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# SPDR<sup>®</sup> ETFs

# Chart Pack

## Key Charts to Help Navigate the Market

## January 2021 Edition

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

All the information contained in this presentation is as of date indicated unless otherwise stated.

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# Table of Contents

---

## 1. Market Environment

---

[Asset Class Performance](#)

---

[Market Rebound](#)

---

[Investor Confidence](#)

---

[Cross-Asset Volatility](#)

---

[Active Performance  
Barometer](#)

---

---

## 2. Flows, Fundamentals & Factors

---

[Flow Trends](#)

---

[Mobility During COVID-19](#)

---

[Global Economy](#)

---

[US Economy](#)

---

[Global Valuation](#)

---

[Global Momentum](#)

---

[Global Earnings](#)

---

[Global Factor Trends](#)

---

[US Factor Trends](#)

---

---

## 3. Sectors

---

[Sector Flows & Returns](#)

---

[Thematic Sector Flows  
& Returns](#)

---

[Sector Scorecard](#)

---

[Sector Trends](#)

---

[Sector Earnings](#)

---

---

## 4. Fixed Income

---

[Yield Curve](#)

---

[Rates and Inflation](#)

---

[Bond Market Overview](#)

---

[Credit Trends](#)

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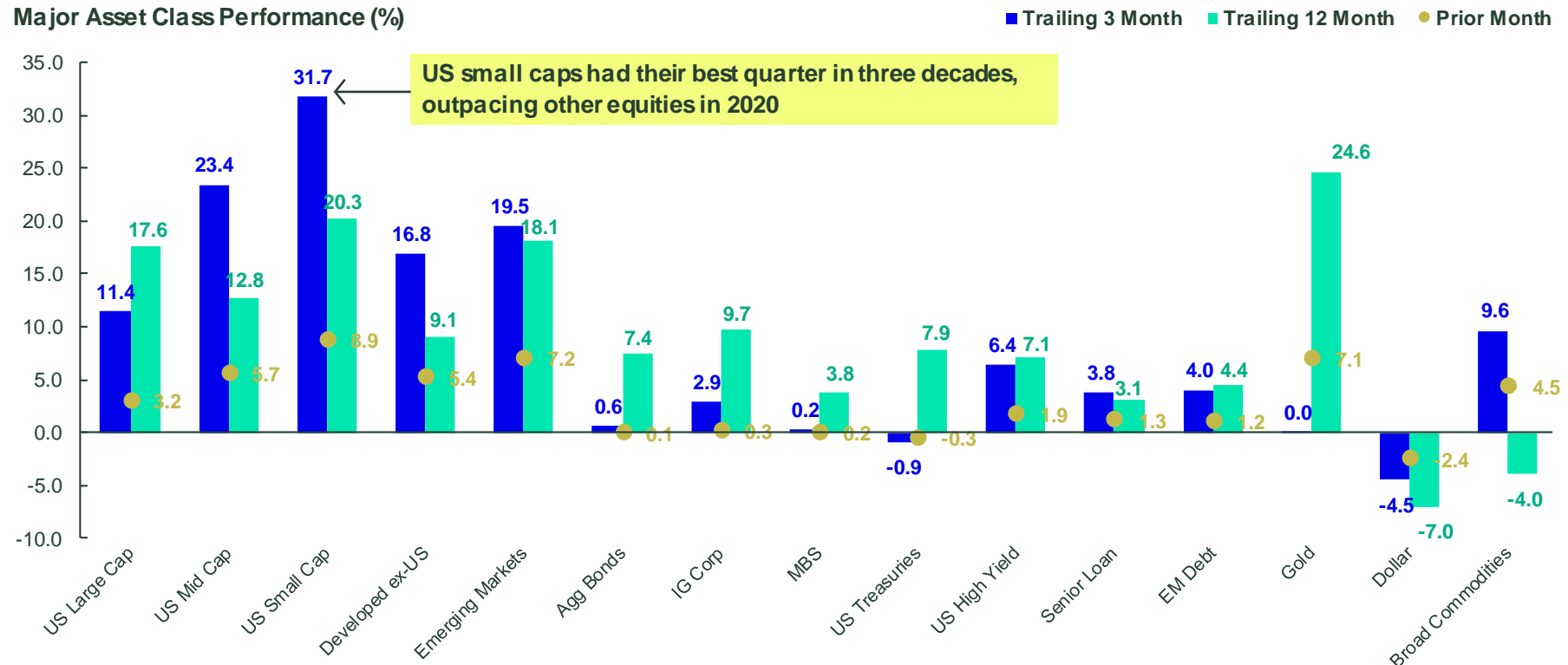
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# 1. Market Environment

# Asset Class Performance

Risk assets finished 2020 around record highs, as additional fiscal stimulus and progress on vaccine development and distribution further buoyed risk sentiment

Major Asset Class Performance (%)



Source: Bloomberg Finance, L.P. as of December 31, 2020. **Past performance is not a reliable indicator 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 Mid Cap: S&P 400 MidCap Index; US Small Cap: Russell 2000 Index; Developed Ex-US: MSCI EAFE Index; Emerging Markets: MSCI Emerging Markets 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.

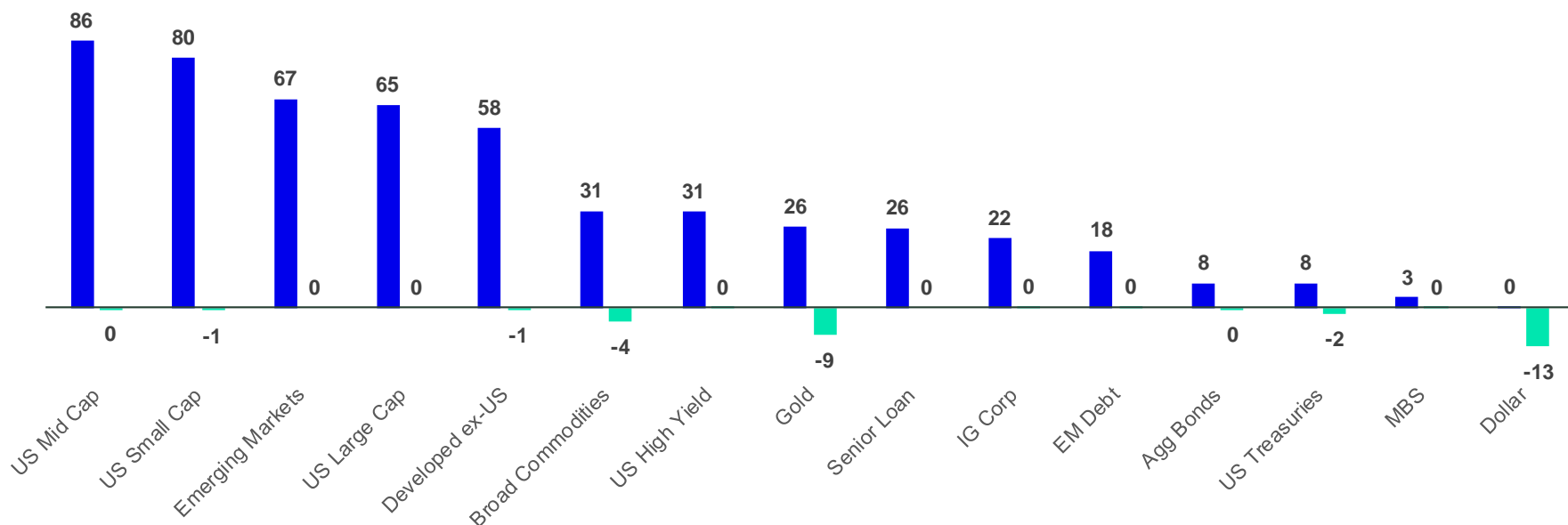
# Market Rebound

Most major asset classes regained all their losses over the bear market in March and finished the year near their record highs

Return Since 52-Week Lows/Highs(%)

■ Return Since 52-Week Low ■ Return Since 52-Week High

US and EM equities led the rebound in global equities, setting record highs in December

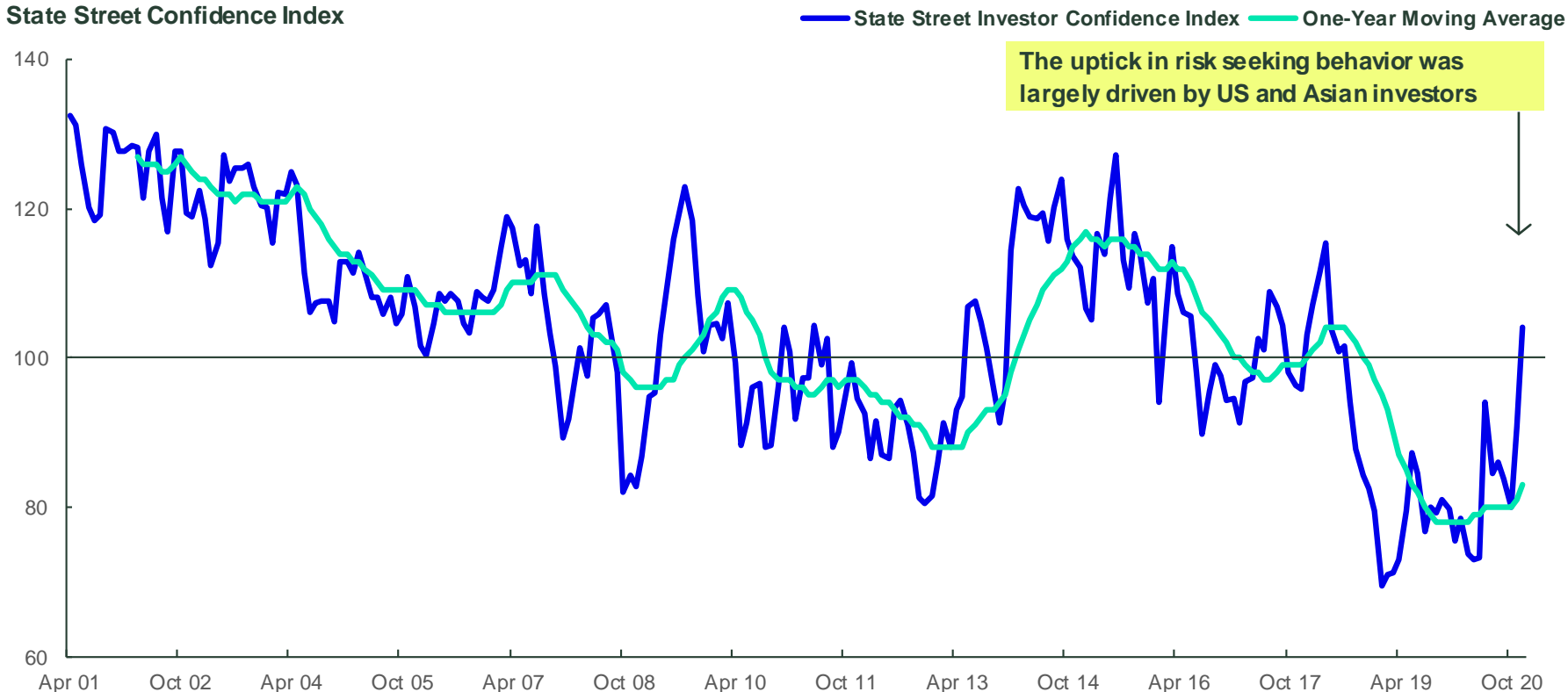


Source: Bloomberg Finance, L.P. as of 12/31/2020. **Past performance is not a reliable indicator of future results.** Index returns are unmanaged and do not reflect the deduction of any fees or expenses. Index returns reflect all items of income, gain and loss and the reinvestment of dividends and other income. Performance returns for periods of less than one year are not annualized. US Large Cap: S&P 500 Index; US MidCap: S&P 400 MidCap Index; US Small Cap: Russell 2000 Index; Developed Ex-US: MSCI EAFE Index; Emerging Markets: MSCI Emerging Markets 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.

# Investor Confidence

Investors ended the year on an optimistic note, with the investor confidence index at its highest level in over two years

State Street Confidence Index



Source: Bloomberg Finance, L.P. as of December 31, 2020. State Street Confidence Index 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.

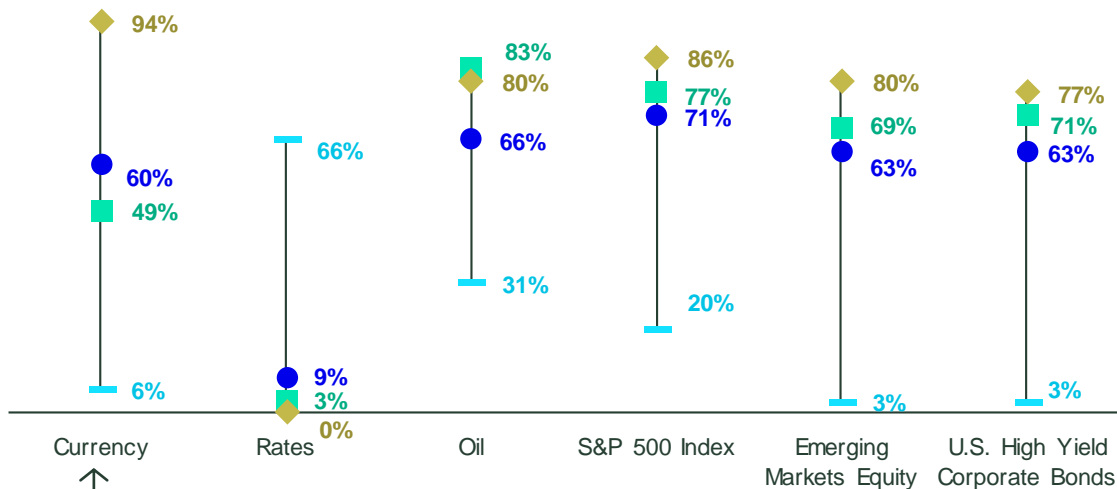
# Cross-Asset Volatility

Risk asset implied volatility continues to head south amid the optimism of cyclical recovery for next year

## Cross-Asset Implied Volatility

Percentile Rank of Daily Average, Three-Year

● Dec-2020 ■ Nov-2020 ◆ Sep-2020 — One-Year Ago

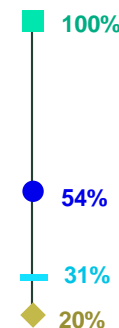


**Currency implied volatility picked up in December, partially driven by the last-minute approval of the Brexit trade deal**

## Cross-Asset Dispersion

Percentile Rank, Three-Year

● Dec-20 ■ Nov-20 ◆ Sep-20 — One-Year Ago



Cross-Asset Class Dispersion

Source: Bloomberg Finance, L.P. as of December 31, 2020. **Past performance is not a reliable indicator 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 Performance Barometer

The parabolic rally seen for growth assets lifted growth managers' performance this year. Most active value and blend managers underperformed their respective benchmarks

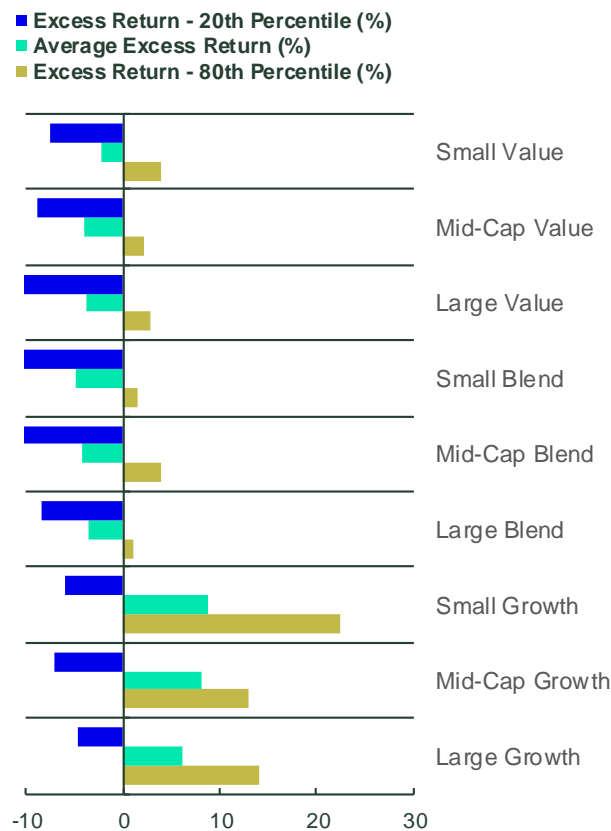
US Active Manager Performance Trends — % of Managers Outperforming Benchmarks

Category	2019	Q3	Q4	2020	2020 Vs. 2019
Large Growth	32%	48%	49%	62%	31%
Mid-Cap Growth	50%	56%	46%	58%	8%
Small Growth	50%	69%	24%	67%	16%
Large Blend	28%	34%	49%	30%	2%
Mid-Cap Blend	38%	43%	39%	26%	-12%
Small Blend	50%	45%	21%	23%	-26%
Large Value	29%	28%	52%	37%	8%
Mid-Cap Value	43%	21%	62%	30%	-13%
Small Value	42%	41%	35%	34%	-8%

US Active Manager Performance Trends — Average Excess Return (%)

Category	2019	Q3	Q4	YTD	2020 Vs. 2019
Large Growth	-1.87	0.26	0.11	6.12	7.99
Mid-Cap Growth	0.15	1.15	0.54	8.23	8.08
Small Growth	1.05	1.93	-2.56	8.77	7.71
Large Blend	-2.50	-0.92	-0.06	-3.50	-1.00
Mid-Cap Blend	-2.79	0.02	-1.25	-4.16	-1.37
Small Blend	-0.20	0.03	-3.34	-4.97	-4.77
Large Value	-2.82	-1.48	0.78	-3.70	-0.88
Mid-Cap Value	-1.53	-1.56	2.08	-3.93	-2.40
Small Value	-1.19	-0.16	-1.81	-2.33	-1.14

YTD Quintile 1 Versus Quintile 5 Manager



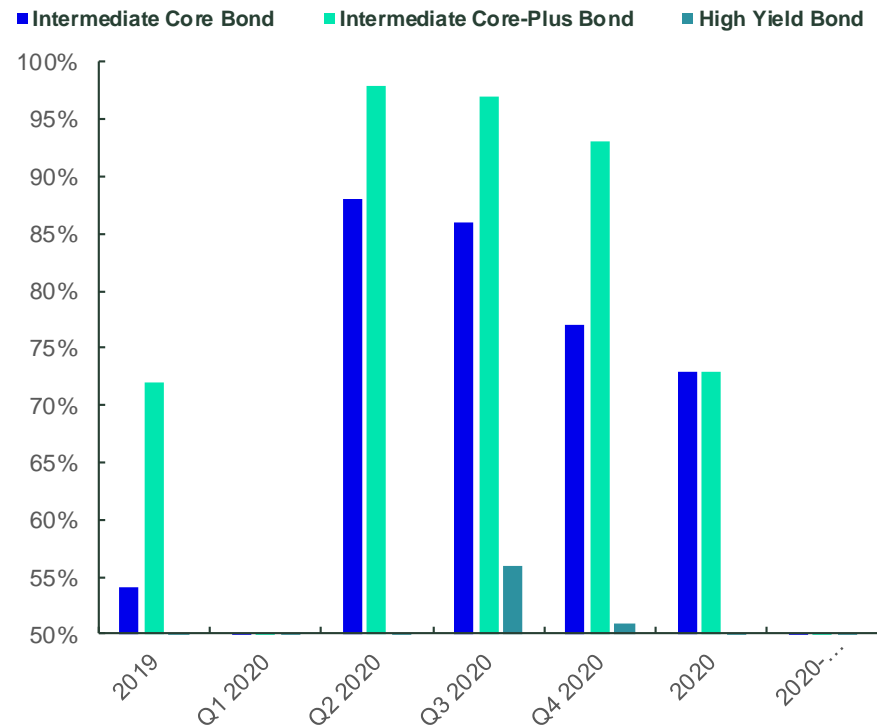
Source: Morningstar, as of December 31, 2020. The universe is based on Morningstar Category, including Blend, Value and Growth styles. Green shading is top 2, orange shading is bottom 2. Orange and green shading is meant to be read vertically.



# Active Performance Barometer (cont'd)

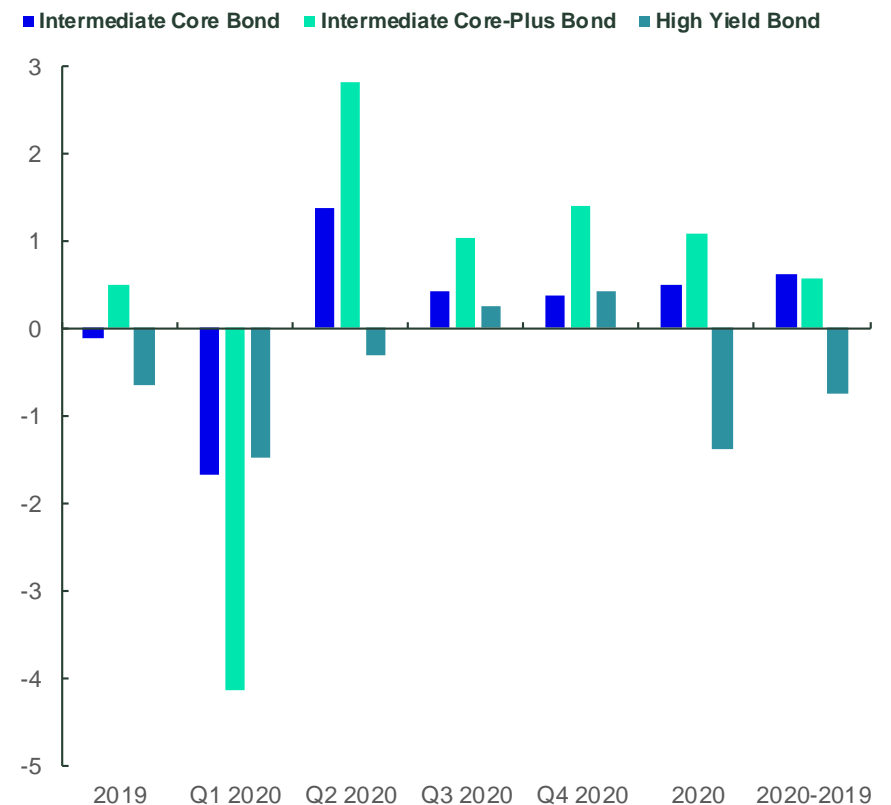
Active high yield funds struggled to outperform in 2020, with less than 40% able to exceed their respective benchmarks

Percent of Managers Outperforming Prospectus Benchmark



**As a result of their credit bias, core plus managers fared the worst in Q1 2020, but rebounded strongly for the rest of 2020**

Average Manager Excess Return (%) versus Prospectus Benchmark



Source: Morningstar as of December 31, 2020. Past performance is not a reliable indicator of future results.

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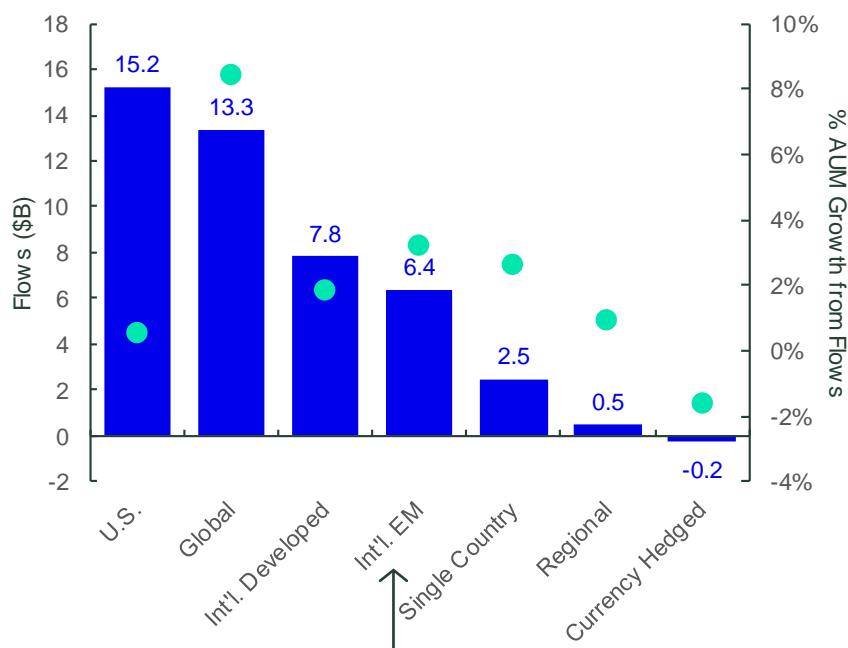
# 2. Flows, Fundamentals & Factors

# Flow Trends

ETFs had their best quarterly flows ever in Q4, led by equity ETFs posting their best quarterly flows ever, given the risk-on sentiment

## Flows by Equity Regions

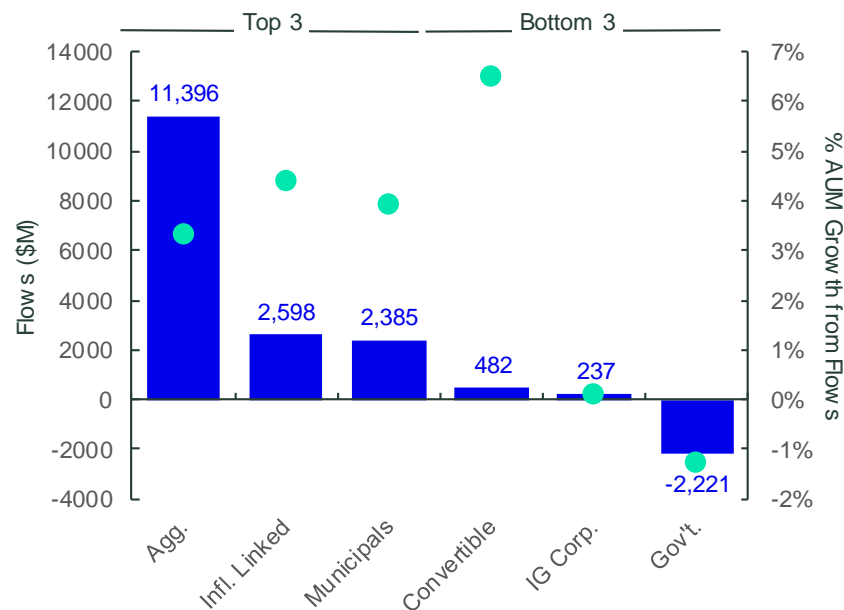
■ Dec. ● Month to Date (% of Start-of-Month AUM)



After removing thematic ETF flows from the global category, emerging market funds took in most assets on a relative basis

## Fixed Income Top and Bottom 3 Sectors by Flow

■ Dec. ● Month to Date (% of Start of Month AUM)



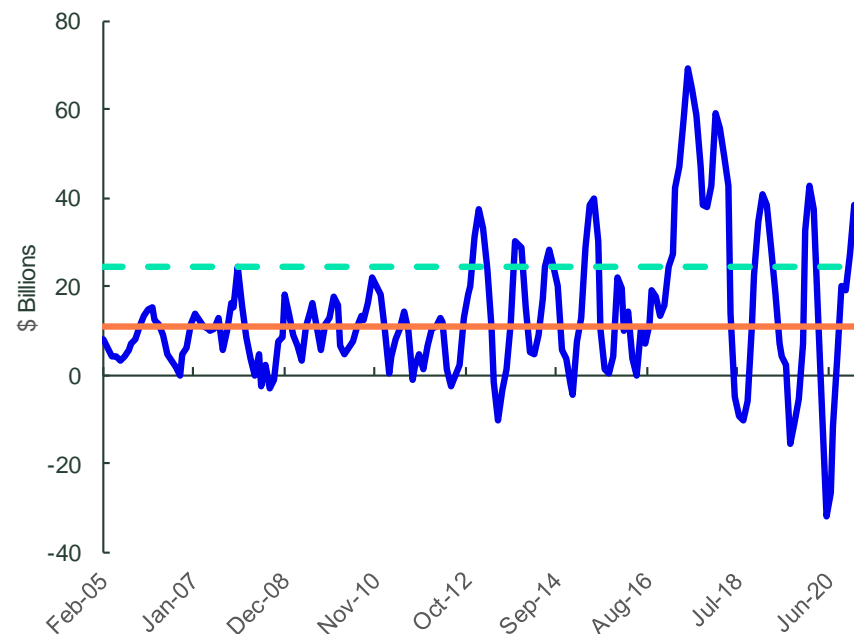
Source: State Street Global Advisors, Bloomberg Finance, L.P. as of December 31, 2020. Sectors, asset classes and flows are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. All figures are in USD.

# Flow Trends (continued)

Investors have shown renewed interest to non-US exposures, while piling into TIPS ETFs on the back of rising inflation expectations

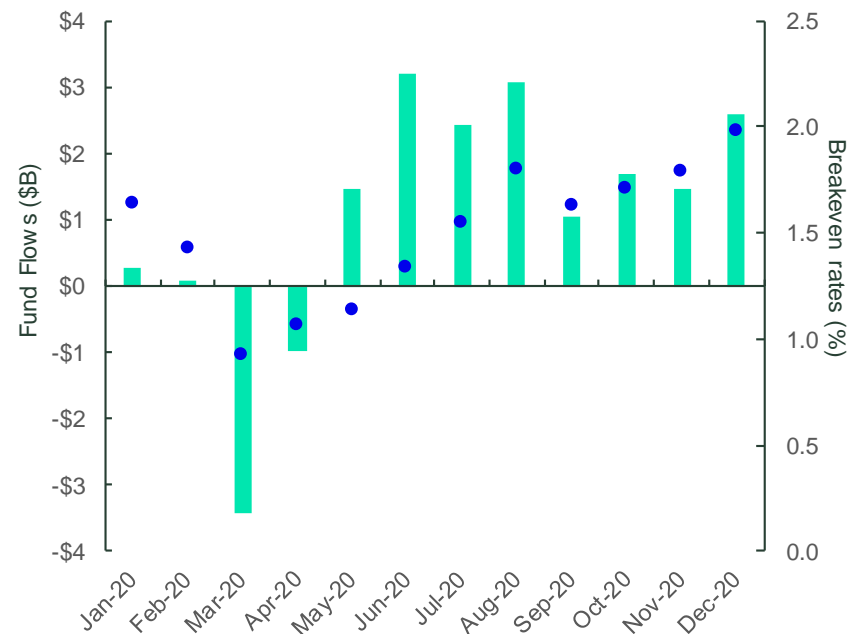
Rolling Three Months (Non-US ex. Global Funds)

Rolling Three-Month Fund Flows Median 80th Percentile



TIPS ETF Monthly Flows Vs. US 10-Year Breakeven Rates

TIPS ETF Flows US 10 Year Breakevens



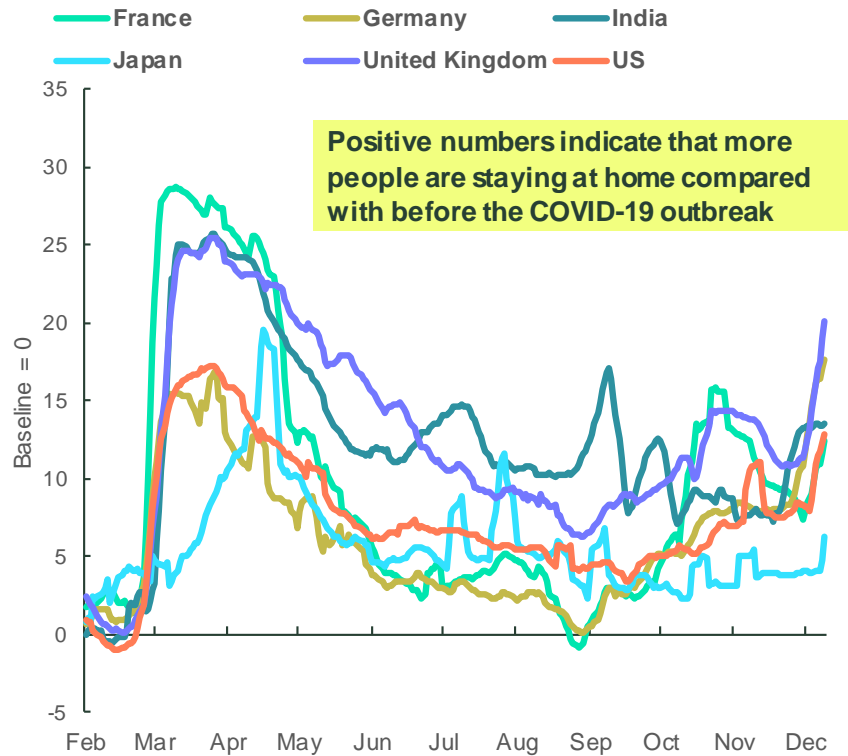
Flows over the past 3 months are well above the median 3-month figure, and have now broken past the historical 80th percentile

Source: State Street Global Advisors, Bloomberg Finance, L.P. as of December 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. All figures are in USD.

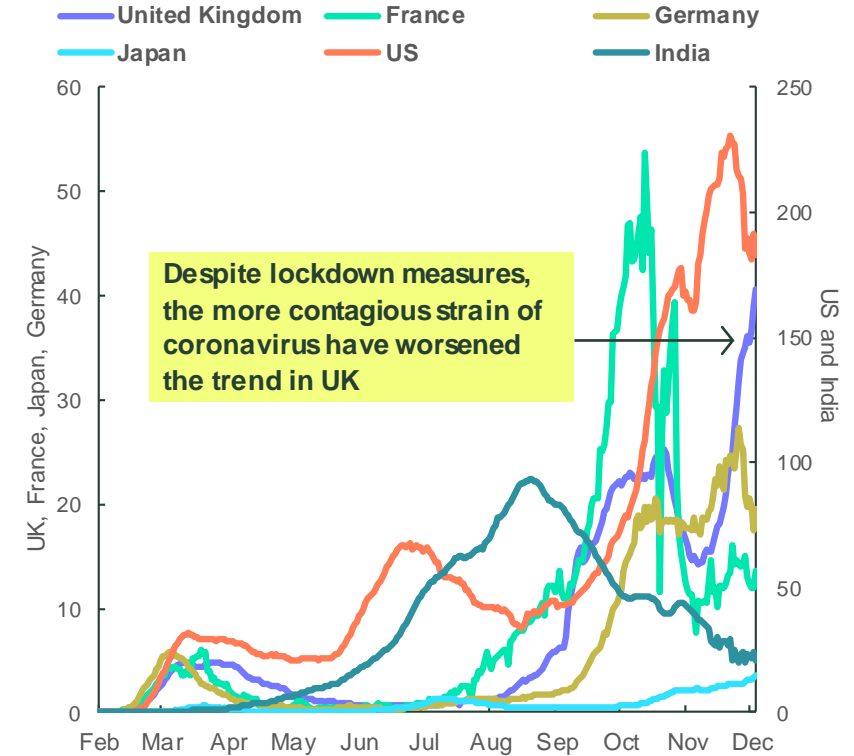
# Mobility During COVID-19

As lockdown measures were put back in place, new confirmed cases have declined from their recent peaks in the US and continental Europe

Residential Mobility Reports — Change from Baseline (%)



COVID-19 Confirmed Cases: Rolling 7-day Average in Thousands

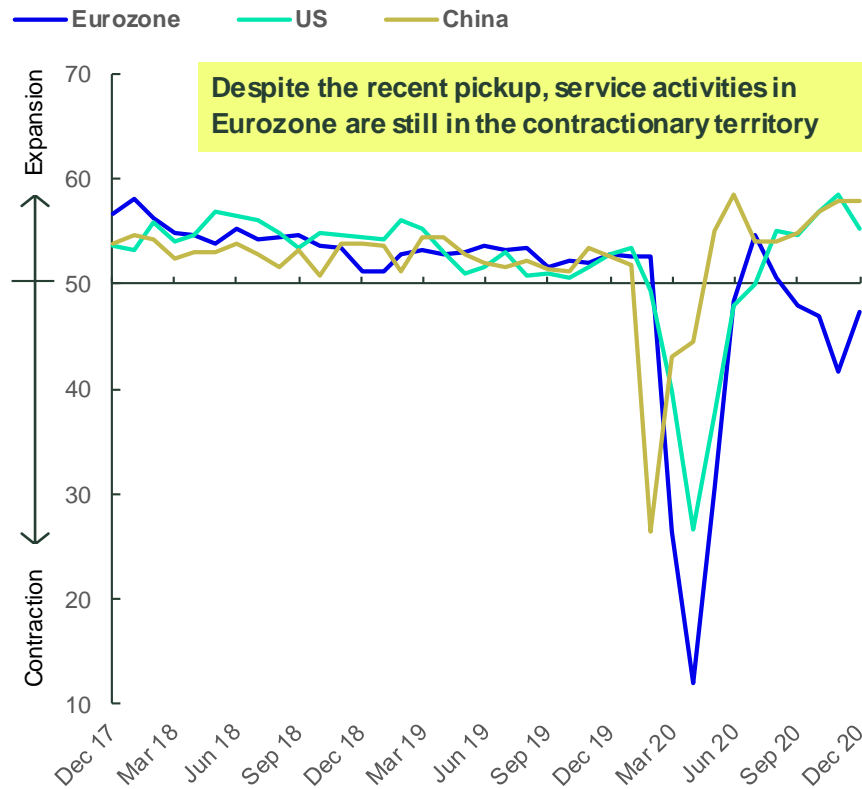


Source: Global Mobility Report, Google as of 12/31/2020. The data shows how visits to places, such as grocery stores and parks, are changing in each geographic region. Residential = Mobility trends for places of residence. Data points in both charts are a rolling seven-day average to reduce cyclical swings.

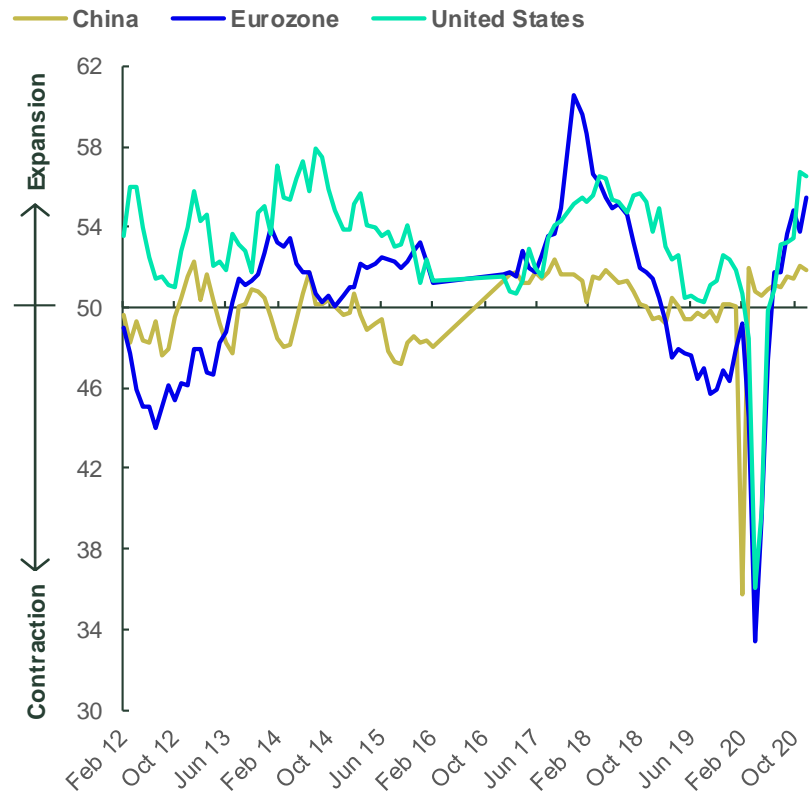
# Global Economy

While manufacturing activities expanded further above their pre-pandemic levels across regions, the recovery in service segments showed divergence

Markit Services PMI Indices



Markit Manufacturing PMI Indices

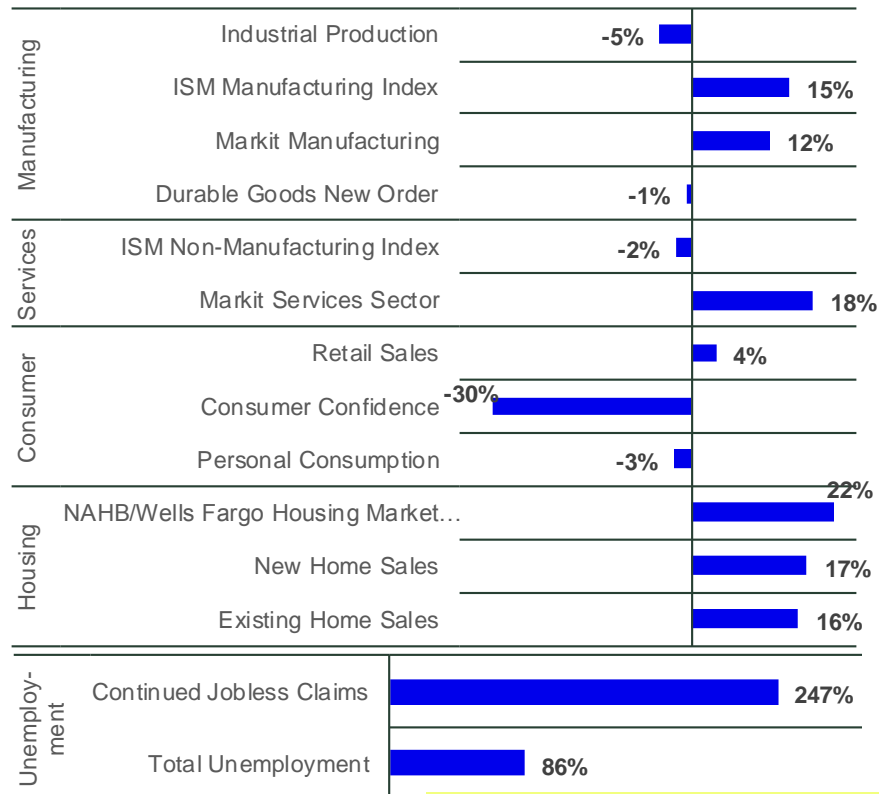


Source: Bloomberg Finance, L.P. as of December 31, 2020.

# US Economy

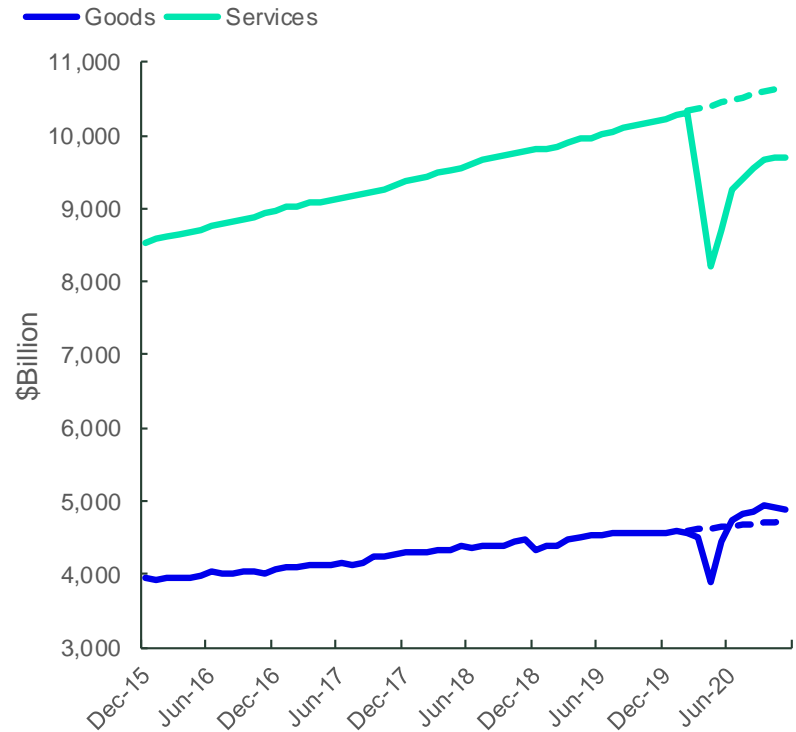
Physical goods consumption has recovered faster than services consumption which is still well below its historical trend line

US Economy Heatmap (% Change since February 2020)



**Housing market remains the bright spot in the recovery**

US Personal Consumption Expenditure: Goods vs. Services



Source: FactSet, as of December 31, 2020. All figures are in USD.

# Global Valuation

Despite their outstanding performance last quarter, small and mid caps' relative valuations remain attractive

Absolute & Relative Valuation Z-Score\* and 15-Year Percentile Ranking

Bottom 3 Expensive Valuation

Top 3 Attractive Valuation

		Valuation to Region 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/Region	S&P 500	100%	99%	100%	100%	3.18	—	—	—	—	—
	S&P MidCap 400 Index	99%	98%	91%	100%	2.28	35%	2%	5%	11%	-1.56
	S&P SmallCap 600 Index	98%	85%	56%	62%	1.32	95%	0%	5%	5%	-1.36
	S&P 500 Value	96%	100%	100%	100%	2.38	18%	3%	4%	5%	-1.56
	S&P 500 Growth	100%	100%	100%	100%	3.80	82%	100%	100%	100%	2.69
	MSCI EAFE	99%	98%	83%	99%	2.12	36%	1%	4%	6%	-1.28
	MSCI Europe	99%	97%	84%	100%	1.74	13%	1%	4%	6%	-1.66
	MSCI EM	100%	100%	78%	98%	2.74	44%	71%	20%	44%	-0.40
Major Countries	MSCI Canada	96%	89%	50%	90%	0.87	7%	0%	0%	1%	-1.88
	MSCI Japan	92%	89%	79%	98%	0.78	33%	27%	3%	11%	-0.93
	MSCI Germany	95%	97%	68%	99%	1.67	42%	0%	4%	2%	-1.57
	MSCI France	100%	97%	78%	100%	2.31	88%	13%	3%	4%	-0.69
	MSCI UK	99%	80%	14%	82%	1.17	90%	0%	2%	5%	-1.37
	MSCI China	94%	92%	81%	89%	1.02	30%	35%	34%	43%	-0.56
	MSCI Russia	100%	79%	77%	73%	1.23	87%	39%	32%	39%	-0.17
	MSCI Brazil	99%	76%	87%	88%	1.23	6%	0%	38%	30%	-1.26
	MSCI India	100%	100%	47%	87%	1.70	52%	39%	3%	13%	-0.73

Source: State Street Global Advisors, FactSet, as of December 31, 2020. \* The z-score is calculated as the average z-score of valuations based on different metrics. The z-score indicates how many standard deviations an element is from its historical 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 current valuations and  $\sigma$  is the standard deviation of monthly valuations over the past 15 years.



# Global Momentum

Emerging markets and US small caps topped momentum, as investors position towards segments benefiting most from a cyclical recovery

## 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	3.5%	19.0%	15.3%	4.1%	15.4%	10.9%	50	108	145	9
	S&P MidCap 400 Index	12.6%	22.9%	7.9%	6.5%	23.2%	15.7%	50	102	138	6
	S&P SmallCap 600	15.1%	28.8%	4.1%	9.7%	29.0%	17.6%	49	101	135	5
	S&P 500 Value	7.3%	13.3%	-1.8%	4.2%	13.4%	8.8%	48	99	136	12
	S&P 500 Growth	1.1%	23.1%	30.5%	4.5%	17.4%	12.4%	52	113	151	7
	MSCI EAFE	7.5%	19.1%	4.0%	7.0%	17.4%	9.7%	55	105	143	7
	Euro Stoxx	6.3%	19.7%	3.7%	4.2%	10.2%	5.7%	48	96	139	12
	MSCI EM	9.4%	29.5%	15.9%	6.7%	21.4%	13.7%	53	111	146	4
Major Countries	MSCI Canada	3.9%	19.2%	1.6%	3.8%	11.0%	6.8%	54	107	147	10
	MSCI Japan	10.7%	17.4%	9.8%	5.2%	15.2%	9.4%	53	98	126	9
	MSCI Germany	1.9%	20.0%	4.9%	5.7%	11.2%	5.2%	47	97	133	13
	MSCI France	11.6%	26.9%	2.6%	5.0%	13.9%	8.4%	49	95	133	10
	MSCI UK	5.2%	10.8%	-13.6%	4.8%	7.8%	2.9%	47	99	135	14
	MSCI China	5.1%	30.9%	34.2%	2.0%	14.7%	12.4%	49	107	146	7
	MSCI Russia	0.7%	-1.2%	-18.9%	9.2%	12.1%	2.7%	49	96	135	13
	MSCI Brazil	11.2%	23.8%	-22.0%	12.5%	26.7%	12.6%	51	98	130	8
	MSCI India	10.0%	34.0%	5.3%	8.6%	25.4%	15.5%	65	123	154	3

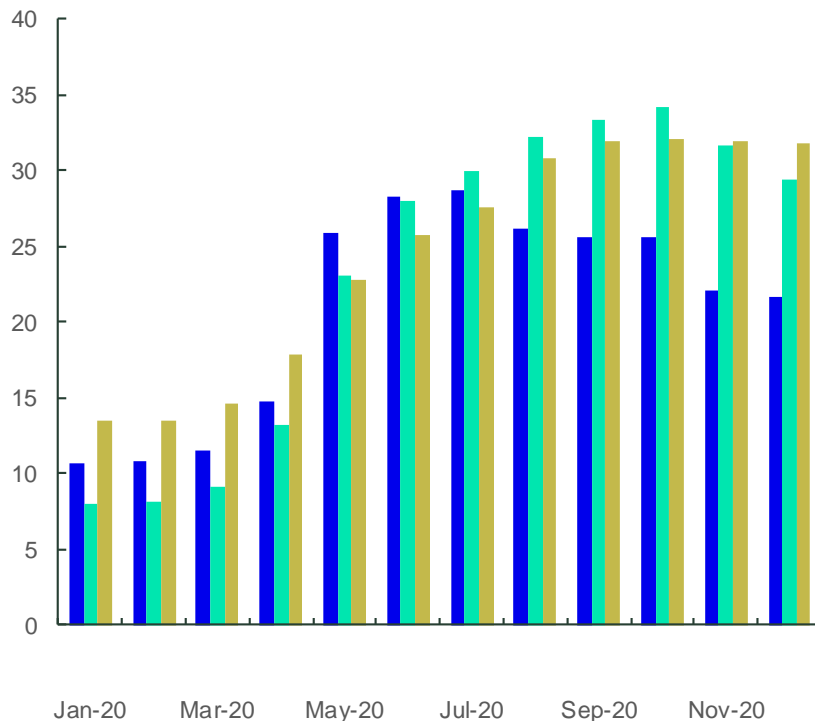
Source: State Street Global Advisors, Bloomberg Finance L.P., as of December 31, 2020. \*Momentum is calculated by calculating the 3-month, 6-month and 12-month price performance, not including the most recent month.

# Global Earnings

Global earnings are expected to increase by more than 20% in 2021 from a low base as analysts remain upbeat about the earnings recovery

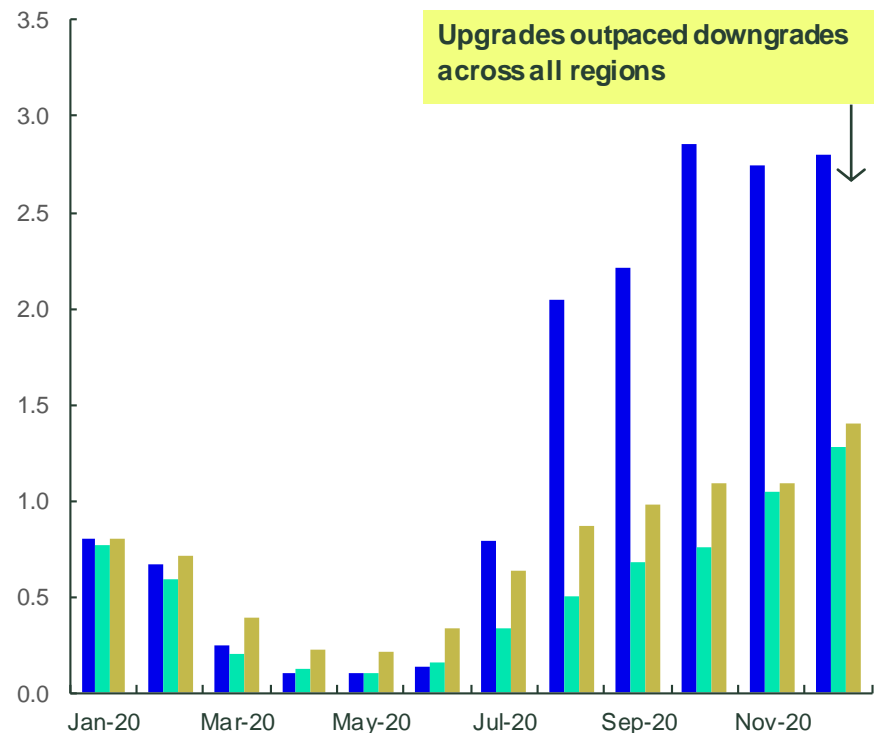
## 2021 EPS Growth Estimates (%)

■ S&P 500 ■ MSCI EAFE ■ MSCI Emerging Markets



## 2021 EPS Revision: 3-Month Up-to-Downgrade Ratio

■ S&P 500 Index ■ MSCI EAFE Index ■ MSCI Emerging Markets Index

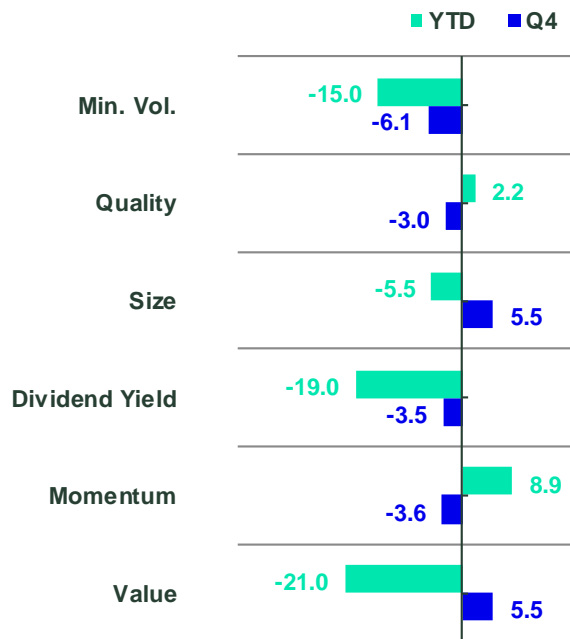


Source: FactSet, as of December 31, 2020. Characteristics are as of the date indicated, are subject to change, and should not be relied upon as current thereafter. EPS growth estimates are based on Consensus Analyst Estimates compiled by FactSet.

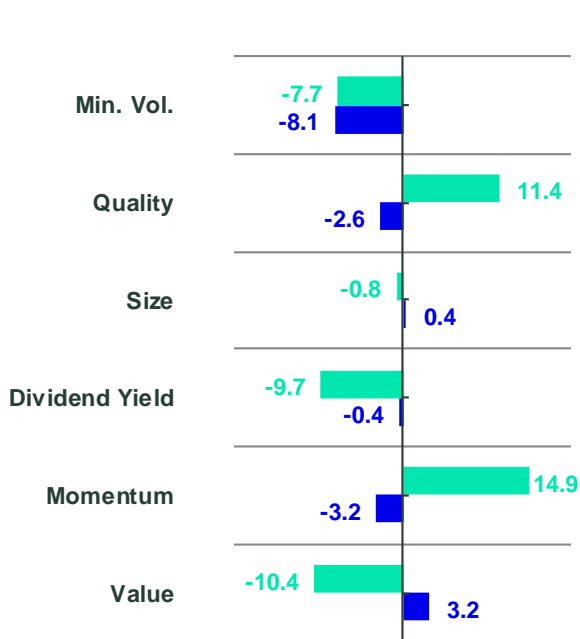
# Global Factor Trends

While Momentum dominated factor performance across all regions in 2020, Value rebounded globally recently, leading factor performance in Q4

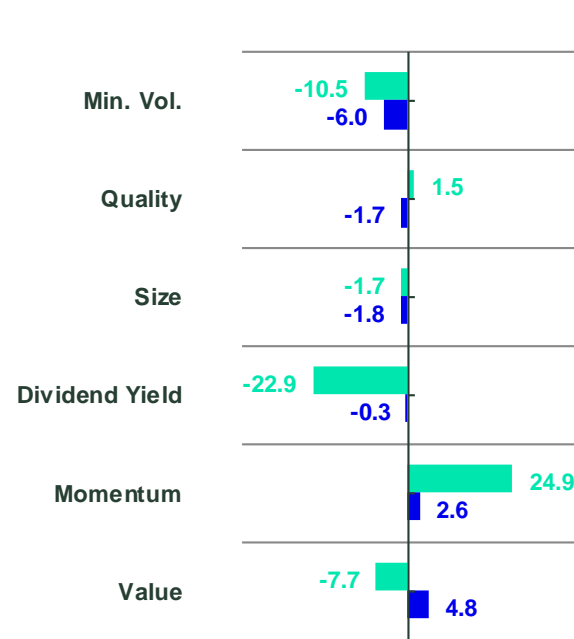
Period Excess Returns versus  
MSCI USA Index (%)



Period Excess Returns versus  
MSCI EAFE Index (%)



Period Excess Returns versus  
MSCI Emerging Markets Index (%)



**Min. Vol. and Dividend Yield continue to underperform amid the risk-on sentiment, extending their performance lag for 2020**

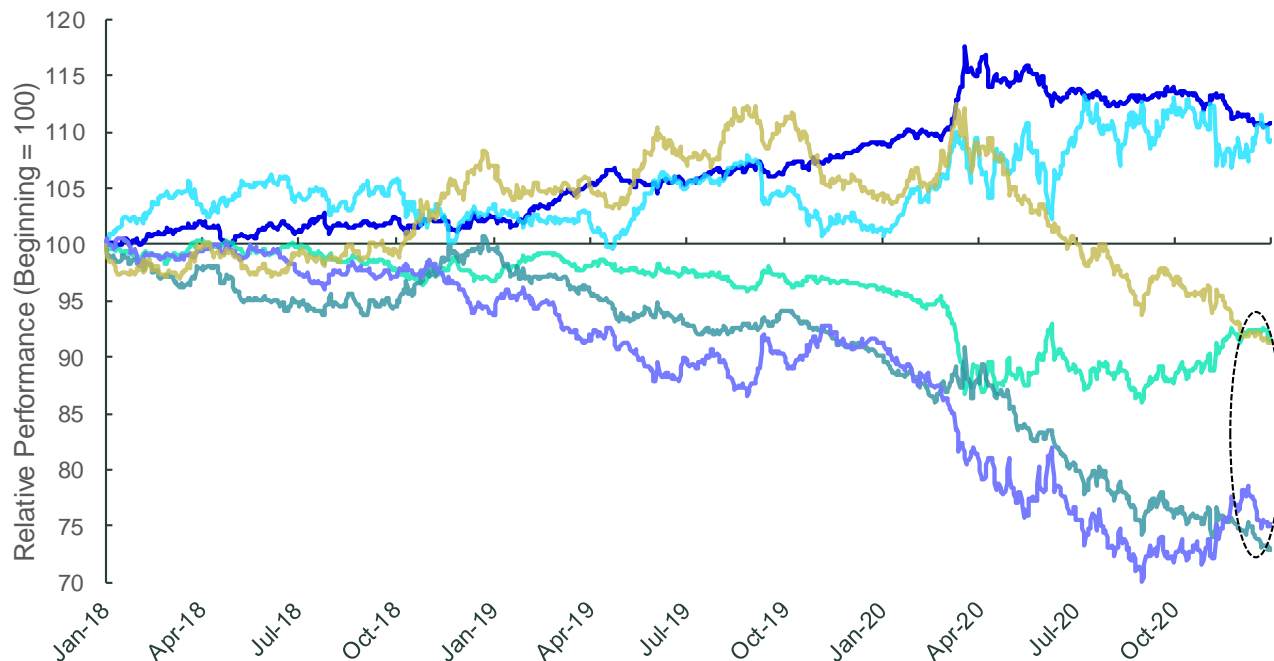
Source: Bloomberg Finance, L.P. As of December 31, 2020. **Past performance is not a reliable indicator of future results.** MSCI Minimum Volatility Index, MSCI Enhanced Value Index, MSCI Quality Index, MSCI Equal Weighted Index, MSCI High Dividend Yield Index and MSCI Momentum Index within each region 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

Despite their recent outperformance, Size and Value still lag Momentum and Quality by large margins over the longer term

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

Quality Size Dividend Momentum Value Min. Vol.



Value gave back some of recent gains near the end of December, although Size held up better

Source: Bloomberg Finance, L.P. as of December 31, 2020. **Past performance is not a reliable indicator 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. The indexes used above were compared to the MSCI USA Index. Index returns are unmanaged and do not reflect the deduction of any fees or expenses.

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# 3. Sectors

# Sector Flows & Returns

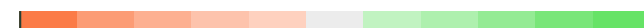
Financials and Energy have attracted around \$2 billion of inflows with strong performance last month, as the rotation to cyclical exposures gathers steam

Global Equity Sector Heatmap	Positioning					Returns		
	Prior Month Flow (\$M)	Trailing Three-Months Flow (\$M)	Trailing 12-Months Flow (\$M)	Current Short Interest (%)	One-Month Prior Short Interest (%)	Prior Month Return (%)	3-Month Return (%)	YTD Return (%)
Consumer Discretionary	650	2,117	4,506	6.9	6.7	2.53	8.04	33.30
Consumer Staples	-1,466	-1,285	-1,506	5.1	4.7	1.78	6.35	10.75
Energy	1,942	3,139	7,464	9.7	7.9	4.40	27.76	-33.68
Financials	2,009	5,206	2,131	10.8	12.1	6.25	23.19	-1.76
Health Care	292	1,160	8,191	16.7	16.4	3.91	8.03	13.45
Industrials	1,039	3,748	7,244	6.0	6.6	1.19	15.67	11.05
Materials	1,235	3,431	4,276	5.7	5.9	2.54	14.47	20.73
Real Estate	2,119	3,279	-2,274	2.9	3.1	1.50	4.94	-2.17
Technology	-738	1,398	8,930	3.3	3.3	5.74	11.81	43.89
Communications	140	797	3,264	1.4	1.6	3.08	13.82	23.61
Utilities	60	-76	364	13.3	12.8	0.70	6.58	0.52

Sectors with positive earnings growth in 2020 are out of favor in Q4 in terms of flows

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 December 31, 2020. **Past performance is not a reliable indicator of future results.** Under Current Short Interest, Cells that are highlighted green have a lower Short Interest level than the Prior Month. Cells that are highlighted Red have a Short Interest higher than the prior month. All figures are in USD.

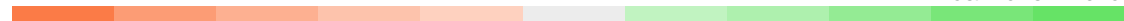
# Thematic Sector Flows & Returns

Thematic ETFs took in \$42 billion in 2020 — representing 81% organic growth in AUM, with two thirds of the funds outperforming the S&P 500 Index in 2020

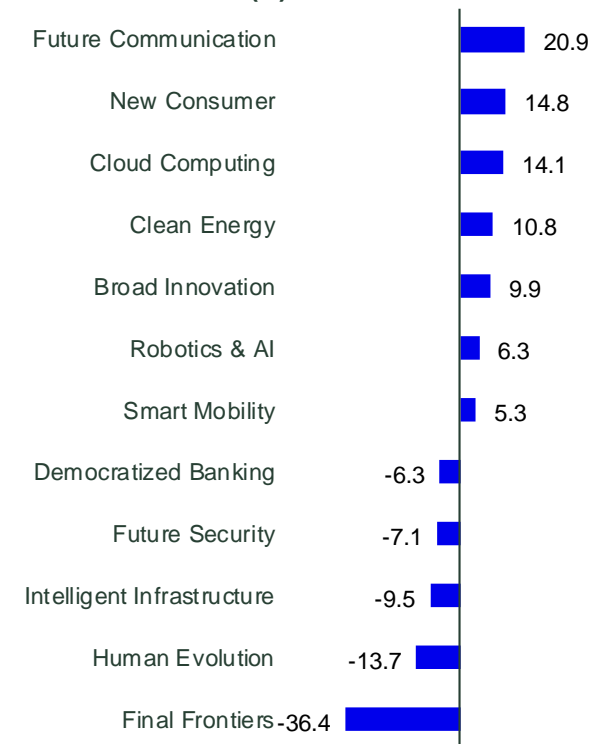
Thematic NextGen Trends	Flow		Performance				Size	
	Prior Month (\$M)	Trailing 3- Mos. (\$M)	Prior Mo. Avg. Return (%)	% of Companies beating S&P 500 (Prior Mo.)	Trailing 3- Mos. Avg. Return (%)	% of Companies beating S&P 500 (Trailing 3- Mos.)	Current AUM	# of Funds
Broad Innovation	3,310	5,738	6.66	93%	23.02	93%	24,648	18
Clean Energy	2,621	6,185	9.16	89%	31.76	89%	22,279	28
Cloud Computing	239	465	7.76	100%	22.49	100%	9,028	5
Democratized Banking	706	1,186	6.35	73%	20.15	55%	3,120	8
Final Frontiers	9	9	4.83	100%	22.98	100%	56	2
Future Communication	1,365	2,882	8.53	100%	23.43	100%	10,380	16
Future Security	525	656	16.71	100%	25.88	100%	5,589	6
Human Evolution	3,424	4,844	2.20	54%	25.19	73%	10,726	27
Intelligent Infrastructure	47	119	7.64	100%	26.84	100%	497	4
New Consumer	258	872	4.68	60%	17.24	60%	2,998	13
Robotics & AI	780	1,263	7.59	92%	26.19	92%	6,629	11
Smart Mobility	196	358	8.37	100%	36.45	100%	597	6

Worst-Performing Thematic Sector  
Least Flows in Period

Best-Performing Thematic Sector  
Most Flows in Period



## YTD Category Average Excess Return over the S&P 500 (%)



Source: State Street Global Advisors, Bloomberg Finance, L.P., as of December 31, 2020. **Past performance is not a reliable indicator of future results.** All figures are in USD.

# Sector Scorecard

Momentum in Industrials and Materials has strengthened, while earnings sentiment and price momentum in Technology have waned

	Sector Composite Z-Score*		
	Valuation Composite Score	Momentum Composite Score	Earnings Sentiment Composite Score
Communication Services	-0.27	0.17	0.38
Consumer Discretionary	-1.21	0.49	0.66
Consumer Staples	0.03	-0.26	0.01
Energy	1.13	-1.53	-1.82
Financials	0.54	0.29	0.29
Health Care	0.61	-0.48	0.21
Industrials	-0.32	0.97	0.68
Information Technology	-1.10	0.49	0.12
Materials	-0.22	1.07	0.04
Real Estate	0.51	-0.84	-0.62
Utilities	0.15	-0.37	0.07

Financials and Health Care have shown both attractive valuations and strong earnings sentiment

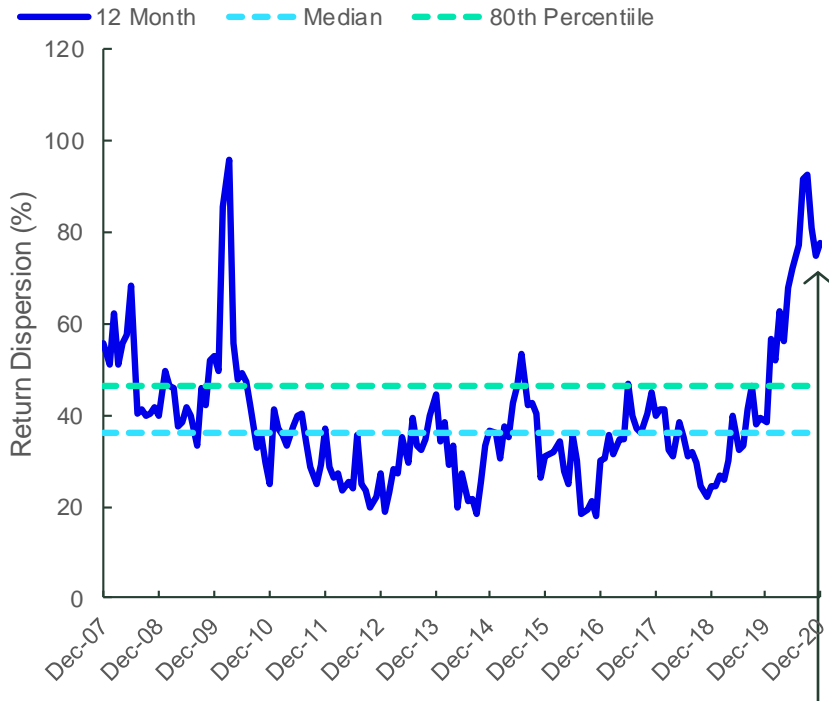
Source: State Street Global Advisors, FactSet, Bloomberg Finance, L.P. as of December 31, 2020. Green shading is top 3, red shading is bottom 3. \* The scorecard uses z-score for each metric to standardize numbers across sectors and show relativeness among sectors. Composite score is calculated by equally 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 Trends

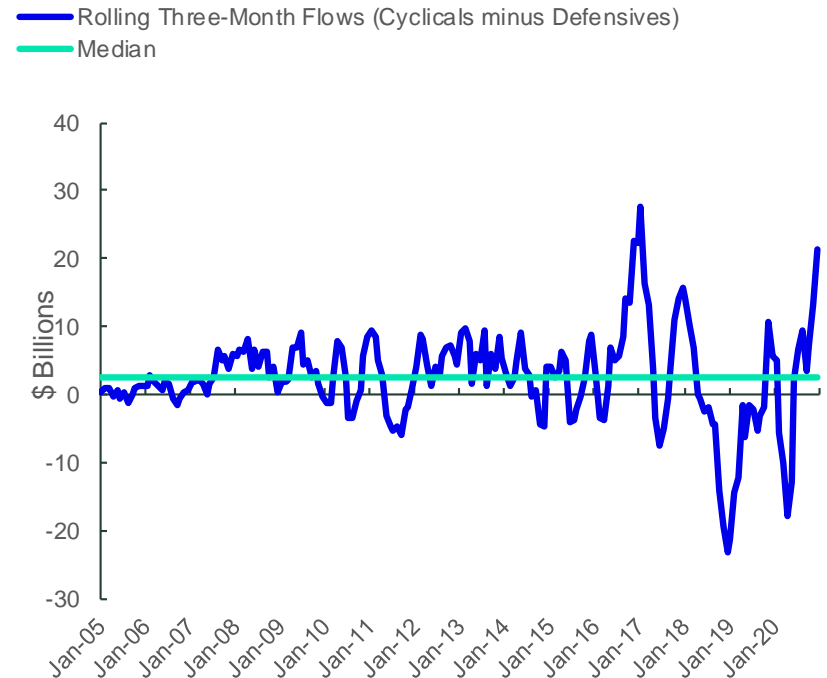
Cyclical sector flows outpaced defensive sectors by \$21 billion in Q4, as investors are positioning for a cyclical recovery

S&P 500 Sector Rolling 12-Month Return Dispersion (Since 2007)



**Sector return dispersions declined from their August peak but remain well above their pre-pandemic level**

Rolling 3-Month Sector Flows Cyclical minus Defensive



Source: FactSet, as of 12/31/2020. Characteristics 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. All figures are in USD.

# Sector Earnings

Although analysts have been more optimistic about the earnings rebound in 2021, 2021 EPS estimates for cyclical sectors are still below their pre-pandemic levels

## S&P 500 Sector Earnings Sentiment

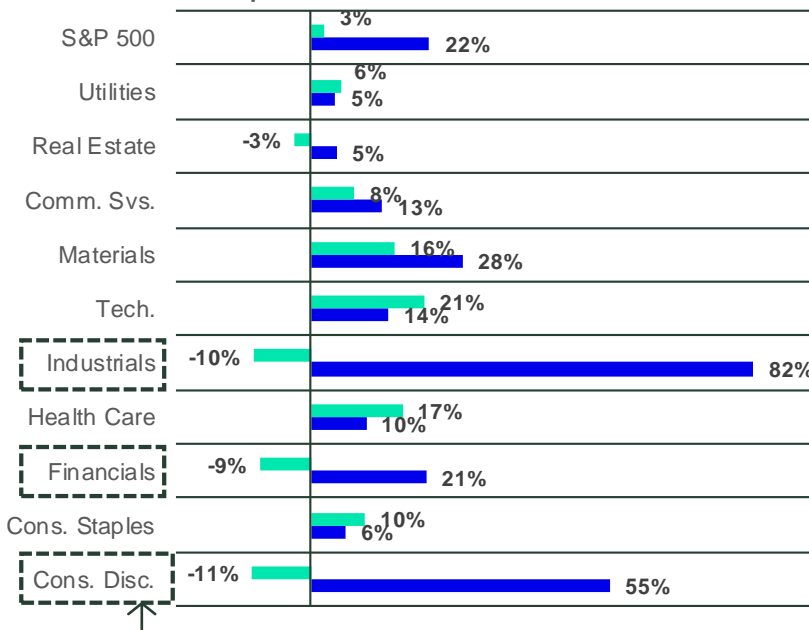
Sector	3-Month Changes to 2021 EPS Est.	2021 EPS Est. 3M Upgrade to Downgrade Ratio
Consumer Discretionary	6.28%	2.88
Consumer Staples	2.18%	4.33
Energy	0.99%	3.17
Financials	5.63%	7.71
Health Care	2.69%	1.74
Industrials	-1.01%	3.29
Information Technology	2.72%	3.73
Materials	7.03%	2.50
Communication Services	2.28%	2.71
Real Estate	-0.92%	0.53
Utilities	0.58%	3.00
S&P 500	3.03%	2.8

Financials have shown broader earnings upgrades and greater upward revisions than most sectors

## 2021 EPS Est. Comparison

■ 2021 EPS Est. Compared to 2019

■ 2021 EPS Est. Compared to 2020



Certain cyclical sectors' 2021 EPS estimates are still below their 2019 levels

Source: FactSet, as of 12/31/2020. Characteristics 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.

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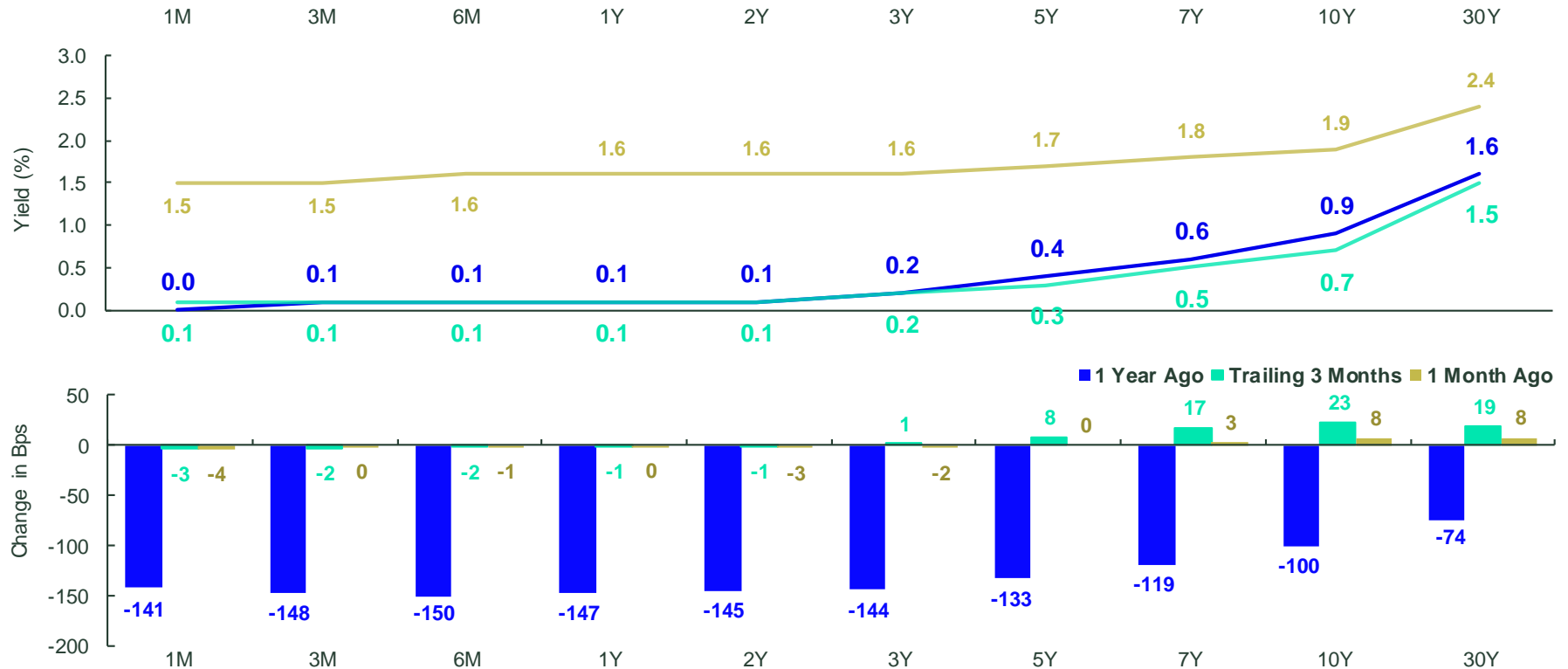
# 4. Fixed Income

# Yield Curve

The yield curve has steepened further, as rising inflation expectations and brighter growth prospects drive long-term yields higher

US Treasury Curve

US Treasury Active: 12/31/2020 9/30/2020 12/31/2019



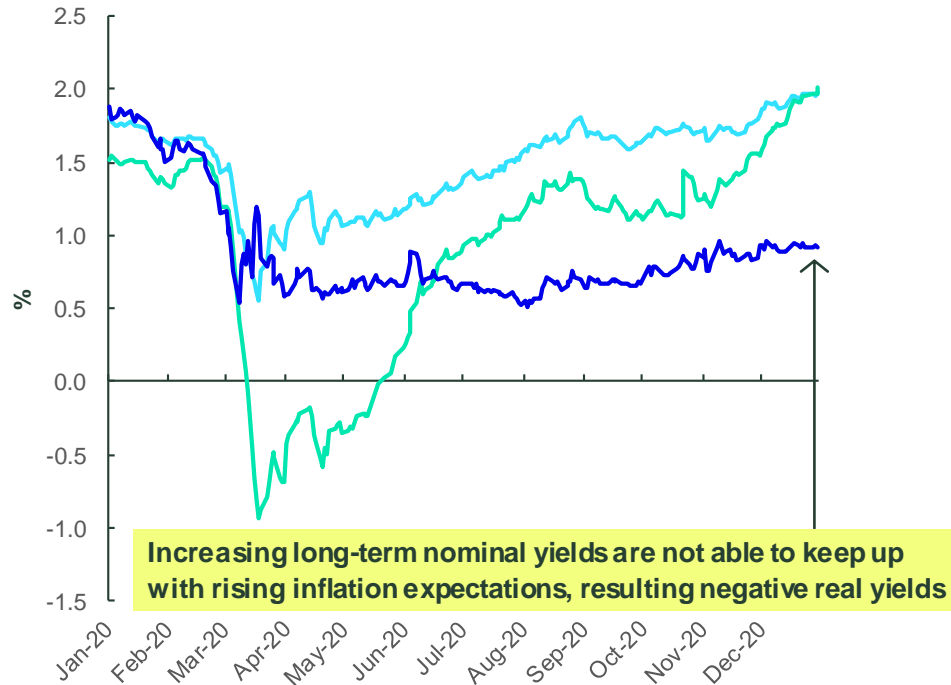
Source: Bloomberg Finance, L.P. as of December 31, 2020. Past performance is not a reliable indicator of future results.

# Rates and Inflation

10-and-2-year yield spreads widen along with increasing 10-year yields to their widest level in three years, as the Fed pledged to keep rates near zero

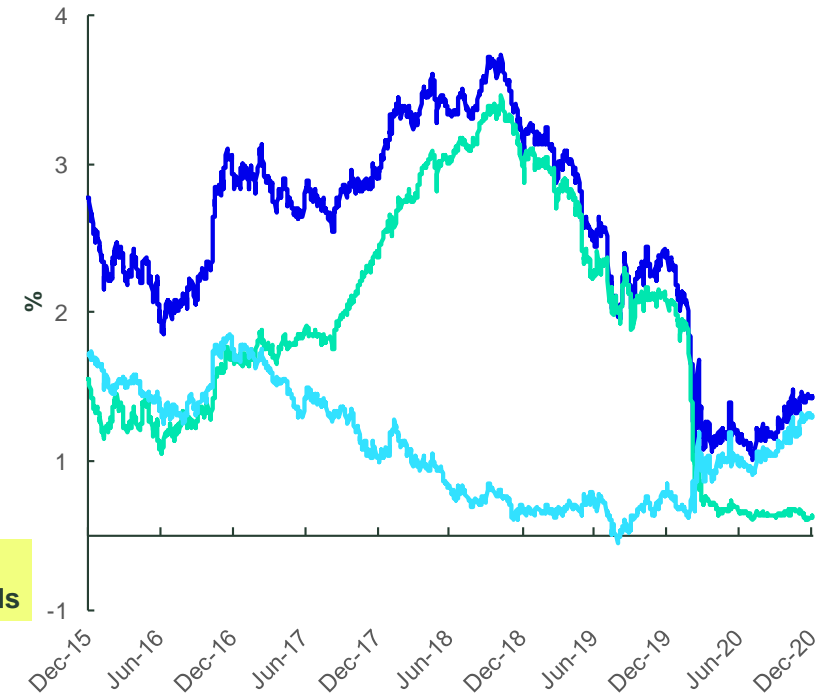
## Inflation Expectations

10-Yr Breakeven Rate  
2-Yr Breakeven Rate  
10-Year Yield



## 10- and 2-Year Spreads

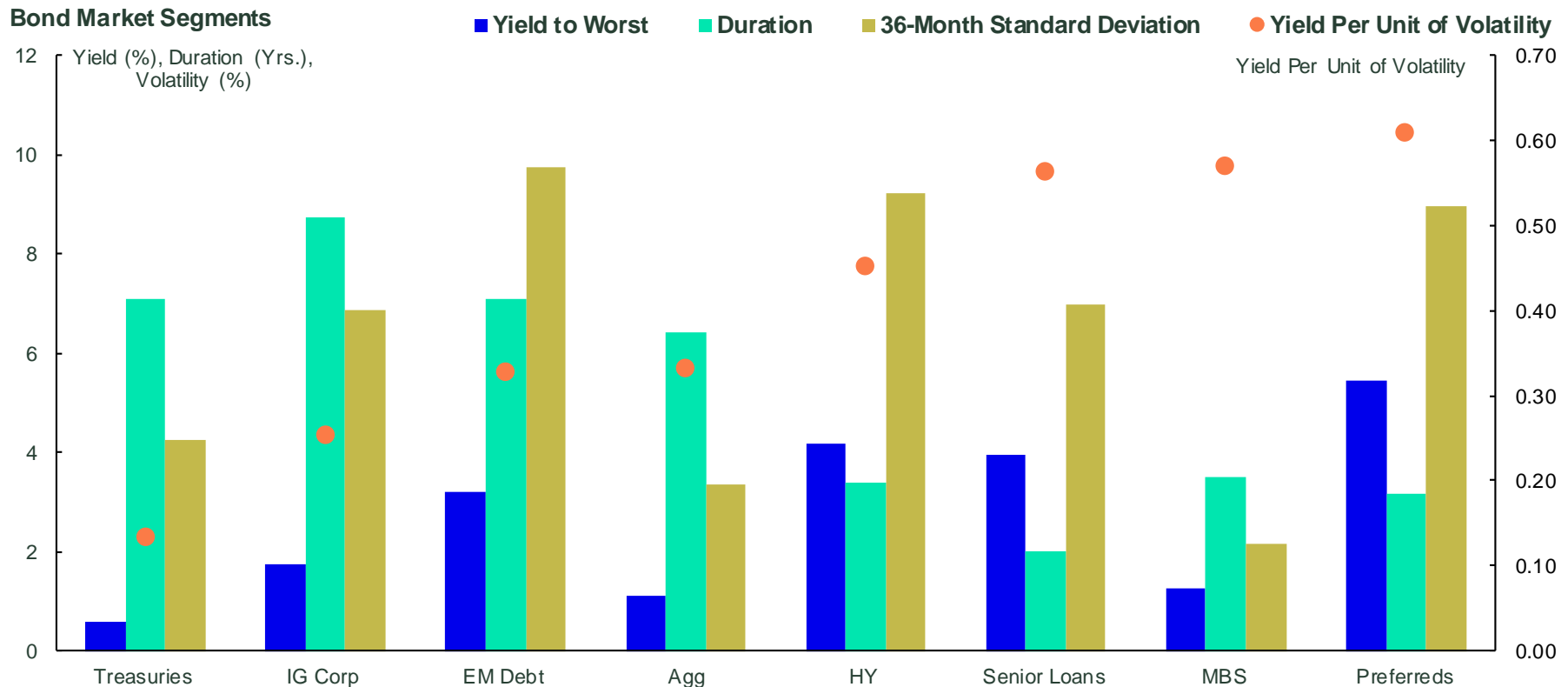
US 10-Year Yield  
US 2-Year Yield  
10-and-2-year Yield Spreads



Source: Bloomberg Finance, L.P. as of December 31, 2020. **Past performance is not a reliable indicator of future results.** The term premium is the excess yield that investors require to commit to holding a long-term bond instead of a series of shorter-term bonds.

# Bond Market Overview

In this low-yield environment, investors may want to target bond exposures with attractive yields per unit of volatility for income



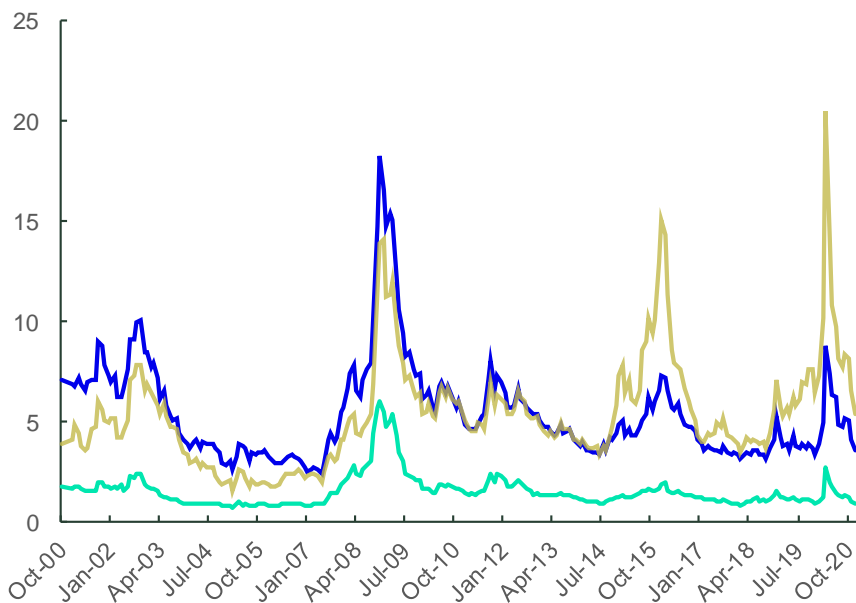
Source: FactSet, Bloomberg Finance L.P. as of December 31, 2020. Agg= Bloomberg Barclays US Aggregate Bond Index. Treasuries = Bloomberg Barclays US Treasury Index. IG Corporate = Bloomberg US Corporate Bond Index. MBS = Bloomberg Barclays US Securitized MBS, ABS and CMBS Index. Senior Loans = S&P LSTA US Leveraged Loan 100 Index. HY = Bloomberg Barclays US Corporate High Yield Loans Index, EM Debt = Bloomberg Barclays EM Local Currency Government Diversified Index. Preferreds= Wells Fargo Hybrid and Preferred Securities Aggregate Index. \*Yield to worst used for all fixed income sectors, with current yield used for preferreds. **Past performance is not a reliable indicator of future results.**

# Credit Trends

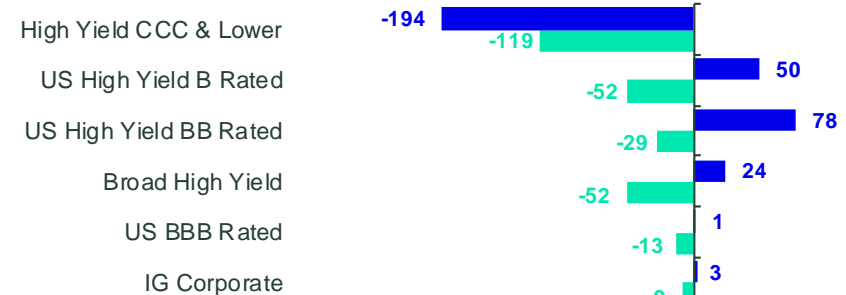
High yield spreads were tightened further to one third below their long-term averages amid the risk-on sentiment

## Credit Spreads (%)

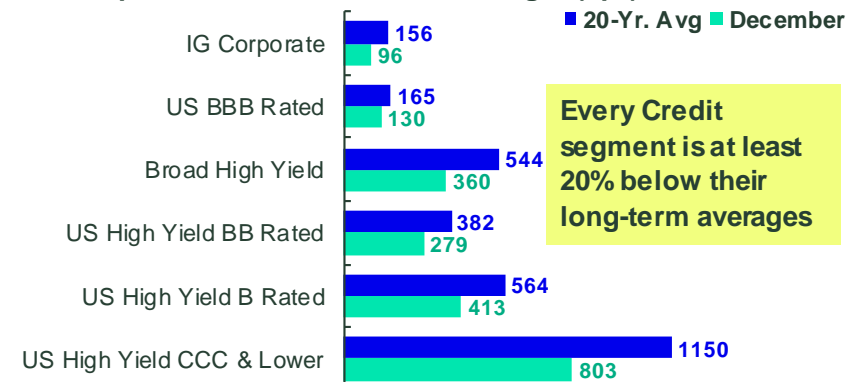
— Bloomberg Barclays US Corporate High Yield Index  
— Bloomberg Barclays US Corporate Index  
— Bloomberg Barclays High Yield Energy Index



## Credit Spread Changes in Basis Points



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



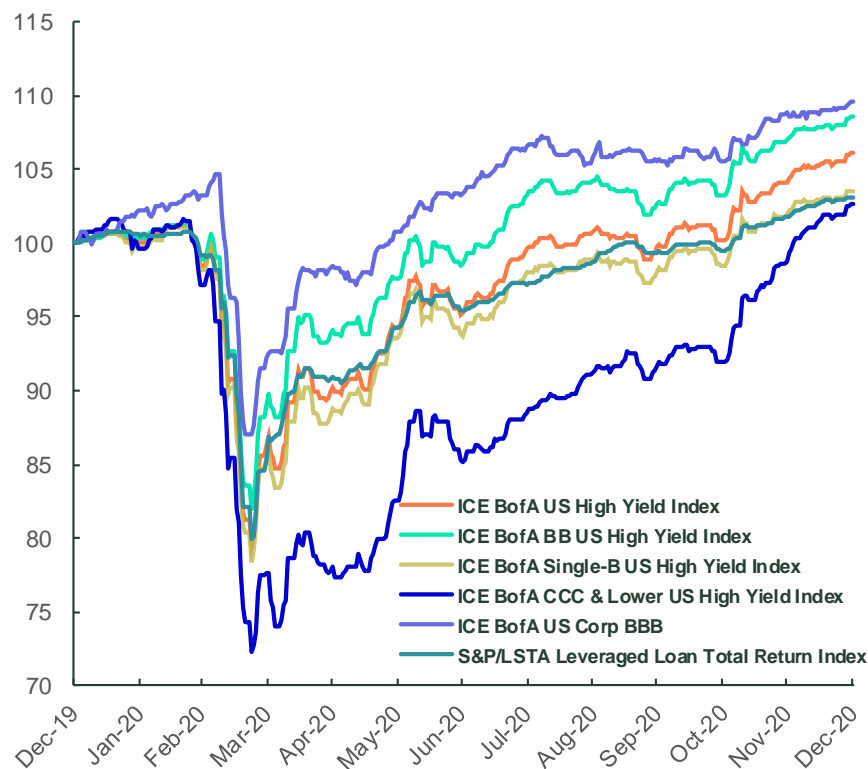
**Every Credit segment is at least 20% below their long-term averages**

Source: Bloomberg Finance, L.P. BofA Merrill Lynch, as of December 31, 2020. US High Yield CCC & Lower = BofA ML US High Yield CCC & Lower Rated Index. US High Yield B Rated = BofA ML 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 reliable indicator 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.**

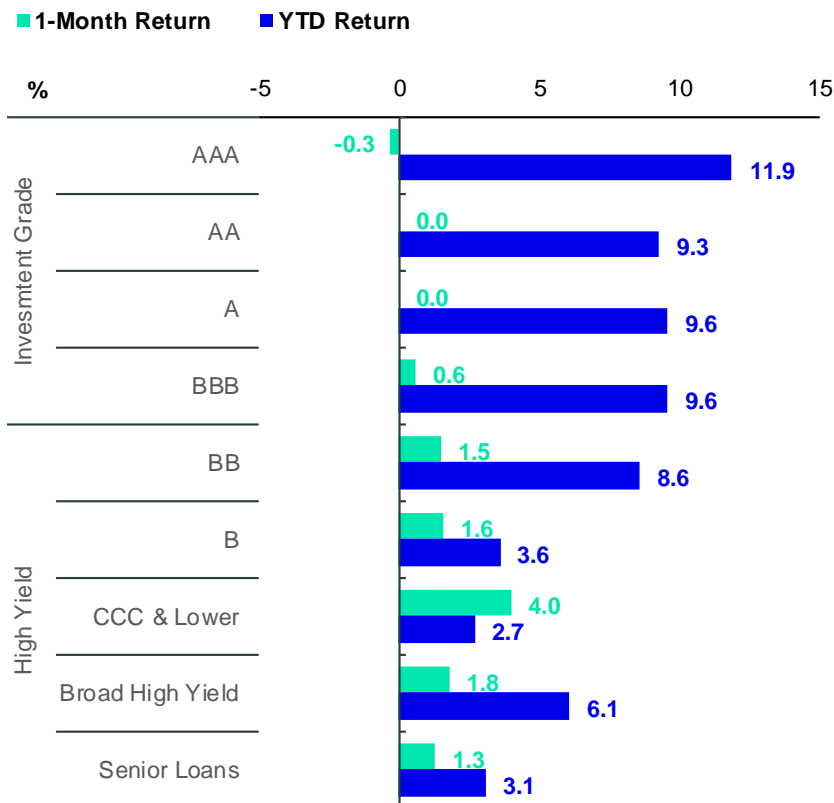
# Credit Trends (continued)

The lowest-rated segment continue to lead performance last month but is still lagging investment grade segments by large margins

Credit Segment Performance (1 Year) Base = 100



IG and HY Performance by Credit Rating



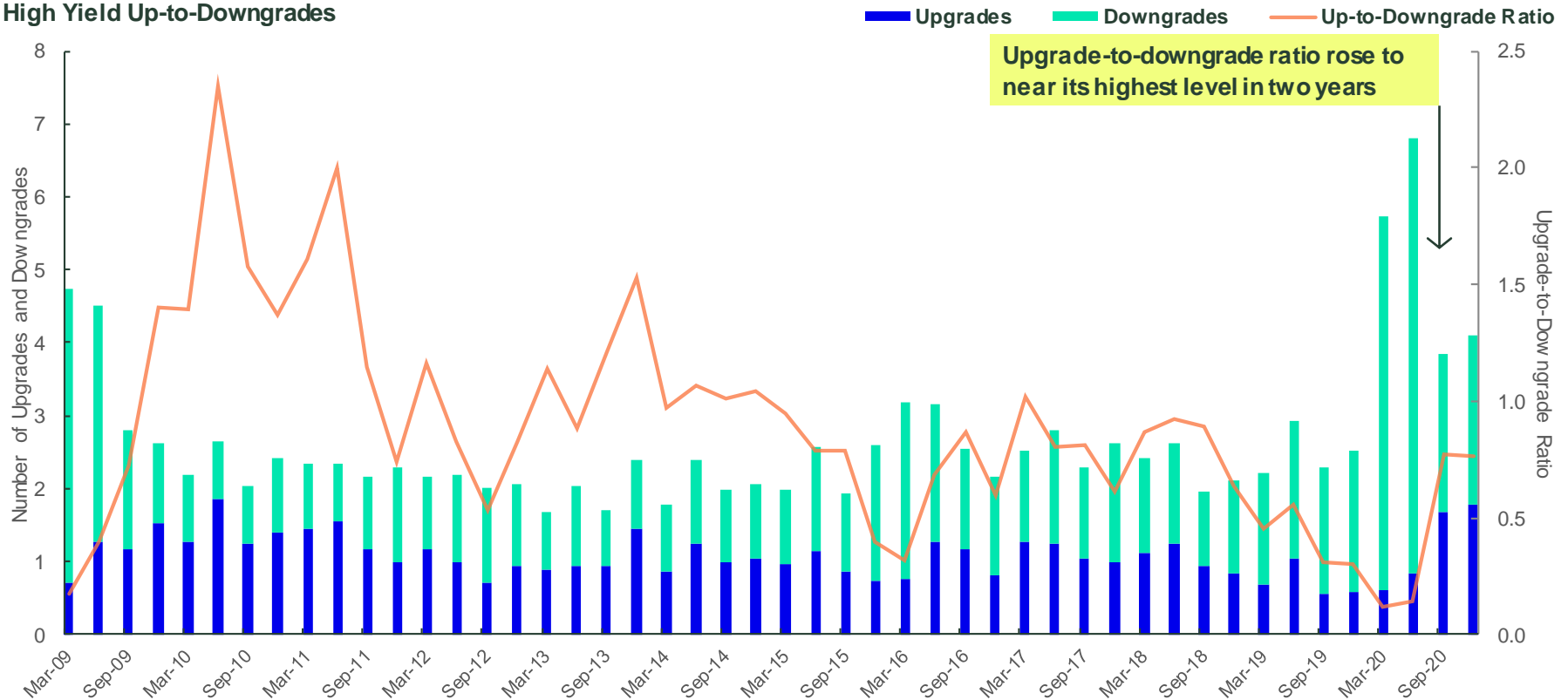
Source: Bloomberg Finance, L.P. BofA Merrill Lynch, as of December 31, 2020. **Past performance is not a reliable indicator of future results. Performance of an index is not illustrative of any particular investment. It is not possible to invest directly in an index.**



# Credit Trends (continued)

Rating actions have turned more positive on the heel of economic rebound in the second half of 2020

High Yield Up-to-Downgrades



Source: Bloomberg Finance, L.P. as of December 31, 2020. Based on S&P ratings.

# 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	15,229	177,537	85,242	183,805
	Global	13,330	40,534	23,724	40,583
	International-Developed	7,812	31,578	14,743	31,706
	International-Emerging Markets	6,364	-49	10,171	-28
	International-Region	466	-623	-172	-621
	International-Single Country	2,502	1,890	8,483	1,826
	Currency Hedged	-221	-5,031	-532	-5,059
US Size & Style	Broad Market	10,384	57,948	27,032	57,933
	Large-Cap	-9,658	60,450	16,482	65,591
	Mid-Cap	957	-2,444	3,548	-2,205
	Small-Cap	6,874	18,022	16,679	18,628
	Growth	1,459	26,709	692	26,944
	Value	5,185	23,326	15,150	23,581
Fixed Income Sectors	Aggregate	11,396	76,430	24,631	76,818
	Government	-2,221	9,218	-9,780	9,119
	Inflation Protected	2,598	12,960	5,464	13,027
	Mortgage-Backed	649	11,171	5,192	11,197
	IG Corporate	237	59,128	10,479	59,237
	High Yield Corp.	572	20,986	3,547	21,029
	Bank Loans	798	-1,585	1,318	-1,585
	EM Bond	807	2,940	3,291	2,979
	Preferred	1,070	5,640	2,974	5,681
	Convertible	482	695	815	695
	Municipals	2,385	14,480	5,390	14,552
Government ETF Maturity Focus	Ultra Short	-1,774	792	-3,885	1,065
	Short Term	-198	6,653	-2,014	6,440
	Intermediate	-1,274	-779	-4,800	-830
	Long Term (>10 yr)	983	1,091	754	982

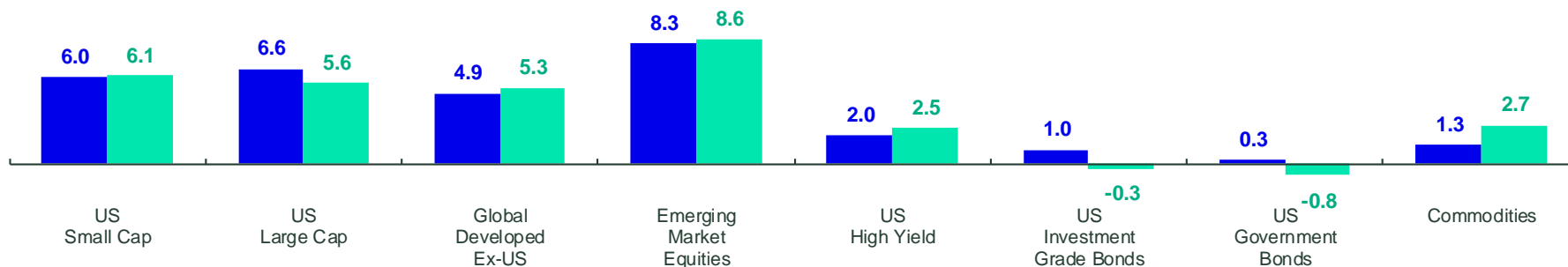
Source: State Street Global Advisors, Bloomberg Finance, L.P. As of December 31, 2020. Segments with top 2 inflows in each category are shaded in green. Segments with bottom 2 flows in each category are shaded in orange. Sectors, asset classes and flows are as of the date indicated, are subject to change,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

## Appendix B

# Asset Class Forecast

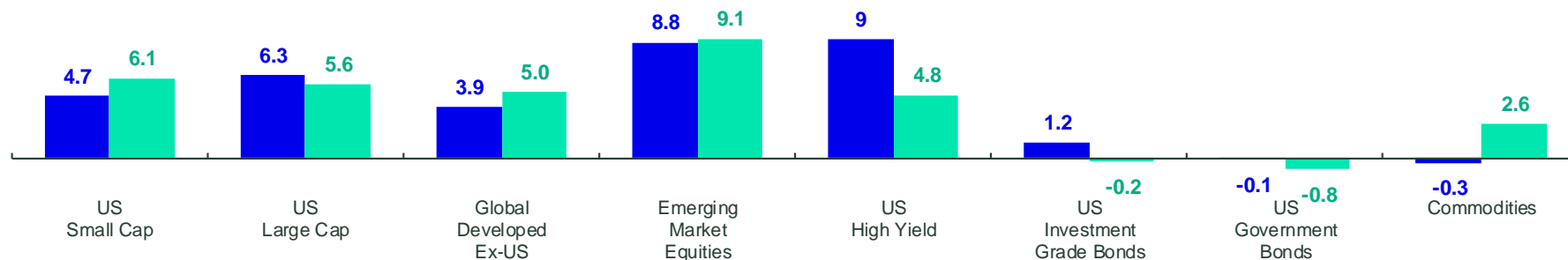
Forecasted Return (%) as of 09/30/2020

■ 1 Year ■ 3-5 Year



Forecasted Return (%) as of 06/30/2020

■ 1 Year ■ 3-5 Year



Source: State Street Global Advisors Investment Solutions Group. The forecasted returns are based on SSGA's Investment Solutions Group's 09/30/2020 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 not a reliable indicator 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
	Valuation	Relative Valuation (P/B, P/E, NTM P/E, P/S)
		Absolute Valuation (P/B, P/E, NTM P/E, P/S)
	Earnings Sentiment	Earnings Revision (Changes to EPS Estimates, Upgrade to Downgrade Ratio)
		Earnings Surprise (The Magnitude and Breadth of Earnings Surprise)
	Momentum	Price Returns 3-Months, 6-Months, 12-Months

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.

**Bloomberg US Pure Value Index:** The return of the top quintile less the bottom quintile value stocks.

**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.

# 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 yield 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 50 Index:** Europe's leading blue-chip index for the Eurozone, provides a blue-chip representation of super-sector leaders in the Eurozone. The index covers 50 stocks from 12 Eurozone countries.

**EBITDA:** Earnings before Interest Taxes Depreciation and Amortization

**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 Japan 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.



## 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&P 500 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.

**Quintile Spread:** The spread between the top 20% of a data set and the bottom 20% of a data set.

**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 Factor:** A factor which screens for companies with a higher than average dividend 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.

# Important Disclosures

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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 risks 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.

ETFs trade like stocks, are subject to investment risk, fluctuate in market value and may trade at prices above or below the ETF's net asset value. ETFs typically invest by sampling an index, holding a range of securities that, in the aggregate, approximates the full index in terms of key risk factors and other characteristics. This may cause the fund to experience tracking errors relative to performance of the index.

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## Appendix E

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