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PREDICTION OF SHARE PRICE FLUCTUATION OF THE COMPANIES LISTED IN THEMATIC INDICES OF NATIONAL STOCK EXCHANGE USING BOX JENKINS METHODOLOGY

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Abstract

Stock market forecasting seeks to forecast future changes in a financial exchange's stock value. One of the most crucial aspects of financial markets is volatility. Investors will be able to earn more if share price movements can be predicted accurately. Because of the various variables involved in stock prediction, including interest rates, politics, and economic growth, which make the stock market unpredictable and highly difficult to anticipate effectively, it is one of the most difficult problems to solve. Since investing in stocks is a significant financial market activity, a lack of precise knowledge and thorough information will inevitably result in investment loss. Hence it is important to study the Prediction of share price fluctuations of the companies listed in thematic indices of NSE for the period of fifteen years from 2008 to 2022. The study forecast the share price movements of select companies listed in thematic indices of National Stock Exchange by using Box Jenkins Methodology. The study concluded that Companies like Ambuja Cement, Bosch Limited, Britannia, Proctor and Gamble, Colgate Palmolive, HDFC and Tech Mahindra are showing increasing trend. Henceforth traders and policymakers may invest their cash with less risk and can earn higher return without losses during their investment progress. So that the market moves forward by taking surplus output and follows the put option strategy to opt great way to profit.

Key Words: Stock Prediction, Economic Growth, Box Jenkins Methods, Price Fluctuations and option strategy

I. Introduction of the study

The stock market has gone through unheard-of volatility in the context of economic globalization, particularly in the wake of the recent global financial crisis. Its volatility is damaging to the stock market's regular operation and raises its level of risk and uncertainty. The positive evolution of stock market volatility has also come under intense scrutiny because of the stock market's significant role in the world economy. One of the most crucial aspects of financial markets is volatility. It has an impact on how both businesses and people invest and is directly tied to market uncertainty. Modern financial research also emphasizes the study of the volatility of financial asset returns, which is frequently defined and quantified by the variance of the rate of return. Even while there are numerous models and methodologies available, not all of them are equally effective for all stock markets, making accurate market volatility predictions is a challenging task. This is the main cause of the complexity in projecting market returns and volatility that researchers and financial analysts encounter.

II. Review of Literature

Mudeer Ahmed Khattak, Mohsin Ali, Syed et.al (2021) expounded to investigate twenty one potential internal and external shocks to the European market during the COVID 19 crisis from January 1, 2020 to June 26, 2020, using machine learning techniques such as Least Absolute Shrinkage and Selection operator to see how they compare to traditional regression methods. According to the study, indices from Singapore, Switzerland, Spain, France, Germany, and the S&P

500 index have the greatest impact on the European market. There is a considerable difference in the predictors before and after the World Health Organization (WHO) declared a pandemic. According to the findings, Europe was hit by the gold market, EUR/USD exchange rate, Dow Jones index, Switzerland, Spain, France, Italy, Germany, and Turkey prior to the Pandemic period announcement by WHO, and only France and Germany were selected by the lasso approach after the announcement by WHO. In the European market, Germany and France are proven to be the most predictors.

Daniel Stifanic, Jelena Musulin, AdrijanaMiocevic et.al (2020) concentrated on the impact of COVID-19 on the global economy, specifically the impact of COVID-19 on the financial movement of Crude Oil price and three US stock indexes: DJI, S&P 500, and NASDAQ. The stationary wavelet transforms (SWT) and bidirectional long short-term memory (BDLSTM) networks are combined in the suggested system for predicting commodity and stock prices. The study revealed that the Indian economy has a recommended mechanism that displays a decrease in the price of crude oil. In addition to the methodologies offered for predicting future occurrences, it is vital to highlight that the geopolitical part of the model is implicitly included in the model through the input data. As a result, in the model described here, it is impossible to precisely quantify the impact of geopolitical factors. The geopolitical part of this model is thought to be minor, although it has a considerable impact on the global economy.

Statement of the Problem

Stock market forecasting seeks to forecast future changes in a financial exchange's stock value. Investors will be able to earn more if share price movements can be predicted accurately. Because of the various variables involved in stock prediction, including interest rates, politics, and economic growth, which make the stock market unpredictable and highly difficult to anticipate effectively, it is one of the most difficult problems to solve. Since investing in stocks is a significant financial market activity, a lack of precise knowledge and thorough information will inevitably result in investment loss. Stock market forecasting is challenging because market movements are inherently uncertain. Hence, the researcher intends to make an attempt to predict the share price movements of the companies listed in Thematic Indices of NSE, thereby advising investors to make profitable investment opportunities in the current complex world. **Based on the study the researcher illuminates the following research questions:**

1. Does the forecasting of share price volatility is benefited for the investors for better prediction?

Research Objectives

1. To forecast the share price movements of select companies listed in thematic indices of National Stock Exchange.

Research Hypothesis

H_0: There is no significant existence of unit for share price at levels on the select companies listed in Thematic Indices of NSE.

H_0: **There** is no significant distribution of homogeneity on the select companies listed in Thematic Indices of NSE.

Scope of the Study

Thematic investing has evolved to take the edge off. This is one of the best investing possibilities available, as it provides a high return while also posing the greatest risk. Making money in the stock market is both a rewarding and difficult task. When an investor wants to maximize profit while avoiding risk, they want to know when they should invest and when they should divest. To be successful in this game, an investor must understand the forces that cause stock prices to rise and fall. Based on the problem, Price Volatility and Factor determining the price movements of the select companies listed in thematic indices has been scrupulously studied both theoretically and

analytically. The study also delves the forecasting of share price movements of select companies listed in thematic indices of NSE in a precise manner.

III. Research Methodology

The research is analytical in nature and solely depends on secondary data that was gathered from the PROWESS-CMIE database, Money Control, and Capital line throughout for fifteen-years period from 2008-2009 to 2021-2022. The select indices have been identified based on COVID OUTBREAK from Jan 2020 to Dec 2022. The National Stock Exchange was chosen for the study based on the highest percentage of transactions and cash section. In this study, thematic investments were chosen to evaluate the most recent stock market movements. To determine the trade volume of the entire index, the base period and base value are employed. The study adopts a top-down methodology, concentrating on macro-level trends and making investments in industries that will profit from the trend. Three Indices were selected from a total of sixteen thematic indexes based on their high dependence, proportion of traded value. From the three thematic indexed sector top five companies are chosen based on market capitalisation.

The following companies are:

1. **Nifty Energy Index**: NTPC, Reliance Industries, Power Grid, ONGC and Tata Power
2. **Nifty Service Sector Index**: SBI, HDFC, WIPRO, Bajaj Finance and Tech Mahindra.
3. **Nifty MNC**: Ambuja Cement, Bosch, Britannia, P&G and Colgate Palmolive.

Tools and Techniques of the study

1. **KPSS and KS** is used for Checking the stationarity and Normality of the selected time series data.
2. **Box Jenkins Methodology** helps to forecast the share price movements of the company listed in thematic indices.

Significance of the study

Every investor makes investments with their hard-earned money. They always want a good return. Each investor made their investment with the stated goal of increasing their wealth. Among the many investment options available, the equity market plays a crucial role and is regarded as one of the most profitable, despite the fact that it carries a high level of risk due to significant volatility. This equity analysis enables investors to understand the risk and return characteristics of certain equity shares in industries where they intend to invest. As a result, research into prediction of price volatility is important. This will provide investors with a variety of options for hedging risk in the market, allowing them to maximize their return.

Analysis and Interpretation

H_{01}: There is no significant existence of unit for share price at levels on the select companies listed in Thematic Indices of NSE

Table 1

Test of Stationarity of select companies listed under NSE

Kwiatkowski-Phillips-Schmidt-Shin								
S.No	**Sectors**	**Companies**	**Level**		**1st difference**		**2nd difference**	
			t-statistic	**Prob.**	**t-statistic**	**Prob.**	**t-statistic**	**Prob.**
1.	NIFTY Energy	Power Grid Corporation	-1.9982	0.983	-0.7013	0.919		**0.000**
		RIL	2.8701	0.052	0.5271	**0.000**	-	-
		Tata Power Company	-5.2863	0.932	0.0944	**0.000**	-	-
		Oil and Natural Gas	0.9981	**0.000**	-	-	-	-

		NTPC ltd	-0.1233	-1.034	0.1327	**0.000**	-	-
2.	NIFTY Service sector	SBI	-1.0093	0.290	0.5124	**0.003**	-	-
		HDFC	-0.9925	0.120	0.1534	**0.001**	-	-
		Wipro Ltd	-0.0998	0.100	-0.3032	0.120	-0.0013	**0.002**
		Bajaj Limited	-0.3463	0.901	-0.0071	0.987	0.1028	**0.005**
		Tech Mahindra ltd	0.2647	0.121	0.1198	**0.000**	-	-
3.	NIFTY MNC	Ambuja Cement ltd	1.0087	-1.024	0.1203	**0.001**	-	-
		Bosch Ltd	-1.0036	1.200	0.0254	**0.004**	-	-
		Britannia Industries ltd	0.1097	**0.000**	-	-	-	-
		P&G ltd	0.0073	**0.001**	-	-	-	-
		Colgate Palmolive ltd	0.0357	**0.001**	-	-	-	-

Level of significance @0.05%

Table 1 describes the result of stationarity of select companies listed under NSE. Companies like Oil and Natural gas, Britannia Industries, P&G ltd and Colgate Palmolive are significant at level, whereas, Tech Mahindra, NTPC, SBI, HDFC, Tech Mahindra, Ambuja Cement and Bosch limited are significant at first difference and Wipro and Bajaj Limited are significant at second difference. Hence the select companies are stationarity at level, First Difference and Second Difference during the study period.

H_{01}: There is no significant distribution of homogeneity on the select companies listed in Thematic Indices of NSE

Table 2

Test of Normality of select companies listed in Thematic Indices of NSE

a. Test distribution is normal

S.no	Sectors	Company Name	Kolmogorov-Smirnov[a]			Shapiro-wilk[a]		
			Statistic[b]	df	Sig[c]	Statistic[b]	df	Sig[d]
1.	NIFTY Energy	Power Grid Corporation	0.90	14	**0.00**	0.86	14	**0.00**
		RIL	0.81	14	**0.00**	0.82	14	**0.00**
		Tata Power	0.87	14	**0.00**	0.89	14	**0.00**
		Oil and Natural Gas	0.85	14	**0.00**	0.99	14	**0.00**
		NTPC	0.88	14	**0.00**	1.00	14	**0.00**
2.	NIFTY Service sector	SBI	0.99	14	**0.00**	0.75	14	**0.00**
		HDFC ltd	0.90	14	**0.00**	0.80	14	**0.00**
		Wipro ltd	0.95	14	**0.00**	0.87	14	**0.00**
		Bajaj Finance ltd	0.81	14	**0.00**	0.99	14	**0.00**
		Tech Mahindra ltd	0.99	14	**0.00**	1.00	14	**0.00**
3.	NIFTY MNC	Ambuja Cement	0.91	14	**0.00**	0.82	14	**0.00**
		Bosch Limited	0.81	14	**0.00**	0.95	14	**0.00**
		Britannia Industries	0.85	14	**0.00**	0.90	14	**0.00**
		P&G ltd	0.88	14	**0.00**	0.87	14	**0.00**
		Colgate Palmolive	0.90	14	**0.00**	0.82	14	**0.00**

b. Lillefors Significance Correction
c. There is a lower bound of the true significance
d. Significant at 1% level

Table 2 interprets the homogeneity of the current set of chosen companies listed in Thematic Indices of NSE. The Kolmogorov-Smirnov and Shapiro-Wilk test rejects the null hypothesis because none of the companies are greater than the significant level of 0.01. By accepting the genuine random walk, it is clear that the selected companies are normally distributed, and the outcome shows that there is a sizable homogeneity among the companies listed in the NSE's thematic indices.

Analysis of Box Jenkins Methodology of NIFTY Energy

Table 3

Results of Box Jenkins ARMA model of Nifty Energy

Nifty Energy	SIGMASQ			Adjusted R Square			AIC			SIC		
	ARMA(1,1,1)	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**
Power Grid	0.485	0.525	**0.754**	0.584	0.324	**0.716**	0.750	0.585	**1.524**	2.485	1.978	**0.645**
RIL	0.414	0.321	**0.425**	0.430	0.555	**0.688**	0.352	0.748	**0.281**	1.678	1.494	**0.674**
Tata Power	0.784	**0.890**	0.758	0.474	**0.651**	0.302	0.580	**0.457**	1.504	1.449	**1.398**	1.645
ONGC	**0.855**	0.456	0.744	**0.985**	0.745	0.352	**0.786**	0.584	0.233	**0.268**	0.998	0.444
NTPC	**0.929**	0.754	0.574	**0.874**	0.654	0.325	**0.225**	0.453	0.293	**0.485**	0.625	0.715

*****AIC and SIC should be below 1 and not more than 3**

Table 3 deployed the results of Box Jenkins ARMA model of Nifty Energy. SIGMASQ value of Power Grid is 0.754, RIL is 0.425, Tata Power is 0.890, ONGC is 0.855 and NTPC is 0.929 indicates that all the companies are above 0.206 thumb value and the companies are having non linear residual parameter with appropriate stochastic components and the companies are accounted to predict the estimated value. The Adjusted R square value of Power Grid (0.716), RIL (0.688), Tata Power (0.651), ONGC (0.985) and NTPC (0.874) indicates 71.6%, 68.8%, 65.1%, 98.5% and 87.4% of total variance in Nifty Energy and the model is fit to run the correlogram. The AIC and SIC value lies minimum for Power Grid and RIL and the ARMA (1,1,1) model is fit to generate the future predicted value with error term. Whereas, Tata Power lies minimum with ARMA (1, 1, 0) to generate the future predicted value with error term. Thus, ONGC and NTPC lie minimum with ARMA (0, 1, 1) and the model is fit to run the predicted value during the study period.

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Table 4
Results of Current and Forecasted Value of Nifty Energy

Year	Power Grid (ARMA 0,1,1)	RIL Adj.Closing (ARMA 0,1,1)	Tata Power Adj.Closing (ARMA 1,1,0)	ONGC Adj.Closing (ARMA 1,1,1)	NTPC Adj.Closing (ARMA 1,1,1)
	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value
2006	168.70	641.99	48.26	68.36	93.66
2007	171.91	552.06	46.56	67.86	92.41
2008	167.54	548.62	47.21	71.85	96.04
2009	163.23	504.60	50.93	74.57	103.54
2010	169.71	582.26	54.79	71.64	108.41
2011	172.18	535.27	52.16	76.18	108.67
2012	169.83	468.86	56.09	80.53	122.45
2013	169.65	494.01	54.08	81.37	113.75
2014	171.54	478.05	58.42	86.87	118.37
2015	167.55	436.24	52.37	75.11	116.58
2016	167.70	307.80	49.14	83.95	125.20
2017	165.20	253.87	57.11	87.11	133.16
2018	169.85	275.87	56.52	87.91	132.08
2019	168.65	296.20	64.71	86.31	127.33
2020	165.57	283.32	70.91	87.17	138.16
2021	161.99	341.22	66.07	81.94	144.45
2022	163.39	405.10	82.44	91.32	161.62
2023	**162.02**	**508.42**	**117.12**	**120.64**	**199.08**
2024	**163.03**	**452.81**	**112.77**	**113.02**	**197.20**
2025	**164.84**	**437.59**	**141.86**	**119.73**	**209.08**
2026	**166.24**	**448.71**	**123.32**	**97.19**	**163.37**
2027	**164.00**	**492.70**	**135.09**	**99.90**	**168.33**
2028	**168.91**	**432.16**	**113.05**	**96.30**	**163.83**
2029	**166.94**	**478.86**	**134.71**	**101.46**	**163.95**
2030	**163.89**	**491.04**	**130.75**	**84.97**	**143.626**

Table 4 exhibits the forecasted share price of Nifty Energy companies during the period of 2006 to 2030. The forecasted value of Power Grid, RIL, Tata Power, ONGC and NTPC are fluctuating and decreasing growth during the study period.

Graph 1
Results of Current and Forecasted value of Nifty Energy

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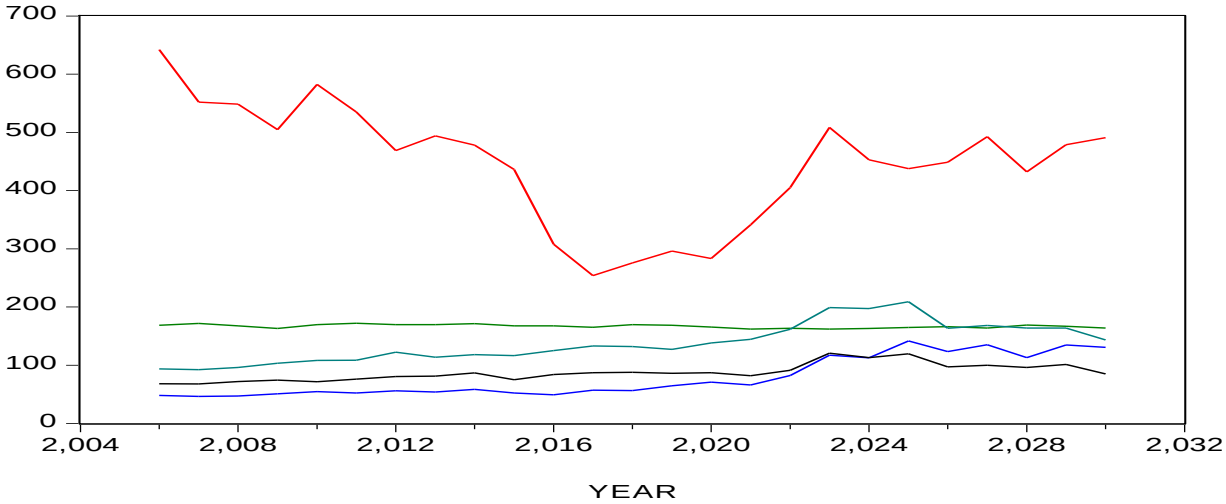


Analysis of Box Jenkins Methodology of NIFTY Service Sector

Table 5

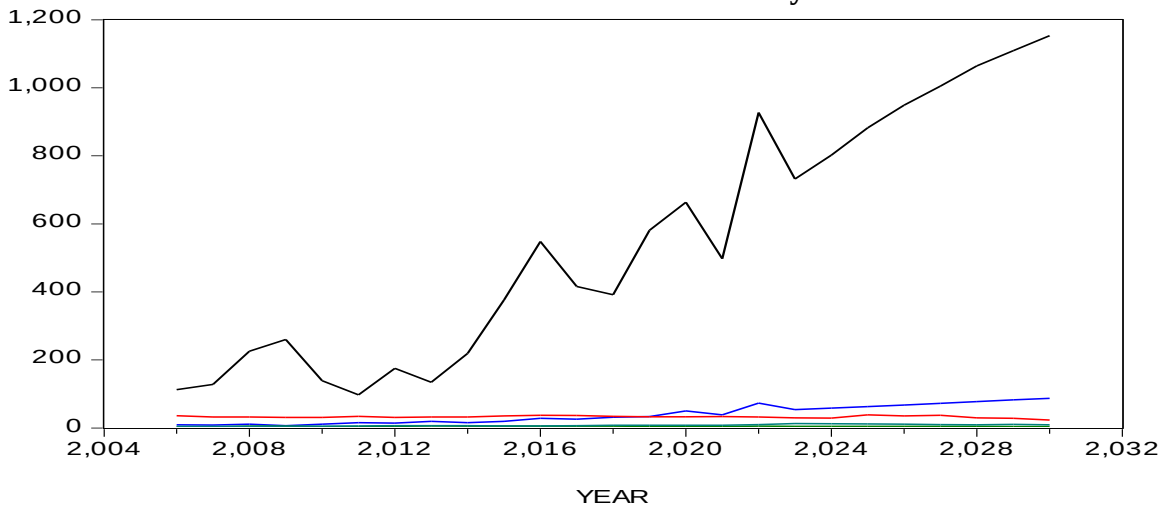
Results of Current and Forecasted Value of Nifty Service Sector

Year	SBI (ARMA 0,1,1)	HDFC Adj.Closing (ARMA 0,1,1)	Wipro Adj.Closing (ARMA 0,1,1)	Bajaj Finance Limited Adj.Closing (ARMA 0,1,1)	Tech Mahindra Adj.Closing (ARMA 1,1,0)
	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value	Current and Forecasted Value
2006	4.81	9.03	2.81	35.81	112.68
2007	4.98	8.35	3.01	32.55	128.04
2008	4.95	10.98	5.47	32.12	225.70
2009	5.23	6.85	5.59	31.21	260.18
2010	5.58	11.33	3.74	31.18	139.01
2011	6.33	15.92	3.75	34.46	97.31
2012	6.95	14.63	4.88	31.00	175.26
2013	6.90	19.36	5.87	32.05	134.35
2014	6.97	15.77	5.55	32.54	219.26
2015	6.06	19.66	5.64	35.30	375.97
2016	5.89	28.44	5.58	37.21	548.16
2017	6.64	25.67	5.32	36.94	415.89
2018	7.76	31.56	5.40	34.22	391.51
2019	7.75	33.72	4.56	33.13	580.90
2020	7.97	50.029	3.95	32.71	663.37
2021	8.16	38.32	3.95	33.21	497.88
2022	9.86	72.86	5.63	32.16	927.03
2023	**12.80**	**53.85**	**4.88**	**29.43**	**732.00**
2024	**12.38**	**58.69**	**4.93**	**29.21**	**802.26**
2025	**12.01**	**62.94**	**5.03**	**38.76**	**882.38**
2026	**10.98**	**67.57**	**4.87**	**35.74**	**948.75**
2027	**10.04**	**72.69**	**4.63**	**37.34**	**1004.83**
2028	**9.04**	**77.50**	**4.48**	**29.47**	**1064.16**
2029	**10.38**	**82.70**	**4.46**	**28.26**	**1108.99**

2030	**9.23**	**87.04**	**4.40**	**23.29**	**1152.95**

Table 5 exhibits the forecasted share price of Nifty Service Sector companies during the period of 2006 to 2030. The forecasted value of HDFC and Tech Mahindra shows increasing growth, whereas SBI, Wipro and Bajaj Finance have the decreasing growth and fluctuating from 2023 to 2030.

Graph 2
Results of Current and forecasted value of Nifty Service Sector



Analysis of Box Jenkins Methodology of NIFTY MNC

Table 6
Results of Box Jenkins ARMA model of Nifty MNC

Nifty MNC	**SIGMASQ**			**Adjusted R Square**			**AIC**			**SIC**		
	ARMA(1,1,1)	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**	**ARMA(1,1,1)**	**ARMA(1,1,0)**	**ARMA(0,1,1)**
Ambuja Cements	**0.6474**	0.6393	0.6342	**0.4955**	0.4859	0.3352	**0.0849**	0.2938	0.1938	**1.1039**	1.1133	1.7490
Bosch Limited	**0.8478**	0.8193	0.8032	**0.4736**	0.4728	0.4246	**1.3927**	1.9740	1.3799	**1.1283**	1.3439	1.8347
Britannia	**0.9892**	0.9239	0.9324	**0.4293**	0.3990	0.3874	**1.9489**	1.9980	2.9003	**1.3680**	1.8480	1.4798
Proctor and Gambl	**0.3345**	0.3121	0.2940	**0.2939**	0.2699	0.2750	**1.0874**	1.1385	1.1118	**0.6849**	1.7394	1.4369

e												
Colgate Palmolive	0.2595	0.2268	**0.2937**	0.3048	0.3002	**0.3936**	1.4440	1.5968	**1.4090**	0.4350	1.3948	**0.0038**

*****AIC and SIC should be below 1 and not more than 3**

Table 6 enumerates the results of Box Jenkins ARMA model of Nifty MNC. SIGMASQ value of Ambuja Cement is 0.6474, Bosch Limited is 0.8478, Britannia is 0.9892, Proctor and Gamble is 0.3345 and Colgate Palmolive is 0.2937 indicates that all the companies are above 0.206 thumb value and the companies are having non linear residual parameter with appropriate stochastic components and the companies are accounted to predict the estimated value. The Adjusted R square value of Ambuja Cement (0.4955), Bosch limited (0.4736), Britannia (0.4294), Proctor and Gamble (0.2939) and Colgate Palmolive (0.3936) indicates 49.55%, 47.36%, 42.94%, 42.94% and 29.39% of total variance in Nifty MNC and the model is fit to run the correlogram. The AIC and SIC value lies minimum for Ambuja Cement, Bosch Limited, Britannia and Proctor and Gamble and the ARMA (1,1,1) model is fit to generate the future predicted value with error term. Whereas, Colgate Palmolive generates forecasted value with ARMA (0, 1, 1) during the study period.

Table 7

Results of Current and Forecasted Value of Nifty MNC

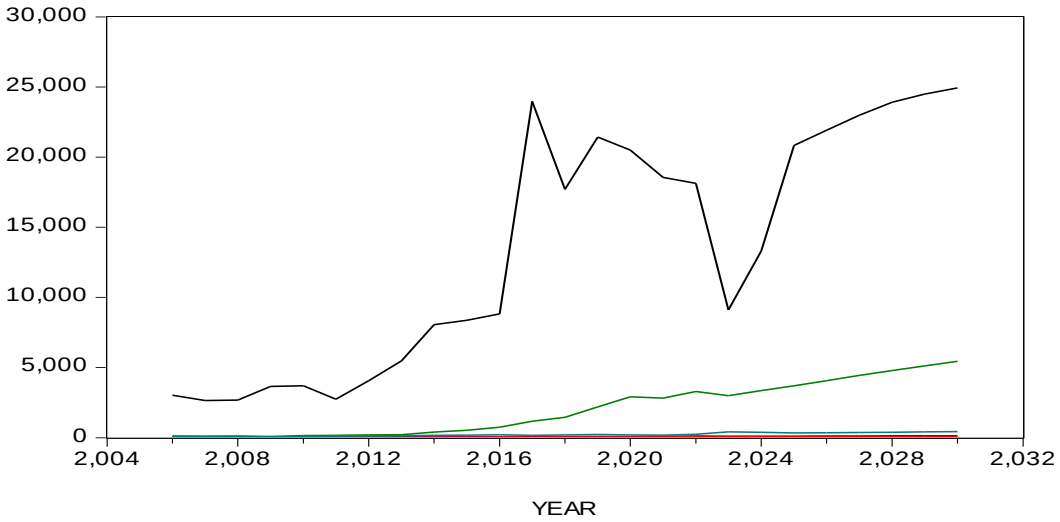
Year	**Ambuja Cement (ARMA 0,1,1)**	**Bosch Adj.Closing (ARMA 0,1,1)**	**Britannia Adj.Closing (ARMA 0,1,1)**	**Proctor and Gamble Adj.Closing (ARMA 0,1,1)**	**Colgate Palmolive Adj.Closing (ARMA 1,1,0)**
	Current and Forecasted Value	**Current and Forecasted Value**	**Current and Forecasted Value**	**Current and Forecasted Value**	**Current and Forecasted Value**
2006	108.57	3025.54	117.29	34.59	21.03
2007	89.15	2643.55	96.58	35.45	20.88
2008	89.15	2684.34	113.65	41.41	20.68
2009	53.47	3648.25	92.61	43.04	23.49
2010	79.98	3693.45	143.30	36.70	27.49
2011	113.06	2750.02	161.57	42.76	21.83
2012	128.52	4065.54	199.41	45.49	31.45
2013	132.25	5478.85	215.48	49.32	31.44
2014	160.29	8048.93	401.91	52.49	36.34
2015	174.97	8370.82	519.54	59.11	44.15
2016	217.15	8821.56	754.24	64.00	47.62
2017	170.53	23968.19	1164.67	67.09	52.58
2018	202.39	17710.64	1450.85	69.20	58.85
2019	225.51	21425.72	2195.02	79.60	57.11
2020	192.73	20496.07	2910.34	77.22	62.05
2021	187.70	18555.66	2817.81	85.10	58.00
2022	247.96	18126.61	3296.75	121.22	66.65
2023	**411.15**	**9104.82**	**2998.86**	**98.80**	**63.02**
2024	**377.58**	**13306.15**	**3347.33**	**103.37**	**65.68**
2025	**336.31**	**20837.41**	**3702.88**	**107.94**	**77.06**

2026	**358.10**	**21918.53**	**4068.45**	**114.06**	**82.82**
2027	**374.57**	**22988.27**	**4432.77**	**120.39**	**82.17**
2028	**391.91**	**23913.67**	**4788.74**	**125.75**	**85.73**
2029	**411.44**	**24497.89**	**5121.28**	**131.37**	**89.29**
2030	**431.59**	**24937.36**	**5442.03**	**136.87**	**93.01**

Table 7 describes the forecasted share price of Nifty MNC companies during the period of 2006 to 2030. The forecasted value of Ambuja Cement, Bosch Limited, Britannia, Proctor and Gamble and Colgate Palmolive shows increasing growth from 2023 to 2030.

Graph 3

Results of Current and Forecasted value of NIFTY MNC



Findings of the study

1. Based on the result profound by Nifty MNC Companies, Forecasted Value of Ambuja Cement, Bosch Limited, Britannia, Colgate Palmolive and P&G share price are steeping towards high with the increasing growth rate.
2. The Forecasted Value of Nifty Service Sector Company's shows increasing growth for HDFC and Tech Mahindra, in the same way SBI, Wipro and Bajaj Finance are fluctuating with decreasing trend during the study period.
3. Based on the results projected from Nifty Energy, all the select companies are escalating swift during the study period.

IV. Conclusion

Stock Market is one of the most sought-after platforms for stepping into the world of trading and investments. It also plays a prominent role in the consolidation of the national economy and also helps in the development of industrial and service sector especially. Mobilization helps in promoting the level of capital formation. Everyday millions of investors and traders trade in these markets based on volatility. Volatility measures the dispersion of returns and the market risk is a measure of value which exists because of share price. Market Fluctuations are difficult for the investors to predict. Hence, Technical analysis has proved by analyzing with results of Box Jenkins Methodology and concluded that Companies like Ambuja Cement, Bosch Limited, Britannia, Proctor and Gamble, Colgate Palmolive, HDFC and Tech Mahindra are showing increasing trend. Henceforth traders and policymakers may invest their cash with less risk and can earn higher return without losses during their investment progress. Investors can hold their shares in the companies like of Power Grid, RIL, Tata Power, ONGC and NTPC for long term investment options during the study period. So that the

market moves forward by taking surplus output and follows the put option strategy to opt great way to profit.

References

1. **Abudulaziz Almehmadi., (2021).** Covid 19 Pandemic Data Predict the Stock Market, ***Journal of tech Science Press***, Vol.36, No.3, ***https://doi.org/10.32604/csse.2021.015309*.**
2. **Daniel Stifanic, Jelena Musulin, AdrijanaMiocevic., (2021).** Impact of Covid-19 on forecasting stock prices: An Integration of Stationary wavelet transformation and Bi-directional long short term memory, ***https://arxiv.org/abs/2007.02673*.**
3. **Ramesh Chandra Das., (2021).** Forecasting Incidences of COVID 19 using Box Jenkins method – A Study on highly affected Countries, ***https://www.sciencedirect.com/science/article/abs/pii/S0960077920306445*.**
4. **Gospodinov, Gavala, Jiang., (2019).** Predicting the Volatility of Stock Markets and Measuring its interaction with Macroeconomic Variables: Indian Evidence, Case Study of NIFTY and SENSEX, ***International Journal of Sciences: Basic and Applied Research,*** Vol.13, No.1, ISSN: 2348-8398.

Books and Websites

1. Jonathan Eden (2022), "***Technical Analysis for Stock Trends",*** an Audio Book.
2. **https://stockinvesting.today.com/**
3. **https://finance.yahoo.com/most-active**