February 28, 2020 Monthly Flash Flows

## **Boy, That Escalated Quickly**

Matthew Bartolini, CFA
Head of SPDR Americas Research
State Street Global Advisors

- The Covid-19 led growth fears hit global equities hard in the last two weeks of February, as just 12% global stocks now trade above their 50-day moving average – down from 50% mid-month
- Intra-month equity flows were a positive \$29 billion, but after the violent reversal of sentiment and investors seeking to de-risk, equity flows ended down \$650 million
- Sector flows were +\$1.4 billion, led by \$4 billion of inflows into defensive areas. A similar trend occurred in factors, as low volatility ETFs took in over \$1 billion
- Defensive posturing was also visible with bond and gold ETF flows. Bond funds took in \$14 billion – even with the \$6.3 billion of outflows from credit-sensitive ETFs – and gold ETFs took in \$2 billion, with inflows on over 88% of the days

The S&P 500 Index fell 11% in the last five days of the month, notching a new record for the fastest correction ever. In those five days, there were three days with more than a 3% daily decline – the most for a five-day period since the US's sovereign debt rating was downgraded in 2011. By the end of the month, only 3% of US stocks were trading above their 50-day moving average, with 12% of stocks trading above when considering a global universe<sup>1</sup>. This compares to 70% and 50%,<sup>2</sup> respectively, from mid-month – evidence of the massive reversal of sentiment stemming from the uncertainty of the Covid-19 epidemic's impact on global growth.

With such a violent and swift selloff, it's understandable for investors looking at their portfolios to have the same reaction as legendary anchorman Ron Burgundy<sup>3</sup> did after his news team mixed it up with other local news outlets in a clash that featured men on horses and a weatherman throwing a trident prompting him to proclaim, "Boy, that escalated quickly. I mean that really got out of hand fast."

Market volatility definitely jumped up a notch last month, as Champ Kind would say. The VIX surged past 40 and the volatility curve<sup>4</sup> became the most inverted since 2008. But, in all honesty – and putting aside the humanitarian aspect of this selloff that has made my wife put sanitizer wipes and Purell bottles in every room and car – unless you were planning to finance a new car, new house or make another large expenditure in the next few weeks, the market's recent sell-off shouldn't be *that* big of a concern. For those in or nearing retirement, if you have that much beta to the stock market, that's just a bad break for having an asset allocation mix that didn't meet your time horizon.

#### The Lead

I know. The above is hard to read as wealth was destroyed, but stocks fall. Stocks are risky, hence the equity risk premium. It's the reason why stocks have beaten bonds by more than 8,000% over the last 40-plus years.<sup>5</sup>

The market's reaction, however, is emblematic and consistent with the violent microbursts of volatility fueled by exogenous variables that we "should" have become accustomed to over the last few years. The current bull market's foundation is not overly strong, as fundamental and economic growth rates are already low and slow. Therefore, an exogenous event that hinders any growth, specifically consumer-led, only serves to weaken the walls – creating some concern that something more serious may be afoot.

Policy, either fiscal or monetary, has typically come in to shore up those walls and keep the good times going. It is why we have now seen China, along with other Asian nations launching fiscal stimulus plans.<sup>6</sup> And, not surprisingly, Federal Reserve (Fed) Chairman Jay Powell issued a memo on February 28<sup>th</sup> indicating potential monetary support – akin to the memo former Fed Chair Ben Bernanke released back in 2007 right as credit markets were seizing up. The Bank of Japan and Bank of England have followed with their own memos on providing support – a sign of potential coordinated easing.<sup>7</sup>

While I do not believe a rate cut will stem the spread of Covid-19, it will lower the cost of capital and free up more money in the system to offset the business impact from a shift in consumer behavior. Even with a rate cut, however, expect more volatility in the days ahead as the uncertain nature of the virus's impact is not transitory and will have noticeable impacts for 2020 economic and fundamental trends.<sup>8</sup> A recession is unlikely, but so is getting back to 3% GDP growth in the US – or even 2%.

Portfolios constructed in an effort to earn that equity risk premium, while also seeking to mitigate the microbursts of volatility prevalent in our current environment, may be one way to ensure discipline in times of stress like these. Owning bonds, defensive equities, or uncorrelated assets like gold alongside broad beta in a screaming bull market is hard, until it isn't. After all, diversification is kind of like Brian Fantana's favorite cologne, in that it aims to work 60% of the time, every time.<sup>9</sup>

# Reversal of Fortunes

With \$32 billion of inflows already in the first two months of the year, fixed income ETFs are on pace to shatter their 2019 record by 23% and could conceivably register \$200 billion of inflows in 2020. If it weren't for the \$6 billion of outflows from credit-sensitive sectors, fixed income ETFs would have surpassed \$20 billion in monthly flows for the second time ever. The demand this month was part secular, as discussed <a href="https://example.com/here">here</a> and part market-related, given the drawdowns in stocks. Equity ETFs ended the month negative, but that wasn't always the case. See Figure 2.

Figure 1

Asset Class

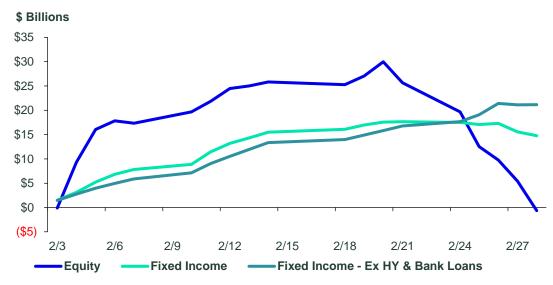
In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Equity	-650	20,058	66,124	190,955	0.58%
Fixed Income	14,752	32,483	49,302	164,226	3.83%
Commodity	2,757	5,097	4,664	12,701	6.20%
Specialty	-477	-427	-387	-196	-15.79%
Mixed Allocation	319	538	925	2,691	3.71%
Alternative	113	216	242	6	6.27%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results**. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

Equity investors were in a glass case of emotion reacting to the Covid-19 headlines, redeeming nearly \$29 billion in equity ETF assets, while upping non-credit bond exposures over the last week of February.

Figure 2

Cumulative Fund Flows
by Asset Class Type



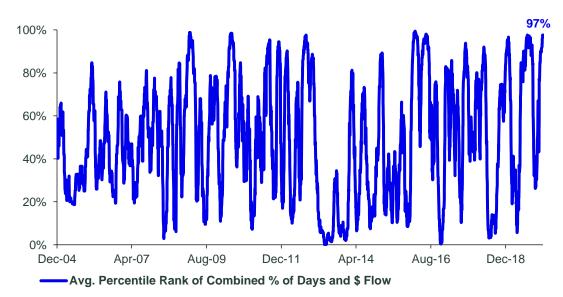
Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

Similar to the defensive bond ETF exposures, gold was also in noticeable favor. Figure 3 illustrates both trend (% of days with inflows) and magnitude (notional amount of inflows) for gold ETFs. It has matched its highest level ever.

There have been inflows on 88% of the last 30 trading days (100% percentile ranking historically, so most ever for our consecutive trend indicator) with \$3.9 billion of inflows over that time period (95% percentile ranking). This combo results in an average 97%-tile ranking for our trend and magnitude score, indicating overwhelmingly strong sentiment for defensive exposures like gold.

Figure 3

Avg. Percentile Rank of Combined % of Days and \$ Flow Percentiles (30 Day Lookback)



Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## **Mixed Sentiment**

Geographic flows paint an interesting but mixed picture. International-developed funds witnessed inflows, while currency hedged, emerging market, and single country foreign exposures had outflows. Part of the reason for the disparate flow patterns for overseas exposures potentially stems from developed funds being more in favor for all considered periods, as shown below, given valuations are more attractive than those in the US<sup>10</sup>. For the relative value investor, if you believed developed ex-US was a better buy in January, then the price drop in February may have elicited more enticement.

Figure 4

Equity Geographical

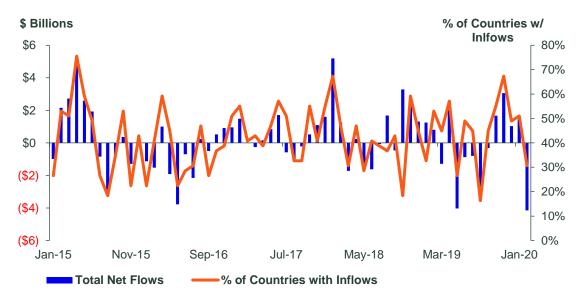
In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
U.S.	-1,642	8,791	39,594	153,220	0.34%
Global	357	115	1,359	4,380	0.11%
International-Developed	5,944	12,981	21,033	43,357	3.18%
International-Emerging Markets	-1,530	737	5,401	-309	0.37%
International-Region	300	313	506	-856	0.59%
International-Single Country	-4,036	-2,567	-1,496	-5,334	-2.69%
Currency Hedged	-44	-312	-274	-3,503	-1.6%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results**. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

With our flow analysis work, we seek to examine three things: trend (e.g., increasing flows for a number of months), magnitude (e.g., flow totals), and breadth (e.g., whether flows are from one big fund or multiple smaller funds). The chart below attempts to analyze all three at once. After four months of inflows, single-country funds had outflows (trend reversal), and those outflows were the largest in five years (magnitude) and from more than 70% of the countires we track (breadth). This reversal is further evidence of the change in sentiment witnessed in February.

Figure 5

Single Country Analysis



Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## **Playing Defense**

Figure 6
Sector Flows

Sector flows were net positive in February. However, similar to how some bottles of cologne smell like Black Beard's Delight<sup>11</sup> while others smell like Sex Panther,<sup>12</sup> flows at the sector level can be differentiated. And that was the case in February. Four sectors had outflows, and the outflows were sizeable at nearly more than \$1 billion out for each. Yet, six sectors had inflows and four of those markets took in more than \$1 billion of new assets. Winners and losers were clearly chosen with volatility reemerging like a missing old wooden ship used in the Civil War.<sup>13</sup>

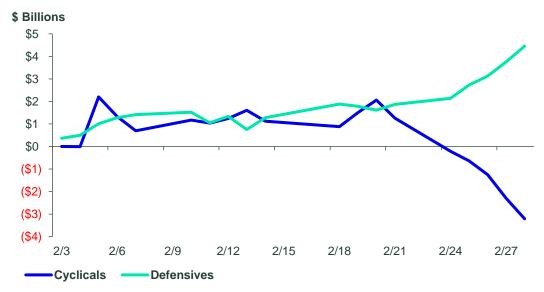
In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Technology	332	2,045	3,428	6,670	1.91%
Financial	-2,525	-2,157	-4,557	-7,497	-4.25%
Health Care	490	102	742	-5,231	0.16%
Consumer Discretionary	-894	280	-544	-547	1.22%
Consumer Staples	1,147	752	940	2,186	3.38%
Energy	2,093	1,465	2,454	1,141	3.29%
Materials	-1,016	-546	-268	-2,291	-1.70%
Industrials	-1,683	-518	-1,083	-1,722	-1.98%
Real Estate	1,498	1,373	1,082	5,210	1.76%
Utilities	1,321	1,720	1,322	3,738	8.85%
Communications	484	737	808	2,876	7.1%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results.** Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

As shown below, the winners were the more defensive areas. When the US market began to witness elevated levels of volatility, and fall by more than 11% from February 21<sup>st</sup>, defensive exposures took in \$3 billion of inflows, while cyclical – and therefore areas more sensitive to growth– witnessed \$4 billion of outflows. Financials were the hardest hit cyclical, while defensive bond-proxy Real Estate benefited the most.

Figure 7

Cumulative Sector Flows
(Cyclical versus
Defensives)



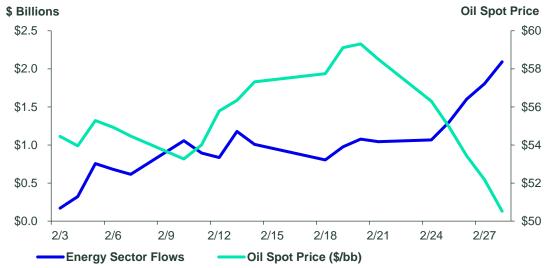
Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020. Cyclical: Financials, Tech, Cons, Disc., Energy, Materials, Comm. Svcs., and Industrials. Defensive: Cons. Staples, Health Care, Utilities, and Real Estate

The cyclical flows are likely understated, as a result of inflows into the Energy sector. When the market rolled over from fears of slowing growth, so did oil. Right as the spot price of oil fell by \$10 per barrel, Energy sector ETFs flows surged by \$1 billion.

Normally, such strong flows would be an indication of bullish sentiment. However, given that ETFs can be shorted it must be considered that these inflows were actually from investors seeking shares (thus leading to creations) so they could short the entire sector. After all, the Energy sector fell by 17% over the last five days, 6% more than the broader market, as any impact on consumer demand is expected to have a direct, and noticeable, impact on the sectors profits. It's one reason why 2020 earnings expectations have been revised lower by the largest magnitude out of any other sector. Data on short interest will not be available until mid-March and those figures are worth monitoring to fully understand investor behavior at this moment.

Figure 8

Cumulative Energy
Sectors Flows versus Oil
Price



Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## Playing More Defense

After posting a 7% return in 2019, as a result of interest rates falling by 90 basis points (bps), broad US Treasuries are now off to a seemingly unthinkable similar start to 2020. The panic driven selloff has pushed the US 10-year yield down to around 1.2%, a decline of 60 bps from the start of the year. This drop in yield has pushed returns to be 5% so far this year, with stronger returns further out on the curve, given the longer duration profile. If the year ended today, it would mark the strongest returns in back-to-back years for US Treasuries since 2011. The current environment also marks the steepest difference ever between the current US 10 Year Yield to its rolling 36 month exponential moving average<sup>15</sup> – indicating US Treasuries may be expensive.

Strong returns and low yields beg the question; will the market driven sizeable inflows into interest rate sensitive sectors persist? If equity volatility spikes, surely investors will most likely continue seeking out defensive US Treasuries as a way to de-risk. But at what cost? If the Fed does cut rates and that offsets some of the growth shocks anticipated by the impact of Covid-19, the curve could steepen and long-term rates may rise. With such a low starting yield along with an extended duration level, they might not be the ideal choice to balance upside and downside growth risks. Mortgages, which have also received strong flows this year and last month, may be one area to generate income, mitigate equity risk but without extending on duration.<sup>16</sup>

Figure 9

#### **Fixed Income Flows**

In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Aggregate	9,502	16,547	24,135	66,035	6.19%
Government	6,987	9,049	9,220	30,364	6.13%
Inflation Protected	98	382	1,355	2,308	0.85%
Mortgage-Backed	2,093	5,526	6,972	15,464	14.62%
IG Corporate	1,031	2,856	4,507	22,473	1.71%
High Yield Corp.	-4,662	-5,389	-3,452	8,292	-9.60%
Bank Loans	-1,720	-1,441	-653	-1,218	-13.89%
EM Bond	-161	-125	608	-2,271	-0.43%
Preferred	429	1,827	1,966	8,125	5.34%
Convertible	-86	-25	141	416	-0.49%
Municipals	1,241	3,276	4,505	14,240	6.7%

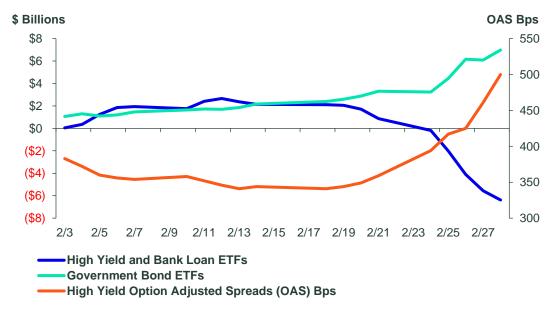
Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results**. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

Both high yield and bank loan securities are equity sensitive, with fixed rate high yield carrying a slightly higher correlation historically. Therefore, it is no surprise to see high yield and bank loan ETFs witness a massive reversal of sentiment as the equity markets were in turmoil. Over the last week of February, high yield ETFs alone registered outflows of more than \$1 billion on four consecutive days.

Prior to this past week, there had never even been back-to-back \$1 billion outflow days. So these outflows, much like Ron Burgundy, are kind of a big deal. Some may say the outflows were the reason why spreads widened from 350 to 500 bps. But they would be wrong. In the last five days of February, high yield ETFs had \$6.5 billion of outflows that hit the cash bond market. Overall trading in the high yield cash bond market was \$91.6 billion, 17 meaning ETFs contributed to just 7% of overall volumes, unlikely to be impacting prices enough to widen spreads by 150 bps.

Figure 10

Cumulative High Yield versus Government
Bond Flows



Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

# Paying Up For Growth

US large-cap strategies bore the brunt of investors' de-risking pain. Growth ETFs, however, continued to receive interest. This is not a surprise, as one playbook is that "if growth is challenged, buy growth". And in this case, it's a growth at no matter the price being paid.

Even with the selloff, valuations on growth stocks are still north of the 80<sup>th</sup> percentile over the past 25 years, based on Price-to-Earnings.<sup>18</sup> On a relative basis, growth stocks' premium compared with the broader market still sits in the top 90<sup>th</sup> percentile. The performance trends in the last week of February, where growth beat the market and value by 0.67 and1.47%,<sup>19</sup> respectively, is evidence of investors' desire for growth no matter the price.

Figure 11
US Style Flows

In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Broad Market	2,859	7,717	12,457	42,233	2.62%
Large-Cap	-5,980	-2,138	21,334	96,444	-0.27%
Mid-Cap	55	244	1,287	4,522	0.12%
Small-Cap	150	-1,684	1,363	6,673	-0.76%
Growth	2,024	3,422	6,383	11,671	1.06%
Value	141	-1,122	2,351	17,597	-0.44%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results.** Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## De-Risk Tools Activated

In this risk-off market, investors rotated toward almost every part of the government bond curve. Not surprisingly, given the fall in rates, on a relative to assets basis the longer duration segments have had the most inflows this year – an indication of outsized interest.

Figure 12

Maturity Flows

In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Ultra Short	-172	-122	481	2,961	-0.36%
Short Term	1,789	2,506	3,298	8,775	5.05%
Intermediate	3,781	4,083	2,576	11,216	10.31%
Long Term (>10 yr)	1,480	2,458	2,758	7,615	10.70%

Top two and bottom two categories per period are highlighted. Past performance is not a guarantee of future results. Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## Playing Even More Defense

Prior to February, low volatility ETFs had only \$200 million of inflows. One month can change a lot, as low volatility ETFs took in the most flows in February and are now year to date second only to dividend strategies, which continues to receive interest for secular reasons (need for income) as well as partially some market reasons (playing a bit of defense as some strategies are dividend growth oriented).

Figure 13

## **Factor Flows**

In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Dividend	1,392	3,092	7,374	28,723	1.40%
Growth	-152	-188	-125	-82	-3.29%
Low Volatility	1,737	1,966	2,075	18,824	2.24%
Momentum	608	437	816	215	2.68%
Multi-Factor	73	927	1,402	5,345	1.81%
Quality	488	1,479	2,557	9,539	5.50%
Size	-309	-738	-761	487	-3.47%
Value	-681	-372	259	1,530	-0.86%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results.** Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

## Secular Drivers Still in the Seat

Market volatility can shake a lot of investors' nerves, evidenced by the flow patterns we have discussed throughout this article. However, there are categories that will receive inflows based on secular tailwinds from increased awareness and adoption within investor portfolios. In the ETF industry, that is low cost (not profiled here, but low cost ETFs have taken in \$66 billion this year), smart beta, ESG, and active ETFs.

For active, it is mainly active fixed income. Out of the \$4.4 billion into active, over \$3 billion went into active fixed income strategies. ESG, while lower on a notional flow basis compared to active and smart beta, has had the most flows on a percent of assets basis in 2020. The \$1.6 billion deposited in ESG in February raised the 2020 total to \$5.7 billion, or 25% of its start-of-year assets.

Figure 14

Strategy Flows

In Millions	February	Year to Date	Trailing 3 Mth	Trailing 12 Mth	YTD (% of AUM)
Active	4,428	9,478	11,877	33,340	9.50%
Smart Beta	2,880	6,233	13,285	62,985	1.26%
Sector Smart Beta	-189	-420	-375	65	-3.11%
ESG	1,633	5,706	6,663	14,662	25.3%

Top two and bottom two categories per period are highlighted. **Past performance is not a guarantee of future results.** Source: Bloomberg Finance L.P., State Street Global Advisors, as of February 28, 2020

#### **Definitions**

Basis point: 1/100th of 1 percent

**Bloomberg Barclays US Aggregate Bond Index:** A flagship measure of investment grade debt issued US dollars. The benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds.

**Bloomberg Barclays US MBS Index:** Tracks fixed-rate agency mortgage backed pass-through securities quaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

Bloomberg Barclays US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below.

MSCI ACWI Index: The MSCI ACWI Index captures large and mid-cap representation across developed and emerging market countries

**S&P 500 Index:** The S&P 500 Index includes 500 leading US companies and captures approximately 80% coverage of available market capitalization.

**S&P 500 Growth Index:** A benchmark covering large- capitalization firms domicled within the US exhbiting growth characteristics

**S&P 500 Value Index:** A benchmark covering large- capitalization firms domicled within the US exhbiting value characteristics

Growth: Characterized by higher price levels relative to fundamentals, such as earnings.

Value: Characterized by lower price levels relative to fundamentals, such as earnings.

**Dividend Yield Factor:** Characterized by stocks, or a basket of stocks, with a high dividend yield.

Momentum Factor: Characterized by stocks, or a basket of stocks, with strong recent returns

**Quality Factor:** Characterized by stocks, or a basket of stocks, with a more stable earnings growth and less debt held on their balance sheet.

Smart Beta: A term for rules-based investment strategies that don't use conventional market-cap weightings.

ESG: An investing style focsued on enivornmental, social, and governance

#### **Endnotes**

- 1 Bloomberg Finance L.P. as of 2/28/2020 based on the MSCI ACWI Index
- 2 Bloomberg Finance L.P. as of 2/15/2020
- 3 Legendary local San Diego news anchorman that had a voice that could make a wolverine purr and suits so fine they made Sinatra look like a hobo, as profiled in the 2004 film "Anchorman"
- 4 Volatility curve is the three month implied volatility on the S&P 500 Index minus the one month implied volatility. In normal situations it is upward sloping
- **5** Cumulative return difference between the S&P 500 Index and Bloomberg Barclays US Aggregate Index from 12/31/1997 to 2/28/2020
- 6 "China Vows More Fiscal Support as Virus Roils a Slowing Economy", Bloomberg 2/16/2020; "Malaysia Announces Stimulus Package to Blunt Coronavirus Hit", Bloomberg 2/27/2020
- 7 "BOJ, BOE Pledge to Ensure Market Stability Amid Virus Fears", Bloomberg 3/02/2020
- **8** China GDP make shrink by 1.5% per a Bloomberg survey on 2/25/2020 and some analysts have revised S&P 500 firm growth to near zero as mentioned in "JPMorgan Joins Goldman in Cutting Profit Estimates for S&P 500", Bloomberg 2/27/2020
- **9** This is a reference to very quotable line from the movie Anchorman and is meant to show that portfolio diversification, allocating to more than just US stocks, may provide benefits over the long-term and during periods of volatility. But can also lag when stocks rally. In 2019, a 60/40 portfolio of global stocks and bonds returned 20% versus 31% for the S&P 500 Index. However, in February, a 60/40 portfolio of global stocks and bonds returned -4% versus -8% for the S&P 500 Index.
- **10** Prior to the sell-off the S&P 500 Index had a Price-to-Earnings Ratio in the top 94<sup>th</sup> percentile over the last 15 years while the MSCI EAFE Index multiple was in 59<sup>th</sup> percentile, per FactSet as of 1/31/2020
- 11 One of the colognes Ron Burgundy and Brian Fantana discuss in the movie Anchorman
- 12 The more often referenced cologne that Ron Burgundy and Brian Fantana discussed in the movie Anchorman
- 13 Anchorman reference to what Ron Burgundy thought something was
- 14 FactSet as of 2/28/2020
- 15 An exponential moving average (EMA) is a type of moving average (MA) that places a greater weight and significance on the most recent data points. An exponentially weighted moving average reacts more significantly to recent price changes than a simple moving average (SMA), which applies an equal weight to all observations in the period.
- 16 Mortgage Backed securities have historically earned a 43% yield premium versus US Treasuries, with 41% less duration per Bloomberg Finance L.P. from 12/1997 to 12/2019.
- 17 High Yield cash bond trading volume as measured by reported volumes from FINRA TRACE as of 2/28/2020
- 18 Bloomberg Finance L.P. as of 2/28/2020 based on S&P 500 Index and S&P 500 Growth Index
- 19 Bloomberg Finance L.P. as of 2/28/2020 based on S&P 500 Index, S&P 500 Growth Index, and S&P 500 Value Index

#### ssga.com

#### State Street Global Advisors Worldwide Entities

https://www.ssga.com/global/en/our-insights/state-street-global-advisors-worldwide-entities.html

#### Important Risk Information

This material or any portion thereof may not be reprinted or redistributed without the written consent of State Street Global Advisors.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETFs' net asset value. Brokerage commissions and ETF expenses will reduce returns.

The views expressed in this material are the views of the SPDR Research and Strategy team and are subject to change based on market and other conditions. It should not be considered a solicitation to buy or an offer to sell any security. It does not take into account any investor's particular investment objectives, strategies, tax status or investment horizon. There is no representation or warranty as to the current accuracy of such information, nor liability for decisions based on such information. Past performance is no guarantee of future results.

Unless otherwise noted, all data and statistical information were obtained from Bloomberg LP and SSGA as of February 28, 2020. Data in tables have been rounded to whole numbers, except for percentages, which have been rounded to the nearest tenth of a percent.

The research and analysis included in this document have been produced by SSGA for its own investment management activities and are made available here incidentally. Information obtained from external sources is believed to be reliable and is as of the date of publication but is subject to change. This information must not be used in any jurisdiction where prohibited by law and must not be used in a way that would be contrary to local law or legislation. No investment advice, tax advice, or legal advice is provided herein.

Standard & Poor's®, S&P® and SPDR® are registered trademarks of Standard & Poor's Financial Services LLC (S&P); Dow Jones is a registered trademark of Dow Jones Trademark Holdings LLC (Dow Jones); and these trademarks have been licensed for use by S&P Dow Jones Indices LLC (SPDJI) and sublicensed for certain purposes by State Street Corporation. State Street Corporation's financial products are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates and third party licensors and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability in relation thereto, including for any errors, omissions, or interruptions of any index.

State Street Global Advisors Funds Distributors, LLC, member FINRA, SIPC, One Iron Street, Boston, MA 02210.

Expiration Date: 2/28/2021 2848832.4.1.GBL.RTL