



U/PWNWTFBBQ

THE
THE OUROBOROS
ALGORITHM

EXPLAINING THE QUARTERLY SWINGS, SIDEWAYS
TRADING AND BECAUSE APES LOVE DATES ...

EXPOSING HF HISTORY, ANALYZING PAST DATA,
AND INITIAL DISCUSSIONS ON WHY I THINK ALL
OF 2021 DATA HAS ALREADY BEEN PREWRITTEN

PARTS 1 & 2

The Algorithm. The Ouroboros - Part 1: Explaining the Quarterly Swings, Sideways Trading and Because Apes Love Dates....

DD

Note:

I am not a financial advisor. I am an engineer with a strong stats background. These are my thoughts and findings.

Let's Begin with Some Learning: Defining Dividends

This entire theory stems around how the dividend was used to hide any price manipulation and other tomfuckery so we gotta start with defining the dates and shit.

When you check out dividends, it'll have (4) different types of dates that surround it:

- Declaration / Announced Date
- Ex - Dividend
- Record Date
- Payable Date

Here is an example I pulled from the [SEC website](#) to describe these dates:

Here is an example:

Declaration Date	Ex-Dividend Date	Record Date	Payable Date
Friday, 9/8/2017	Friday, 9/15/2017	Monday, 9/18/2017	Tuesday, 10/3/2017

On September 8, 2017, Company XYZ declares a dividend payable on October 3, 2017 to its shareholders. XYZ also announces that shareholders of record on the company's books on or before September 18, 2017 are entitled to the dividend. The stock would then go ex-dividend one business day before the record date.

In this example, the record date falls on a Monday. Excluding weekends and holidays, the ex-dividend is set one business day before the record date or the opening of the market—in this case on the preceding Friday. This means anyone who bought the stock on Friday or after would not get the dividend. At the same time, those who purchase before the ex-dividend date on Friday will receive the dividend.

Some Quick GME History:

TLDR: GME gave a cash dividend from 2012 to 2019.

Mathemagics

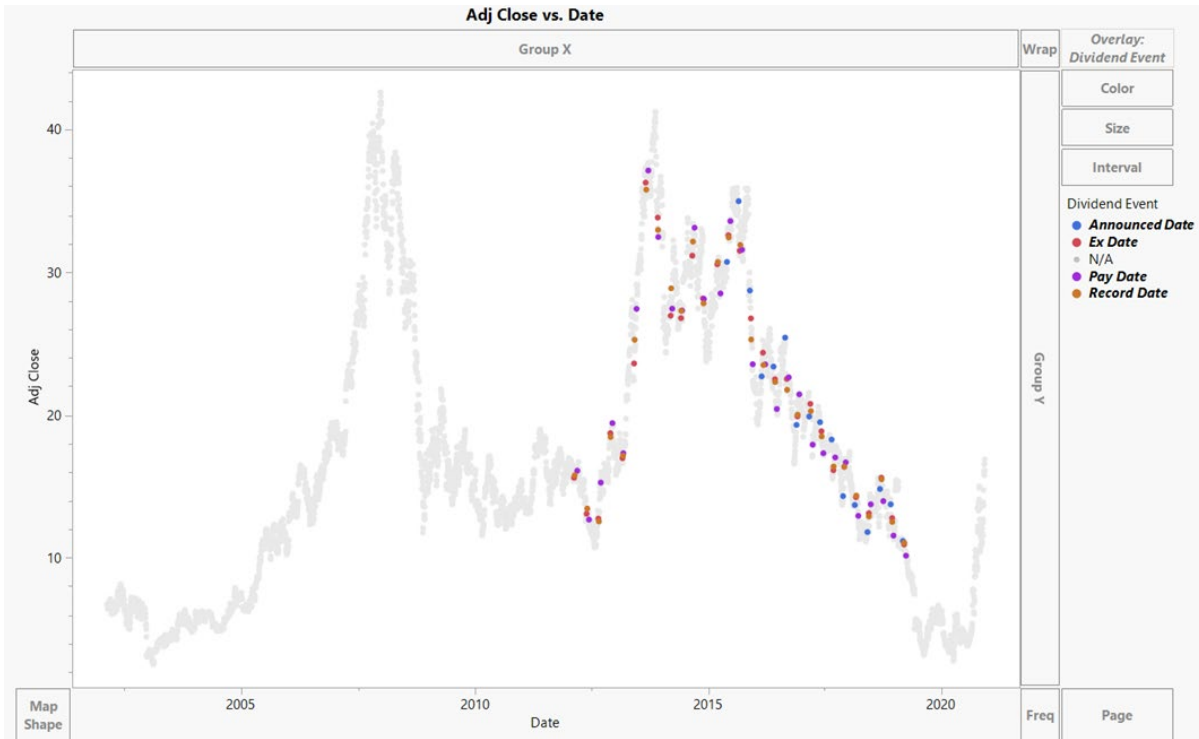
The table below lists the dates important to the dividend along with related values.

Sources:

- <https://www.nasdaq.com/market-activity/stocks/gme/dividend-history>
- <https://marketchameleon.com/Overview/GME/Dividends/>

Year	Announced Date	Ex Date	Record Date	Pay Date	Amount	% Change From Prev	% Change From Prev Year	Prior 12 Months Yield
2019	4-Mar-19	14-Mar-19	15-Mar-19	29-Mar-19	0.38			13.13%
2018	29-Nov-18	10-Dec-18	11-Dec-18	21-Dec-18	0.38			11.49%
	6-Sep-18	17-Sep-18	18-Sep-18	2-Oct-18	0.38			9.63%
	31-May-18	11-Jun-18	12-Jun-18	26-Jun-18	0.38			11.38%
	21-Feb-18	2-Mar-18	5-Mar-18	20-Mar-18	0.38			13.29%
2017	21-Nov-17	30-Nov-17	1-Dec-17	12-Dec-17	0.38		2.7%	8.91%
	24-Aug-17	7-Sep-17	8-Sep-17	21-Sep-17	0.38		2.7%	9.11%
	25-May-17	5-Jun-17	7-Jun-17	20-Jun-17	0.38		2.7%	7.88%
	1-Mar-17	10-Mar-17	14-Mar-17	28-Mar-17	0.38	2.7%	2.7%	7.22%
2016	22-Nov-16	29-Nov-16	1-Dec-16	13-Dec-16	0.37		2.8%	7.24%
	25-Aug-16	7-Sep-16	9-Sep-16	22-Sep-16	0.37		2.8%	6.47%
	26-May-16	6-Jun-16	8-Jun-16	21-Jun-16	0.37		2.8%	6.45%
	23-Feb-16	4-Mar-16	8-Mar-16	22-Mar-16	0.37	2.8%		7.09%
2015	23-Nov-15	1-Dec-15	3-Dec-15	15-Dec-15	0.36			5.33%
	27-Aug-15	4-Sep-15	9-Sep-15	22-Sep-15	0.36		9.1%	4.43%
	28-May-15	8-Jun-15	10-Jun-15	23-Jun-15	0.36		9.1%	4.13%
	N/A	13-Mar-15	17-Mar-15	7-Apr-15	0.36	9.1%	9.1%	4.53%
2014	N/A	21-Nov-14	25-Nov-14	28-Nov-14	0.33			4.89%
	N/A	29-Aug-14	3-Sep-14	16-Sep-14	0.33		20.0%	3.97%
	N/A	2-Jun-14	4-Jun-14	10-Jun-14	0.33		20.0%	4.36%
	N/A	13-Mar-14	17-Mar-14	25-Mar-14	0.33	20.0%		4.13%
2013	N/A	2-Dec-13	4-Dec-13	6-Dec-13	0.275		10.0%	3.16%
	N/A	29-Aug-13	3-Sep-13	19-Sep-13	0.275		10.0%	3.01%
	N/A	31-May-13	4-Jun-13	19-Jun-13	0.275		83.3%	4.40%
	N/A	1-Mar-13	5-Mar-13	7-Mar-13	0.275	10.0%		5.22%
2012	N/A	26-Nov-12	28-Nov-12	12-Dec-12	0.25			4.23%
	N/A	24-Aug-12	28-Aug-12	12-Sep-12	0.25	66.7%		4.20%
	N/A	24-May-12	29-May-12	12-Jun-12	0.15			2.30%
	N/A	16-Feb-12	21-Feb-12	12-Mar-12	0.15			0.97%

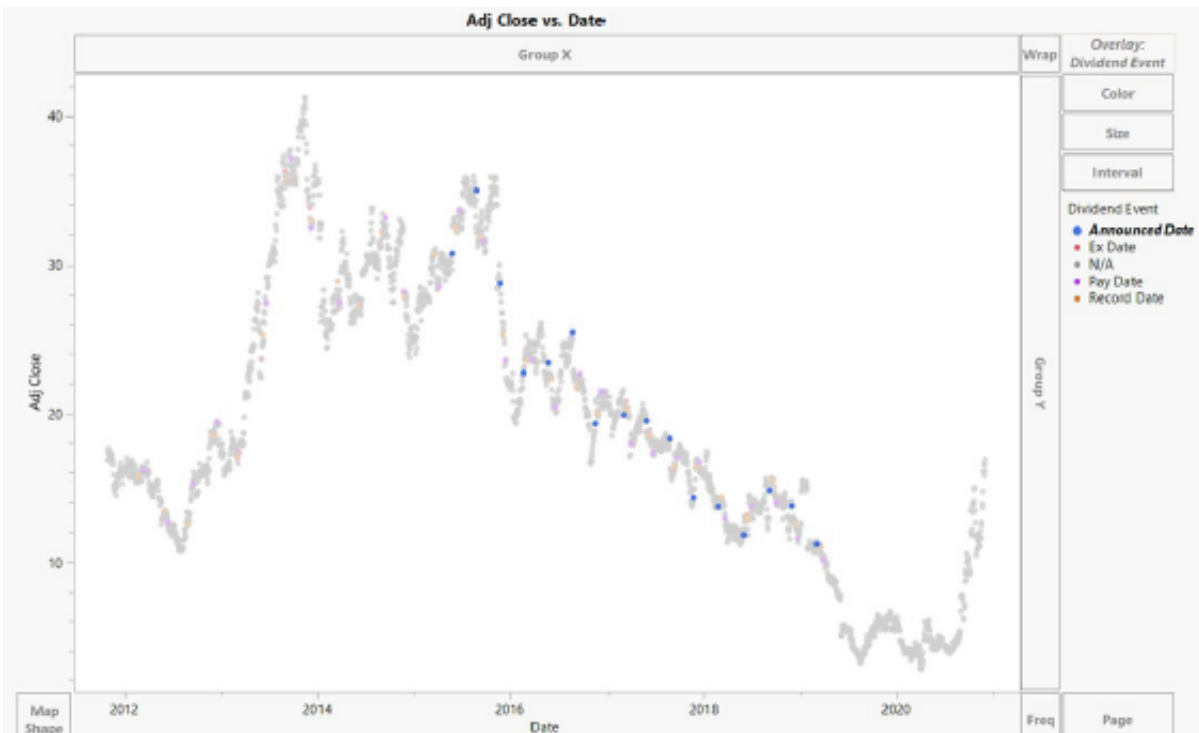
Here are the closing share price relative to the above listed dividend dates.



Closing GME Share Price with Dividend Dates Highlighted

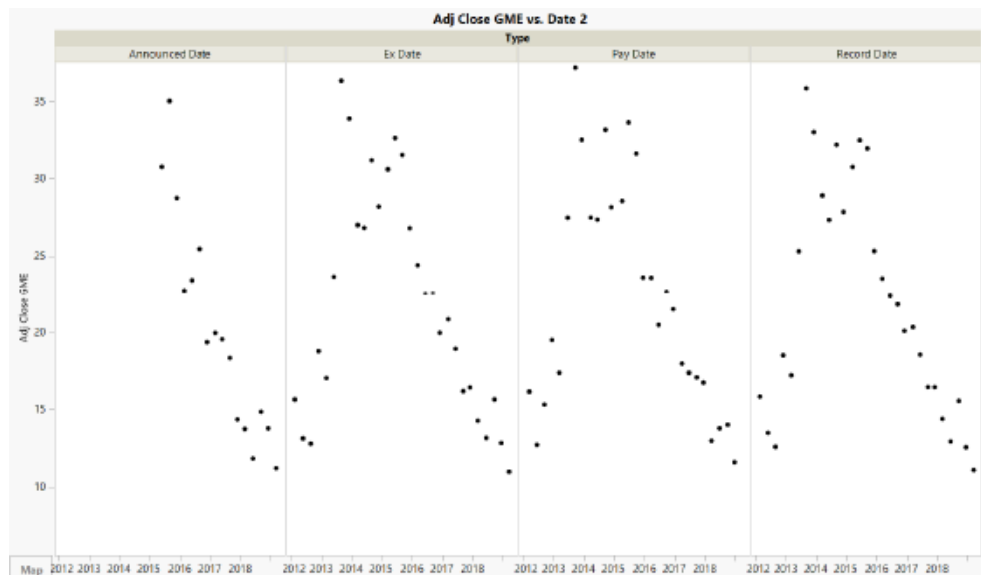
This is where things start to get weird....

For a while, GME didn't seem to announce when the dividend was going to happen until like 2015 so here is a zoomed in graph of that time period.



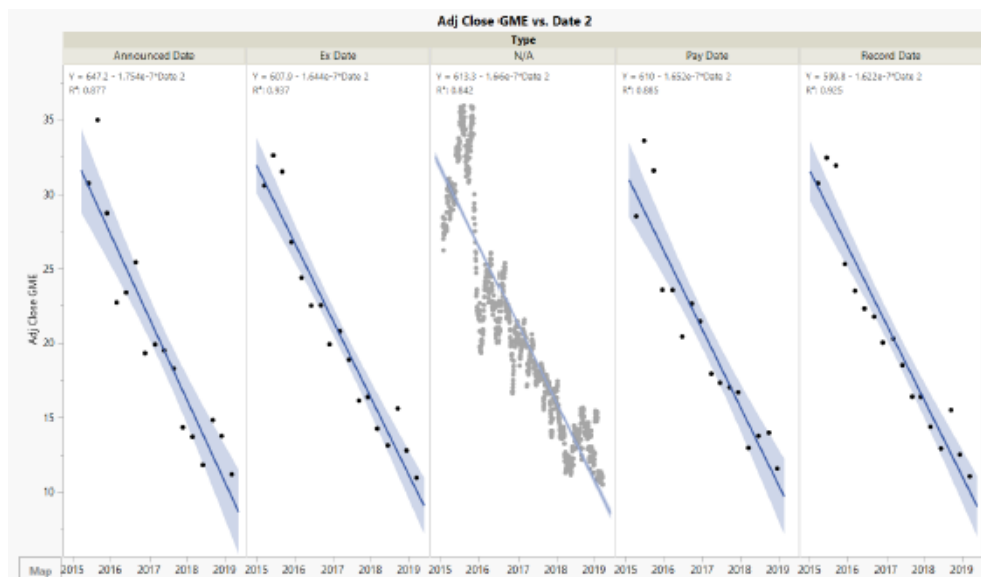
Zoomed-In Dividend Dates with GME Share Price

If we were to subset the data such that we only view the dates when these specific events occurred and graph them with their corresponding share price, we get the follow graph. Nothing really too interesting-ish.



All Dividend Dates with Corresponding Share Price

However, since the announcement dates didn't begin until 2015, I went ahead and did some further isolation to focus on this time frame. What's bonkers about this is the extremely high R² values comparing the share prices with the corresponding dates. I also added the surrounding share prices that weren't part a dividend related date to show how linearly the share price was decreasing.

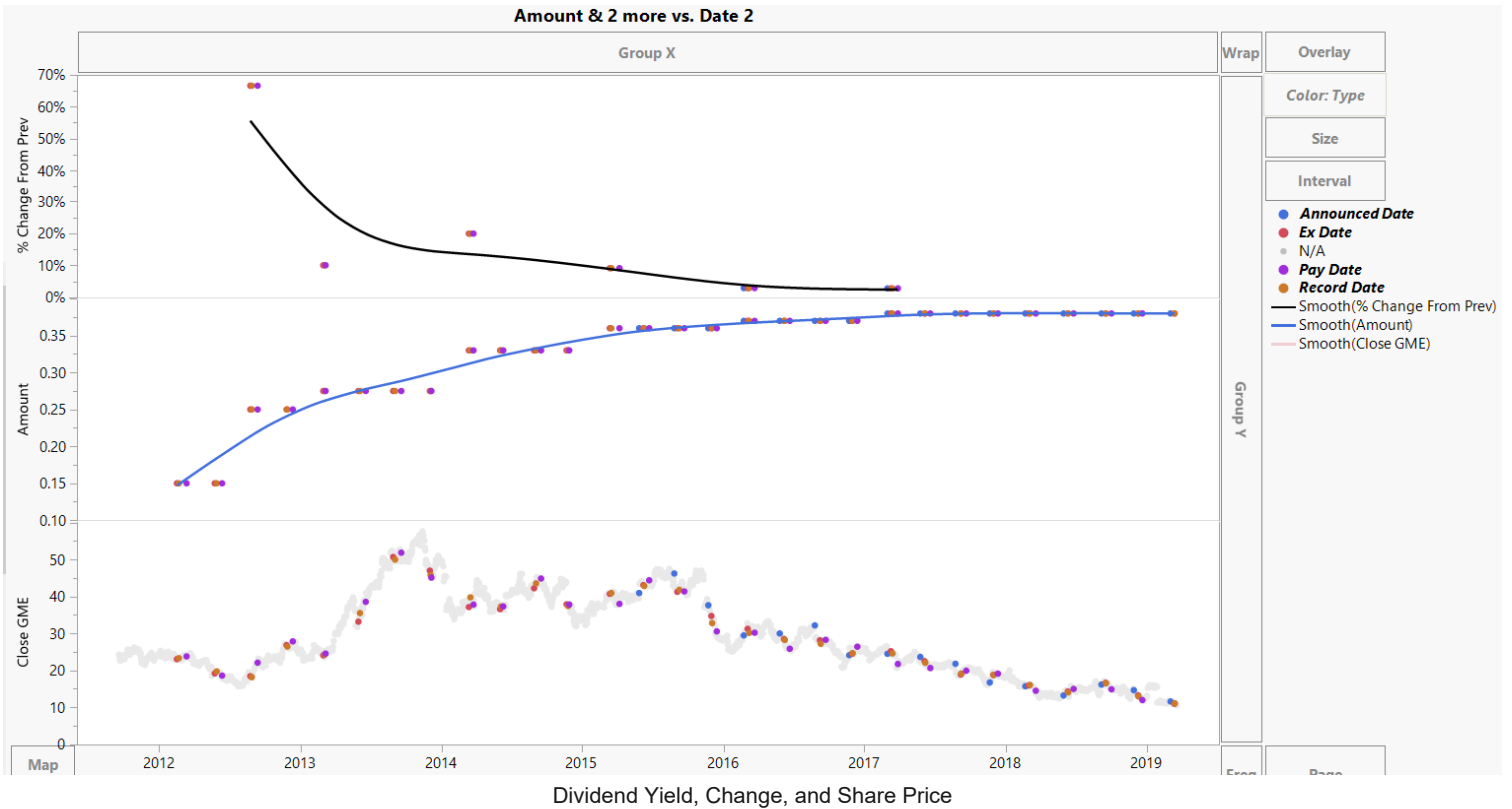


Share Price and Dividend Dates

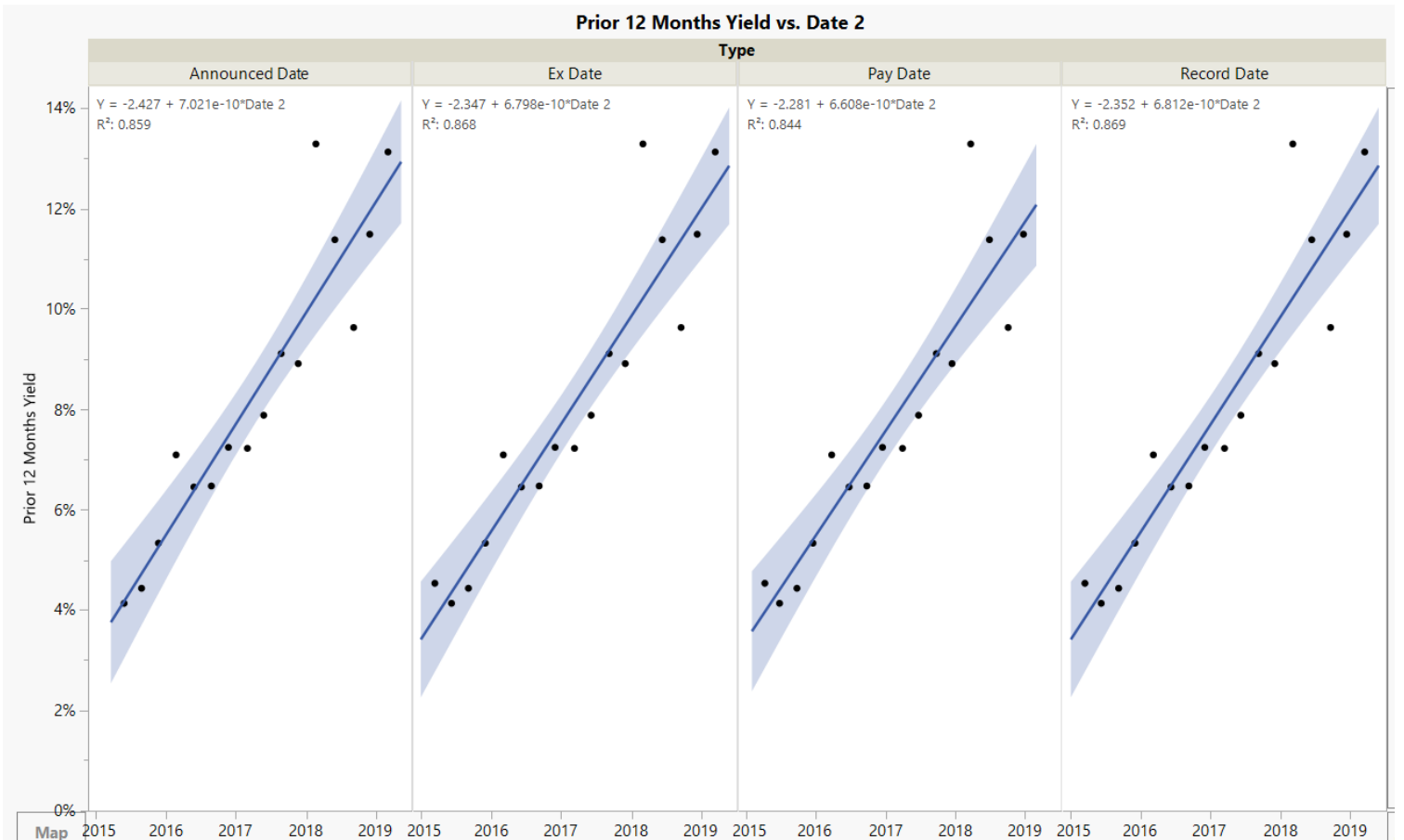
Despite how GME was a failing brick and mortar company, the dividend value increased despite how the share price was dropping. (This will be important for later. Not now, but later). Let's quickly define the dividend yield and it's relationship to the share price:

$$\text{Dividend Yield} = \text{Annual Dividends Paid Per Share} / \text{Price Per Share}$$

Dividend Yield Calculation



Here's another way to look at the data showing the linearity of the dividend yield versus the share price further exemplifying how as time continued, the dividend yield increased.



While the argument can be made that an increase in dividend was made to increase the attractiveness to retail investors, I personally would argue against that solely due to the stupid fucking high amount of this fucking dividend.

Just to get a better comparison how fucking stupid high this dividend amount GME was pumping out at this time, here is a current list I quickly pulled when I googled "high dividend stock average." Here is the first [link](#) that came up.

Symbol	Company Name	Dividend Yield
NPK	National Presto Industries Inc.	7.48%
OKE	ONEOK Inc.	7.12%
CVX	Chevron Corp.	5.54%
GLPI	Gaming and Leisure Properties Inc.	5.44%
IRM	Iron Mountain Inc.	5.18%
EIX	Edison International.	4.58%
LYB	LyondellBasell Industries NV	4.50%
SAFT	Safety Insurance Group Inc.	4.43%
PNW	Pinnacle West Capital Corp.	4.32%
GILD	Gilead Sciences Inc.	3.90%
NWE	NorthWestern Corp.	3.90%

quick snap shot of current high dividend stock but you get the idea.

GME passed this list in like 2015 and almost even doubled it during 2018 / 2019. Now, that the dividend has been beaten to death,

Time for Some More LEARNING!!!!

As a sanity check, let's do some basic investing learning just to cover our bases as to why other tickers could see the same thing. Pulling from [investopedia](#) detailing how dividends relate to options volume:

The payment of dividends for a stock impacts how options for that stock are priced. Stocks generally fall by the amount of the dividend payment on the ex-dividend date (the first trading day where an upcoming dividend payment is not included in a stock's price). This movement impacts the pricing of options. Call options are less expensive leading up to the ex-dividend date because of the expected fall in the price of the underlying stock.

At the same time, the price of put options increases due to the same expected drop. The mathematics of the pricing of options is important for investors to understand so they can make informed trading decisions.

The key take away is....

Calls are cheap AF on the Announcement and Ex-Dividend Date

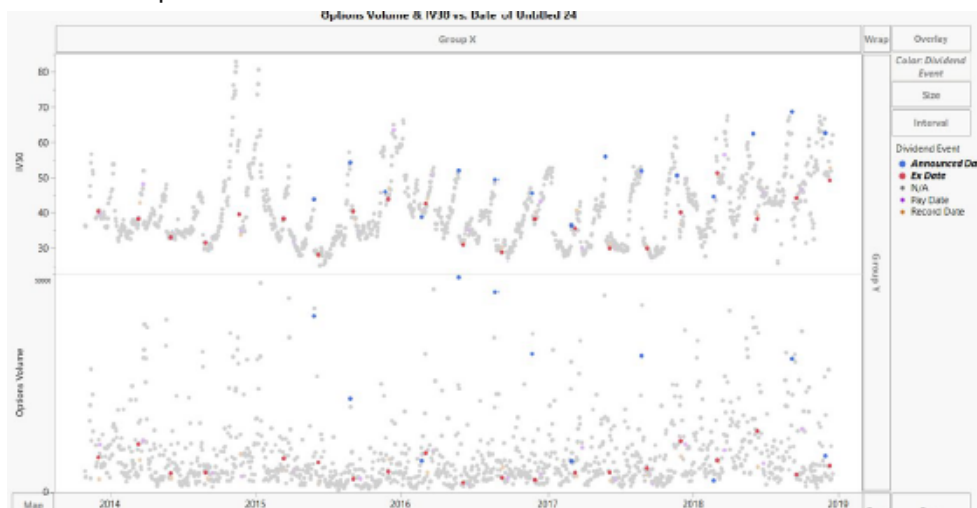
So if I were a corrupt, greedy asshole....

with a bunch of naked shorts that may or may not need to be "covered," I would probably want to buy calls to cover these naked shorts when they were the cheapest. (Un)fortunately, I'm just an asshole so I, as a retail investor, don't do that shit. Going back to the mathemagics and data...

Some MORE weird shit but with options

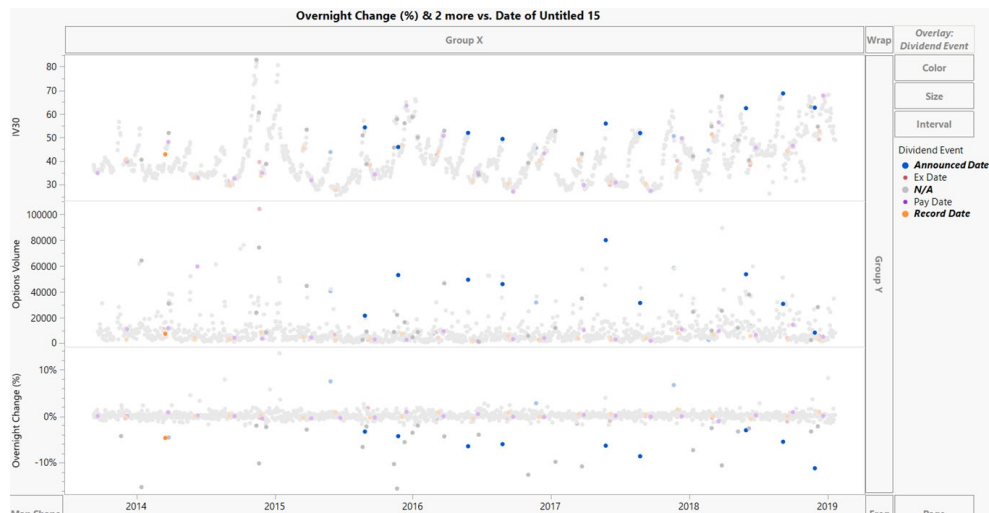
GME is shorted to shit so I pulled the options data from market chameleon. That data only goes to like 2013Q3 to present so that's what we're going to see below.

Since the dividend seems funky, I added those dates in as well to see what the fuck was going on. Immediately, one can see how the announcement date often has both the highest IV30 as well as the highest volume just overall during the this 2013Q3 to 2019Q1 - ish time period.



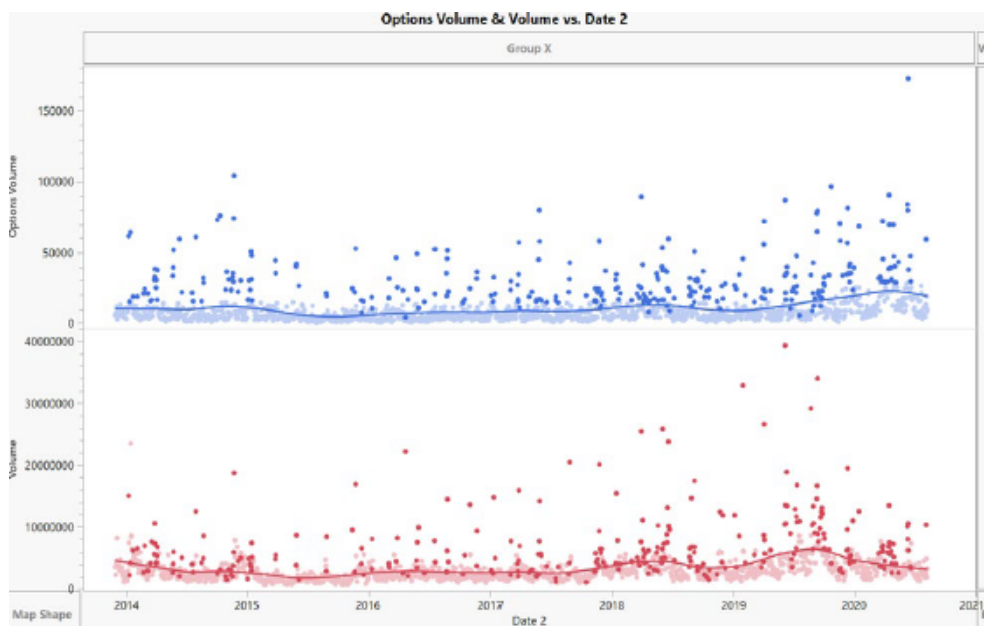
Options Volume and IV30 with Dividend Date

Let's also add the overnight change because that was a significant variable I used to estimate August 24 mini squeeze so for more data dumping.



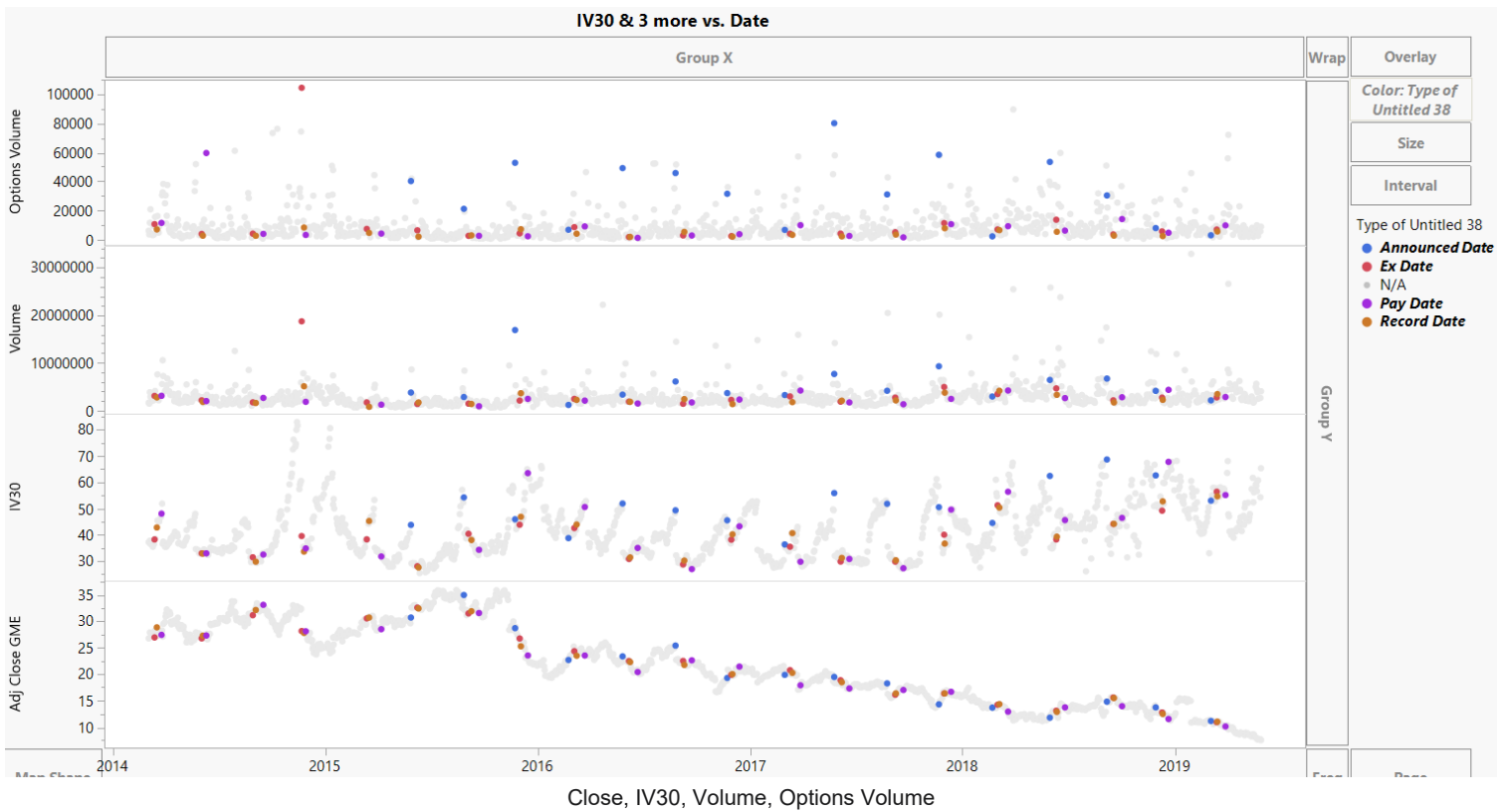
Options Volume, IV30, and Overnight Change with Dividend Date

Let's see how the daily options volume compares to daily trading volume. I even extended the time frame to mid-2020 for better comparison. Cool. Cool. Cool. Days with the most options volume are the same days with the highest trading volume.



Daily Options Volume and Daily Trading Volume

Let's put it ALL Together!!!



Back to our Roots

From a DD I did a while I ago, I identified this dates as the most significant:

	Jan	Mar	Aug	Nov
2013	1/8/2013	3/28/2013	8/22/2013	11/21/2013
2014	1/14/2014	3/27/2014	8/22/2014	11/21/2014
2015	1/14/2015	3/27/2015	8/28/2015	11/23/2015
2016	1/12/2016	3/28/2016	8/26/2016	11/23/2016
2017	1/13/2017	3/24/2017	8/25/2017	11/22/2017
2018	1/12/2018	3/29/2018	8/27/2018	11/26/2018
2019	1/29/2019	3/8/2019	8/22/2019	11/26/2019
2020	1/14/2020	3/30/2020	8/31/2020	11/30/2020
2021	1/27/2021	3/8/2021		

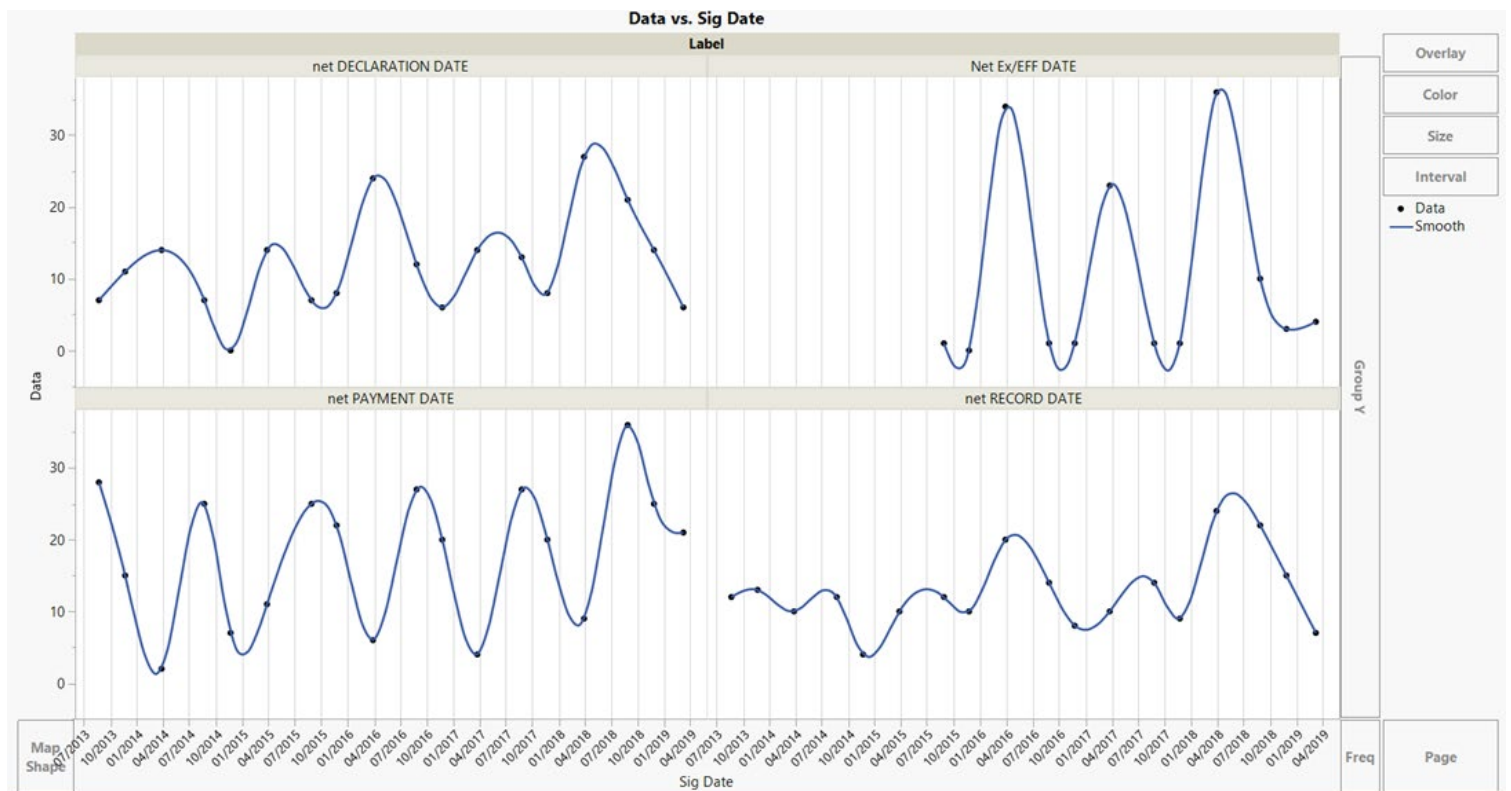
Basically One of my Favorite Tables

Joining those dates I was able to isolate with the first dividend table and calculating the net total days, we get!!!

Year	Dates					Net Days	Ex/EFF DATE	DECLARATION DATE	RECORD DATE	PAYMENT DATE
	Dates	Ex/EFF DATE	DECLARATION DATE	RECORD DATE	PAYMENT DATE					
2019	3/8/2019	3/14/2019	3/4/2019	3/15/2019	3/29/2019	6				
2018	11/26/2018	12/10/2018	11/27/2018	12/11/2018	12/21/2018	14				
	8/27/2018	9/17/2018	9/4/2018	9/18/2018	10/2/2018	21				
	3/29/2018	3/2/2018	2/21/2018	3/5/2018	3/20/2018	27				
2017	11/22/2017	11/30/2017	11/17/2017	12/1/2017	12/12/2017	8				
	8/25/2017	9/7/2017	8/21/2017	9/8/2017	9/21/2017	13				
	3/24/2017	3/10/2017	3/1/2017	3/14/2017	3/28/2017	14				
2016	8/26/2016	9/7/2016	8/26/2016	9/9/2016	9/22/2016	12				
	3/28/2016	3/4/2016	2/24/2016	3/8/2016	3/22/2016	24				
2015	11/23/2015	12/1/2015	11/24/2015	12/3/2015	12/15/2015	8				
	8/28/2015	9/4/2015	8/28/2015	9/9/2015	9/22/2015	7				
	3/27/2015	3/13/2015	3/4/2015	3/17/2015	3/24/2015	14				
2014	11/21/2014	11/21/2014	11/13/2014	11/25/2014	12/16/2014	0				
	8/22/2014	8/29/2014	8/22/2014	9/3/2014	9/16/2014	7				
	3/27/2014	3/13/2014	3/4/2014	3/17/2014	3/25/2014	14				
2013	11/21/2013	12/2/2013	11/21/2013	12/4/2013	12/19/2013	11				
	8/22/2013	8/29/2013	8/22/2013	9/3/2013	9/19/2013	7				

Dividend and Significant Dates

Let's make a graph of those net days



Net Days from Isolated Dates and Dividend Shift

What does it MEAN + some tin foil hatting-ish

Many have stated that if we know this shit is going on, they can change the algo. I don't think they can because of potential reasons that are not verified:

- There is no one to do the programming.

The original people that programmed this could be dead so no changes have been made. Who knows how long this thing has been going on?

- The most recent programmers left.
- They literally don't even know how to. Since this is a black swan event and so many variables are going bonkers, there is no model to use to even know which variables to change.
- They potentially only have 1 shot at fixing the script. It's done ok thus far so they let it keep doing what it's been doing and pray for a bailout.
- The fear of making even the smallest mistake and causing a crash aka MOASS.

Key takeaways

- GME experiences quarterly swings due to the IV30 values which were entered around a dividend that was previously given.
- Call options are bought around this time to make it appear as if the naked shorts are covered because call options are cheap AF.
- Although this dividend is no longer in play, the algorithm still is acting as if it is and thus we see mini squeezes around when a dividend would have been given out. This is why we see repeating dates.
- My current guess for the next mini squeeze is November 23, 2021 (11/23/21 -- Fibonacci Sequence Day and also an almost numeric palindrome.)

Why the January Squeeze?

TLDR: Taxes

To be continued....

TLDR:

- The share price is manipulated.
- Keep those hands diamond. Those balls titanium. And your buttohole clenched.
- Hold the line.
- November 23, 2021

Edit 1: I forgot to get into the sideways trading bit but I guess that's for next time.

Edit 2: [tweet](#)

Edit 3: wording and typos

Edit 4: Removed duplicate texts.

Edit 5: Change 11/23 to November 23, 2021.

Edit 6: Had to clarify why I think the computational algorithms can't be changed.

Edit 7: Added more about the algos not changing due to the lack of programmers that know how to do so.

Edit 8: Removed more duplicate writings.

The Algorithm. The Ouroboros - Part 2.1: Exposing HF History, Analyzing Past Data, and Initial Discussions On Why I Think All Of 2021 Data Has Been Already Prewritten

Due Diligence

Yo. I am not a financial advisor. I am merely a engineer with a strong stats background.

Intro to the shit

I've been getting balls deep into figuring out the numbers behind the GME share price. Like too deep. I just dig data and puzzles and shit. After writing up like 35 pages, I realized that I should try to break these up into parts. I will admit most of them are of graphs and tables because visuals say a lot.

Regardless, I'm here to tell you that I think that retail has never really had the influence they may think they do over any of this and that high frequency trading (HFT) has been in... THE GAMEstop... since 2002.

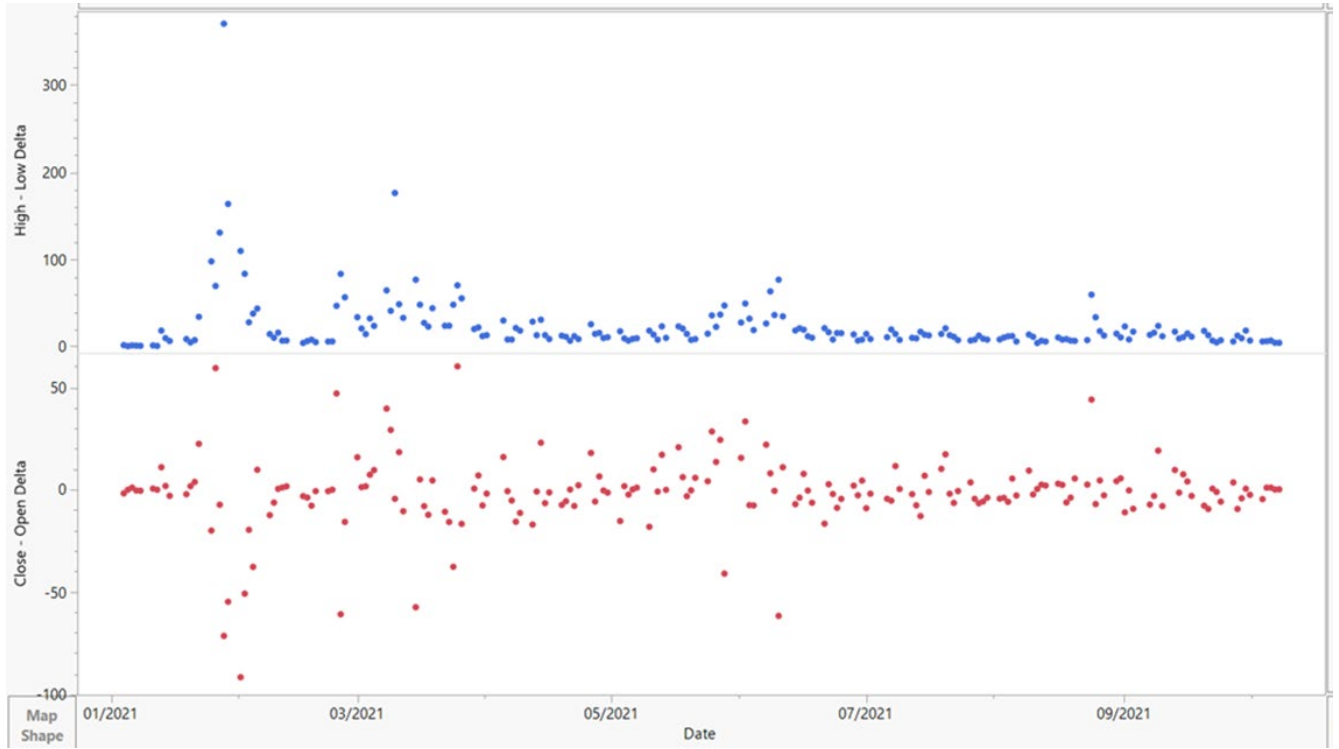


Sheeit

When the output values of a system are highly predictable on a repeating time scale, it suggests the independent variables are highly controlled or designed to accommodate fluctuations in its environment to result in such a consistent reaction.

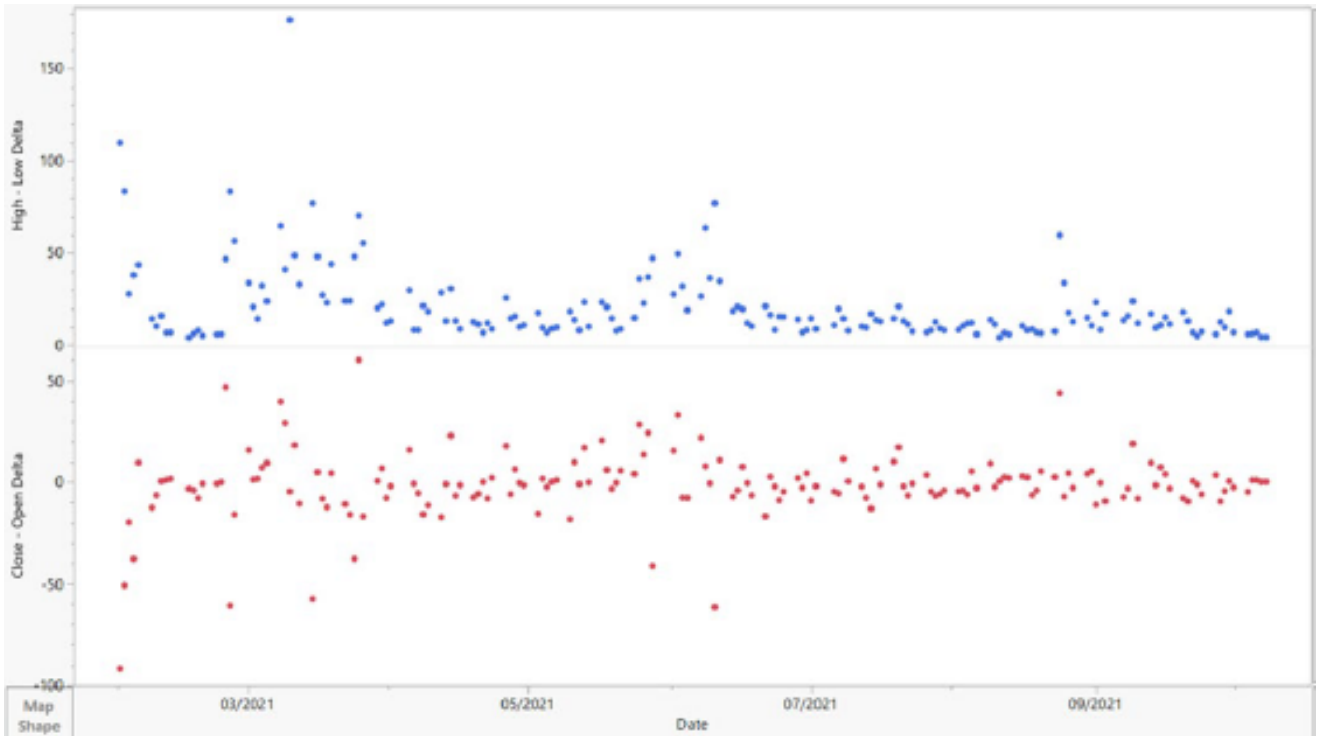
Let's start with the easier stuff

I very often have been seeing observational bias so I want to go over



High - Low and Open - Close

Since January 2021 witnessed the first squeeze, the below graph displays values from Feb. 1, 2021 to Oct. 8, 2021. March 10, 2021 had an extremely high “High – Low Delta” as shown below.



Formatted High - Close and Open - Close values

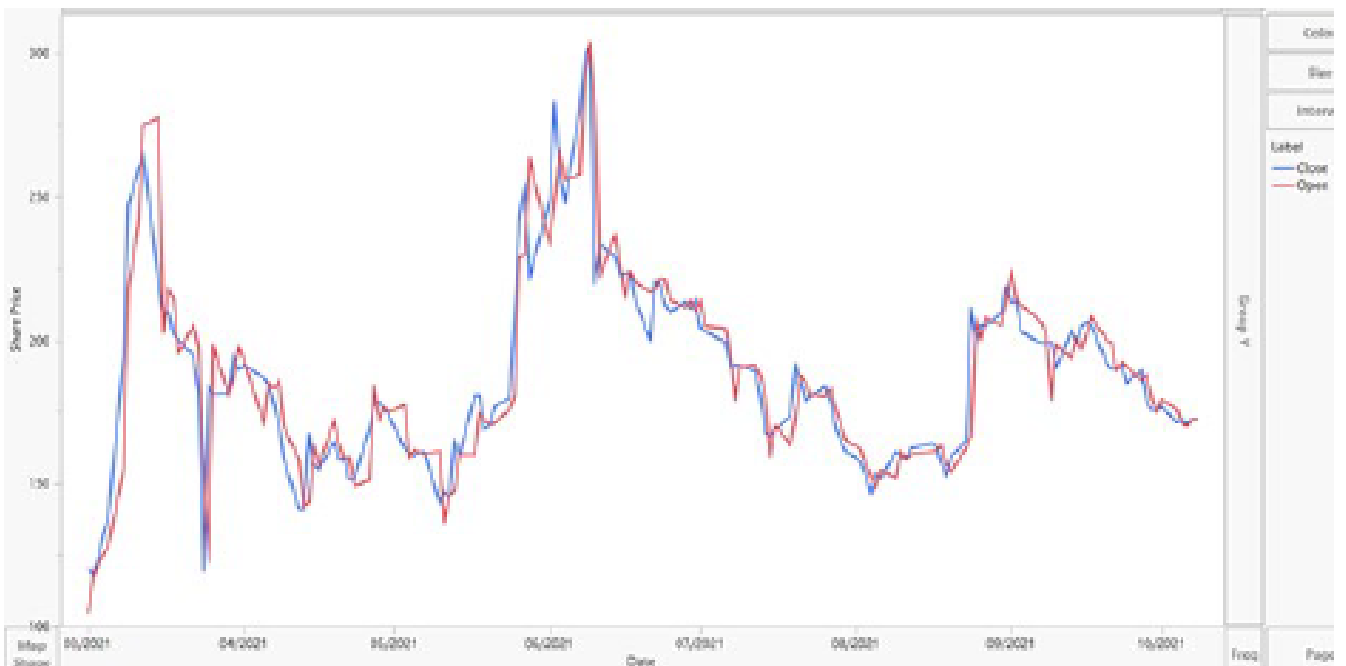
As time continued, the range of “High – Low Delta” and “Close – Open Delta” become less spread out.

Month - Year	Min(Close - Open Delta)	Max(Close - Open Delta)	Range(Close - Open Delta)	Median(Close - Open Delta)	Min(High - Low Delta)	Max(High - Low Delta)	Range(High - Low Delta)	Median(High - Low Delta)
204 Jan012019	-1.11	1.21	2.32	0.11	0.26	1.59	1.33	0.57
205 Feb012019	-0.26	0.43	0.69	0.01	0.15	0.48	0.33	0.29
206 Mar012019	-0.48	0.28	0.76	-0.1	0.17	0.74	0.57	0.34
207 Apr012019	-0.47	0.77	1.24	-0.04	0.13	1.21	1.08	0.29
208 May012019	-0.4	0.26	0.66	-0.02	0.15	0.54	0.39	0.245
209 Jun012019	-0.45	0.24	0.69	-0.02	0.14	0.88	0.74	0.215
210 Jul012019	-0.25	0.22	0.47	-0.09	0.11	0.37	0.26	0.2
211 Aug012019	-0.29	0.3	0.59	-0.01	0.13	0.54	0.41	0.24
212 Sep012019	-0.21	0.41	0.62	0.09	0.15	0.98	0.83	0.33
213 Oct012019	-0.4	0.46	0.86	0.01	0.17	0.52	0.35	0.32
214 Nov012019	-0.23	0.39	0.62	0.03	0.15	0.57	0.42	0.245
215 Dec012019	-0.44	0.56	1	0.08	0.2	0.73	0.53	0.37
216 Jan012020	-0.33	0.23	0.56	-0.07	0.11	0.47	0.36	0.24
217 Feb012020	-0.3	0.26	0.56	0.03	0.12	0.45	0.33	0.26
218 Mar012020	-0.72	0.48	1.2	0.095	0.25	0.94	0.69	0.46
219 Apr012020	-0.45	0.97	1.42	-0.05	0.19	1.33	1.14	0.54
220 May012020	-0.47	0.4	0.87	-0.11	0.21	0.73	0.52	0.365
221 Jun012020	-0.42	0.73	1.15	0.02	0.19	0.87	0.68	0.33
222 Jul012020	-0.2	0.16	0.36	-0.02	0.11	0.29	0.18	0.205
223 Aug012020	-0.23	0.91	1.14	0.12	0.17	1.46	1.29	0.34
224 Sep012020	-0.61	1.65	2.26	-0.05	0.46	2.01	1.55	0.8
225 Oct012020	-1.48	3.95	5.43	-0.1	0.34	4.45	4.11	0.825
226 Nov012020	-1.61	1.15	2.76	0.07	0.48	2.86	2.38	0.94
227 Dec012020	-1.44	3.24	4.68	-0.21	0.73	3.89	3.16	1.295
228 Jan012021	-71.4	59.42	130.8	-0.01	0.85	370.8	369.9	7.75
229 Feb012021	-91.6	47.01	138.6	-3.83	4.46	110	105.5	14.64
230 Mar012021	-57.4	60.26	117.6	1.46	12.35	77	64.65	32.9
231 Apr012021	-17	22.96	39.98	-1.41	7.06	31.09	24.03	13.37
232 May012021	-41	28.43	69.4	1.365	7.17	47.37	40.2	14.97
233 Jun012021	-61.6	33.36	94.97	-1.33	7.21	77	69.79	19.48
234 Jul012021	-12.9	17.28	30.15	-2.17	7.28	21.22	13.94	11.54
235 Aug012021	-7	44	51	2.205	4.43	59.85	55.42	10.71
236 Sep012021	-11	19.09	30.12	-3.05	5.15	24	18.85	12.81
237 Oct012021	-4.59	1.01	5.6	0.15	4.6	7.24	2.64	6.325

High - Low and Open - Close

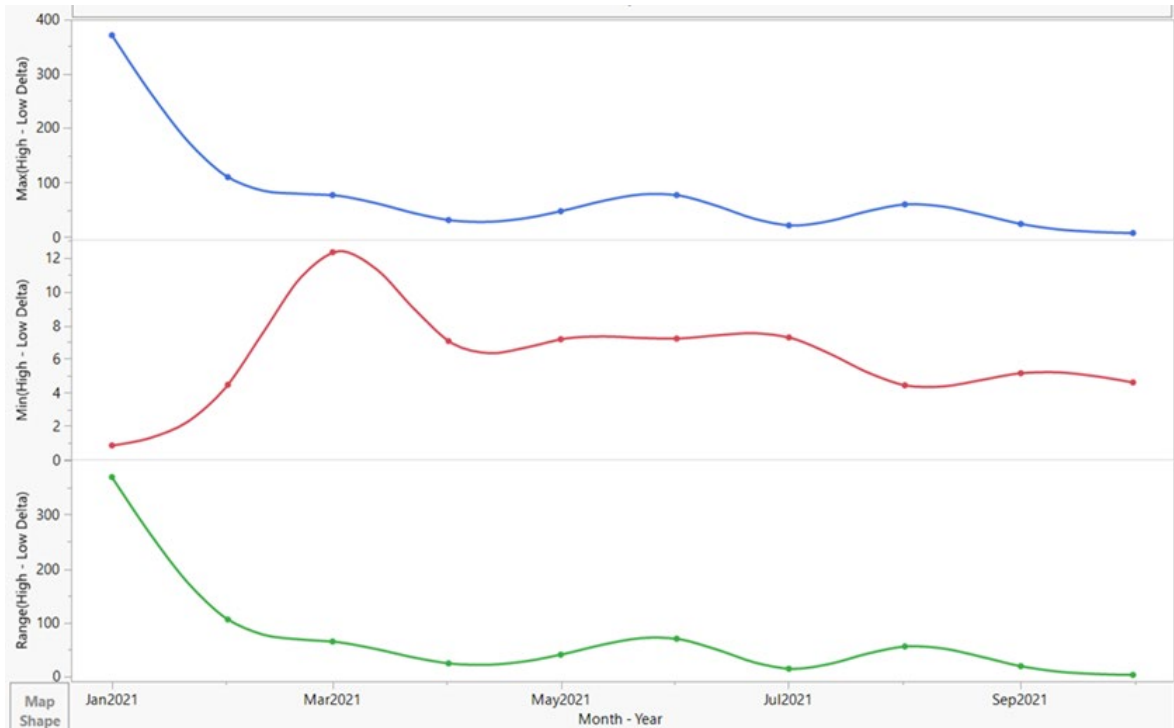
High and Low

Viewing the high and low values on a graph, there is no apparent overall trend since the closing and opening values will intermix due to green and red days.



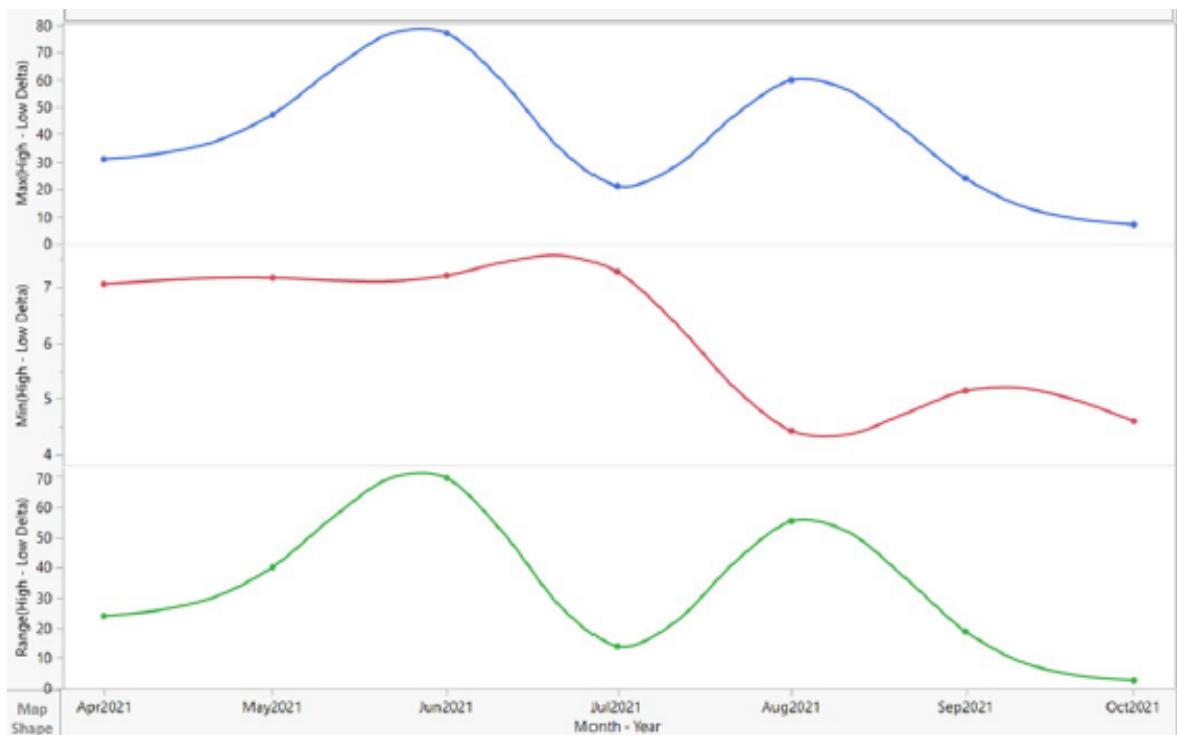
High and Low

To view the data in another way, we can look at the max and mins of these deltas to see if a trend is occurring. There is noticeably less order to how it move as also indicated in the share price line just shown.



Min, Max, and Range of (High - Low Delta)

Even removing the more volatile months that could act as outliers still we still do not observe any relationship as a function as time. April 2021 to present



Formatted Min, Max, and Range of (High - Low Delta)

Open and Close

The open and close values have been graphed to show how as time moves on, the space in between them decreases. This characteristic has been going on for a while so I give advice to not fall for confirmation bias that any recent events has been causing it unless there is statistical evidence suggesting as such.



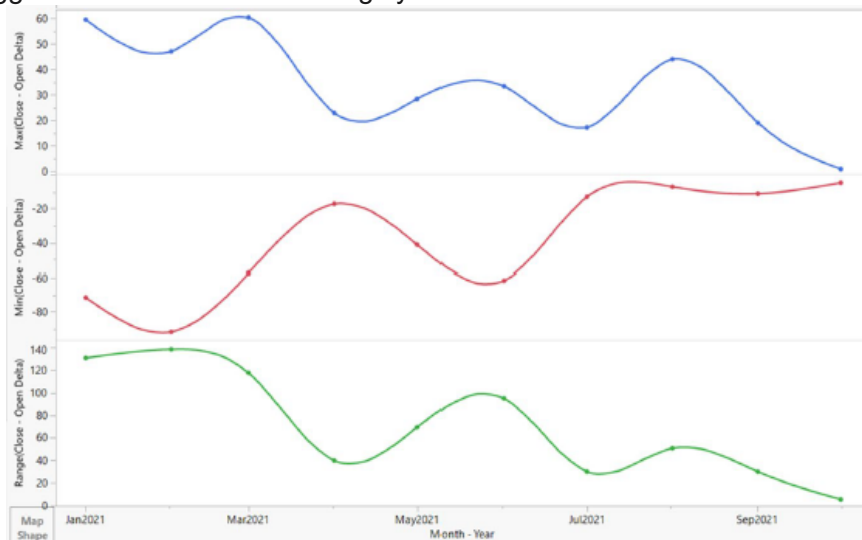
High - Low vs Date

The below graph shows the max, min, and range of the “Close – Open Delta.” The max “Close – Open Delta” and min “Close – Open Delta” are seen to approach closer to 0 as time continues.

What this means is best represented by the lowest line: “Range (Close – Open Delta). The range of the “Close – Open Delta” is showing the delta of the max – min values. Since “Close – Open Delta” is a range, this is the range of ranges. This is effectively proving that as time continues, the delta of the open and close share price is decreasing. The share price is staying with a more and more tighter range as time continues.

This is to point out the numerous and continuous statements that this or that has been causing the range to decrease are more than likely observational bias. Without providing the math or doing the data analysis, you're going to see what you want to see.

While the Max (Close - Open Delta) is a little wonky, the Min(Close - Open Delta) has a very well defined upwards oscillating. This would suggest that the movement is highly controlled.



Min, Max, Range (Close - Open Delta)

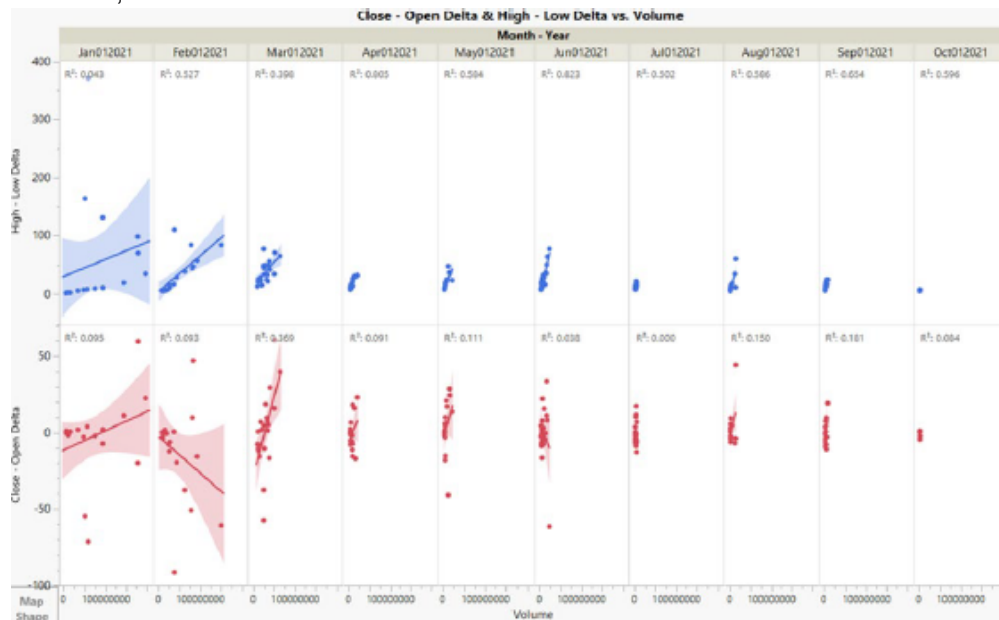
Takeaway:

While the high and low delta is seen to be sporadic, the close and open values are seen to have a trend which seems to be decreasing as a function of time. The movement lacks "randomness," and thus suggests that the emotional retailer does not have the influence they may think they do

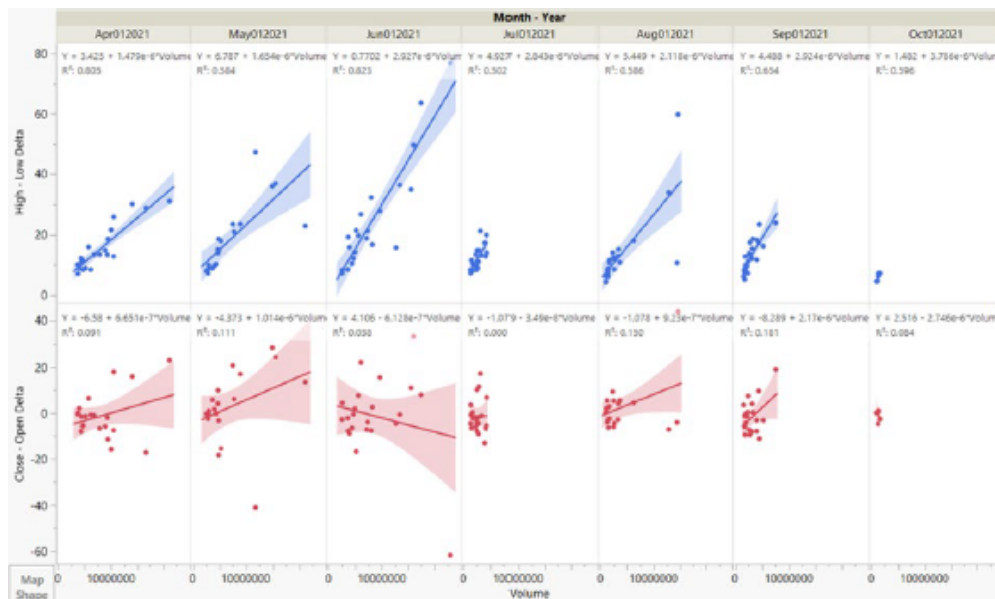
Comparing

If we were to compare the "High – Low Delta" and "Close – Open Delta" against volume and segregate by month so there isn't *really* a need to normalize, you would get the below graph. These regression analyses indicated how the "High – Low Delta" is greatly related to volume while the "Close – Open Delta" is not.

While some of the months of 2021 have seen a correlation between "High - Low Delta," volume does not give a fuck about the open and close. So, well fuck.



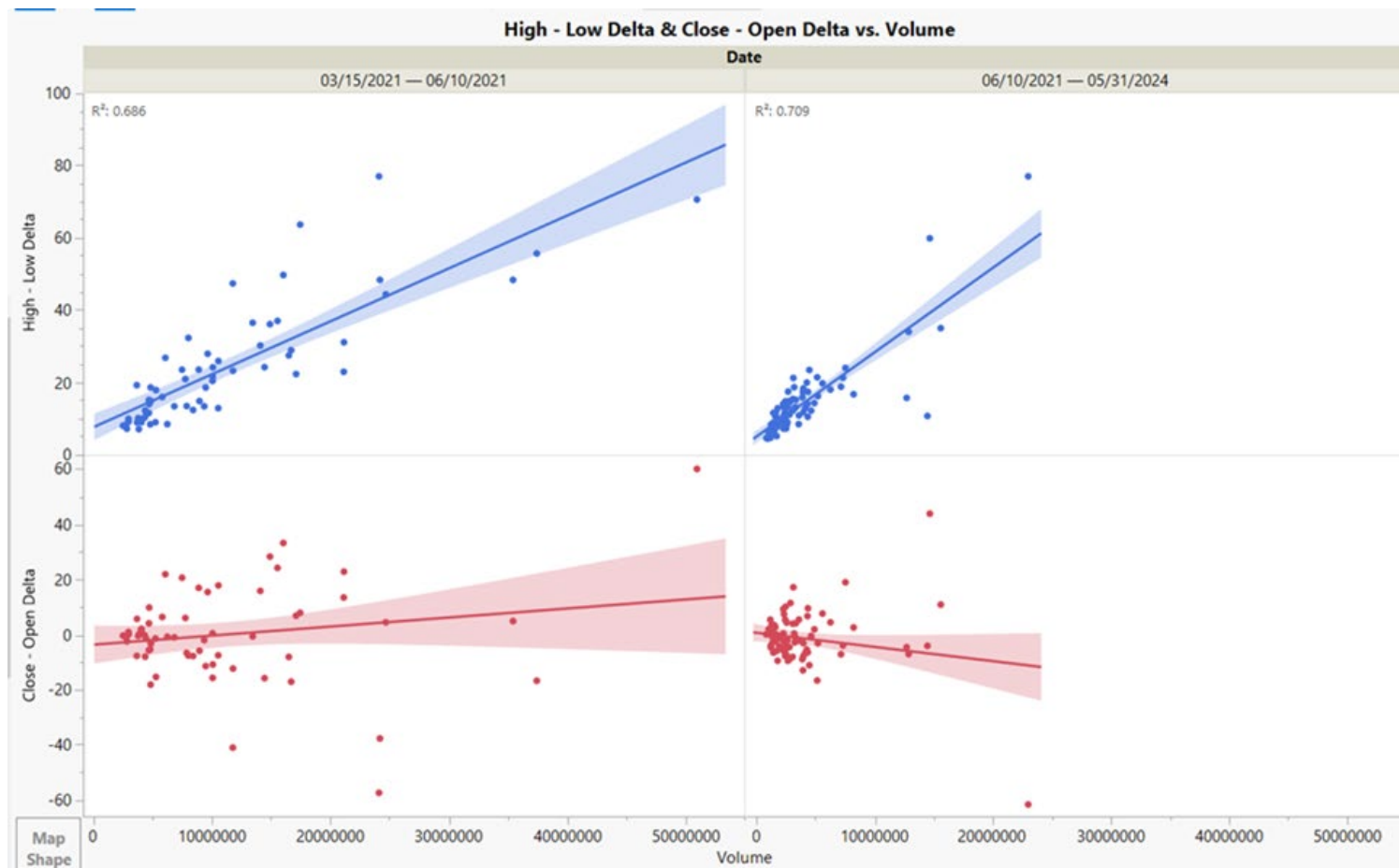
"High - Low Delta" and "Close - Open Delta" vs Volume by Month



A closer look of the previous graph

Aight. That's cool, however, we sort of know this because a baby squeeze and sideways trading have often occurred within the same month. But... what if we were to redefine the time to fit the dates of dem baby squeezes? We get crime but with more statistical confidence.

One can now see that while volume (from whatever source it may be like retail or some other degens) may affect the high and lows, the open and close values didn't even bother to leave volume on read.



"High - Low Delta" and "Close - Open Delta" vs Volume by Baby Squeeze Time

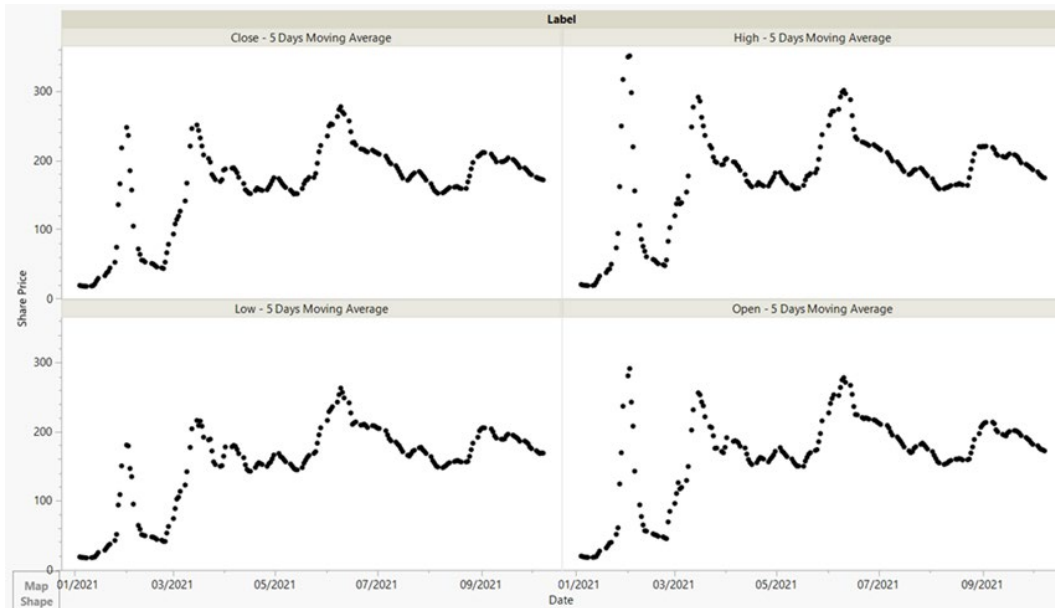
Takeaway

The daily high and lows are heavily influenced by volume. It can be inferred that retail actually has an influence on this. Conversely, due to the lack of influence volume has on the Open and Close, this be evidence that these values are manipulated so they hit specific values. So... that's cool.... moving on to...

The Moving Average

A moving average (MA) is a typical method used to smooth out data when there is a lot of noise, so the underlining behaviors of that system is more easily seen. A smaller MA is used for a more volatile process while a larger MA is used for a more stable one. I used a 5-day moving average for this analysis since it is small enough to accommodate volatility but large enough to be useful. Also, there are 5 trading days in a week so it all made sense to me.

Once we reduce the noise to compare the OHLC, we see the below table:



OHLC 5 Day MA vs Date

Knowing that the open and close values are heavily manipulated to hit specific price points, thus, suggesting large amount of manipulation, I analyze those two in greater detail. I focused entirely on the dates from March on since it has values that were not so astronomically high.

High - Low March 2021 On

Looking at the 5-Day Moving Average, it would appear as if both the high and low values are set within about a \$150 delta constraint. Since the high and low value exhibit limits at both the upper and lower bounds, it is safe to assume that everything in-between is as well.



High Low 5 Day Moving Average

Look at that shit. Once the noise is reduced to better observe the underlying behaviors, we see that the high and low values ALSO are constrained.

The below table is a moving average. They are not the direct corresponding values relating to that particular day, however, we begin to see the shit we complain about so much.

Variable	Value (\$)
Max (High - 5 Days Moving Average)	\$ 301.53
Min(High - 5 Days Moving Average)	\$ 158.95
Max (Low - 5 Days Moving Average)	\$ 263.12
Min(Low - 5 Days Moving Average)	\$ 142.11

5 Day Moving Average Limits

Hide yo share price. Hide yo dates.

So aight, the open and close values don't give no fucks to volume. While high and lows may seem to be influenced by whatever powers that be, they still are entirely controlled. Shit being so fucked, I decided to see how fucking controlled all this shit is. Let's check out the behaviors of the data and see if the controlled values themselves even have their time purposefully controlled as well.

Surprise. They are. But really.... deep down we all knew how figgity fuck everything is. The share price is manipulated so why the fuck not would the days they occur not be as well? Below is a graph showing what I mean



Close Open 5 Day MA Corresponding Behaviors to Dates

So, yeah... seeing how this type of movement is stuff that some data tweebz or engineers dream about for their system, it was almost comical how fucked everything is.

Now that the above graph now has various unique movement identified that seem to related to each other, why wouldn't they also be consistent in timing as well. *Because, we're already gone this far... so why the fuck not. Really.*

Separating these values with their respective share price values we get the below table. The net work days for the open and close share price are similar as noted in the graph.

Open Share Price				Close Share Price			
Cycle	Date	Position	Network Days	Cycle	Date	Position	Network Days
Cycle 1	3/16/2021	Peak		Cycle 1	3/15/2021	Peak	
	4/1/2021	Mini Peak 1	14		4/6/2021	Mini Peak 1	16
	4/12/2021	Inflection Point	21		4/12/2021	Inflection Point	21
	4/13/2021	Inflection Point	22		4/13/2021	Inflection Point	22
	5/3/2021	Mini Peak 2	35		4/30/2021	Mini Peak 2	35
	5/17/2021	Pre Run Up	45		5/14/2021	Pre Run Up	45
Cycle 2	6/10/2021	Peak		Cycle 2	6/9/2021	Peak	
	6/23/2021	Mini Peak 1	10		6/28/2021	Mini Peak 1	14
	7/7/2021	Inflection Point	21		7/7/2021	Inflection Point	21
	7/8/2021	Inflection Point	22		7/8/2021	Inflection Point	22
	7/27/2021	Mini Peak 2	34		7/26/2021	Mini Peak 2	34
	8/9/2021	Pre Run Up	43		8/6/2021	Pre Run Up	43
Cycle 3	9/3/2021	Peak		Cycle 3	9/2/2021	Peak	
	9/20/2021	Mini Peak 1	12		9/17/2021	Mini Peak 1	12
	9/30/2021	Inflection Point	21		9/30/2021	Inflection Point	21
	10/1/2021	Inflection Point	22		10/1/2021	Inflection Point	22
	10/21/2021	Mini Peak 2	35		10/20/2021	Mini Peak 2	35

Locations with Corresponding Net Days

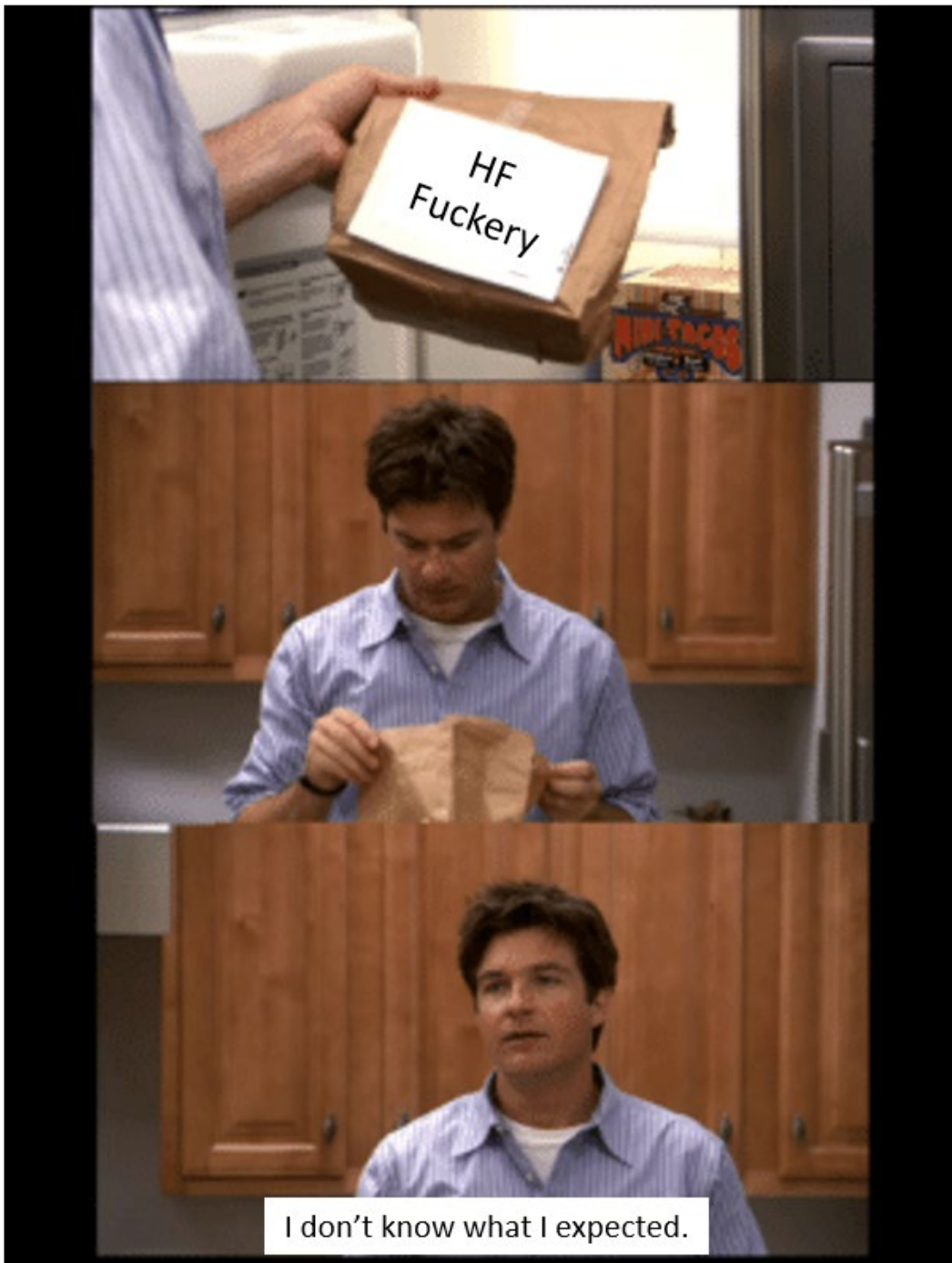
Open Share Price							Close Share Price						
AOI	Date	Open - Actual	Open - 5 Day MA	Stats	Open - Actual	Open - 5 Day MA	AOI	Date	Close - Actual	Close - 5 Day MA	Stats	Close - Actual	Close - 5 Day MA
Peak	3/16/2021	\$203.16	\$253.35	Average	\$232.40	\$248.37	Peak	3/15/2021	\$220.14	\$251.31	Average	\$245.41	\$246.97
Peak	6/10/2021	\$282.00	\$278.23	Max	\$282.00	\$278.23	Peak	6/9/2021	\$302.56	\$277.82	Max	\$302.56	\$277.82
Peak	9/3/2021	\$212.05	\$213.52	Min	\$203.16	\$213.52	Peak	9/2/2021	\$213.52	\$211.78	Min	\$213.52	\$211.78
				Range	\$78.84	\$64.71					Range	\$89.04	\$66.05
Mini Peak 1	4/1/2021	\$193.36	\$191.36	Average	\$204.94	\$204.34	Mini Peak 1	4/6/2021	\$184.50	\$189.44	Average	\$200.91	\$202.70
Mini Peak 1	6/23/2021	\$221.45	\$220.06	Max	\$221.45	\$220.06	Mini Peak 1	6/28/2021	\$213.25	\$214.96	Max	\$213.25	\$214.96
Mini Peak 1	9/20/2021	\$200.00	\$201.60	Min	\$193.36	\$191.36	Mini Peak 1	9/17/2021	\$204.97	\$203.70	Min	\$184.50	\$189.44
				Range	\$28.09	\$28.70					Range	\$28.75	\$25.53
Mini Peak 2	5/3/2021	\$177.49	\$176.94	Average	\$181.73	\$181.94	Mini Peak 2	4/30/2021	\$173.59	\$175.01	Average	\$180.68	\$181.31
Mini Peak 2	7/27/2021	\$183.00	\$183.49	Max	\$184.71	\$185.39	Mini Peak 2	7/26/2021	\$183.94	\$184.03	Max	\$184.52	\$184.89
Mini Peak 2	10/21/2021	\$184.71	\$185.39	Min	\$177.49	\$176.94	Mini Peak 2	10/20/2021	\$184.52	\$184.89	Min	\$173.59	\$175.01
				Range	\$7.22	\$8.45					Range	\$10.93	\$9.88
Pre Run Up	5/17/2021	\$159.85	\$150.00	Average	\$157.22	\$152.41	Pre Run Up	5/14/2021	\$159.92	\$151.87	Average	\$160.53	\$152.52
Pre Run Up	8/6/2021	\$154.59	\$154.81	Max	\$159.85	\$154.81	Pre Run Up	8/9/2021	\$161.13	\$153.18	Max	\$161.13	\$153.18
				Min	\$154.59	\$150.00					Min	\$159.92	\$151.87
				Range	\$5.26	\$4.81					Range	\$1.21	\$1.31

Locations with Corresponding Net Days Separated into their Respective Charts

Take Away

Although volume has an influence on the daily high and lows, they are still being constrained with about a \$150 difference. This with how the close and open price seem to be controlled to have set values for specific time frames indicates that advance manipulation is at hand.

Oh... I'm not finished yet.



[Part 2.2](#)

Edit 1: Finished the sentence, "This characteristic has been going on for a while so I give advice to not fall for confirmation bias that any recent events has been causing it unless there is statistical evidence suggesting as such."

The Algorithm. The Ouroboros - Part 2.2: Exposing HF History, Analyzing Past Data, and Initial Discussions On Why I Think All Of 2021 Data Has Been Already Prewritten

Due Diligence

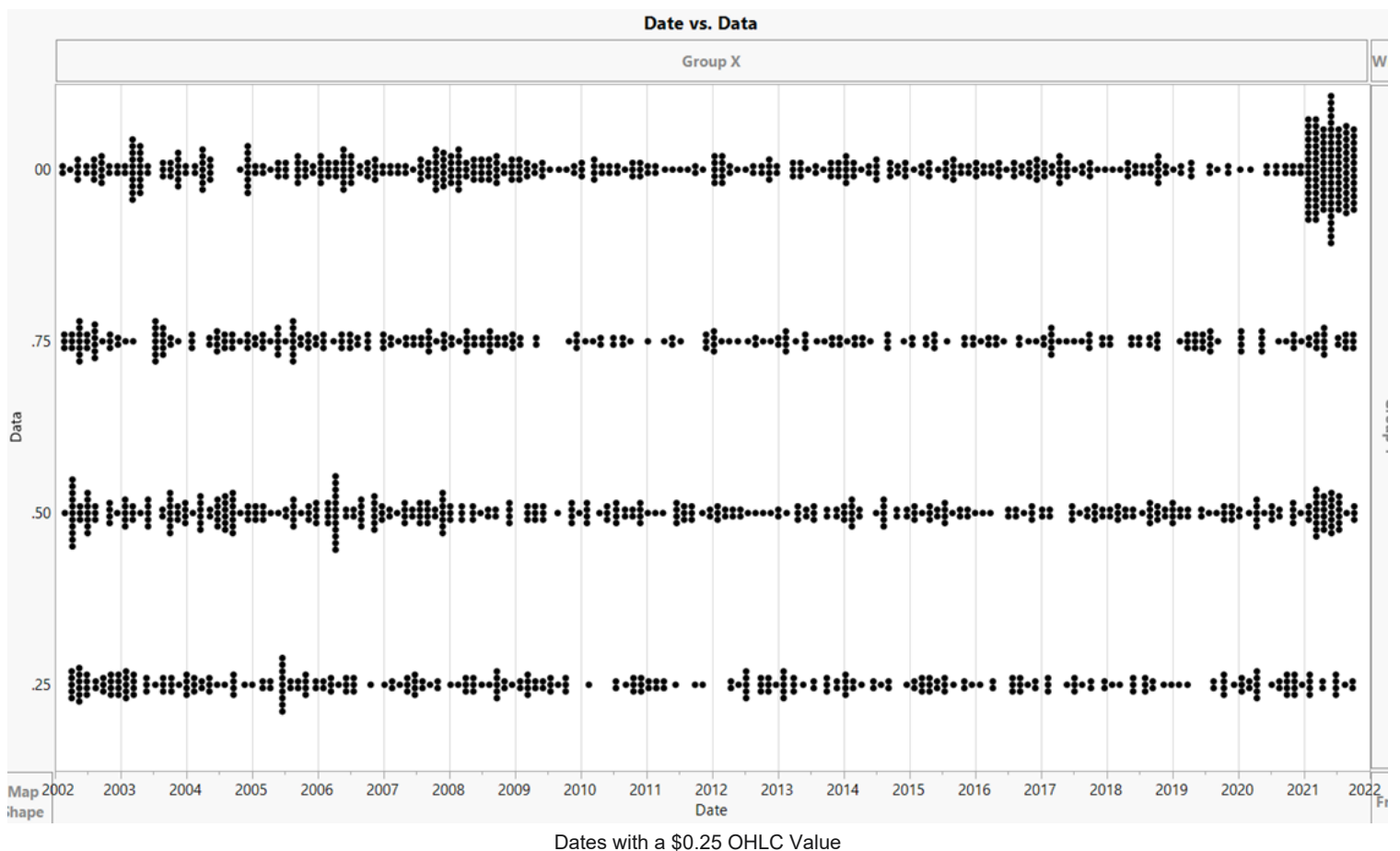
Continued from [part 2.1](#):

It's just the stock market, how much can it cost? \$0.25?

I forgot the dude that did the \$0.00 shit back in the day but I wanted to give him a small shout out for being right. I don't know he had any idea how right he was.

More of this Fake Ass OHLC

The below table shows the OHLC values which ended in multiples of \$0.25 versus their respective date. In 2021, there is a significantly more occurrences of \$0.25 intervals OHLC values than compared to any other time. Given how we know 2021 has been a fucked year, it's safe to say we can use the \$0.00 and \$0.50 as a type of fuckery baseline to identify when it also occurred in the past.



So, that's all fine and dandy. We have even more shit to show how everything is made up and the share price don't matter.

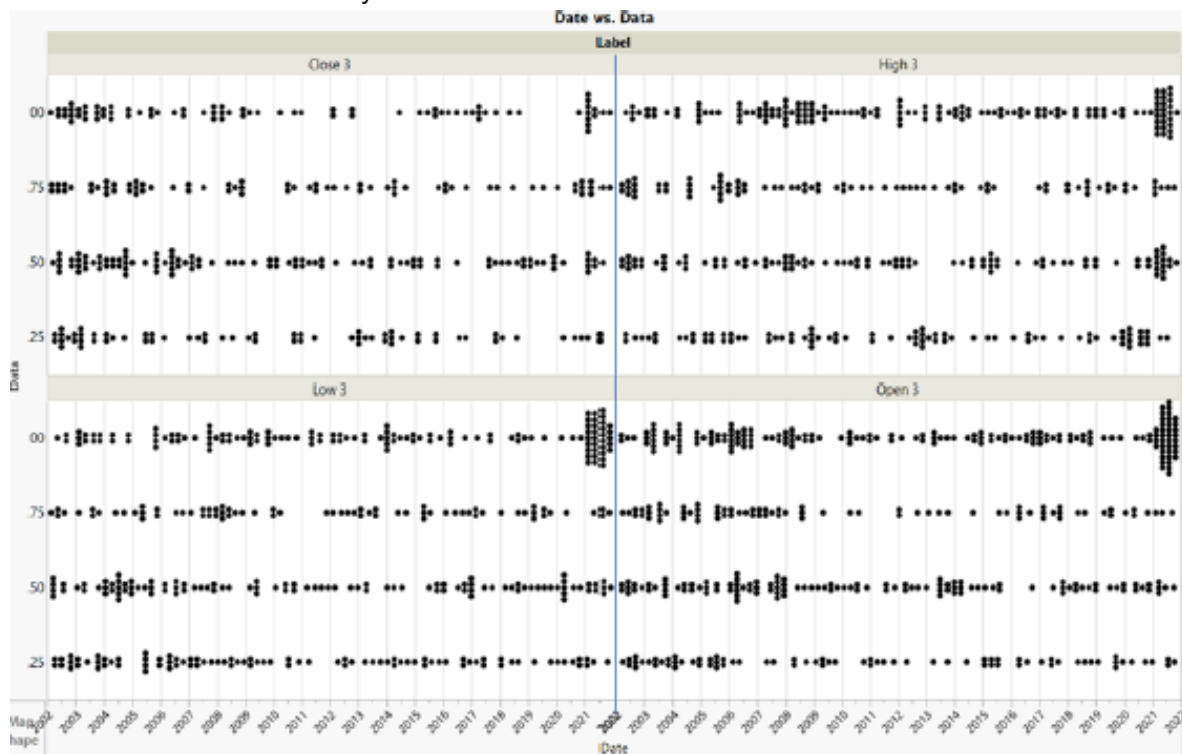


Even Oxi Clean can't remove the dirty from these numbers

More insight is given once the OHLC values themselves are separated. The blue line in the middle acts as a divider between the variable columns. Since the initial OHLC analysis suggested on the high-low are statistically correlated to volume, I focused on the Close-Open values. A qualitative visual inspection indicates how 2002/2003 and 2020/2021 years were the times with the most values with a \$0.25 interval OHLC.

I've discussed this phenomenon with some peers to which many replied that it's just a stock market thing. This is why comparing across the entire history is important to know what the typical behavior is. There are multiple areas where there aren't any \$0.25 interval value, therefore, I disagree that this is "just a stock market wide phenomenon."

Since 2021 is pretty much known to be the baseline for "a lot of fuckery," the multiple blank areas can be used for a potential baseline for "little to no fuckery."



That's a lot of trying for a long ass time

It is now the time to add a quantitative value to all this shit to help remove potential observational bias. A frequency chart helps to view each \$0.25 multiple by year on a strictly quantitative view. From 2002 to present, there were a total of 1,552 OHLC values having a multiple of \$0.25. I wanna state that GameStop entered the market that same year...

Why is this fuckery?!

From 2002 to present, there were a total of 1,552 OHLC values having a multiple of \$0.25. Of these total 1,552 OHLC \$0.25 multiples, 2003 and 2021 have seen the ~21% of them. This DEFINITELY gives more confidence to the observational bias seen earlier. Furthermore, since 2021 was the metric for most fuckery, it probably is safe to say that 2003 also saw a metric shit ton of fuckery as well.

	Open				High				Low				Close				Sum
	\$0.00	\$0.25	\$0.50	\$0.75	\$0.00	\$0.25	\$0.50	\$0.75	\$0.00	\$0.25	\$0.50	\$0.75	\$0.00	\$0.25	\$0.50	\$0.75	
2002	4	7	7	6	5	4	9	9	3	5	6	4	6	7	5	7	94
2003	11	6	8	8	5	3	4	3	8	7	3	4	10	8	11	3	102
2004	10	5	5	6	3	4	4	5	4	6	14	2	7	4	13	5	97
2005	9	8	6	6	6	5	4	6	3	4	7	4	5	4	3	8	88
2006	15	3	11	7	6	5	4	7	7	8	6	4	2	1	11	1	98
2007	6	2	12	8	12	4	6	2	7	6	5	5	2	4	7	3	91
2008	11	3	4	3	14	5	8	5	6	6	3	8	7	2	2	3	90
2009	2	4	6	1	8	5	2	3	7	5	4	2	4	3	2	3	61
2010	6	2	4	2	5	2	5	5	5	2	5	3	2	2	7	3	60
2011	3	4	2	0	3	2	4	2	5	2	3	0	1	3	5	3	42
2012	5	2	6	3	7	7	7	4	6	4	3	4	3	1	2	3	67
2013	6	2	7	3	6	7	0	3	4	3	3	6	1	5	4	3	63
2014	3	1	7	1	8	1	4	3	9	5	3	1	1	6	4	5	62
2015	8	6	5	1	6	3	8	0	5	4	2	5	4	4	5	0	66
2016	7	3	1	5	4	3	1	4	5	4	6	3	3	2	2	4	57
2017	9	4	1	7	7	2	4	3	3	4	6	4	6	0	2	2	64
2018	6	3	8	2	4	3	4	4	4	4	5	2	3	4	5	2	63
2019	4	4	4	3	6	3	3	6	2	1	4	7	0	0	5	2	54
2020	4	3	5	3	4	11	3	3	2	5	7	1	0	3	4	3	61
2021	33	4	6	3	27	4	14	5	31	4	8	3	12	3	7	8	172
Sum	162	76	115	78	146	83	98	82	126	89	103	72	79	66	106	71	

Frequency Table of OHLC \$0.25 multiples

A Lesson in Probability

Since the closing values often ended in ".00," I isolated all the related dates. While there are a lot more, the below 4 sequenced dates is so fucking fucky and let me tell you why.

Date	Open	High	Low	Close	Network Days
11/9/2004	\$11.43	\$11.43	\$11.00	\$11.00	
11/17/2004	\$11.12	\$11.42	\$11.00	\$11.00	7
4/7/2005	\$10.92	\$11.03	\$10.74	\$11.00	102
8/26/2005	\$17.23	\$17.26	\$16.83	\$17.00	102

A Highly Improbably Event

The first two dates not only were in order of dates ending in ".00," but they also have the same fucking HLC values. Depending on volatility, having a single value would be improbable, but these two dates have fucking 3 AND they're in fucking order!

Next, there are 102 network days between 11/17/2004 to 4/7/2005 and then the exact same numbers of net workdays for when the next closing price ending in ".00" occurred on 8/26/2005. We have two sequenced dates that both ended ".00" AND they're the same number of days apart.

Let's also address how the closing price for the first 3 dates are all the same, and again, they are in fucking order.

In a perfect math book world with no interdependence, there is 4/100 chance on landing on a multiple of \$0.25. In 2003, ~13% of the 252 trading days opened in a multiple of \$0.25 despite how that probability is $(4/100)^{252}$.

While we aren't trying to sell 5,000 watermelons are figure out the time trains would cross, this is still an improbable event. There were often times within that dot plot that were left blank which indicates that having areas more crowded than a GME shareholder's meeting means some extra shit is going on.

Fucked Right Out of the Gate

In a previous [DD](#), I made this lovely visual thinking the stock wasn't being manipulated until it at least had hair in 2008.



Now, there's no excuse to not know where the bean is

Looking at just the frequency of OHLC \$0.25 multiples and knowing that there are a shit ton and so many of them that it is improbable for it to be just because let's dive into the next level.

To Show More Data to Be Righter than I was Lefter

Just as a quick macro refresher, here is the monthly OHLC candles and volume versus date. Already, there is a noticeable red candle that occurred in Dec 2002.



Monthly Candlesticks by Date

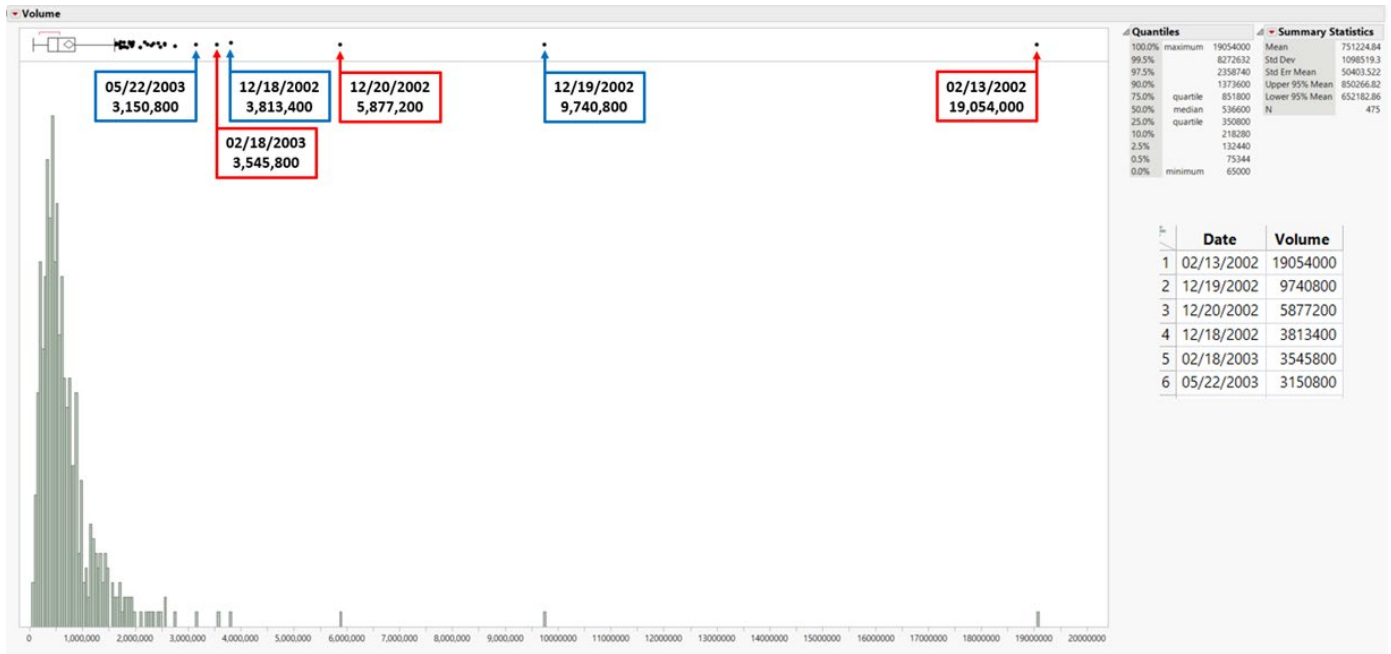
There is also an increasing volumetric trend beginning in 2003. Upon closer inspection, Feb 18, 2003 had both a huge green day as well as volume that does not appear to be organic in nature.



The fuck is this very familiar candlestick movement we've even seen in recent dates?

With the previous \$0.25 OHLC interval data suggesting 2002 and 2003 were fucky years and other data analysis I've performed identifying how a lot of very improbable events, let's be even more thorough.

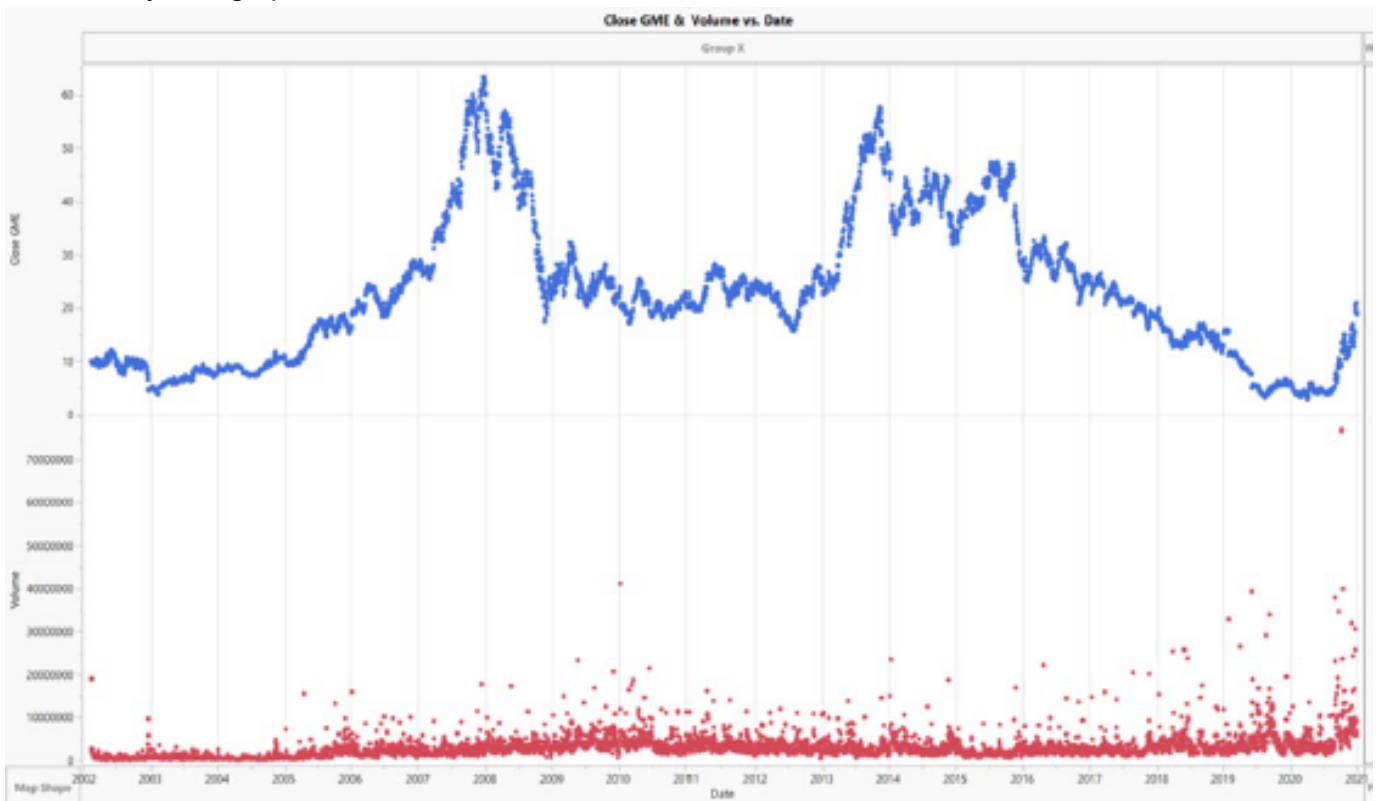
Again, I've done previous analysis showing correlations of a sudden large volume date that has no organic growth to it whatsoever is hedgefuckery, so I'm going to continue with that method. Volume is a known key giveaway for fuckery, so I created a volume histogram from the first 2002 trading day (02/13/2002) to the last 2003 trading day (12/31/2003). The top 6 highest volumes days have their associated values and dates both tabled and labeled. Dec 2002 and Feb 2003 both have *multiple* dates with huge volume outliers.



2002 - 2003 Volume Histogram and Distribution Summary

Double Manipulation?! What does it mean?!

Given the improbabilities of those four sequential listed dates, I tried to research if 102 net days had any market significance. I came across this [article](#). I did not find the exact answer I wanted about the 102 day thing, but I did come across something which provided a narrative to all of this shit. While reading the following paragraph, keep this share price and volume by date graph in mind:

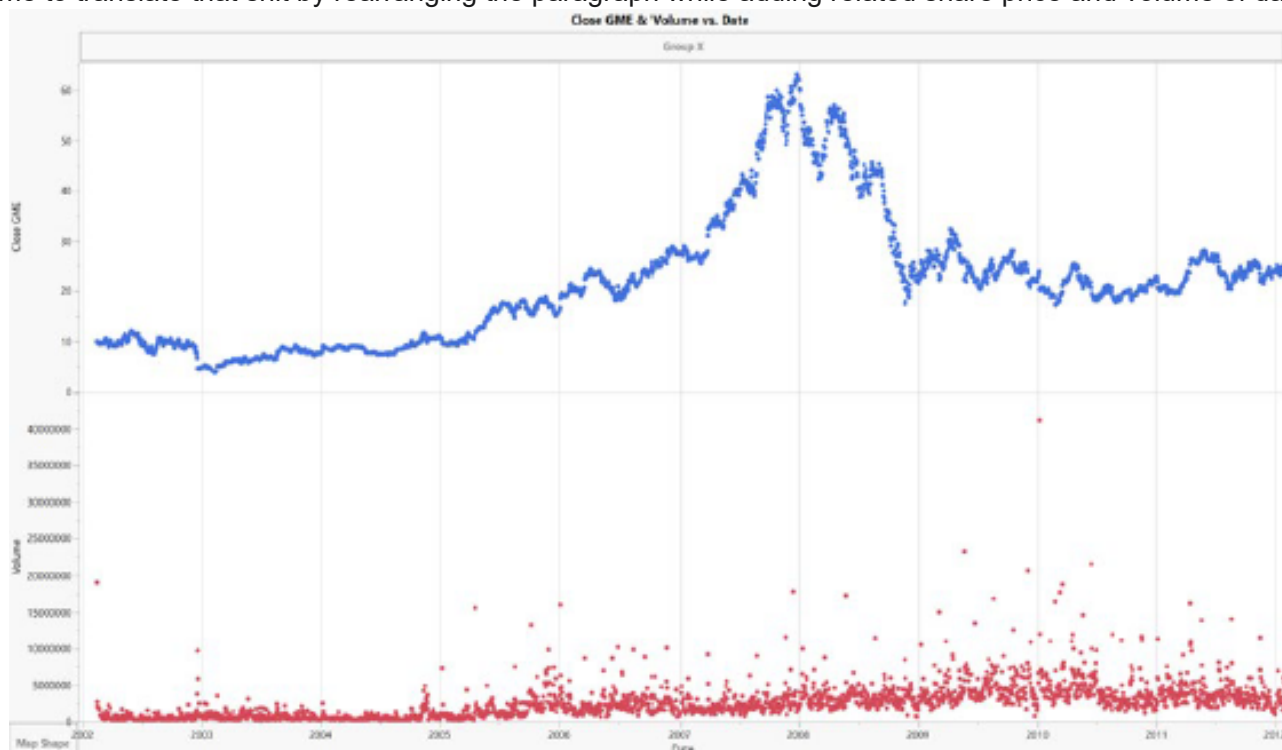


GME Close Share Price and Volume versus Date

The U.S. Securities and Exchange Commission (SEC) authorized electronic exchanges in 1998 and since that time high-frequency trading (HFT) has become widespread. By the year 2001, HFT trades had an execution time of several seconds. By 2010 this had shrunk to milliseconds, even microseconds... In the early 2000s, high-frequency trading accounted for less than 10% of equity orders, but this proportion grew rapidly. According to data from the NYSE, high-frequency trading volume grew by $\approx 164\%$ between 2005 and 2009. In the first quarter of 2009 the assets under hedge fund management with high-frequency trading strategies totaled \$141 billion, $\approx 21\%$ less than the peak prior to the 2008 downturn... Many high-frequency firms are market makers and provide the liquidity to the market that lowers volatility, helps narrow bid-offer spreads and makes trading and investing cheaper for other market participants. In the United States, high-frequency trading firms represent 2% of the approximately 20,000 firms operating today, but account for 73% of the volume of all equity orders. The largest high-frequency trading firms in the US include such names as Getco LLC, Knight Capital Group, Jump Trading and Citadel LLC... HFT has recently been described as a major contributing factor in the 6 May 2010 "flash crash..."

Shit.

Allow me to translate that shit by rearranging the paragraph while adding related share price and volume of dates.



Formatted GME Close and Volume vs. Date

The U.S. Securities and Exchange Commission (SEC) authorized electronic exchanges in 1998 and since that time high-frequency trading (HFT) has become widespread. By the year 2001, HFT trades had an execution time of several seconds.

- After becoming legal and having some time passed for optimizations and other advancements, HFT algorithms were first implemented to control GameStop share price around Dec 2002 to Feb 2003.

According to data from the NYSE, high-frequency trading volume grew by $\approx 164\%$ between 2005 and 2009. In the early 2000s, high-frequency trading accounted for less than 10% of equity orders, but this proportion grew rapidly.

- In 2005, sudden volume outliers started to pop up and only grew in values and frequency as time continued.

In the first quarter of 2009 the assets under hedge fund management with high-frequency trading strategies totaled \$141 billion, $\approx 21\%$ less than the peak prior to the 2008 downturn.

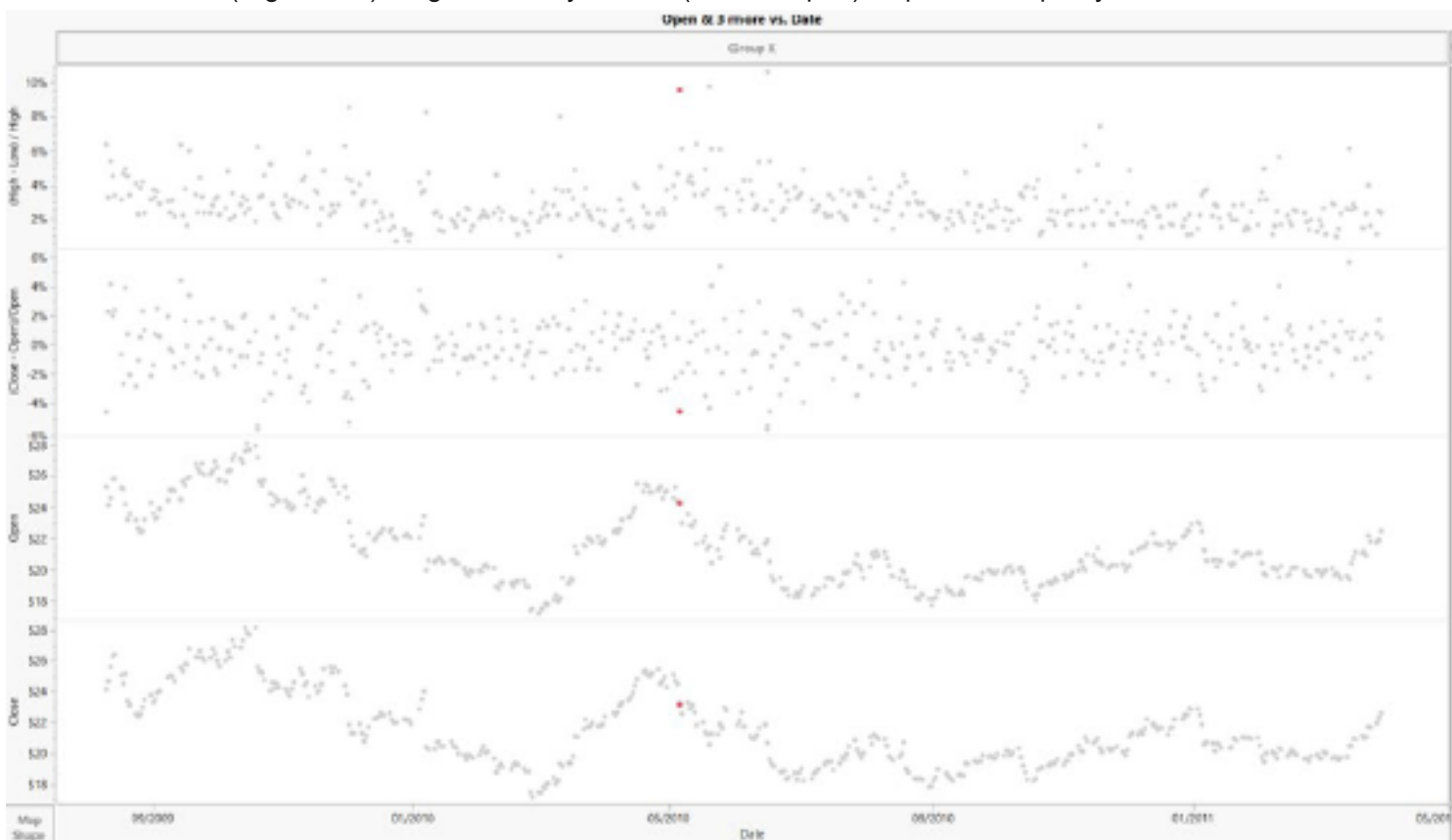
- In 2009, volumetric values and volatility begins to increase and more significant outliers are seen in comparison to previous years.

HFT has recently been described as a major contributing factor in the 6 May 2010 "flash crash..."

Let's see wtf happened that may have caused this shit on a math level on not because it's a crime level.

Fuck up the market once? Shame on you. Fuck it up twice? What the fuck dude?

The 2010 flash crash has been highlighted in the graph below. It kind of looks like it had its Close and Open some what on lock, but that $"(High - Low) / High"$ and maybe that $"(Close - Open) / Open"$ looks pretty suss...



May 6, 2010 Flash Crash Highlighted on OHLC vs Date

Turning up the Volume to Volume 11

A few months prior, Jan 7, 2010 had a volume of almost 42,000,000 making it to 25th largest volume. Below are the 45 highest volume day and all but (1) are from 2019 – 2021.

	Date	Volume
1	01/22/2021	197,157,900
2	01/26/2021	178,588,000
3	01/25/2021	177,874,000
4	02/25/2021	150,308,800
5	01/13/2021	144,501,700
6	01/14/2021	93,717,400
7	01/27/2021	93,396,700
8	02/26/2021	92,194,200
9	02/24/2021	83,111,700
10	02/05/2021	81,345,000
11	02/02/2021	78,183,100
12	10/09/2020	77,152,800
13	10/08/2020	76,453,600
14	01/19/2021	74,721,900
15	03/10/2021	71,570,600
16	03/08/2021	63,565,600
17	02/04/2021	62,427,300
18	01/28/2021	58,815,800
19	01/21/2021	56,216,900
20	03/25/2021	50,962,300
21	01/29/2021	50,566,100
22	03/01/2021	49,794,000
23	01/15/2021	46,866,400
24	02/03/2021	42,698,500
25	01/07/2010	41,190,300
26	10/15/2020	39,894,800
27	06/05/2019	39,354,200
28	03/09/2021	39,099,300
29	08/31/2020	37,976,000
30	03/26/2021	37,430,700
31	02/01/2021	37,382,200
32	02/10/2021	36,455,000
33	03/16/2021	35,422,900
34	09/22/2020	34,752,500
35	09/11/2019	34,005,000
36	03/02/2021	33,783,000
37	01/20/2021	33,471,800
38	01/29/2019	32,870,300
39	03/04/2021	32,606,900
40	11/30/2020	31,983,500
41	03/05/2021	30,733,700
42	12/22/2020	30,652,700
43	08/22/2019	29,177,300
44	03/11/2021	28,312,500
45	02/09/2021	26,843,100

Top Largest Volume Days

HF need to learn their history

I am theorizing this HFT “Flash Crash” led to the introduction of a new algorithm to be phased in that would be capable of reversing all the damage done due to flaws within the algorithmic programming.

On July 7, I made this [post](#) where I first notice how early GME years were looking like the current. And shit... get ready for more of a history lesson.

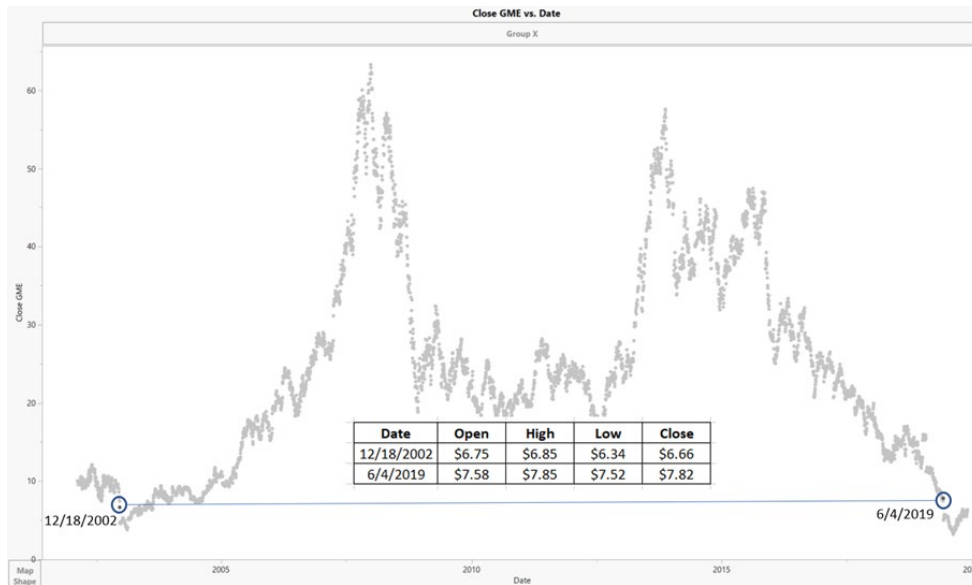
The Algorithm. The Ouroboros - Part 2.3: Exposing HF History, Analyzing Past Data, and Initial Discussions On Why I Think All Of 2021 Data Has Been Already Prewritten

Due Diligence

This is part 2.3 continuing from [part 2.2](#).

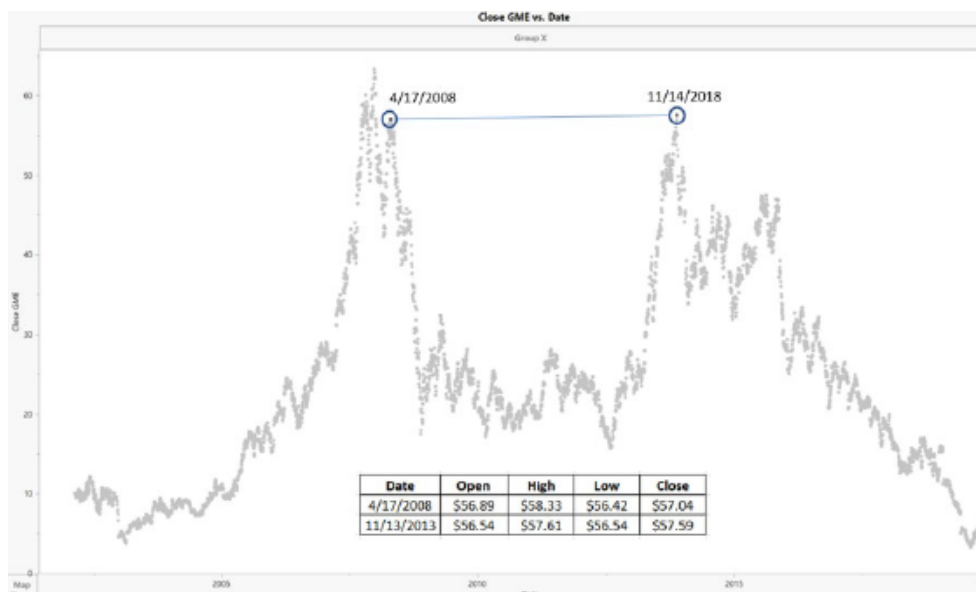
Mirror Mirror on the Wall... Street

Starting with the first data point to mirror shit that would happen a fuck ton later. Dec 18, 2002 and June 4, 2019 both had similar OHLC as well as having a significant drop in share price.



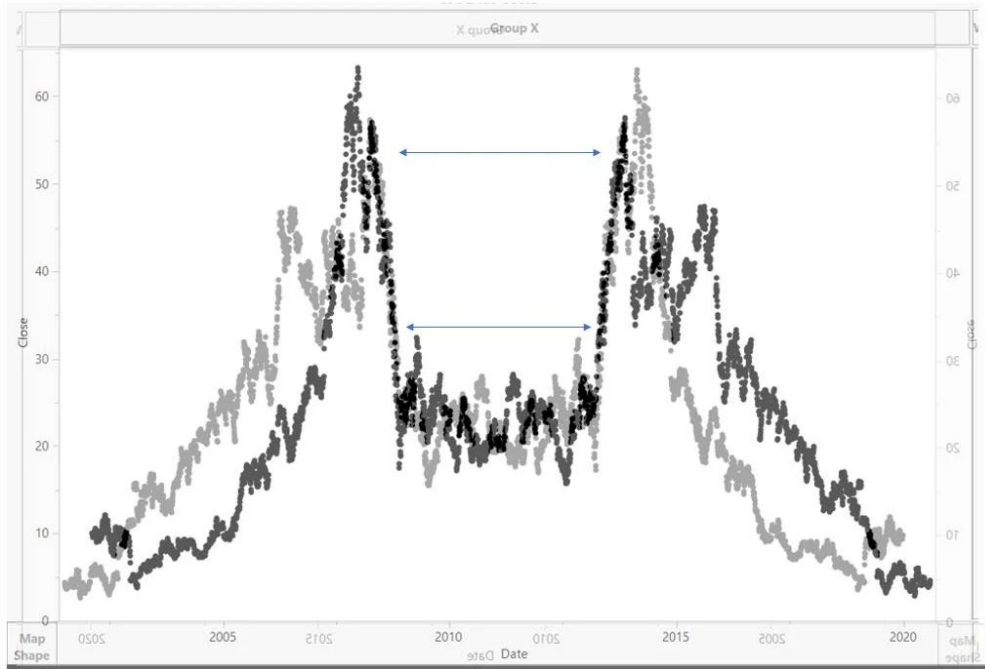
2002 and 2019 Dates Exhibiting Similar Characteristics

We know who's on bottom so let's identify the top. And look at that, April 17, 2008 and November 14, 2018 were both peaks AND had similar values.



2008 and 2013 Dates Exhibiting Similar Characteristics

From those (2) peaks also had the same rate of change to the cliché, stick-man, angry-mouth trend we see in the middle.



Rates of change to and from the angry mouth are the same

I don't know what to do with my hands. What do I do with all this data?

Each time frame have similar lows and highs with similar behaviors. Also, we have (2) points each and that's all we need to make some lines. Using these dates are creating a line to find the intersect, we begin to see how a transitional period occurs around the beginning of 2011 and possibly specifically January 18, 2011. Prior to 2011, the share price had a damping oscillating behavior.

Once 2011 hit, there was no room to continue this oscillation, so a transitional period was forced to begin. As a result, the share price was no longer a very "well-defined" swing in shape.



Intersection of trend lines highlighting a transitional period

Currently Tin Foiling Helmets

HFT trading entered the scene in 2002 but it was a shit algorithm so a crash happened in May 6, 2010. They were redesigned made to the original programming with hopes to prevent a similar event from happening again. Given how days from yore are still displaying the same behavior, not much else was changed. So while they may have added a greater downwards trend to the new shit introduced in like 2011, they didn't change shit else and definitely did not predict people buying and holding.

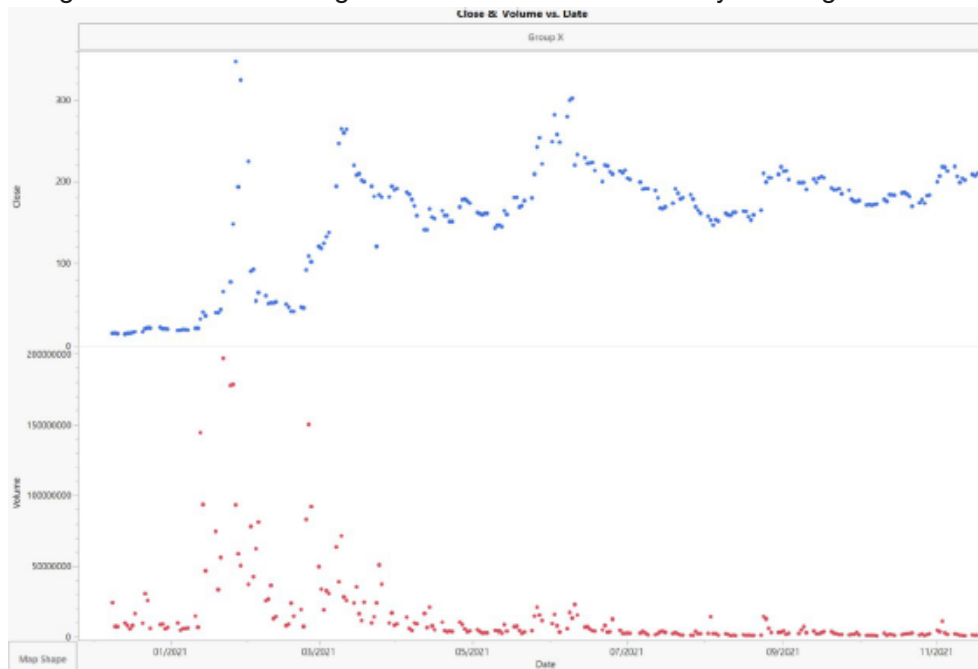
This brings you up to speed where I currently am now with my math shit!!

2021: MOASS Era

When a super complex script is made that is also of great importance, you do not go out and create your own. Nah. You use what's already there and make edits to optimize. As such, I under the belief that the current values are direct reflections of those in the past. I am still in the middle of definitively proving this as thoroughly as I like to so not all of this shit may be accurate. I wanted to provide why analyzing this data is important despite how it all occurred in the past.

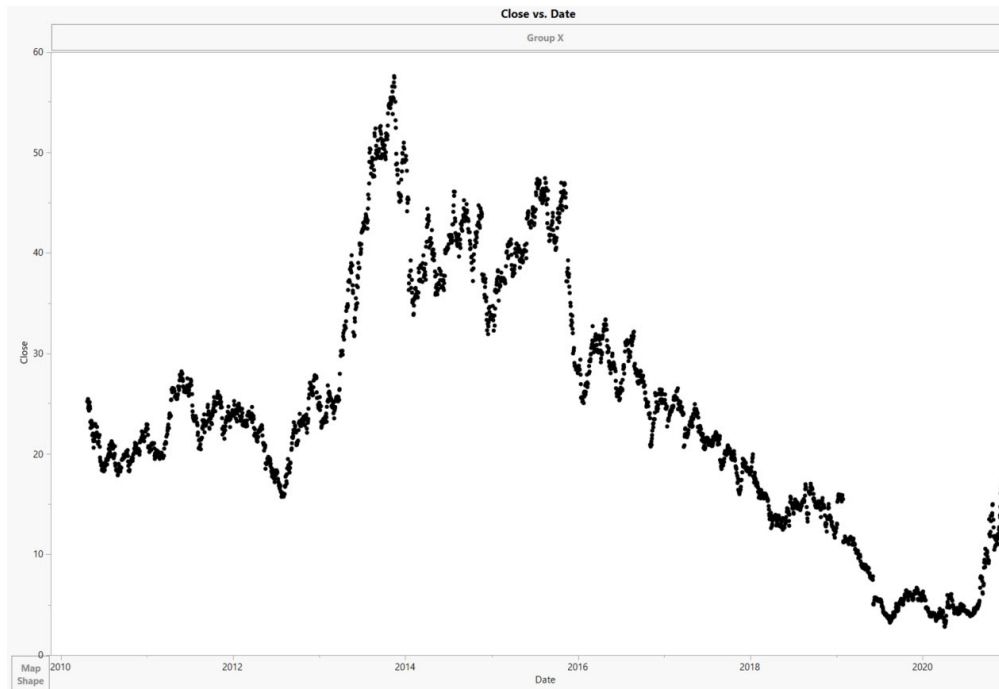
Data Planarization

Data planarization is when you take data and you transform it to fit a new plane. This is helpful when you can to better compare different types of data by making them more similar to one another. So while 2021 data is so nice and pretty and flat so there isn't congestion of data creating noise and such clean sideways trading as seen below



2021 Close and Volume vs Date

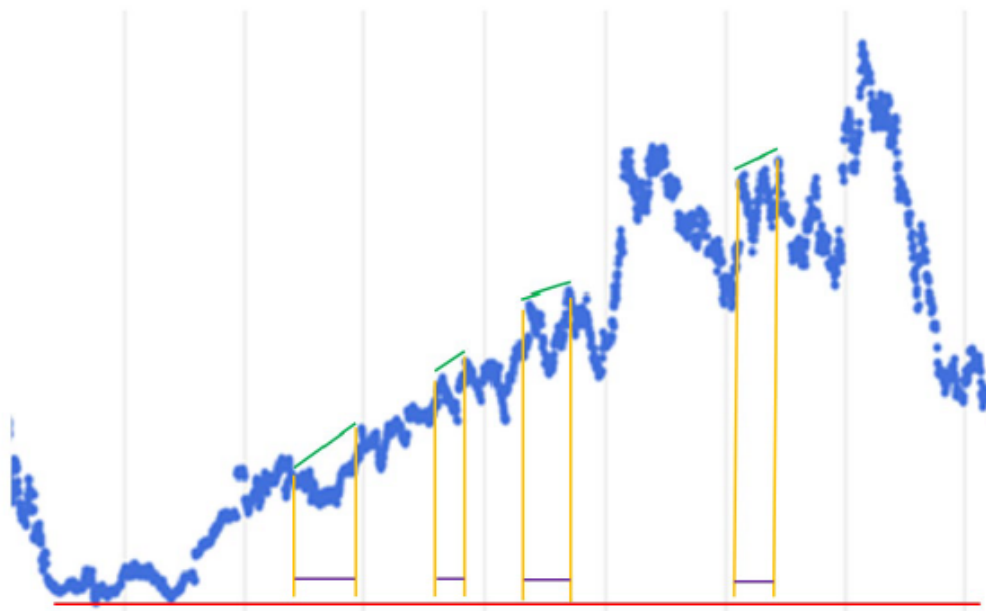
The years prior to that looked like this shit where it isn't as sunshine and rainbows to easily identify what is going on and when:



Pre 2020 Closing Share Price versus Date

To planarize data, you have to identify (2) points to create your x-axis and then use one of those as an origin. In the example below, I have placed green lines at various peaks and then have a vertical yellow line showing where their corresponding values would appear on the red line once planar. The purple lines are the width of the planar peak to peak width. Since an angle has been introduced, the purple line is going to be shorter than the original green line.

This image also shows how choosing different (2) starting points to creating a new axes can affect the resulting purple width. This also gives rise to a lot of potential trouble because if you don't initially choose good starting points, the planar data is going to be even worse.

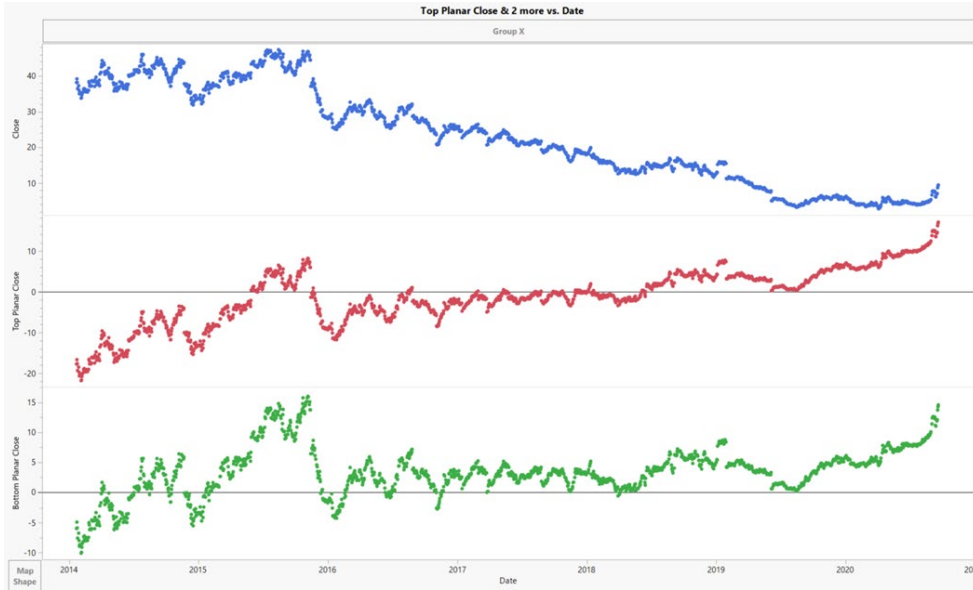


Data Planarization

The Methodology in Live Action

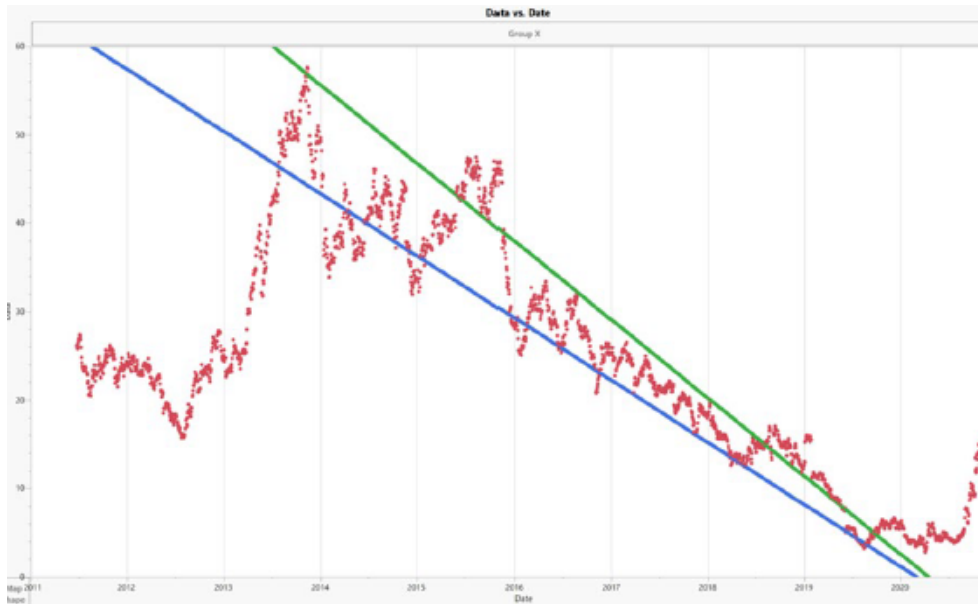
Here is a prime example of how choosing different starting points affect the same original data. On top is the original closing data from years past. The middle and bottom are planarized closing data with different locations for the starting points.

Since the middle and bottom data has been planarized using the top and bottom of the swings, their corresponding values on the y-axis are different and especially different than the original close data.



Historical Close Share Price Planarized

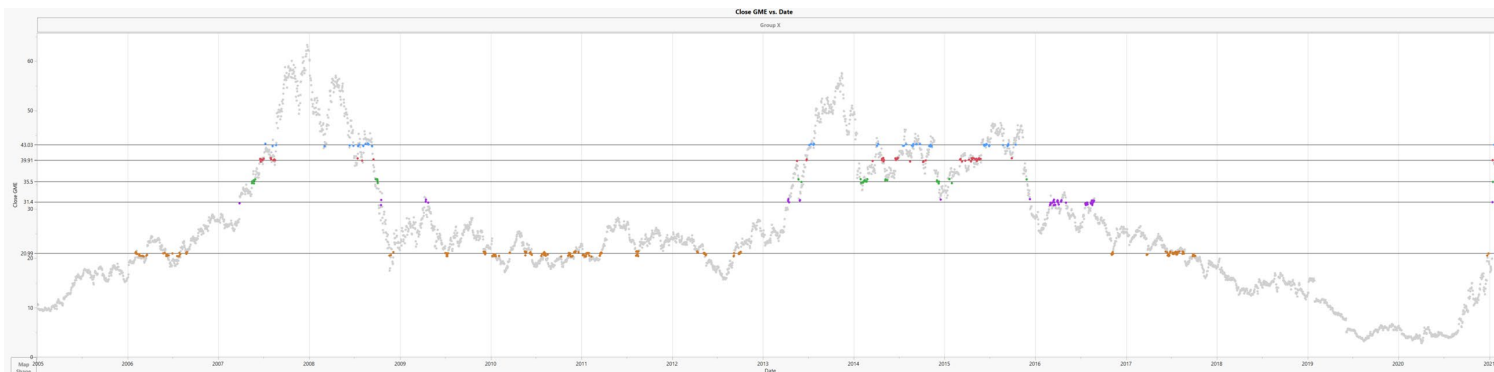
I chose these locations to specifically use as an initial attempt to create boundary lines to better characterize the dampening share price data.



Pre 2021 Share Price with Initial Boundaries

I don't want to give away all my secrets because I like to leave the audience craving more. Also, I'm still going through this myself and I don't like providing data unless I'm 100% certain it's been thoroughly done.

Those new lines are all values discovered while doing the planarization study. Further points out the similarities amongst all the dates.



Historical Data versus Dates using identified significant values

Similar to planarizing tilted data to make it flat, you can reverse undo card it to tilt planar data. After isolating significant dates from ALL THE YEARS to use as my new x-axis, it's providing me these type of new limits / boundaries for the 2021 dates. It's still very much a work in progress but I wanted to provide solid reasons as to why analyzing past data is important.



All the potential initial limits

Similar idea but with different significant past dates used for analysis.



All the colors of the rainbow

TLDR:

- HF started to fuck with GME in late 2002.
- The share price and dates of when they occurred seem to be happening exactly the same to the dot
- All the values are controlled and / or constrained.
- The same HFT algorithm used in 2002 is being used today.
- 2021 data may have been already set in stone from previous data
- Keep you hands diamond. Your balls titanium. And your butthole clenched.
- Hold the line. I'll see you on the moon apestronaut.
- Yolo

[GME Share Price Sauce](#)

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