upholds the theory of such instability linkages while

the stock trade however not a contrary path round.

Agrawal (2010) The study is an effort to research the link between stock prices volatility and exchange rates movement in India. The analysis on stock markets has come to the fore since this can be the foremost sensitive segment of the economy and it's through this segment that the country's exposure to the outer world is most readily felt. He analyzed the link between Nifty returns and Indian rupee-US Dollar Exchange Rates. During this study, it absolutely was found that Nifty returns in addition as Exchange Rates were non-normally distributed. Through unit root test, it absolutely was also established that both the statistic, exchange rate and Nifty returns, were stationary at the extent form itself. Correlation between Nifty returns and Exchange Rates was found to be negative.

Ghosh (2011) tried to seek out the connection between BSE Sensex and a few other important economic factors and got some interesting results associated with this. He used statistical methods to try to the analysis supported monthly basis database of various economic factors. Finally, he got some relationships of these factors with BSE Sensex. In his analysis he found that dollar price together with Factor 1 i.e.; "External Reserve" and Factor score 2 i.e.; "Inflation induced variables" are significantly affecting BSE Sensex. Within the context of Indian economy, the appreciation of dollar will herald more foreign exchange reserve which can act as stimulant to foster growth and during this process the injection of capital flows will affect Sensex. It's evident from the research that the increase within the price of dollar features a positive impact on Sensex.

Sharma and Mahendru (2010) focused on conversion scale and its effect on the stock costs. Observational outcomes uncovered that conversion scale influence the total BSE stock costs. The development of stock records is delicate to the adjustments in basics of the economy and to the adjustments in assumptions regarding future possibilities. Assumptions are affected by the miniature and large scale basics which can be shaped either reasonably or adaptively on financial essentials, what's more as by numerous abstract variables which are capricious and furthermore non quantifiable. It's expected that homegrown financial essentials play deciding part inside the presentation of

securities exchange. Be that as it may, inside the worldwide incorporated economy, homegrown monetary factors are liable to shift on account of the approaches received and expected to be embraced by different nations or some worldwide occasions. The normal outside factors affecting the stock return would be stock costs in worldwide economy, the loan fee and furthermore the conversion standard.

Mishra (2007) The study of volatility spillovers provides useful insights into how information is transmitted from stock market to foreign exchange market and vice versa. This paper explores volatility spillovers between the Indian stock and foreign exchange markets. The results indicate that there exists a bidirectional volatility spillover between the Indian stock market and also the foreign exchange market with the exception of S&P CNX NIFTY and S&P CNX 500. The findings of the study also suggested that both the markets move in tandem with one another and there's a protracted run relationship between these two markets. The results of serious bidirectional volatility spillover suggest that there's an information flow (transmission) between these two markets and both these markets are integrated with one another. Accordingly, financial managers can obtain more insights within the management of their international portfolio full of these two variables. This could be particularly important to domestic also as international investors for hedging and diversifying their portfolio.

Karmarkar and Kawadia (2004) dissected the market reconciliation upheld the financial exchange, unfamiliar trade market and in this manner the bullion market. The extension of stock costs was definitely more than the development in bullion costs and rate. These business sectors are undeniably steadier inside the time of monetary changes. No one of the side effects drives this market yet BSE Sensex is that the touchiest pointer impacted by any remaining markers of those business sectors. The examination showed BSE Sensex and rate has backwards relationship and subsequently an ascent in BSE Sensex diminishes the rate. In most other pointer, the short run sway is a more modest sum and unimportant.

Bhattacharya and Mukherjee (2003) decided the lead and slack connections between the Indian financial exchange and conversion standard alluding to the unfamiliar area. Inside the examination, the BSE Sensitive Index was utilized as an intermediary for the Indian securities exchange. The outcomes propose that there's no causal linkage between stock costs and conversion scale into thought. The Sensitive Index of the Bombay stock trade has effectively fused all previous data on swapping scale. In this specific situation, the connection between conversion scale and stock costs that we acquired in our outcome's to be expected. Last however not the littlest sum, securities exchange in India keeps on being during a momentary stage. Assuming this current outcome's likewise gotten for resulting periods, it ought to be inferred that Indian securities exchange is drawing nearer towards educational effectiveness at least with significance the conversion scale.

CHAPTER – 3
DATA PRESENTATION & ANALYSIS

3.1   Data Presentation

The data which is included in this report is collected from secondary source only. Secondary data refers to that type of information which is already collected and analyzed by someone else. This type of data includes books, magazines, newspapers, journals, research papers, etc. As this project is based upon statistical data available which is collected from already collected facts. Sources of data were from various websites mainlyBook My Forex and Bombay Stock Exchange.

Tools used for the study:

"Correlation" is the degree and type of relationship between two or more variables in which they vary together over a period.

"Regression" is the technique for determining the statistical relationship between two or more variables where a change in DV is associated with, and depends on the change in one or more IV.

"Correlation Coefficient" is a measure that determines the degree in which two variables' movements are associated.

The relationship between the Independent variable i.e. Foreign Exchange Rate (USD/INR) & Dependent variable is Bombay Stock Exchange Sensex is measured by Correlation analysis. The statistical analysis is called Bivariate analysis. Bivariate

analysis is one of the simplest forms of quantitative (statistical) analysis. It involves the analysis of two variable (often denoted as X, Y), for the purpose of determining empiricalrelationship between them.

The following table will show approximate degree of correlation according to Karl's Pearson formula. Value of „p‟ determines how much significant the relationship is between the two variables.

The different degree/size of correlation and its interpretation are as follows:

Table No. – 3.1: Degree of correlation and its interpretation

Size of Correlation	Interpretation
±1	Perfect Positive/Negative Correlation
±.90 to ±.99	Very high positive/Negative Correlation
±.70 to ±.90	High Positive/Negative Correlation
±.50 to ±.70	Moderate Positive/Negative Correlation
±.30 to ±.50	Low Positive/Negative Correlation
±.10 to ±.30	Very low positive/Negative Correlation
±.00 to ±.10	Negligible/Positive/Negative Correlation

We also have to consider the value of Sig (2-Tailed) value:

The value will tell if there is a statistically significant correlation between two variables.

If the Sig (2-Tailed) value is greater than .05: This means there is no statistically significant correlation between two variables. That means, increases or decreases in one variable do not significantly relate to increases or decreases in second variable.

If the Sig (2-tailed) value is less than or equal to .05: This means there is a statistically significant correlation between two variables. That means, increases or decreases in one variable do significantly relate to increase or decreases in second variable.

3.2   Data Analysis

Table No. - 3.2: Foreign Exchange Rate USD to INR

Year	1 USD TO INR
1991	22.74
1992	25.92
1993	30.49
1994	31.37
1995	32.43
1996	35.43
1997	36.31
1998	41.26
1999	43.06

2000	44.94
2001	47.19
2002	48.61
2003	46.58
2004	45.32
2005	44.1
2006	45.31
2007	41.35
2008	43.51
2009	48.41
2010	45.73
2011	46.67
2012	53.44
2013	56.57
2014	62.33
2015	62.97
2016	66.46
2017	67.79
2018	70.09
2019	69.55
2020	74.13

Source: BookMyForex

Interpretation: The above data is collected from the website of Book My Forex. This table presents the average value of Foreign Exchange Rate (USD/INR) from the year ended 1991-2020.

3.21 Impact of Foreign Exchange Rate on BSE Sensex

Table No. – 3.3: BSE Sensex Indices

Year	Close
1991	1908.85
1992	2615.37
1993	3346.06
1994	3926.9
1995	3110.49
1996	3085.2
1997	3658.98
1998	3055.41
1999	5005.82
2000	3972.12
2001	3262.33
2002	3377.28
2003	5838.96
2004	6602.69
2005	9397.93

2006	13786.91
2007	20286.99
2008	9647.31
2009	17464.81
2010	20509.09
2011	15454.92
2012	19426.71
2013	21170.68
2014	27499.42
2015	26117.54
2016	26626.46
2017	34056.83
2018	36068.33
2019	41253.74
2020	47751.33

Source: BSE

Interpretation: The above data in the table is collected from the website of Bombay Stock Exchange (BSE). This table shows the closing values of particular years in the Sensex of India from the year 1991-2020.

i. Correlation between Foreign Exchange Rate and BSE Sensex

Table No. - 3.4: Table showing Karl Pearson's Correlation

→ Correlations

[DataSet0]

Descriptive Statistics

	Mean	Std. Deviation	N
USD_INR	47.6967	13.59941	30
BSE_Sensex	14642.85	13065.472	30

Correlations

		USD_INR	BSE_Sensex
USD_INR	Pearson Correlation	1	.889**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	5363.378	4583279.180
	Covariance	184.944	158044.110
	N	30	30
BSE_Sensex	Pearson Correlation	.889**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	4583279.180	4950490290
	Covariance	158044.110	170706561.7
	N	30	30

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Karl Pearson's Correlation using SPSS

Interpretation: From the above table, it is clear that from the year 1991-2020, that the strength of association of variables is very high (r=0.889). The relation between the two variables Foreign exchange rate (USD/INR) and BSE Sensex is very high and the relationship is strong. It is concluded from the above table that there is high correlation between these two factors. Significance value .000 shows that these relationships are statistically significant which means the correlation between these factors is very strong.

Correlation value:

BSE Sensex – USD/INR = .889 (High Positive Relationship)

Significance Value:

BSE Sensex – USD/INR = P value [.000] < 0.05 (Strong Correlation)
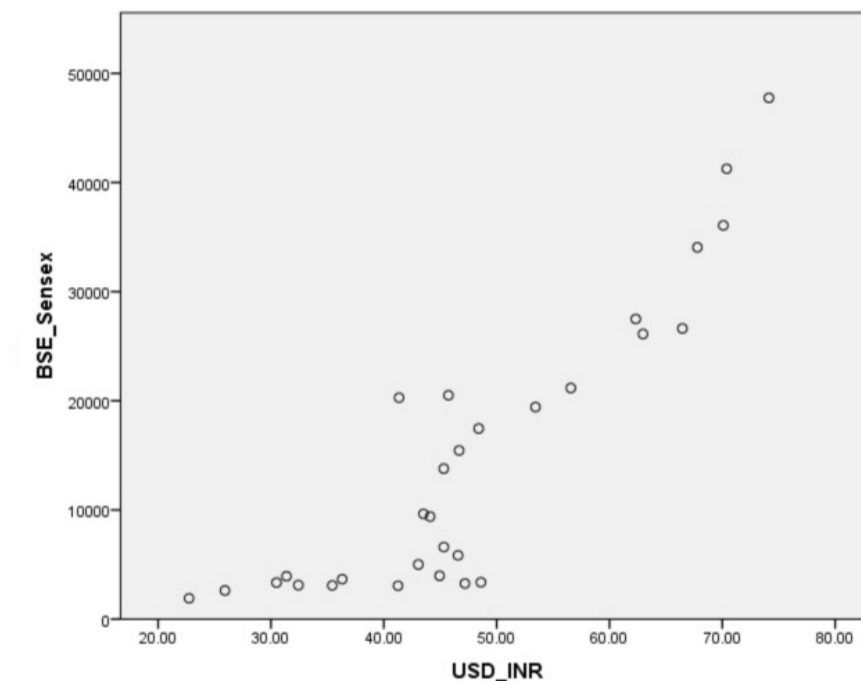
Figure No. – 3.5: Scatter/Dot diagram showing BSE Sensex and USD/INR from 1991-2020

Interpretation: Scatterplots are a great way to check quickly for relationships between pairs of continuous data. At a glance, you can see that there is a relationship between BSE Sensex and Foreign Exchange Rate (USD/INR). Pearson's correlation takes all of the data points on this graph and represents them as a single number. In this case, the statistical output indicates that the Pearson's correlation coefficient is 0.889 and has a strong positive relation.

ii) Regression between Foreign Exchange Rate and BSE Sensex

Table No. - 3.6: Table showing Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889[a]	.7903	.779	6003.711

Interpretation: In the above table, R represents simple correlation. Here R = 0.889 of BSE, which shows that there is positive correlation. R square shows the percentage of the total variation on BSE Sensex that can be explained by Foreign Exchange Rate. Here as R square is .7903 indicates variation in BSE Sensex explained by Foreign Exchange rate.

From the above table it is concluded that there is 79.03 percent variation in BSE Sensex due to Foreign Exchange Rate. There is positive correlation between these two factors. R square shows the total variation caused by Foreign Exchange Rate on BSE Sensex. R-squared is a statistical measure of how close the data are to the fitted regression line.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2957179820.995	1	2957179820.995	82.042	.000[b]
	Residual	1009247357.475	28	36044548.481		
	Total	3966427178.470	29			

a. Dependent Variable: BSE_Sensex

b. Predictors: (Constant), USD_INR

F (82.042) determines the significance of the overall regression model.

Sig (0.000) indicates whether these relationships are statistically significant.

From the above table it is concluded that Total – Regression = Residual29-1= 28

And the significance value shows that the relationship between both the factors is significant.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-20702.151	3888.027		-5.325	.000
USD_INR	738.040	81.482	.863	9.058	.000

a. Dependent Variable: BSE_Sensex

Source: Karl Pearson's Regression using SPSS

Regression Equation:

The following is the Regression equation depicted from the above tables:

Y = -20702.151 + 738.040X

Where,

Y = BSE Sensex

X = Foreign Exchange Rate (USD/INR)

CHAPTER–4
SUMMARY & CONCLUSIONS

4.1 Findings of the Study

From the above study, the findings of the research are as follows:

4.11 For the purpose of evaluating the impact/effect of FX rates on BSE Sensex, yearly analysis of data was done. The data which was used for the study were of 30 years i.e. from 1991 to 2020.

4.12 The hypothesis was tested and the correlation and regression results provided great insights stating that there is a reasonable as well as significant influence of FX rates on BSE Sensex.

4.13 So, the null hypothesis i.e. H_0 was rejected and the alternative hypothesis i.e. H_1 was accepted indicating that there is a significant as well as reasonable influence of FX rates on BSE Sensex.

4.14 In reality, stock costs and conversion standard are influenced by a bunch of elements like financial and financial arrangement, loan fees, inflation, cash supply, political elements, global occasions, principal execution, forex holds, BOP, trade control, and so forth.

4.15 The non-presence of relationship may likewise be a result of Indian business sectors not yet being profoundly incorporated or delicate to the new data. Additionally, some the Indian organizations similarly may not be presented to a great deal of forex openness, similar to organizations in developed nations.

4.16 High instability presented in the trade market because of skimming rate system supports the theoretical exercises, makes it hard to pinpoint the exact impact of trade rates on stock costs.

4.17 It is tracked down that Indian stocks are exceptionally notion driven and supplies of specific organizations may change for reasons unknown. There are not many subjective components that impact stock costs like hypothesis and financial backer certainty level.

4.2 Limitations

Few limitations of the study that are given below:

4.21 Secondary data used in this project was not exactly accurate data because of lack of proper sources for collection of data.

4.22 The error already existing in secondary data can't be judged and so those data will reflect wrong result in study. This is one of the major limitations while using secondary data for analysis.

4.23 Shortage of time. These kinds of study must not be done in short span of time, detailed in depth study is not possible so as to reach at any relevant and appropriateresult.

4.24 Lack of expertise of the researcher will lead to wrong interpretation.

4.25 Only one pair of exchange rate is used.

4.3 Suggestions & Scope for further study

4.31 As this project is covering very vast topic impact of foreign exchange rate on BSE Sensex, so the time frame must also be of at least 30 years because then only all the factors can be properly analyzed.

4.32 The data is to be collected is of a broad area, so there is requirement of good amountof time for data collection then only the study can be done appropriately.

4.33 There are other factors also that have an influence on BSE Sensex which are interest rate, IIP, money supply, central government policies, gold prices, inflation rate, etc. However, due to shortage of time we have taken only one variable which is FOREX.

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