2021: Two interesting episodes (already)

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The two events

- Wild price moves in Gamestop linked to short squeeze
  - This now has real impact as GameStop announced Monday, April 5 that it will raise 3.5 million shares in an at-the-market offering
- Collapse of Bill Hwang's Archegos Capital Management hedge fund, which ironically, was perhaps precipitated by Viacom's announcement on March 22, 2021 that it would raise $3 billion in an equity offering.

Both reflect the current state of capital markets–especially the free money environment created by the Fed and ECB.

Gamestop: 70M shares outdg; Float: 54M

Worth noting that 23% of the outstanding shares are not available for public trading.

Backdrop: fundamentals and ownership

- Gamestop is likely Blockbuster Video of the 2020s.
- In September 2020, Ryan Cohen announced that his RC Ventures had acquired 9 million shares of GME, and was encouraging management to become the Amazon.com of electronic gaming.
  - Ryan Cohen is the entrepreneur who started Chewy, which was sold to PetSmart in May 2017 for $3.35 billion.
- By April 2021, Cohen is the incoming chairman of the board, and his vision is driving the company.
- As of February 2021, BlackRock, RC Ventures, UBS, Vanguard, Senvest Mgt, Maverick Capital, and Susquehanna Secs together own over 44 million shares (81% of the float).

Gamestop: credit spread on March 15, 2023 bond

The October 8, 2020 event that had such a big impact on GME's credit spread was an announcement of a strategic partnership with Microsoft. This announcement has very little to do with GME's strategic positioning in the market–it's more of a hope for reducing operating costs slightly. On that date the stock jumped 37% to $13.49 on 76 million shares traded.

Bond market perspective

- Looking at GME's credit spread over the past year:
  - It was over 2,000 basis points in early September, 2020.
  - Roughly 1,000 basis points following the October 8 announcement.
  - Down to $\sim$ 850 basis points in early December following new Microsoft and Sony (PS5) console releases.
  - Down to 479 on April 7, 2021. Obviously if GME raises \$1 billion in an equity offering, the \$670,000 in long-term debt outstanding is less at risk.
  - Long-term debt rated B3 by Moody's, CC by Egan-Jones, and B- /on upgrade watch by S&P.
  - Last rating change: S&P downgraded from B+ to B- on March 31 2020.

Short Interest

On Dec 31, 2020, the short interest in Gamestop stock was 71,196,000 shares, or 131% of the float, and more than the shares outstanding.
How do you short sell? Example institution shorting 200,000 GME shares at $10 per share.

- You must arrange to borrow the shares. The transaction used to borrow shares is a repurchase agreement (repo).
- You submit an order to sell 200,000 shares, which is executed.
- The transaction settles in 2 business days. You receive the $2 million cash from the sale.
- Deliver the cash to Wells Fargo, and it wires the securities to your account. The cash will include the haircut on the transaction, typically 2%, so this amount is $2,040,000.
- Deliver the shares to the buyer.

Short Interest-2

- The repo agreement will specify the repo rate and term. For example 13 basis points for 1 month. This agreement means that in 30 days, you are required to deliver 200,000 GME shares to Wells Fargo, and they are required to deliver you $\$2,040,000 \times \left(1 + .0013 \cdot \frac{30}{360}\right)$.
- The reasons for this arrangement relate to legal aspects of lending and bankruptcy.
- An important aspect of this agreement is the mark-to-market requirement, since this is a term (30-day) repo. Most repos are overnight.
- Whether the result of having to mark, or rolling the repo, if the price jumps to \$50, then the short seller has to either close the position, or post \$48,960,000 in cash (collateral).

So even if the short seller is right, and the stock is worth 0 a year later, it can lose as a result of funding risk.

The shares and rehypothecation

- Short selling effectively increases the shares outstanding from the perspective of the market but not in fact, and not from the perspective of the issuing company.
- The securities lender is not the beneficial owner, the buyer is. So the voting rights belong to the buyer, and the dividends are paid to the buyer.
- However, the repo agreement provides for the borrower of the shares to pay all dividends to the securities lender. (One reason for borrowing shares is to obtain the voting rights in a proxy fight.)
- The situation can be further muddled in the process of rehypothecation. The buyer(s) can themselves lend the shares that they own. This explains how the short interest can exceed the float (or even total shares outstanding).

Repo Specials

- This discussion highlights a feature of financial securities: They have value as collateral in the market for lending/borrowing securities.
- The procedure I described assumes that the stock (Gamestop, in the example) is considered general collateral in repo.
- When there is high demand to borrow the financial asset, it can trade "on special." This means that the borrower of the security will not earn the market rate on the cash collateral. For example, if Gamestop trades on special by 500 basis points, then the repo rate is -4.87%. This means that the securities borrower will "earn" a -4.87% rate on the cash collateral.

Convenience Yield

- Expected future specialness can drive a wedge between a financial asset's fundamental value and its market value.
- For example I can replicate the on-the-run 10-year US Treasury note with a portfolio of fungible coupon STRIPS.
- This portfolio has exactly the same cash flows as the note, and sells for 99% of par.
- At the same time the note itself sells for par.
- The difference in value is not a mistake it reflects the present value of the note's specialness (convenience yield) above that of the replicating portfolio.
- On March 4, 2021, the Feb 15, 2031 10-year US T-note traded 4.28% on special. (GC repo rate: 3 basis points; This note: -4.25%)

Shorting Risks

Recall Recall means that the securities lender does not agree to roll over a repo agreement on maturity. A study on equity shorting in 2000-01 showed 2% of stocks on loan per month are recalled.

- It can take anywhere from 0 to 50 days to find replacement shares.
- If the short seller cannot find replacement shares it must cover the position by buying the shares in the market and delivering them to the lender.

Rising specialness

Increased haircut In addition to the need to mark the position to market– which requires additional cash when the financial security's price is rising – the percentage of the haircut can change when the position is rolled.

Who lends securities, and why?

- Institutions with long horizons and relatively low turnover are the primary sources of the financial securities.
  - Endowment funds
  - Pension funds
  - Life insurance companies
- Income comes from borrowing cash at overnight repo and lending a little further out on the yield curve and taking on a little more credit risk. Picking up the spread. For example if overnight repo is 27 basis points and 4-day acceptances pay 38 basis points, the securities lender picks up 11 basis points.
- The income from securities lending activity is very small, but attractive as it is largely disconnected from equity risks.
- There are counterparty risks, which are managed by:
  - Choosing counterparties judiciously
  - Marking to market frequently

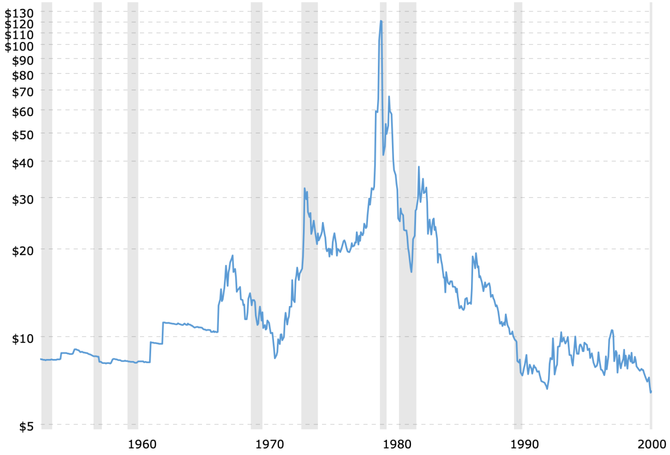
Short Squeeze

- A short squeeze is a classic form of market manipulation.
- Conceptually it is related to funding risks– a short payoff profile is highly skewed: Unlimited loss and finite gain.
- Somehow buyers identify that there exists a demand for an asset that may be (locally) price-insensitive demand. Traditionally a squeeze can be tied to a single large player.
- A short squeeze is related to “cornering” the market.

A billion dollars just ain't what it used to be

- Hunt brothers squeezed silver market terminating in March 1980.
- Formed a cartel with wealthy Saudis and family to buy 70% of silver futures, along with the physical commodity.
- As shorts posted more margin Hunts bought more silver.
- In January 1980 CBOE suspended new futures contracts in silver.
- The Fed asked banks to restrict margin lending. All that was left was the collapse.
- And Hunts lost price-manipulation lawsuits.
- Title quote: Nelson Bunker Hunt in US Senate testimony on how to lose billions of dollars by speculating.

Silver Prices: 1952 – 2000



Prices shown in 2021 dollars. Recessions highlighted in gray.

US Treasury Note Squeeze: June 2005

- PIMCO is so large in the fixed income arena that it generally prefers to gain the billions of dollars in exposures to US Treasuries in the futures markets than the bond (spot) markets because of liquidity.
- There was an unusual situation pertaining to the June 2005 10-year Treasury note futures contract.
- One way to execute a short squeeze is to have a long futures position and not roll. (Hunts argued that the fact that they rolled their positions is proof that they were not manipulating the market.)
- PIMCO was sued and settled out of court for $92 million without admitting guilt.

Volkswagen Stock and Porsche: October 2008

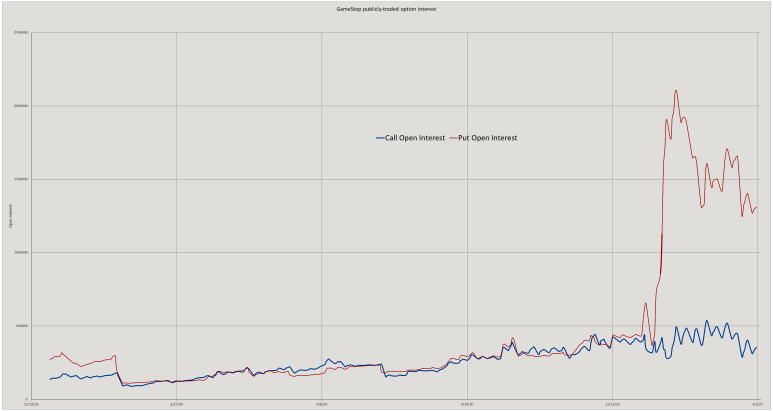
- Prior to Global Financial Crisis, Porsche set its sights on acquiring VW.
- Unusual divergence developed between VW's voting shares and non-voting shares.
- As GFC developed, the "preference" shares were selling at 20% of the price of "ordinary" shares.
- This excited arbitrageurs who shorted the ordinaries and bought the preference shares.
- Hidden from view, Porsche has been buying "cash settled options" (synthetic forwards) on VW ordinaries, which brought their control to 74.1%.

Volkswagen: Most valuable company in the world

Volkswagen Stock and Porsche: October 2008

- That announcement meant that less than 6% of VW's shares were available to trade.
- And short interest exceeded 12% of the shares.
- The shorts were squeezed.
- Ironically the move put Porsche into financial distress, and VW bailed out Porsche in July 2009.

Options and Gamestop: No evidence of a "Gamma Squeeze"



Options and Gamestop: No evidence of a "Gamma Squeeze"

- Unlike another "meme stock" AMC, put open interest in GME blows up relative to historical levels and call open interest, as the GME price spikes. If dealers are largely writing puts, then they are net long, and they can hedge by going shorting the stock.
- Could once again be a battle of hedge funds. And that might explain the second spike in price.
- There are still many mysteries about GameStop's behavior. And a lot of misconceptions.
- For example, this is not a David vs. Goliath (retail trader vs. hedge fund) story. Retail trade was largely net flat throughout the cycle.
- RobinHood is a sideshow. Although it highlights risk inherent in the current $T + 2$ equity settlement procedure in the US.

GME and the ETFs

GME and the ETFs -2

GME and the ETFs -3

- XRT is the S&P Retail ETF (managed by State Street)
- It is equal-weighted with rebalancing on third Friday of every calendar quarter. (Last: Mar 19, 2021).
- I don't see any problem here. When the fund rebalanced (on a pre-set, public schedule) on March 19, 2021,, it sold holdings to bring GME's weight down to 1/N. If anything this is stabilizing.
- Fund flows at an ETF involve Authorized Participants asking for component shares in exchange for ETF shares, or asking for new ETF shares in exchange for component shares.

GME and the ETFs -4

- In fact, this redemption / creation process is more efficient and equitable than what happens with Mutual Funds.
- Here the AP incurs the transaction costs. In fact after a large run-up in GME, XRT will have to sell a lot of GME–incurring transactions costs, since it rebalances to equal weighting. That would adversely affect *all* ETF holders.
- But when APs redeem their XRT shares for its components, the transfer does not stick remaining XRT shareholders with the transaction costs.
- An interesting point about hedging–which is not directly related to ETFs: Consider a trader who wanted to isolate the upside in (say) BestBuy. Goes long BBY and shorts XRT. Because of the huge swing in GME this trade fails as a hedge.

Policy / Strategy implications?

- I would love to see a more transparent and centralized market for securities lending. It is highly fragmented and opaque.
- I am curious about instantaneous settlement. $T+2$ seems archaic and creates counterparty exposure (why RobinHood had to suspend trading and seek additional capitalization).
- A great example of how a great story can distort the facts. Hopefully policy will not be driven by a false narrative.

Archegos is classical bank run

- The Archegos (Bill Hwang) affair is much easier to understand than the GameStop behavior.
- It's the story of poor underwriting, or risk management, standards by banks: Goldman-Sachs, Morgan-Stanley, Nomura, and Credit-Suisse.
- From what we know, Archegos was a market-neutral stock picker, with around $20 billion in assets in early 2021.
- Its stock positions were in the form of total return swaps with its banks (or prime brokers). This fact has led to confusion in the media.

Total Return Swap

- Very simple instrument. The contract specifies a notional value, for example $100 million.
- Goldman agrees to pay Archegos all capital gains and dividends on the underlying stock (say Viacom) every quarter.
- Archegos agrees to pay Goldman a fixed rate (for example 20 basis points) on the notional principal every quarter.
- Goldman will buy the stock, hold it in custody (and be the beneficial owner) so it has no exposure to Viacom.
- The position is analogous to what would happen if Archegos bought the stock on margin through Goldman (Goldman would have custody of the stock, but Archegos would be the beneficial owner), and Archegos would pay interest to Goldman.

Total Return Swap -2-

- Note that if Archegos does this arrangement for 4.99% of Viacom shares with 5 different prime brokers, it effectively has control of 25% of Viacom's shares, but has not revealed this to SEC.
- Also note that Goldman has no risk with respect to Viacom – conditional on Archegos remaining solvent.
- So Goldman has counterparty risk.
- Should Archegos experience financial difficulty–which could be due to a drop in Viacom's price, Goldman will seek to sell Viacom quickly –putting pressure on Viacom's price, and heightened pressure on Morgan-Stanley, Nomura, and Credit-Suisse.
- Credit-Suisse sold 34 million shares of Viacom, 14 million shares of Vipshop, and 11 million shares of Farfetch on April 5, 2021.

Archegos' run

- On April 6, 2021, Credit-Suisse announced a $4.7 billion writedown as a result of these trades.
- Archegos highlights a phenomenon that is similar to a short squeeze that can result from a large player in a small market. (Hwang was a "whale" in the individual stocks – his repeated buying had pushed prices above fundamentals. Because Hwang is so highly levered, there is no room for error.)
- In some ways reminiscent of the Hunt's "billion dollars."

Archegos and Long-Term Capital Management

- There are striking similarities between the Archegos case and that of LTCM in late-summer, early-fall, 1998.
- Both were failures of due diligence on the part of lenders. Interesting to speculate as to why:
  - The fund is prestigious with an impressive recent record. (Although Hwang had been fined by the SEC ($44 million) in 2012, for illegal insider trading.
  - Bad incentives in the organization. All these financial institutions were partnerships prior to the 1990s.

Policy / Strategy implications?

- Under Regulation T, the Federal Reserve sets the minimum margin requirement for individual investors. Currently this is 50%.
- Clearly institutions are not constrained by this. Should Regulation T be extended to institutions?
- Following on this, should the Fed aggregate customer data across banks to mitigate systemic risk? Why don't banks require full financial disclosure from customers?