



**STATE STREET GLOBAL ADVISORS**  
**SPDR® ETFs Chart Pack**  
**April 2020**

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# SPDR<sup>®</sup> ETFs

# Chart Pack

**Key Charts to Help Navigate the Market**

**April 2020 Edition**

Please see Appendix D for more information on investment terms used in this Chart Pack.

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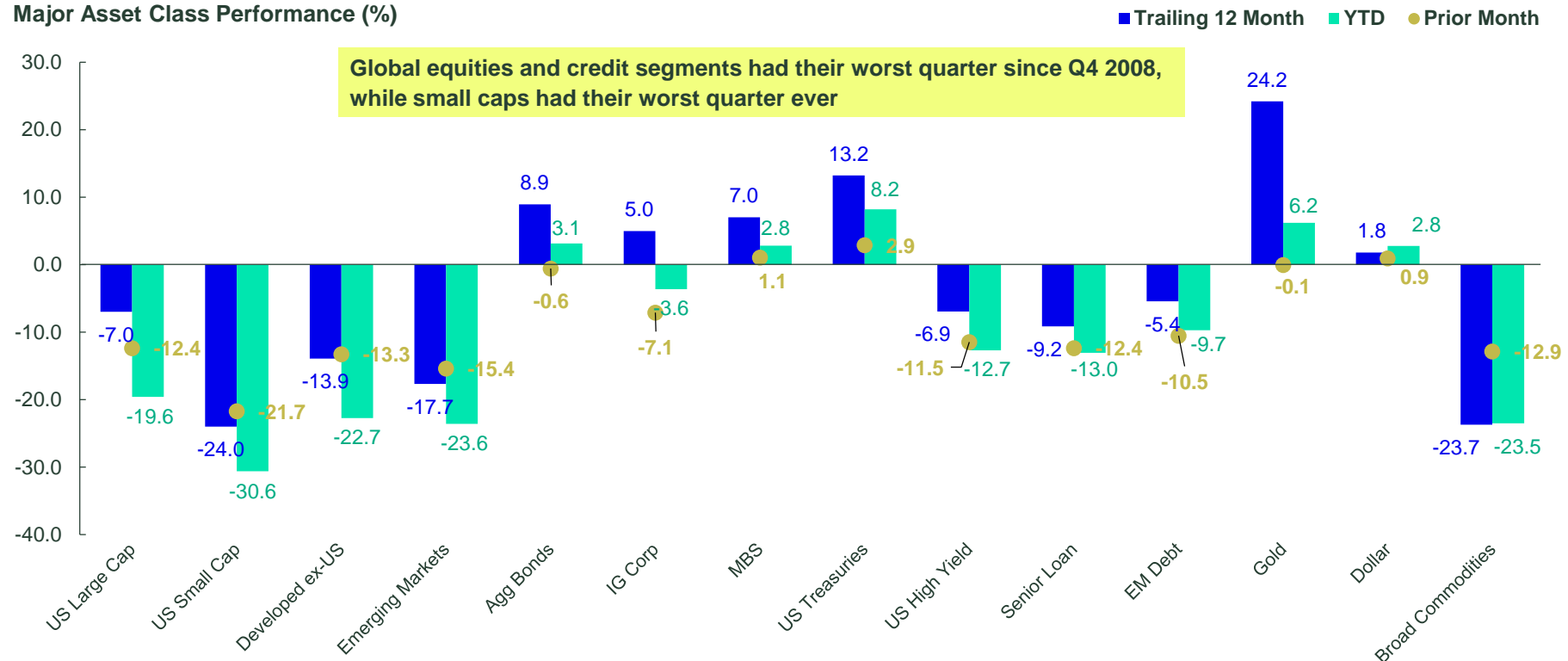
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# 1. Market Environment

# Asset Class Performance

Gold and US Treasuries led performance on a YTD basis, as investors flocked to safe-haven assets amid the selloff of risk assets.

Major Asset Class Performance (%)

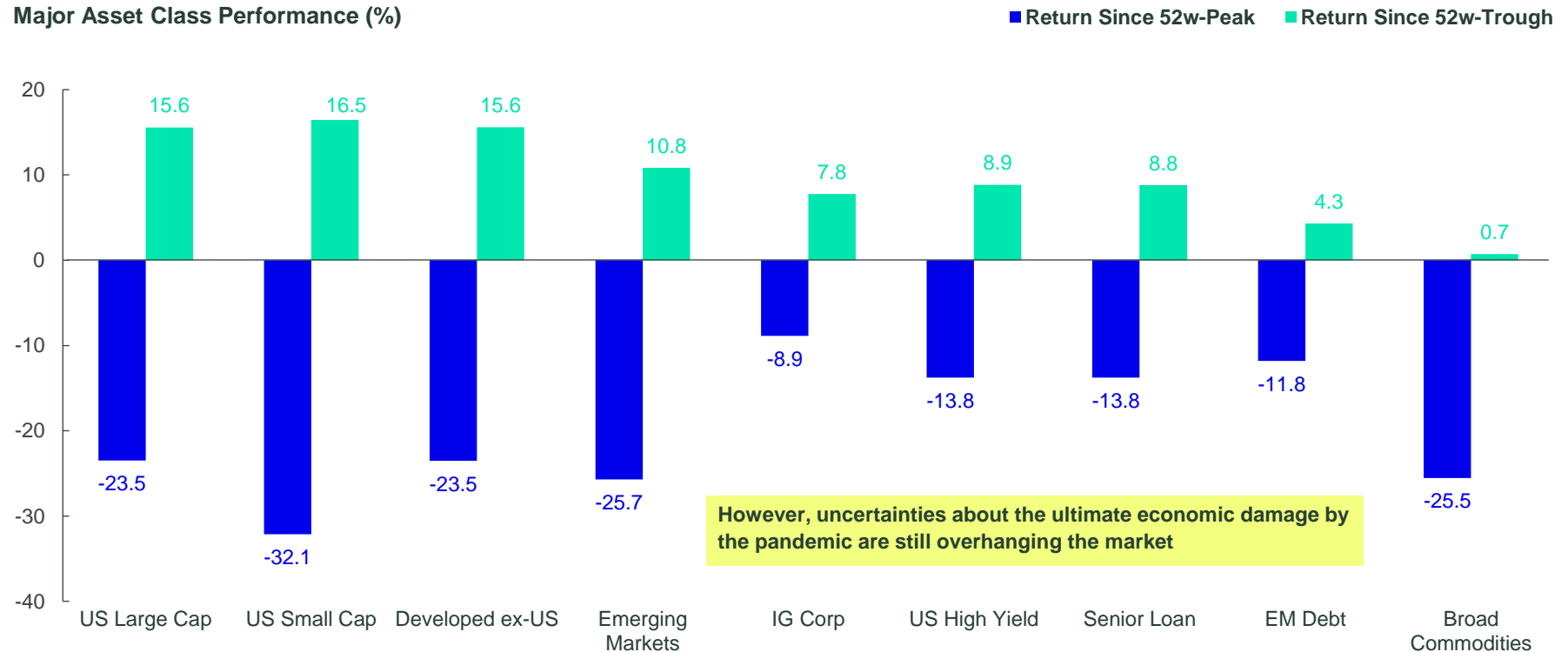


Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Performance returns for periods of less than one year are not annualized. US Large Cap: S&P 500 Index; US Small Cap: Russell 2000 Index; Developed Ex-US: MSCI EAFE Index; Agg Bonds: Bloomberg Barclays US Aggregate Index; IG Corp: Bloomberg Barclays US Corporate Index, Treasuries: Bloomberg Barclays US Treasury Index; MBS: Bloomberg Barclays Mortgage US MBS Index; High Yield: Bloomberg Barclays US Corporate High Yield Index; Senior Loans: S&P LSTA Leveraged Loan Index; EM Debt: Bloomberg Barclays EM Hard Currency Debt Index; Gold: LBMA Gold Price; Broad Commodities: Bloomberg Commodity Index; US Dollar: DXY Dollar Index.

# Asset Class Performance (Continued)

Risk assets rebounded sharply and recovered some of their deep losses on the back of lower rates and aggressive fiscal stimulus in late March.

Major Asset Class Performance (%)

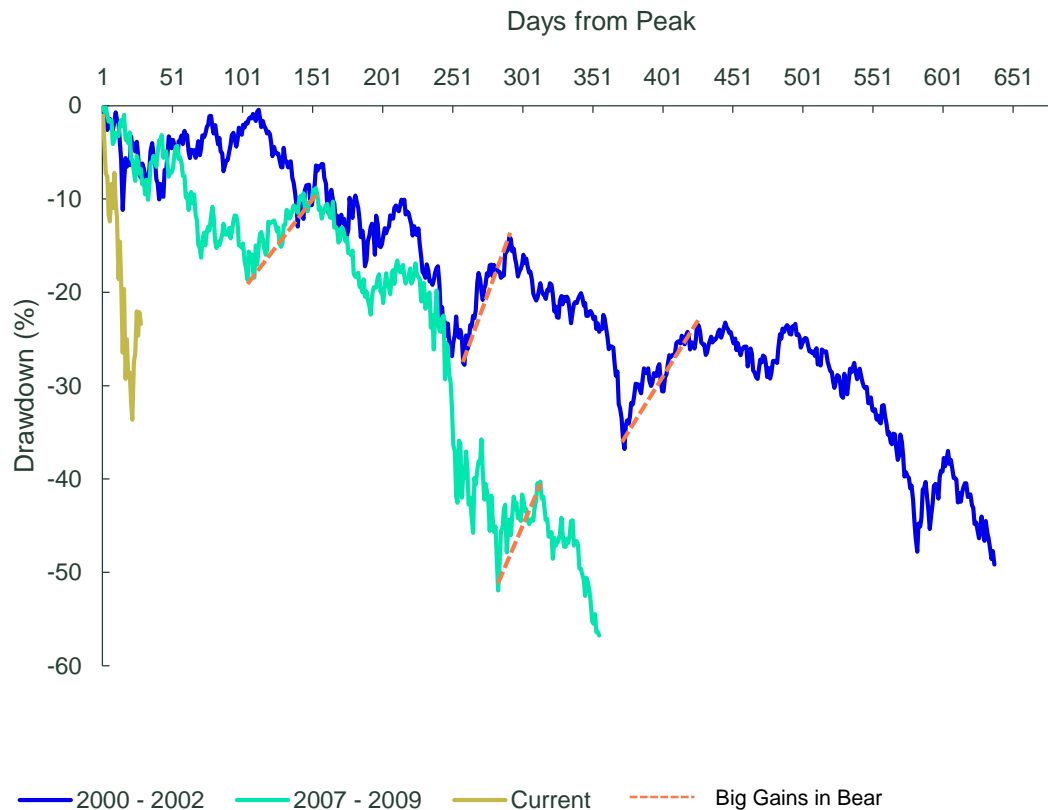


Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Performance returns for periods of less than one year are not annualized. US Large Cap: S&P 500 Index; US Small Cap: Russell 2000 Index; Developed Ex-US: MSCI EAFE Index; IG Corp: Bloomberg Barclays US Corporate Index; High Yield: Bloomberg Barclays US Corporate High Yield Index; Senior Loans: S&P LSTA Leveraged Loan Index; EM Debt: Bloomberg Barclays EM Hard Currency Debt Index; Gold: LBMA Gold Price; Broad Commodities: Bloomberg Commodity Index; US Dollar: DXY Dollar Index.

# Bear Market

Historically, big bounces during bear markets are not uncommon, as investors embrace optimism around monetary and fiscal supports.

S&P 500 Drawdowns during Historical Economic Recessions



Max Gains During Bear Markets

Bear Market Start	Max Drawdown	Max Gains during Bear Market	Max Gains Period (Days)
1/11/1973	-48%	10%	37
11/28/1980	-27%	11%	45
8/25/1987	-34%	15%	2
3/24/2000	-49%	21%	75
10/9/2007	-57%	24%	33
2/20/2020	-34%	17%	3

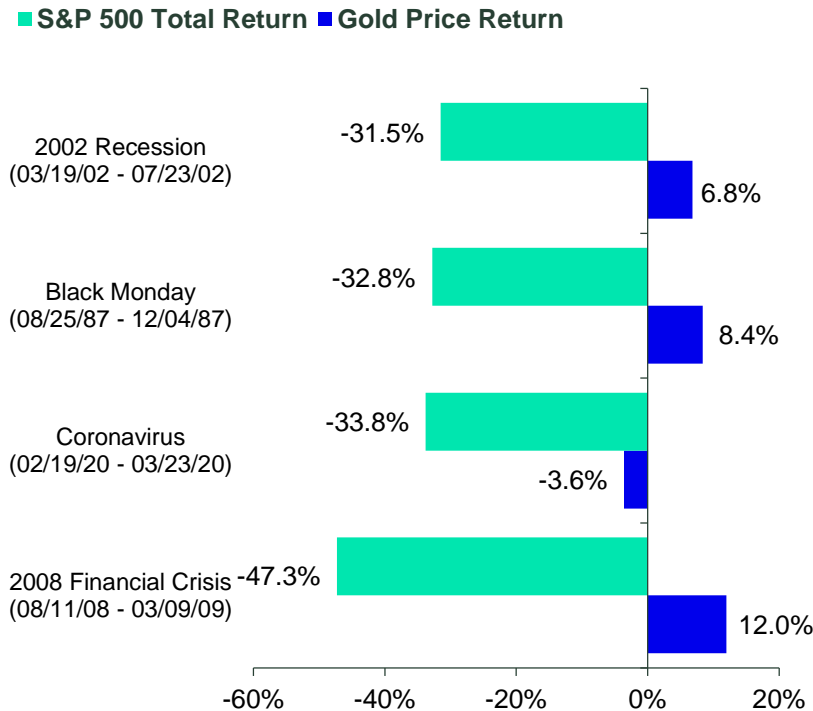
Max gains represents the biggest rebound during a bear market after which a new bear market low is established

Source: FactSet. as of March 31, 2020. Past performance is not a guarantee of future results.

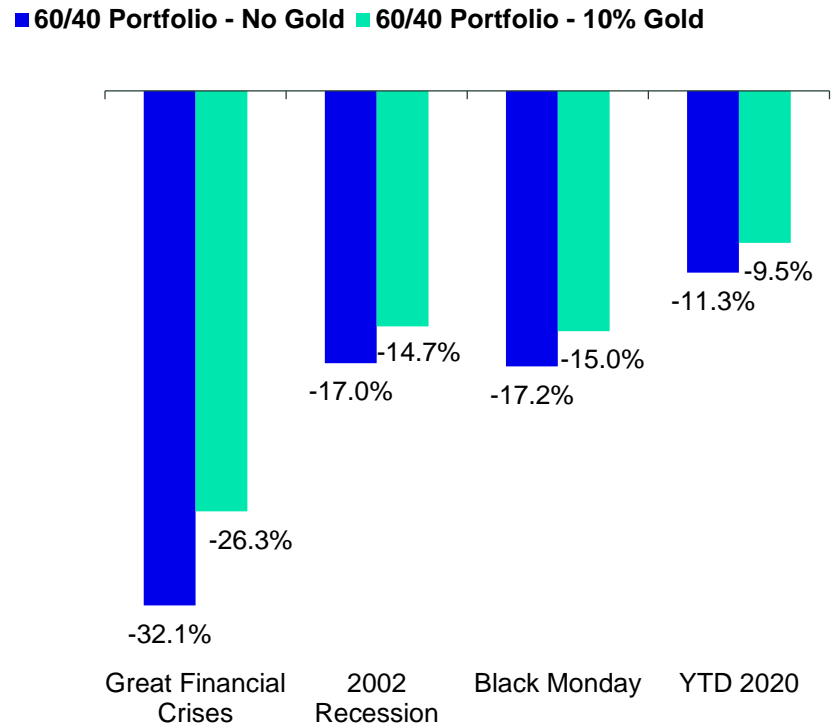
# Portfolio Construction

Historically, gold outperformed equities and helped mitigate drawdowns of a traditional 60/40 portfolio during market turmoil.

Gold Performance When S&P 500 was Down by >30%



Performance of 60/40 Portfolio with/without Gold Allocation



Source: Bloomberg Finance, L.P., State Street Global Advisors as of 3/27/2020. US Equity represented by S&P 500 Total Return. Gold = gold spot price. 60/40 Portfolio – No Gold represented by 60% S&P 500 TR Index and 40% Bloomberg Barclays US Aggregate TR Index. 60/40 Portfolio – 10% Gold represented by 54% S&P 500 TR Index, 36% Bloomberg Barclays US Aggregate TR Index and 10% Spot Price of Gold (\$/oz). **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

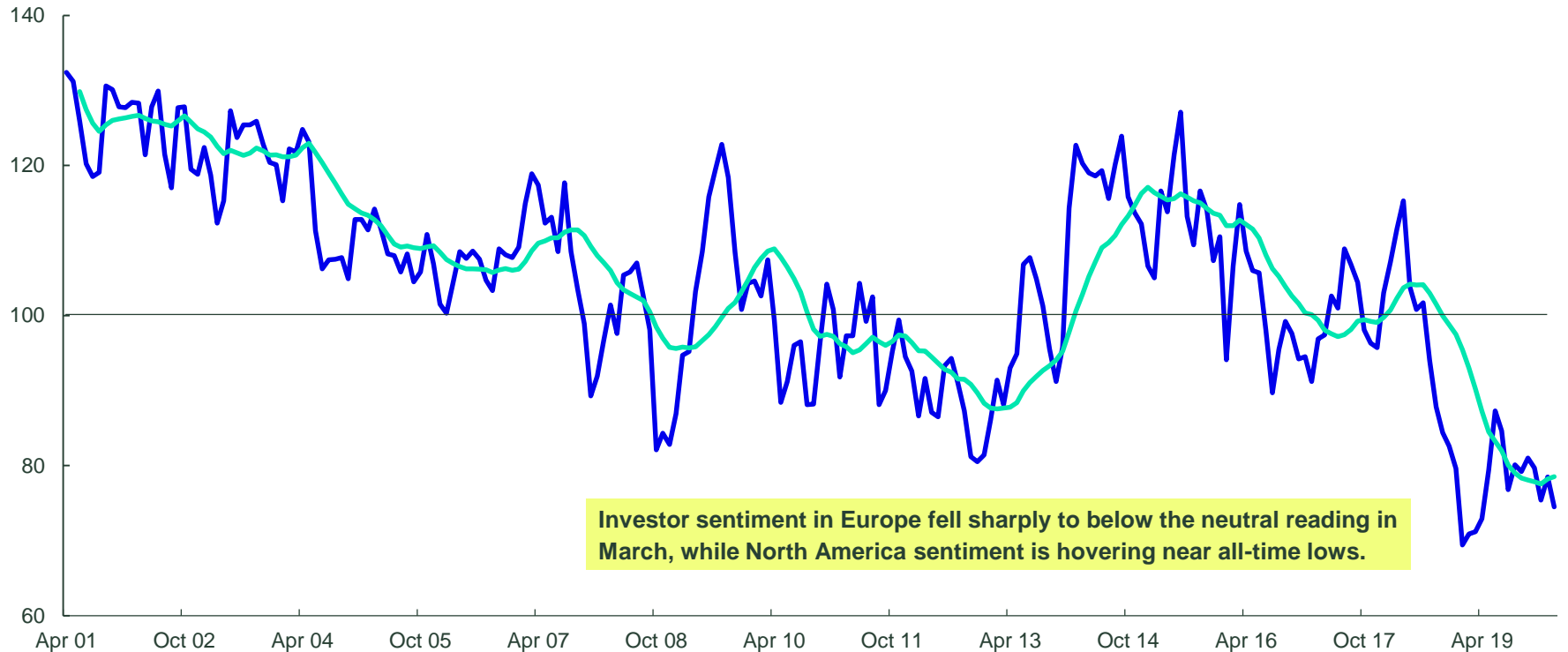


# Investor Confidence

As concerns over Covid-19 moved from China to Europe and the US, the Investor Confidence index declined further but remains above its historical lows.

State Street Confidence Index

— State Street Investor Confidence Index — 1 Year Moving Average



Investor sentiment in Europe fell sharply to below the neutral reading in March, while North America sentiment is hovering near all-time lows.

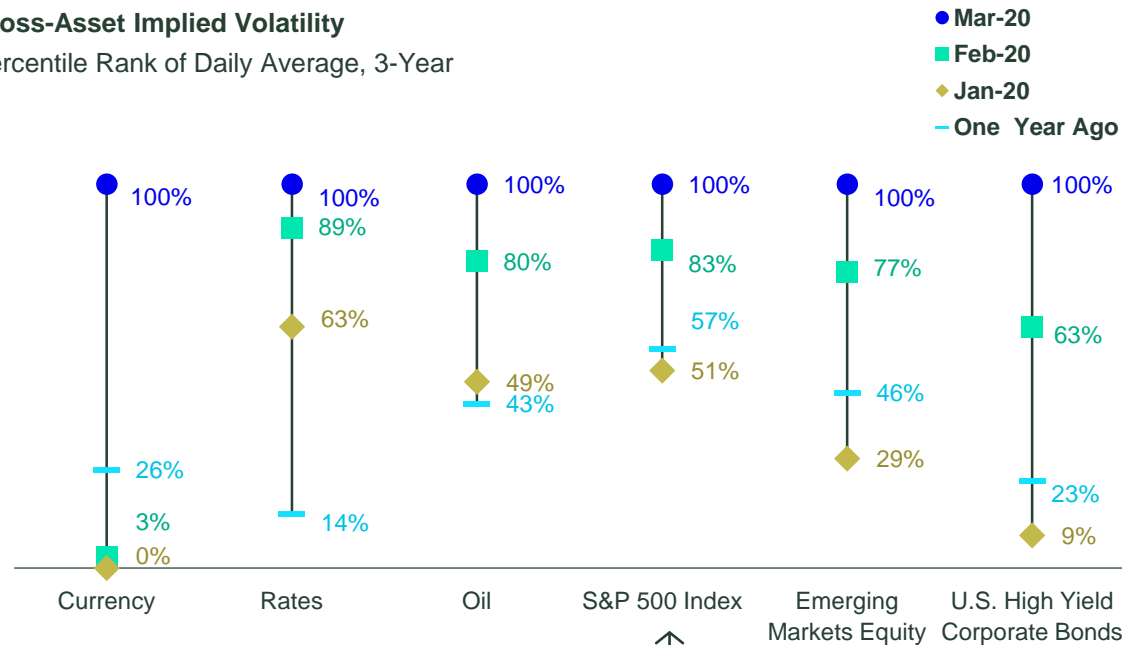
Source: Bloomberg Finance, L.P. as of March 31, 2020. State Street Confidence Indexes Measures investor confidence or risk appetite quantitatively by analyzing the actual buying and selling patterns of institutional investors. The index assigns a precise meaning to changes in investor risk appetite: the greater the percentage allocation to equities, the higher risk appetite or confidence. A reading of 100 is neutral; it is the level at which investors are neither increasing nor decreasing their long-term allocations to risky assets. The results shown represent current results generated by State Street Investor Confidence Index. The results shown were achieved by means of a mathematical formula in addition to transactional market data, and are not indicative of actual future results which could differ substantially.

# Cross-Asset Volatility

Whipsaw trading this past month has brought implied volatility and cross asset dispersion to the highest in three years.

## Cross-Asset Implied Volatility

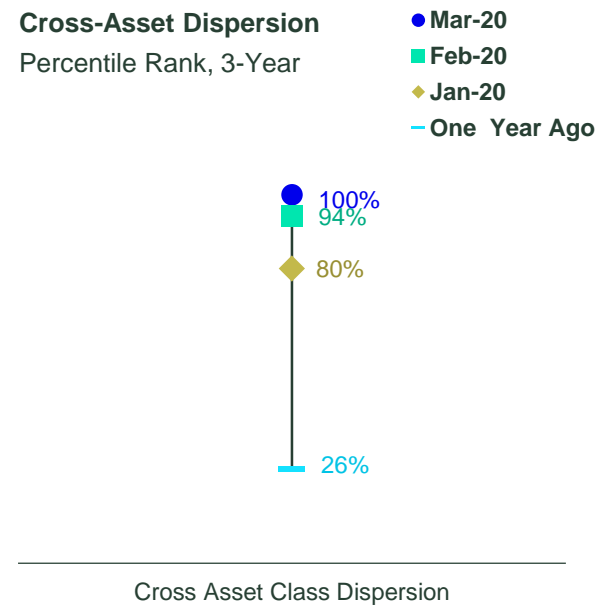
Percentile Rank of Daily Average, 3-Year



Equity market volatility was near the level of the global financial crisis

## Cross-Asset Dispersion

Percentile Rank, 3-Year



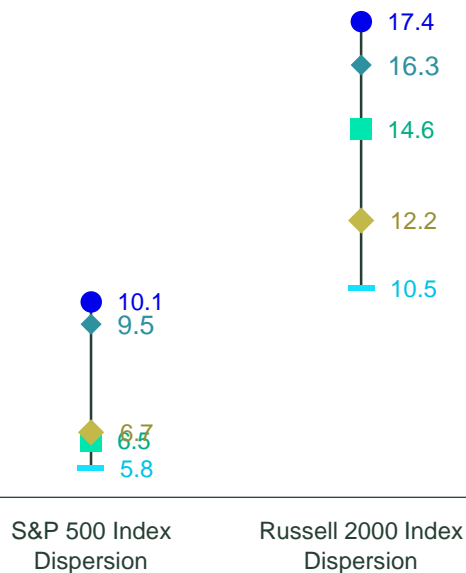
Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** Currency implied volatility is measured by the J.P. Morgan Global FX Volatility Index. Rates implied volatility is measured by the MOVE Index. Oil implied volatility is derived from oil future contracts. Emerging markets implied volatility is measured by the CBOE Emerging Markets ETF Volatility Index. High Yield bond implied volatility is measured by the CBOE High Yield Corporate Bond ETF Volatility Index. Cross asset dispersion is measured by standard deviation of monthly returns of S&P 500, Russell 2000, Russell 3000 Growth, Russell 3000 Value, MSCI Emerging Markets, MSCI World ex-USA, Bloomberg Barclays US Aggregate, US Corporate High Yield, EM USD Aggregate, EM Local Currency Government, S&P/LSTA US Leveraged Loan 100, Bloomberg Commodity Indices, LBMA Gold Price PM.

# Active Environment Barometer

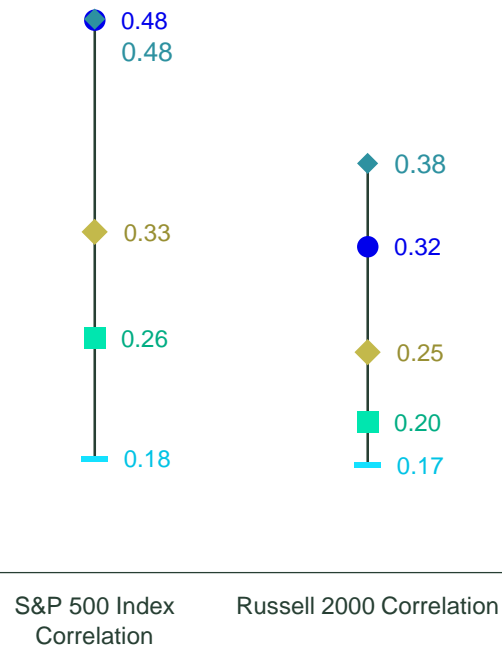
Despite increasing correlation, high dispersions among large and small caps have helped improve active managers' relative performance in Q1.

## Cross-Sectional Dispersion (%)

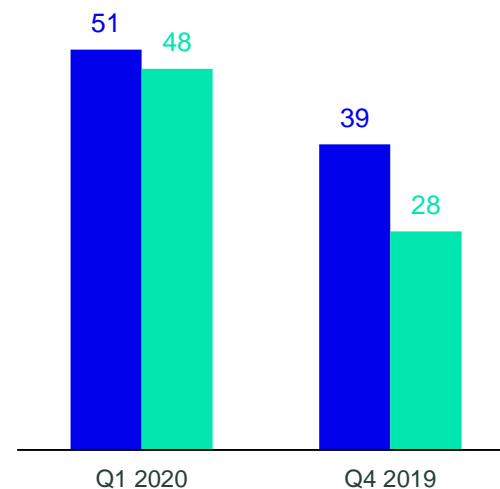
Dispersions among large and small caps reached the top decile in 15 years



## Average Stock Correlation



## Active Funds Outperforming Their Respective Benchmark (%)\*



● Current ■ 1 Year Ago ◆ 15-Yr Median — 10th Percentile ◆ 90th Percentile

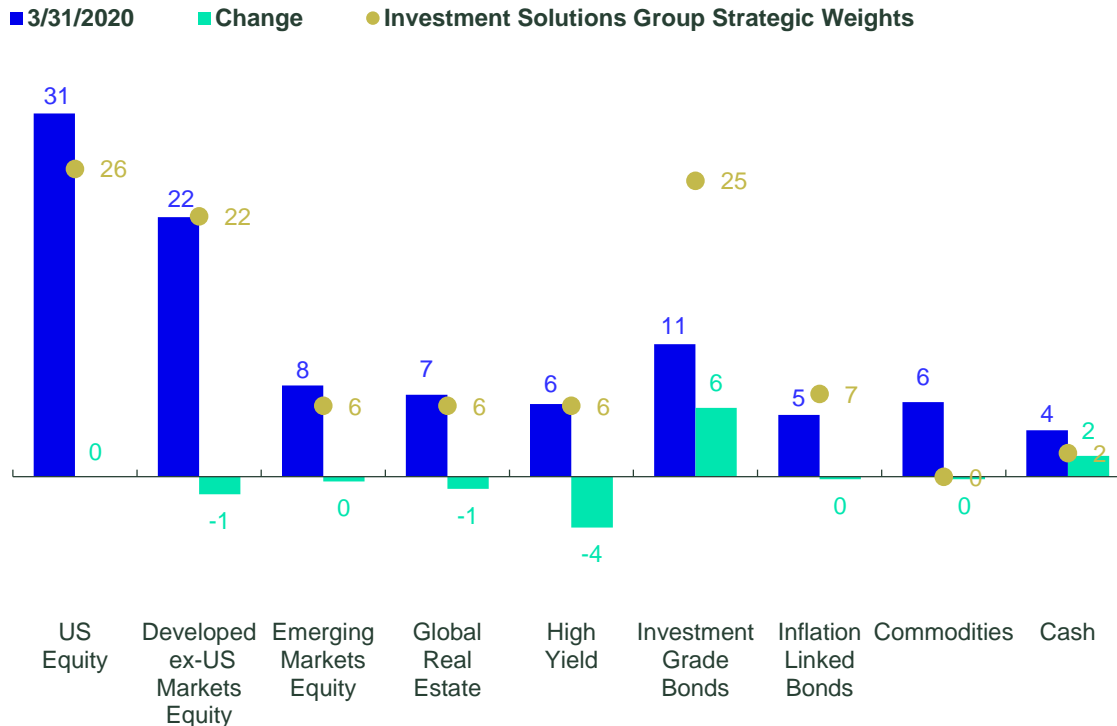
■ US Large-Cap ■ US Small-Cap

Source: FactSet, Morningstar, as of 03/31/2020. \* The universe is based on Morningstar Category, including Blend, Value and Growth styles. The Cross-Sectional Dispersion is calculated as the standard deviation of daily returns of index constituents for one month. Average stock correlation is calculated as the average correlation of each pair of constituents in the index over one month. Characteristics are as of the date indicated and should not be relied upon as current thereafter.

# State Street Current Positioning

State Street reduced risk asset exposures amid spikes in volatility but remains overweight equities given their constructive views on global growth over the medium term.

## SPDR SSGA Global Allocation ETF [GAL] Current & Strategic Exposures (%)



## Tactical Rebalance Trades: March

### Sold

- Developed ex-US
- High Yield Bonds
- Broad Commodities

### Bought

- Investment Grade Bonds
- Gold
- Cash

## Sector Rotation Trades

US Equity Allocation Total: 6%

Sectors are included based on their relative valuation, momentum and earnings sentiment

Feb.	Health Care	Tech.	Financials
	2%	2%	2%

Mar.	Health Care	Tech.	Financials
	2%	2%	2%

Source: State Street Global Advisors. As of March 31, 2020. Exposures are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. This information should not be considered a recommendation to invest in a particular sector. It is not known whether the sectors shown will be profitable in the future. The information above is rounded to the nearest whole number.

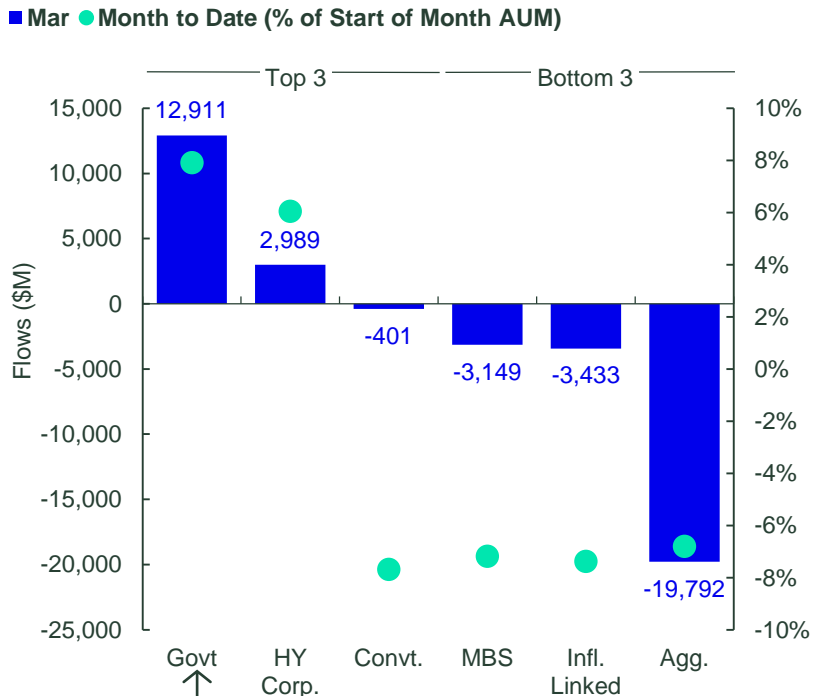
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# 2. Flows, Fundamentals & Factors

# Flow Trends

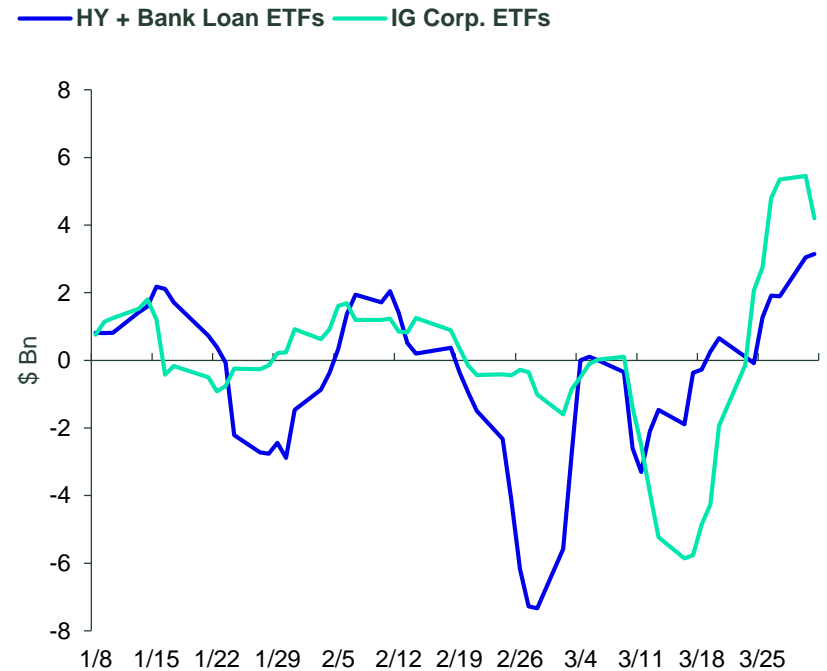
Fixed Income ETFs had their largest monthly outflow ever, with only government and high yield segments taking in assets.

Fixed Income Top/Bottom 3 Segments by MTD Flows



Flows into the government segment was dominated by short-term exposures

Rolling 5-Day High Yield vs. Investment Grade ETF Flows



Buyers of both HY and IG corp. returned once policy measures aimed at stabilizing the IG corp. were announced on March 23.

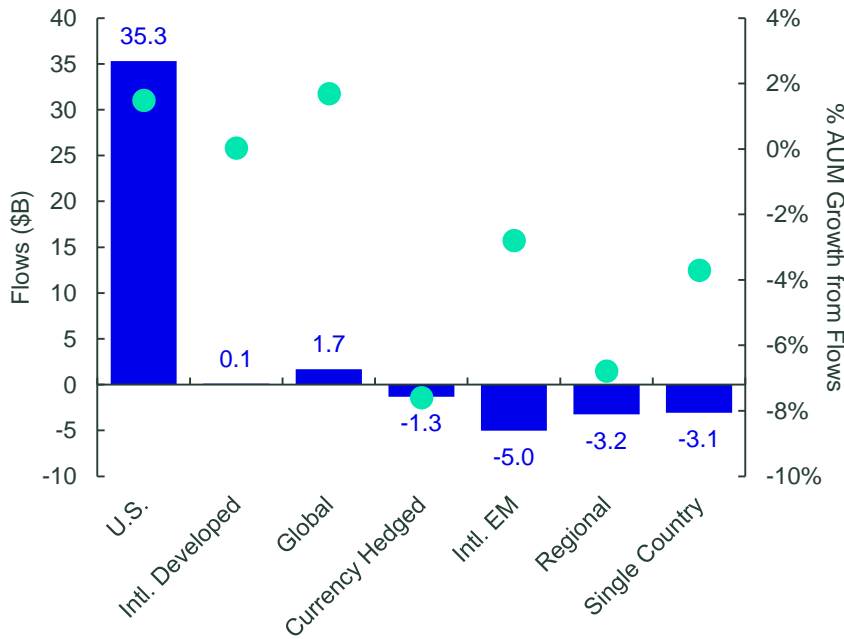
Source: State Street Global Advisors, Bloomberg Finance, L.P. as of March 31, 2020. Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Flow Trends

Sizable inflows into the US equity funds were predominantly driven by the increasing demand for long-to-lead and option related activity.

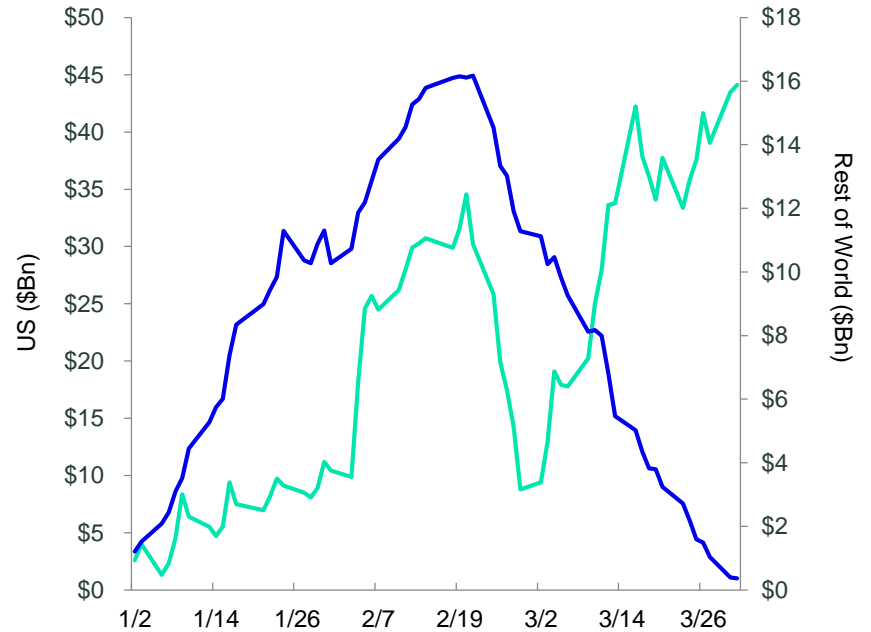
## Flows by Equity Regions

■ Mar ● Month to Date (% of Start of Month AUM)



## US vs. the Rest of World Cumulative Flows

— US — Rest of World



The outflows in the non-US focused exposures reinforced the broad-based de-risking trends

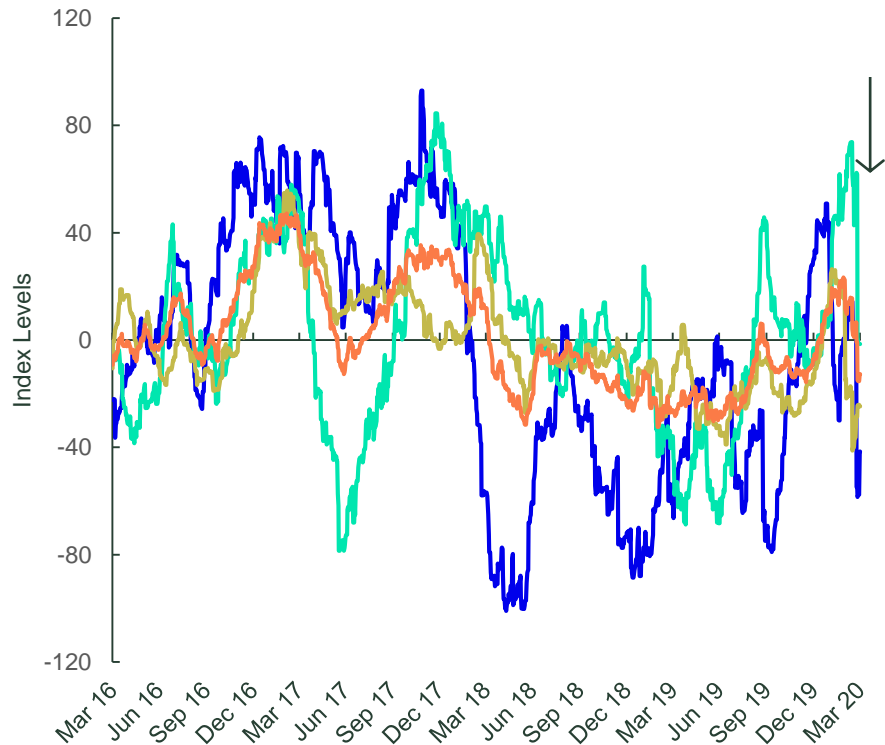
Source: State Street Global Advisors, Bloomberg Finance, L.P. as of March 31, 2020. Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

# Global Economy

As recent economic data started capturing negative impacts of Covid-19, more negative economic surprises appeared across regions.

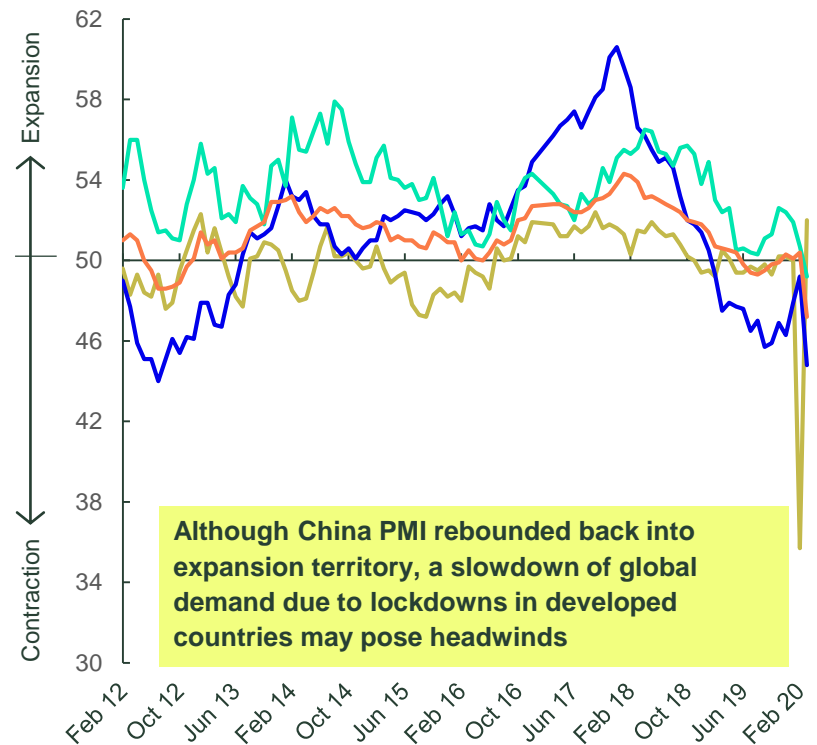
Citigroup Economic Surprise Indices

— Eurozone — US — Emerging Markets — Global



Markit Manufacturing PMI Indices

— China — Eurozone — United States — Global



Source: Bloomberg Finance, L.P. as of March 31, 2020. Past performance is not a guarantee of future results.

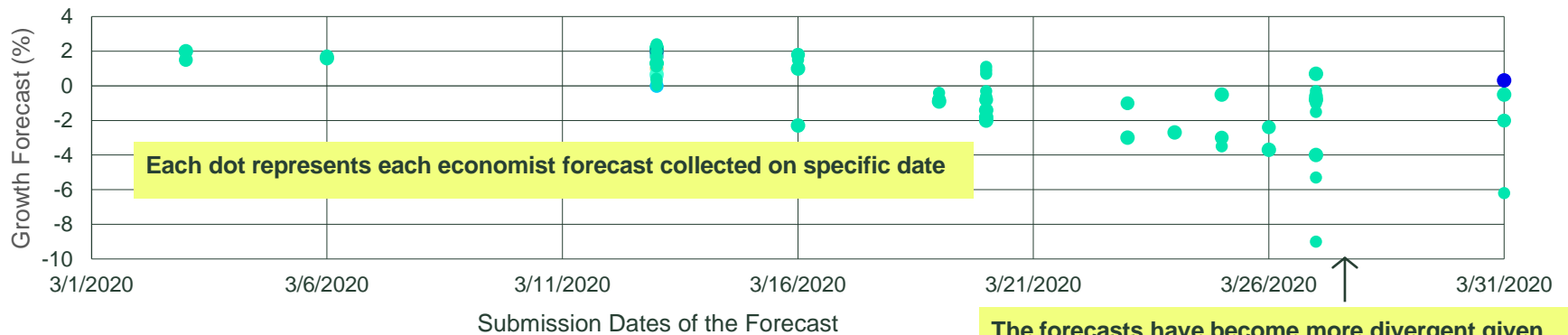


# US Economy

While 2020 GDP forecasts are now downgraded to below zero by consensus, most economists are expecting a recovery in 2021.

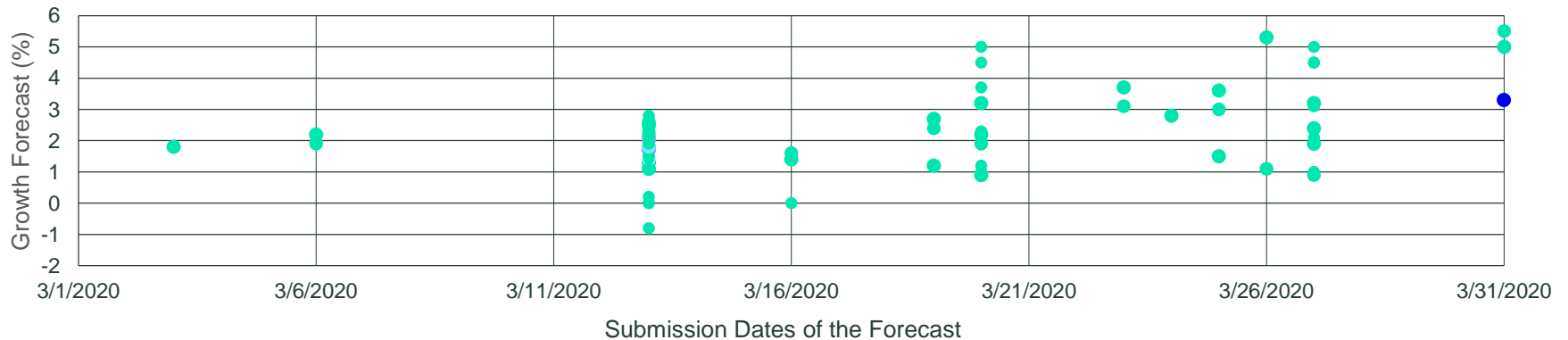
Bloomberg Survey: Economist Forecasts\* of 2020 GDP Growth

● State Street Global Advisors Forecast as of 3/31/2020



The forecasts have become more divergent given uncertainties about the Covid-19 impacts

Bloomberg Survey: Economist Forecasts\* of 2021 GDP Growth

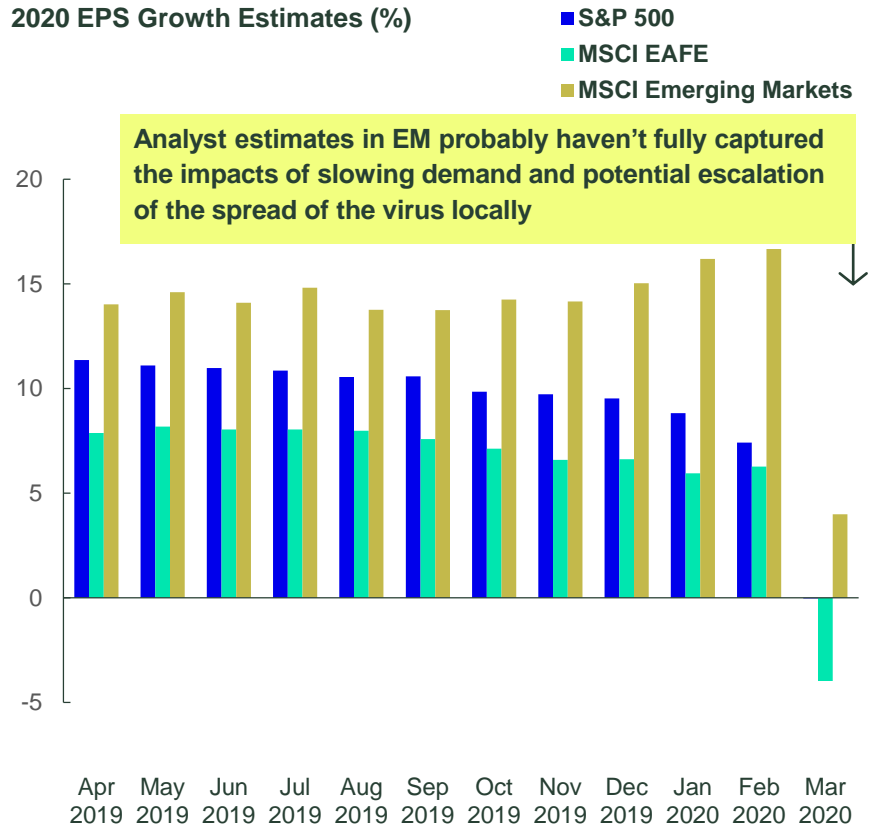


Source: Bloomberg Finance, L.P. as of March 31, 2020. Each dot represents each economist forecast submission.

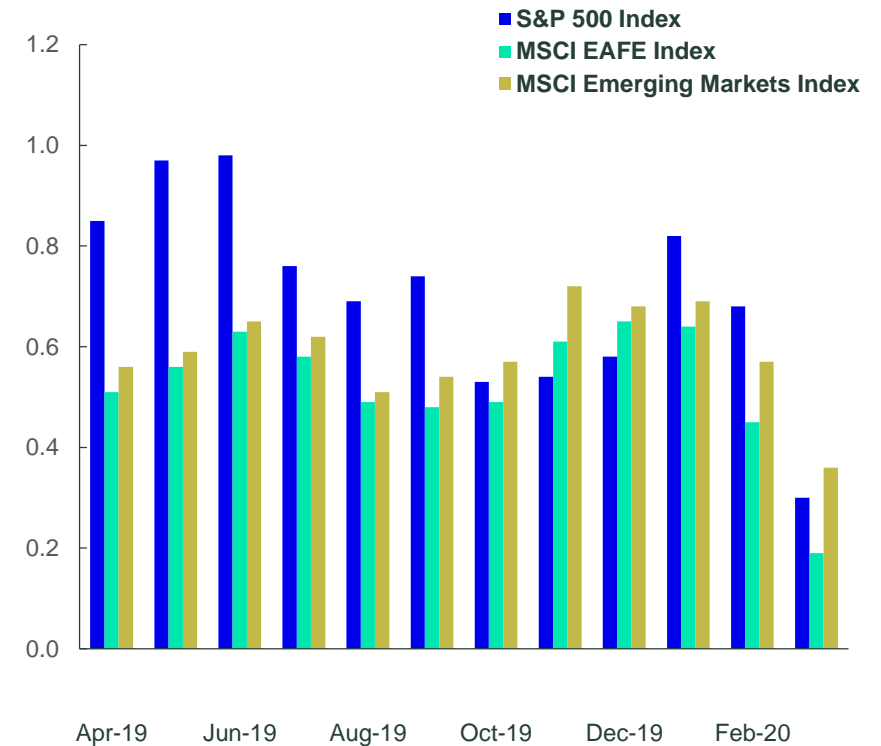
# Global Earnings

Earnings estimates were cut down fast, as economic lockdowns forced more businesses to close stores, suspend business activities and withdraw guidance.

2020 EPS Growth Estimates (%)



2020 EPS Revision: 3-Month Up-to-downgrade Ratio

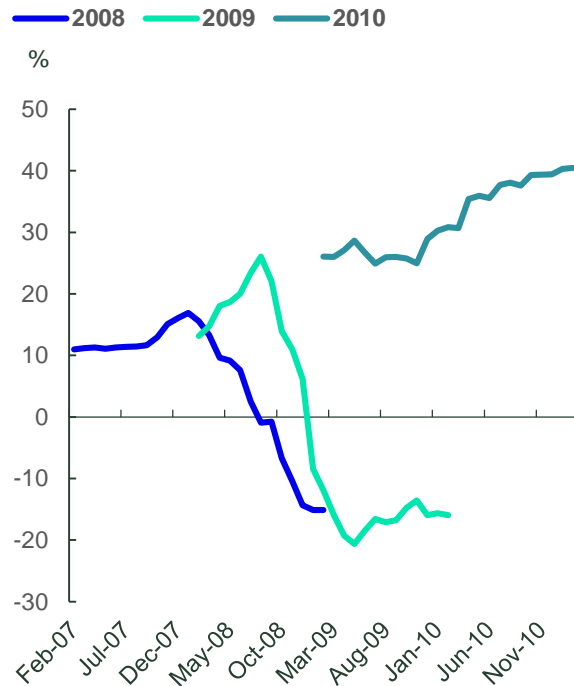


Source: FactSet, as of March 31, 2020. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. EPS growth estimates are based on Consensus Analyst Estimates compiled by FactSet.

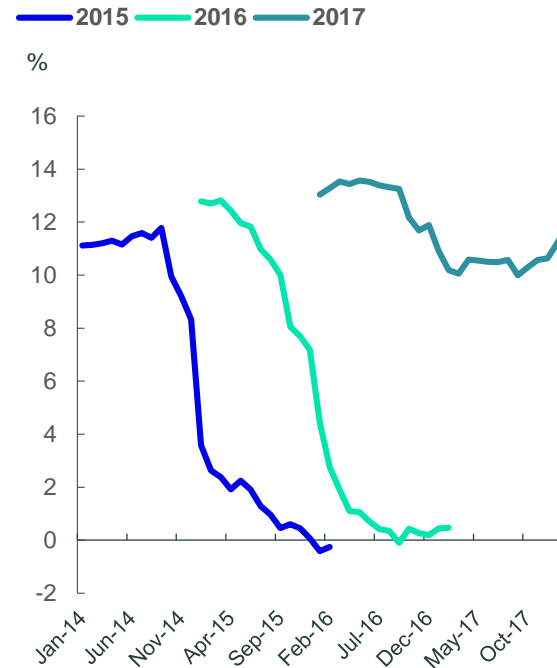
# US Earnings

Unlike previous earnings recessions, the consensus estimates for next year are holding strongly, expecting a rebound in 2021.

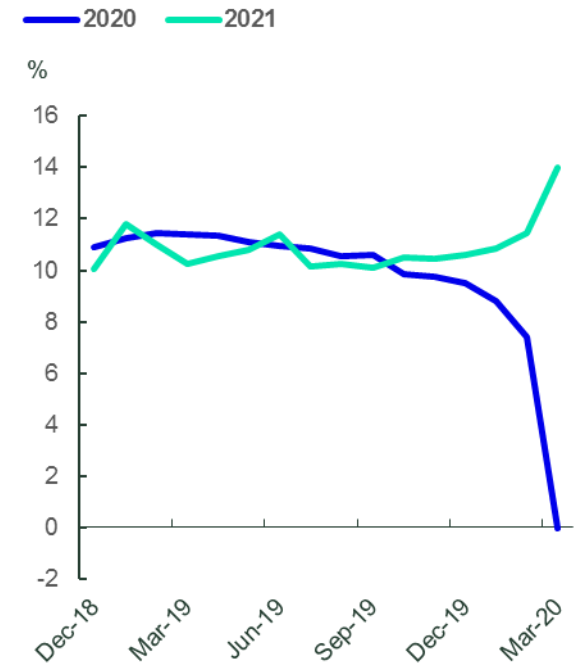
Earnings Growth Estimates (2008 – 2010)



Earnings Growth Estimates (2015 – 2017)



Earnings Growth Estimates (2020 – 2021)



During previous earnings recession, earnings growth projections for the following year were also slashed on the heel of downgrades of the current year.

Source: FactSet, as of March 30, 2020.

# Global Valuation

The selloff sent US large-cap valuations closer to historical median, while valuations of US growth remain near the top quintile of the last 15 years.

Absolute & Relative Valuation Z-Score\* and 15-Year Percentile Ranking ■ Bottom 3 Expensive Valuation ■ Top 3 Attractive Valuation

		Valuation to Segment History (Percentile)				Absolute Valuation Composite Z-Score	Valuation Relative to S&P 500 (Percentile)				Relative Valuation Z-Score
		P/E	NTM P/E	P/B	P/S		P/E	NTM P/E	P/B	P/S	
US/Style/Regions	S&P 500	47%	35%	39%	26%	-1.61	N/A	N/A	N/A	N/A	N/A
	S&P MidCap 400	95%	96%	96%	92%	0.93	98%	100%	100%	100%	0.61
	S&P SmallCap 600	95%	96%	98%	95%	0.98	100%	100%	100%	100%	0.63
	S&P 500 Value	87%	75%	72%	61%	0.04	100%	100%	100%	100%	0.63
	S&P 500 Growth	21%	16%	10%	15%	-2.55	0%	1%	0%	0%	-3.31
	MSCI EAFE	83%	70%	96%	73%	0.29	87%	89%	100%	100%	0.40
	Euro Stoxx	82%	49%	95%	74%	0.05	89%	77%	100%	100%	0.29
	MSCI EM	88%	70%	98%	84%	0.49	89%	86%	99%	97%	0.35
Major Countries	MSCI Canada	96%	81%	100%	96%	0.85	99%	88%	98%	100%	0.48
	MSCI Japan	93%	91%	88%	64%	0.48	80%	84%	93%	88%	0.09
	MSCI Germany	62%	64%	98%	58%	-0.16	67%	83%	100%	100%	0.14
	MSCI France	72%	50%	92%	60%	-0.24	63%	76%	100%	100%	0.03
	MSCI UK	78%	63%	100%	99%	0.46	88%	90%	98%	100%	0.39
	MSCI China	47%	45%	63%	51%	-0.99	41%	47%	63%	62%	-1.22
	MSCI Russia	97%	39%	89%	96%	0.28	100%	46%	93%	98%	0.01
	MSCI Brazil	90%	57%	69%	87%	0.10	97%	75%	81%	82%	-0.02
	MSCI India	77%	79%	98%	97%	0.60	89%	97%	100%	100%	0.50

Source: State Street Global Advisors, FactSet, as of March 31, 2020. \* The z-score is calculated as the average z-score of percentile ranking of P/B, P/E, NTM P/E and P/S valuations last 15 years and valuations relative to the S&P 500 last 15 years. Z-score indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where z is the z-score, X is the segment valuation percentile.  $\mu$  is the mean of percentile, and  $\sigma$  is the standard deviation of sectors' valuation percentile.

# Global Momentum

As Chinese economic activities start getting back to normal, its equity markets led momentum outside the US.

## Momentum Scorecard Rankings

Bottom 3 Rank on Momentum

Top 3 Rank on Momentum

		Price Momentum			Technicals			Continuous Momentum			Combined Average Rank
		3 Month	6 Month	12 Month	% above 50 Day Moving Average	% above 200 Day Moving Average	% Difference 50 to 200 Day Moving Average	# of Positive Return Days (90 Day Lookback)	# of Positive Return Days (180 Day Lookback)	# of Positive Return Days (12 Month lookback)	
US/Style/Regions	S&P 500	5	4	2	5	4	3	2	1	2	3
	S&P MidCap 400 Index	12	14	14	14	14	13	7	11	11	12
	S&P SmallCap 600	15	15	15	15	15	15	14	14	15	15
	S&P 500 Value	11	7	4	9	7	6	7	2	3	6
	S&P 500 Growth	2	2	1	3	3	2	1	2	6	2
	MSCI EAFE	8	10	11	4	6	11	7	9	7	8
	Euro Stoxx	7	9	10	8	8	7	5	4	1	7
	MSCI EM	3	3	13	6	5	5	11	14	11	8
Major Countries	MSCI Canada	4	12	6	12	11	9	3	6	8	8
	MSCI Japan	9	5	8	1	2	4	16	8	16	8
	MSCI Germany	13	8	12	11	10	10	13	6	3	10
	MSCI France	10	11	9	10	9	12	7	4	3	8
	MSCI UK	17	16	16	7	12	16	5	13	13	13
	MSCI China	1	1	5	2	1	1	3	11	10	4
	MSCI Russia	16	13	3	16	16	14	11	9	8	12
	MSCI Brazil	14	17	17	17	17	17	14	17	13	16
	MSCI India	6	6	7	13	13	8	16	14	16	11

US small caps' momentum was among the worst based on all indicators.

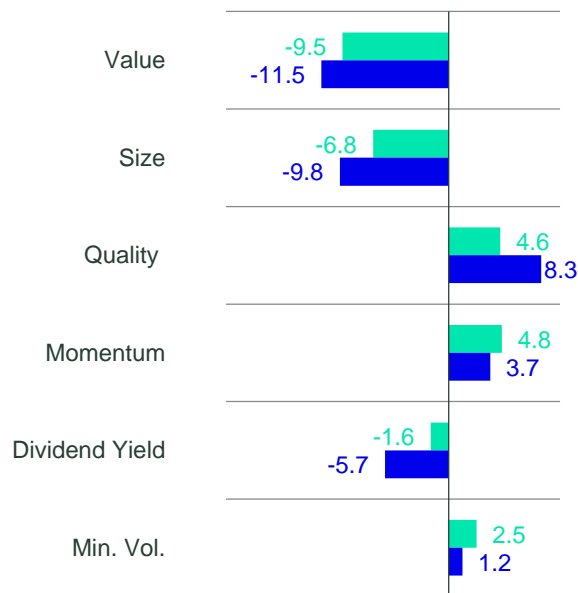
Source: State Street Global Advisors, FactSet, as of March 31, 2020. \*Momentum is calculated by calculating the 3-month, 6-month and 12-month price performance, not including the most recent month.

# Global Factor Trends

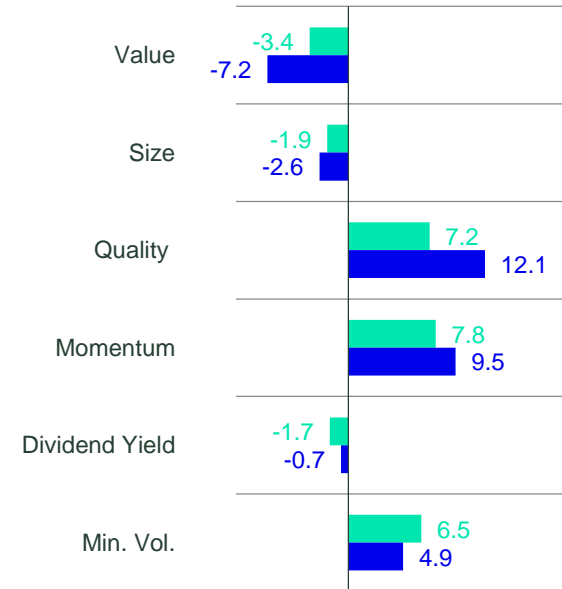
Quality, Min. Vol. and Momentum ranked top three across all regions last quarter, while Value and Dividend Yield underperformed.

Period Excess Returns versus MSCI USA Index (%)

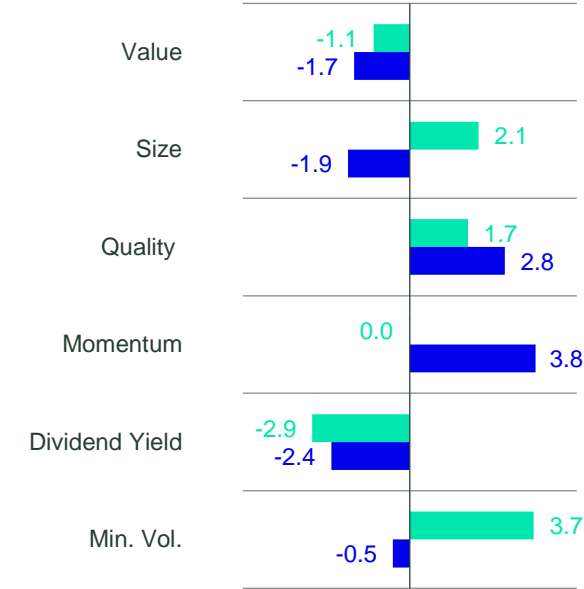
■ YTD ■ 1 Year



Period Excess Returns versus MSCI EAFE Index (%)



Period Excess Returns versus MSCI Emerging Markets Index (%)



Factor return dispersion was the largest in the US last quarter among three regions

Size outperformed in Emerging Markets thanks to its overweight in China

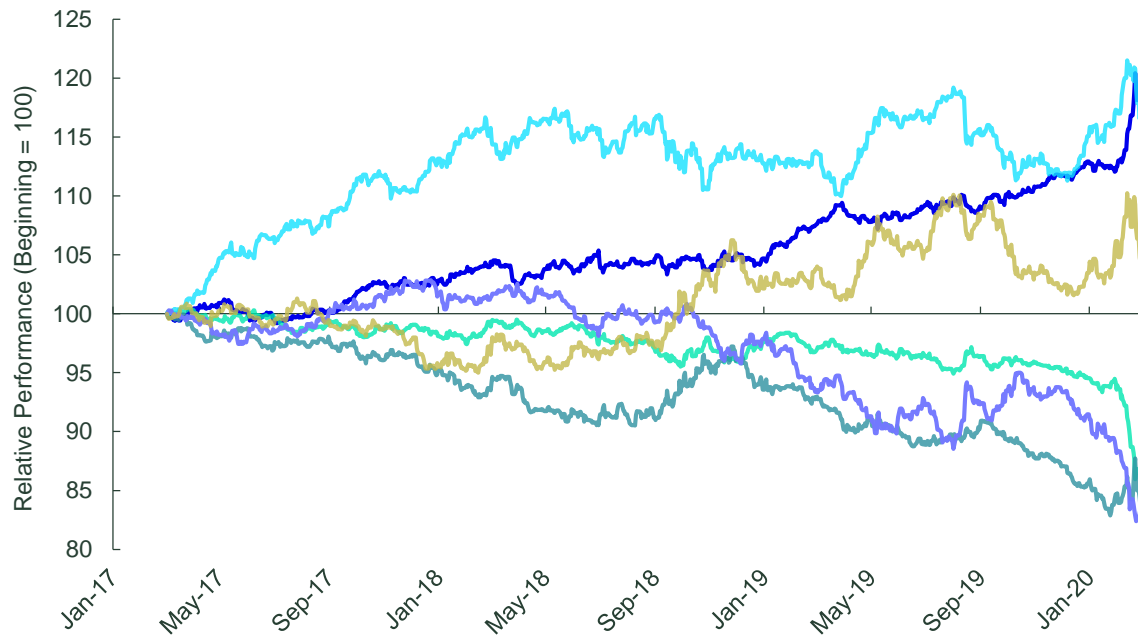
Source: FactSet, as of March 31, 2020. **Past performance is not a guarantee of future results.** MSCI Minimum Volatility Index, MSCI Enhanced Value Index, MSCI Quality Index, MSCI Equal Weighted Index, MSCI High Dividend Yield Index and MSCI Momentum Index within each region are used to represent regional factor performance. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

# US Factor Trends

Quality extended its leadership, while Size had its worst monthly underperformance since 2002, as investors favored companies with strong balance sheets to survive the economic lockdowns.

MSCI USA Factor Index Versus MSCI USA Index (3 Years)

Quality Size Dividend Momentum Value Min. Vol.



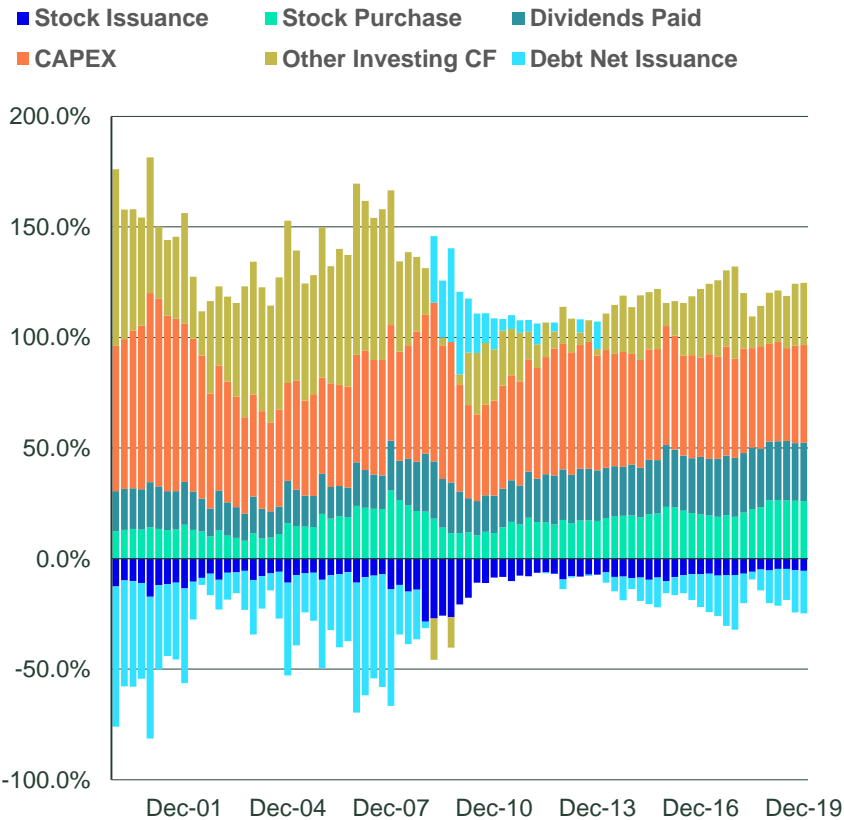
Quality's overweight in Tech. and underweight in Energy and Financials contributed to 75% of its outperformance in Q1 2020

Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** MSCI USA Minimum Volatility Index, MSCI USA Enhanced Value Index, MSCI USA Quality Index, MSCI USA Equal Weighted Index, MSCI USA High Dividend Yield Index and MSCI USA Momentum Index were used to represent Min. Vol., Value, Quality, Size, Dividend, Momentum. Index were used above compared to the MSCI USA Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

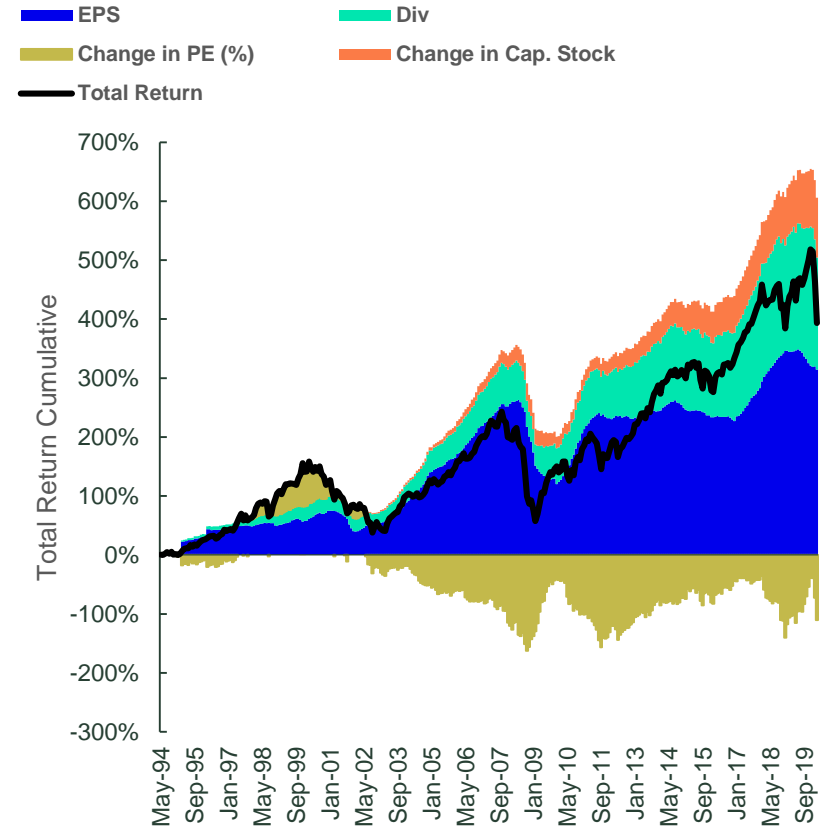
# Buyback and Dividends

As more companies have suspended buybacks and cut dividends, it may pose headwinds for global equity performance.

Use of Cash % of Operating Cash Flow in Developed Markets



MSCI World Index Return Decomposition



Source: FactSet, as of December 31, 2019 and March 26, 2020. Past performance is not a guarantee of future results.



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# 3. Sectors

# Sector Flows & Returns

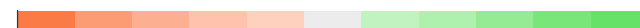
Sectors with strong earnings growth prospects for 2020, such as Tech, Communication Services, and Health Care were sought after in this risk-off market.

Sector	Positioning					Returns		
	Prior Month Flow (\$M)	Trailing Three Months Flow (\$M)	Trailing Twelve Months Flow (\$M)	Current Short Interest (%)	1M Prior Short Interest (%)	Prior Month Return (%)	YTD Return (%)	12-Month Return (%)
Cons. Disc.	(1,585)	(1,306)	(1,491)	10.1	7.6	-13.2	-19.3	-10.8
Cons. Staples	185	937	2,726	5.4	5.4	-5.4	-12.7	-0.6
Energy	1,307	2,743	2,548	10.8	4.5	-34.8	-50.5	-52.4
Financial	(2,114)	(4,268)	(7,522)	16.9	7.5	-21.3	-31.9	-17.2
Health Care	859	964	(4,904)	16.7	15.5	-3.8	-12.7	-1.0
Industrials	(1,319)	(1,837)	(2,310)	10.9	5.8	-19.2	-27.0	-19.5
Materials	(832)	(1,378)	(2,259)	7.4	4.6	-14.1	-26.1	-16.6
Real Estate	(2,286)	(913)	2,600	3.7	3.1	-15.0	-19.2	-11.3
Technology	1,006	3,051	8,258	4.1	3.4	-8.6	-11.9	10.4
Communications	331	1,068	2,205	1.6	1.6	-12.1	-17.0	-3.3
Utilities	(860)	861	2,727	10.5	12.0	-10.0	-13.5	-1.4

Energy inflows were mainly from long-to-lend activity. Real Estate saw a reversal of sentiment, as a looming recession may pose significant downside risks to the sector.

Worst-Performing Sector  
Least Flows in Period

Best-Performing Sector  
Most Flows in Period



Source: State Street Global Advisors, Bloomberg Finance, L.P., as of March 31, 2020. Past performance is not a guarantee of future results.

# Sector Scorecard

Economic sensitive sectors, such as Energy, Industrials and Materials, ranked in the bottom in momentum and earnings sentiment, while Tech. ranked on top.

	Sector Composite Z-Score*			
	Valuation Composite Score	Momentum Composite Score	Earnings Sentiment Composite Score	Volatility Composite Score
Cons. Disc.	-0.79	0.23	0.48	-0.64
Cons. Staples	-0.71	0.08	0.38	0.10
Energy	0.68	-2.39	-1.64	0.69
Financials	1.35	-0.26	-0.21	0.99
Health Care	0.17	0.27	0.81	-0.67
Industrials	0.51	-0.36	-1.11	-0.11
Tech.	-1.34	1.70	1.03	-1.05
Materials	0.22	-0.65	-0.71	-0.82
Comm. Svs.	0.07	0.68	0.51	-1.07
Real Estate	0.57	0.08	-0.24	1.05
Utilities	-0.73	0.61	0.69	1.51

Volatility in rate-sensitive sectors, such as Financials, Real Estate and Utilities spiked

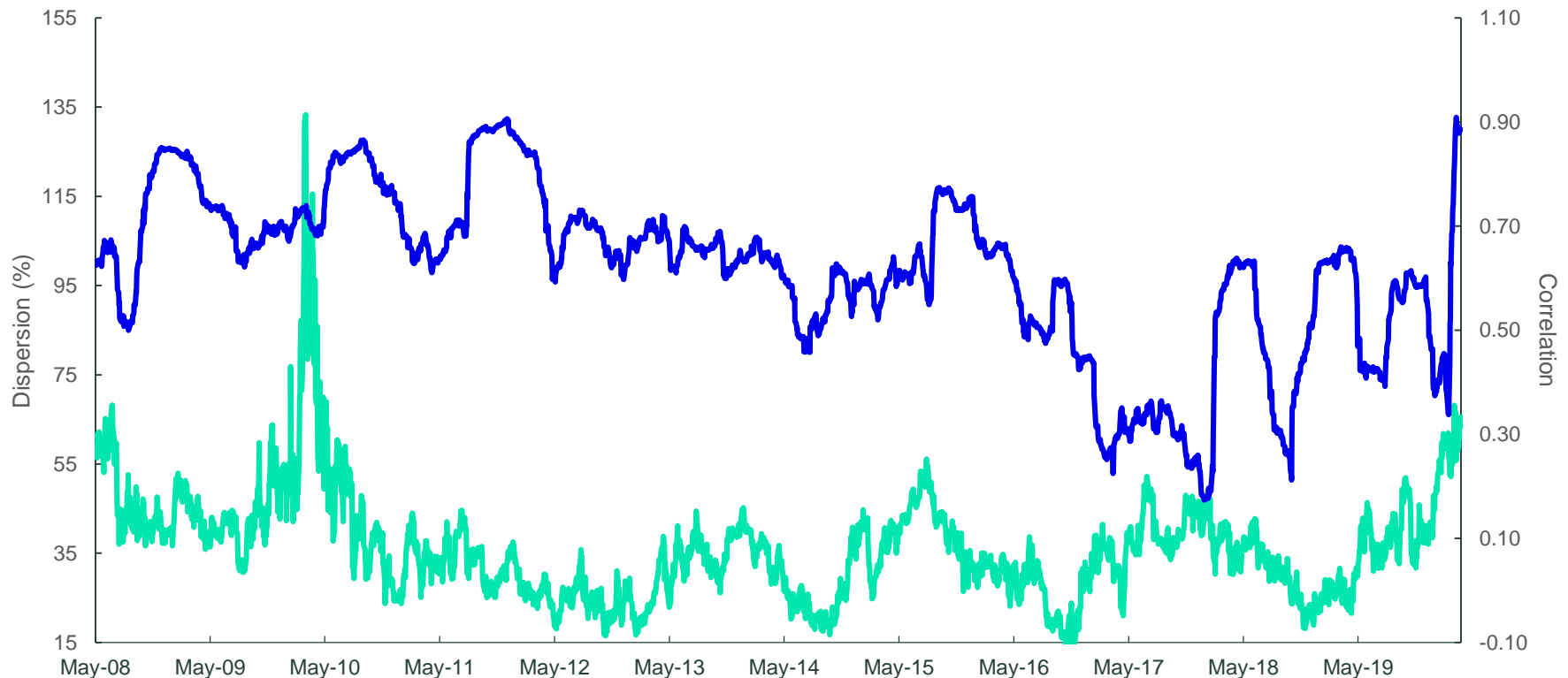
Source: State Street Global Advisors, FactSet, Bloomberg Finance, L.P. as of March 31, 2020. Green shading is top 3, red shading is bottom 3. \* The scorecard uses z-score for each metric to standardize numbers across sectors and show relativeness among sectors. Composite score is calculated by equally weighting each metric in the same category. Z-score indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where X is the value of the sector.  $\mu$  is the mean of the eleven sectors.  $\sigma$  is the standard deviation of eleven sectors. S&P 500 sector indices are used to calculate sector scores. Please refer to Appendix C for the metrics used to measure valuation, momentum and earnings sentiment. Volatility score is not available for the communication services sector due to data availability.

# Sector Dispersion & Correlation

Although the systemic selloff pushed correlation between sectors to near historical highs, dispersions have reached their widest level since 2010.

S&P 500 Sector Pair-wise Correlation and Dispersion\*

1Yr Dispersion Inter-Sector Correlation (90-Day Rolling)



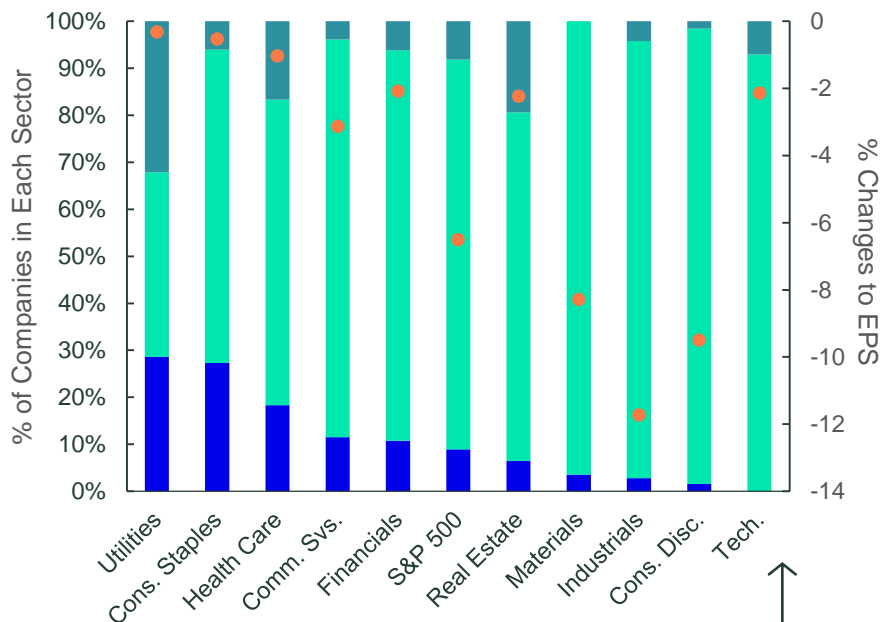
Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** \*Dispersion is measured by the return difference between the best and worst performing sector.

# Sector Earnings

Non-cyclical sectors showed strong earnings sentiment in March, while Tech, Health Care and Communication Services are expected to lead 2020 earnings growth.

1-Month Up-and-downgrades, Changes to EPS by Sectors (ex-Energy)

■ Upgrade ■ Downgrade ■ Unchange ● Changes to 2020 EPS Est.



Despite broader downgrades in Tech., the magnitude of the downgrades is relatively small

Sector YoY EPS Growth Est. % (Q1 – Q4 and 2020)

	Q1	Q2	Q3	Q4	2020
Comm. Svcs.	10.6	1.8	9.1	0.7	6.7
Cons. Disc.	-19.5	-25.1	-3.2	15.0	-4.3
Cons. Staples	-1.5	1.0	3.5	4.8	3.3
Energy	-39.6	-104.4	-86.6	-69.9	-77.6
Financials	-4.5	-7.4	3.4	5.1	1.0
Health Care	3.8	4.7	9.2	9.5	6.8
Industrials	-24.4	-26.4	-8.9	14.2	-8.3
Tech.	2.9	3.9	6.8	7.0	7.9
Materials	-21.3	-6.4	-0.4	8.6	-3.8
Real Estate	2.9	5.8	4.6	6.8	5.1
Utilities	5.5	4.9	2.3	4.7	3.2
S&P 500	-4.3	-9.0	0.1	4.9	-0.2

Source: Bloomberg Finance, L.P. as of March 31, 2020. Past performance is not a guarantee of future results. This shows the percentage change of OAS levels

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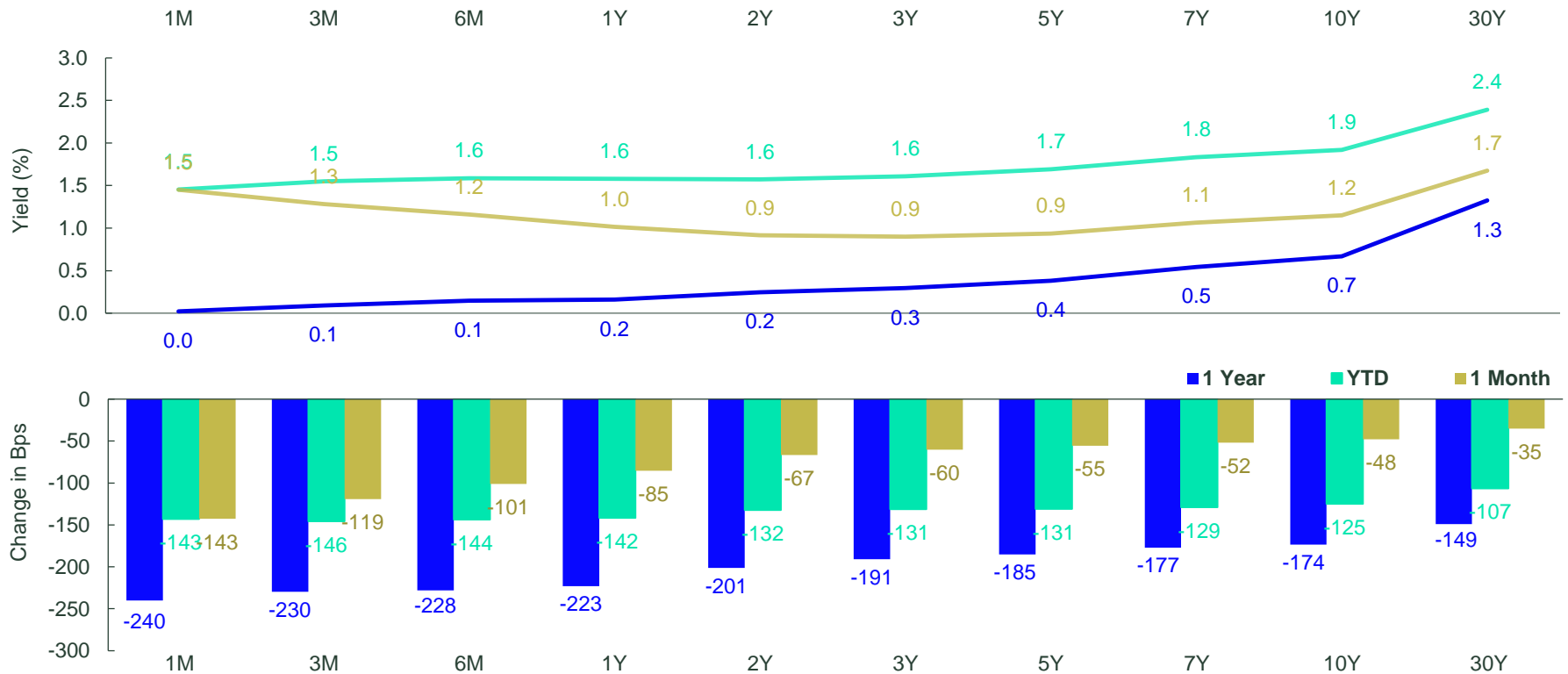
# 4. Fixed Income

# Yield Curve

The Fed's two emergency cuts in one month pushed short-term yields close to zero for the first time since November 2015.

US Treasury Curve

US Treasury Active: 3/31/2020 12/31/2019 2/29/2020



Source: Bloomberg Finance, L.P. as of March 31, 2020. Past performance is not a guarantee of future results.

# Rates

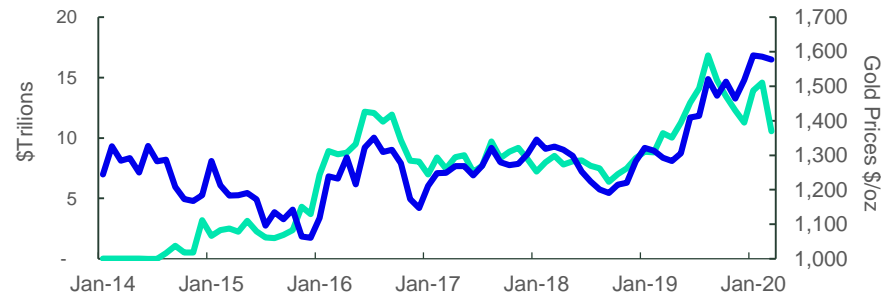
The global coordinated monetary easing lifted central bank total assets to new highs and kept yields of most G7 sovereign debt around zero.

## G7 Countries Sovereign Yield Curve

	US	UK	Japan	Italy	Germany	France	Canada
3M	0.04	0.10	-0.23	-0.10	-0.71	-0.48	0.21
6M	0.06	0.04	-0.24	0.07	-0.72	-0.48	0.23
1Y	0.13	0.11	-0.20	0.09	-0.73	-0.49	0.27
2Y	0.23	0.12	-0.19	0.31	-0.72	-0.62	0.43
3Y	0.27	0.14	-0.17	0.49	-0.73	-0.55	0.51
5Y	0.37	0.19	-0.15	0.87	-0.67	-0.39	0.60
7Y	0.54	0.15	-0.17	1.12	-0.63	-0.24	0.64
10Y	0.66	0.33	0.00	1.48	-0.50	-0.05	0.73
30Y	1.27	0.76	0.40	2.39	-0.01	0.73	1.29

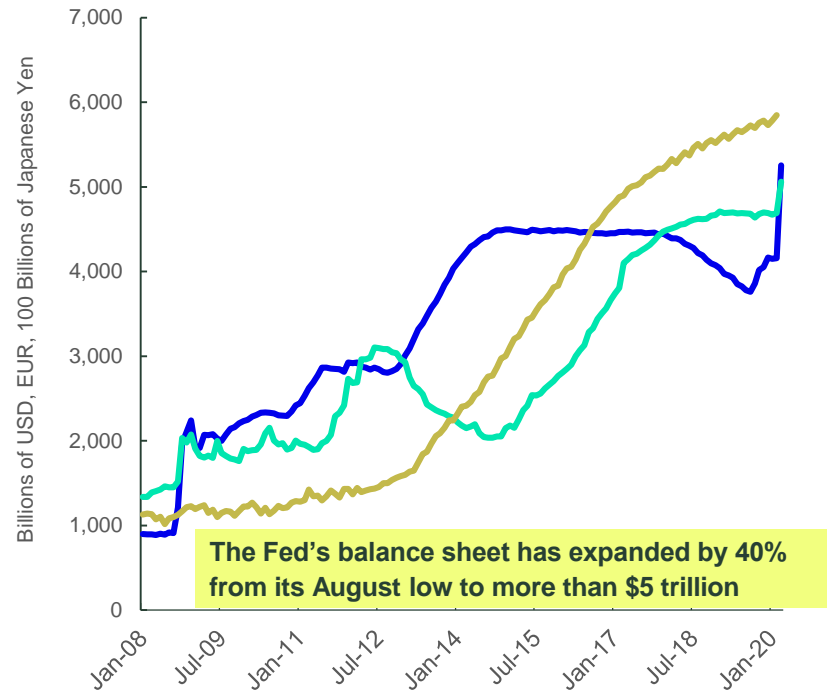
## Global Negative Yielding Debt

— Bloomberg Barclays Global Aggregate Negative Yielding Debt Market Cap  
— Gold Spot \$/Oz



## Major Central Bank Balance Sheet

— The Fed — ECB — BoJ



The Fed's balance sheet has expanded by 40% from its August low to more than \$5 trillion

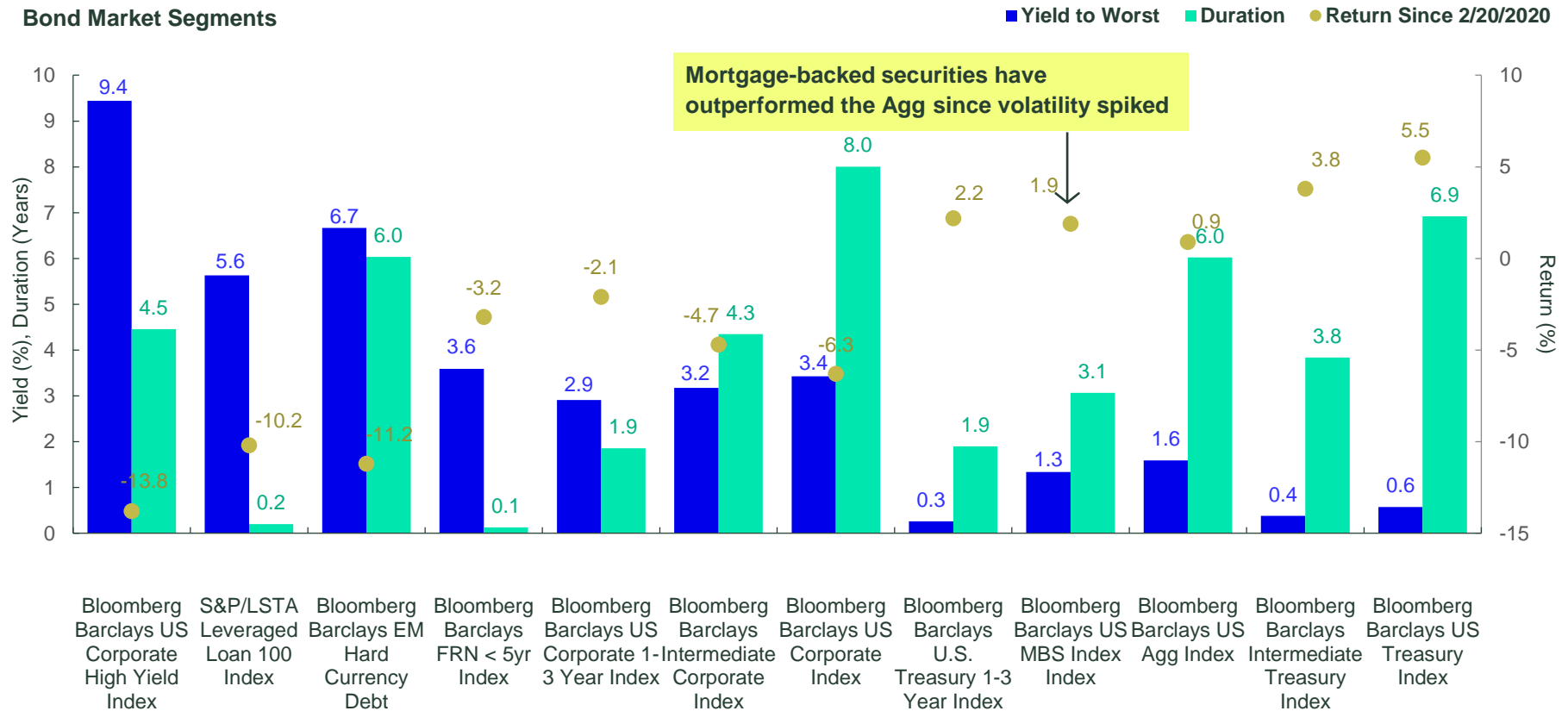
Source: Bloomberg Finance, L.P., as of March 31, 2020. Past performance is not a guarantee of future results.



# Bond Market Overview

Short-term investment grade corporates and mortgage backed securities may potentially benefit from the latest asset purchase programs by the Fed.

Bond Market Segments



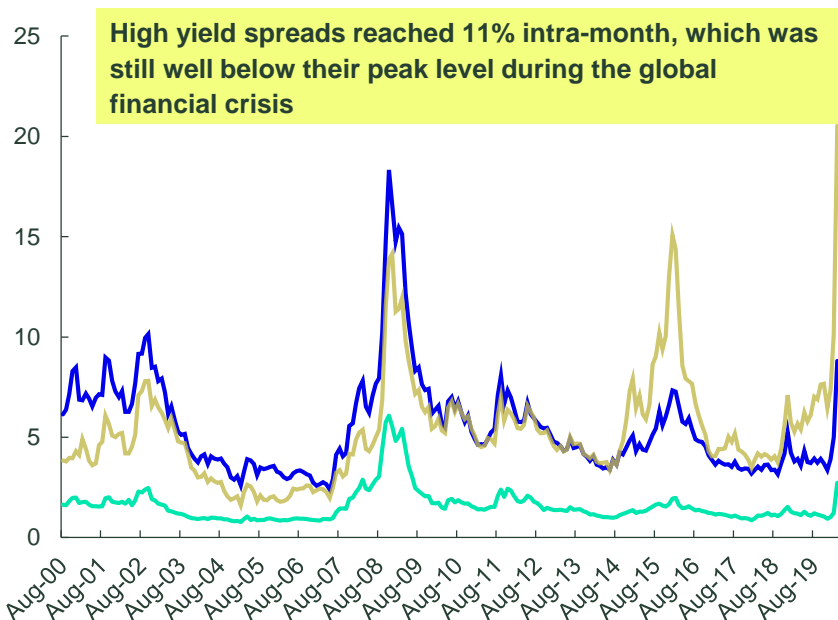
Source: Bloomberg Finance, L.P. as of March 31, 2020. **Past performance is not a guarantee of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

# Credit Trends

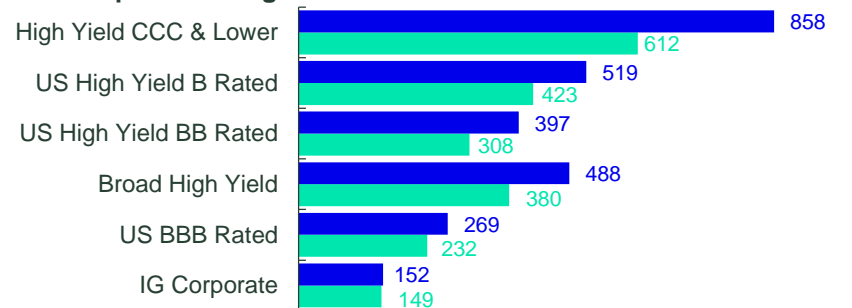
High yield spreads widened by the most since October 2008, while spreads of BBB rated bonds blew up, as the market priced in more upcoming fallen angels.

## Credit Spreads (%)

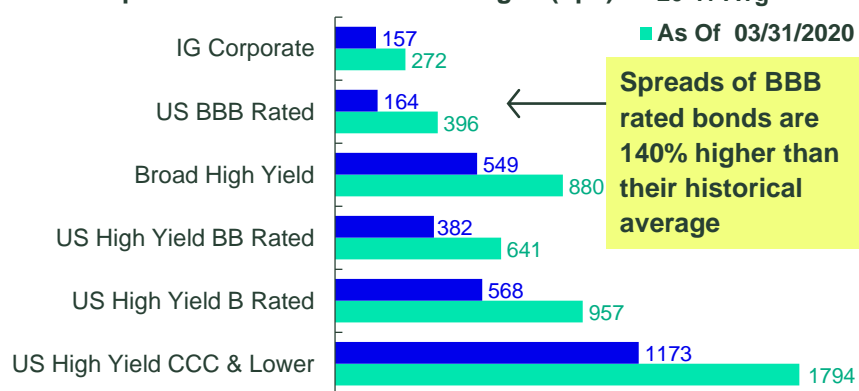
- Bloomberg Barclays US Corporate High Yield Index
- Bloomberg Barclays US Corporate Index
- Bloomberg Barclays High Yield Energy Index



## Credit Spread Changes in Basis Points



## Credit Spread Current vs. 20-Yr Averages (bps)



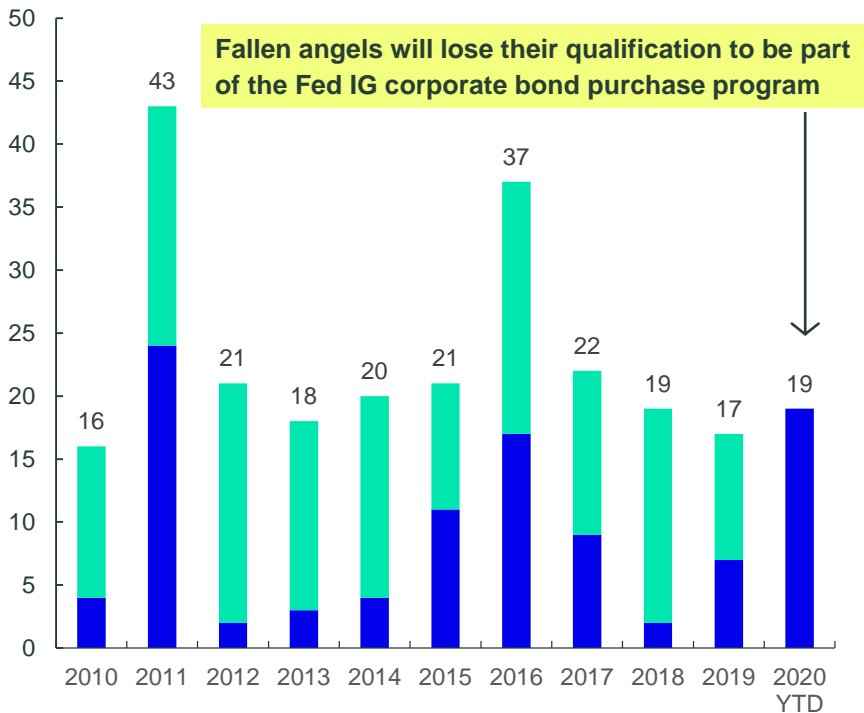
Source: Bloomberg Finance, L.P. BofA Merrill Lynch, as of March 31, 2020. US High Yield CCC & Lower = BofA ML US High Yield CCC & Lower Rated Index. US High Yield B Rated = BofAML US High Yield B Rated Index. BBB Rated = BofA ML US Investment Grade BBB Rated Index. Broad high yield = Bloomberg Barclays US Corporate High Yield Index. IG Corporate = Bloomberg Barclays US Corporate Index. **Past performance is not a guarantee of future results. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index.**

# Credit Trends (continued)

The lowest rated investment grade bonds (BBB) underperformed the highest rated high yields bonds (BB) in March, as the number of fallen angels jumped over the month.

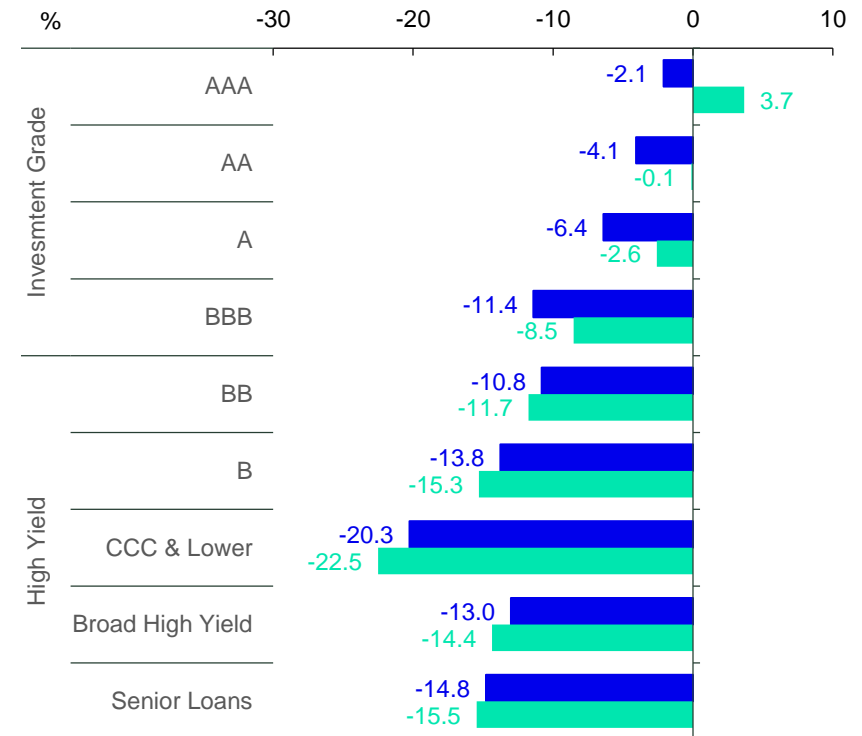
## # of Fallen Angels

■ Q1 ■ Rest of the Year



## IG and HY Performance by Credit Rating

■ 1-Month Return ■ YTD Return

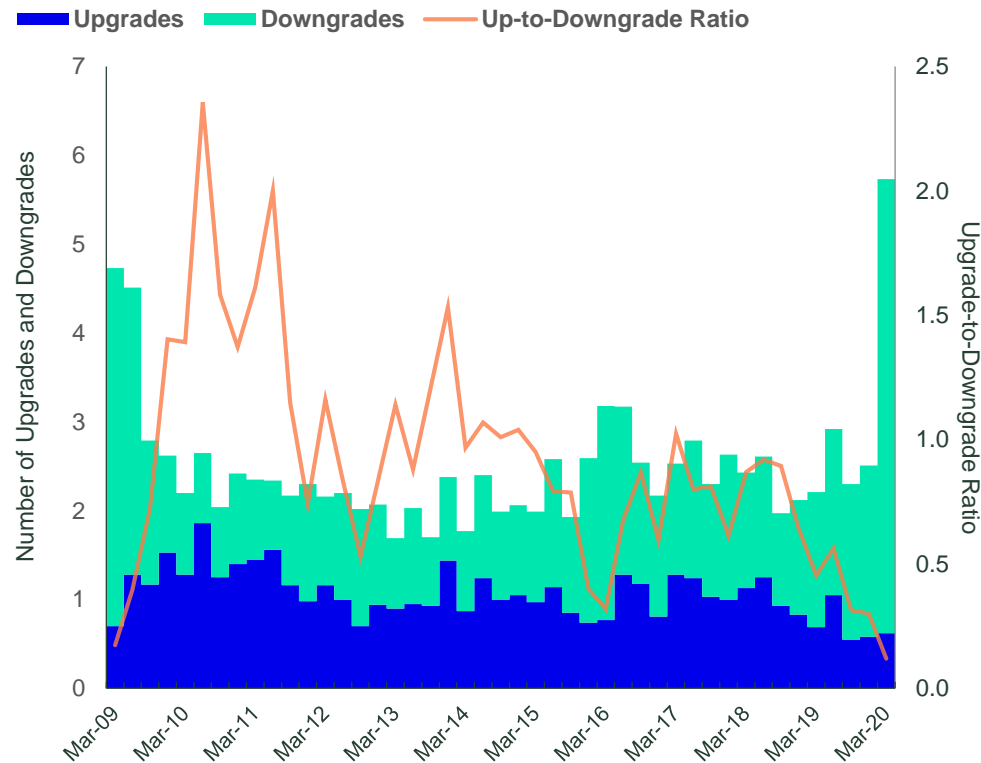


Source: Bloomberg Finance, L.P. BofA Merrill Lynch, as of March 31, 2020. **Past performance is not a guarantee of future results. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index.**

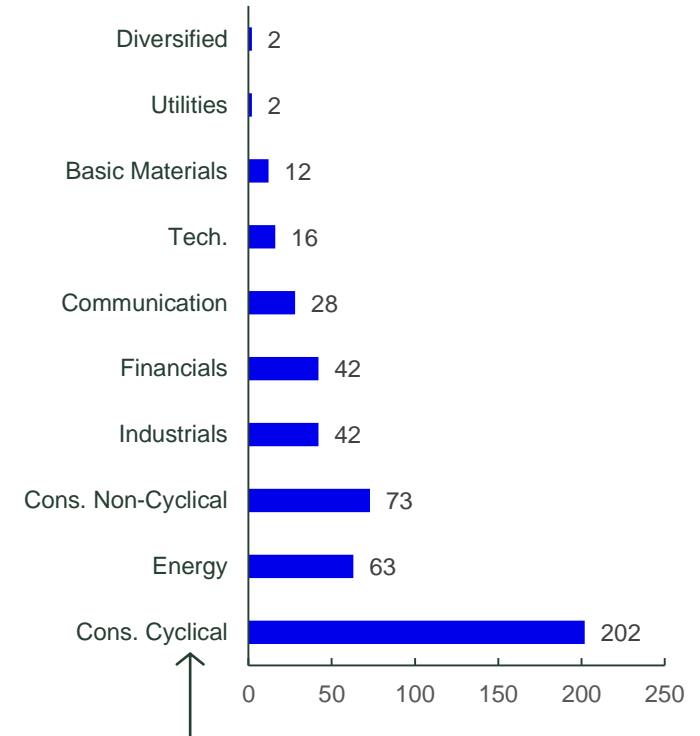
# Credit Trends (continued)

Rating agencies ramped up downgrades in the high yield space in March, as the quarterly up-to-downgrade ratio reached the lowest in eleven years.

High Yield Up-to-Downgrades



High Yield # of Downgrades by Sectors



Consumer cyclical sectors have been most punished, as lockdowns put strains on their cash flows.

Source: State Street Global Advisors, Bloomberg Finance, L.P., as of March 31, 2020. Past performance is not a guarantee of future results.

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# Appendix

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A [Fund Flow Summary](#)

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B [Asset Class Forecast](#)

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C [SPDR Sector Scorecard](#)

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D [Definitions](#)

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E [Important Disclosures](#)

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## Appendix A

# Fund Flow Summary

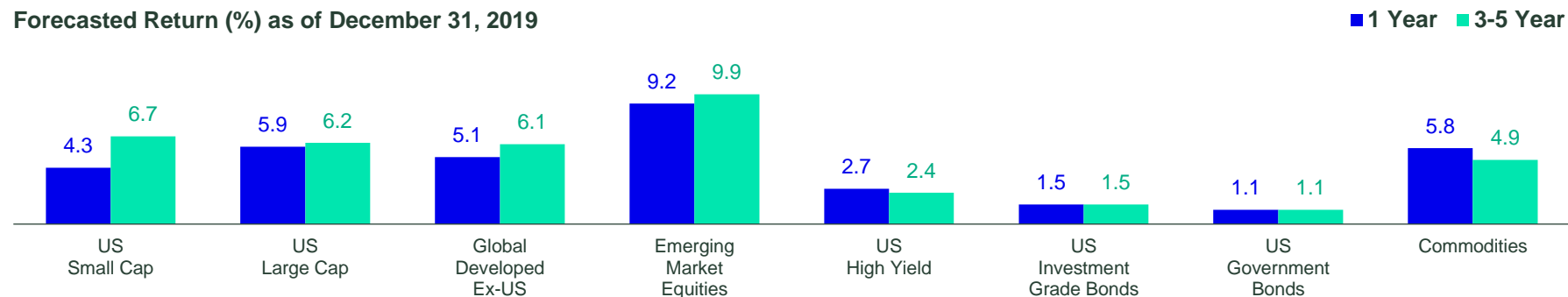
Asset Category		Prior Month (\$M)	Year to Date	Trailing 3 Months (\$M)	Trailing 12 Months (\$M)
Equity Region	US	35,310	44,108	44,108	170,641
	Global	1,677	1,760	1,760	5,755
	International-Developed	97	13,086	13,086	41,397
	International-Emerging Markets	-5,036	-4,298	-4,298	-6,134
	International-Region	-3,233	-2,920	-2,920	-4,104
	International-Single Country	-3,069	-5,632	-5,632	-7,184
	Currency Hedged	-1,324	-1,636	-1,636	-4,121
US Size & Style	Broad Market	6,307	14,023	14,023	45,672
	Large-Cap	33,146	31,008	31,008	113,273
	Mid-Cap	-2,443	-2,199	-2,199	1,330
	Small-Cap	2,062	378	378	7,831
	Growth	6,887	10,308	10,308	18,148
	Value	4,422	3,301	3,301	21,425
Fixed Income Sectors	Aggregate	-19,792	-3,339	-3,339	42,110
	Government	12,911	21,538	21,538	43,658
	Inflation Protected	-3,433	-3,051	-3,051	-986
	Mortgage-Backed	-3,149	2,377	2,377	11,840
	IG Corporate	-837	2,030	2,030	18,573
	High Yield Corp.	2,989	-2,477	-2,477	8,016
	Bank Loans	-1,161	-2,603	-2,603	-1,679
	EM Bond	-2,736	-2,861	-2,861	-4,580
	Preferred	-1,664	163	163	6,047
	Convertible	-401	-427	-427	-36
Government ETF Maturity Focus	Municipals	-2,246	1,030	1,030	10,583
	Ultra Short	12,329	12,207	12,207	14,526
	Short Term	7,964	8,755	8,755	6,861
	Intermediate	-2,124	3,234	3,234	18,255
	Long Term (>10 yr)	-5,266	-2,800	-2,800	4,030

Source: State Street Global Advisors, Bloomberg Finance, L.P. As of March 31, 2020. Segments with top 2 inflows in each category are shaded in green. Segments with bottom 2 flows in each category are shaded in orange. Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter.

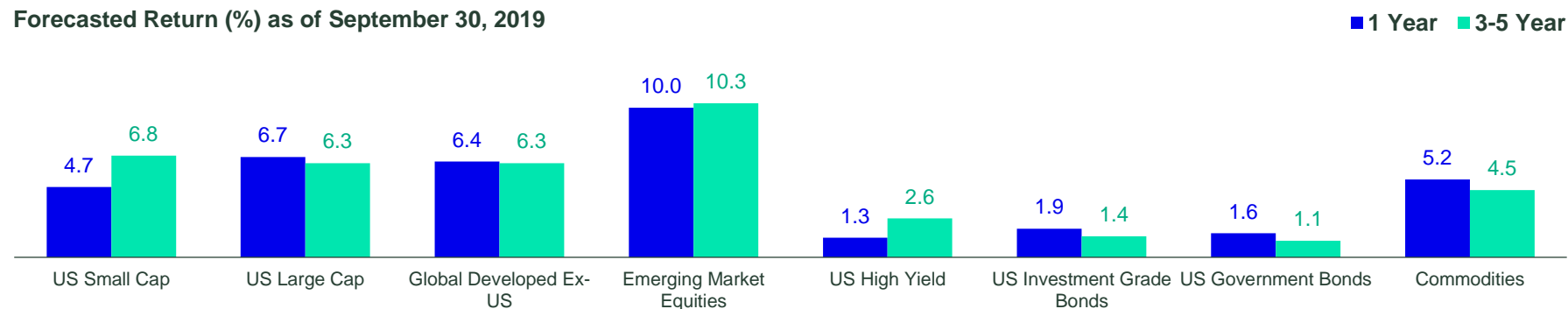
## Appendix B

# Asset Class Forecast

Forecasted Return (%) as of December 31, 2019



Forecasted Return (%) as of September 30, 2019



Source: State Street Global Advisors Investment Solutions Group. The forecasted returns are based on SSGA's Investment Solutions Group's December 31, 2019 forecasted returns and long-term standard deviations. The forecasted performance data is reported on a gross of fees basis. Additional fees, such as the advisory fee, would reduce the return. For example, if an annualized gross return of 10% was achieved over a 5-year period and a management fee of 1% per year was charged and deducted annually, then the resulting return would be reduced from 61% to 54%. The performance includes the reinvestment of dividends and other corporate earnings and is calculated in the local (or regional) currency presented. It does not take into consideration currency effects. **The forecasted performance is not necessarily indicative of future performance, which could differ substantially.** Please reference Appendix B (continued) for the assumptions used by SSGA Investment Solutions Group to create asset class forecasts.

# Asset Class Forecast: Assumptions

<b>Fixed Income</b>	Our return forecasts for fixed income derive from current yield conditions together with expectations as to how real and nominal yield curves could evolve relative to historical averages. For corporate bonds, we also analyze credit spreads and their term structures, with separate assessments of investment-grade and high-yield bonds.
<b>Equities</b>	Our long-term equity forecasts begin with expectations for developed market large capitalization stocks. The foundation for these forecasts are estimates of real return potential, derived from current dividend yields, forecast real earnings growth rates, and potential for expansion or contraction of valuation multiples. Our forecasting method incorporates long run estimates of potential economic growth based on forecast labor and capital inputs to estimate real earning growth.
<b>Commodities</b>	Our long-term commodity forecast is based on the level of world GDP, as a proxy for consumption demand, as well as on our inflation outlook. Additional factors affecting the returns to a commodities investor include how commodities are held (e.g., physically, synthetically, or via futures) and the various construction methodologies of different commodity benchmarks.

All assumptions are based upon current market conditions as of the date of this presentation and are subject to change. **Past performance is no guarantee of future results.** All investments involve risk including the loss of principal. All material presented herein are obtained from sources believed to be reliable, but accuracy cannot be guaranteed.



# SPDR Sector Scorecard

	Composite Score	Metrics
	Validation	<b>Relative Valuation</b> (P/B, P/E, NTM P/E, P/S)
		<b>Absolute Valuation</b> (P/B, P/E, NTM P/E, P/S)
	Earnings Sentiment	<b>Earnings Revision</b> (Changes to EPS Estimates, Upgrade to Downgrade Ratio)
		<b>Earnings Surprise</b> (The Magnitude and Breadth of Earnings Surprise)
Momentum	<b>Price Returns</b> 3-Months, 6-Months, 12-Months	
Volatility	<b>Realized Volatility</b>	<b>Standard Deviation</b> 30-Days Annualized
	<b>Implied Volatility</b>	<b>3-Month-at-the-money</b> Implied Volatility for Options

The metrics shown are z-scores, which are calculated using the mean and standard deviation of the relevant metrics within S&P 500 sectors. Using Z-scores to standardize results across all sectors allows for easier relative assessment. Sectors with cheaper valuation, higher price momentum, higher sentiment and higher volatility will have higher z-scores.

We calculate a composite score by equally weighting each metric z-score in the same category.

The scorecard does not represent the investment views of State Street. Metrics used in the scorecard have not been backtested for any sector strategies by State Street. These are for illustrative and educational purposes as we seek to bring greater transparency to the sector investing landscape and the due diligence required to build sophisticated portfolios to meet specific client objectives.

## Appendix D

# Definitions

**Basis Point:** One hundredth of one percent, or 0.01%.

**Bloomberg Barclays EM USD Aggregate Index:** The index is a hard currency emerging markets debt benchmark that includes US dollar-denominated debt from sovereign, quasi-sovereign, and corporate issuers in the developing markets.

**Bloomberg Barclays Global Aggregate Bond Index:** A benchmark that provides a broad-based measure of the global investment-grade fixed income markets. The three major components of this index are the US Aggregate, the Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities, and USD investment-grade 144A securities.

**Bloomberg Barclays Global Aggregate Bond Index:** The Bloomberg Barclays Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

**Bloomberg Barclays US Aggregate Index:** A benchmark that provides a measure of the performance of the US dollar denominated investment grade bond market, which includes investment grade government bonds, investment grade corporate bonds, mortgage pass through securities, commercial mortgage backed securities and asset backed securities that are publicly for sale in the US.

**Bloomberg Barclays US Corporate 1–3 Year Index:** The Index includes publicly issued US dollar denominated corporate issues that have a remaining maturity of greater than or equal to 1 year and less than 3 years, are rated investment grade.

**Bloomberg Barclays US Corporate Bond Index:** The Bloomberg Barclays US Corporate Bond Index measures the investment grade, US dollar-denominated, fixed-rate, taxable corporate and government related bond markets. It is composed of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

**Bloomberg Barclays US Corporate High Yield Index:** The index consists of fixed rate, high yield, USD-denominated, taxable securities issued by US corporate issuers.

**Bloomberg Barclays US Mortgage Backed Securities Index:** The index consists of US Mortgage Backed Securities.

**Bloomberg Barclays US Treasury 1–3 Year Index:** The Index is designed to measure the performance of short term (1–3 years) public obligations of the US Treasury.

**Bloomberg Barclays US Treasury Bill 1–3 Months Index:** The Bloomberg Barclays 1–3 Month US Treasury Bill Index (the "Index") is designed to measure the performance of public obligations of the US Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.

**Bloomberg Commodity Index:** Bloomberg Commodity Index (BCOM) is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.

**Breakeven Inflation Rate:** It is a market based measure of expected inflation. It is the difference between the yield of a nominal bond and an inflation linked bond of the same maturity.

**Bloomberg Barclays US High Yield Index:** The Bloomberg USD High Yield Corporate Bond Index is a rules-based, market-value weighted index engineered to measure publicly issued non-investment grade USD fixed-rate, taxable, corporate bonds. To be included in the index a security must have a minimum par amount of 250MM.

**Bloomberg Barclays US Treasury Index:** The Bloomberg US Treasury Bond Index is a rules-based, market-value weighted index engineered to measure the performance and characteristics of fixed rate coupon US Treasuries which have a maturity greater than 12 months. To be included in the index a security must have a minimum par amount of 1,000MM.

**CBOE VIX Index:** The Chicago Board Options Exchange (CBOE) Volatility Index shows the market's expectation of 30-day volatility. It is constructed using the implied volatilities of a wide range of S&P 500 index options.

**Citigroup Economic Surprise Index:** The Citi Economic Surprise Indices measure data surprises relative to market expectations. A positive reading means that data releases have been stronger than expected and a negative reading means that data releases have been worse than expected.

**Credit Spread:** A credit spread is the difference in yield between a US Treasury bond and a debt security with the same maturity but of lesser quality.

**Current Short Interest (%):** The percentage of tradable outstanding shares which have been shorted. Used as a measure of investor sentiment.

## Appendix D (continued)

# Definitions

**Convexity:** Convexity is a measure of the curvature in the relationship between bond prices and bond yields. Bond with negative convexity, prices decrease as interest rate fall. Since many high yields bonds are callable, the price of the callable bonds might drop in the event of falling yields because the bond could be called.

**DXY Dollar Index:** The DXY Dollar Index tracks the performance of a basket of foreign currencies issued by US major trade partners, including Eurozone, Japan, U.K. Canada, Sweden and Switzerland, versus the US Dollar.

**Euro STOXX Index:** The index is a Eurozone and Nordic region subset of the STOXX Global 1800 index.

**Excess Returns:** A security's return minus the return from another security in the same time period.

**Global Industry Classification Standard (GICS):** An industry taxonomy developed in 1999 by MSCI and Standard & Poor's (S&P) for use by the global financial community. The GICS structure consists of 10 sectors, 24 industry groups, 67 industries and 156 sub-industries [1] into which S&P has categorized all major public companies.

**Implied Volatility:** The estimated volatility of a security's price. In general, implied volatility increases when the market is bearish and decreases when the market is bullish. This is due to the common belief that bearish markets are more risky than bullish markets.

**Minimum Volatility Factor:** A category of stocks that are characterized by relatively less movement in share price than many other equities.

**Momentum Factor:** The tendency for a security to maintain a certain direction of price trajectory. This tendency is well documented in academic research, which has made "momentum" one of the six smart beta factors that are systematically being isolated in new-generation strategic indexes.

**MSCI Canada Index:** An equities benchmark that captures large- and mid-cap representation in Canada.

**MSCI Germany Index:** An equities benchmark that captures large- and mid-cap representation in Germany.

**MSCI EAFE Index:** An equities benchmark that captures large- and mid-cap representation across developed market countries around the world, excluding the US and Canada.

**MSCI Emerging Market Index:** The MSCI Emerging Markets Index captures large and mid-cap representation across 23 emerging markets countries. With 834 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**MSCI Europe Index:** The MSCI Europe Index is a free-float weighted equity index designed to measure the equity market performance of the developed markets in Europe.

**MSCI Japan Index:** The MSCI Europe Index is a free-float weighted equity index designed to measure the equity market performance of the developed markets in Japan.

**MSCI USA Enhanced Value Weighted Index:** The MSCI USA Enhanced Value Weighted Index captures large and mid-cap representation across the US equity markets exhibiting overall value style characteristics. The index is designed to represent the performance of securities that exhibit higher value characteristics relative to their peers within the corresponding GICS® sector.

**MSCI USA Equal Weighted Index:** The MSCI USA Equal Weighted Index represents an alternative weighting scheme to its market cap weighted parent index, the MSCI USA Index. At each quarterly rebalance date, all index constituents are weighted equally, effectively removing the influence of each constituent's current price (high or low).

**MSCI USA High Dividend Yield Index:** The MSCI World High Dividend Yield Index is based on the MSCI USA Index, its parent index, and includes large and mid cap stocks. The index is designed to reflect the performance of equities in the parent index (excluding REITs) with higher dividend income and quality characteristics than average dividend yields that are both sustainable and persistent. The index also applies quality screens and reviews 12-month past performance to omit stocks with potentially deteriorating fundamentals that could force them to cut or reduce dividends.

**MSCI USA Index:** The MSCI World Index, which is part of The Modern Index Strategy, is a broad global equity benchmark that represents large and mid-cap equity performance across 23 developed markets countries. It covers approximately 85% of the free float-adjusted market capitalization in each country and MSCI World benchmark does not offer exposure to emerging markets.

**MSCI USA Minimum Volatility Index:** The MSCI USA Minimum Volatility (USD) Index aims to reflect the performance characteristics of a minimum variance strategy applied to the MSCI large and mid cap equity universe. The index is calculated by optimizing the MSCI USA Index, its parent index, for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI World Index.

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## Appendix D (continued)

# Definitions

**Price-earnings ratio (P/E Ratio):** The price-earnings ratio (P/E Ratio) is the ratio for valuing a company that measures its current share price relative to its per-share earnings. The price-earnings ratio can be calculated as: Market Value per Share/Earnings per Share.

**Price-to-book ratio (P/B Ratio):** The price-to-book ratio (P/B Ratio) is a ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share. Also known as the "price-equity ratio."

**Quality Factor:** One of the six widely recognized, research-based smart beta factors that refers to "quality" equities. Companies whose stocks qualify exhibit consistent profitability, stability of earnings, low financial leverage and other characteristics consistent with long-term reliability such as ethical corporate governance.

**Risk on:** Used to describe investment sentiment when investors' risk tolerance increases.

**RSI:** The relative strength index (RSI) is a momentum indicator that measures the magnitude of recent price changes to evaluate overbought or oversold conditions in the price of a stock or other asset.

**Russell 1000 Growth Index:** The index is a style index designed to track the performance of stocks that exhibit the strongest growth characteristics by using a style-attractiveness-weighting scheme.

**Russell 1000 Value Index:** The index is a style-concentrated index designed to track the performance of stocks that exhibit the strongest value characteristics by using a style-attractiveness-weighting scheme.

**Russell 2000 Index:** A benchmark that measures the performance of the small-cap segment of the US equity universe.

**S&P/LSTA US Leveraged Loan 100 Index:** The S&P/LSTA US Leveraged Loan 100 Index is designed to reflect the largest facilities in the leveraged loan market.

**S&P 500 Communication Services Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® Communication Services sector.

**S&P 500 Consumer Discretionary Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® consumer discretionary sector.

**S&P 500 Consumer Staples Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® consumer staples sector.

**S&P 500 Financial Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® financial sector.

**S&P 500 Health Care Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® health care sector.

**S&P 500 High Dividend Index** is designed to measure the performance of the top 80 high dividend-yielding companies within the S&P 500® Index, based on dividend yield.

**S&P 500 Index:** A popular benchmark for US large-cap equities that includes 500 companies from leading industries and captures approximately 80% coverage of available market capitalization.

**S&P 500 Industrial Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® industrial sector.

**S&P500 Information Technology Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® information technology sector.

**S&P 500 Low Volatility Index:** The S&P 500® Low Volatility Index measures performance of the 100 least volatile stocks in the S&P 500. The index benchmarks low volatility or low variance strategies for the US stock market. Constituents are weighted relative to the inverse of their corresponding volatility, with the least volatile stocks receiving the highest weights.

**S&P 500 Materials Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® materials sector.

**S&P 500 Quality Index:** The index is designed to track high quality stocks in the S&P 500 by quality score, which is calculated based on return on equity, accruals ratio and financial leverage ratio.

**S&P 500 Real Estate Sector Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® real estate sector.

## Appendix D (continued)

# Definitions

**S&P 500 Utilities Index:** The Index comprises of those companies included in the S&P 500 that are classified as members of the GICS® utilities sector.

**Size Factor:** A smart beta factor based on the tendency of small-cap stocks to outperform their large-cap peers over long time periods.

**Spread Changes:** Changes in the spread between Treasury securities and non-Treasury securities that are identical in all respects except for quality rating.

**Standard Deviation:** Measures the historical dispersion of a security, fund or index around an average. Investors use standard deviation to measure expected risk or volatility, and a higher standard deviation means the security has tended to show higher volatility or price swings in the past.

**State Street Confidence Indexes:** Measures investor confidence or risk appetite quantitatively by analyzing the actual buying and selling patterns of institutional investors. The index assigns a precise meaning to changes in investor risk appetite: the greater the percentage allocation to equities, the higher risk appetite or confidence. A reading of 100 is neutral; it is the level at which investors are neither increasing nor decreasing their long-term allocations to risky assets. The results shown represent current results generated by State Street Investor Confidence Index. The results shown were achieved by means of a mathematical formula in addition to transactional market data, and are not indicative of actual future results which could differ substantially.

**Value Factor:** One of the basic elements of “style”-focused investing that focuses on companies that may be priced below intrinsic value. The most commonly used methodology to assess value is by examining price-to-book (P/B) ratios, which compare a company’s total market value with its assessed book value.

**Yield:** The income produced by an investment, typically calculated as the interest received annually divided by the investment’s price.

**Yield Curve:** A graph or line that plots the interest rates or yields of bonds with similar credit quality but different durations, typically from shortest to longest duration. When the yield curve is said to be flat, it means the difference in yields between bonds with shorter and longer durations is relatively narrow. When the yield curve is said to be steepened, it means the difference in yields between short term and long term bonds increases. yield relative to the broad market, and which have demonstrated dividend sustainability and persistence.

**Yield to Worst:** Yield to worst is an estimate of the lowest yield that you can expect to earn from a bond when holding to maturity, absent a default. It is a measure that is used in place of yield to maturity with callable bonds.

**Z-score:** It indicates how many standard deviations an element is from the mean. A z-score can be calculated from the following formula.  $z = (X - \mu) / \sigma$  where z is the z-score, X is the sector relative performance.  $\mu$  is the mean of the eleven sector relative performance, and  $\sigma$  is the standard deviation of sectors' relative performance.

**Bloomberg Barclays US FRN < 5yr Index:** The Bloomberg Barclays US Dollar Floating Rate Note < 5 Years Index consists of debt instruments that pay a variable coupon rate, a majority of which are based on the 3-month LIBOR, with a fixed spread.

**Bloomberg Barclays U.S. MBS Index:** (the "MBS Index") measures the performance of the U.S. agency mortgage pass-through segment of the U.S. investment grade bond market.

**MSCI France Index:** An equities benchmark that captures large- and mid-cap representation in France.

**MSCI UK Index:** An equities benchmark that captures large- and mid-cap representation in UK.

**MSCI Russia Index:** An equities benchmark that captures large- and mid-cap representation in Russia.

**MSCI Brazil Index:** An equities benchmark that captures large- and mid-cap representation in Brazil.

**MSCI India Index:** An equities benchmark that captures large- and mid-cap representation in India.

## Appendix E

# Important Disclosures

The views expressed in this material are the views of SPDR Americas Research Team and are subject to change based on market and other conditions. This document contains certain statements that may be deemed forward-looking statements. Please note that any such statements are not guarantees of any future performance and actual results or developments may differ materially from those projected.

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**Bonds** generally present less short-term risk and volatility than stocks, but contain interest rate risk (as interest rates rise, bond prices usually fall); issuer default risk; issuer credit risk; liquidity risk; and inflation risk. These effects are usually pronounced for longer-term securities. Any fixed income security sold or redeemed prior to maturity may be subject to a substantial gain or loss.

The values of **debt securities** may decrease as a result of many factors, including, by way of example, general market fluctuations; increases in interest rates; actual or perceived inability or unwillingness of issuers, guarantors or liquidity providers to make scheduled principal or interest payments; illiquidity in debt securities markets; and prepayments of principal, which often must be reinvested in obligations paying interest at lower rates.

**Equity securities** may fluctuate in value in response to the activities of individual companies and general market and economic conditions.

Investments in **small-sized companies** may involve greater risks than in those of larger, better known companies.

Investments in **mid-sized companies** may involve greater risks than in those of larger, better known companies, but may be less volatile than investments in smaller companies.

Companies with **large market capitalizations** go in and out of favor based on market and economic conditions. Larger companies tend to be less volatile than companies with smaller market capitalizations. In exchange for this potentially lower risk, the value of the security may not rise as much as companies with smaller market capitalizations.

**Value stocks** can perform differently from the market as a whole. They can remain undervalued by the market for long periods of time.

**Foreign investments** involve greater risks than US investments, including political and economic risks and the risk of currency fluctuations, all of which may be magnified in emerging markets.

Because of their narrow focus, **sector funds** tend to be more volatile.

**Commodities** investing entail significant risk as commodity prices can be extremely volatile due to wide range of factors Bond funds contain interest rate risk (as interest rates rise bond prices usually fall); the risk of issuer default; issuer credit risk; liquidity risk; and inflation risk.

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