



# SIFMA Insights

A Look Back at 2020 Market Structure Themes

*Metrics for Equities, ETFs, Multi-Listed Options & Capital Formation*

February 2021

## Key Takeaways

- 2020 averages: VIX 29.25 (+90.1% Y/Y); equity ADV 10.9B shares (+55.4% Y/Y); options ADV 29.0M contracts (+52.5% Y/Y)
- Markets (2020/2019, Dec. 31/trough): S&P 500 +10.5%, +67.9%; DJIA +1.9%, +64.6%; Nasdaq +28.5%, +87.9%; Russell 2000 -1.4%, +99.2%
- Capital Formation: 2020 total \$388.2B, +70.2% Y/Y; IPOs \$85.2B, +74.7% Y/Y; SPACs \$82.4B, +510.6% Y/Y



# Contents

Executive Summary .....	3
A Look Back at 2020 .....	4
Volatility Recap.....	5
Total Equity Volumes Recap .....	9
Off-Exchange Equity Volumes Recap .....	11
ETF Volumes Recap .....	14
Options Volumes Recap.....	16
Market Performance Recap.....	20
Capital Formation Recap.....	26
Appendix: Market Index Definitions .....	32
Appendix: Terms to Know .....	33
Appendix: SIFMA Insights Research Reports .....	35
Author.....	36

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

**Disclaimer: This document is intended for general informational purposes only and is not intended to serve as investment advice to any individual or entity.**

SIFMA is the leading trade association for broker-dealers, investment banks and asset managers operating in the U.S. and global capital markets. On behalf of our industry’s nearly 1 million employees, we advocate on legislation, regulation and business policy, affecting retail and institutional investors, equity and fixed income markets and related products and services. We serve as an industry coordinating body to promote fair and orderly markets, informed regulatory compliance, and efficient market operations and resiliency. We also provide a forum for industry policy and professional development. SIFMA, with offices in New York and Washington, D.C., is the U.S. regional member of the Global Financial Markets Association (GFMA). For more information, visit <http://www.sifma.org>.

This report is subject to the Terms of Use applicable to SIFMA’s website, available at <http://www.sifma.org/legal>. Copyright © 2021

---

## Executive Summary

---

Throughout 2020, SIFMA Insights wrote several notes updating market structure and capital formation trends ([sifma.org/insights](https://sifma.org/insights)). COVID-19 dominated market conversations – first lockdowns stopped economic activity, then markets trended up driven by stay-at-home stock plays and then the focus shifted (and remains) squarely on the distribution of a viable vaccine en masse. In addition to COVID, we had a presidential election, and the rise of retail investing grew to new heights. Needless to say, there was no shortage of activity impacting markets last year. As such, volatility and volumes in both equities and multi-listed options reached, and remained at, new levels.

Importantly, from a market structure perspective, markets remained open and functioning. The financial system and market infrastructure have been very resilient, withstanding record high turbulence, not just measured by volatility but extreme 1,000 point intraday price swings.

Now market participants are wondering what the new normal will be as we move through 2021. Before we can look to the future, we must assess the past. Inside this note, we analyze 2020 trends for volatility and volumes, across U.S. cash equities, multi-listed options, ETFs, off-exchange trading levels and capital formation. We highlight the following metrics and themes for the year:

- **Volatility (VIX):** average 29.25 (+90.1% Y/Y), peak 82.69 (+563.1% to Jan. 2)
- **Volumes (ADV)**
  - Equities: average 10.9B shares (+55.4% Y/Y), peak 19.4B shares (+150.3% to Jan. 2)
  - Equities Off-exchange trading: average 41.5% of total volumes (+4.2 pps Y/Y), peak 50.4% (+9.1 pps to Jan. 2)
  - ETFs: average 2.0B shares (+44.1% Y/Y), peak 5.6B shares (+278.4% to Jan. 2)
  - Options: average 29.0M contracts (+52.5% Y/Y), peak 47.7M contracts (+120.9% to Jan. 2)
- **Market Performance** (Y/Y change, Dec. 31/trough): S&P 500 +10.5%, +67.9%; DJIA +1.9%, +64.6%; Nasdaq +28.5%, +87.9%; Russell 2000 -1.4%, +99.2%
- **Capital Formation:** total \$388.2B, +70.2% Y/Y; IPOs \$85.2B, +74.7% Y/Y; SPACs \$82.4B, +510.6% Y/Y

## A Look Back at 2020

We start by saying good riddance to 2020 and here is hoping for a much better 2021! Yet, we must take one more look back at 2020, as last year's performance fuels our questions for what the year ahead holds for markets. It was an interesting year, with volatility hitting new peaks and markets continuing to climb. While many market metrics settled from March highs, some trends continued to close out the year. In particular, volumes in both equities and options remain at levels elevated to historical trends, as does the VIX.

While we go into more detail in each section of the note, we highlight the following trends:

- **Volatility**
  - 2020 average 29.25, +90.1% Y/Y
  - Peak to trough spread 70.59 points
- **Equities ADV**
  - 2020 average 10.9 billion shares, +55.4% Y/Y
  - Peak to trough spread 13.1 billion shares
- **Options ADV**
  - 2020 average 29.0 million contracts, +52.5% Y/Y
  - Peak to trough spread 29.0 million contracts

	VIX	Equity ADV (B shares)	Options ADV (M contracts)		VIX	Equity ADV (B shares)	Options ADV (M contracts)
FY19	15.39	7.0	19.1	January	13.94	7.6	24.1
FY20	29.25	10.9	29.0	February	19.63	9.3	28.8
Y/Y	90.1%	55.4%	52.5%	March	57.74	15.6	29.6
Peak	82.69	19.4	47.7	April	41.45	12.3	25.7
Peak Date	3/16	2/28	11/9	May	30.90	11.3	26.6
Peak/Jan 2	563.1%	150.3%	120.9%	June	31.12	13.3	30.9
Trough	12.10	6.3	18.7	July	26.84	10.5	27.4
Trough Date	1/17	12/24	1/7	August	22.89	9.2	28.7
Trough/FY19	-21.4%	-11.0%	-1.7%	September	27.65	10.0	31.3
Trough/Jan 2	-3.0%	-19.1%	-13.3%	October	29.44	9.1	28.4
Peak-Trough	70.59	13.1	29.0	November	25.00	11.3	33.2
Dec 31	22.75	9.5	31.6	December	22.37	11.0	33.7
Dec 31/Jan 2	82.4%	22.3%	46.5%	Maximum	57.74	15.6	33.7
Dec 31/Trough	88.0%	51.2%	69.0%	Minimum	13.94	7.6	24.1
1Q20	31.22	11.0	27.5	Feb/Jan	40.8%	21.4%	19.7%
2Q20	34.49	12.4	27.8	Mar/Jan	314.2%	105.3%	23.0%
Q/Q	10.5%	12.6%	1.1%	Apr/Jan	197.4%	62.0%	6.8%
3Q20	25.81	9.9	29.1	May/Jan	121.6%	48.4%	10.6%
Q/Q	-25.2%	-19.5%	4.5%	Jun/Jan	123.2%	74.4%	28.2%
4Q20	25.62	10.5	31.7	Jul/Jan	92.5%	38.2%	13.6%
Q/Q	-0.7%	5.1%	9.0%	Aug/Jan	64.2%	21.0%	19.2%
1Q20/FY19	102.9%	56.1%	44.4%	Sep/Jan	98.3%	31.6%	29.8%
2Q20/FY19	124.2%	75.7%	46.0%	Oct/Jan	111.2%	19.6%	17.8%
3Q20/FY19	67.7%	41.4%	52.6%	Nov/Jan	79.3%	48.4%	37.7%
4Q20/FY19	66.5%	48.7%	66.4%	Dec/Jan	60.5%	44.4%	40.0%

Source: Bloomberg, SIFMA estimates (as of 12/31/20)

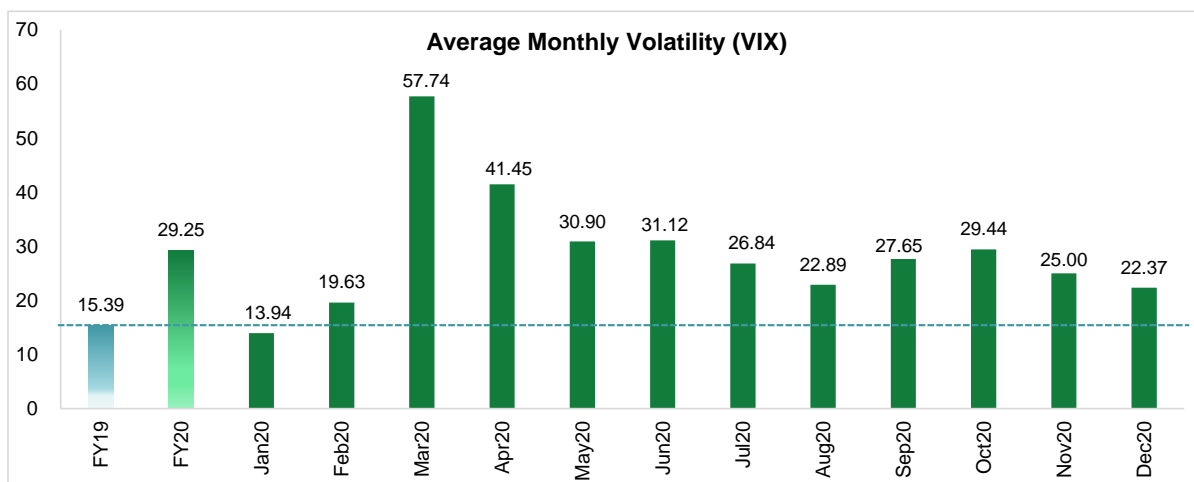
## Volatility Recap

Volatility, as measured by the VIX, enjoyed quite a ride throughout its 2020 journey. Based on early trends, we thought the year was going to display normal historical volatility patterns, if not slightly less volatile than the prior year. The VIX began the year at 12.47 on January 2, -19.0% to the 2019 average. Then COVID-19 reared its ugly head, leading 2020 to post the highest VIX on record (82.69 on March 16), a daily level even higher than seen during the global financial crisis. The VIX has settled, albeit remaining elevated to historical levels. It closed the year at 22.75, +47.8% to the 2019 average but -72.5% from the peak.

As we begin 2021, the question on market participants minds is what is the new normal? Is it a VIX in the mid- to high-20 range? And will volatility decrease once we have a vaccine distributed en masse and are able to return to normal (whatever that may look like)? Or have other structural shifts in the market permanently lifted the historical volatility range?

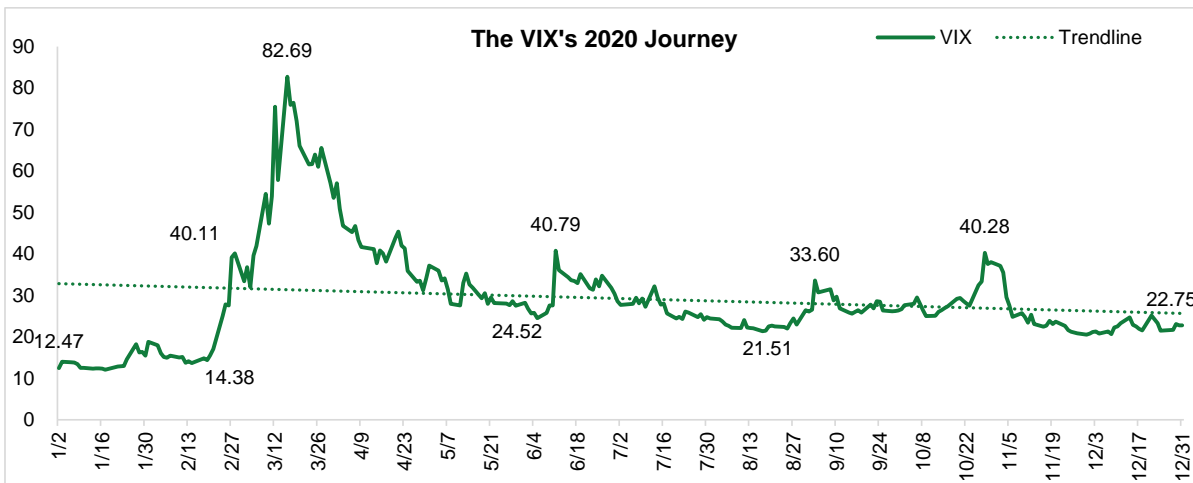
In the charts below and on the following pages, we follow the VIX's 2020 journey, highlighting the following trends:

- 2020 average 29.25, versus 2019 average 15.39 (+90.1%)
- Peaked on March 16 at 82.69; +563.1% to the start of the year and +437.4% to the 2019 average
- Troughed on January 17 at 12.10, -21.4% to the 2019 average
- On a quarterly basis, peaked in 2Q20 at 34.49 and settled in 4Q20 to 25.62 (-25.7%)
- On a monthly basis, peaked in March at 57.74 and settled in December to 22.37 (-61.2%)
  - With the exception of January, every month was well above the 2019 average



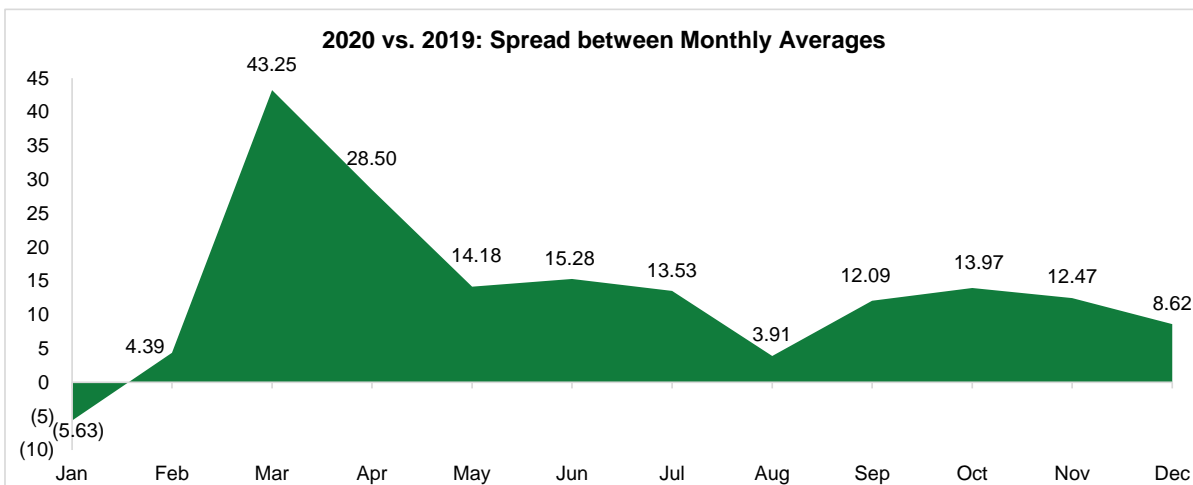
Source: Bloomberg, SIFMA estimates (as of 12/31/20)

The trendline for the year finished with a downward slope, but volatility went on a wild ride in the second half of 1Q20 and all 2Q20. The closing price on December 31 marked an 82.4% increase to the start of the year – elevated, but significantly improved from the +563.1% spike we saw with the March peak.



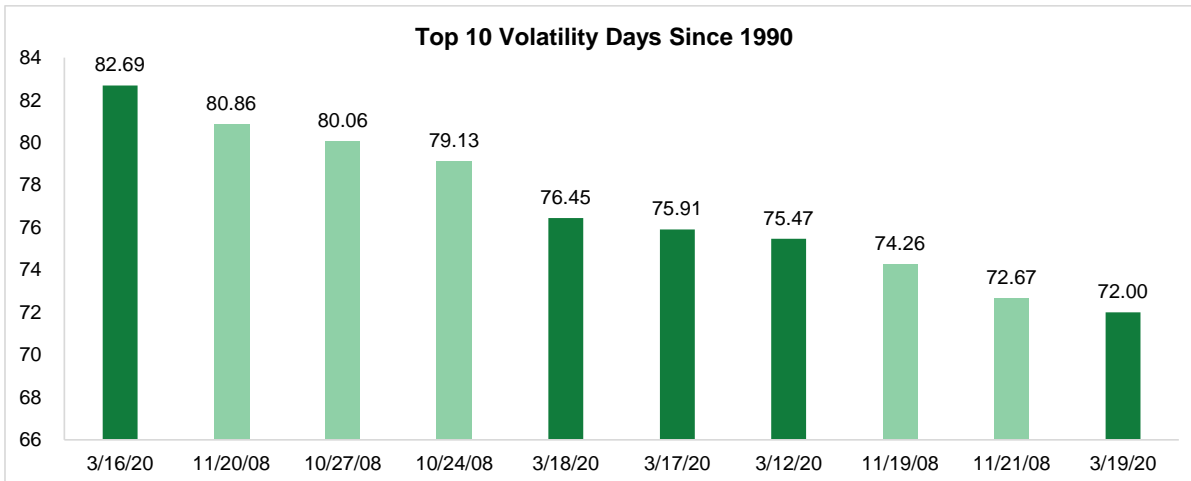
Source: Bloomberg, SIFMA estimates

We also analyzed spreads between monthly averages in 2020 and 2019 (ex: March 2020 average minus March 2019 average). March posted the highest spread at 43.25, with the lowest spread in August at 3.91. The average monthly spread for the year was 13.71. After climbing back up from the August low, we settled in December at a spread of 8.62 (-34.63 points to the peak). Again, volatility remains elevated but much improved from the start of the pandemic.



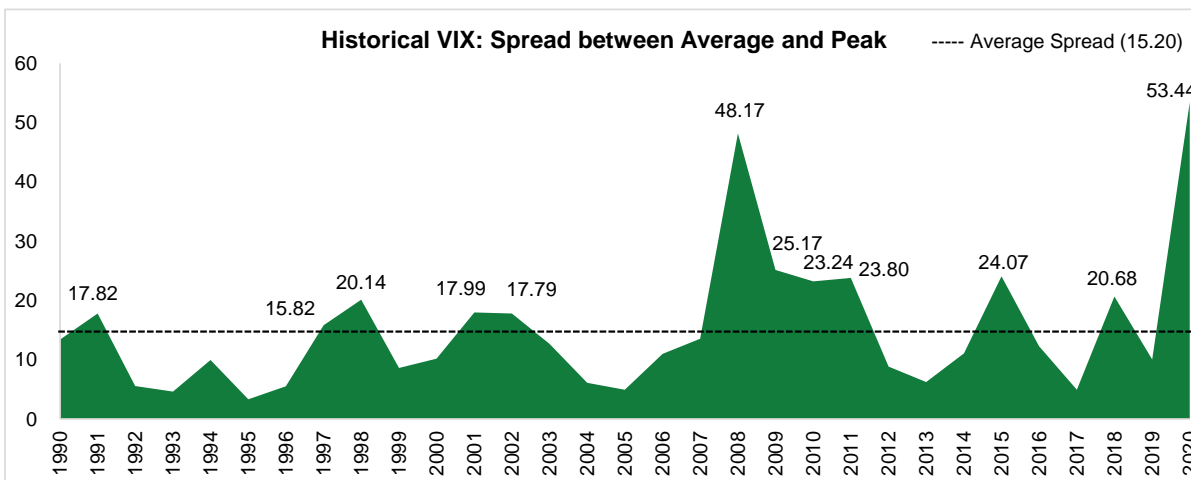
Source: Bloomberg, SIFMA estimates (as of 12/31/20)

Looking deeper into the numbers, we analyzed VIX levels going back to 1990. Five of the top ten VIX days were in 2020: #1, #5, #6, #7 and #10. The remaining top VIX closing prices occurred during the global financial crisis. Both time periods were marked by extreme volatility on a daily basis and on average.



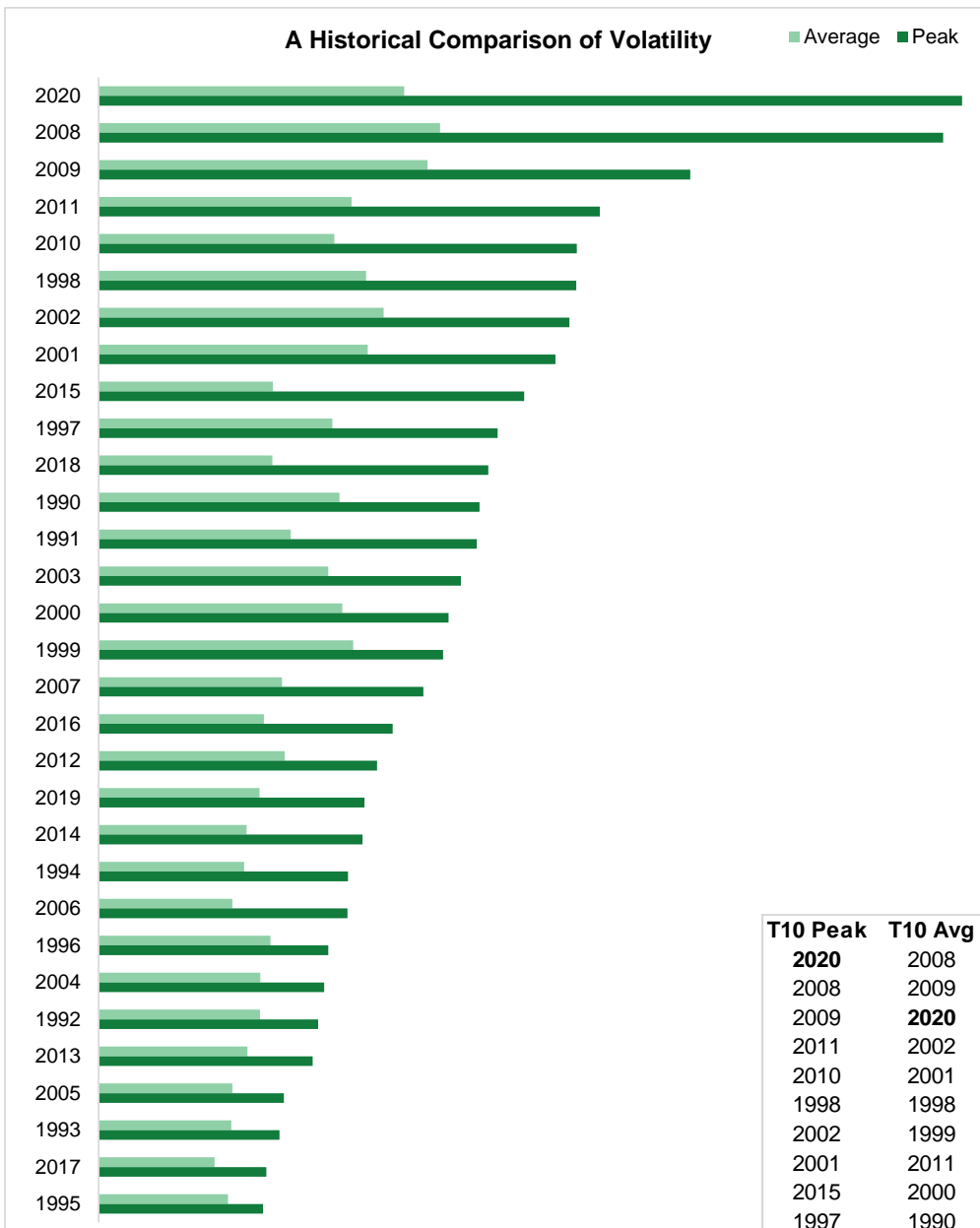
Source: Bloomberg, SIFMA estimates (as of 12/31/20)

We also analyzed the spread between the peak in and the average of each year since 1990 (i.e. peak minus average). The average spread was 15.20. Of the 31 time periods in the series, 12 years posted spreads greater than the average spread for the time series. The highest was in 2020 at 53.44, followed by 48.17 in 2008. Not only did these time periods have elevated averages, but they also showed off the chart peaks. The remaining years where peak-average spreads were greater than the average for the time series fall well below the levels in 2020 and 2008.



Source: Bloomberg, SIFMA estimates (as of 12/31/20)

It is interesting to note that while 2020 had the highest VIX peak in history, it did not post the highest annual average. That honor went to 2008. 2020 spiked higher but settled faster than during the global financial crisis. For both the highest peak and annual average, the top 3 years are 2020, 2008 and 2009.



Source: Bloomberg, SIFMA estimates (as of 12/31/20)



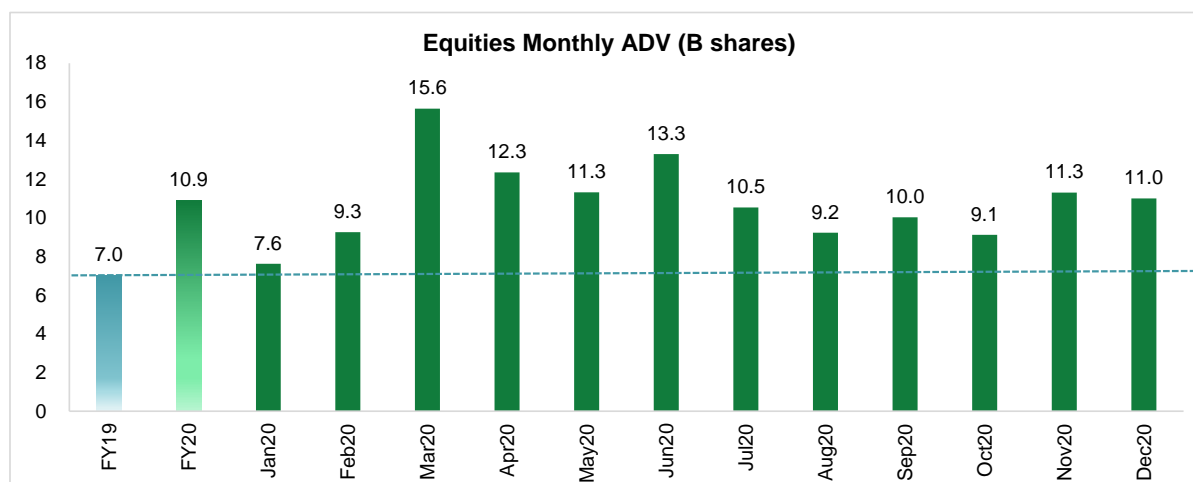
## Total Equity Volumes Recap

Equity volumes started the year off slightly elevated to the 2019 average level at 7.6 billion shares on average in January, +8.5%, but no one suspected we would see daily volumes reach levels more than two times the historical average or almost three times historical levels at the peak. Once the global pandemic began, volumes began to accelerate and we reached those higher levels. Volumes remain elevated to historical levels, closing the year at 11.0 billion shares on average in December, +56.6% to the 2019 average. This beats the increase seen during the turmoil of the global financial crisis where volumes increased ~52%.

For 2021, market participants are also wondering what will be the new normal for equity volumes? Much of the volume increase has been attributed to increased participation by retail investors – estimated at around 25%-30% of total volumes, up from ~10% historically – but will these investors remain in the market for the long run?

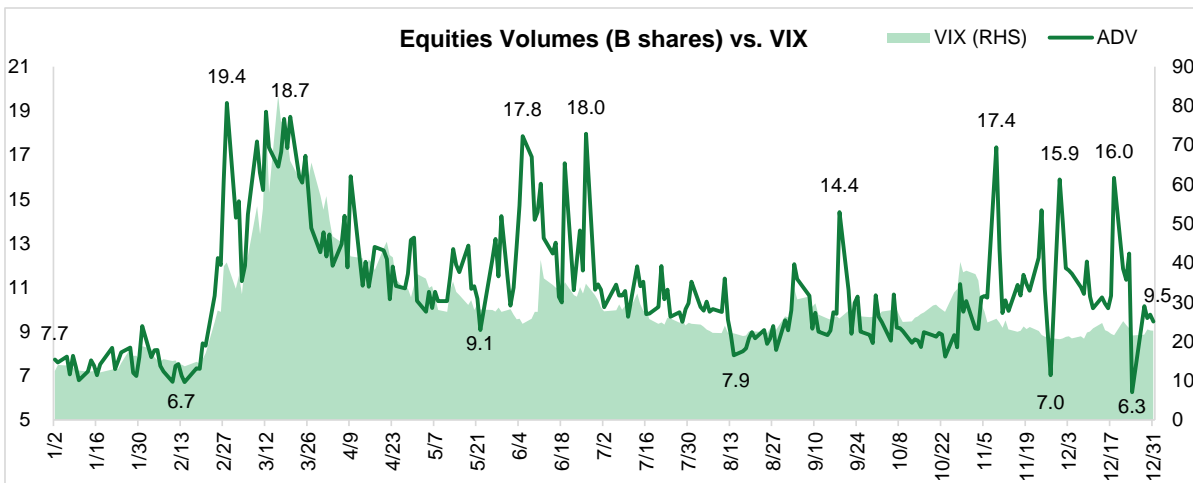
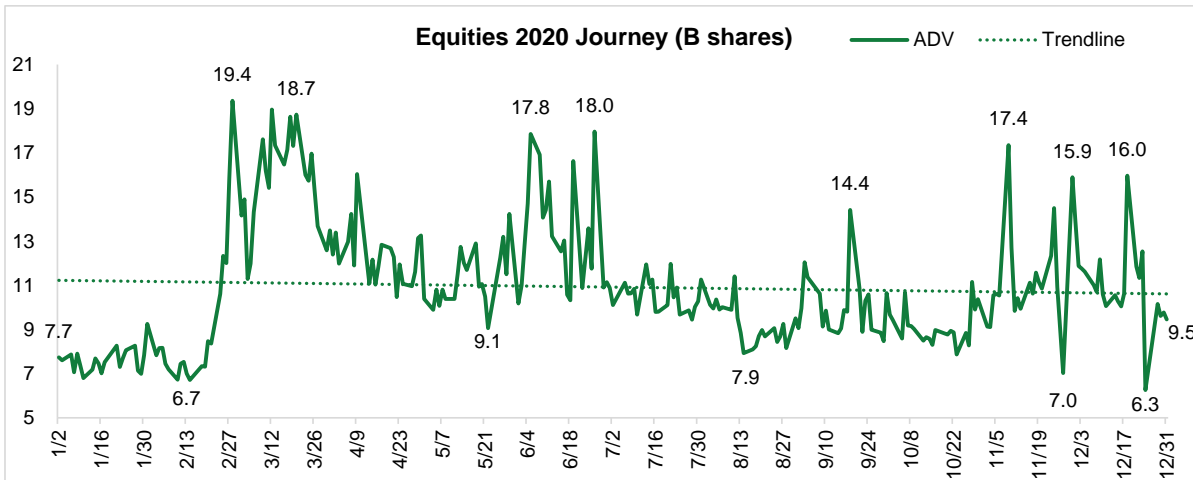
In the charts below and on the following pages, we follow equity volumes 2020 journey, highlighting the following trends:

- 2020 average 10.9 billion shares, versus 2019 average 7.0 billion shares (+55.4%)
- Peaked on February 28 at 19.4 billion shares; +150.3% to the start of year and +175.3% to the 2019 average
- Troughed on December 24 at 6.3 billion shares, -11.0% to the 2019 average
- On a quarterly basis, peaked in 2Q20 at 12.4 billion shares and settled in 4Q20 to 10.5 billion shares (-15.4%)
- On a monthly basis, peaked in March at 15.6 billion shares and settled in December at 11.0 billion shares (-29.7%)
  - Every month was well above the 2019 average, except January which was just slightly elevated to historical levels



Source: Cboe Global Markets, SIFMA estimates (as of 12/31/20)

The trendline for the year finished with a slightly downward slope but experienced several periods of volume spikes at: the start of the global pandemic, the beginning of the fall and the end of the year. In each of those periods, the maximum daily volume was: +176.0% to the 2019 average, +150.8% to the start of the year; +156% to the 2019 average, +132.7% to the start of the year; +147.5% to the 2019 average, +125.0% to the start of the year.



Source: Cboe Global Markets, Bloomberg, SIFMA estimates

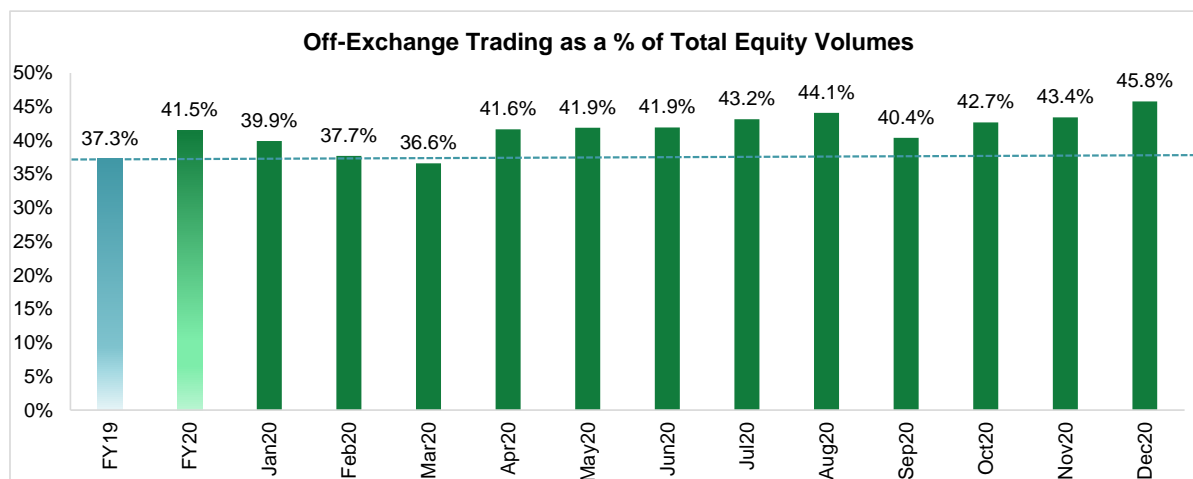
## Off-Exchange Equity Volumes Recap

2020 was also quite a year for equity volumes traded off-exchange. Typically, trades move back onto exchanges during periods of high volatility, as traders search to improve price discovery (and vice versa during lower volatility periods). This is exactly what we saw at the start of the pandemic. Off-exchange trading as a percent of total equities volumes was 39.9% on average in January (+2.6 pps to the 2019 average), dropping to 36.6% on average in March (-3.3 pps). Then levels of off-exchange trading began to rise and remained elevated. The percentage closed over four percentage points higher than the 2019 average, which, make no mistake, is a substantial change on a year-over-year basis and also to the mid-30 average seen in the last several years.

Part of the increase was driven by floor closures early on in the year, but the question of what will be the new normal remains. Will off-exchange trading remain in the 40% level, and will that be in the low or mid 40s? Why did it increase – was some of this driven by increased fragmentation after adding three new equity exchanges in September? Have people become accustomed to the higher level of the VIX and therefore learned to execute efficiently off exchange under these conditions?

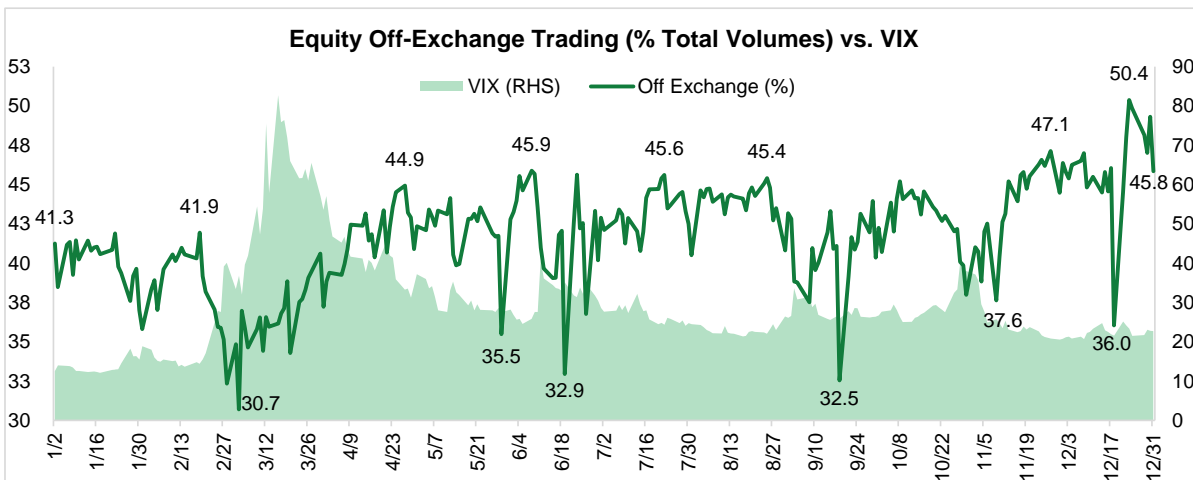
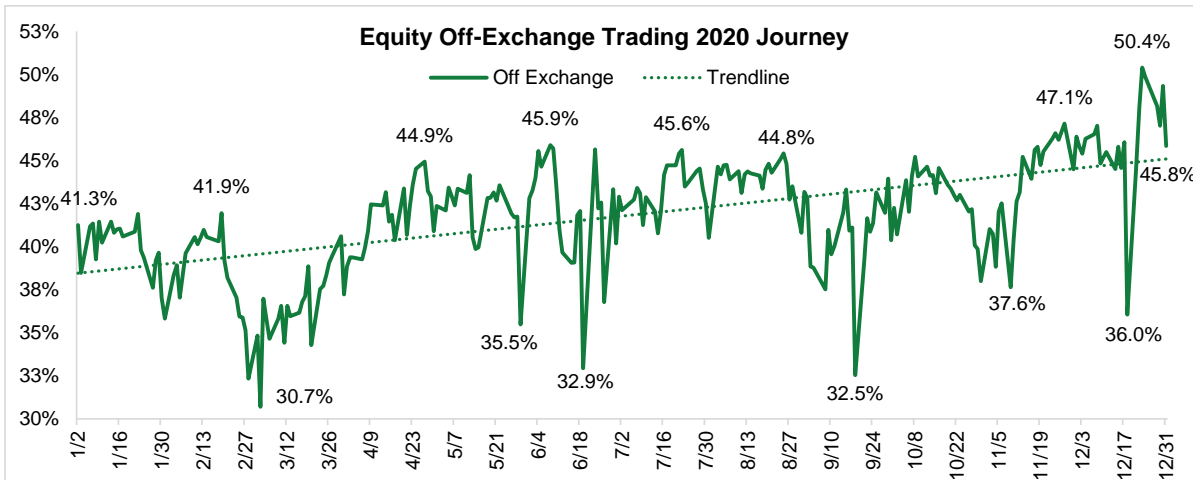
In the charts below and on the following pages, we follow the 2020 journey for equities off-exchange trading, highlighting the following trends:

- 2020 average 41.5%, versus 2019 average 37.3% (+4.2 pps)
- Peaked on December 23 at 50.4%; +9.1 pps to the start of the year and +13.1 pps to the 2019 average
- Troughed on March 3 at 30.7%, -6.6 pps to the 2019 average
- On a quarterly basis, peaked in 4Q20 at 44.0% (+6.8 pps to the 2019 average, +2.8 pps from the start of the year), as the percent of volumes traded off exchange continued to grow throughout the year
- On a monthly basis, peaked in December at 45.8% (+8.5 pps to the 2019 average, +4.5 pps from the start of the year)
  - Every month was well above 2019 levels, except January which was just slightly above the 2019 average and March which was below 2019 levels



Source: Cboe Global Markets, SIFMA estimates (as of 12/31/20)

The trendline for the year finished with a clear upward slope. While the percentage did drop down in line with historical levels a few points throughout the year, for the most part the level remained elevated to past years. The year closed at 45.8% (December 31 closing level 45.84 versus December monthly average 45.77), +8.6 pps to the 2019 average and +4.6 pps from the start of the year.

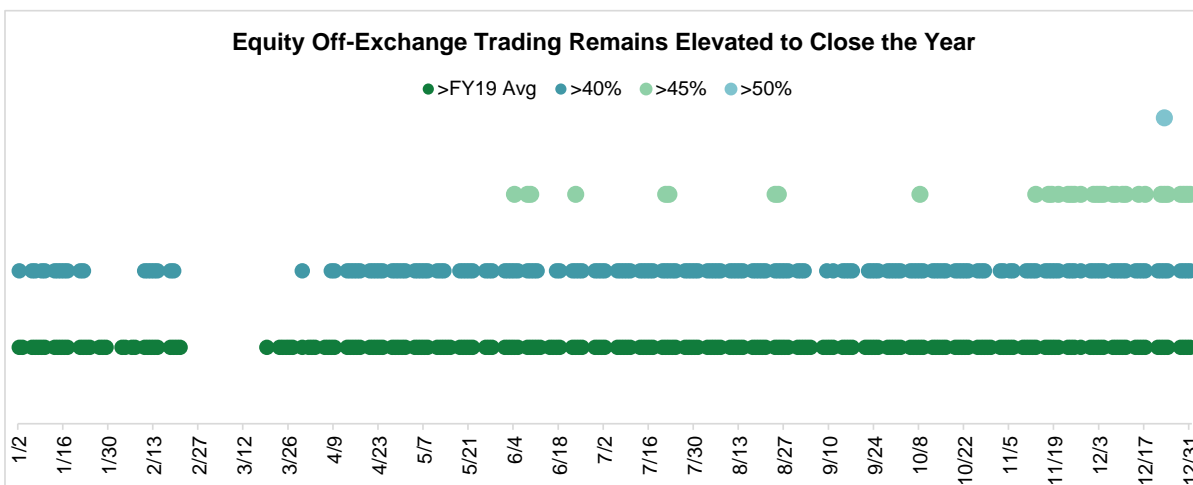


Source: Cboe Global Markets, Bloomberg, SIFMA estimates

To look at the change in levels of off-exchange trading for equities, we analyzed daily percentages versus historical patterns and (what used to be considered) stretch levels, including:

- Greater than the 2019 average
- Greater than 40% (+2.7 pps to 2019)
- Greater than 45% (+7.7 pps to 2019)
- Greater than 50% (+12.7 pps to 2019)

The chart below marks each day where the percent of off-exchange trading hit one of these criteria. You see in the chart below that almost every day beat the 2019 average, except at the start of the pandemic where trades moved back onto exchanges to achieve better transparency. Starting in April, almost every day was above 40% of total volumes. What is interesting is to note how 2020 closed out – almost every day since mid-November was above 45% of total volumes, and there was one day in December above 50% of total volumes. The end of the year appears to be signaling a new pattern of elevated off-exchange trading levels.



Source: Cboe Global Markets, SIFMA estimates

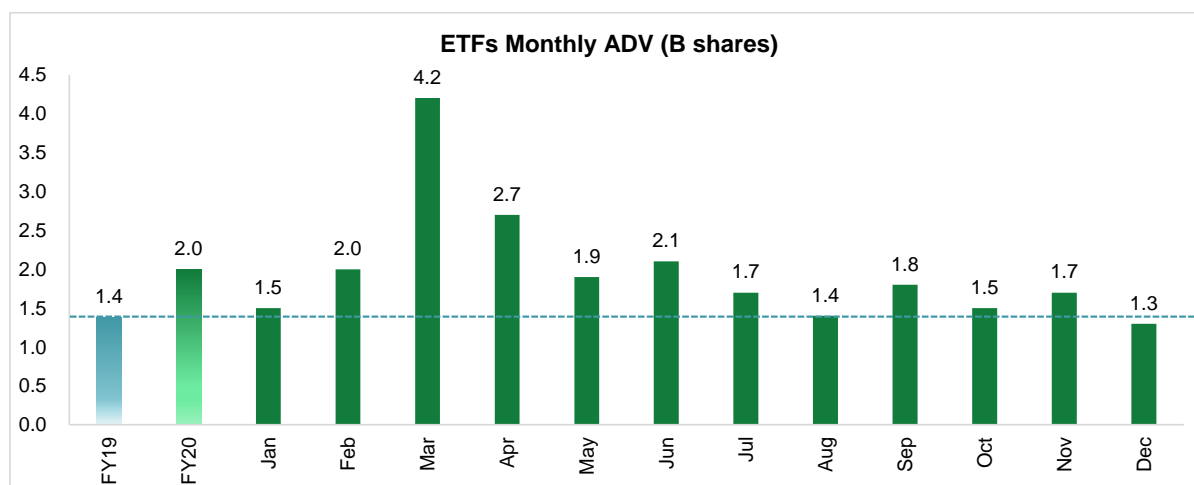
## ETF Volumes Recap

2020 was an interesting year for ETFs. Trading volumes began the year elevated to the 2019 average, peaking in March at 4.2 billion shares (+200.3% to 2019). Volumes then came down, closing the year below historical averages – December monthly average 1.3 billion shares, -2.6% to the 2019 average and -8.9% to the start of the year.

Last year, almost 300 ETFs closed due to either poor performance or lack of investor interest in those particular funds. This represented 5.5% of the total versus 4.3% closures in 2019. Do not fret, as there are still thousands of ETFs globally across all asset classes: 72% are equity ETFs, 57% are U.S. based ETFs. 2020 saw \$762.9 billion in net inflows, +17% to the prior peak in 2017 and +34% Y/Y. This marked 19 months of positive net inflows into ETFs/ETPs. 2020 closed at \$8.0 trillion in ETF/ETP assets, +26% Y/Y. Therefore, while closures increased last year, ETF assets still grew given inflows and rising market values.<sup>1</sup>

In the charts below and on the following pages, we follow ETF volumes 2020 journey, highlighting the following trends:

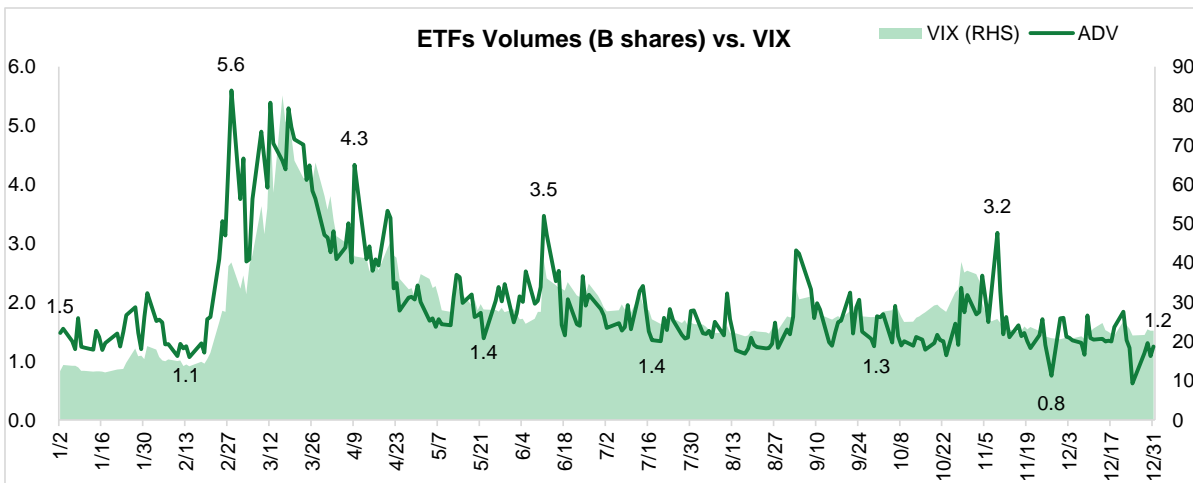
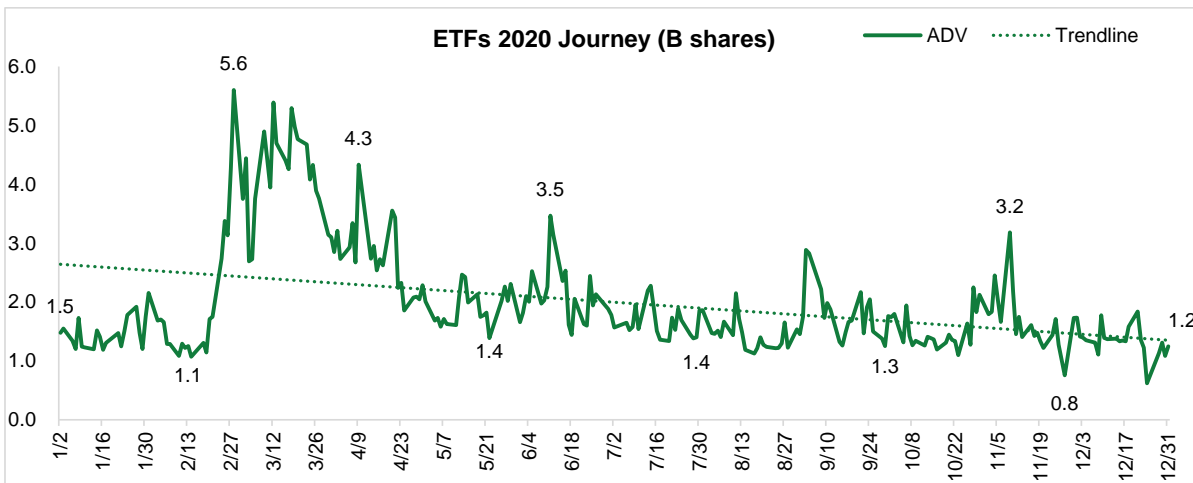
- 2020 average 2.0 billion shares, versus 2019 average 1.4 billion shares (+44.1%)
- Peaked on February 28 at 5.6 billion shares; +278.4% to the start of year and +304.8% to the 2019 average
- Troughed on December 24 at 0.6 billion shares, -55.1% to the 2019 average
- On a quarterly basis, peaked in 1Q20 at 2.6 billion shares and settled in 4Q20 to 1.5 billion shares (-41.9%)
- On a monthly basis, peaked in March at 4.2 billion shares and settled in December at 1.3 billion shares (-67.6%)
  - Every month was above the 2019 average, except August which was in line and December which was slightly below historical levels



Source: Cboe Global Markets, SIFMA estimates (as of 12/31/20)

<sup>1</sup> Source: etf.com, ETFIGI

The trendline for the year finished with a downward slope. The ETF trading volume pattern almost exactly tracked the VIX path for the year, tightly correlated to peaks and stabilizations in volatility. The year closed at 1.2 billion shares, -9.7% to the 2019 average and -15.6% from the start of the year.



Source: Cboe Global Markets, Bloomberg, SIFMA estimates

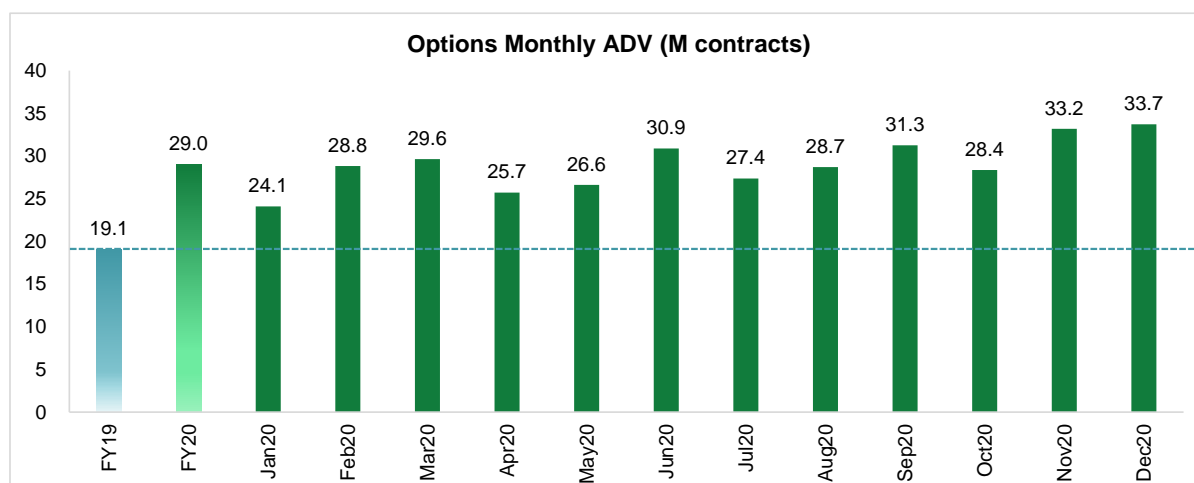
## Options Volumes Recap

Total multi-listed options volumes started the year off elevated to the 2019 average level at 24.1 million contracts on average in January, +26.4%. As with equity volumes, no one expected to see levels for monthly averages almost two times last year’s average or a peak at almost two and a half times the 2019 average. Total options volumes began to increase with the start of the global pandemic began and continued on an upward trend, reaching these highs. Total volumes remain elevated to historical levels, closing the year on a monthly average high in December at 33.7 million contracts, +77.0% to the 2019 average.

For 2021, market participants are again wondering what will be the new normal for total options volumes? Much of the total volume increase has been attributed to the growth in retail investing – estimated at around 50% of total volume growth last year – but will these investors remain in the market for the long run?

In the charts below and on the following pages, we follow total options volumes 2020 journey, highlighting the following trends:

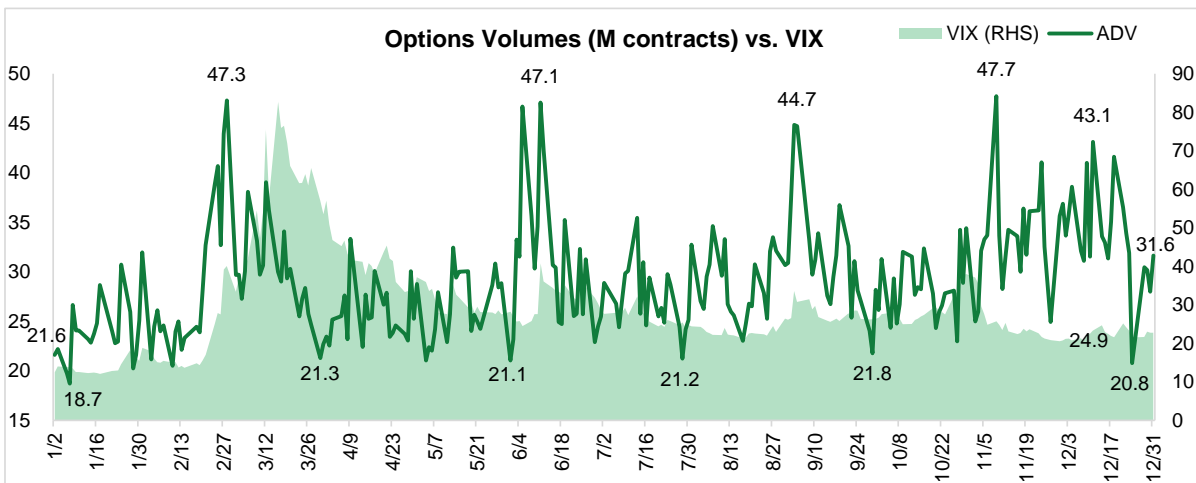
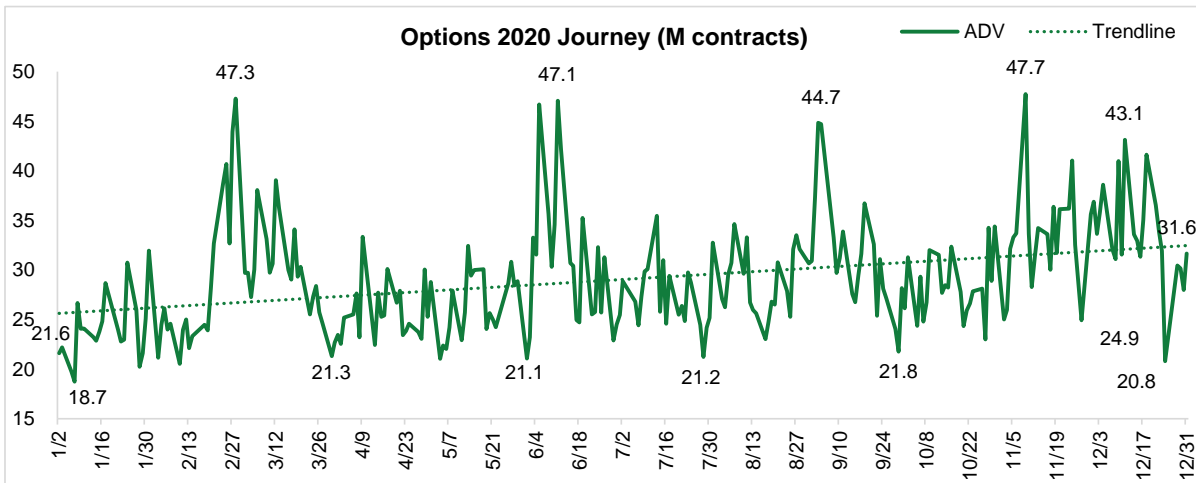
- 2020 average 29.0 million contracts, versus 2019 average 19.1 million contracts (+52.5%)
- Peaked on November 9 at 47.7 million contracts; +120.9% to the start of year and +150.6% to the 2019 average
- Troughed on January 7 at 18.7 million contracts, -1.7% to the 2019 average
- On a quarterly basis, peaked in 4Q20 at 31.7 million contracts (+66.4% to the 2019 average, +46.7% from the start of the year), as total volumes continued to grow to close out the year
- On a monthly basis, peaked in December at 33.7 million contracts (+77.0% to the 2019 average, +56.0% from the start of the year)
  - Every month was well above the 2019 average



Source: Cboe Global Markets, SIFMA estimates (as of 12/31/20)



The trendline for the year finished with a solid upward slope. Interestingly, while the VIX stabilized in the fourth quarter, total options volumes continued to trend upward. The year closed at 31.6 million contracts, +66.1% to the 2019 average and +46.5% from the start of the year.

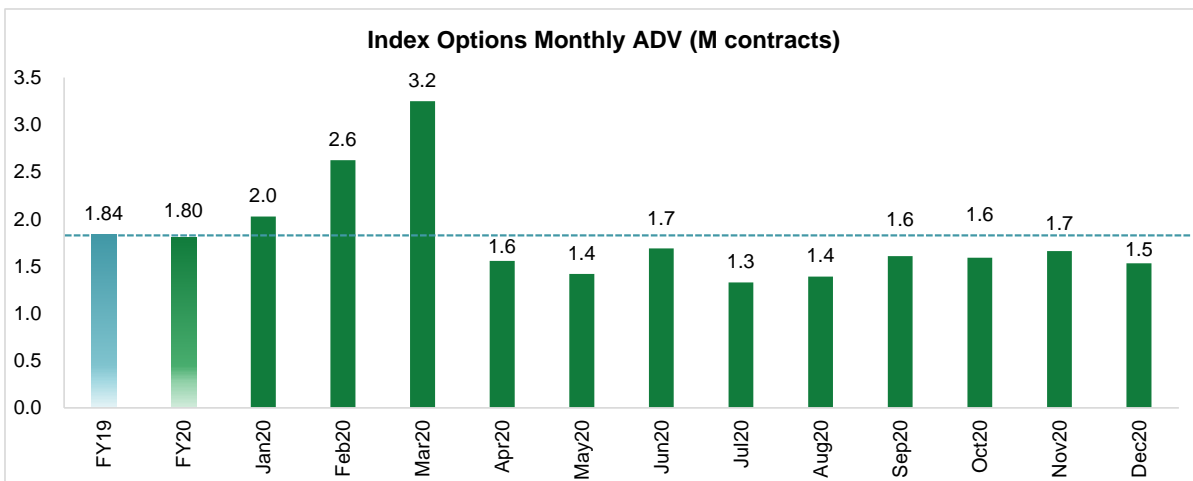
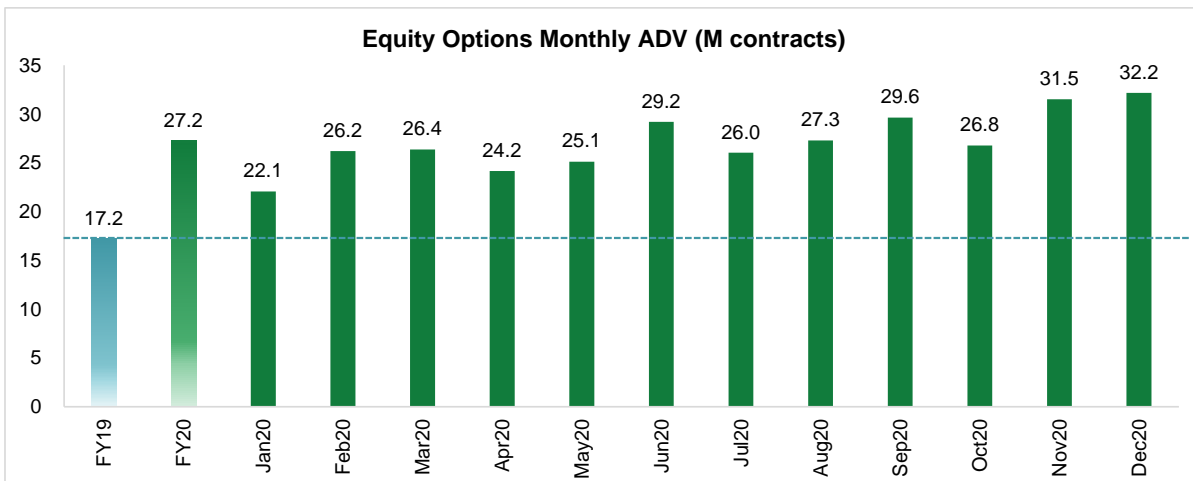
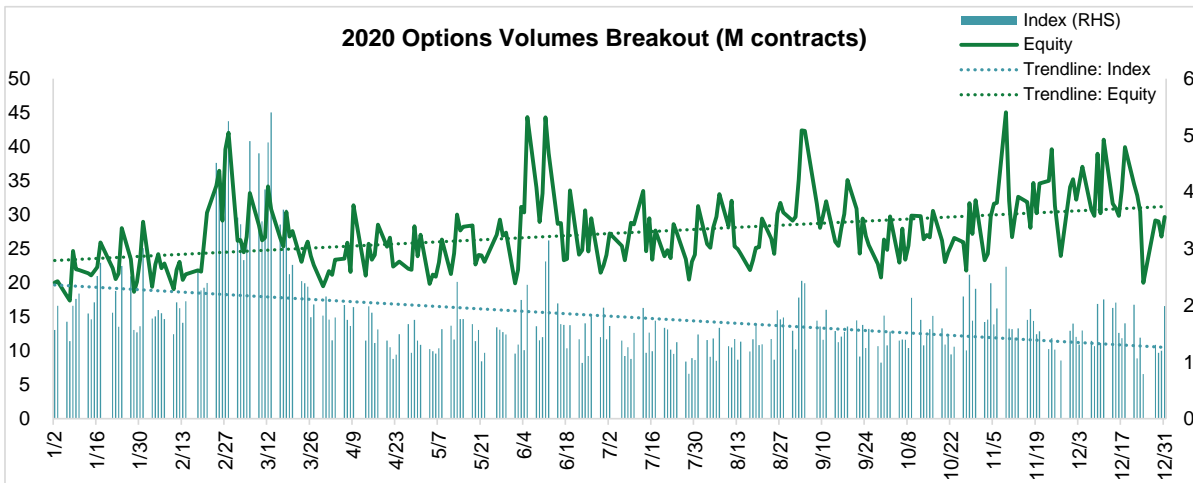


Source: Cboe Global Markets, Bloomberg, SIFMA estimates

We further analyzed the breakout of options volumes across equities (single stock) and index. While total options volumes are up this year, this is driven by a strong performance in equity options. The increases in volumes were not equal across asset classes, with a clear divergence in volume growth between equities and index options. This divergence was attributed in part to the growth in retail investing. Last year, retail investors pursued story stocks (ex: Tesla/TSLA, Apple/AAPL), bolstering their positions with equity options on these names. If retail participation remains elevated, the equity versus index options volume growth disparity could persist.

In the charts on the next page, we follow equity and index options volumes 2020 journey, highlighting the following trends:

- Equity
  - 2020 average 27.2 million contracts, versus 2019 average 17.2 million contracts (+58.2%)
  - Peaked on November 9 at 45.1 million contracts; +124.8% to the start of year and +161.8% to the 2019 average
  - On a monthly basis, peaked in December at 32.2 million contracts (+87.0% to the 2019 average, +160.6% from the start of the year); every month was well above the 2019 average
  - Closed the year at 29.7 million contracts (+72.3% to the 2019 average, +48.0% to the start of the year)
  
- Index
  - 2020 average 1.80 million contracts, versus 2019 average 1.84 million contracts (-1.9%)
  - Peaked on March 13 at 5.4 million contracts; +244.4% to the start of year and +193.8% to the 2019 average
  - On a monthly basis, peaked in March at 3.2 million contracts (+76.7% to the 2019 average, +107.2% from the start of the year); after peaking in March, every month was below the 2019 average
  - Closed the year at 2.0 million contracts (+8.0% to the 2019 average, +26.6% to the start of the year)



Source: Cboe Global Markets, SIFMA estimates (as of 12/31/20)

## Market Performance Recap

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 many bumps along the road. On average, all indices experienced a severe drop at the start of the global pandemic in March. Then prices across all four indices experienced an upward sloping trend since the trough, albeit to varying degrees.

This variance was driven by index composition, i.e. indices geared toward pandemic friendly stocks outperformed. Technology stocks (ex: Zoom Video, ticker ZM) and stay-at-home plays (ex: Peleton Interactive, ticker PTON) outperformed for the most part last year, driving indexes higher. Meanwhile, the small cap and domestic focused Russell 2000 took longer to recover.

- 2020 vs. 2019 averages: Nasdaq experienced the highest increase, +28.5%; only Russell is below (-1.4%)
- Recovery (December 31 close to trough) ranged from +99.2% at the Russell to +64.6% for the DJIA
- All indices closed out the year strong: all peaked in December; the S&P 500 and DJIA peaked on Dec. 31

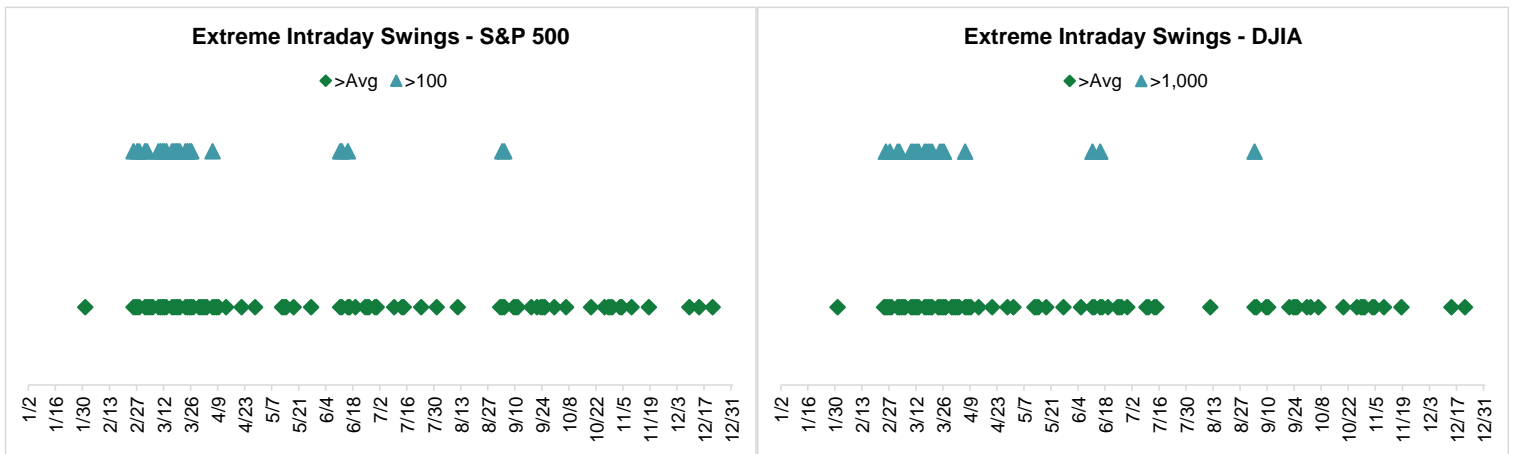
As we head into 2021, market participants are assessing just how far can markets climb?

	VIX	S&P 500	DJIA	Nasdaq	Russell 2000		VIX	S&P 500	DJIA	Nasdaq	Russell 2000
FY19	15.39	2,913.36	26,379.54	7,940.13	1,546.16	January	13.94	3,278.20	28,879.99	9,233.36	1,666.65
FY20	29.25	3,217.86	26,890.67	10,201.51	1,523.99	February	19.63	3,277.31	28,519.73	9,418.85	1,642.04
Y/Y	90.1%	10.5%	1.9%	28.5%	-1.4%	March	57.74	2,652.39	22,637.42	7,772.21	1,216.65
Peak	82.69	3,756.07	30,606.48	12,899.42	2,007.10	April	41.45	2,761.98	23,293.90	8,292.41	1,203.10
Peak Date	3/16	12/31	12/31	12/28	12/23	May	30.90	2,919.61	24,271.02	9,105.66	1,315.68
Peak/Jan 2	563.1%	15.3%	6.0%	41.9%	20.4%	June	31.12	3,104.66	26,062.27	9,839.97	1,434.17
Trough	12.10	2,237.40	18,591.93	6,860.67	991.16	July	26.84	3,207.62	26,385.83	10,499.86	1,456.91
Trough Date	1/17	3/23	3/23	3/23	3/18	August	22.89	3,391.71	27,821.37	11,212.29	1,563.50
Trough/FY19	-21.4%	-23.2%	-29.5%	-13.6%	-35.9%	September	27.65	3,365.52	27,733.40	11,088.68	1,517.95
Trough/Jan 2	-3.0%	-31.3%	-35.6%	-24.5%	-40.5%	October	29.44	3,418.70	28,005.11	11,435.23	1,602.25
Peak-Trough	70.59	1,518.67	12,014.55	6,038.75	1,015.94	November	25.00	3,548.99	29,124.04	11,794.46	1,742.29
Dec 31	22.75	3,756.07	30,606.48	12,888.28	1,974.86	December	22.37	3,695.31	30,148.58	12,619.05	1,937.13
Dec 31/Jan 2	82.4%	15.3%	6.0%	41.8%	18.5%	Maximum	57.74	3,695.31	30,148.58	12,619.05	1,937.13
Dec 31/Trough	88.0%	67.9%	64.6%	87.9%	99.2%	Minimum	13.94	2,652.39	22,637.42	7,772.21	1,203.10
1Q20	31.22	3,055.87	26,554.48	8,771.73	1,499.43	Feb/Jan	40.8%	-0.03%	-1.2%	2.0%	-1.5%
2Q20	34.49	2,931.69	24,570.83	9,091.00	1,319.53	Mar/Jan	314.2%	-19.1%	-21.6%	-15.8%	-27.0%
Q/Q	10.5%	-4.1%	-7.5%	3.6%	-12.0%	Apr/Jan	197.4%	-15.7%	-19.3%	-10.2%	-27.8%
3Q20	25.81	3,319.83	27,299.04	10,926.83	1,511.91	May/Jan	121.6%	-10.9%	-16.0%	-1.4%	-21.1%
Q/Q	-25.2%	13.2%	11.1%	20.2%	14.6%	Jun/Jan	123.2%	-5.3%	-9.8%	6.6%	-13.9%
4Q20	25.62	3,554.50	29,091.59	11,954.43	1,761.13	Jul/Jan	92.5%	-2.2%	-8.6%	13.7%	-12.6%
Q/Q	-0.7%	7.1%	6.6%	9.4%	16.5%	Aug/Jan	64.2%	3.5%	-3.7%	21.4%	-6.2%
1Q20/FY19	102.9%	4.9%	0.7%	10.5%	-3.0%	Sep/Jan	98.3%	2.7%	-4.0%	20.1%	-8.9%
2Q20/FY19	124.2%	0.6%	-6.9%	14.5%	-14.7%	Oct/Jan	111.2%	4.3%	-3.0%	23.8%	-3.9%
3Q20/FY19	67.7%	14.0%	3.5%	37.6%	-2.2%	Nov/Jan	79.3%	8.3%	0.8%	27.7%	4.5%
4Q20/FY19	66.5%	22.0%	10.3%	50.6%	13.9%	Dec/Jan	60.5%	12.7%	4.4%	36.7%	16.2%

Source: Bloomberg, SIFMA estimates (as of 12/31/20)

Markets also experienced record intraday swings. We analyzed the intraday spreads for the S&P 500 and the DJIA, calculated as the high minus the low price for the day. Both the S&P500 and the DJIA hit extreme levels over 20 times each:

- Greater than the 2020 average
  - S&P 500: daily spread beat the average (51.70) 83 times
  - DJIA: daily spread beat the average (461.87) 81 times
- Extreme swings
  - S&P 500 daily spread > 100 = 25 times
  - DJIA daily spread > 1,000 = 21 times

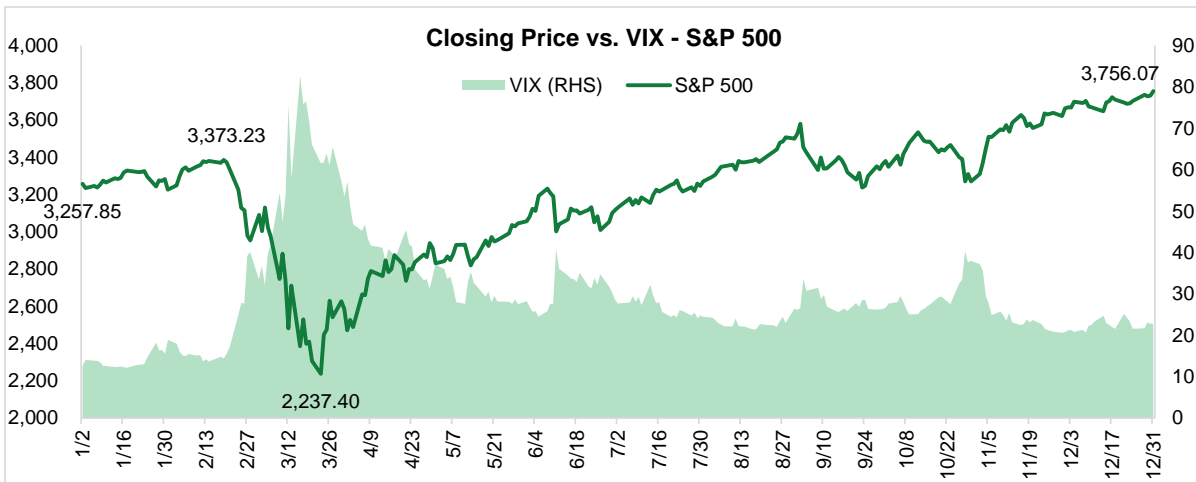
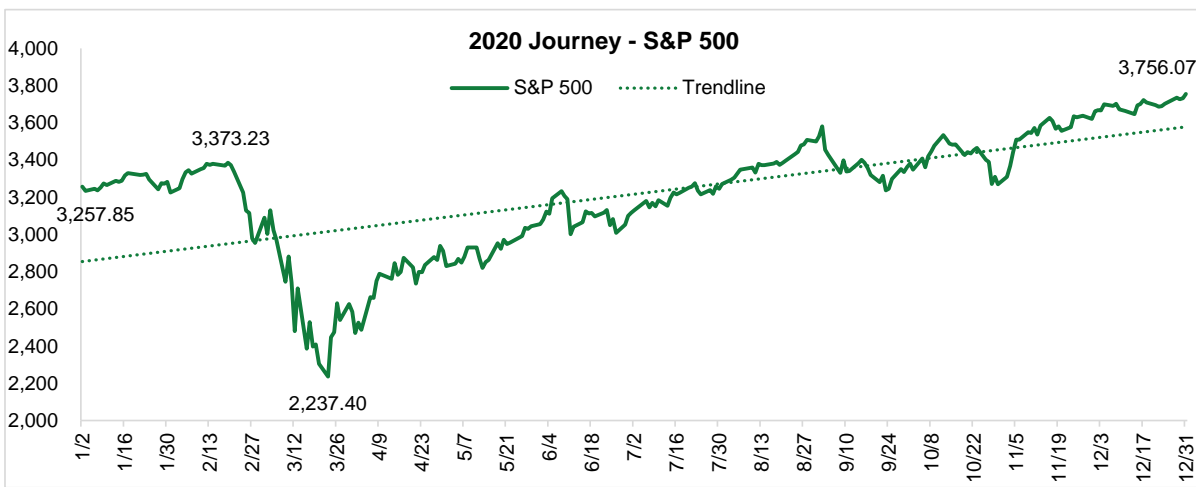


Source: Bloomberg, SIFMA estimates

## S&P 500

In the charts below, we follow the S&P 500's 2020 journey, highlighting the following trends:

- 2020 average 3,217.86, versus 2019 average 2,913.36 (+10.5%)
- Troughed on March 23 at 2,237.40, -31.3% to the start of the year and -23.2% to the 2019 average
- Closed the year at 3,756.07; +15.3% to the start of the year and +67.9% from the trough

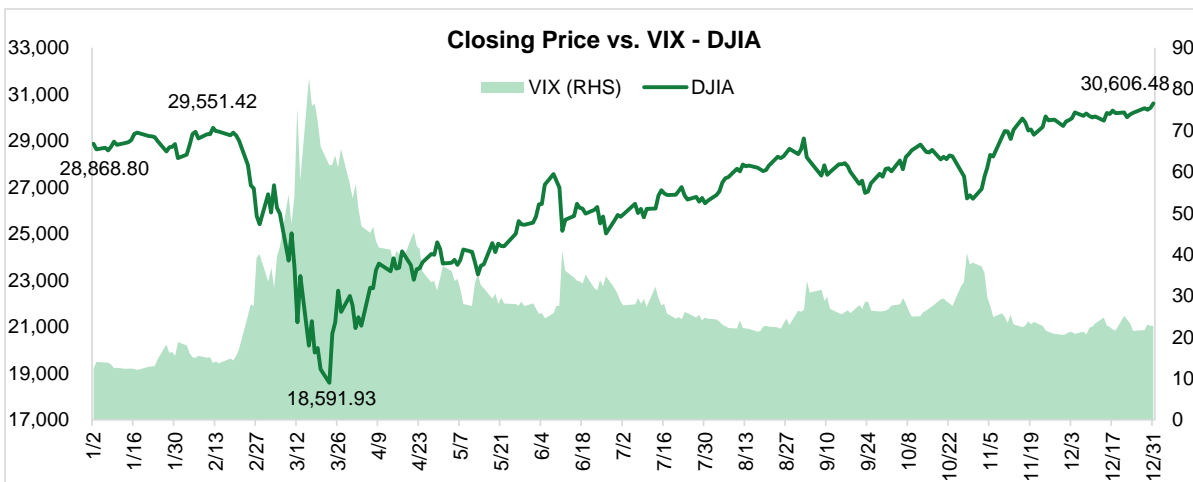
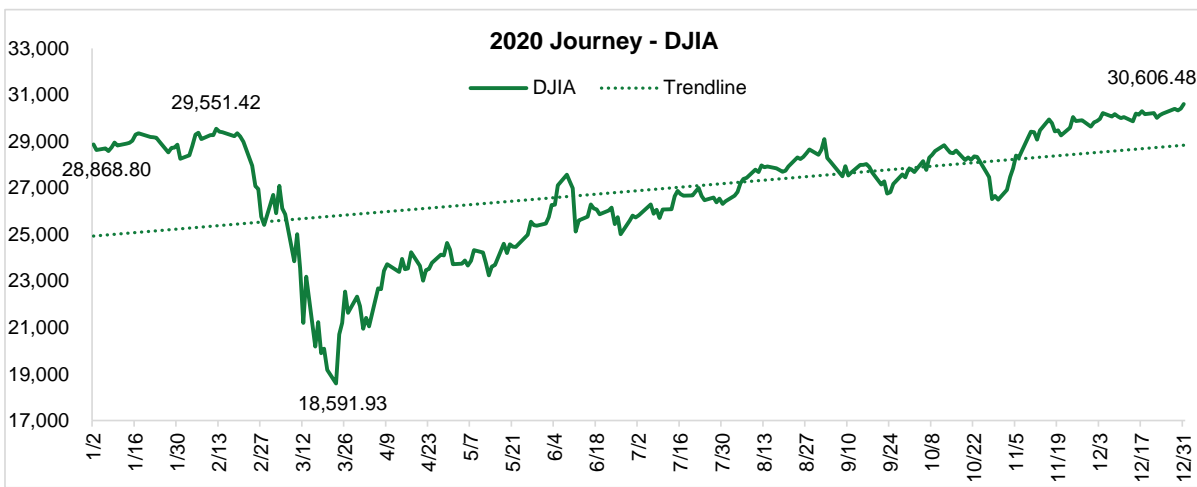


Source: Bloomberg, SIFMA estimates

### Dow Jones Industrial Average (DJIA)

In the charts below, we follow the Dow Jones' 2020 journey, highlighting the following trends:

- 2020 average 26,890.67, versus 2019 average 26,379.54 (+1.9%)
- Troughed on March 23 at 18,591.93, -35.6% to the start of the year and -29.5% to the 2019 average
- Closed the year at 30,606.48; +6.0% to the start of the year and +64.6% from the trough

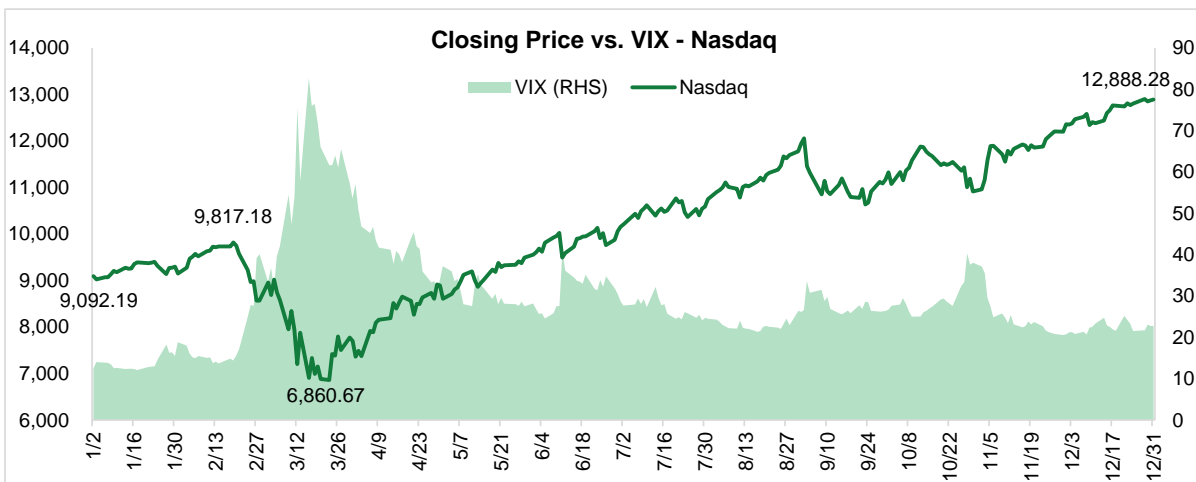
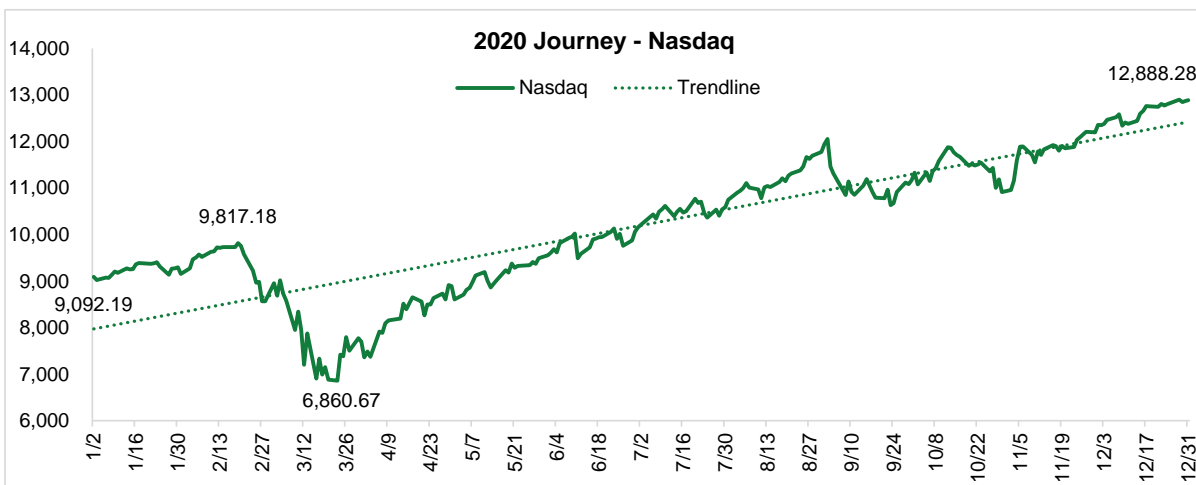


Source: Bloomberg, SIFMA estimates

## Nasdaq Composite

In the charts below, we follow the Nasdaq’s 2020 journey, highlighting the following trends:

- 2020 average 10,201.51, versus 2019 average 7,940.13 (+28.5%)
- Troughed on March 23 at 6,860.67, -24.5% to the start of the year and -13.6% to the 2019 average
- Closed the year at 12,888.28; +41.8% to the start of the year and +87.9% from the trough



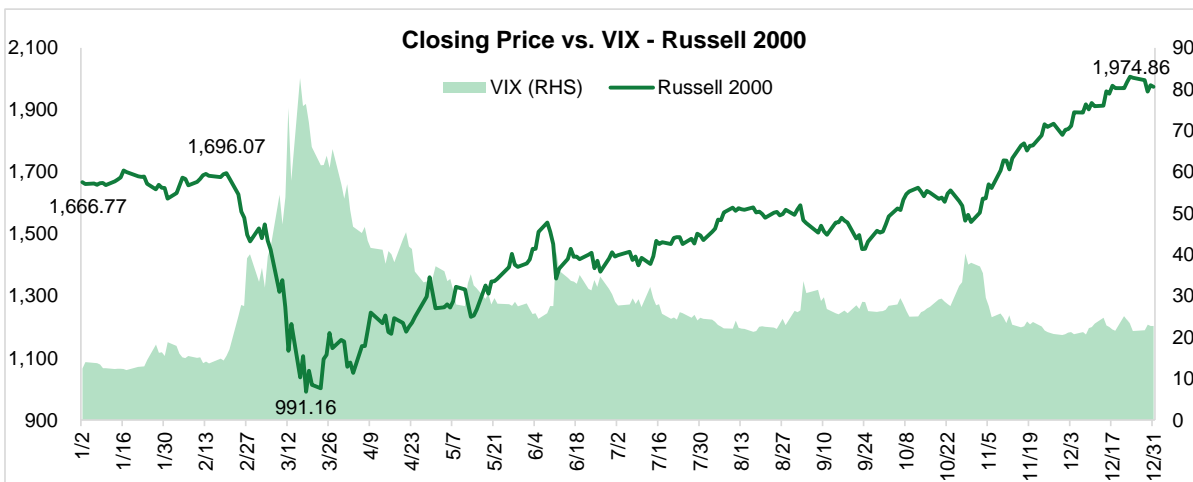
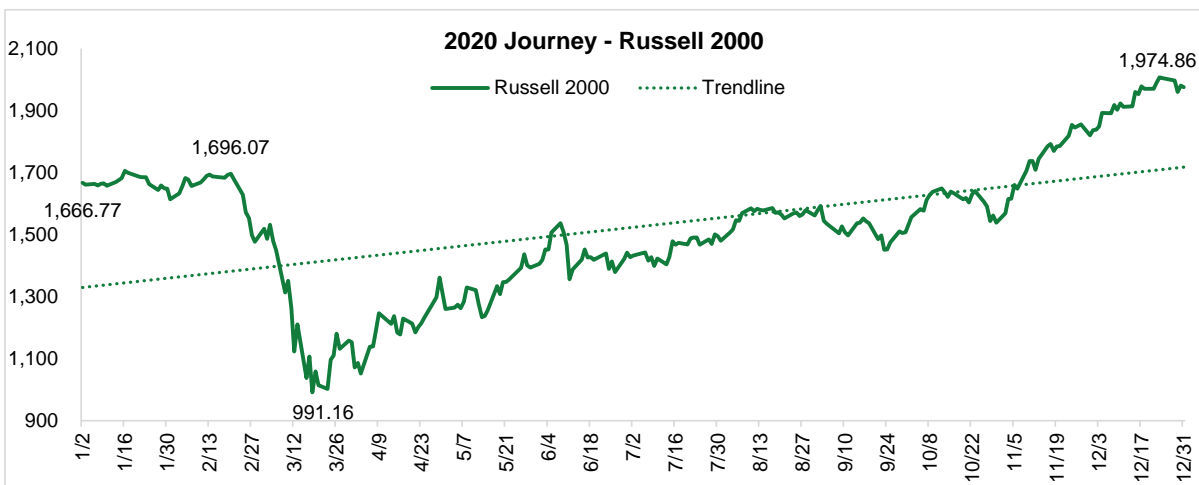
Source: Bloomberg, SIFMA estimates



## Russell 2000

In the charts below, we follow Russell 2000's 2020 journey, highlighting the following trends:

- 2020 average 1,523.99, versus 2019 average 1,546.16 (-1.4%)
- Troughed on March 18 at 991.16, -40.5% to the start of the year and -35.9% to the 2019 average
- Closed the year at 1,974.86; +18.5% to the start of the year and +99.2% from the trough



Source: Bloomberg, SIFMA estimates

## Capital Formation Recap

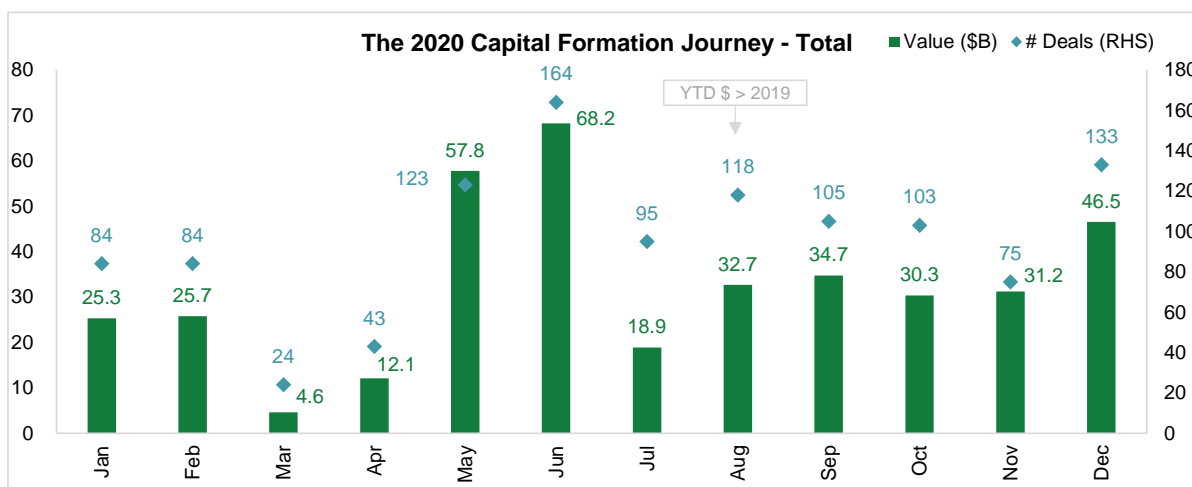
Despite the challenges of working from home, trading floor closures and dealing with COVID in general, capital formation had a banner year in 2020, closing up over 70% Y/Y. At \$388 billion, 2020 saw the highest deal value raised in the past 21 years. The next highest total was \$306 billion in 2000, -21% to 2020.

Different capital formation vehicles dominated the landscape as we rolled through 2020. At the height of COVID-19 in the second half of March, all deals declined with initial public offerings (IPO) essentially halting. Secondaries then picked up in May, as companies raised money to shore up balance sheets. IPOs rebounded in June, followed by the start of the special purpose acquisition companies (SPAC) boom in July.

## Total Capital Formation

In the chart below, we follow the 2020 capital formation journey for total capital formation, highlighting the following trends:

- 2020 total \$388.2 billion versus \$228.1 billion in 2019, +70.2% Y/Y (2020 # deals 1,151 vs. 886 in 2019, +29.9% Y/Y)
- 2020 monthly average \$32.3 billion versus \$19.0 billion in 2019, +70.2% Y/Y (2020 average # deals 96 vs. 74 in 2019, +29.9% Y/Y)
- Peaked at \$68.2 billion in June, +115.0% to the 2019 peak of \$31.7 billion (2020 peak # deals 164 vs. 93 in 2019, +76.3%)
- Troughed at \$4.6 billion in January, -39.9% to the 2019 trough of \$7.7 billion (2020 trough # deals 24 vs. 38 in 2019, -36.8%)
- By August, the 2020 aggregate monthly total surpassed the full year 2019 total

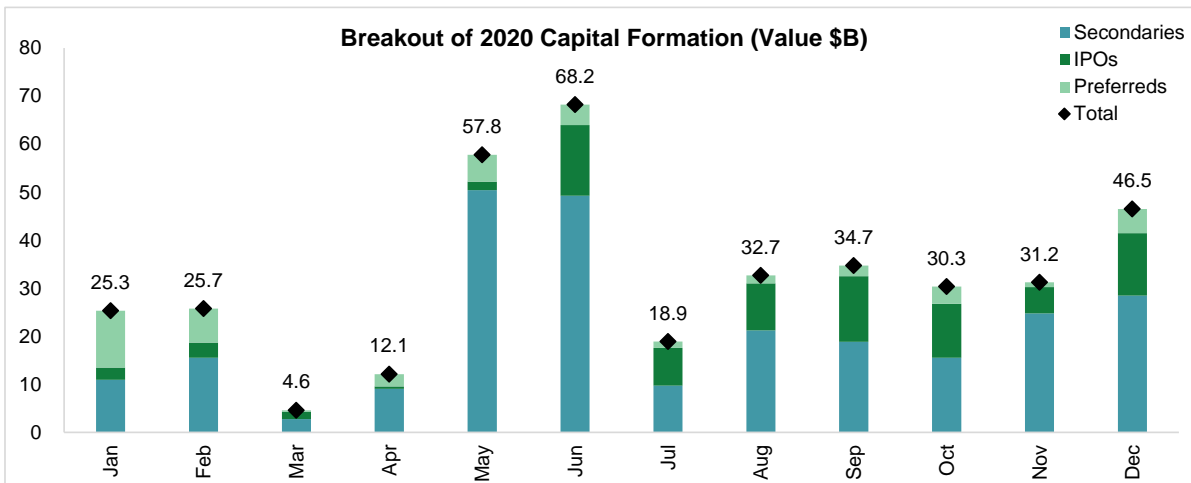


Source: Dealogic

Note: Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers

We further analyzed how capital formation broke out across types of capital raises throughout the year, highlighting the following trends:

- In aggregate, the 2020 breakout for total capital formation was: 66% secondaries, 22% IPOs and 12% preferreds
  - Variance to 2019 = +2.4 pps, +0.6 pps and -3.0 pps
- 2020 monthly averages were: 63% for secondaries, 23% for IPOs and 13% for preferreds
- 2020 monthly peaks were: 87% for secondaries, 42% for IPOs and 47% for preferreds
- 2020 monthly troughs were: 43% for secondaries, 3% for IPOs and 3% for preferreds



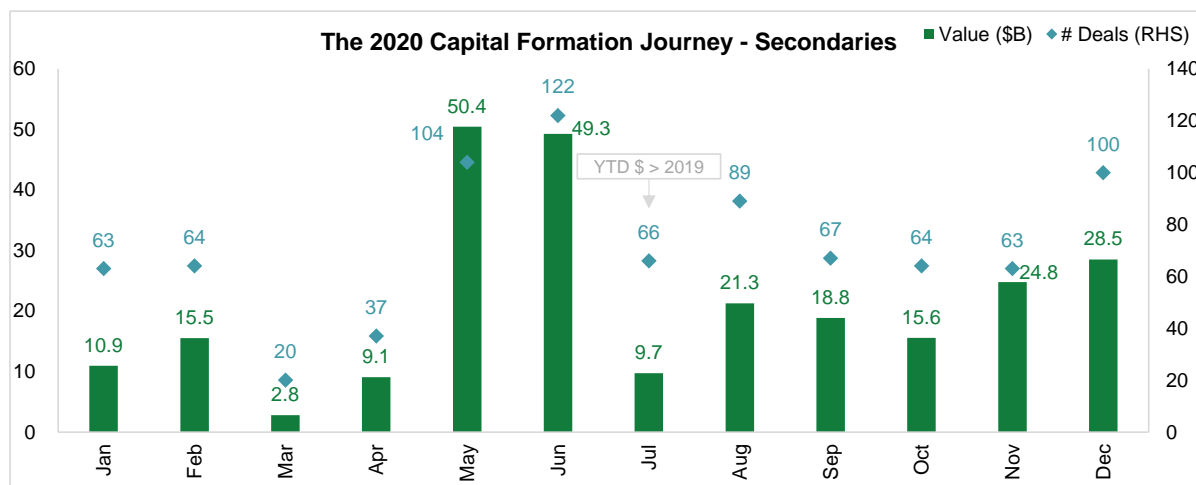
Source: Dealogic

Note: Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers

## Secondaries

In the chart below, we follow the 2020 capital formation journey for secondaries, highlighting the following trends:

- 2020 total \$256.6 billion versus \$145.3 billion in 2019, +76.6% Y/Y (2020 # deals 859 vs. 653 in 2019, +31.5% Y/Y)
- 2020 monthly average \$21.4 billion versus \$12.1 billion in 2019, +76.6% Y/Y (2020 average # deals 72 vs. 54 in 2019, +31.5% Y/Y)
- Peaked at \$50.4 billion in May, +170.5% to the 2019 peak of \$18.6 billion (2020 peak # deals 122 vs. 73 in 2019, +67.1%)
- Troughed at \$2.8 billion in March, -45.1% to the 2019 trough of \$5.0 billion (2020 trough # deals 20 vs. 34 in 2019, -41.2%)
- By July, the 2020 aggregate monthly total surpassed the full year 2019 total



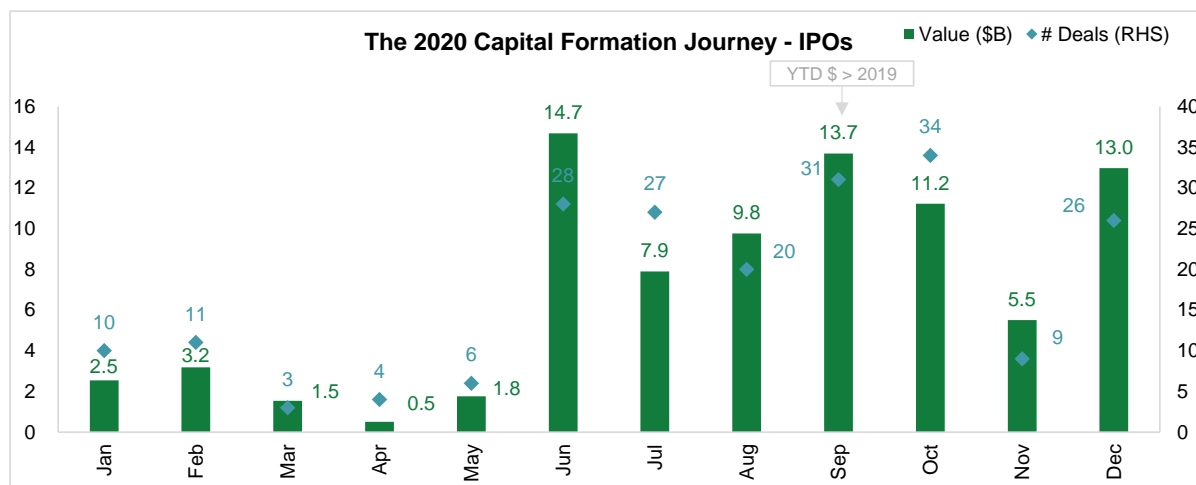
Source: Dealogic

Note: Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers

## IPOs

In the chart below, we follow the 2020 capital formation journey for IPOs, highlighting the following trends:

- 2020 total \$85.2 billion versus \$48.8 billion in 2019, +74.7% Y/Y (2020 # deals 209 vs. 151 in 2019, +38.4% Y/Y)
- 2020 monthly average \$7.1 billion versus \$4.1 billion in 2019, +74.7% Y/Y (2020 average # deals 17 vs. 13 in 2019, +38.4% Y/Y)
- Peaked at \$14.7 billion in June, -7.6% to the 2019 peak of \$15.9 billion (2020 peak # deals 34 vs. 26 in 2019, +30.8%)
- Troughed at \$0.5 billion in January, +72.4% to the 2019 trough of \$0.3 billion (2020 trough # deals 3 vs. 1 in 2019, +200.0%)
- By September, the 2020 aggregate monthly total surpassed the full year 2019 total



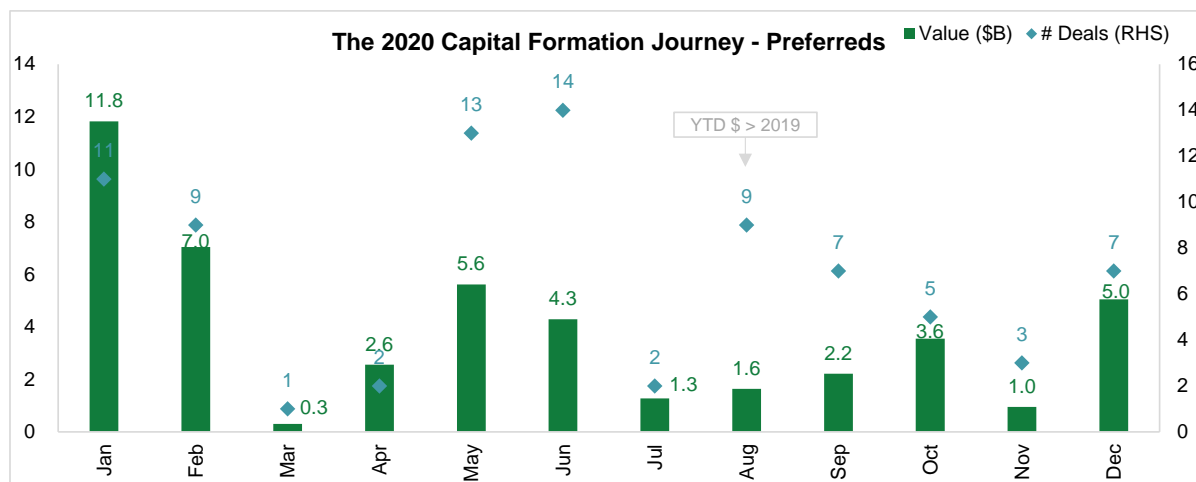
Source: Dealogic

Note: Includes rank eligible deals; excludes BDCs, SPACs, ETFs, CLEFs and rights offers

## Preferreds

In the chart below, we follow the 2020 capital formation journey for preferreds, highlighting the following trends:

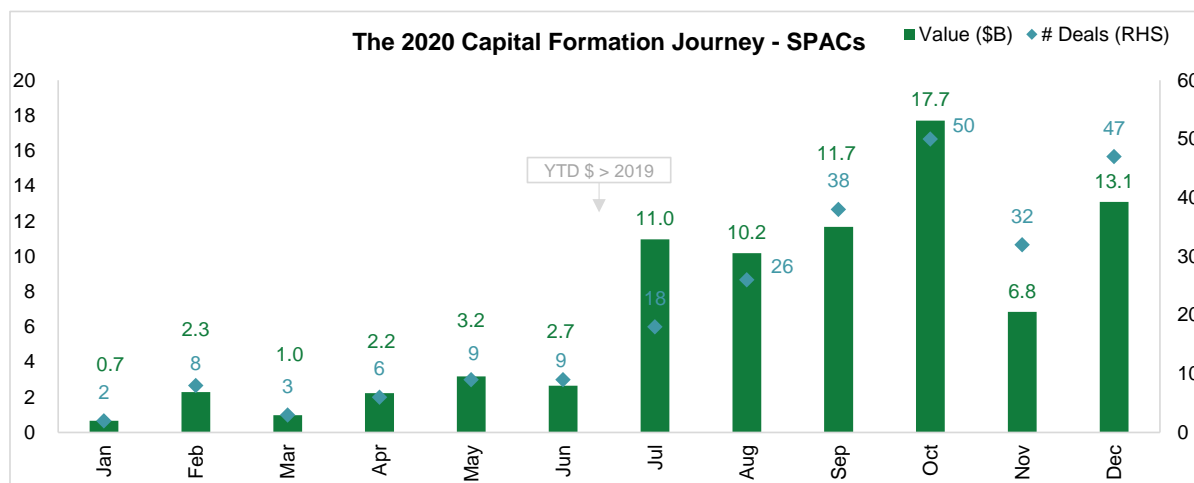
- 2020 total \$46.3 billion versus \$34.0 billion in 2019, +36.2% Y/Y (2020 # deals 83 vs. 82 in 2019, +1.2% Y/Y)
- 2020 monthly average \$3.9 billion versus \$2.8 billion in 2019, +36.2% Y/Y (2020 average # deals 7 vs. 7 in 2019, flat Y/Y)
- Peaked at \$11.8 billion in January, +118.9% to the 2019 peak of \$5.4 billion (2020 peak # deals 14 vs. 14 in 2019, flat)
- Troughed at \$0.3 billion in March, flat to the 2019 trough of \$0.3 billion (2020 trough # deals 1 vs. 2 in 2019, -50.0%)
- By August, the 2020 aggregate monthly total surpassed the full year 2019 total



## SPACs

In the chart below, we follow the 2020 capital formation journey for SPACs, highlighting the following trends:

- 2020 total \$82.4 billion versus \$13.5 billion in 2019, +510.6% Y/Y (2020 # deals 248 vs. 59 in 2019, +320.3% Y/Y)
- 2020 monthly average \$6.9 billion versus \$1.1 billion in 2019, +510.6% Y/Y (2020 average # deals 21 vs. 5 in 2019, +320.3% Y/Y)
- Peaked at \$17.7 billion in October, +852.9% to the 2019 peak of \$1.9 billion (2020 peak # deals 50 vs. 10 in 2019, +400.0%)
- Troughed at \$0.7 billion in January, +13.2% to the 2019 trough of \$0.6 billion (2020 trough # deals 2 vs. 3 in 2019, -33.3%)
- By around halfway between June and July, the 2020 aggregate monthly total surpassed the full year 2019 total



Source: Dealogic

Note: Includes rank eligible BCC/SPAC deals; SPAC totals are separate from the IPO/secondaries/total capital formation figures discussed above

## Appendix: Market Index Definitions

---

- **Dow Jones Industrial Average (DJIA):** A price weighted index that tracks 30 large, publicly-owned companies trading on U.S. exchanges. It is a widely-watched benchmark index for U.S. blue-chip stocks.
- **S&P 500:** A market capitalization weighted index of the 500 largest U.S. publicly traded companies. The index is regarded as the best gauge of large-cap U.S. equities.
- **Nasdaq Composite (Nasdaq):** A market capitalization weighted index made up of over 2,500 common equities listed on the Nasdaq stock exchange. Its composition is nearly 50% technology (this percentage has come down over the years), followed by consumer services, health care and financials.
- **Russell 2000:** A market capitalization weighted index made up of the bottom two-thirds of the Russell 3000 index, a larger index of 3,000 publicly traded companies that represents nearly 98% of the investable U.S. stock market. The index is regarded as a gauge of small cap, U.S. centric companies.
- **CBOE Volatility Index (VIX):** A real-time market index that represents the market's expectation of 30-day forward looking volatility, as derived from the price inputs of S&P 500 index options. It measures market risk and investor sentiment (fear, stress) and is often called the fear index



## Appendix: Terms to Know

FINRA	Financial Industry Regulatory Authority
SEC	Securities and Exchange Commission
ADV	Average Daily Trading Volume
ATS	Alternative Trading System
Best Ex	Best Execution
CAT	Consolidated Audit Trail
Dark Pool	Private trading venues, not accessible by the public
EMS	Equity Market Structure
MM	Market Maker
NMS	National Market System
OPR	Order Protection Rule
OPRA	Options Price Reporting Authority
PFOF	Payment For Order Flow
Reg NMS	Regulation National Market System
SIP	Security Information Processor
SRO	Self Regulatory Organization
Tick Size	Minimum price movement of a security
Bid	An offer made to buy a security
Ask, Offer	The price a seller is willing to accept for a security
Spread	The difference between the bid and ask price prices for a security, an indicator of supply (ask) and demand (bid)
NBBO	National Best Bid and Offer
Locked Market	A market is locked if the bid price equals the ask price
Crossed Market	A bid is entered higher than the offer or an offer is entered lower than the bid
Opening Cross	To determine the opening price of a stock, accumulating all buy and sell interest a few minutes before the market open
Closing Cross	To determine the closing price of a stock, accumulating all buy and sell interest a few minutes before the market close
Order Types	
AON	All or none; an order to buy or sell a stock that must be executed in its entirety, or not executed at all
Block	Trades with at least 10,000 shares in the order
Day	Order is good only for that trading day, else cancelled
FOK	Fill or kill; must be filled immediately and in its entirety or not at all
Limit	An order to buy or sell a security at a specific price or better
Market	An order to buy or sell a security immediately; guarantees execution but not the execution price
Stop	(or stop-loss) An order to buy or sell a stock once the price of the stock reaches the specified price, known as the stop price
Call	The right to buy the underlying security, on or before expiration
Put	The right to sell the underlying security, on or before expiration
Holder	The buyer of the contract
Writer	The seller of the contract
American	Option may be exercised on any trading day on or before expiration
European	Option may only be exercised on expiration
Exercise	To put into effect the right specified in a contract
Underlying	The instrument on which the options contract is based; the asset/security being bought or sold upon exercise notification
Expiration	The set date at which the options contract ends, or ceases to exist, or the last day it can be traded
Stock Price	The price at which the underlying stock is trading, fluctuates continuously
Strike Price	The set price at which the options contract is exercised, or acted upon
Premium	The price the option contract trades at, or the purchase price, which fluctuates constantly
Time Decay	The time value portion of an option's premium decreases as time passes; the longer the option's life, the greater the probability the option will move in the money
Intrinsic Value	The in-the-money portion of an option's premium
Time Value	(Extrinsic value) The option premium (price) of the option minus intrinsic value; assigned by external factors (passage of time, volatility, interest rates, dividends, etc.)
In-the-Money	For a call option, when the stock price is greater than the strike price; reversed for put options
At-the Money	Stock price is identical to the strike price; the option has no intrinsic value
Out-of-the-Money	For a call option, when the stock price is less than the strike price; reversed for put options

## Appendix: Terms to Know

IPO	Initial Public Offering; private company raises capital by offering its common stock to the public for the first time in the primary markets
SPAC	Special Purpose Acquisition Company; blank check shell corporation designed to take companies public without going through the traditional IPO process
Bought Deal	underwriter purchases a company's entire IPO issue and resells it to the investing public; underwriter bears the entire risk of selling the stock issue
Best Effort Deal	Underwriter does not necessarily purchase IPO shares and only guarantees the issuer it will make a best effort attempt to sell the shares to investors at the best price possible; issuer can be stuck with unsold shares
Secondary	(Follow-on) Issuance of shares to investors by a public company already listed on an exchange
Direct Listing	(Direct placement, direct public offering) Existing private company shareholders sell their shares directly to the public without underwriters. Often used by startups or smaller companies as a lower cost alternative to a traditional IPO. Risks include, among others, no support/guarantee for the share sale and no stock price stabilization after the share listing.
Underwriting	Guarantee payment in case of damage or financial loss and accept the financial risk for liability arising from such guarantee in a financial transaction or deal
Underwriter	Investment bank administering the public issuance of securities; determines the initial offering price of the security, buys them from the issuer and sells them to investors.
Bookrunner	The main underwriter or lead manager in the deal, responsible for tracking interest in purchasing the IPO in order to help determine demand and price (can have a joint bookrunner)
Lead Left Bookrunner	Investment bank chosen by the issuer to lead the deal (identified on the offering document cover as the upper left hand bank listed)
Syndicate	Investment banks underwriting and selling all or part of an IPO
Arranger	The lead bank in the syndicate for a debt issuance deal
Pitch	Sales presentation by an investment bank to the issuer, marketing the firm's services and products to win the mandate
Mandate	The issuing company selects the investment banks to underwrite its offering
Engagement Letter	Agreement between the issuer and underwriters clarifying: terms, fees, responsibilities, expense reimbursement, confidentiality, indemnity, etc.
Letter of Intent	Investment banks' commitment to the issuer to underwrite the IPO
Underwriting Agreement	Issued after the securities are priced, underwriters become contractually bound to purchase the issue from the issuer at a specific price
Registration Statement	Split into the prospectus and private filings, or information for the SEC to review but not distributed to the public, it provides investors adequate information to perform their own due diligence prior to investing
The Prospectus	Public document issued to all investors listing: financial statements, management backgrounds, insider holdings, ongoing legal issues, IPO information and the ticker to be used once listed
Red Herring Document	An initial prospectus with company details, but not inclusive of the effective date of offering price
Roadshow	Investment bankers take issuing companies to meet institutional investors to interest them in buying the security they are bringing to market.
Non-Deal Roadshow	Research analysts and sales personnel take public companies to meet institutional investors to interest them in buying a stock or update existing investors on the status of the business and current trends.
Pricing	Underwriters and the issuer will determine the offer price, the price the shares will be sold to the public and the number of shares to be sold, based on demand gauged during the road show and market factors
Stabilization	Occurs for a short period of time after the IPO if order imbalances exist, i.e. the buy and sell orders do not match; underwriters will purchase shares at the offering price or below to move the stock price and rectify the imbalance
Quiet Period	(Cooling off period) The SEC mandates a quiet period on research recommendations, lasting 10 days (formerly 25 days) after the IPO
Reg S-K	Regulation which prescribes reporting requirements for SEC filings for public companies
Reg S-X	Regulation which lays out the specific form and content of financial reports, specifically the financial statements of public companies
Form S-1	Registration statement for U.S. companies (described above)
Form F-1	Registration statement for foreign issuers of certain securities, for which no other specialized form exists or is authorized
Form 10-Q	Quarterly report on the financial condition and state of the business (discussion of risks, legal proceedings, etc.), mandated by the SEC
Form 10-K	More detailed annual version of the 10Q, mandated by the SEC
Form 8-K	Current report to announce major events shareholders should know about (changes to business & operations, financial statements, etc.)
Greenshoe	Allows underwriters to sell more shares than originally planned by the company and then buy them back at the original IPO price if the demand for the deal is higher than expected, i.e. an over-allotment option
Tombstone	An announcement that securities are available for sale. (Also a plaque awarded to celebrate the completion of a transaction or deal)
EGC	Emerging Growth Company

## Appendix: SIFMA Insights Research Reports

---

SIFMA Insights Market Structure Primers: [www.sifma.org/primers](http://www.sifma.org/primers)

- Global Capital 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](http://www.sifma.org/insights)

- 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

## Author

---

**SIFMA Insights**

Katie Kolchin, CFA  
Director of Research  
[kkolchin@sifma.org](mailto:kkolchin@sifma.org)