Title: Failures-to-Deliver of ETFs with Exposure to GME
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Esteemed members of the DD sub,

As many of you will be aware, the topic of ETFs with exposure to GME has been gaining renewed interest lately. As far as I can tell, the main focus seems to be on short interest and short interest ratio. The SPDR S&P; Retail ETF (XRT) is highlighted particularly often in this regard, as it is suspected that hedge funds are using this and other ETFs to short GME.

Nonetheless, there have been some discussions about Failures-to-Deliver (FTDs) of ETFs with exposure to GME and what effects they might have. However, I have not yet seen a comprehensive presentation of FTD data for such ETFs. Some of you might recognise this post from the 'main' sub, where there has not been much in the way of an informed discussion bar a few largely positive comments. I hope you don't mind me posting the same content here for discussion (links removed where in violation of the sub rules). Not sure if it needs stating but I am not after karma or awards, your responses will mean much more to me.

TL;DR:

I downloaded SEC FTD data covering August 2020 to December 2021 (inclusive) and plotted the FTDs of selected ETFs with exposure to GME together with the GME stock price for context. Please scroll down to view the plots.

Edits:

1. Added further details about the ETF data obtained from the sources listed below.
2. Moved existing Fig. 5 to Fig. 7. Added Fig. 5 and Fig. 6 for comparison with the previous plots. Added ranking table.
3. Added references to the ETF data set compiled by u/bobsmith808 and u/Turdfurg23.

Background

(feel free to skip this section if you already know this)

A Working Paper of the University of Virginia - Darden School of Business (Draft: March 2021 - https://dx.doi.org/10.2139/ssrn.2961954) describes the context of ETFs and related FTDs as follows:

>With over $4.4 trillion in assets and accounting recently for 37% of U.S. dollar-trading volume, exchange traded funds (ETFs) are a financial innovation that has been embraced by retail and institutional investors alike. In addition to providing low-cost long exposures to different asset classes, geographies, and industries, ETFs also offer investors a simple way to gain short exposure. The hybrid nature of ETF shares enables both intraday trading and the potential for those shares to be borrowed and sold short. Figure 1 \[of the paper\] shows that as ETFs have grown, so has the short-selling activity in ETFs. As of June 2020, the aggregate dollar value of ETF short interest was upwards of $183 billion, accounting for 19.5% of the overall dollar value of short interest in U.S. equity markets, while constituting just under 11% of the total U.S. equity market capitalization.
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>While investors have clearly embraced ETF short-selling, this feature has also attracted the attention of market participants and regulators. In 2015, the SEC solicited comments from market participants on “topics related to the listing and trading of exchange-traded products” and several of the comment letters

raised similar concerns about the short selling of ETFs. Recent enforcement actions by FINRA and Nasdaq related to “naked” ETF short positions underscore the possibility of improper ETF short-selling. Perhaps most concerning, ETF failures-to-deliver (FTDs) have risen dramatically, suggestive of an increase in “naked” ETF shorting. Figures 2 and A.2 (in Appendix A) \[of the paper\] show the aggregate daily dollar volume of equity and ETF FTDs over time. While the figures show a dramatic decline in both stock and ETF fails in early 2009 in response to SEC efforts to curb naked short-selling and the associated FTDs, there is a clear upward trend in ETF FTDs over the past ten years in stark contrast to the persistently low stock fails over the same time period. In contrast to Jain and Jain’s (2015) findings for FTDs in U.S. common stocks, we find that FTDs in ETFs are growing and, as a percentage of market capitalization, ETF- related FTDs are disproportionately larger than in the equities markets and now represent over 80% of all FTDs in U.S. financial markets.

Abstract of the paper:

>We identify an alternative source of ETF shorting related to the market maker liquidity provision and creation/redemption activities. Unlike “directional shorting” used for informational or hedging purposes, liquidity-driven “operational shorting” arises due to a regulatory exemption which allows ETF market makers to satisfy excess demand in secondary markets by selling ETF shares that have not yet been created. We find that operational shorting is associated with improved liquidity and greater price efficiency in the underlying securities held by an ETF. Higher retail trading activity and short-term ETF return reversals are also consistent with liquidity-supplying motives rather than informed trading. Consequently, delayed ETF creation to cover operational shorts results in failures to deliver and is found to be a valuable option in the presence of retail trading and liquidity mismatches between the ETF and its underlying securities. Commonality in operational shorting across lead market makers can lead to increased counterparty risk and we find that financial leverage can amplify these inter-dealer relationships.

By the way, there is an interesting presentation of an earlier draft of this paper by the lead author: https://youtu.be/ncq35zrFCAg

FTDs of ETFs with exposure to GME

So far, so good. But what does it look like in concrete terms for ETFs with exposure to GME? Unfortunately, this is not easy to answer, because first a lot of data from different, more or less reliable sources have to be summarized. I have been learning pandas (https://pandas.pydata.org/) lately and wanted to work with a large real-world data set to practice my coding skills. So why not work with such a data set related to GME?

SEC FTD data

The FTD data are provided by the SEC (https://www.sec.gov/data/foiadocsfailsdatahtm).

The data files contain:

>(…) the date, CUSIP numbers, ticker symbols, issuer name, price, and total number of fails-to-deliver (i.e., the balance level outstanding) recorded in the National Securities Clearing Corporation's ("NSCC") Continuous Net Settlement (CNS) system aggregated over all NSCC members.
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>(…) each month is contained in two files. The first half of a given month is available at the end of the month. The second half of a given month is available at about the 15th of the next month. We cannot guarantee that the data will be posted by a particular date. We cannot guarantee the accuracy of the data.

Way to go Gary! /s

The SEC provides the following explanations in this regard:

>If the aggregate net balance of shares that failed to be delivered is zero as of a particular settlement date

(…), then no record will be present in the file for that date. Fails to deliver on a given day are a cumulative number of all fails outstanding until that day, plus new fails that occur that day, less fails that settle that day. The figure is not a daily amount of fails, but a combined figure that includes both new fails on the reporting day as well as existing fails. In other words, these numbers reflect aggregate fails as of a specific point in time, and may have little or no relationship to yesterday's aggregate fails. Thus, it is important to note that the age of fails cannot be determined by looking at these numbers. In addition, the underlying source(s) of the fails-to-deliver shares is not necessarily the same as the underlying source(s) of the fails-to-deliver shares reported the day prior or the day after.
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>Please note that fails-to-deliver can occur for a number of reasons on both long and short sales. Therefore, fails-to-deliver are not necessarily the result of short selling, and are not evidence of abusive short selling or “naked” short selling. For more information on short selling and fails-to-deliver, see http://www.sec.gov/investor/pubs/regsho.htm, http://www.sec.gov/divisions/marketreg/mrfaqregsho1204.htm, and http://www.sec.gov/rules/final/34-50103.htm.

I chose the SEC FTD data from August 2020 to December 2021 (inclusive) as my data set, for (I suppose) obvious reasons. Please note that I did not perform any calculations or statistical analysis, I merely took several sources of 'raw' data and concatenated/joined them as necessary for plotting. Data for January 2022 are not yet available as of today (see above).

ETFs with exposure to GME

My next task was to find ETFs with exposure to GME. I used the following freely accessible sources, i.e. these are not subscriber content (accessed 15 - 18 January 2022):

* https://www.etf.com/stock/GME
* https://docoh.com/company/1326380/GME/etfs
* https://www.etfchannel.com/finder/?a=etfsholding&symbol;=GME
* https://fintel.io/soe/us/gme

Fintel currently lists 123 ETFs with exposure to GME, other sources list fewer (or more) ETFs. I used the Fintel list as my primary guideline. If anyone has a better source, please let me know.

In fact, out of the 123 ETFs listed by Fintel, only 89 appear to hold non-zero positions (one of them, CBLS is listed as -375 \[short\]). ETF.com lists 105 (103 with more than 0.00% allocation). Docoh lists a whopping 279 (275 with more than zero allocation), including several with short positions. ETF Channel lists 69.

u/bobsmith808 and u/Turdfurg23 have pulled together the most up to date ETF information (holdings, allocation, etc.) in a neat spreadsheet so please check out their recent posts on this topic (no links due to sub rules).

A few Python scripts later I had some time series plots (the presentation is unfortunately still a bit unpolished, my matplotlib skills are lagging behind lol):

[Fig. 1: FTDs of GME in comparison to GME stock price \(dashed line\) – for reference](https://preview.redd.it/zxt7y2n864d81.png?width=1200&format;=png&auto;=webp&s;=0d8108e1e9494acf2b9f1cba8e9d0606992cd05f)

Notes regarding the following plots:

* The legends are in alphabetical order, no ranking is implied.
* The number of shares and the share allocation for each ETF are subject to fluctuations which

unfortunately cannot be considered without access to historical data.

[Fig. 2: Top 10 ETFs with exposure to GME by number of shares \(source: fintel.io\) in comparison to GME stock price \(dashed line\)](https://preview.redd.it/y8etieok64d81.png?width=1200&format;=png&auto;=webp&s;=cad0b014444b763de3ffd6ef4ffab6c8d94ba372)

List of ETFs for Fig. 2 (ranked):

Symbol
IJH
IWP
IJJ
SCHA
IJK
IWF
FNDX
XMMO
IWR
SPMD

[Fig. 3: Top 10 ETFs with exposure to GME by share allocation \(sources: etf.com, docoh.com, etfchannel.com\) in comparison to GME stock price \(dashed line\)](https://preview.redd.it/mi2nxgmn64d81.png?width=1200&format;=png&auto;=webp&s;=0db7e3fbdae747e4bd06a3945bb5fd22fa43b112)

List of ETFs for Fig. 3 (ranked):

Symbol
FTXD
SFYF
XMMO
BUZZ
WGRO
XMHQ
GAMR
XRT
MEME
PEZ

[Fig. 4: Top 10 ETFs with exposure to GME by largest figure of reported FTDs on a given settlement date \(for ETFs listed on fintel.io\) in comparison to GME stock price \(dashed line\)](https://preview.redd.it/oq9mawnp64d81.png?width=1200&format;=png&auto;=webp&s;=1bf094b99e22ddb20fa4cb54856e152aa582c7fe)

List of ETFs for Fig. 4 (ranked):

Symbol
IJJ
XRT
IWB
VT

|FXD|
|IYC|
|IWF|
|DSI|
|EQAL|
|IWR|

[Fig. 5: Top 10 ETFs with exposure to GME by largest figure of reported FTDs on a given settlement date \(for ETFs listed on ETF.com\) in comparison to GME stock price \(dashed line\)](https://preview.redd.it/tcyg617ym9d81.png?width=1200&format;=png&auto;=webp&s;=89b30b4aa26c6c815f29a9c2ba49b07f237dc090)

List of ETFs for Fig. 5 (ranked):

Symbol
XRT
VXF
SCHV
IWB
VTI
VT
FXD
VB
IYC
IWF

[Fig. 6: Top 10 ETFs with exposure to GME by largest figure of reported FTDs on a given settlement date \(for ETFs listed on ETF Channel\) in comparison to GME stock price \(dashed line\)](https://preview.redd.it/tuuvy2o6n9d81.png?width=1200&format;=png&auto;=webp&s;=f329ecad40ec3cf5277172f7ed463b43571def5a)

List of ETFs for Fig. 6 (ranked):

Symbol
XRT
VXF
IWB
VTI
FXD
IYC
IWF
DSI
EQAL
IWR

Ranking summary, top 10 ETFs with exposure to GME by largest figure of reported FTDs on a given settlement date (mobile users may need to swipe):

Rank	Fintel	ETF.com	ETF Channel

1	IJJ	XRT	XRT
2	XRT	VXF	VXF
3	IWB	SCHV	IWB
4	VT	IWB	VTI
5	FXD	VTI	FXD
6	IYC	VT	IYC
7	IWF	FXD	IWF
8	DSI	VB	DSI
9	EQAL	IYC	EQAL
10	IWR	IWF	IWR

[Fig. 7: GME price and volume over the same period \(source: https:\/\/www.nasdaq.com\/market-activity\/stocks\/gme\/historical\) – for reference](https://preview.redd.it/9mv9d5rr64d81.png?width=640&format;=png&auto;=webp&s;=09cfed0e92f63e49ef1ae7990cdd0d733dbc7a81)

I must admit I am unable to comment on this data (for lack of expertise), likewise I do not know if this data means anything at all because I am smooth-brained. However, I am happy to put the data up for discussion here and welcome any comments.

Some additional thoughts of mine from previous discussions with other users:

I am planning to update my data set with the SEC data for January (and better ETF information).

The data is obviously only good for some rough quantitative comparison (if anything). If some wrinkle-brain finds the missing pieces that would already be more than I bargained for.

I think it's very difficult to normalise or weight the FTD data for ETFs because the share count and allocation can vary a lot over time. That's a serious limitation to any further analysis. I'm waiting for the January data to be released to see what's been going on with XRT against the backdrop of the past three weeks' price action.

Obligatory disclaimer:

The above information does not constitute professional/financial advice, nor is it a comprehensive or complete representation of the matters discussed or the law relating thereto.