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ARIMA MODEL: FORECASTING THE STOCK PRICES : A STUDY CONDUCTED FOR TOP FIVE JEWELLERY BRANDS IN INDIA

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Abstract :

Stock price prediction is considered as an important part while making investment decisions, Investors normally loose on the markets due to the lack of proper information about the price fluctuations .Securities exchange forecast is the demonstration of attempting to decide the future estimation of an organization stock or other monetary instrument exchanged on a trade. The fruitful expectation of a stock's future cost could return critical benefit.

In measurements and econometrics, and specifically in time arrangement investigation, an autoregressive incorporated moving normal model is a speculation of an autoregressive moving normal model.

 Both of these models are fitted to time arrangement information either to all the more likely comprehend the information or to anticipate future focuses in the arrangement ARIMA, short for 'Auto Regressive Integrated Moving Average' is really a class of models that 'clarifies' a given time arrangement dependent on its own past qualities, that is, its own slacks and the slacked figure blunders, with the goal that condition can be utilized to gauge future qualities.

Introduction

The securities exchange alludes to the assortment of business sectors and trades where customary exercises of purchasing, selling, and issuance of portions of openly held organizations happen

.The main stock trades in the U.S. incorporate the New York Stock Exchange (NYSE), Nasdaq, the Better Alternative Trading System (BATS).

Despite the fact that foreseeing equity markets and stock developments are difficult, value experts utilize numerous techniques and pointers to anticipate advertise developments.

These pointers are both basic (cost to-procuring, or P/E, proportion, cost to-book worth, or P/B, proportion, loan fees) and specialized (put-call proportion, volumes exchanged.

ARIMA, short for 'AutoRegressive Integrated Moving Average', is an anticipating calculation dependent on the possibility that the data in the past estimations of the time arrangement can alone be utilized to foresee the future qualities.

Literature Review

(1)ARIMA Model in forecasting the stock prices: The research paper contains techniques and methods as to how Arima can be used in forecasting the stock prices .

(2)Study of effectiveness of time series modelling (ARIMA) in forecasting stock prices

(**3**)Stock price prediction using the ARIMA model

(4) Comparison of ARIMA and artificial neural networks models for stock price prediction

(5) A moving-average filter based hybrid ARIMA– ANN model for forecasting time series data(6)Stock market trend prediction using ARIMA-based neural networks .(7) ARIMA modeling with intervention to forecast and analyzechinese stock prices (8) A fusion model of HMM, ANN and GA for stock market forecasting (9) Stock market prediction using time series analysis- To get the short-term predictions, correlations can be found out once we plot the results.

To get the momentary forecasts, relationships can be discovered once we plot the outcomes.

The default MACD equation utilized in practically all diagramming bundles is - MACD 12,26,9 The MACD line is plotted by taking the distinction between the estimation of multi day and multi day Exponential Moving Average (EMA). The contrast between the multi day EMA and multi day EMA gives the MACD line. At that point a multi day EMA of the MACD line is superimposed over the MACD as a 'signal line'.

(9) ARIMA Model in Predicting Banking Stock Market Data- or the most part, this article is not the same as the other related article in writing in the utilization of the ARIMA model since in this examination paper the best ARIMA model for banking financial exchange information will be actualized for anticipating. The MINTAB programming is utilized to get the outcomes. The every day value record of Amman Stock Exchange (ASE) for a particular timeframe has been chosen as the factual populace; around 2000 perceptions were aggregated for every factor from related databases in the referenced period from 1993 to 2017. Figure 1 shows the graph of the dataset
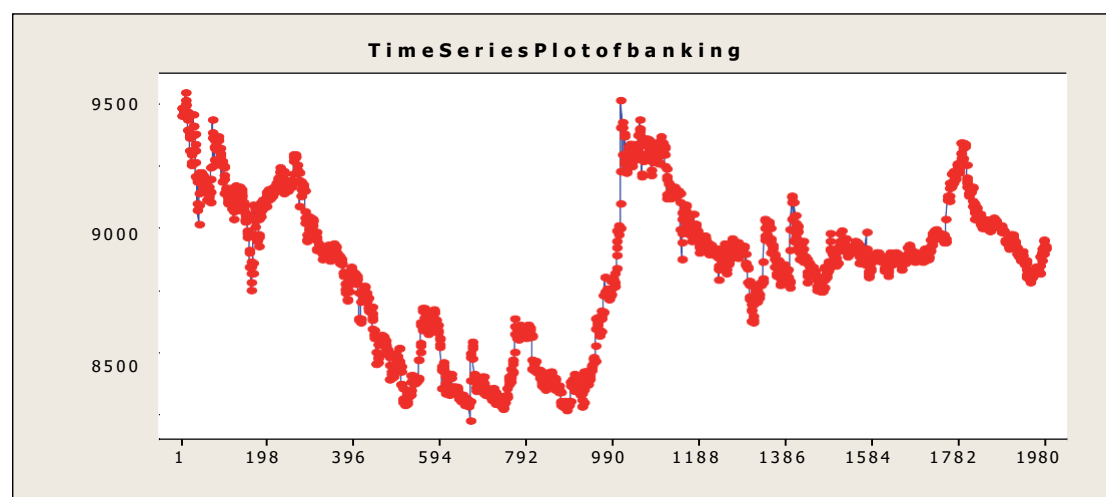
Methodology

Figure 1 Graph of the Data Set

(10) An Effective Time Series Analysis for Stock Trend PredictionUsingARIMAModelforNiftyMidcap-50 - In this paper the information has been gathered from NSE.com. The chronicled information for the time of multi year since 2007 to 2011 were considered for examination. The BoxJenkinsmethodlogy is utilized to recognize the model. (11) Stock Price Prediction Using the ARIMA Model - This paper presents broad procedure of building ARIMA model for stock value expectation. The exploratory outcomes got with best ARIMA model exhibited the capability of ARIMA models to anticipate stock costs good on transient premise. This could manage financial specialists in securities exchange to settle on gainful venture choices

Methodology –

- Type of research – Exploratory research
- Sampling Plan - 5 companies data for 5 years
- Sources of Data – Secondary Data
- Tools and techniques used – Historical Stock Prices of last 5 years
- Tools for Analysis – Arima Model, E-View Software .

EViews is a factual bundle for Windows, utilized for the most part for time-arrangement situated econometric investigation. It is created by Quantitative Micro Software (QMS), presently a piece of IHS. Adaptation 1.0 was discharged in March 1994, and supplanted Micro TSP.

Results

Time arrangement examination, an autoregressive incorporated moving normal (ARIMA) model is a speculation of an autoregressive moving normal (ARMA) model. Both of these models are fitted to time arrangement information either to all the more likely comprehend the information or to foresee future focuses in the arrangement (anticipating).

Data is analysed with the help of E- View Software.
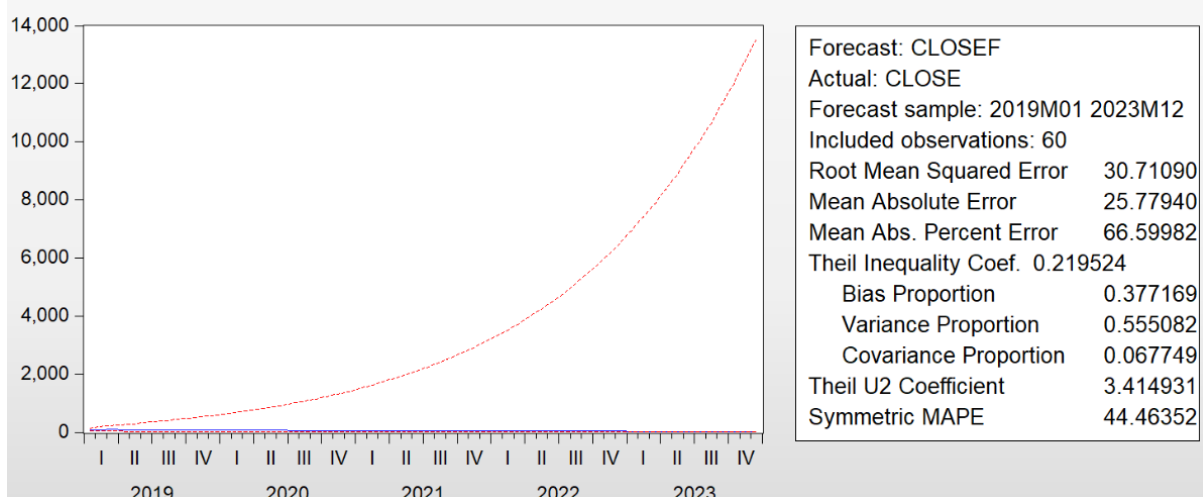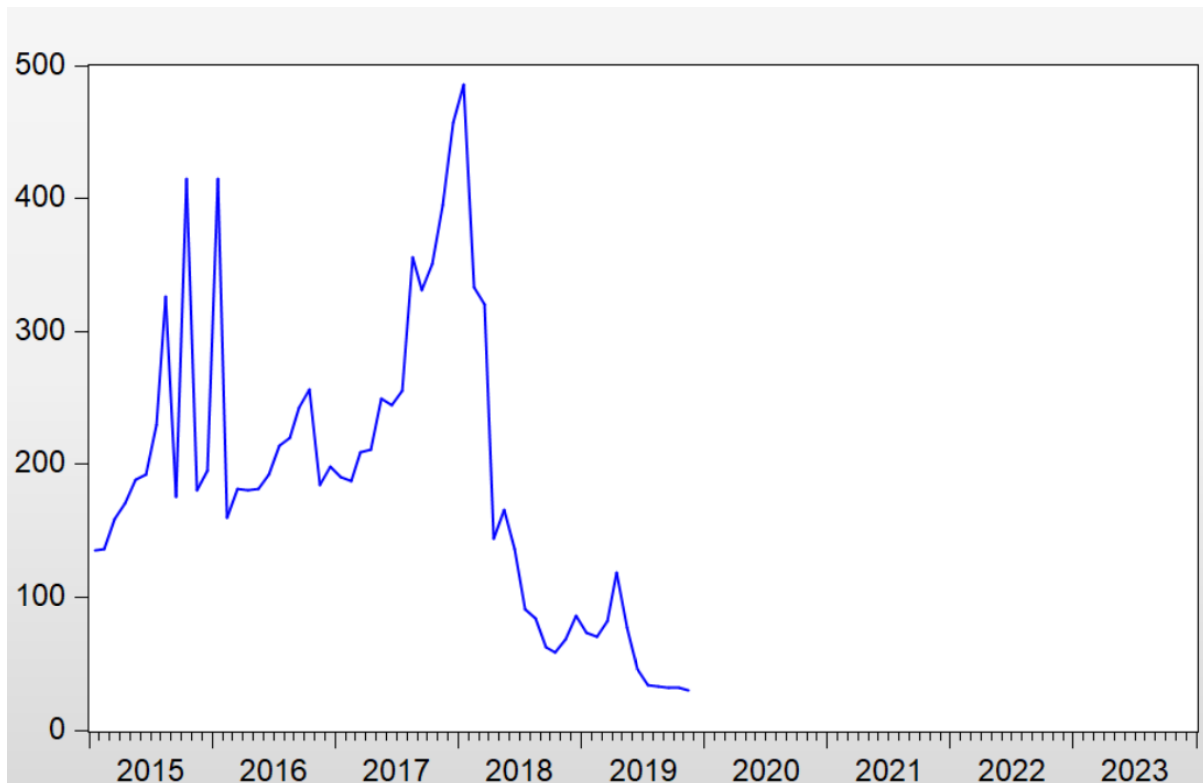
Graph showing the Stock Price Movement in the forthcoming years

View	Proc	Object	Properties	Print	Nam
2023M08		23.89123			
2023M07		24.45852			
2023M06		25.03928			
2023M05		25.63383			
2023M04		26.24249			
2023M03		26.86561			
2023M02		27.50353			
2023M01		28.15659			
2022M12		28.82516			
2022M11		29.50961			
2022M10		30.21030			
2022M09		30.92764			
2022M08		31.66200			
2022M07		32.41381			
2022M06		33.18346			
2022M05		33.97140			
2022M04		34.77804			
2022M03		35.60383			
2022M02		36.44923			
2022M01		37.31471			
2021M12		38.20073			
2021M11		39.10780			
2021M10		40.03640			
2021M09		40.98705			
2021M08		41.96028			
2021M07		42.95661			
2021M06		43.97660			
2021M05		45.02081			
2021M04		46.08982			
2021M03		47.18421			
2021M02		48.30458			
2021M01		49.45156			
2020M12		50.62577			
2020M11		51.82786			
2020M10		53.05850			
2020M09		54.31836			

Prediction of Stock Prices .

Discussion and Analysis

The examination gives a thought of the stock value development in the coming years . The Future stock costs, are determined on the premise of the a year ago costs of the five gems brands.

The Analysis shows that adornments organizations in the following not many years will have a decent value development with stable to high Industry authorities express that sifted through embellishments players in the nation are creating at a pace of 30-35 percent.

In any case, this has as of late been considered as a midway improvement considering the way that dislocated players, which is directly around 85 percent of the hard and fast business, is up 'til now falling behind in achieving charming generally income

Conclusion

- Stock prices of gems and Jewellery industry will be moderate to high in the year 2020 , but the stock prices will come down in the next few years still there is no significant fall in the stock prices .
- A few brands stock prices depicts that the prices of the shares would be the same for the next few years without any much changes .

A lot of developments needs to be done in the area of gold and jewellery but the future of gold and jewellery sector in India is good with the rise in the demand for Gems and Jewellery and also the increment of disposable income in the hands of the masses.

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