

Question 2

Question 2a. Suspension Rule

Type I – Misconducts

- fails to disclose its annual or semi-annual report within the statutory period
- fails to make corrections ordered by CSRC due to material accounting errors or data entries in financial reports within the required time limit
- fails to make corrections required by Shenzhen Exchange due to significant deficiencies in information disclosure or regulatory operation within the required time limit.

Type II – Abnormal Transactions:

- Suspected of insider trading, market manipulation and other illegal actions
- The price or volume of securities trading is significantly abnormal
- May affect the price or volume of securities trading

Type III – Abnormal Fluctuations:

- Shenzhen Stock Exchange: Four abnormal fluctuations were triggered within ten days.
 - o When will abnormal fluctuations be triggered?
 1. The cumulative deviation value of daily closing price reach +20% (-20%) within three consecutive trading days.
 2. For ST and *ST stocks, the cumulative deviation value of daily closing price reach +12% (-12%) within three consecutive trading days.
- deviation value: change ratio of security – change ratio of index
- Shanghai Stock Exchange: do not have an explicit constrain on abnormal fluctuations.

Type IV – Active Request:

- Plan for major events that are necessary to apply for suspension, e.g., Reorganization, shareholder's meeting etc.

Clarification:

1. In version of 2012, there are several emendations concerning the suspension rule:

- Cancel the mandatory suspension on the date of shareholder's meeting
- Cancel the mandatory suspension of announcement date regarding abnormal fluctuation of securities price

2. The criteria of abnormal fluctuation in Shenzhen Stock Exchange is not explicit defined in Trading Rules, but comes from hearsay of experienced investors.

Question 2b.

Data Cleaning:

- From the original data, we can find that there are three types of suspension type: suspension, bankruptcy, and suspension of listing. For stocks that have already quitted the market, their stock price may behave differently during previous suspension date. Therefore, we only consider the stock that have suspension in the past but do not quit the market currently to make sure the integrity of our analysis.
- Also, this analysis only consider A share main stocks from Shanghai Stock Exchange and Shenzhen Stock Exchange, since 科创板&创业板 have different trading and suspension rules from main stocks.
- We use the variable Timeperd in Suspension the dataset to calculate the duration of Suspension. Timeperd is the length of suspension hours in trading. Therefore, we can treat 4 hours as a trading date. By calculation, we set a new variable Cons to represent the day of suspension.
- During our analysis, we noticed that there are several stocks do not have closing price data in resuming date, for example, stock 600603 resumed at 2008-06-26, but trading date started from 2008-06-27 on CSMAR. Therefore, to make our code more integrity, we delete 18 stocks that have the similar problems. [Stock id: see appendix 5]

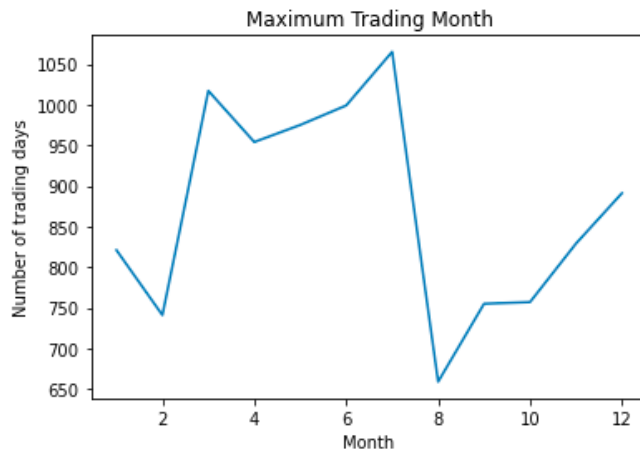
	Stkcd	Susdate	Susptime	Resmdate	Resmtime	cons	Presdate
8638	600603	2008-06-05	9:30	2008-06-26	9:30	14.0	2008-06-04 00:00:00
8639	600603	2009-05-27	9:30	2009-06-26	9:30	20.0	2009-05-26 00:00:00
8640	600603	2011-10-28	9:30	2012-05-28	9:30	139.0	2011-10-27 00:00:00

124	600603	2008-06-30
125	600603	2008-06-27
126	600603	2008-06-02
127	600603	2008-05-30
128	600603	2008-05-29
129	600603	2008-05-28

Data Summary:

- Time span of this analysis is from Jan 1st 2000 to Oct 14th 2022.
- Originally, we have 3332 stocks in total from Shanghai and Shenzhen stock exchange. After excluding the stocks that have suspension date longer than or equals to 6-day, we have 987 stocks from Shanghai Exchange and 1126 stocks from Shenzhen Exchange.
- There were 10412 suspensions that lasted longer than or equals to 6-day.

Analysis of Suspension date



weekday	
1	3623
2	1938
4	1676
5	1604
3	1571

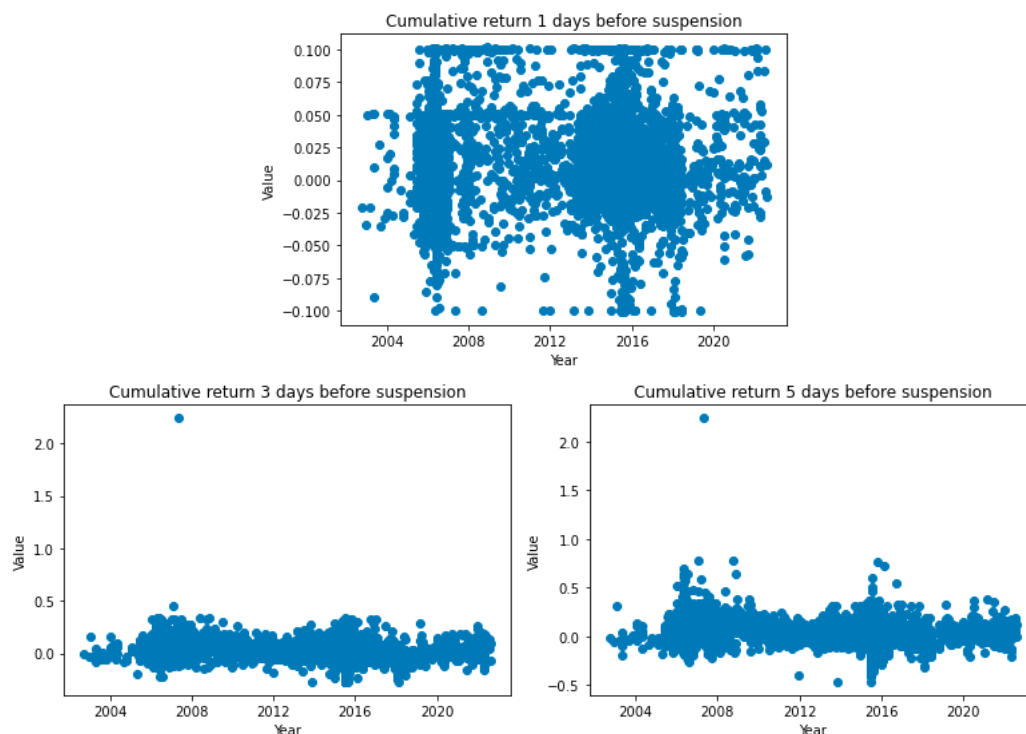
Conclusion:

- The month with maximal number of suspensions is July; The weekday that with maximal number of suspensions is Monday.

Analysis of return on Suspension Stock

A. Shanghai Stock Exchange:

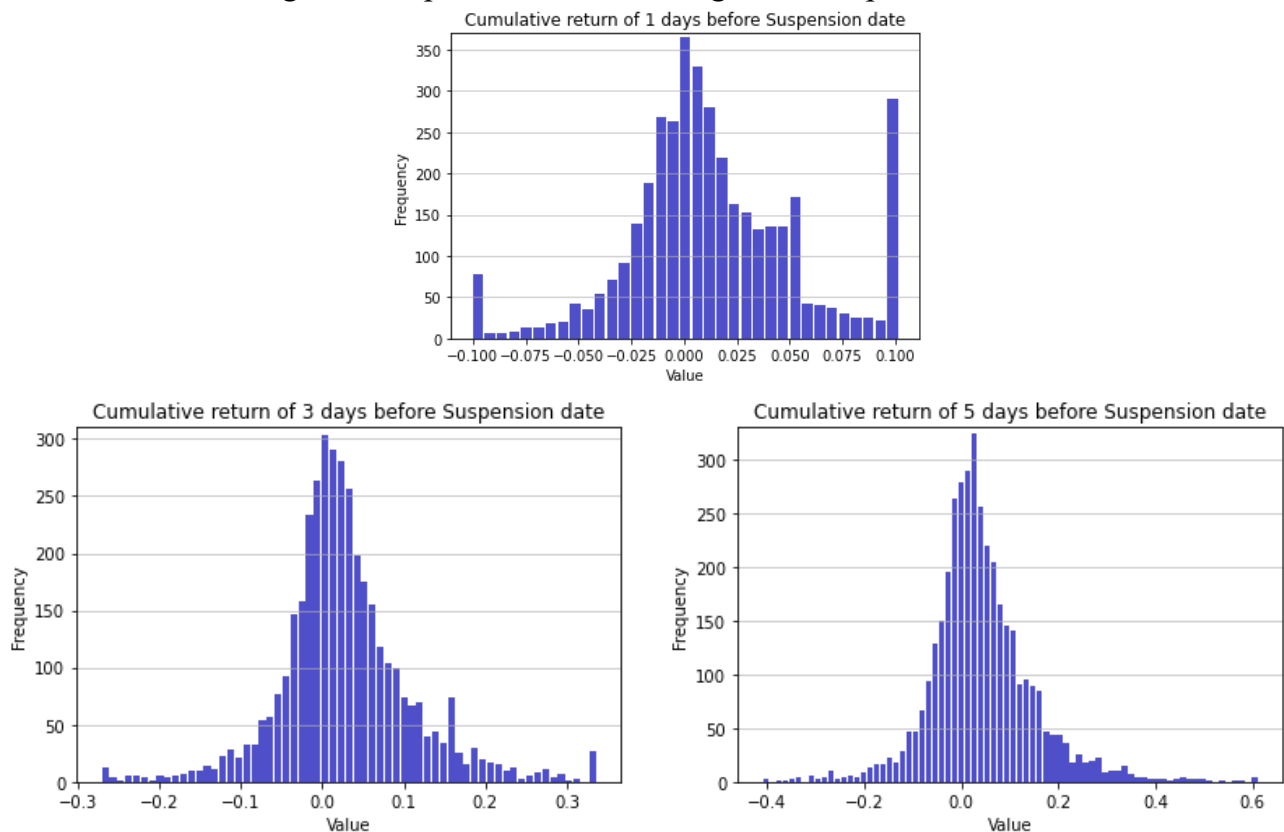
- We now look at the cumulative return of suspension stock separately. The following scatter plots are the cumulative return of 1, 3, 5 trading dates before the Suspension Date. We can find that 3-day cumret lies in the range of $(-0.5, 0.5)$, while 5-day cumret lies within the range of $(-1, 1)$. However, there is an apparent outlier, so we try to dig into this particular case.



- By several steps of calculate, we can find out that outlier has two suspension date within 4 trading day, which are 2007-01-12 and 2007-04-27. Since the daily return of resume date 2007-04-25 from the first suspension is extremely high, which reached 300%, the cumulative return of both 3-day and 5-day trading day correspondingly goes high.

Stkcd	Trddt	Hiprc	Loprc	Clspc	Dnshrtrd	Dretwd
600757	2007-01-12	3.46	3.28	3.29	13173392	-0.003030
600757	2007-04-25	10.87	5.62	8.38	114574644	2.998966
600757	2007-04-26	7.98	7.54	7.54	38641747	-0.100239
600757	2007-04-27	7.11	6.79	6.79	27712598	-0.099469
600757	2007-05-30	7.13	6.79	7.13	28967452	0.050074

- After excluding this datapoint, we use 3 histograms to represent our result.

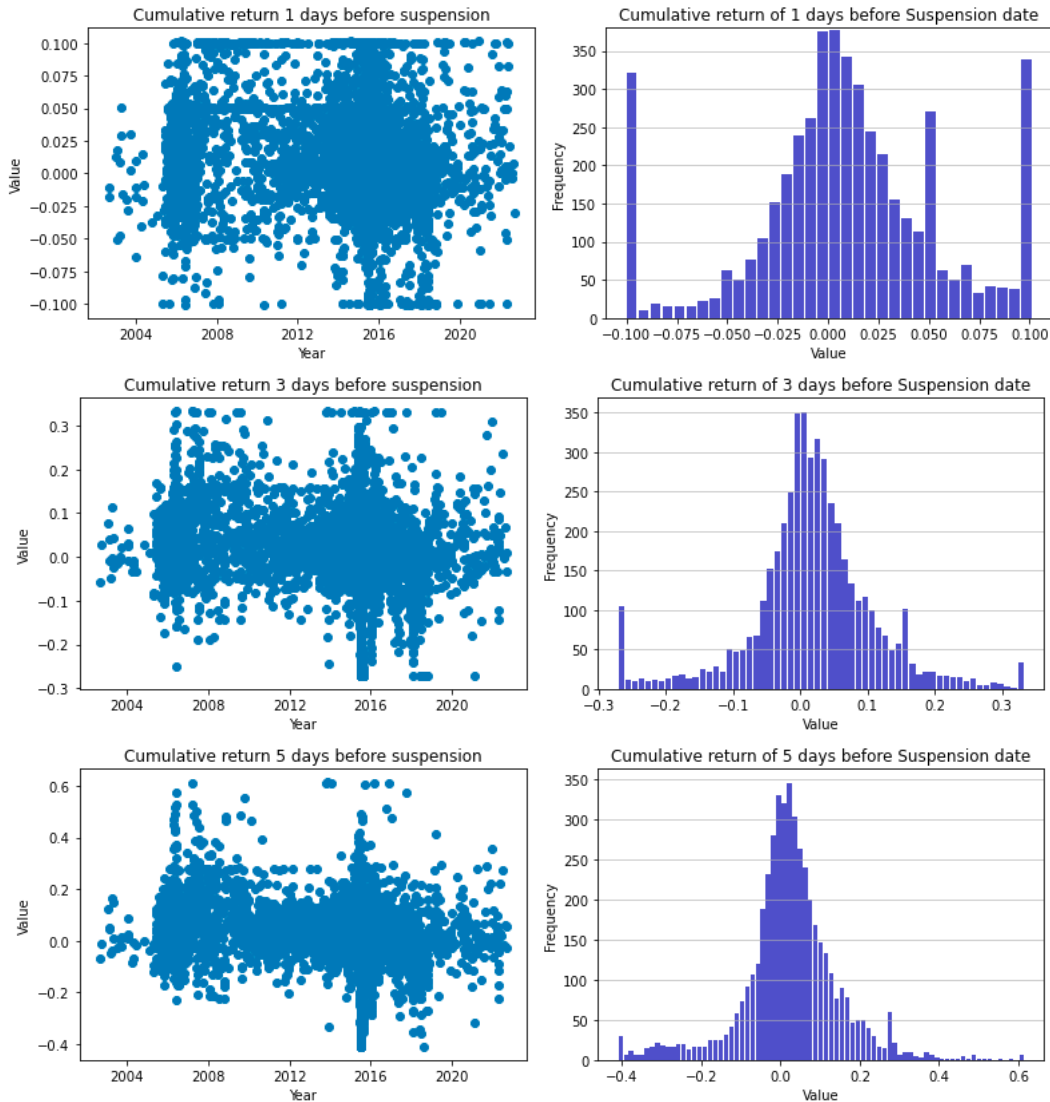


Conclusion:

- Cumret of 1-Day, 3-Day, and 5-Day are all distributed normally, but with longer time range, the distribution is smoother. The majority of cumret will lie around 0, which means that suspension won't have a tremendous effect on price on these stocks.
- The percentage of cumulative returns above 5% in the 3 days before the trading suspension is about 31%;
- The percentage of cumulative returns below -5% in the 3 days before the trading suspension is about 11%.

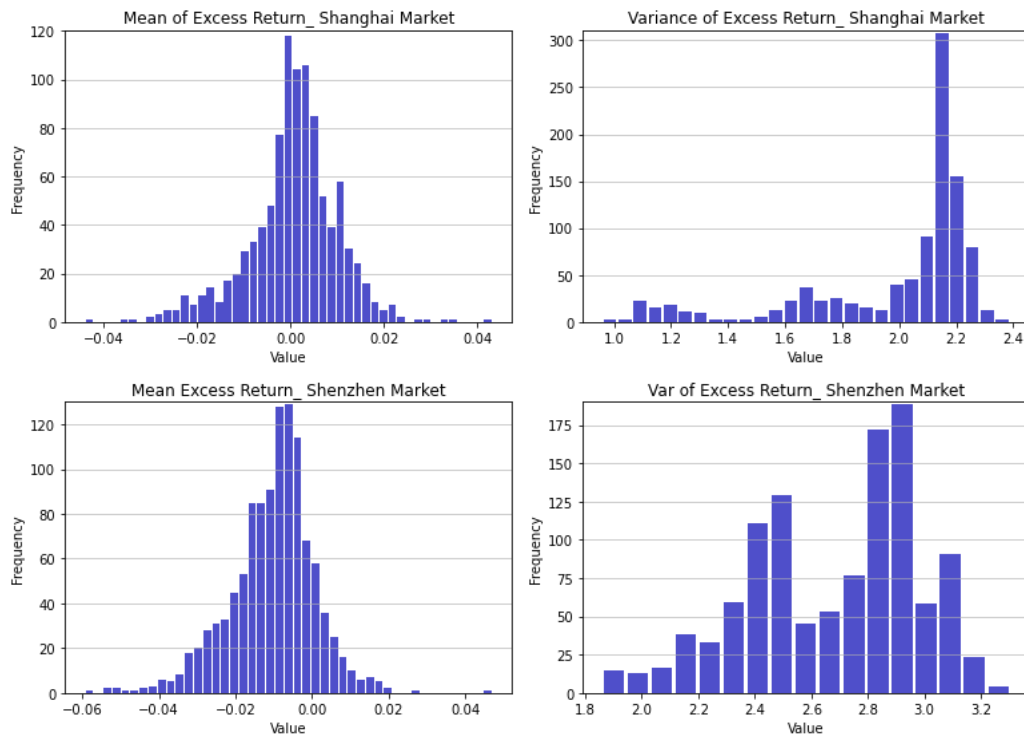
B. Shenzhen Stock Exchange:

- We now look at the cumulative return of suspension stock separately. The following scatter plots are the cumulative return of 1, 3, 5 trading dates before the Suspension Date. We can find that 1-day cumret lies within the range of $(-0.1, 0.1)$, 3-day cumret lies in the range of $(-0.3, 0.3)$, while 5-day cumret lies within the range of $(-0.4, 0.6)$.



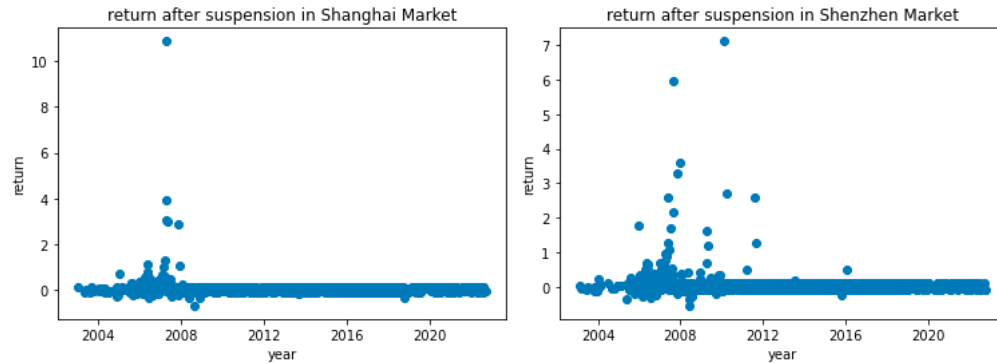
- The percentage of cumulative returns above 5% in the 3 days before the trading suspension is about 30%; The percentage of cumulative returns below -5% in the 3 days before the trading suspension is about 15%.
- Similar to previous analysis, cumret of 1-Day, 3-Day, and 5-Day are all distributed normally, but with longer time range, the distribution is smoother. The majority of cumret will lie around 0, which means that suspension won't have a tremendous effect on price on these stocks.
- An interesting notice is that on the 1-day graph, there are a significant number of datapoints that lie around 10% in both Shanghai and Shenzhen market. We try to make a detailed analysis about this situation, but unfortunately due to the ambiguity of "Reson" in suspension data source, we cannot reach a more concise conclusion.

Comparison with index



- Next, we compare all the selected stocks with market index (here, we use 000002 and 399002). For stocks in Shanghai market, the mean of excess return is normally distributed with expectation 0, variance of excess return lies within the range of (1, 2.4), with a concentration of 2. While stocks in Shenzhen market, mean of excess return is left- skewed normally distributed with a negative expectation, and variance lies within the range of (1.8, 3.2)

Trading Day after Resuming:



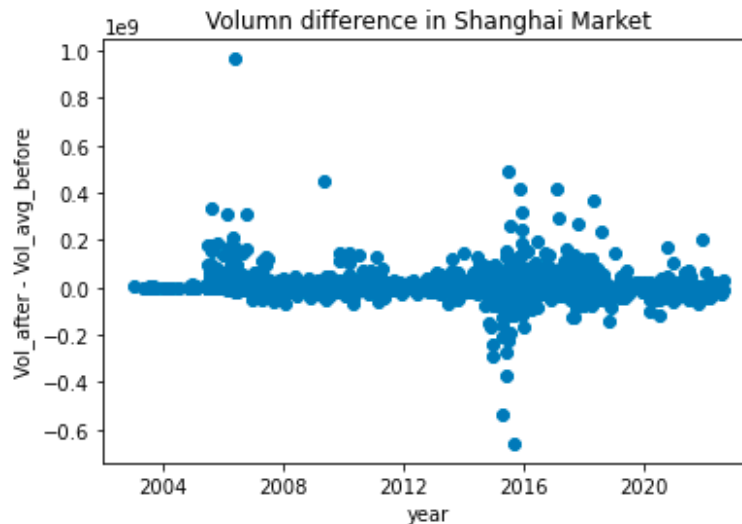
- The Stock with highest increase rate is [600137], which has an increase rate of 1000%, from the below we can find this is because its close price increased from 7.18 to 68.16.

Stkcd	Trddt	Hiprc	Loprc	Clsprc	Dnshrtrd	Dretwd
600137	2006-12-19	7.04	6.69	6.91	404635	-0.015670
600137	2006-12-20	7.26	7.00	7.18	534730	0.039074
600137	2007-04-13	85.00	14.36	68.16	13172204	10.866295
600137	2007-04-20	64.75	64.75	64.75	80200	-0.050029
600137	2007-04-23	61.51	61.51	61.51	3800	-0.050039

- The Stock with lowest increase rate is [600743], which has an increase rate of -68%, from the below we can find this is because its close price decreased from 22.42 to 7.01

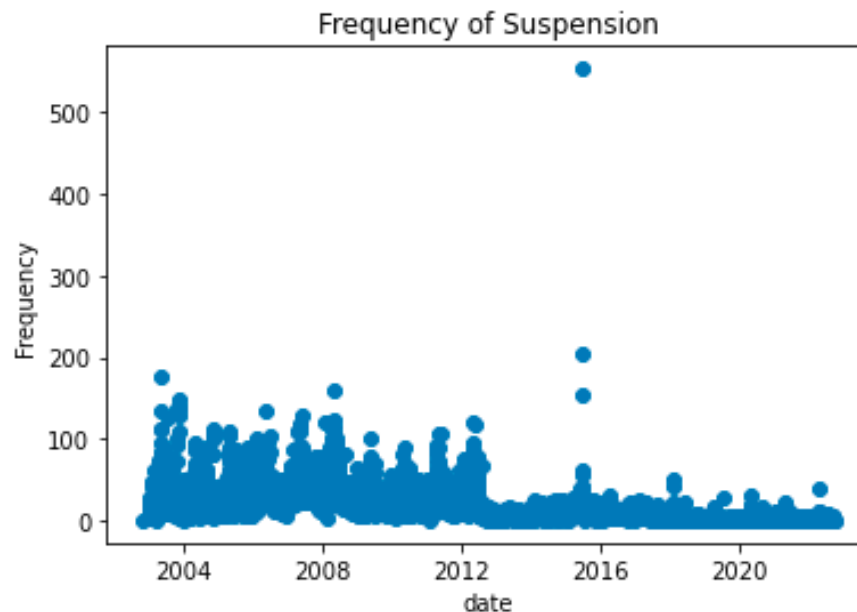
Stkcd	Trddt	Hiprc	Loprc	Clsprc	Dnshrtrd	Dretwd
600743	2008-02-04	20.92	19.63	20.76	1690970	0.040602
600743	2008-02-05	21.80	20.53	21.79	2109295	0.049615
600743	2008-02-13	22.83	21.80	22.42	3052498	0.028912
600743	2008-08-28	11.21	6.88	7.01	9874092	-0.687333
600743	2008-08-29	7.20	6.66	6.93	6294267	-0.011412

Analysis on Volume:



- 62% of the stocks' volume will increase after Resume. We believe the reason if the suspension conveys a positive attitude, then market will be positive about this stock, which will attract more investor to buy and increase the volume; on the other hand, if the suspension conveys a negative attitude, then market will look down to this stock and would like to sell their share on hand, which will also increase the volume.

Question 2c:



- From our calculation, we find that there are 4633 days in total that has the maximum suspension date.
- The above graph summarized the number of suspensions in each date. We can find that 2015-07-08 has the maximum number of suspensions.
- Reason: The Chinese stock market turbulence began with the popping of the stock market bubble on 12 June 2015 and ended in early February 2016. More than half of all listed Chinese companies have suspended their own shares

Appendix:

1. Emendation of Suspension rule in 2012

三、对停复牌制度相关章节的修订

原《上市规则》第十二章规定了停复牌制度。为减少不必要的例行停牌，提高市场效率，增强停牌制度的针对性和有效性，本次修订对第十二章的内容进行相应修改，取消了例行停牌制度。

（一）取消股东大会召开日的例行停牌

原《上市规则》规定，上市公司股东大会召开日为交易日的，公司股票及其衍生品种应全天停牌。从实践来看，上市公司股东大会审议事项已经预先向市场进行过公告，市场参与者对其已经有一定的认知。股东大会审议的很多事项，对二级市场的股价影响也并不大。在股东大会召开日一律停牌，反而对市场效率影响较大。

基于前述考虑，本次修订取消了上市公司股东大会召开当日的全天例行停牌。

（二）取消股价异常波动公告日的例行停牌

原《上市规则》规定，上市公司发布股价异常波动公告的当日为交易日的，公司股票及其衍生品种应停牌一小时。实践中，随着网络技术的不断发展和普及，证券信息的传播速度日益提高，传播渠道更加丰富，投资者获取信息更加便捷。普通投资者一般在前一个交易日结束后即可从网上获取公司披露的股价异常波动公告，异常波动一小时停牌所给予普通投资者的缓冲时间已经失去了意义。实践中，异常波动一小时停牌有时不但起不到警示作用，反倒提示并助推了市场的炒作。

基于前述考虑，本次修订取消了股价异常波动公告日的例行一小时停牌。

本所《交易规则》第4.2.3条也对股价异常波动公告日的例行停牌进行了规定。因此，在本所《交易规则》作出相应修订前，关于股价异常波动公告日的例行一小时停牌仍按原规则执行。

（三）取消投资者沟通日的停牌

原《上市规则》规定，上市公司因股价持续异常，需要向本所申请通过公开方式与投资者或者媒体进行沟通的，公司股票及其衍生品种应当于沟通日停牌。从实践看，上市公司与投资者或者媒体沟通，不应发布尚未披露且可能影响其股价的重大信息。因此，在投资者沟通日停牌并无必要。

基于前述考虑，本次修订取消了股价异常波动后投资者沟通日的停牌。

因《上海证券交易所交易规则》（以下简称“《交易规则》”）第4.2.3条也对股价异常波动公告日的停牌进行了规定，在《交易规则》作出相应修订前，关于股价异常波动公告日的停牌仍按原《上市规则》执行。新《上市规则》关于停复牌的其他规定，自发布之日起执

2. <深圳证券交易所交易规则 2021>

3. <深圳证券交易所上市规则 2022>

4. <上海证券交易所交易规则 2020>:

http://www.sse.com.cn/lawandrules/sselawsrules/stock/trading/main/c/c_20210409_5369803.shtml

5. Deleted Stock id: [600180, 600565, 600083, 600873, 600503, 600876, 600849, 600562, 600316, 600603, 601600, 600345, 605169, 605169, 601899, 605319, 600767, 600482, 600800, 600691, 600748, 600186, 600159]