Title: The Law Of Unintended Consequences
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Good Afternoon Fwiends,

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The Story of ETF's: Long Overdue Regulation and a Reg Sho Time Machine

A little product that has now grown to a trillion dollar market was created just after the Great Financial Crisis and is largely unaffected by the implications of Regulation SHO as ETF's have the liquidity provision embedded into them using **Creation/Redemption** in the secondary market.

The Big Three: BlackRock, Vanguard, and State Street.

These funds are generally seen as passive investing funds and as long as the fund maintains it's **Market Cap Weight** the underlying securities weights and share counts change often. One overarching theme with almost all ETFs is that they contain at least one to **two HIGH liquidity stocks** such as Exon Mobile or Apple that, due to it's **liquidity provisions** it is not effected by the deviations in the ETF Net Asset Value and resulting arbitrage. It is well know that The Big Three are **dick deep** into the share lending business as the fee collection between ETF Sponsors and Short Hedge Funds creates a steady stream of revenue for them.

Let's Look At The Collective ETF's By Each Issuer Over Time:

(Red Line): Put Open Interest

(Yellow Line): Call Open Interest

(Blue Line w/ Red Dots): GME Percent Price Change

BlackRock Funds (Without IWM) : ITOT, IWP, IMCV, IMCB, IWR, IMF, ILCV, ILCB, IWB, IJH, IJK, IUSG, IYC, IYY, XJH, ILCG, IEME, IEDI.

(Not All Funds Trade Options)

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Vanguard Funds (Without VTI) : VT, ESGV, VCR, VBR, VXF, VB, VTHR, VV, VONE, VONG, VTV, VO, VOE, IVOO, IVOG.

(Not All Funds Trade Options)

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State Street Funds: XRT, SPTM, VLU, MMTM, ONEO, SPGM, MDYV, SPMD, MDYG, MDY.

(Not All Funds Trade Options)

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WHO ARE THE MARKET MAKERS!?

With ETF's there are many Authorized Participants (AP's) that facilitate trading on any one ETF. Some more than others depending on size and who the issuer is. Please see the below in the broad market share depiction of AP's in the ETF space.

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OKAY, BUT WHO ARE THE GME ETF MARKET MAKERS?

First, This data would not have been possible without a complete wizard which is u/Camposaurus_Rex who parsed through each and ever sub category of ETF and ETF Trust series to pull of the creation/redemption size data to map it out **specifically for ETF's that hold GME.**

In keeping with the Big Three Theme we will look at who is the market maker on the collection of funds by the specific issuer:

Blackrock (ishares) Authorized Participant's:

Three largest AP's: Merrill Lynch, Goldman Sachs, and Citadel Securities.

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Vanguard Authorized Participant's:

Three largest AP's: Virtu, JP Morgan, and Citigroup

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State Street (SPDR) Authorized Participant's:

Three largest AP's: Merrill Lynch, Virtu, and Citadel Securities

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Arbitrage: Wut Mean?

In the case that the share price of an ETF exceeds the Net Asset Value (NAV) of the fund a trader could purchase the securities that make up the index the ETF tracks. At the same time the trader would also sell short the ETF share. This action would lower the ETF price and raise the NAV, pushing the two prices back into alignment. At the close of business the trader would then redeem the basket of securities with the ETF sponsor and they would issue a new ETF share. In the case there would be the “creation” of an additional ETF share. This process can work in the reverse, however, as the ETF sponsor would “destroy” an ETF share in order to return to the trader a basket of securities used to represent the index tracked by the ETF. For the ETF sponsor, who takes a small fee for redeeming shares, this is a zero-sum game. There are two important facts about this process. First, only those deemed an “Authorized Participant” (AP) could redeem shares with the ETF sponsor. APs are usually large market making firms. Second, these transactions typically involve a minimum of number of units to be redeemed at one time, for most ETFs this number is 50,000 units. With the possibility that ETF funds are being rebalanced throughout the day and that these redemptions are done in such large numbers, is likely that ETFs can have some impact on the market as a whole.

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In order for an arbitrage trader to profit from the redemption trade, the spread between the ETF price and its NAV must be large enough to cover the costs of executing the trades involved. These cost included, but not limited to, the transactions cost execute the trade and the small redemption fee charged by the ETF sponsor. In order for such redemptions to take place, a large number of shares of the basket stocks must be bought and sold in order to complete the arbitrage process. As expected, larger spreads are immediately followed by increased volatility, if only for a short time. This increase in volatility is presumed to be the effect of arbitrage traders making large and fast trades to take advantage of the mispricing of the ETF.

Another Way That Large Institutions Take Advantage of ETF's is through wash sales referred to as "The Market Heart Beat".

[Market Heart Beat DD](https://www.reddit.com/r/Superstonk/comments/rl6yg8/gamestop_and_the_market_heartbeat/)

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Everyone's Favorite ETF:

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The continual rolling of a Vertical Put Spread....

** The original opening hedge: The January Sneeze

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XRT:

(Yellow Line): XRT Put Open Interest

(Purple Line): XRT Call Open Interest

(Blue Line w/ Red Dots): GME Percent Price Change

(Green Lines): Failure to deliver on XRT as a percent of it's shares outstanding

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Explanation: As you can see when put open interest drops an estimated -20%+, we see a move a dramatic price move in Gamestop or we see a massive build up in FTDs on XRT like we did in December sending the ETF onto Reg Sho Threshold list. But how does this mechanism work?

Market Makers are exposed as the expiring puts are re-positioned and rolled to the next expiration so for a brief time they are un-hedged and must use the direct lending pool to borrow stock (GME cost to borrow goes up) we get excited and suppress price within reason. The put position is re-established and market makers have to now go out into the market and buy what shares are available.

XRT Call/Put Implied Volatility:

You can also see this illustrated here by the Call IV and Put IV on XRT, as well as the difference in that Call/Put IV Difference mapped against GME Price Change. You can see during the Jan Sneeze that the XRT 25-Delta Call/Put IV rocketed up. We can also see that since 3/22/22 XRT IV is on an upward trajectory. Obviously this can be due to many reasons (such as overall market downturn), but the data is an interesting point non the less looking at XRT IV on previous GME runs.

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When they do buy it sends the stock price of GME up and what shares aren't available Market Makers are Reg Sho exempt and can deliver synthetic shares that are then returned to the direct lending pool pushing down the borrow fee on GME and related ETFs.

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Market makers are given more time to settle their accounts than everyone else: While most investors' trades must settle in T+2, market makers have up to T+5. Market makers often have reason to delay settlement for as long as they can, particularly for ETFs. If Bob is a market maker trading ETFs, it might deliberately sell more and more shares of XRT short until it's sold enough to warrant creating a basket with the ETF issuer, thus making good on its sales. The longer Bob delays basket creation, the longer it can avoid paying the creation fee (often $500 or $1,000) and related execution costs. Moreover, it can delay the time it takes before taking on responsibility for a full creation basket of ETF shares (often 50,000 shares).

Where are we now?

XRT Rolls: They rolled March 14th-->June 17th, Jan 21st-->June 17th, April 4th-->May 20th, March 24th--> June 17th, Feb 17th/Feb 9th--> June 17th........ Okay so now they rolled May 20th-->June 17th & July 15th.

XRT June 17th Expire (By Strike) : Green Increase in Open Interest, Red Decrease in Open Interest

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XRT July 15th Expire (By Strike) : Green Increase in Open Interest, Red Decrease in Open Interest

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XRT Sept 16th Expire (By Strike) : Green Increase in Open Interest, Red Decrease in Open Interest

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XRT Jan 20th 2023 Expire (By Strike) : Green Increase in Open Interest, Red Decrease in Open Interest

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I encourage you to look through the rest of XRT's expirations and options chain and see when each strike started trading and how positions were rolled. At this time The June 17th expiration is a large one and **AFTER** this expiration Market Markets will likely have to re-position themselves and also go out into the market and buy stocks as positions that were ITM are exercised. This will very likely cause a run on GME.

** Unknown factors: XRT recently came off Reg Sho Threshold List and their ability to FTD during this large options expiration increased. Watch pre-market volume AFTER the June 17th expiration on GME and pay close attention to the XRT options volume as they enter into new positions. If you play options please pay for some Theta. If you don't then between the times of when a new put hedge is re-established you can time a bottom to get some cheap shares.

Supporting Papers:

https://academic.oup.com/rof/article/25/4/937/5919085?login=true

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2736392