SIFMA Insights

Market Structure Survey

Gauging the New Normal for Volatility, Volumes, Market Levels & Retail Investor Participation

May 2021

Key Takeaways

- VIX expectations: High teens to low 20s range, 62.5% of responses
- Volumes expectations: Equity ADV ~10B shares, 83.9% of responses; multi-listed options ADV high 20s to low 30sM contracts, 77.4% of responses
- Markets expectations: Continue to expand but at a slower pace, 56.3% of responses; top risks to both the up and downside are COVID and monetary/fiscal policy, in mirror positions
- Retail Participation expectations: equities 20-30% (84.4% of respondents), to decrease somewhat in 2021 (43.8% of respondents); options 20-30% (31.0% of respondents), to decrease somewhat in 2021 (41.9% of respondents); plus reasons retail participation grew and what it might take to maintain participation

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Contents

SIFMA Insights can be found at: https://www.sifma.org/insights

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Setting the Scene

2020 Market Madness

Needless to say, 2020 was a very interesting year for markets. Market trends were driven by COVID-19, a presidential election, and the rise of retail investing. Volatility and volumes in both equities and multi-listed options reached, and remain at, higher than historical levels. We highlight the following trends: (YTD as of April 30)

- **Volatility (VIX)**
  - 2020 average 29.25, +90.1% Y/Y
  - YTD average 21.72, -25.7% to 2020
  - April average 17.42, -35.4% to the start of the year

- **Equity Volumes (ADV)**
  - 2020 average 10.9 billion shares, +55.4% Y/Y
  - YTD average 13.4 billion shares, +23.0% to 2020
  - April average 9.9 billion shares, -31.5% to the start of the year

- **Listed Options Volumes (ADV, total contracts)**
  - 2020 average 29.0 million contracts, +52.5% Y/Y
  - YTD average 39.4 million contracts, +35.5% to 2020
  - April average 33.4 million contracts, -15.3% to the start of the year

- **Market Performance (S&P 500)**
  - 2020 average 3,217.86, +10.5% Y/Y
  - YTD average 3,936.25, +22.3% to 2020
  - April average 4,141.18, +11.9% to the start of the year

- **Retail Investor Participation**
  - Equities estimated at 25%-30% of total volumes, up from ~10% historically
  - Listed options estimated at ~50% of 2020 volume growth

Leads to Questions on the New Normal

Now market participants are wondering what the new normal will be as we move through 2021. As such, we thought it would be interesting to survey our equity markets and listed options trading committees, as well as representatives of U.S. equity and multi-listed options exchanges. We questioned survey respondents about where they saw 2021 market metrics heading, as well as their views on retail investor participation.

This report analyzes those results, and we highlight the following survey trends:

- **Volatility (VIX)**
  - Majority says? High teens to low 20s range, 62.5% of responses
  - Return to 2019 levels? Very few people, 6.3% of responses

- **Equity Volumes (ADV)**
  - Majority says? Around 10 billion shares, 83.9% of responses
  - Return to 2019 levels? Very few people, 6.5% of responses

- **Listed Options Volumes (ADV)**
  - Majority says? High 20s to low 30s million contracts, 77.4% of responses
  - Return to 2019 levels? No respondents (0%)

- **Market Performance (S&P 500)**
  - Majority says? Continue to expand but at a slower pace, 56.3% of responses
  - Upside risks? Controlling COVID, accommodating monetary policy and stimulus, etc.
  - Downside risks? Runaway COVID, reversing monetary policy and higher taxes, etc.

- **Retail Investor Participation**
  - Top response for equities?
    - 2020 volumes 20-30%, 84.4% of respondents
    - 2021 expectations to decrease somewhat, 43.8% of respondents
  - Top response for listed options?
    - 2020 volumes 20-30%, 31.0% of respondents
    - 2021 expectations to decrease somewhat, 41.9% of respondents
  - Why did retail grow? Staying at home, technology/access to platforms, $0 commissions
  - What will keep retail engaged? Continued upward momentum in markets, positive investing experience, $0 commissions

We also compare trends across asset classes:

- **Volumes (ADV)**
    - There is a higher conviction in estimating the new normal for equities ADV and a larger differential to the number two response: #1 estimate 83.9% of respondents, #2 estimate 9.7% of respondents (74.2 pps variance). For options, the #1 estimate was 77.4% of respondents, #2 estimate 19.4% of respondents (58.1 pps variance).

    - As to returning to 2019, or historical, levels, zero responses were recorded for options versus just 6.5% of responses for equities.

- **Retail Investor Participation**
    - 2020 Percent of total ADV – Respondents estimate the level of retail participation is 20-30% of total volumes for both equities and listed options. However, the level of conviction varies by asset class, with more confidence in equities estimates: equites 84.4% of respondents (followed by 12.5% of respondents indicating >30%), options 31.0% (followed by 27.6% of respondents indicating a 40-50% level and 20.7% of respondents noting a 30-40% level). Not only did options responses have a lower conviction in the top response, but the top three responses have low variations.

    - 2021 changes – The number one response for both equites and options was an expectation that the level of retail participation would decrease somewhat this year: equities 43.8% of responses, options 41.9% of responses. The number two response was also the same, expecting retail participation to increase at a slower pace: equities 28.1% of responses, options 35.5% of responses. For both asset classes, no one expects the level of retail investors to increase at the same pace as last year nor to decrease substantially.

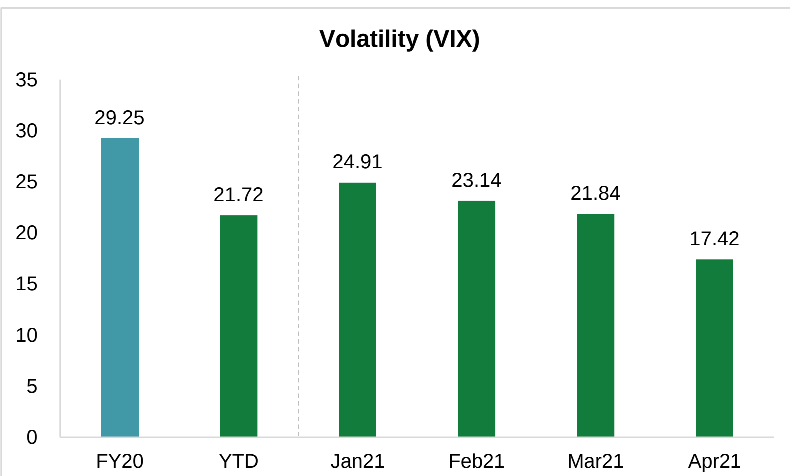
Volatility

Market Metrics

Last year, volatility hit a historical peak in March. The VIX declined from the peak yet remained elevated to past levels for the rest of the year. Before running through our survey results, we recap 2020 metrics and what the trend is so far in 2021 (YTD as of April 30):

Volatility (VIX)

- 2020 average 29.25 (+90.1% Y/Y); daily peak on March 16 at 82.69, monthly peak in March at 57.74
- YTD average 21.72. The VIX continues to come down as we move through the year, now below the 2020 average (-25.7%) but still above historical levels (+41.2% to 2019 average). April average 17.42, -35.4% to the start of the year.



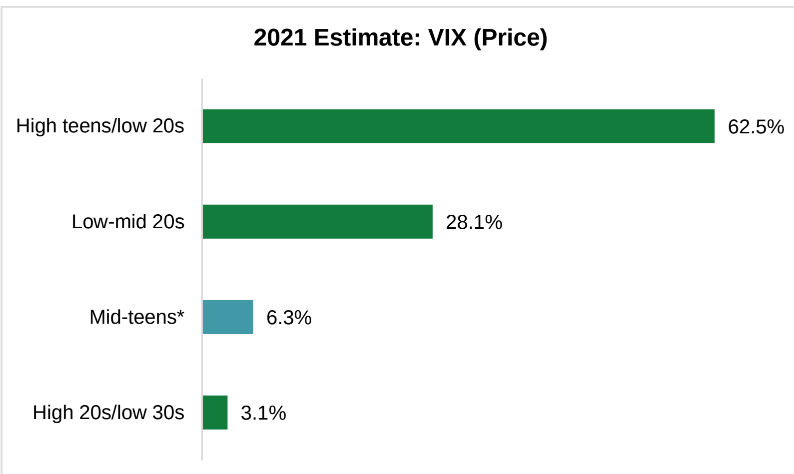
Source: Bloomberg, SIFMA estimates

Survey Results

Will volatility decrease further once we have a vaccine distributed en masse and are able to return to normal on a full scale (whatever that may look like)? Or have other structural shifts in the market permanently lifted the historical volatility range?

Survey Question: What do you expect to be the new normal in 2021 for the VIX?

Responses: The majority of respondents, 62.5%, expect the VIX to remain in the high teen/low 20s range. Depending on what the actual number is in this range, this would represent a 17%-43% increase to historical levels (using 18 as the low and 22 as the high, average +30%). Very few respondents (6.3%) expect a return to historical levels.



Source: SIFMA market structure survey (* = 2019 average)

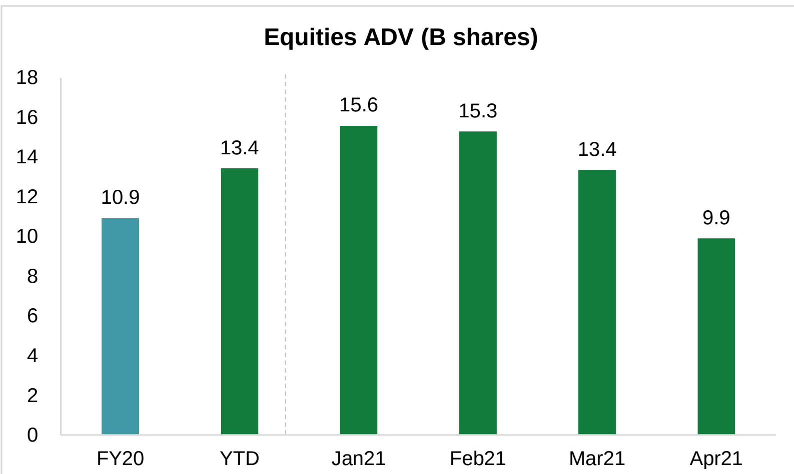
Volumes

Market Metrics

Last year, volumes in equities and listed options skyrocketed. While having come down from the peaks, ADV remains at levels elevated to historical trends. Before running through our survey results, we recap 2020 metrics and what the trend is so far in 2021 (YTD as of April 30):

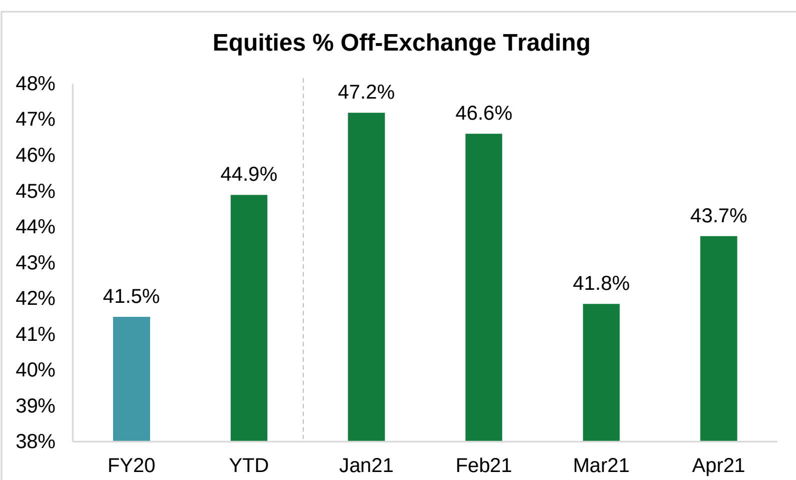
Equity Volumes (ADV)

Total: 2020 average 10.9 billion shares (+55.4% Y/Y); daily peak on February 28 at 19.4 billion shares, monthly peak in March at 15.6 billion shares. YTD average 13.4 billion shares. Equities ADV continues to come down as we move through the year, but the YTD average is still above the 2020 average (+23.0%) and well above historical levels (+91.1% to 2019 average). April average ADV of 9.9 billion shares is down 31.5% from the start of the year.



Source: Cboe Global Markets, SIFMA estimates

Off-Exchange: 2020 average 41.5% (+4.2 pps); daily peak on December 23 at 50.4%, monthly peak in December at 45.8%. YTD average 44.9%, +3.4 pps to the 2020 average. Off-exchange trading levels have fluctuated this year, but in general has come down from the high 40% and even >50% highs seen late last year.

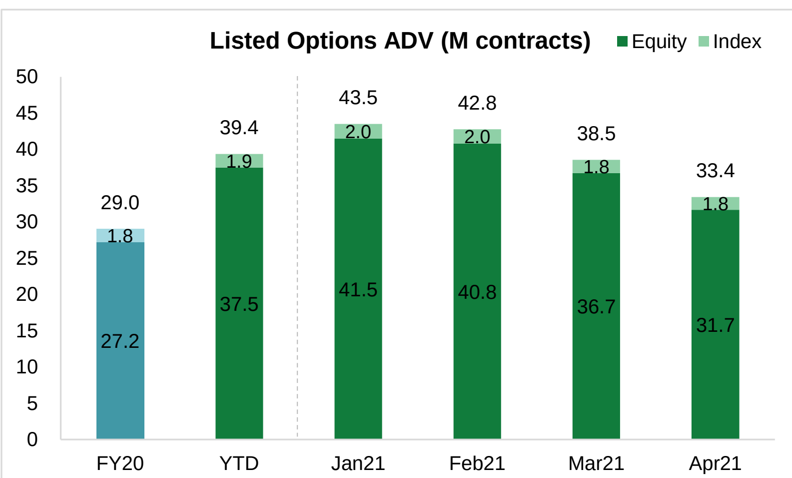


Source: Cboe Global Markets, SIFMA estimates

Multi-Listed Options Volumes (ADV)

Listed options ADV remains elevated to last year's levels, but has come down from the January average:

- Total: 2020 average 29.0 million contracts (+52.5% Y/Y); daily peak on November 9 at 47.7 million contracts, monthly peak in December at 33.7 million contracts
    - YTD average 39.4 million contracts, +35.5% to 2020 average
    - April average 33.4 million contracts, -15.3% to the start of the year
- Equity: 2020 average 27.2 million contracts (+58.2% Y/Y); daily peak on November 9 at 45.1 million contracts, monthly peak in December at 32.2 million contracts
    - YTD average 37.5 million contracts, +37.6% to 2020 average
    - April average 31.7 million contracts, -14.5% to the start of the year
- Index: 2020 average 1.80 million contracts (-1.9% Y/Y); daily peak on March 13 at 5.4 million contracts, monthly peak in March at 3.2 million contracts
    - YTD average 1.87 million contracts, +3.8% to 2020 average
    - April average 1.76 million contracts, -27.6% to the start of the year



Source: Cboe Global Markets, SIFMA estimates

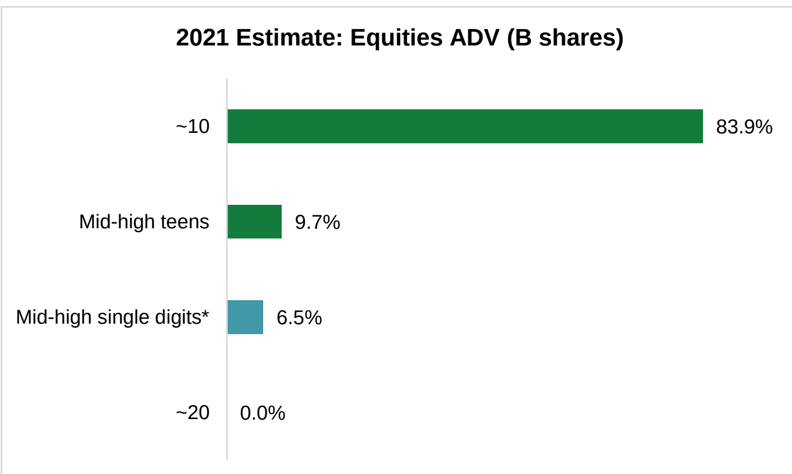
Survey Results

Equity Volumes (ADV)

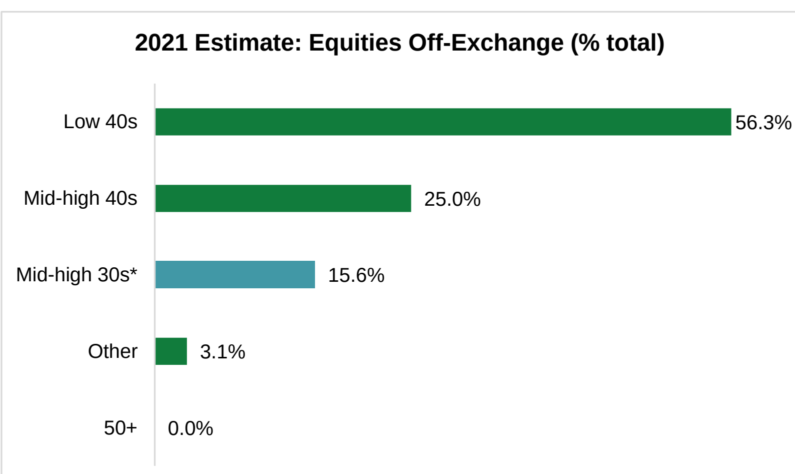
Much of the 2020 equity volume increase has been attributed to increased retail investor participation, but will these investors remain in the market for the long run? After all, equities volumes have been coming down as we move through this year. For off-exchange trading, why did it increase as much as it did in 2020? Have people become accustomed to a higher VIX and therefore learned to execute efficiently off exchange under these conditions?

Survey Question: What do you expect to be the new normal in 2021 for: (A) equity ADV? (B) off-exchange trading?

Responses (A): Respondents overwhelmingly expect equities ADV to remain in the 10 billion shares level (83.9% of respondents). This would be a 43% increase to historical levels, yet a normalization to the high levels seen last year and at the start of this year. Very few respondents expect a return to historical levels (6.5%).



Responses (B): 56.3% of respondents expect off-exchange trading to be in the low 40 percent levels, with 25.0% expecting a more elevated mid to high 40 percent range. A few respondents (15.6%) expect a return to historical levels, almost double of respondents expecting total equities ADV to go back to historical but still a low number.



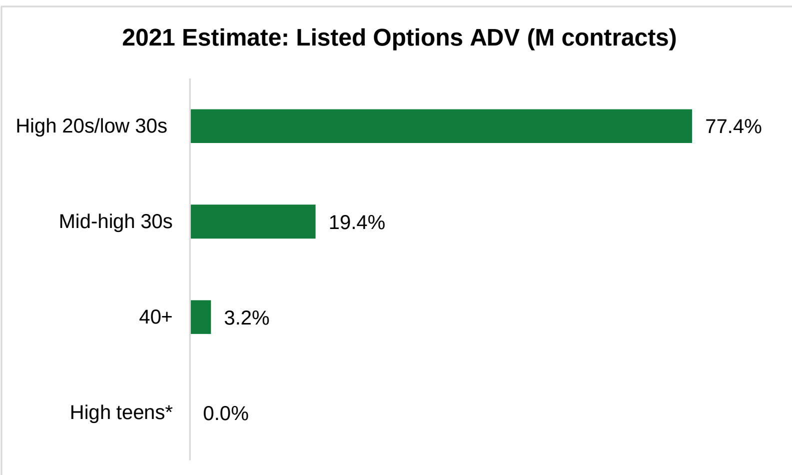
Source: SIFMA market structure survey (* = 2019 average)

Multi-Listed Options Volumes (ADV)

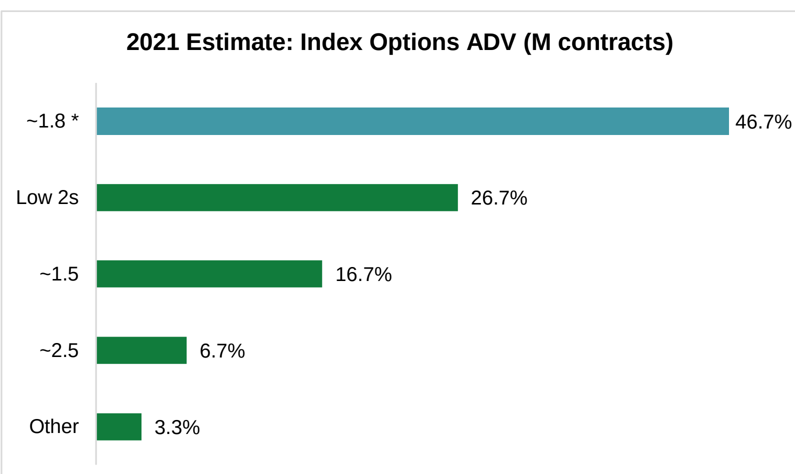
Much of the 2020 total multi-listed options volume increase has been attributed to the growth in retail investing, but will these investors remain in the market for the long run? After all, options volumes have been coming down as we move through the year. Will listed options volume growth continue to be driven by (single-stock) equities, or will index options growth pick up this year?

Survey Question: What do you expect to be the new normal in 2021 for: (A) total options ADV? (B) index options ADV?

Responses (A): Over three-fourths of respondents expect listed options ADV to be in the high 20s/low 30s range (77.4%). Depending on what the actual number is in this range, this would represent a 47%-68% increase to historical levels (using 28 as the low and 32 as the high, average 57%). No respondents expect a return to historical levels.



Responses (B): While this one is hard to estimate given it is a small number, most respondents expect ADV to remain at historical levels (46.7%).



Source: SIFMA market structure survey (* = 2019 average)

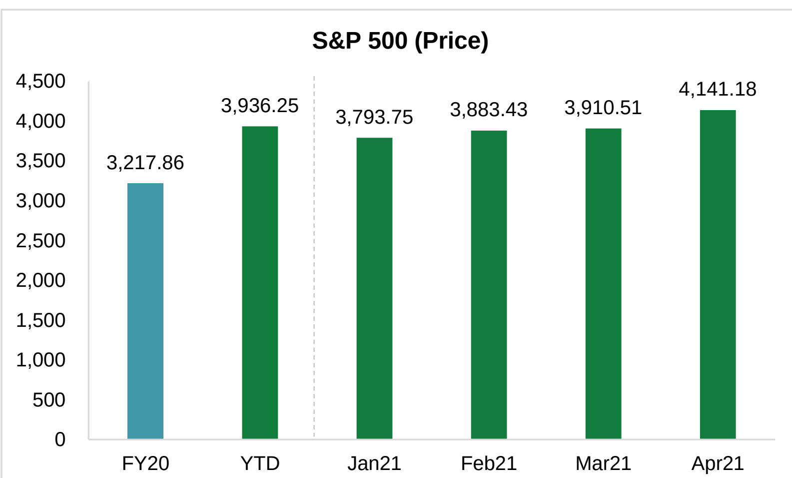
Market Performance

Market Metrics

While average prices for each of the four major indices – S&P 500, Dow Jones Industrial Average (DJIA), Nasdaq and Russell 2000 – closed 2020 higher than the start of the year, there were varying degrees in performances. This variance was driven by index composition, i.e. indices geared toward pandemic friendly stocks (technology, stay-at-home plays) outperformed for most of last year, driving indexes higher. Meanwhile, the small cap and domestic focused Russell 2000 took longer to recover. Before running through our survey results, we recap 2020 metrics and what the trend is so far in 2021 (YTD as of April 30):

S&P 500

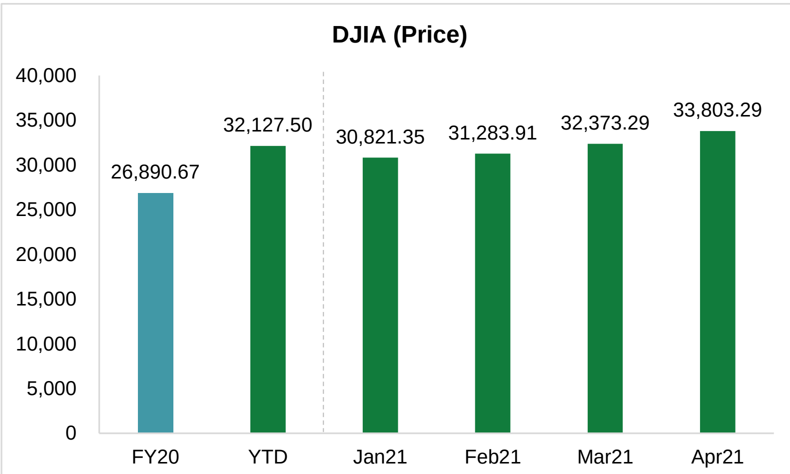
- 2020 average 3,217.86 (+10.5% Y/Y); troughed on March 23 at 2,237.40, closed the year at 3,756.07 (+67.9% from the trough)
- YTD average 3,936.25, +22.3% to 2020 average
- April average 4,141.18, +11.9% to the start of the year



Source: Bloomberg, SIFMA estimates

Dow Jones Industrial Average (DJIA)

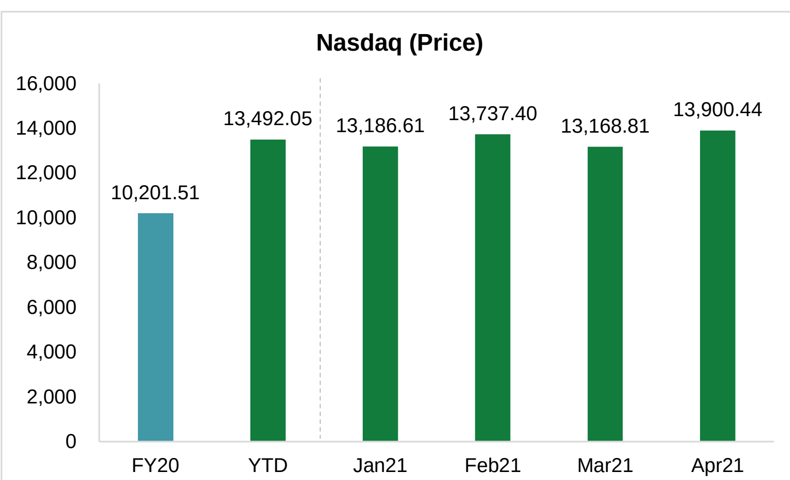
- 2020 average 26,890.67 (+1.9% Y/Y); troughed on March 23 at 18,591.93, closed the year at 30,606.48 (+64.6% from the trough)
- YTD average 32,127.50, +19.5% to 2020 average
- April average 33,803.29, +11.8% to the start of the year



Source: Bloomberg, SIFMA estimates

Nasdaq Composite

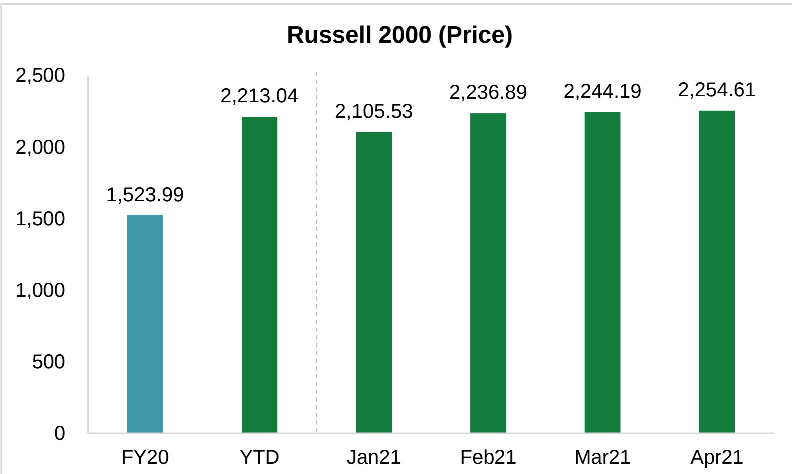
- 2020 average 10,201.51 (+28.5% Y/Y); troughed on March 23 at 6,860.67, closed the year at 12,888.28(+87.9% from the trough)
- YTD average 13,492.05, +32.3% to 2020 average
- April average 13,900.44, +9.5% to the start of the year



Source: Bloomberg, SIFMA estimates

Russell 2000

- 2020 average 1,523.99 (-1.4% Y/Y); troughed on March 18 at 991.16, closed the year at 1,974.86(+99.2% from the trough)
- YTD average 2,213.04, 45.2% to 2020 average
- April average 2,254.61, +15.9% to the start of the year



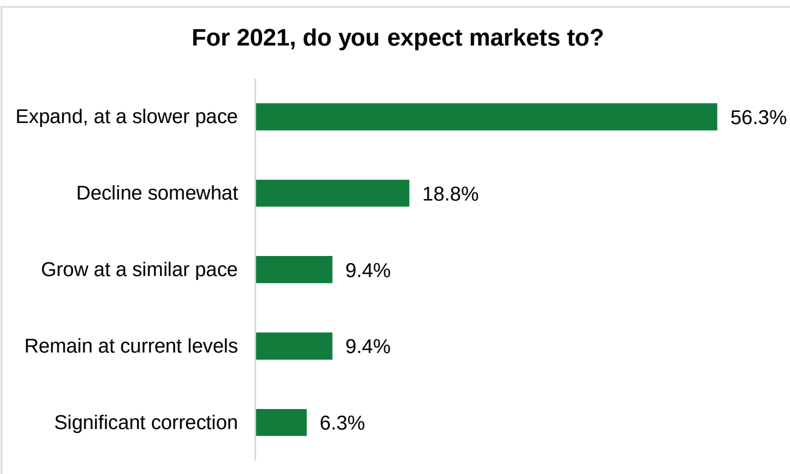
Source: Bloomberg, SIFMA estimates

Survey Results

For simplicity's sake, we asked respondents about markets as a whole, not by specific index. This means the responses include all sectors (technology, consumer discretionary, etc.), all company sizes (small, mid and large cap) and all regions of company operations (domestic versus international exposure). Unlike volatility and volumes, markets keep climbing higher (albeit the Nasdaq ticked down slightly in March). Will markets keep running? What are the risks to market performance, on the up and downside?

Survey Question: For 2021, do you expect markets to?

Responses: Almost two-thirds of respondents expect markets to keep climbing (65.6% total), with most expecting growth at a slower pace (56.3%). Of those in the decline camp (25.0% total), 18.8% responded they expect markets to decline only somewhat.



Source: SIFMA market structure survey

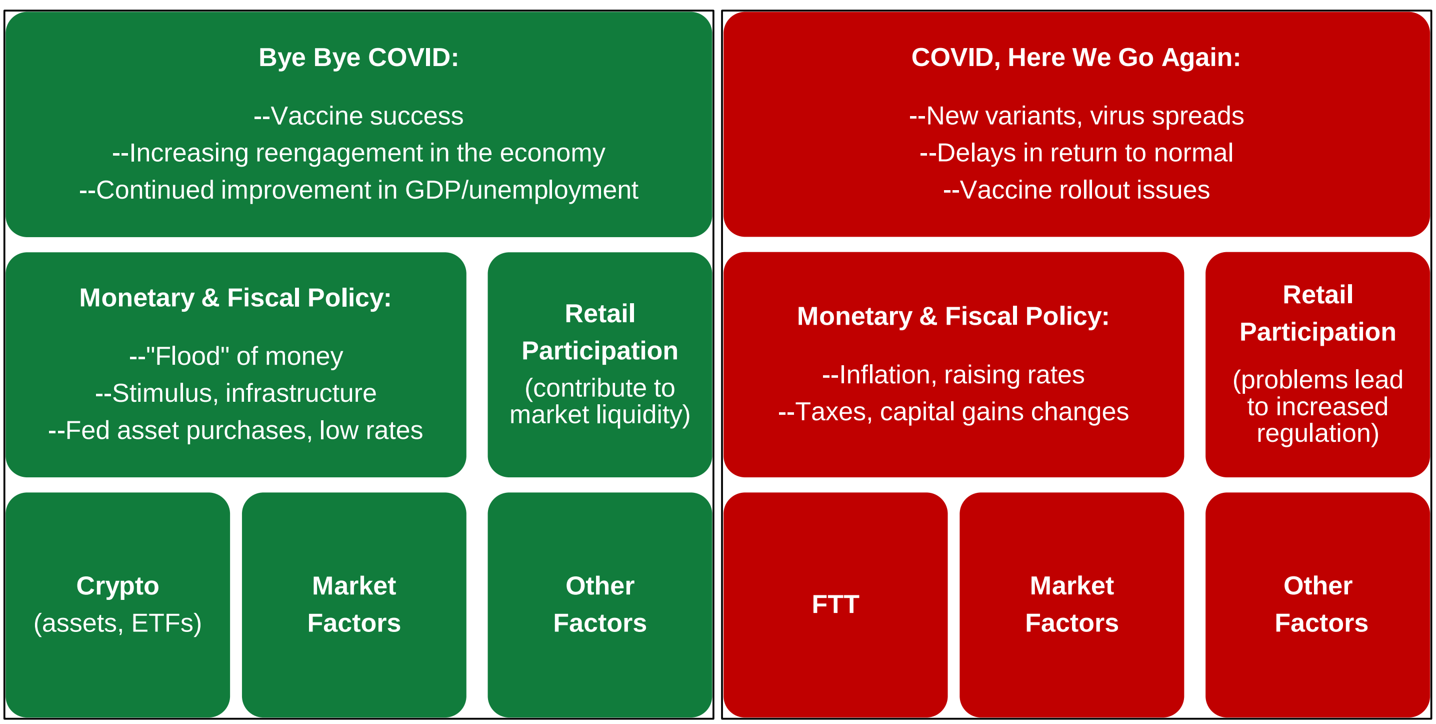
Survey Question: What do you see as the top three risks to markets in 2021 on the: (A) Upside? (B) Downside?

Responses: Of no surprise, most of respondents' answers were around COVID and monetary and fiscal policy, for both upside and downside risks. Whichever way COVID swings – vaccines rollout and protect successfully versus something goes wrong and there is a significant virus resurgence – determines the economic trajectory and therefore market potential. The next area with the most comments was in monetary and fiscal policy, but these were mirror opposites of each other. On the positive side was the "flood" of money (stimulus, potential infrastructure spend) and continued Fed actions (asset purchases, keeping rates low). Conversely, markets are watching inflation and the corresponding need for raising rates and are not looking forward to potential higher taxes (on corporations, changes to capital gains).

It is also interesting to see the standalones on the two sides. Cryptocurrency and the approval of crypto ETFs were drawn out as upside risks for markets. A financial transaction tax (FTT) was listed as a downside risk, by multiple respondents.

As to retail participation, the upside risk is that the continued (or growing) number of retail investors continues to contribute to market liquidity, a positive for all types of investors. On the other side, respondents are concerned about a retail "washout" (due to market glitches or investment mishaps) could lead to increased regulation, a downside risk to markets.

Upside Risks **Downside Risks**



Source: SIFMA market structure survey

Note: Upside, market - continued market volatility, institutional/sell-side getting back involved, P/E, regulatory, semi-transparent ETF growth, transparency off exchange trading; upside, other – demand, geopolitical, higher savings, low energy costs, US$, best of the worst. Downside, market – asset bubble burst, bank regulations, corporate earnings, cyber breach, fund de-leveraging, short sale restrictions and disclosures, social media/stock movements, standard correction from recent highs, irrationally exuberant valuations, technology failure, regulatory/SEC "runs amuck"; downside, other – global trade tensions/geopolitical, greater government debt, US$

Retail Investor Participation

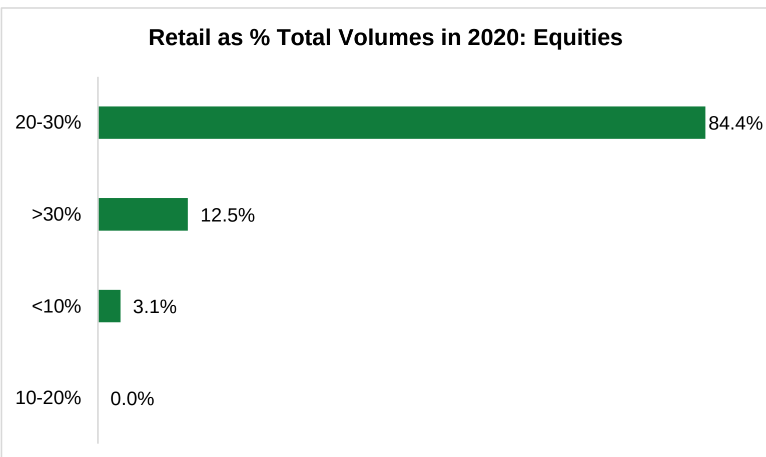
Background

Much of the growth in equity and listed options volumes in 2020 was attributed to increased participation by retail investors. As lack of public data makes it difficult to confirm exact numbers – 2020 estimates: equities 25%-30%, listed options ~50% of volume growth – we thought it would be interesting to survey market participants, the very people executing retail (and institutional) trades, to gauge participation levels.

Survey Results - Equities

Survey Question: What percentage of total 2020 equities volumes do you estimate were retail trades?

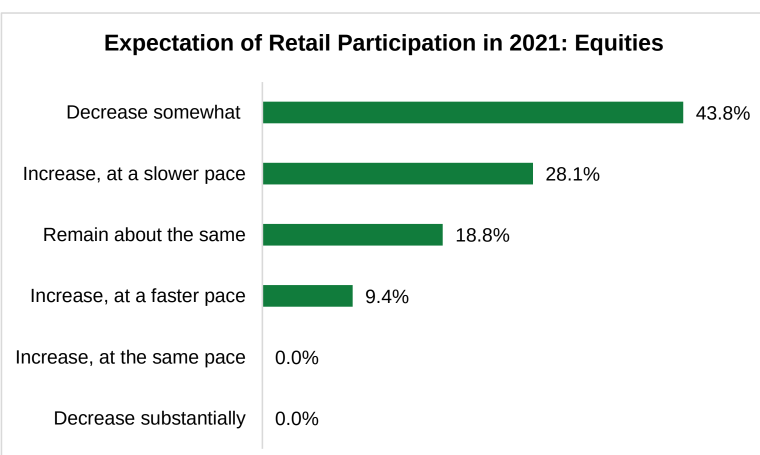
Responses: Overwhelmingly, respondents replied retail investors represented 20-30% of total equity volumes last year (84.4%). The next largest group estimate this number is greater than 30% (12.5% of respondents).



Source: SIFMA market structure survey

Survey Question: In 2021, how do you expect the percentage of retail participation in equities to change?

Responses: 43.8% of respondents expect the level of retail participation in equities to decrease somewhat in 2021. However, 46.9% expect either an increase at a slower pace or the level to remain about the same, 28.1% and 18.8% respectively.

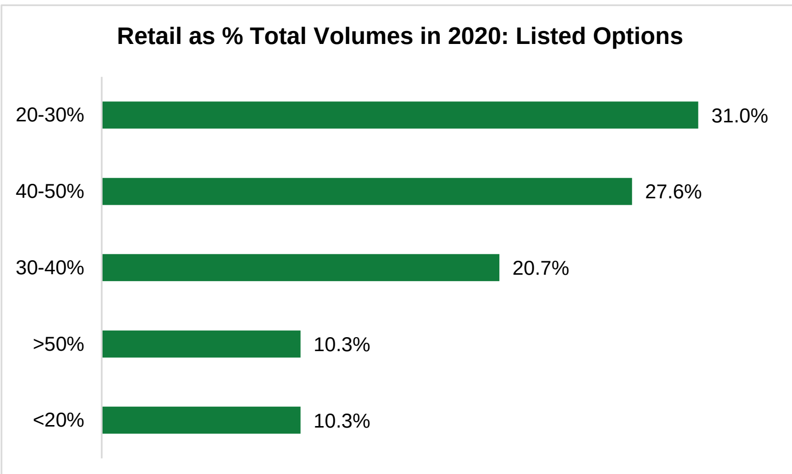


Source: SIFMA market structure survey

Survey Results – Multi-Listed Options

Survey Question: What percentage of total 2020 listed options volumes do you estimate were retail trades?

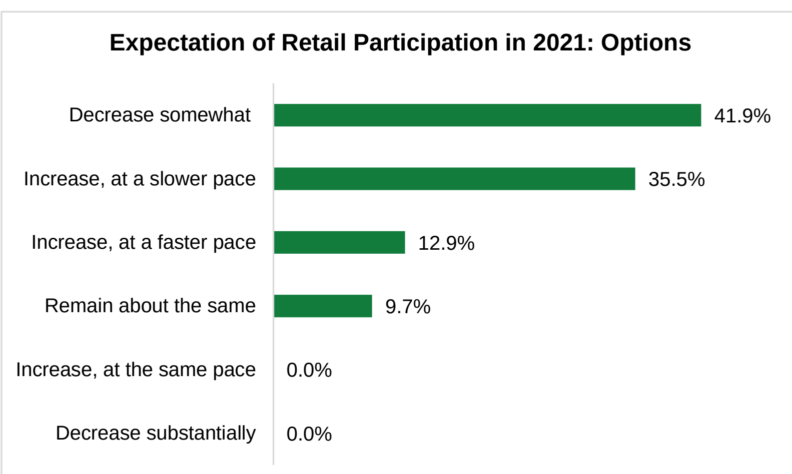
Responses: This was a close race, with 31.0% of respondents estimating the level of retail participation in listed options at 20-30%. Close behind was an estimate of 40-50%, with 27.6% of respondents.



Source: SIFMA market structure survey

Survey Question: In 2021, how do you expect the percentage of retail participation in listed options to change?

Responses: Similar to equities, the top response was that the level of retail participation would decrease somewhat (41.9%). However, 48.4% expect either an increase at a slower pace or an increase at a faster pace, 35.5% and 12.9% respectively.

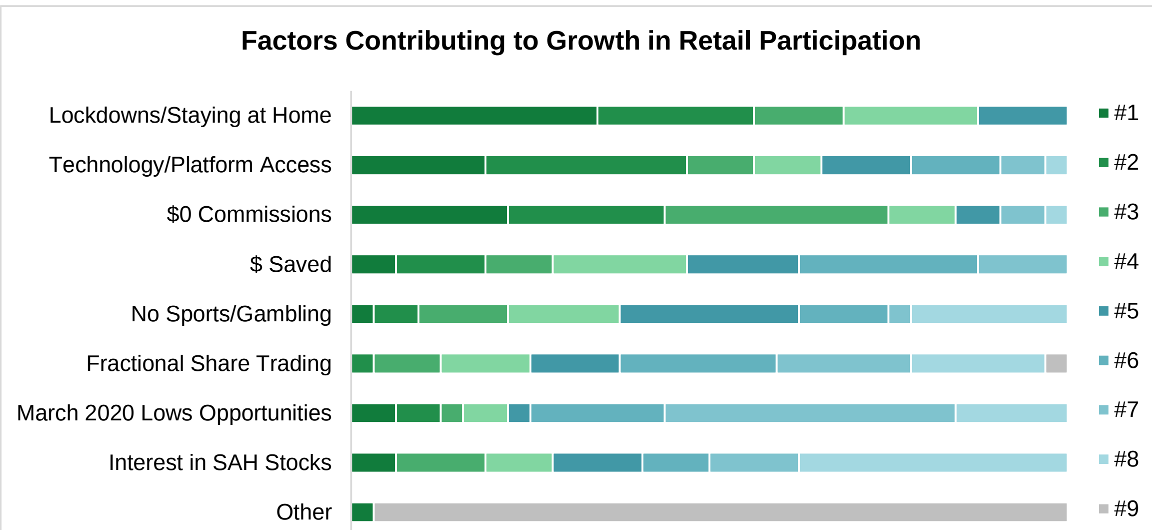


Source: SIFMA market structure survey
Note: Options = multi-listed options

Survey Results - General

Survey Questions: Which factors do you believe contributed most to the increase in retail investor participation in 2020? What do you think is most important to maintaining retail investor participation?

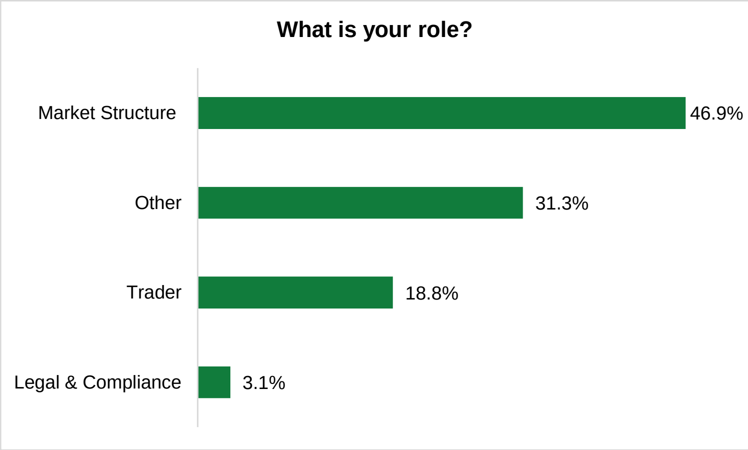
Responses: As shown in the charts below, COVID-forced stays at home coupled with ease of access – in terms of accessibility of trading platforms but also $0 commissions making trading economical – drove the growth in retail participation. These same factors were listed as key to maintaining retail participation. Technology/access comes into play in the positive investor experience, as does keeping trading costs low. Firms across trade execution segments – investment banks, market makers, retail trading firms, exchanges, etc. – all work to continually improve technology and enhance the investor experience. This is expected to keep investors engaged. However, one factor out of the control of participants is #1 in the maintaining retail participation – the continued upward momentum in markets. This factor alone could weigh heavily on the level of retail investor participation going forward.

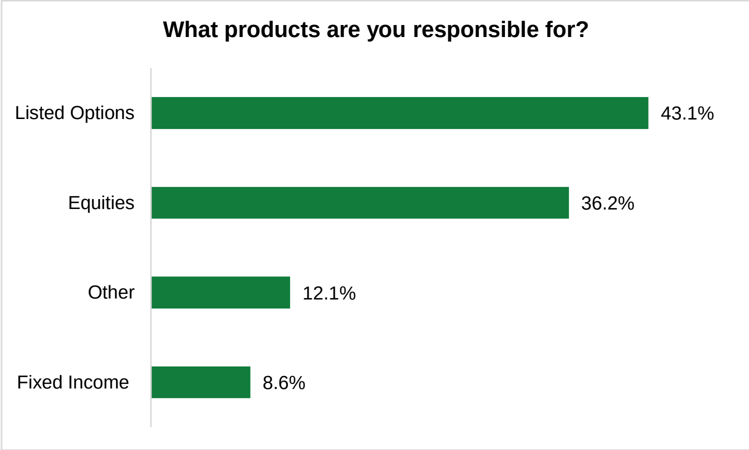


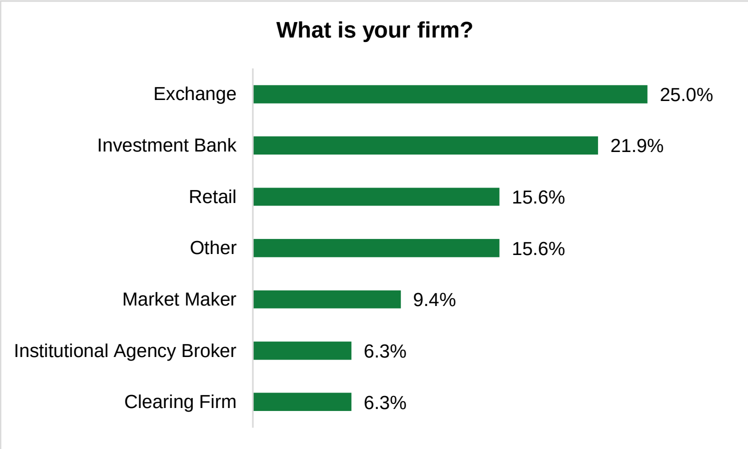
Source: SIFMA market structure survey (Growth – $ saved = from not travelling, not eating out, stimulus money; other = financial education. Maintaining – other = we will see what happens when markets have a prolonged correction; volatility; mobile technology improvements)

Appendix: Survey Structure

This survey was populated between April 16 to April 30. We had 47 respondents from 25 unique firms, with some firms filing individual business unit responses while other firms chose to respond one time on behalf of all divisions. The group of firms represented depicts key market players in equities and listed options: investment banks, market makers, retail trading firms, exchanges, etc. We estimate that the responses capture around 65–70% of both equity and options volumes.







Source: SIFMA market structure survey
Note: Other, role = sales, head of retail operations, consolidator, operations, manages sales and trading, COO, exchange head – options, market data. Other, firm = vendor, fintech/ATS/routing, retail agency broker

Appendix: SIFMA Insights Research Reports

Monthly Market Metrics and Trends: www.sifma.org/insights-market-metrics-and-trends

- Statistics on volatility and equity and listed options volumes
- Also highlights an interesting market trend

SIFMA Insights Market Structure Primers: www.sifma.org/primers

- Capital Markets Primer Part II: Primary, Secondary & Post-Trade Markets
- Capital Markets Primer Part I: Global Markets & Financial Institutions
- Electronic Trading
- US Capital Formation & Listings Exchanges
- US Equity
- US Multi-Listed Options
- US ETF
- US Fixed Income
- SOFR: The Transition from LIBOR
- The Evolution of the Fintech Narrative

SIFMA Insights: www.sifma.org/insights

- SPACs versus IPOs
- A Look Back at 2020 Market Structure Themes
- US Capital Formation's 2020 Journey
- Market Structure Download: Post-Election Update
- Market Performance Around US Presidential Elections
- Market Volatility Around US Presidential Elections
- Market Structure Download
- A Deeper Look at US Listed Options Volumes
- The Cboe Trading Floor Reopened – Revisiting Volume Data
- NYSE Goes All Electronic – What Does It Mean?
- The NYSE Trading Floor Reopened – Revisiting Market Share Data
- COVID-19 Related Market Turmoil Recap: Part I (Equities, ETFs, Listed Options & Capital Formation)
- 2020, the Year of the SPAC
- The 2020 Market Madness
- The VIX's Wild Ride
- The 10th Anniversary of the Flash Crash
- DTCC's Important Role in US Capital Markets

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