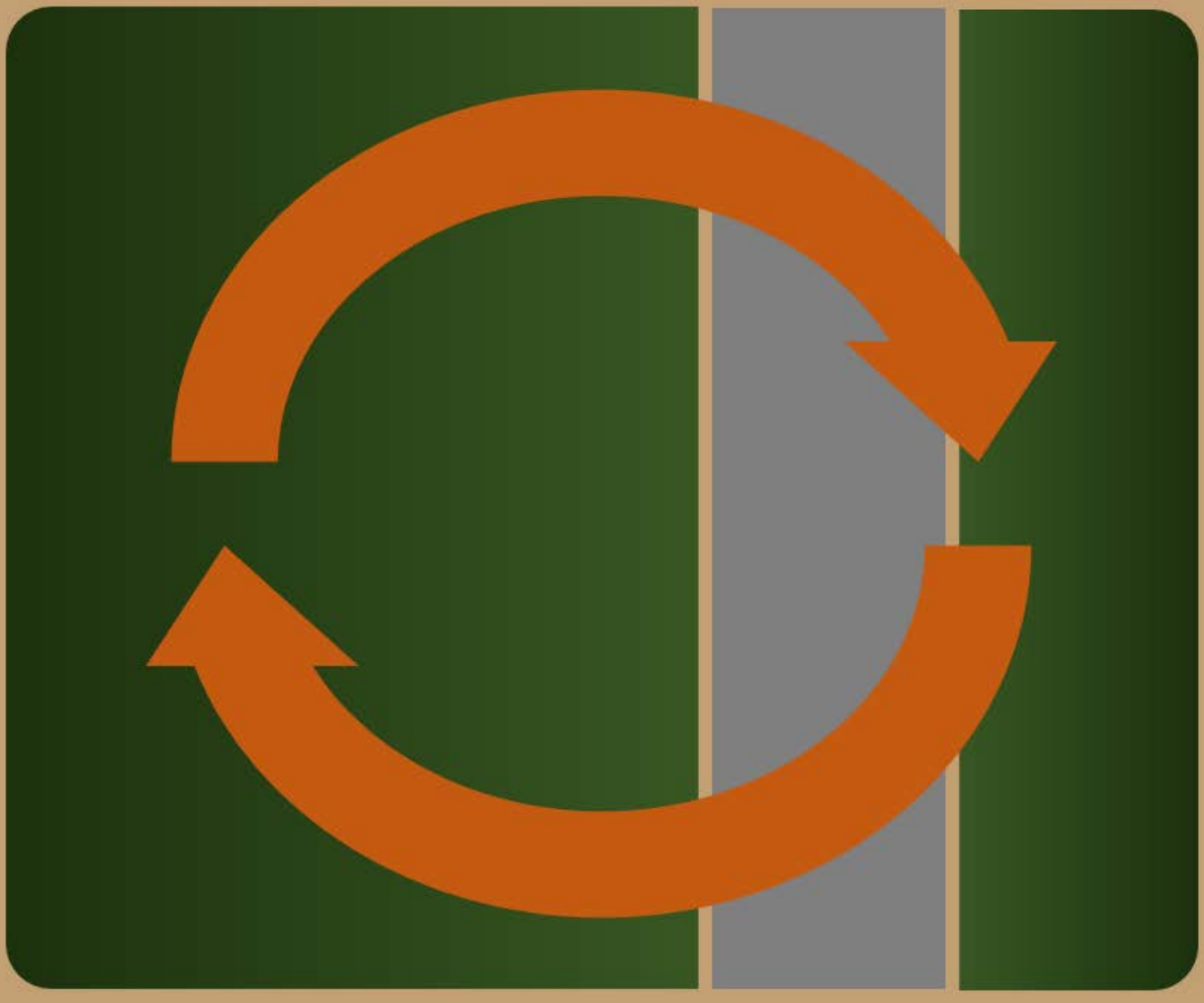
THE START OF THE SWAPS

PACKAGING 'MEME' STOCKS INTO TOXIC DEBT BUNDLES

u/broccaaa



The start of the SWAPs: packaging 'meme' stocks up into toxic debt bundles. It's 2008 all over again!

DD

Here we'll take a look at where the huge GME short positions might have been hidden since Jan and come up with some theories for why we've seen the odd price cycles in 2021.

This post is heavily influenced by the phenomenal work of u/criand and other great DD posted on the sub in recent weeks. If you haven't already then go read Are futures or swaps the secret sauce to price movements? and The Puzzle Pieces of Quarterly Movements. Do it now.

0. Introduction

I always had doubts about the T-21 & T-35 price movement theories. How was it possible that all the different short funds line up their trades and FTDs neatly on just a few dates? Why would they choose to operate on a few critical cycles rather than spreading the buy in risk out over each month?

Despite not really understanding the T-21 stuff there was definitely something to it so I just figured I was too smooth for that one. Then the OG of DD u/Criand shared an earlier version of this plot:

GME Quarterly Price Movements And Equity Total Return Swaps

Wow. Everything seemed to click. The cycles we are seeing come from derivatives settlement deadlines. They're predictable. And they get more violent each time.

What I want to do with this post is to pull together a bunch of info I've found that helped me understand the fuckery and

describe it as clearly as I can. Then go on to show some new data I have that might point us towards when this *death-spiral-swaps-cycle* began.

Hedgies r fuk. After 8 months of this ride I like the stock more than ever.

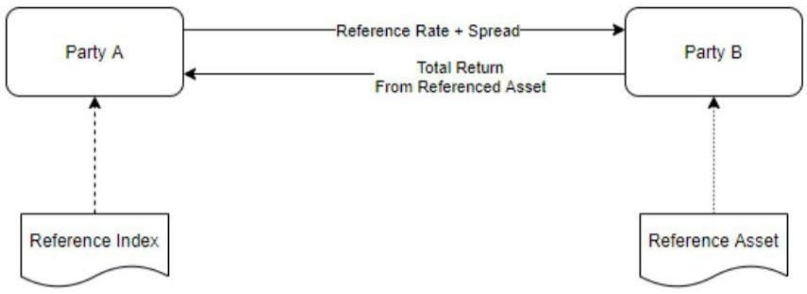
1. Total Return SWAPs, unhinged greed and the upcoming Minsky Moment

This has been covered before in some detail but I'll go over the key info as simply as possible before getting into the more juicy stuff.

What is a TRS?

A TRS is an OTC contract, which captures the agreement between two parties to exchange the *total return* of an asset. Usually, one party agrees to pay the total return of a security (think debt or equity) or a portfolio of securities in exchange for the returns of a reference rate (think LIBOR).

As with any Swaps, the maturity and payment schedules is down to the two parties to agree.



A representation of a TRS

So a Total Return Swap (TRS) is agreed between two parties where *one side (Party A in the example) pays an ongoing fee to another party (Party B) in return for any change to the price of an underlying asset* (often an equity like GME). This gives exposure to the equity without ever having to own it and can be configured to go *both long and short*.

Why would a fund bother to use swaps rather than borrowing to short sell as is typically understood as going short?

Loopholes and fuckery.

Synthetic short positions in Swaps have the advantage of being poorly regulated, with lower margin requirements and are unreported in any real detail in public data.

Here is a post I made a while back where Prof. Michael Greenberger explains Total Return Swaps in relation to Gamestop and
Archegos: https://www.reddit.com/r/Superstonk/comments/nwiuo5/total_return_swaps_behind_gamestop_frenzy_and/

In the video the following points are particularly interesting:

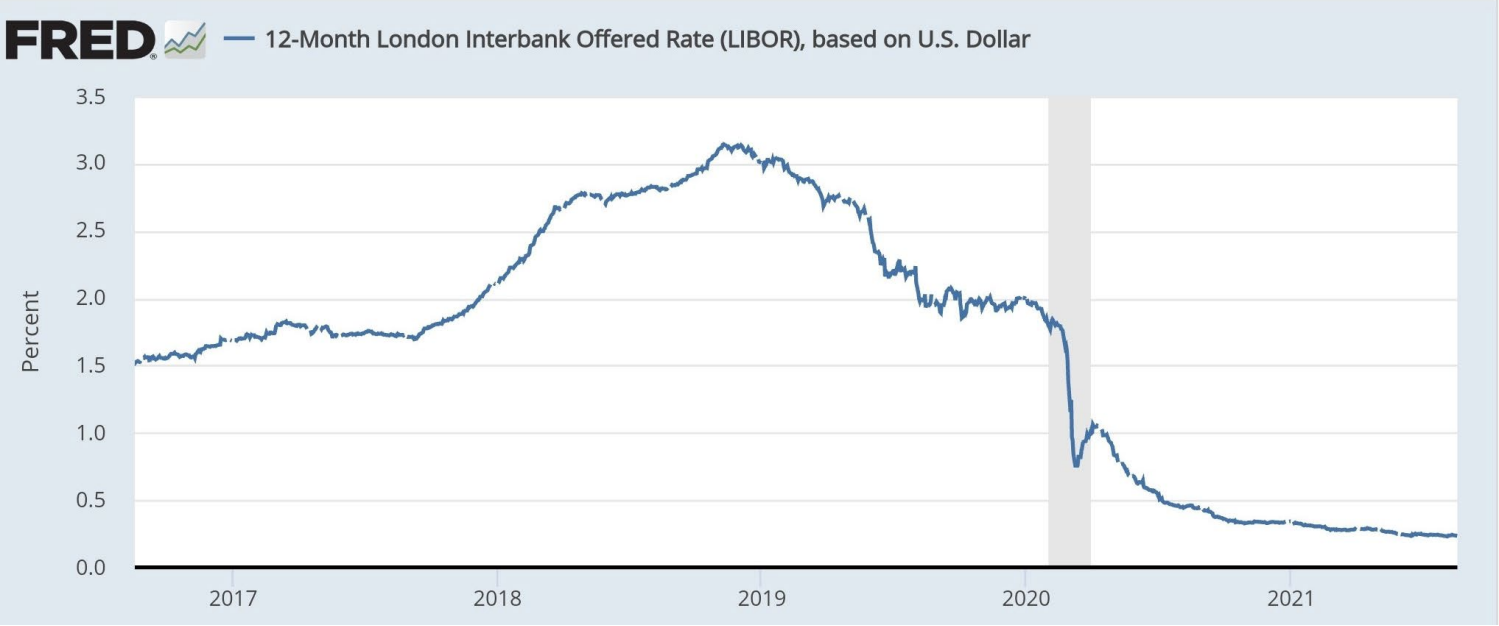
- Total return swaps are the ***same financial instruments that led to the 2008 crash***
- After the Dodd-Frank regulations Total Return Swaps should be transparent to US regulators and should have capital and collateral requirements (*hint*: they're not)
- Margin should be collected twice per day (*hint*: it isn't)
- Wall Street found a way around Dodd Frank regulations by 'deguaranteeing' their foreign subsidiaries ***providing a loophole that allows them to operate Swaps deals offshore with zero regulation from US authorities***
- US investigators noticed that reported ***Swaps in the US were dwindling***, after months of investigation they discovered that ***US banks were moving their Swaps from the Wall Street facility to London, Japan, Berlin etc. and claiming that they are no longer US Swaps even if the deals were negotiated on Wall Street and then later assigned off-shore***
- When markets are going well thats when ***speculation takes off, and that's when we hit a Minsky Moment*** - a sudden major collapse of asset values

So Prime brokers on Wall Street are financial terrorists who have gone right back to their usual antics after destroying the global economy in 2008. Using the exact same derivatives that fucked us in 2008. Circumventing the very rules that were put in place to protect the system from another 2008 event. And using tax payer bail out and stimulus money to fuel another bubble that's bigger than ever. A Minsky Moment must be around the corner.

But what's the reason for such massive speculation on Swaps to point where their bad GME bets could shake the entire system to its core and liquidate any fund caught on the wrong side of the bet??

Leverage and Greed.

Unlike with a usual short position margin requirements for Swaps can be pretty lax. Particularly if shifted offshore to avoid US regulation. Also for a fund that wants to gain exposure to a synthetic short asset the LIBOR fees have become ridiculously cheap since Covid. FED goes *brrrrrrrrr*:



1-Year LIBOR Rates

The fee to hold a Swaps contract with a broker is usually based off of the LIBOR rate plus an additional 'spread' rate to cover the prime broker admin costs. Over the last couple of years the LIBOR rate has collapsed from around 3% in 2019 to just 0.2% today in Aug 2021. No wonder the share borrow fees we see are so low when hedgefunds can get synthetic short exposure for next to nothing from their prime broker buddies.

But what happens when their bets go bad and they're over leveraged to shit?

Prime Brokers bend over backwards to help them out.

From the Credit Suisse report on the Archegos fiasco - https://www.credit-suisse.com/media/assets/corporate/docs/about-us/investor-relations/financial-disclosures/results/csg-special-committee-bod-report-archegos.pdf:

> Archegos repeatedly breached its scenario limits in 2020, and Archegos's persistent scenario limit breaches were a cause of considerable internal concern and discussion within CRM. On July 15, 2020, Archegos had $604 million in net scenario exposure—241.6% of the $250 million limit.[81] From that point on, Archegos remained in breach of its net scenario limits virtually every single week for the remainder of its relationship with CS.

The report is long and dense with a ton of useful info. The above is a caption I picked out almost at random, there are

many other passages like this. It shows that ***Archegos was breaching internal risk assessment checks consistently since July 2020 until they collapsed in March 2021 yet Credit Suisse simply gave them chance after chance***.

But how does a Total Return Swap work in practice?

I don't exactly know but I found some useful info and examples while searching. It's all rather opaque. That's probably by design. These financial instruments are meant to be so complicated the real world never bothers to stop and look at the greed and criminality. And *avoiding post 2008 regulation to get back to the same game that ended up destroying millions of lives around the world should be criminal*.

Here's a technical example for those that are interested but the details don't mater so much:

> Consider a single-name total return swap (TRS) on some reference asset S. For concreteness, suppose the length of the contract is one year with quarterly resets, and the performance of S is exchanged for LIBOR.
>
> Then the TRS value resets at 0 at each reset date, so for some t in some period that ends at time T, the value of the agreement assuming there is no cancellation feature is simply
>
> $$V_t = \mp(S_t - P_t^T) \pm P_t^T S_0 L_0^T T$$
>
> where P_t^T is the discount factor observed at time t for the period $[t, T]$ and L_0^T is the period LIBOR (simple) rate set at time 0 (beginning of the period) for the period $[0, T]$.

What's interesting in this example is ***the reset dates are stated as being quarterly***. From what I can find this is most common. This means that Swaps only need to have intermediate settlements every quarter despite often being agreed for a minimum of 6 months up to 5 years or more. ***Quarterly swaps reset dates could be what is driving the cyclical GME price movements irrespective of any futures trading deadlines***.

This seems relevant to me because linking GME trading to futures contracts is not so easy. Futures trading is usually for commodities, currencies or sometimes ETFs. Futures contracts for single equities don't really exist as far as I can tell. Swaps deals or even options contracts are the equivalent of trading futures for equities like GME. Correct me in the comments if I'm wrong here.

2. Portfolio Swaps: why hold anything real when it can all be synthetic!

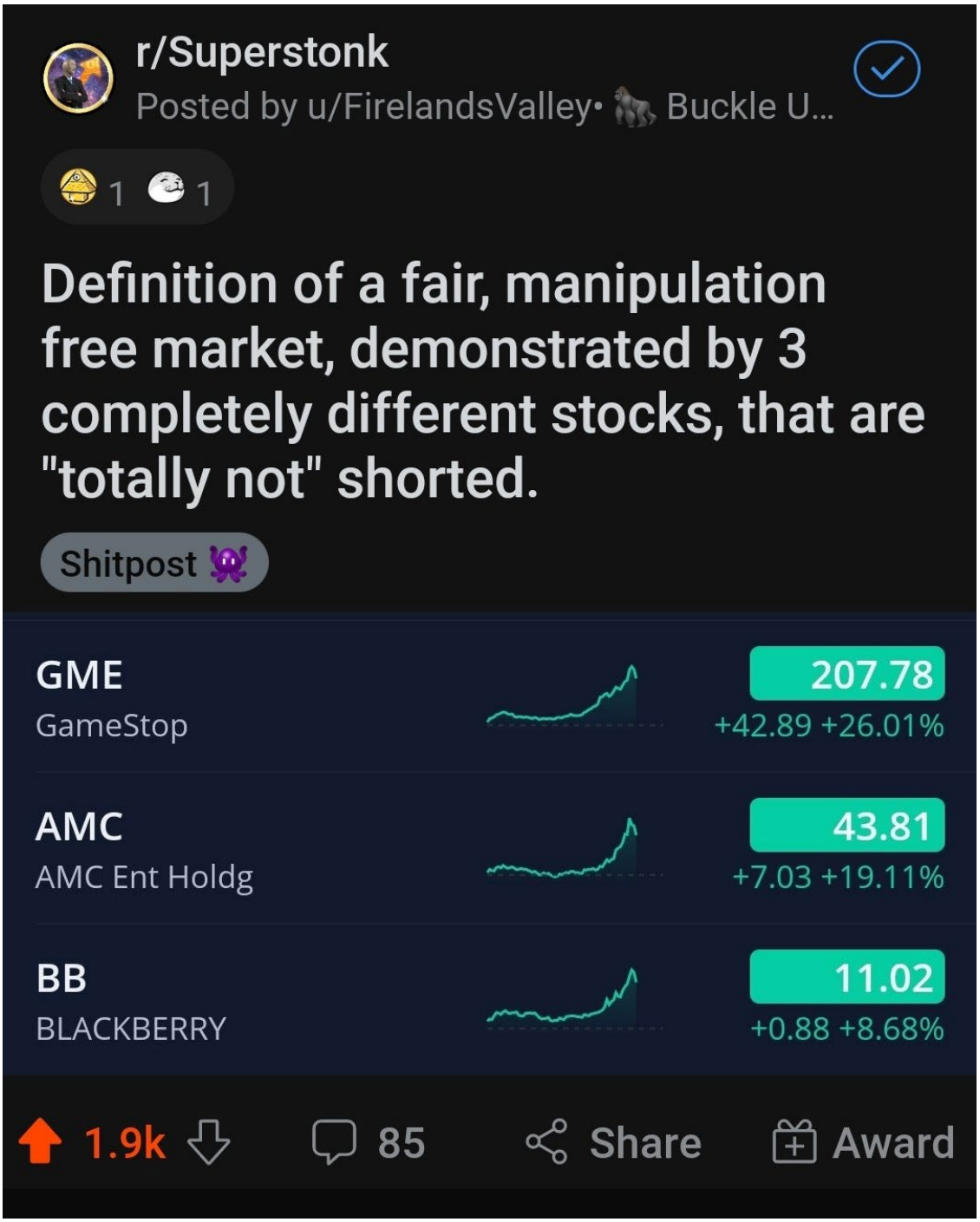
In the previous section we discussed the basics of Total Return Swaps and how they can be used as hidden short positions with increased leverage. An extension of this idea is the Portfolio Swap as described here:

> Fundamentally, portfolio swaps allow investors and managers to have exposure to assets without actually holding them in their portfolios. The portfolio is typically constructed of a basket of assets (assets could either be long or short), and a counterparty is called for to hold the basket. As a part of the transaction, the investor enters into a swap with the counterparty to receive the return on the basket and pay, in return, a negotiated financing cost plus a preset spread. The counterparty will be required to pass on any gains/losses from the basket to the investor who pays the counterparty a financing cost for administering the basket. The financing cost is determined based on the outstanding value of the basket at the end of the day. The outstanding value is the swap notional amount.

So Portfolio Swaps are simply wrappers around multiple Total Return Swap agreements that can be held by a prime broker. In this way multiple synthetic short positions can be packaged up into a single Portfolio Swap and held on a prime broker's books.

What if multiple oversized synthetic short positions are packaged up into a Portfolio Swap and then hedged by a prime broker under the same contract reset deadlines?

Obvious meme-stock fuckery.



No group of stock market tickers from varying sectors should correlate with each other consistently for 8 months.

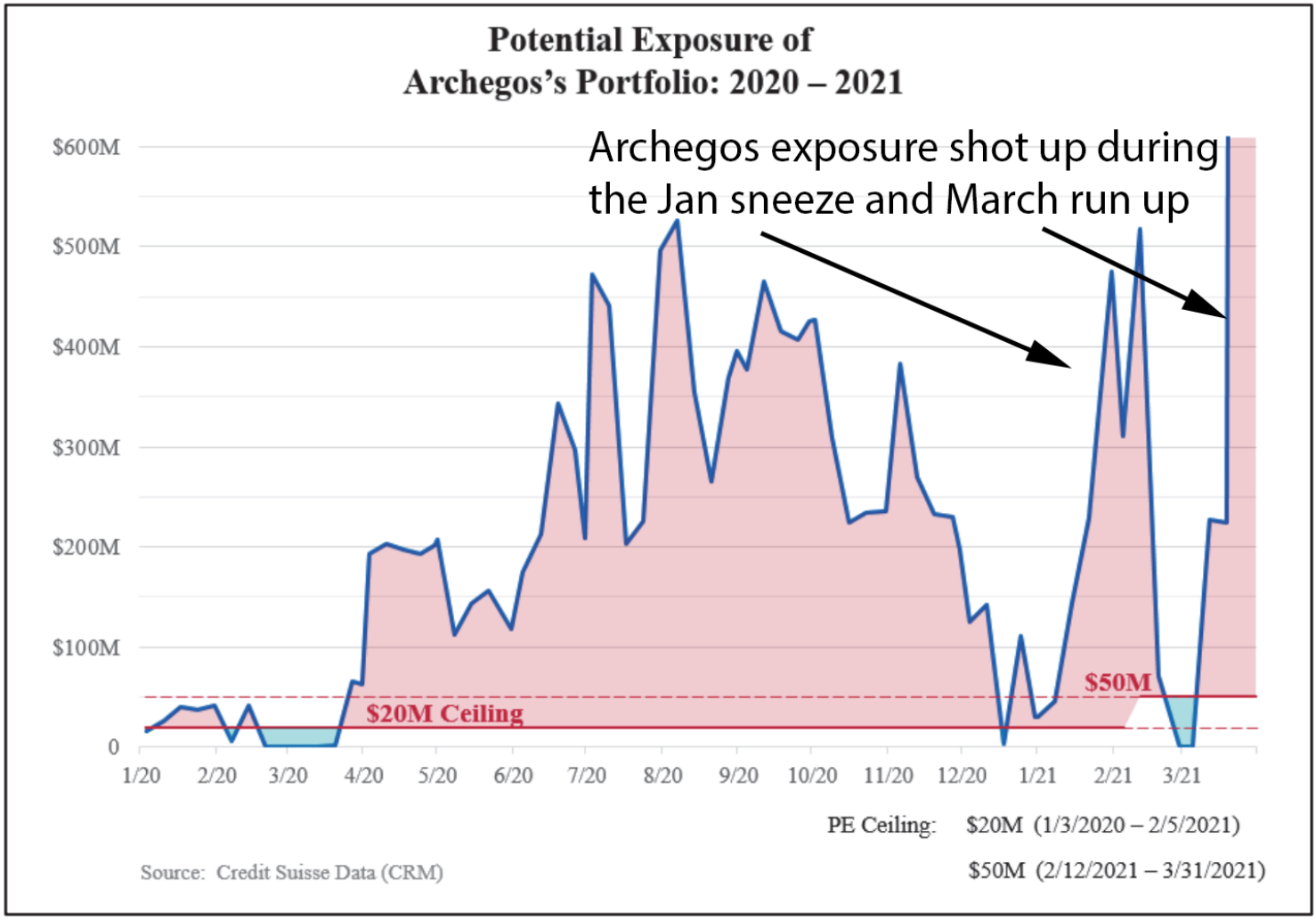
And this is an interesting nugget I found while researching. It comes from https://www.lawinsider.com/dictionary/portfolio-swap where they discuss some example legalese around the term Portfolio Swap:

> The Sub-Fund's exposure to total return swaps is set out below (as a percentage of Net Asset Value): The above shows the expected and maximum notional for the total return swaps and does not reflect the leverage inherent in the Portfolio Strategy and Put Option exposure inherent in the ***Portfolio Swap***.

"[...] does not reflect the leverage inherent in the Portfolio Strategy and Put Option exposure inherent in the Portfolio Swap"?!??

What does a Put Option have to do with Portfolio Swaps? Why is Put Option exposure inherent to a Portfolio Swap? ***Is this what the deep out the money puts were for??***

I don't know about this. But it's interesting to me that in just a few examples of how lawyers might need to discuss portfolio swaps, mentioning that *"Put Option exposure [is] inherent in the Portfolio Swap"* stood out to me. Could be something, could be nothing.



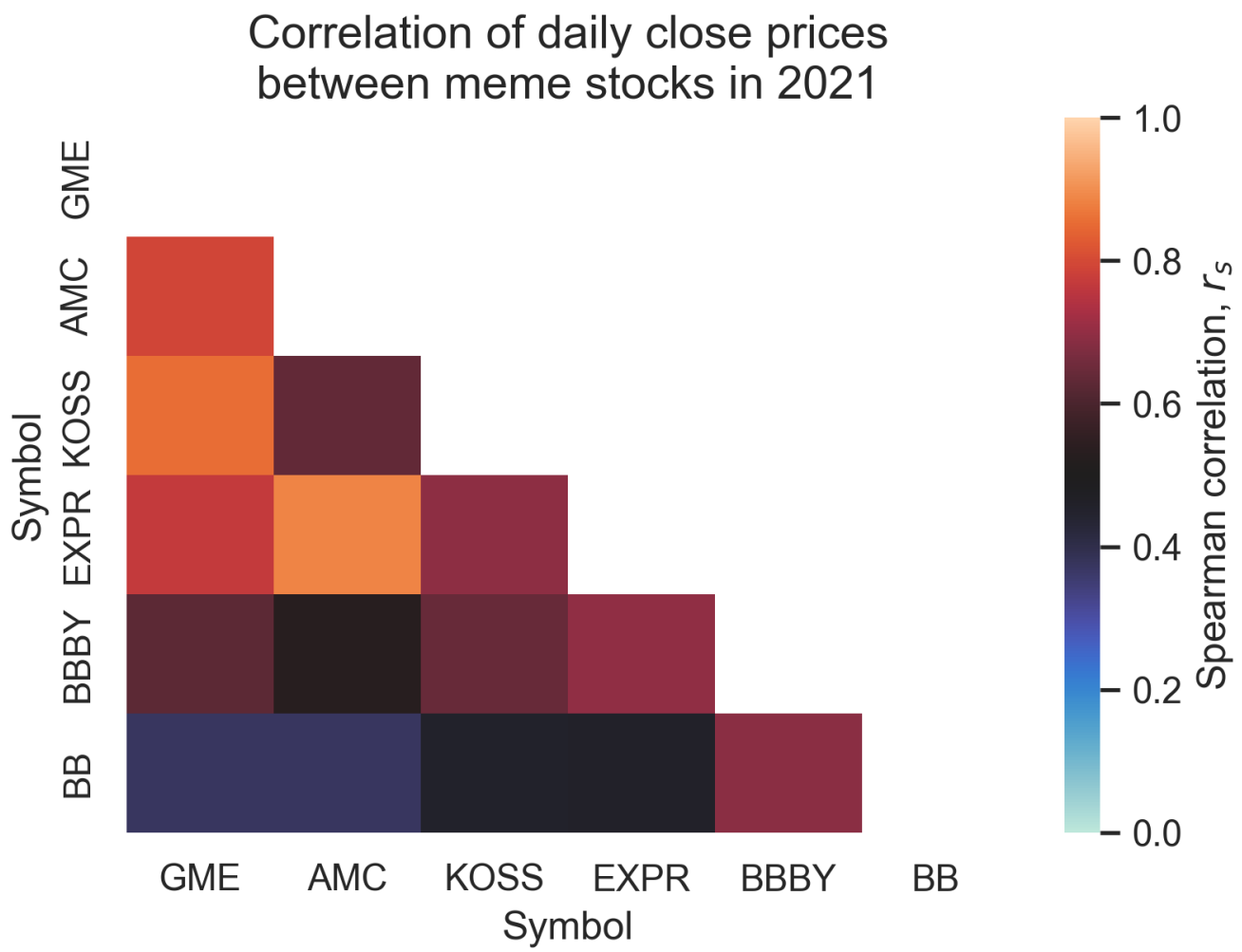
Edit: I added this figure to show the Archegos exposure double spike during the Jan GME sneeze and then another huge spike in the March run up. Shortly after the March run up they imploded in the largest ever recorded trading loss - over 10 Billion dolars https://en.wikipedia.org/wiki/List_of_trading_losses

Given that it's been confirmed that Archegos collapsed in part due to GME Swaps exposure. And that we see these quarterly price moves across a bunch of meme-stocks. It seems likely to me that they were packaged up together at some point in a Portfolio Swap to hold bad debt for the shorts. But can we work out when this started happening?

3. The start of the SWAPs

Many of us know that GME and a bunch of meme stocks have been extremely highly correlated (moving together) throughout 2021. Here I set out to look into this more closely and try to work out when exactly it began.

First let's take a look at how highly correlated the different meme stocks are:

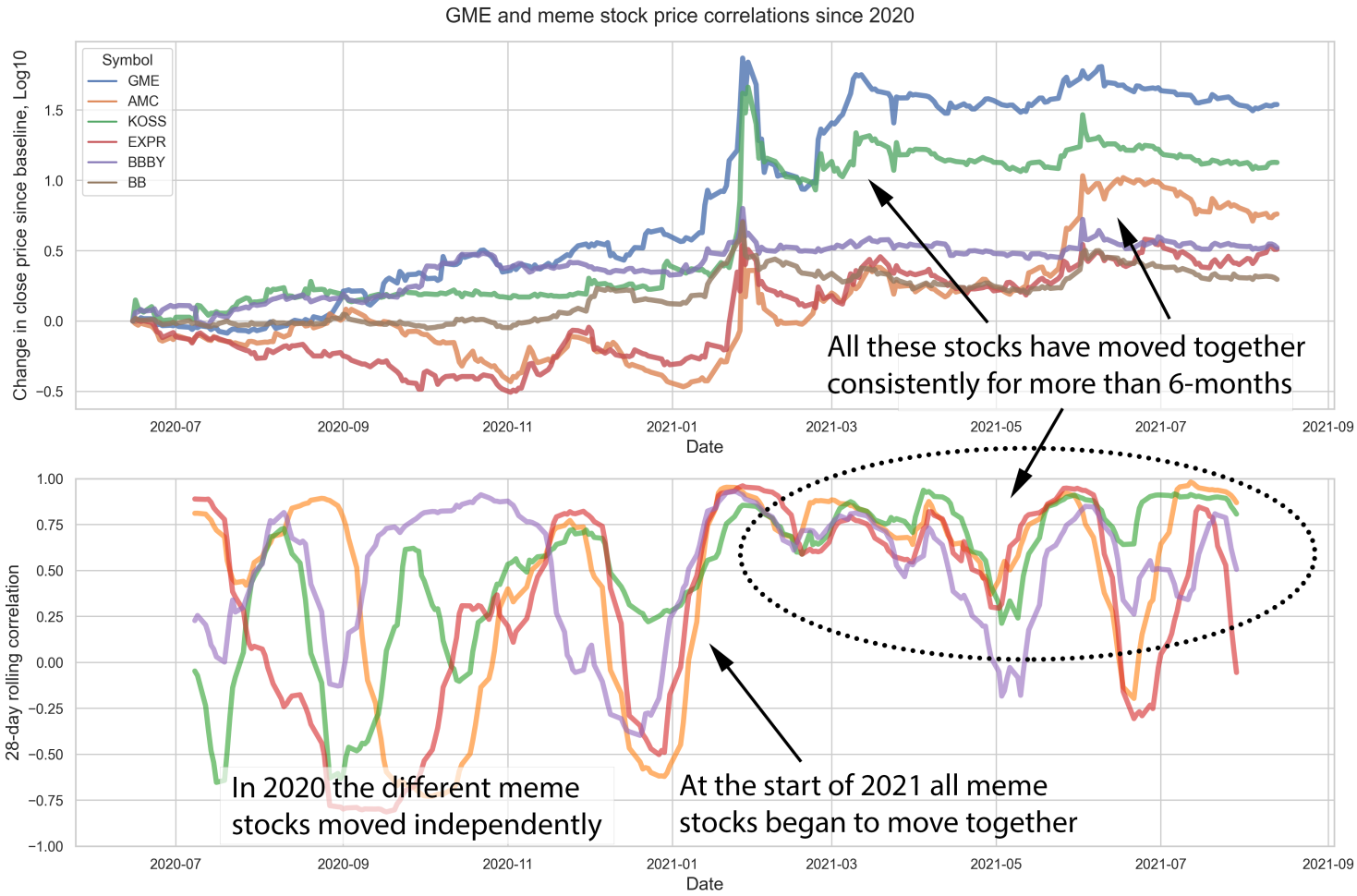


Correlations between different meme stocks in 2021

Here I performed correlations of GME and 5 other meme stocks using daily close data from Jan 15 2021 until Aug 15 2021. Any correlation above 0.5-0.6 is large and means that the stocks have been moving together consistently for more than 6 months.

I won't mention the other meme stocks directly to avoid the wrath of automod. But GME is most closely linked with movie stock, headphone stock and the express-thingy.

Now we can run another analysis called a rolling-correlation to see when the correlations began. All this means is that we look at 28-day windows of stock price data and see how much each meme stock correlates with GME. We then slide this 28-day window forward over time to see if the stocks were moving together more or less over different 28-day periods.



Rolling correlation GME and other meme stocks since June 2020. Note: in the bottom plot all lines are rolling correlations between GME and the indicated meme stock.

We see that before the start of 2021 GME did not correlate consistently with any of the other meme stocks. You can see this on the left side of the bottom plot with the wiggly lines that seem to move randomly with one another. Almost as soon as 2020 moved into 2021 all of these meme stocks started to move closely with GME (increasing correlation lines for all colors in early Jan). Since then GME has had consistently strong correlations with all the meme stocks for more than 6-months.

This should not happen in a free market place with independent price movements.

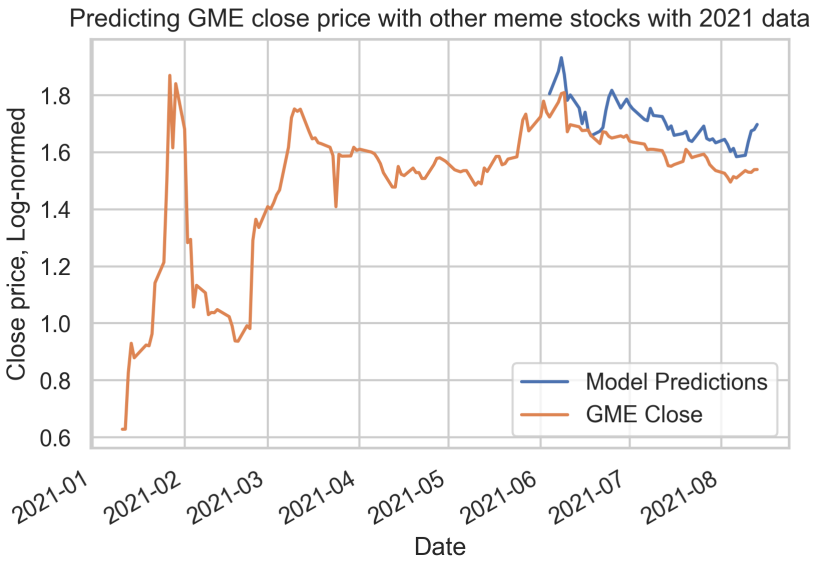
Sometimes the correlation drops for a brief period for one of the stocks but then gets back in sync with GME and the others.

So this data shows that all these selected meme stocks are moving together and have the same quarterly cycle. The major differences are in the extent of big price moves and some slightly delayed timings.

Now we've seen that all the meme stocks move together could we do something ridiculous like predicting GME price purely from what has happened in the other meme stocks??

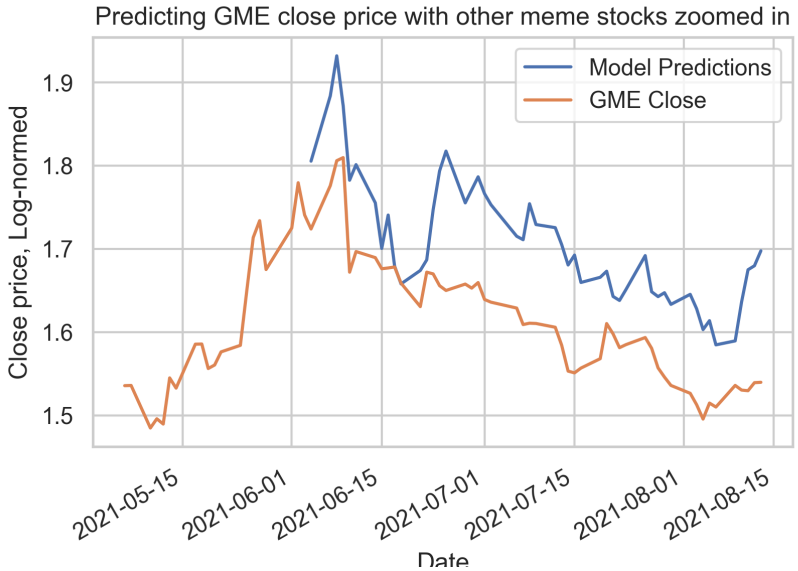
Yes. Yes we can.

Here I built a linear model to predict GME price movements based on the other meme stock price movements. I don't want to bore everyone with all the details here. I'll give full details in the comments if anyone is interested.



In blue is the model prediction on more recent data that it had never seen before. We can see that the model actually predicts GME price pretty damn well! And the model is only using other meme stock price data to estimate GME price.

Let's zoom in to take a closer look:



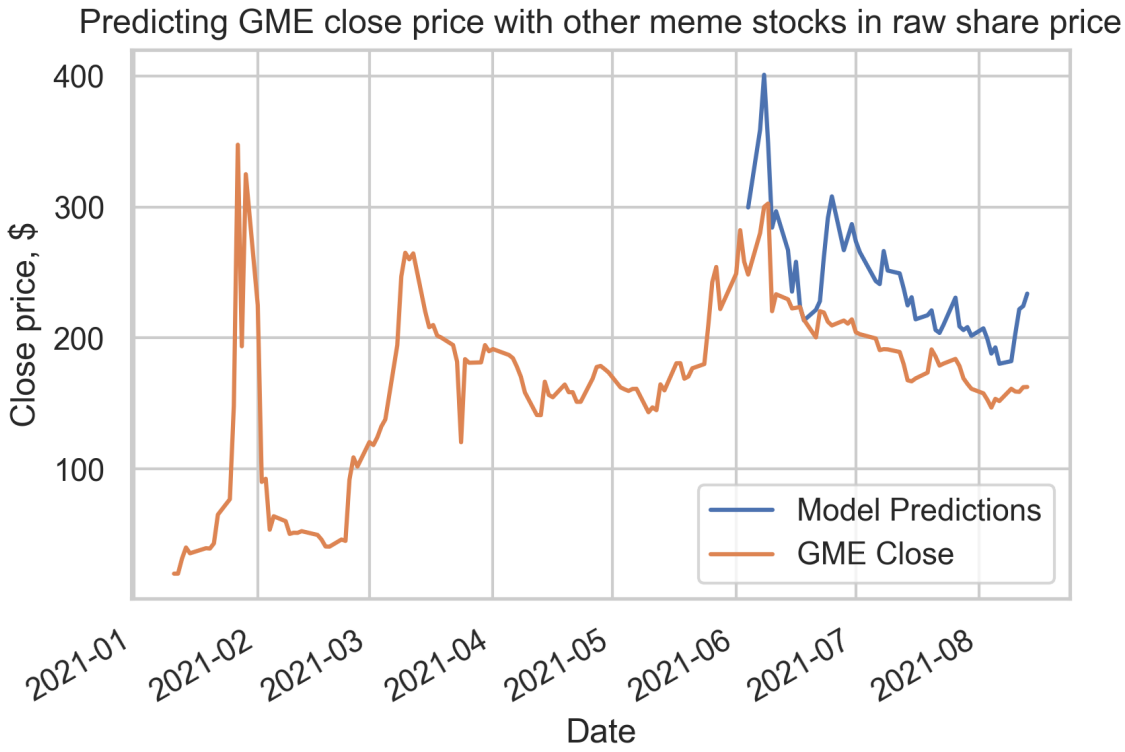
The major difference in the model prediction is that we are over estimating the share price. But the actual trend and fluctuations are very similar. This might suggest that GME price was being suppressed even more than it previously was since the June run up, possibly due to the share offering around this time. Alternatively it could be that the other meme stocks got a bigger bounce than earlier in the year.

After accounting for the model estimating a higher price (mean centring the data) we get a model score of:

R^2 = 0.73

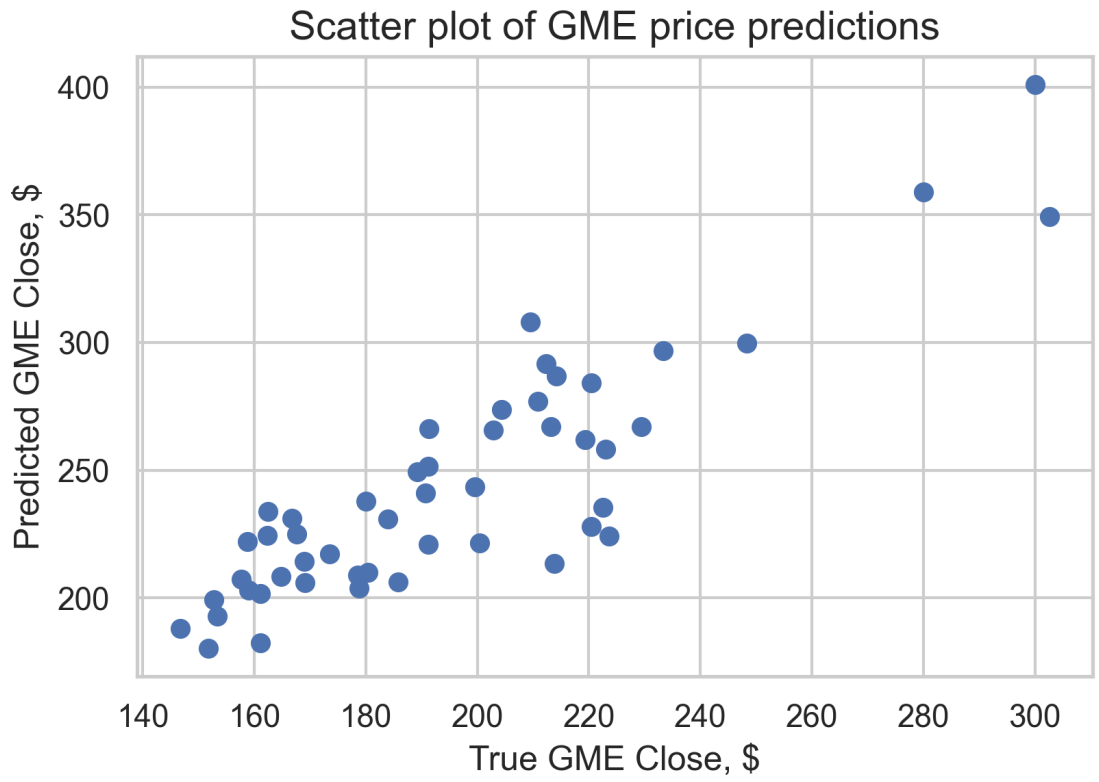
73% of GME price fluctuations (variance) can be predicted just by looking at the other meme stock prices!!!

This is not something that should happen in normal circumstances.



And the above plot converts the data back from log units to dollars. The model predicts that at the June run up GME should've spiked to $400 based on what happened to the other meme-stocks.

This could just be a modelling error. Or perhaps the price reached such danger levels with GME it was suppressed hard while the other stocks were allowed to ride higher.



Finally this scatter plot shows how well we can predict GME data just by looking at the other meme stocks.

In summary of this section:

- GME and other 'meme' stocks begin to ***correlate together consistently at the very start of 2021***
- It's possible that these stocks were ***packaged up in Portfolio Swaps***, either one huge toxic bundle or multiple bundles that most commonly contain these meme stocks
- The meme stocks move so consistently together that ***you can predict GME simply by looking at the others - this should not be possible!!***

Conclusion / TL;DR

To start we took a brief look at Swaps. Archegos was confirmed to have blown up in part due to GME swap exposure. Wall Street has been side stepping regulations setup to protect us after 2008 by moving swaps offshore and out of reach of US regulators. Portfolio swaps could be used to package up a bunch of bad short positions in the meme stocks.

To test the hypothesis that meme stocks were packaged up into swaps at some previous date I ran a correlation analysis. All meme stocks tested started moving with GME at the exact same time - very early 2021. Did a new rule come into effect or some other event on Jan 1st 2021? Perhaps they were all squeezing in Jan and then shifted into SWAPS at the same time we saw the options fuckery? Are the price movements of the last 6 months driven by prime broker hedging of Portfolio Swaps and contract reset dates?

Shorts are fukd. The *death-spiral-swaps-cycle* might've begun in early Jan but there's no way out for them. Apes hold. I like the stock.