Data Visualization for Stock Exchange

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Abstract

In this data visualization assignment, I selected the data set of stock exchange, Stock exchange is reflection of any county's economy. It is about prediction future because the stock exchange rise or loss is controlled by many factors. There are many experts and it is vast field. It is also time series problem because you can see stocks may vary time to time like in summer and winter and other factors to be considered to. My visualization can help buyer and seller, by looking at the data of various stock exchanges, they can think easily whether they should buy stocks or not. I also studied mostly stocks goes up but since it is risky so in better times people also may avoid it.

Contents

1   Introduction

In general, "data visualization" refers to the visual display of data in the form of a chart, diagram, map, or info-graphic. The goals of data visualization are to communicate effectively with the audience and to make future data analysis easier. For academics, data visualization is critical. Researchers can display a massive amount of data by employing visual representations of data. Four steps include in data visualization is data extraction, data clear, data analysis and data visualization. I presented a stock market chart visualization. In technical stock market analysis, where just the chart shape is taken into account when making decisions, insight into stock charts is critical. It is helpful for business and share buyer and seller to look and make such type of graphs to get to the solution. The main findings of report are now people are taking interest in stocks markets contrary to previous times. But there is always risk and fear in the people that there are a lot of days when stock market rises but no volume was bought. In terms of high prices some markets are well known for consistent growth. The report is organized in such a way that first it contains about data set selection then questions and answers related to dataset and finally what is our conclusion.

2   Motivation Objective

The stock exchange is a reflection of a country's economy. It aids the development of a country's industry and commerce. The stock exchange is quite important in this sense. The stock exchange is the only way to make a country economically powerful and dynamic. [1] A stock pricing dataset will tell you how much a firm is worth in plain financial terms, as well as the share's speculative value. We understand the importance of financial and stock market data for every trader or investor to succeed.

2.1   DataSet

Data set is borrowed from Kaggle. Price data for indexes that track stock exchanges all over the world on a daily basis (United States, China, Canada, Germany, Japan, and more). The information was gathered from Yahoo Finance, which contained decades of data for most exchanges.Prices are given in the currency of the country where each exchange is located.

It has 9 columns and 104k entries or tuples what you can say. The data set has records from 1965 to 2021.

Index = Ticker symbol for indexes

Date = Date of observation

Open = Opening Price

High = Highest price during trading day

Low = Lowest price during trading day

Close = Closing price

Adj Close = Closing price adjusted for dividends and stock splits

Volume = Number of shares traded during trading day

CloseUSD = Close price in terms of USD

2.2 Questions and Experimental Results

Question No 1: What is best time to put share in NYA stock exchange? Is any visualization that can help us too much?

Yes CandleStick is new graphs that has boxes with green and red colors. Green indicates prices rose over the period while red indicates prices downs during the period. Bottom represents the closing while bottom represents the opening price. And each box may be have one edge above and downside it. If the edge is down. Graph clearly shows there are more number of Green boxes and from start February till mid February there was no loss. But you can invest now as in one month period of time you can find increase in your profits.

Figure 1: Graph1

Question No 2: Is the Close USD column has relationship with Date. And which index has the highest Closing USD according to time frame?

The major trend can be seen in graph is that the number of dollars increased in coming year regarding to previous year. As shown ClosingUSD near to 1965 in very less but in 2021 it has touched the figure of 1500USD. Moreover some index ticker like N225, N100 has not increased its closing USD with time but some has shown abrupt changes with time.
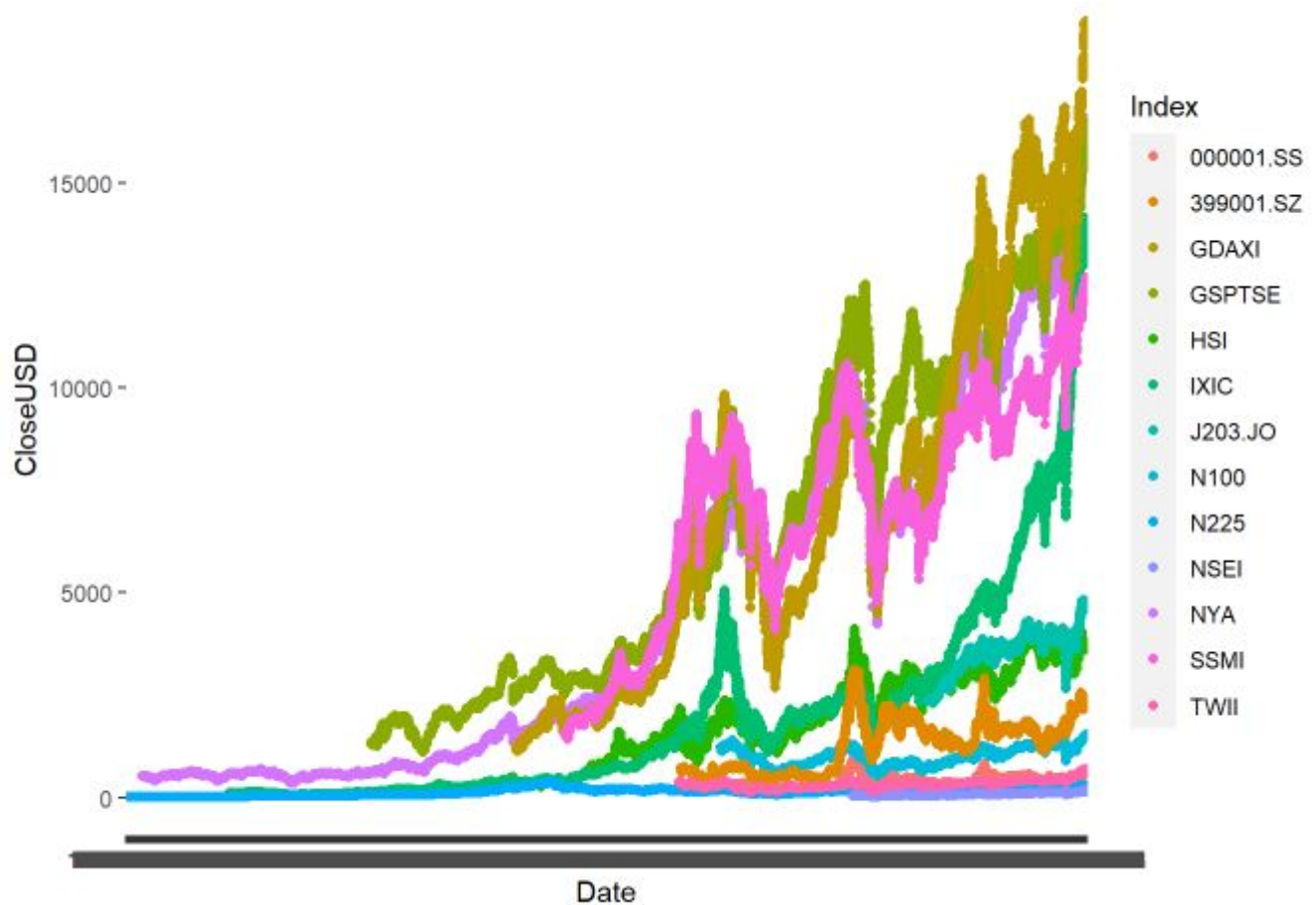

Figure 2: Graph2

Question No 3: Is the number of shared traded during each trading day is proportional to whether stock exchange is in rise or not?

It has been shown that number of share trades is very less. Because new comer think stock exchange as risky. It has modified data frame by checking it Close price is higher than Open price than this day I labeled as True otherwise False. But graphs shows as in first bar although green line for true is very high but no one did share that day.
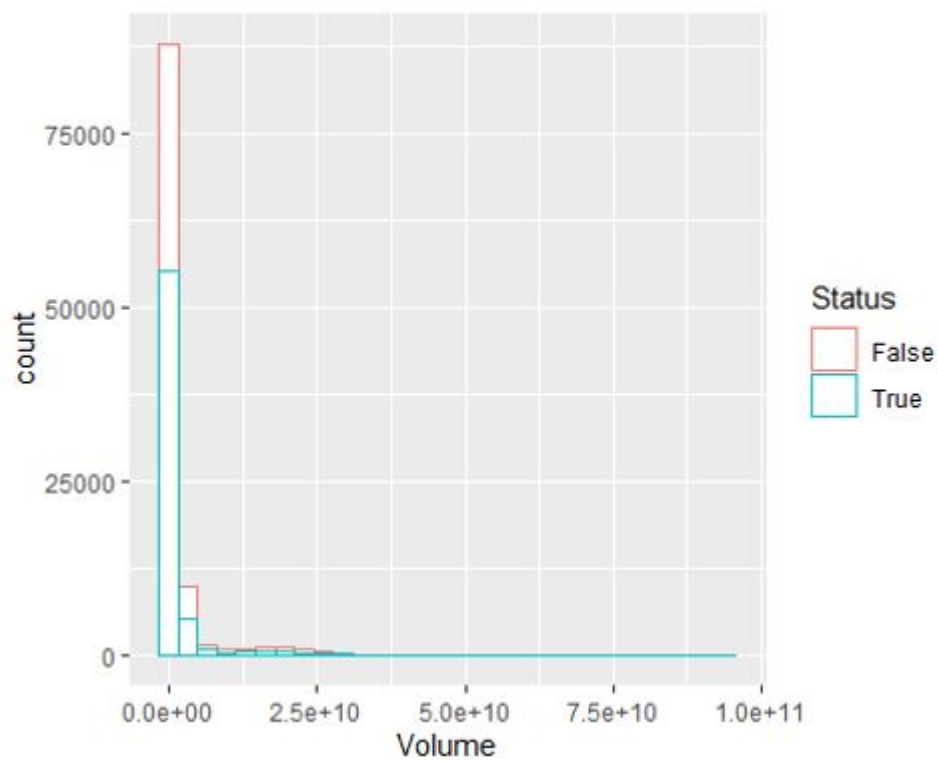

Figure 3: Graph3

Question No 4: What do you think is best index?

It is clearly shown that fewer the Open price and higher the Close USD the more worthy that ticker will be. It is clearly shown that Index with brown color has GDAXI is the best one.
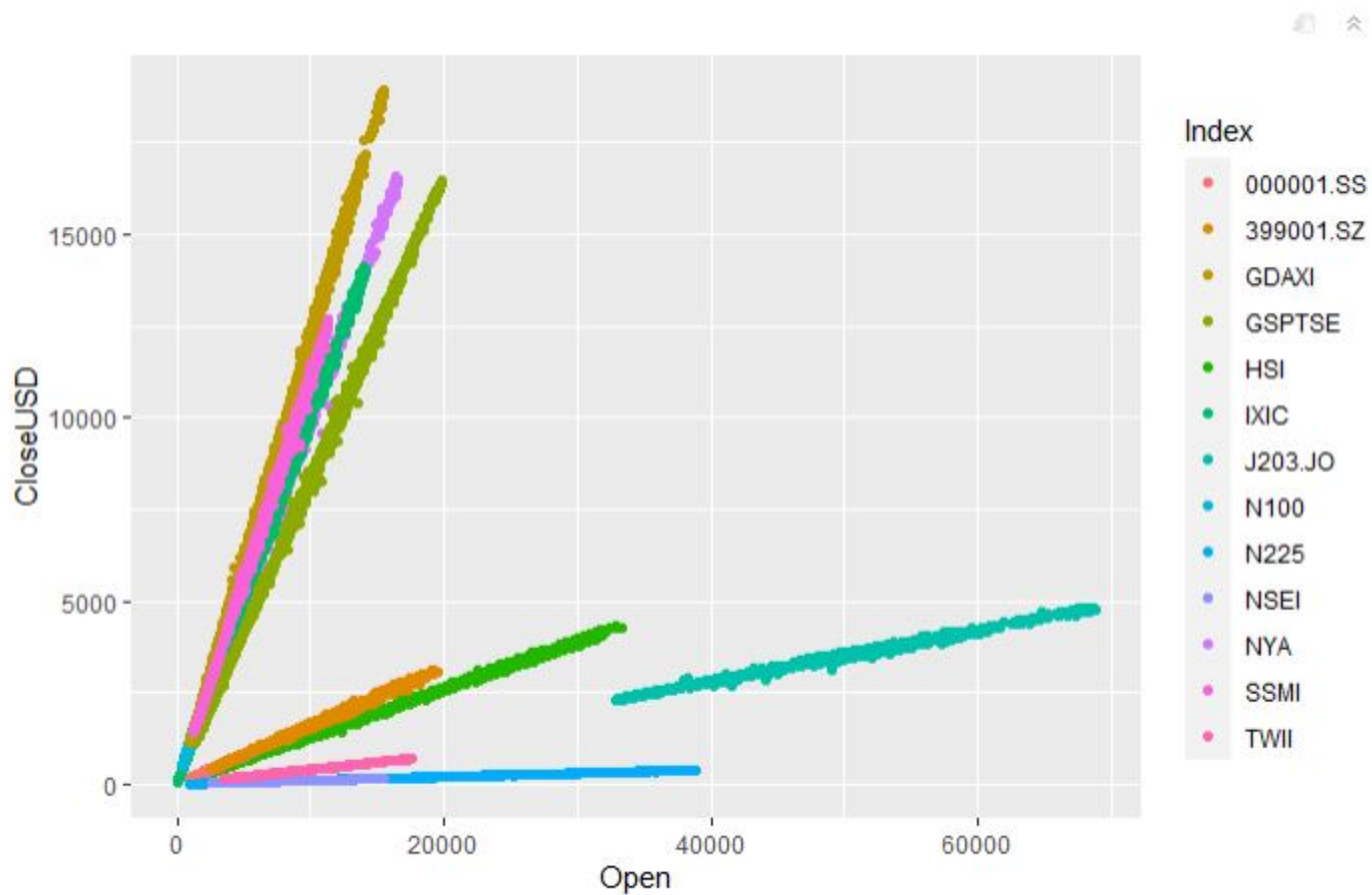

Figure 4: Graph4

Question No 5: When the stock exchange gets rise?

As shown by the graph stock exchange is marketed very well. And in last few year peoples have more money so they want to invest more in stock exchange.
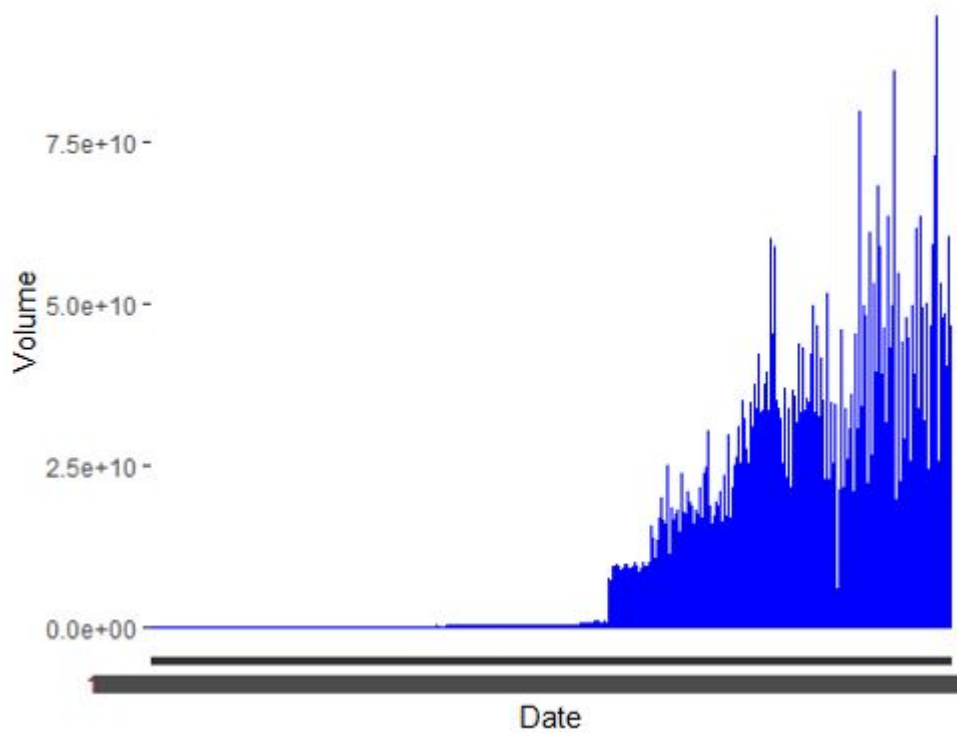
Figure 5: Graph5

3 Summary

Summarising the report we got searched several questions form buyer and share bolder prospective in stock market. This was research the now people have more trust over stock market contrary to previous times. Mover over there is also some cased when stock market is going but people feel risky about it. Some work famous stock markets have very high earning in USDs, so other fundamental analysics plays a vital role in predicting the stock market.

References

[1] K. Šimunić, "Visualization of stock market charts," 2003.