Raising your Investor IQ

A comprehensive view of economic and market conditions

September 30, 2021

NORTH STAR
Advisory Group LLC

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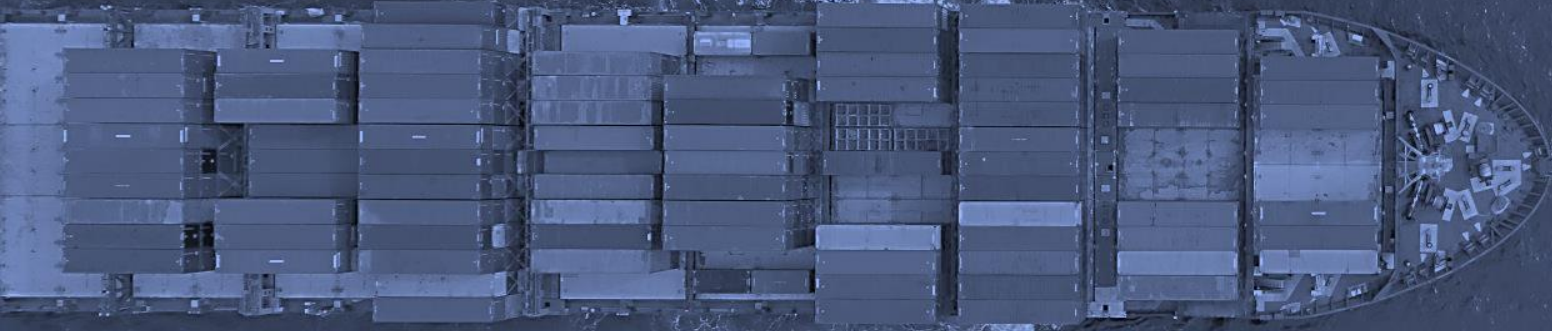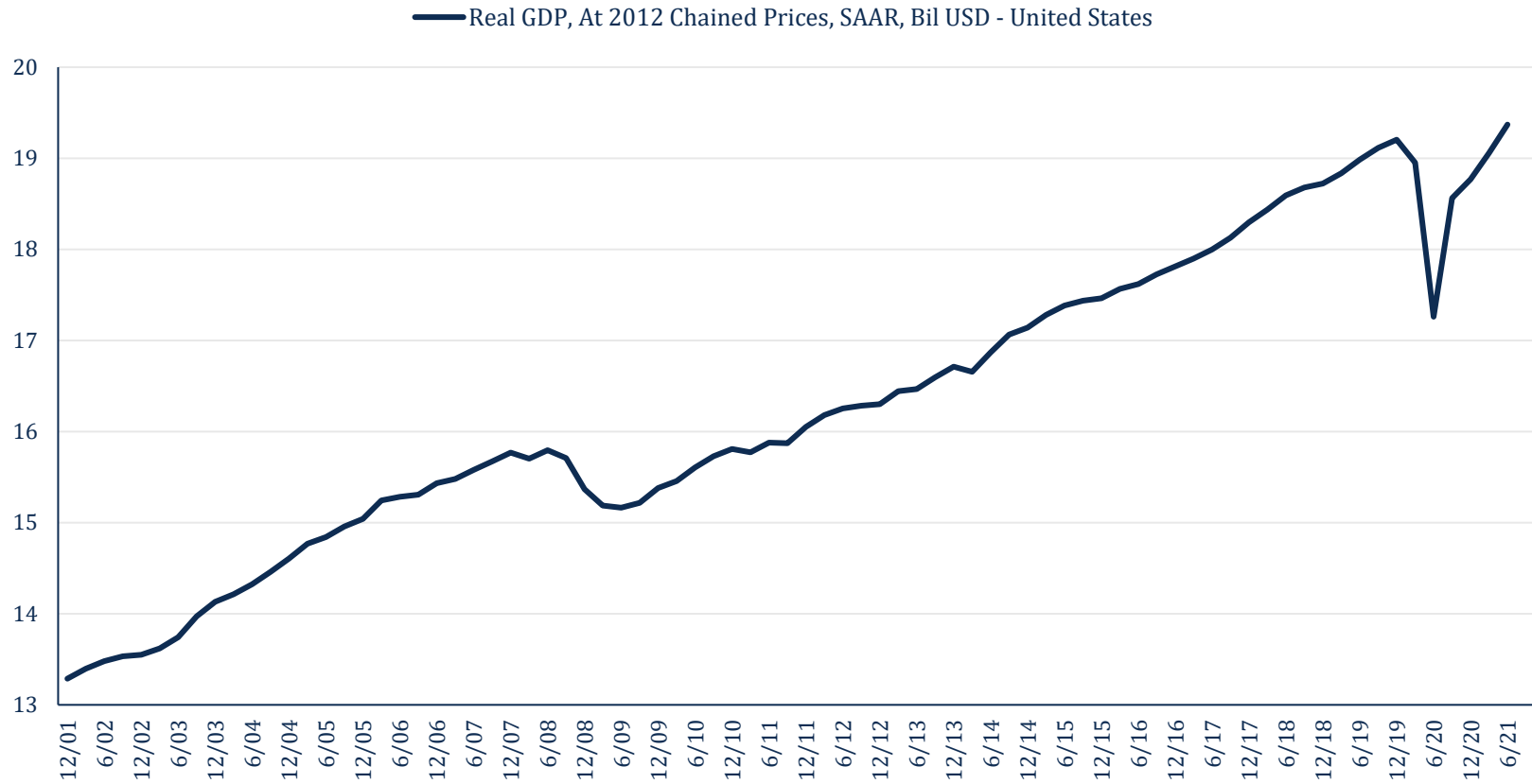
U.S. Real GDP is measured quarterly in $ Billions, adjusted for inflation.
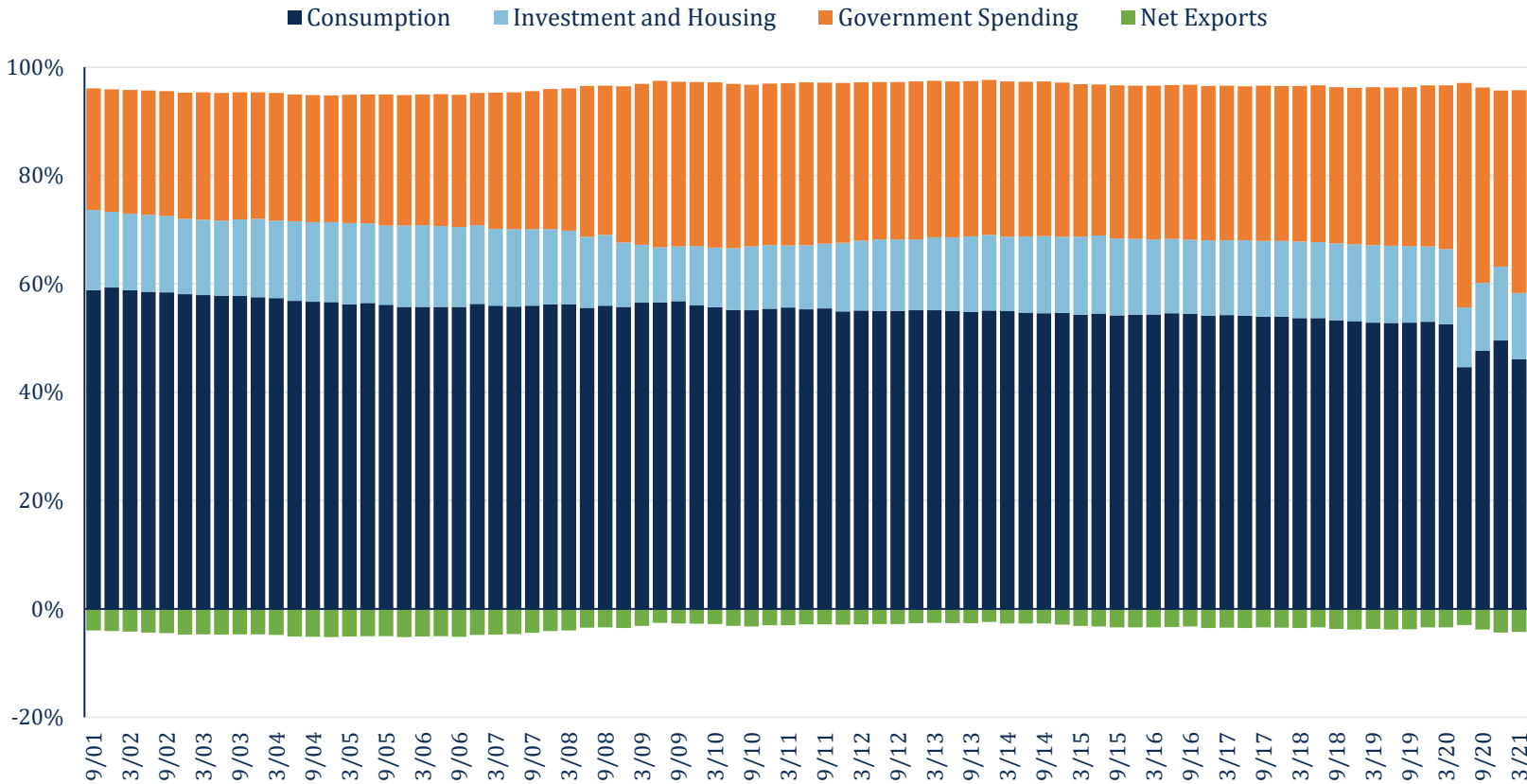
Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Economy

U.S. Nominal Gross Domestic Product – Component % of Contribution

Legend: ■ Consumption ■ Investment and Housing ■ Government Spending ■ Net Exports
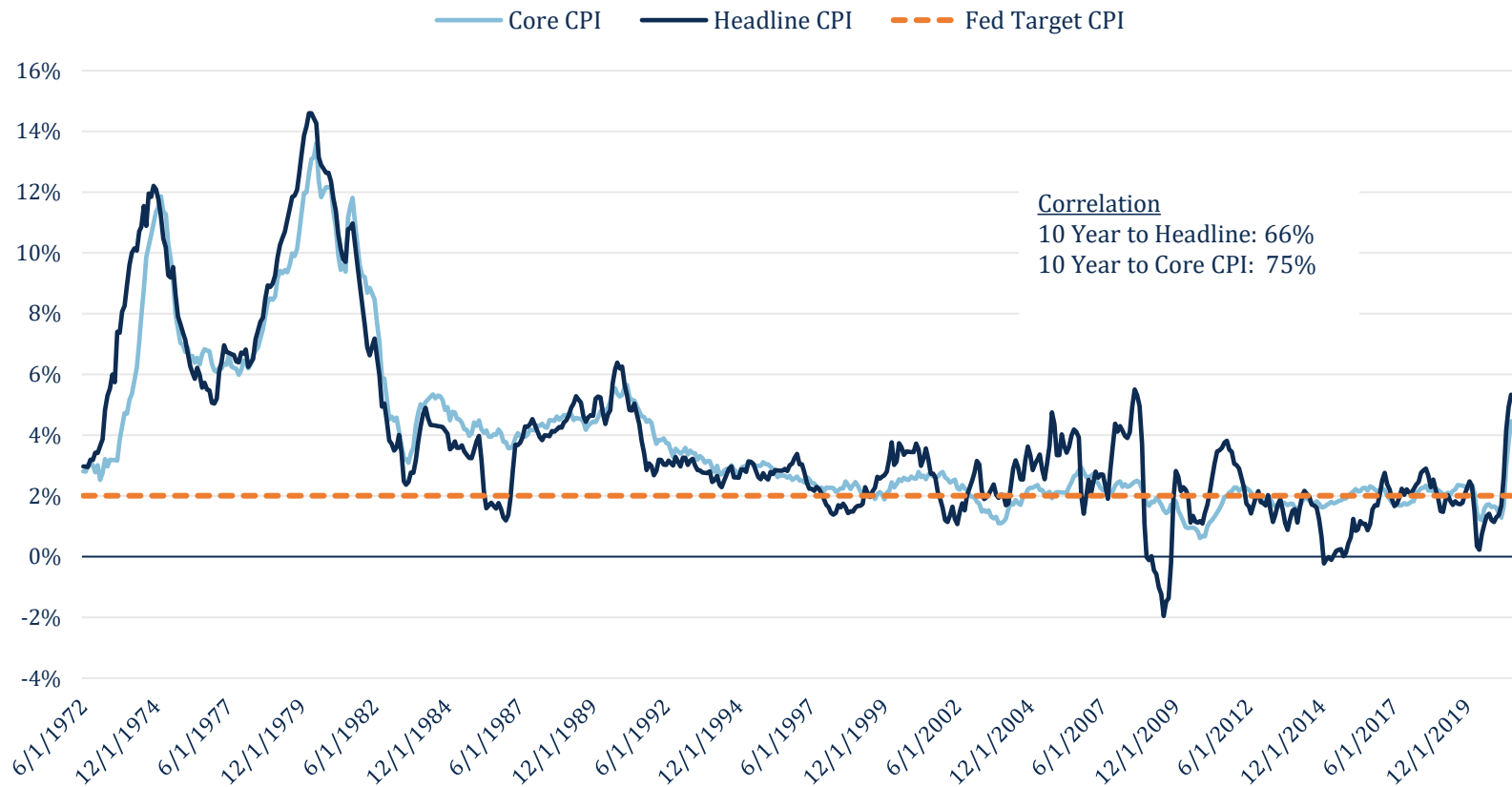
Components of GDP are measured on an actual quarterly basis, over a 20-year historic timeline.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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Economy

Since October 1971, the U.S. 10 Year treasury rate has had a 65% correlation to CPI measured by all items. When food and energy are removed from CPI calculations, the correlation jumps to 75%. From a macroeconomic perspective, the federal reserve will raise policy rates when inflation runs too high. Although, in current times due to Covid-19, the federal reserve has held off rate hikes while inflation is running hot.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Continued Claims for Unemployment insurance under state programs, SA, Persons - United States

Job Openings, Total Nonfarm, Total US, Level, In Thousands, SA, (JOLTS) - United States

Unemployment Rate, 16 Years and Over, SA, Percent - United States
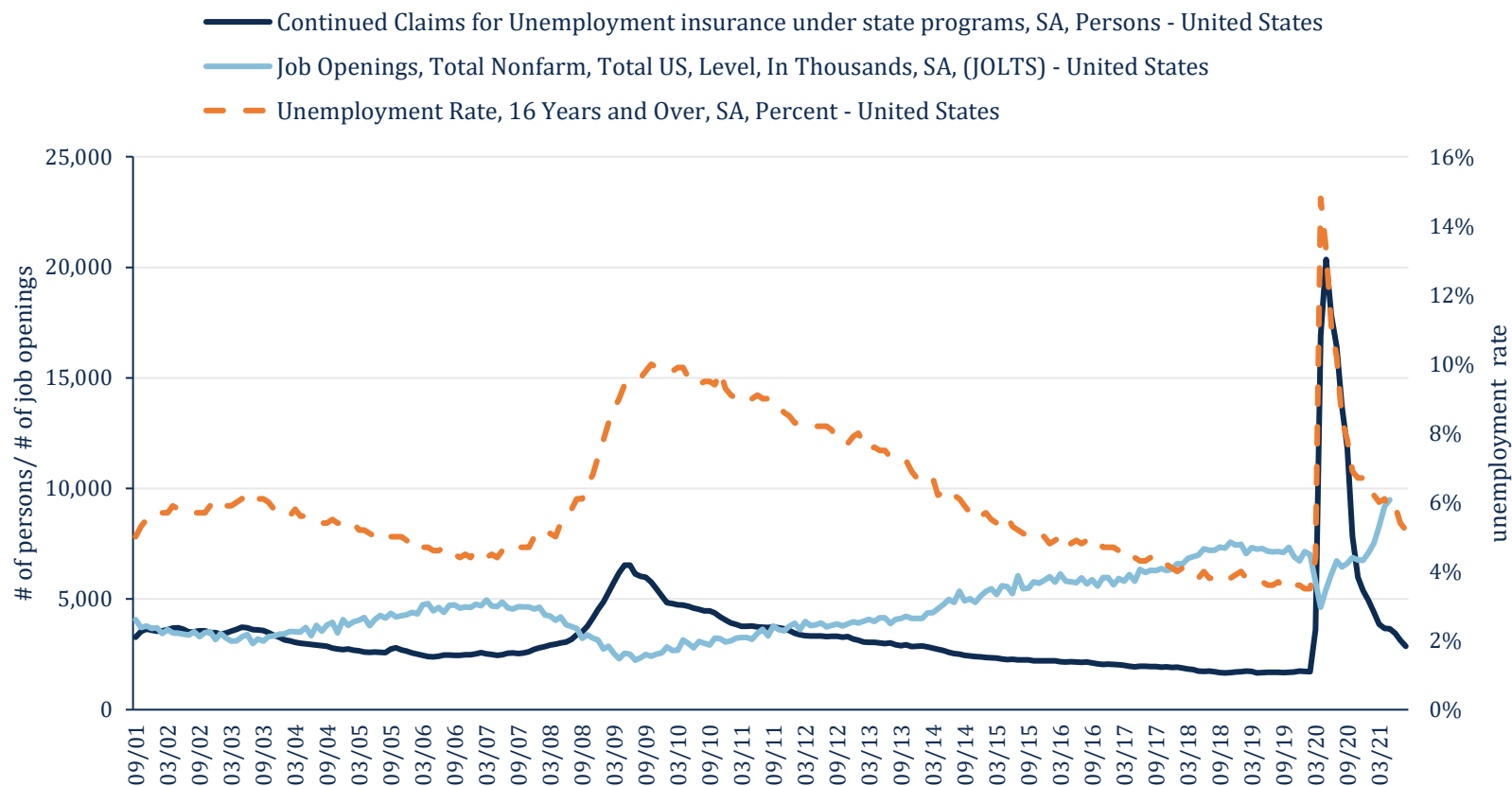
Currently, there are more job openings (Jolts) than there are unemployed persons.

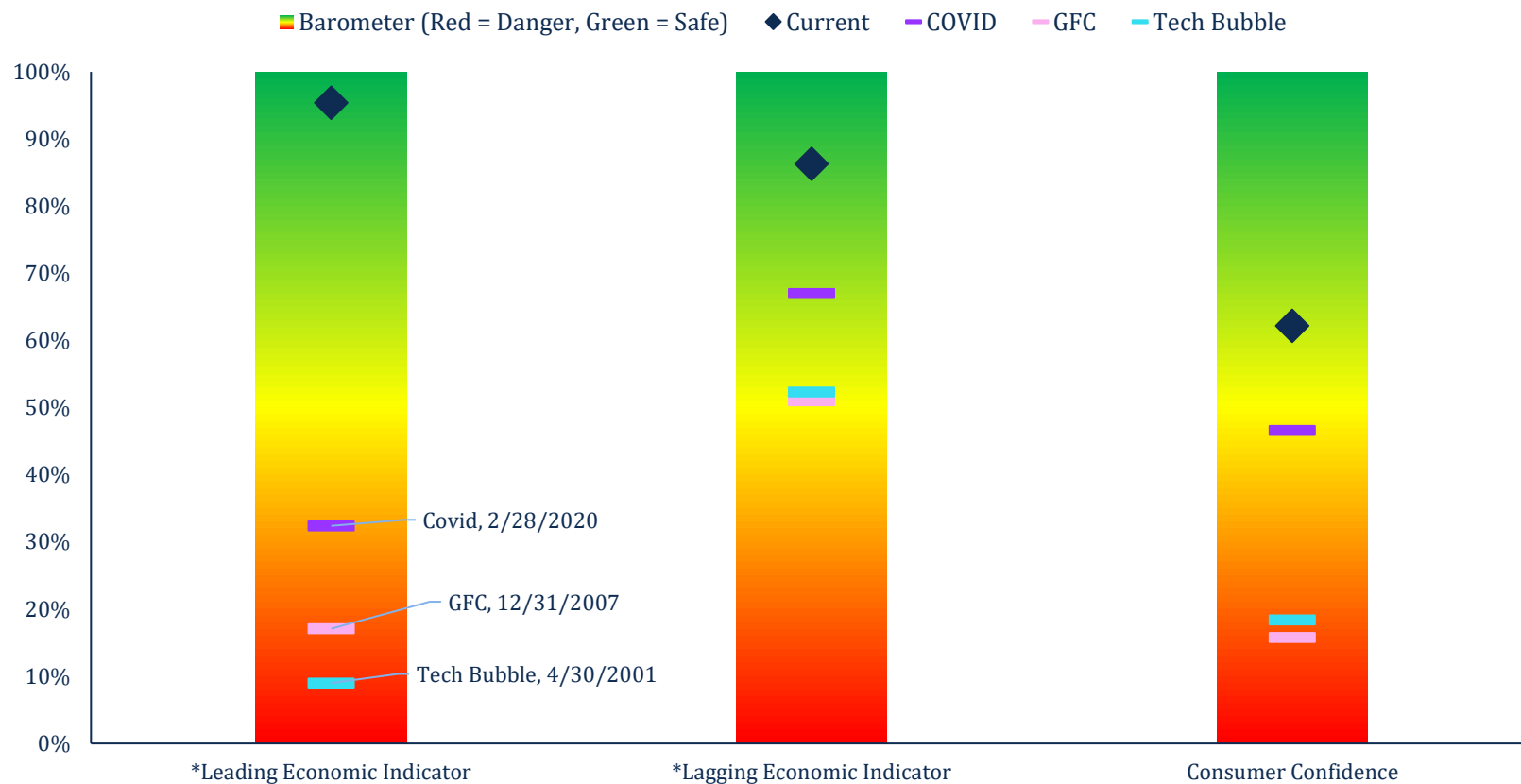Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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Economy

U.S. Economic Indicator Barometers

* - Indicates the values are measured by the U.S. Conference Board. For both leading and lagging indexes, the conference aggregates 10 key economic indicators for both leading and lagging. Current value and recession values are based on percentile rank of % YoY change based historical data. Historical data dates back 50 years.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

U.S. Conference Lagging Economic Indicator Index
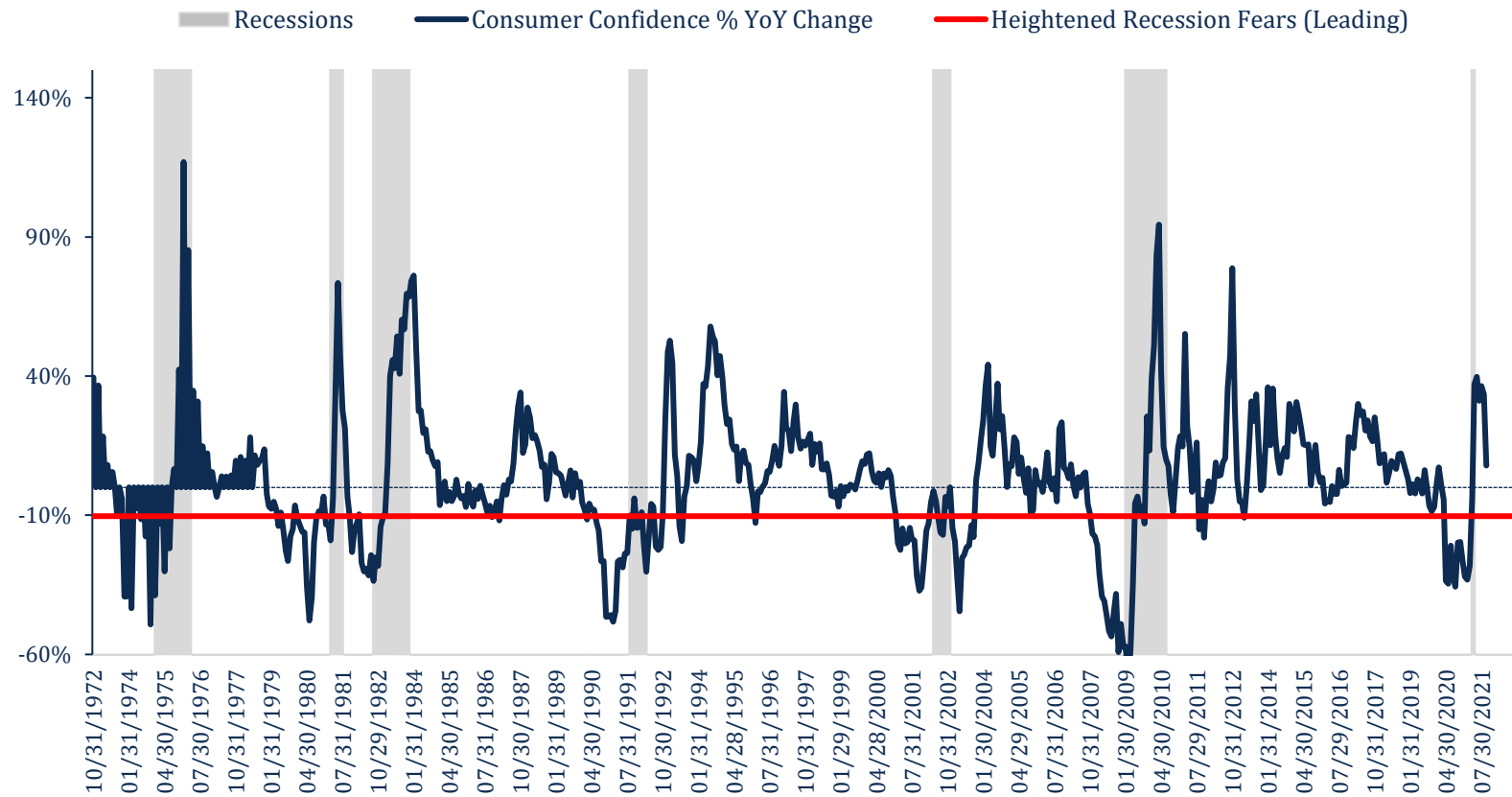
This chart is measuring consumer confidence's YoY growth. The red line (Heightened Recession Fears), is measured as the aggregate of each index point prior to each recession.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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The U.S. Conference Board measures 10 core leading economic indicators. This chart is measuring the index's YoY growth. The red line (Heightened Recession Fears), is measured as the aggregate of each index point prior to each recession.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

U.S. Conference Lagging Economic Indicator Index

Legend: Recessions | % YoY - Lagging Index | Heightened Recession Fears (Lagging)

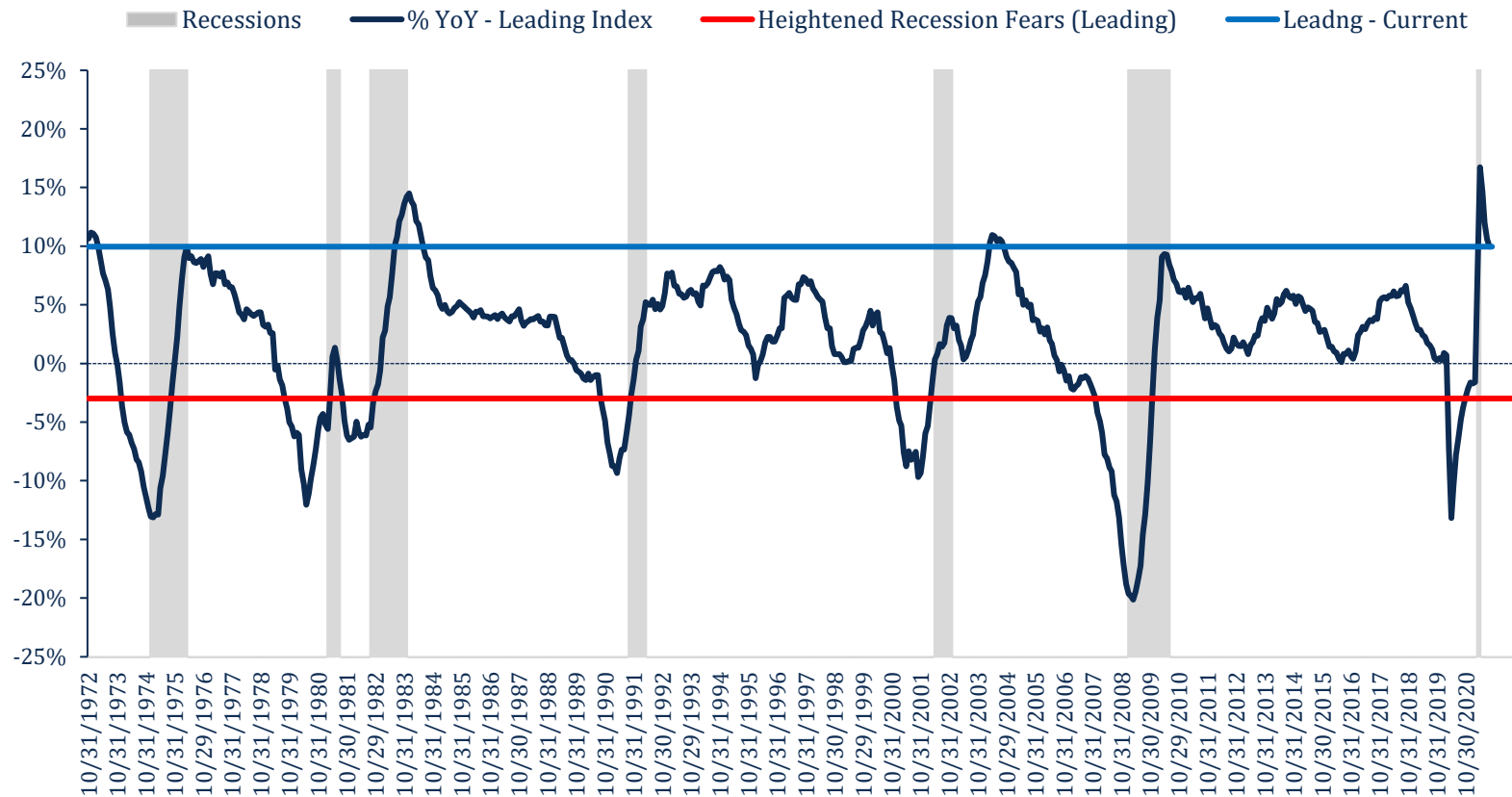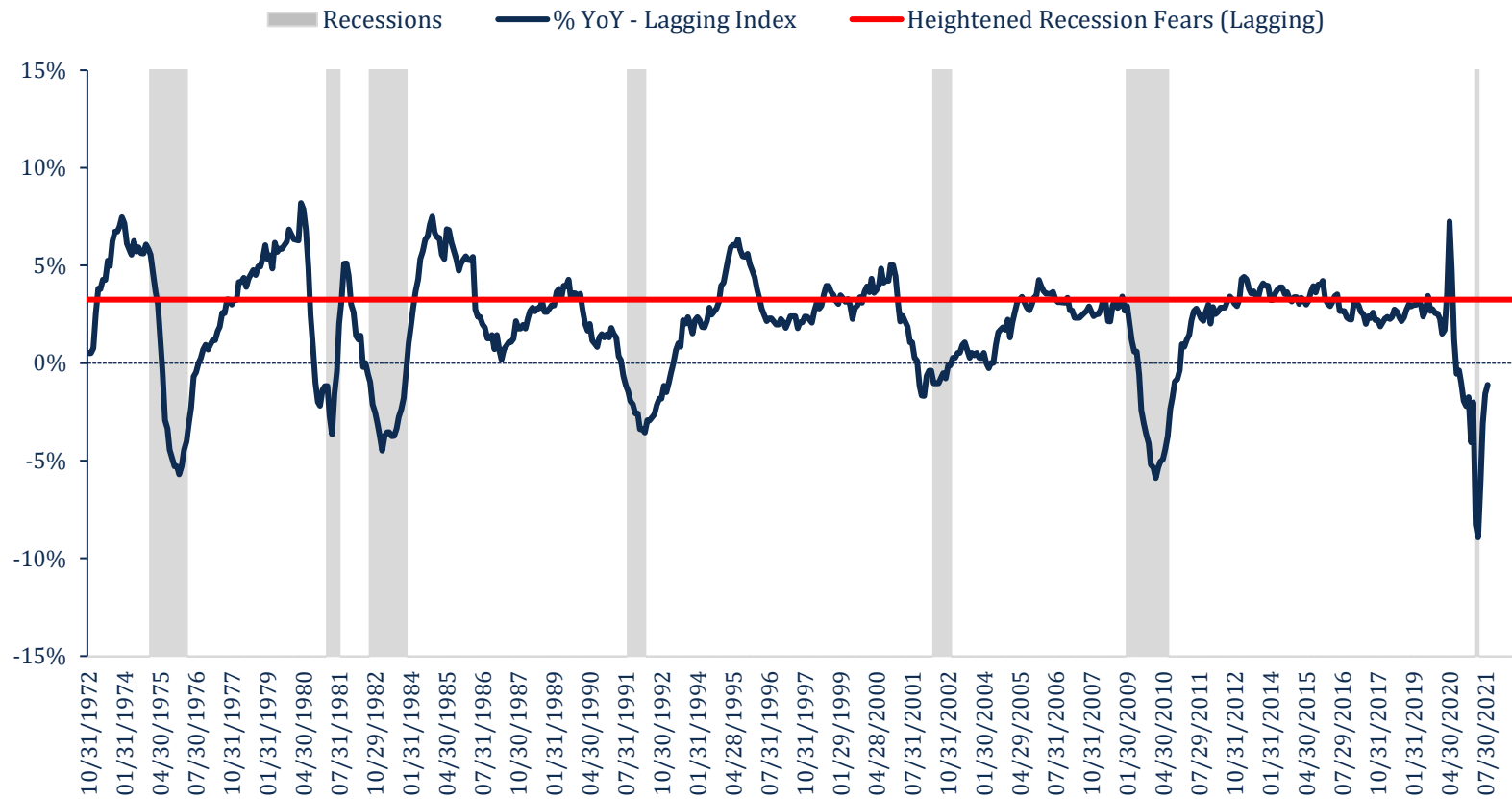The U.S. Conference Board measures 10 core lagging economic indicators. This chart is measuring the index's YoY growth. The red line (Heightened Recession Fears), is measured as the aggregate of each index point prior to each recession.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Quarterly Economic Indicator Dashboard
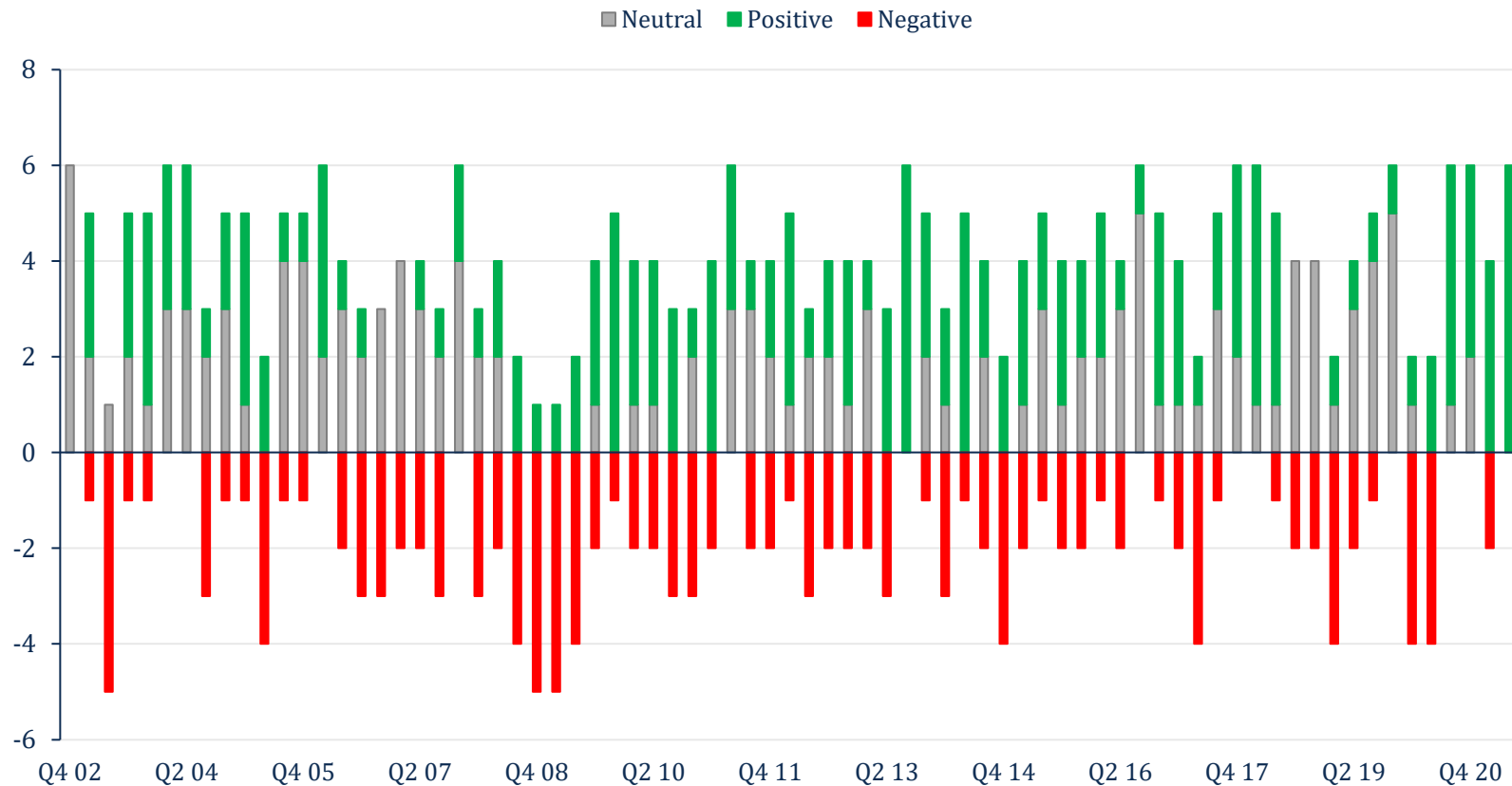
Currently, macroeconomic indicators are measured on a quarterly YoY basis. *Lagging indicators used;* Nominal GDP Growth, Core CPI, Unemployment Rate, manufacturing sales and retail sales. *Coincident indicators used;* Federal Reserve balance sheet expansion apart from unemployment, acceleration on YoY growth indicates a positive economic metric and vice-a-versa.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
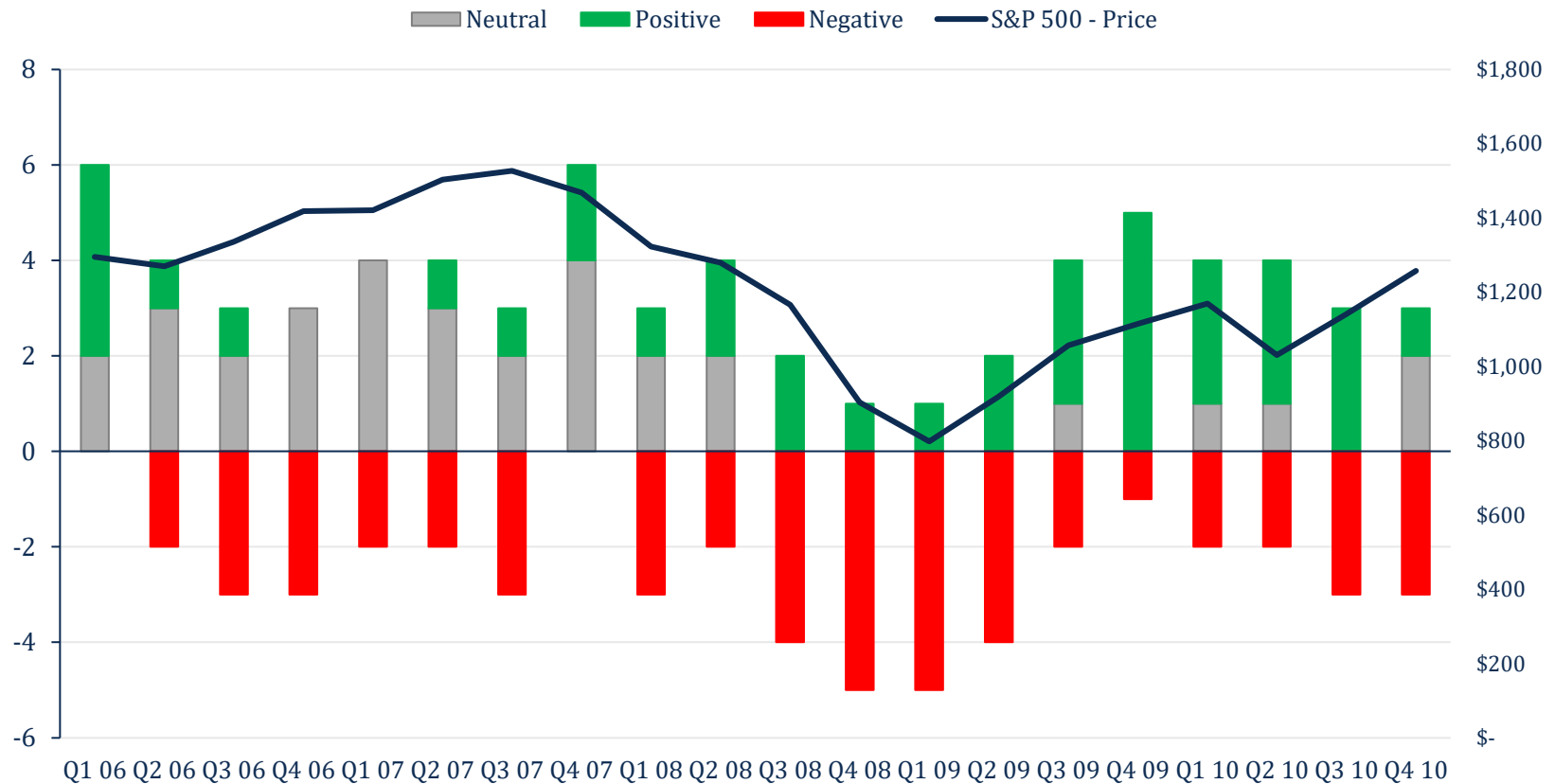
Economy

This chart represents the same economic indicators in the above slide, overlayed with the S&P 500 price chart during the 2008 GFC. As these are majority lagging indicators, it shows that when the dashboard begins flashing red, it is usually too late to make portfolio adjustments.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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Economy

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Supply Chain Bottlenecks – U.S. Manufacturing
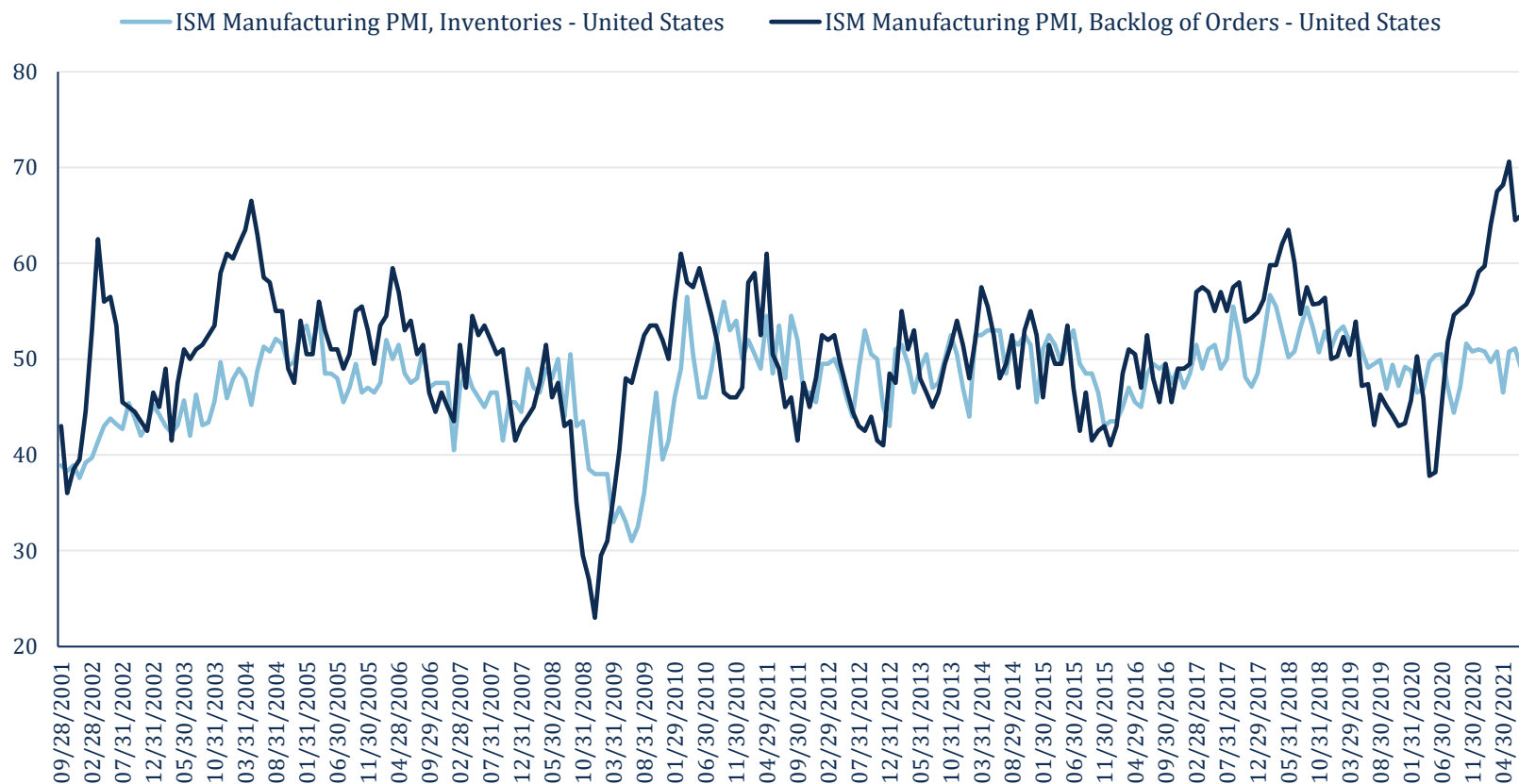
Within U.S. Manufacturing, ISM Manufacturing PMI illustrates a divergence between backlogged orders soaring above inventory levels. In March of 2020, businesses decreased inventory, expecting a recessionary decrease in demand. Fiscal stimulus and a false-weakening demand have "faked-out" manufacturing firms and demand has soared. Shutdowns have limited the opportunity to rebuild inventory, creating a supply chain bottleneck.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Economy

Supply Chain Bottlenecks – U.S. Services

Legend: ISM Services PMI, Inventories - United States; ISM Services PMI, Backlog of Orders - United States
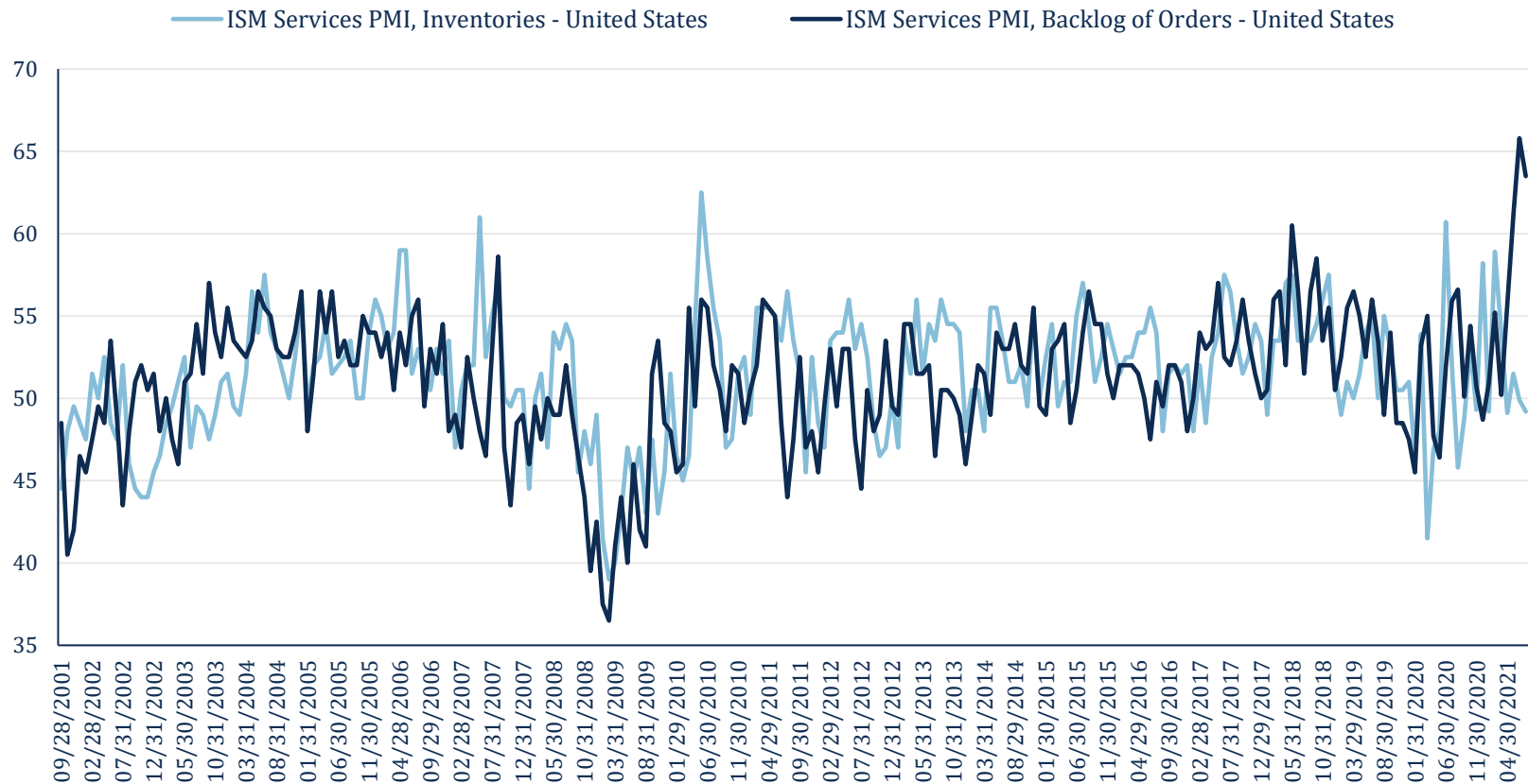
Within U.S. based services, there is a supply chain bottleneck (like manufacturing) caused by COVID shutdowns and increased demand, as backlogged orders soar above current inventory levels.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Inventory-to-Retail sales measured by the U.S. Census Bureau. Typically, expansionary business cycles are signaled by a drop in this ratio, while contractions are signaled by an increase.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

New Home and New Domestic Vehicle Sales
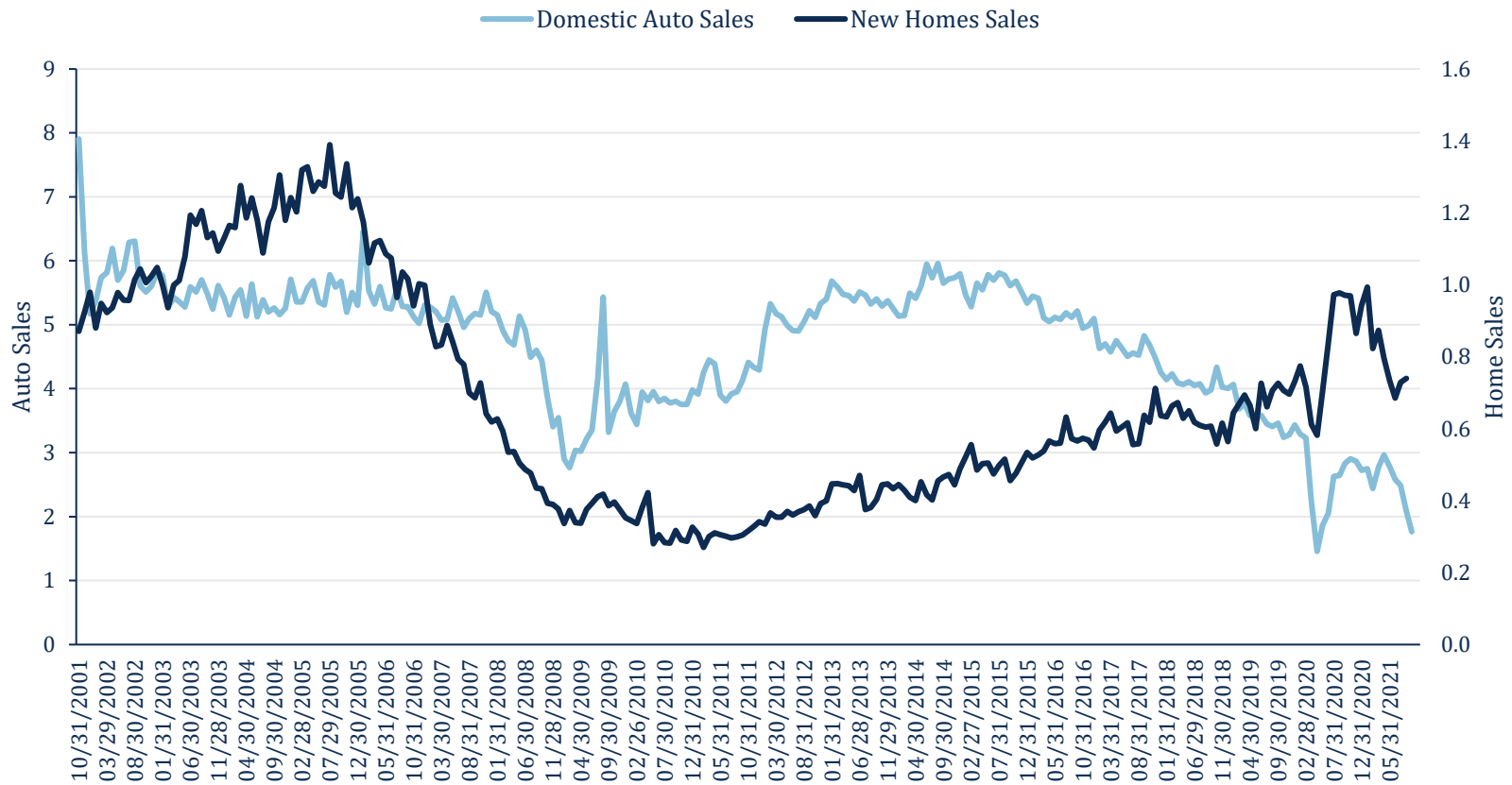
Data from: U.S. Bureau of the Census, U.S. Bureau of the Census, U.S. Department of Housing & Urban Development. Values measured in millions of units.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Economy

Federal Reserve Balance Sheet in $ Trillions
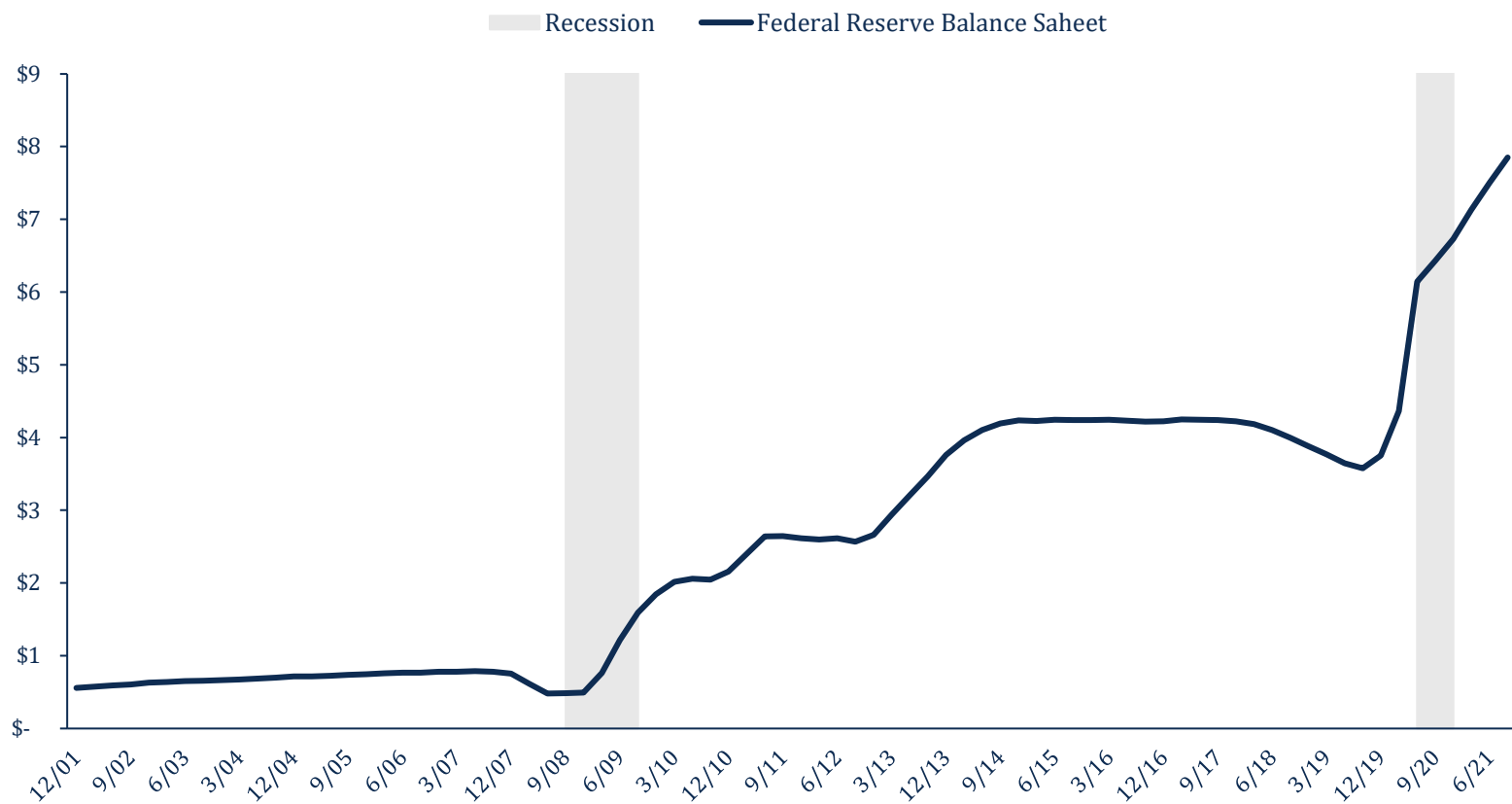
During recessions, the Federal Reserve has utilized 'quantitative easing' which entails an easy monetary policy, which is followed by an expanded balance sheet. This can be seen in the chart during the GFC and Covid-19.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Economy

Calendar Returns by Asset Class

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	REITs 28.3%	Emerging Equity 30.4%	Fixed Income 0.3%	Emerging Equity 58.6%	Small Cap 25.3%	Fixed Income 3.4%	REITs 15%	Small Cap 37%	REITs 21.9%	Developed International 2.7%	Small Cap 19.5%	Emerging Equity 27.8%	Fixed Income -2.9%	U.S. Large Cap 28.9%	Small Cap 18.4%	Commodity 30.7%
2	Emerging Equity 25.6%	Commodity 11.1%	EMD -22.4%	High Yield 54.8%	REITs 21.8%	REITs 2.4%	Small Cap 14.6%	U.S. Large Cap 29.6%	U.S. Large Cap 11.4%	Asset Alloc. -0.6%	High Yield 12%	U.S. Large Cap 19.4%	U.S. Large Cap -6.2%	Small Cap 23.7%	Emerging Equity 16.6%	REITs 20.2%
3	Small Cap 17%	U.S. Large Cap 3.5%	Asset Alloc. -27.6%	EMD 25.7%	Commodity 16.7%	U.S. Large Cap 2%	Emerging Equity 13.9%	Developed International 23.5%	Asset Alloc. 7.1%	U.S. Large Cap -0.7%	Commodity 11.4%	Small Cap 13.1%	Asset Alloc. -6.7%	REITs 23%	U.S. Large Cap 16.3%	U.S. Large Cap 14.5%
4	Developed International 13.8%	Asset Alloc. 2.4%	High Yield -33.5%	Small Cap 25.2%	U.S. Large Cap 12.8%	Asset Alloc. 0.9%	Developed International 13.5%	Asset Alloc. 17.9%	Small Cap 3.5%	REITs -2%	U.S. Large Cap 9.5%	Asset Alloc. 12.3%	EMD -7.4%	Developed International 19.7%	Asset Alloc. 9.1%	Small Cap 12.3%
5	U.S. Large Cap 13.6%	Developed International 1.2%	Small Cap -34.8%	U.S. Large Cap 23.5%	Emerging Equity 11.7%	EMD -1.8%	U.S. Large Cap 13.4%	Emerging Equity 0.9%	Developed International 3.2%	Fixed Income -2.6%	Emerging Equity 7.1%	Developed International 12.2%	REITs -8.3%	Asset Alloc. 18.1%	Fixed Income 4%	Developed International 10.3%
6	Asset Alloc. 9.3%	Fixed Income 1.4%	Commodity -36.6%	Developed International 20.9%	Asset Alloc. 7.3%	High Yield -3.8%	Asset Alloc. 9.4%	High Yield -1.1%	Fixed Income 2.6%	EMD -4%	Asset Alloc. 5.1%	REITs 4.8%	High Yield -8.3%	Emerging Equity 15.1%	High Yield 3.7%	Asset Alloc. 8.2%
7	High Yield 3.1%	Small Cap -2.7%	U.S. Large Cap -38.5%	REITs 19.9%	High Yield 6.8%	Small Cap -5.5%	EMD 8.9%	REITs -1.2%	Emerging Equity 2.5%	High Yield -4.3%	REITs 5%	EMD 3.3%	Emerging Equity -12.2%	High Yield 9.4%	EMD 2.3%	Emerging Equity -2.3%
8	EMD 1.2%	EMD -3.8%	REITs -41%	Commodity 18.7%	EMD 3.3%	Commodity -13.4%	High Yield 6.8%	Fixed Income -5.4%	EMD -1.3%	Small Cap -5.7%	EMD 4.5%	High Yield 1.1%	Small Cap -12.2%	EMD 7.7%	Commodity -3.5%	High Yield 0.4%
9	Fixed Income -1%	High Yield -7.4%	Developed International -42.1%	Asset Alloc. 16.2%	Developed International 2%	Developed International -14.8%	Fixed Income 0.1%	Commodity -9.6%	High Yield -4.3%	Emerging Equity -8%	Developed International 2.3%	Commodity 0.7%	Commodity -13%	Fixed Income 5.5%	Developed International -1.4%	Fixed Income -3.8%
10	Commodity -2.7%	REITs -21.4%	Emerging Equity -47.2%	Fixed Income 0.9%	Fixed Income 1.7%	Emerging Equity -14.9%	Commodity -1.1%	EMD -11.6%	Commodity -17%	Commodity -24.7%	Fixed Income -0.4%	Fixed Income 0.4%	Developed International -13.4%	Commodity 5.4%	REITs -9.4%	EMD -4.8%

Indices used: U.S. Large Cap – S&P 500, Developed International – MSCI EAFE, Emerging Equity – MSCI EME, Fixed Income – Bloomberg Barclays US Aggregate, High Yield – Bloomberg Barclays US High Yield, Munis – Bloomberg Barclays Municipal Bond, Currency – Federal Reserve nominal effective exchange rate, Emerging Debt – Bloomberg Barclays Emerging USD Aggregate, Commodities – Bloomberg Commodity Index, REITs – FTSE Nareit All REITs, Gold – Gold NYMEX Near Term ($/oz), Small Cap – Russell 2000, Asset Allocation – 50% S&P 500/20% MSCI EAFE/20% BB US AGG.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

U.S. Yield Curve

U.S. Treasury Yield Curve measures as of current, 6-months ago, 1-year ago, and 2-years ago.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Global Intermediate Bond Indexes – Returns and Yields

Regions:	Current YTM	YTM - 1 Year Ago	12-Month Price Return
U.S.	1.65%	1.25%	-3.66%
Global ex-U.S.	1.24%	0.92%	-3.44%
Japan	0.11%	0.08%	-0.99%
Germany	-0.36%	-0.67%	-5.13%
UK	1.04%	0.41%	-10.25%
Italy	0.51%	0.43%	-3.01%
Spain	0.17%	0.00%	-4.83%

U.S. Classifications:	Current YTM	YTM - 1 Year Ago	12-Month Price Return
Aggregate	1.65%	1.25%	-3.66%
Investment Grade	2.24%	2.08%	-2.30%
U.S. High Yield	4.76%	6.10%	4.44%
Residential Mortgage Backed	1.98%	1.39%	-2.54%
Corporate Mortgage Backed	1.96%	2.09%	-0.79%

Indices used: (Left) U.S. - Bloomberg US Aggregate, Global ex-U.S. - Bloomberg Global Aggregate, Japan - Bloomberg Global Japan, Germany - Bloomberg Global Germany, UK - Bloomberg Global U.K., Italy - Bloomberg Global Italy, Spain - Bloomberg Global Spain, (Right) U.S. Agg. – Bloomberg Barclays U.S. Aggregate, U.S. CMBS – BB Agg Corporate MBS, U.S. MBS – BB Agg MBS, U.S. High Yield – BB Agg Corp. High Yield, U.S. IG – BB Agg Corp. Investment Grade.
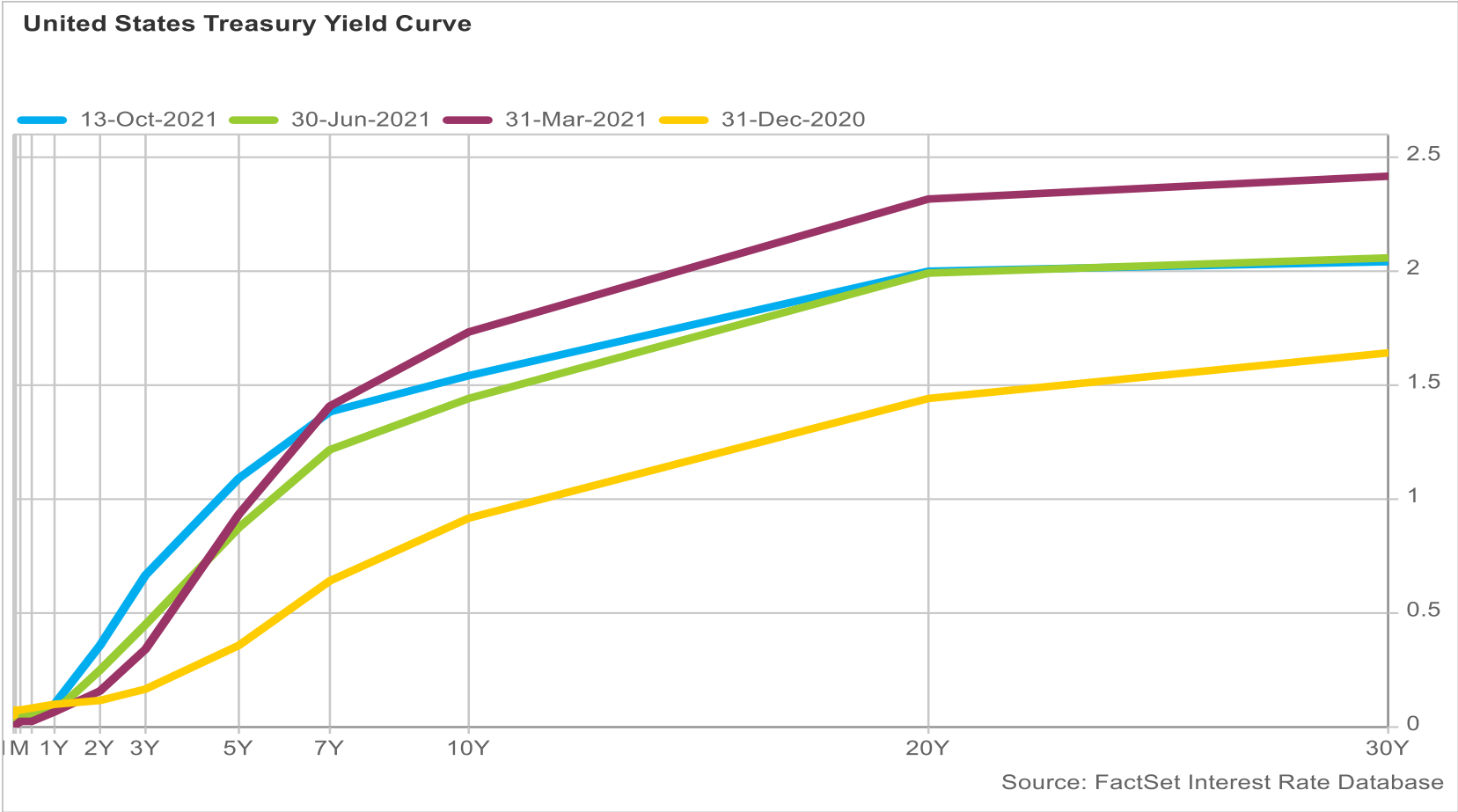
Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

Historic U.S. Corporate Investment Grade Spread

Spread is calculated as U.S. Corp. Benchmark minus U.S. 10-Year Treasury. The benchmark must be of similar maturity and credit rating for the spread data to be feasible. Benchmark used; ICE Bank of America US Corporate (10+ Y)(AAA-AA). In recessionary times, spreads tend to widen, as noted.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

Global 10-Year Treasury Yield Spreads
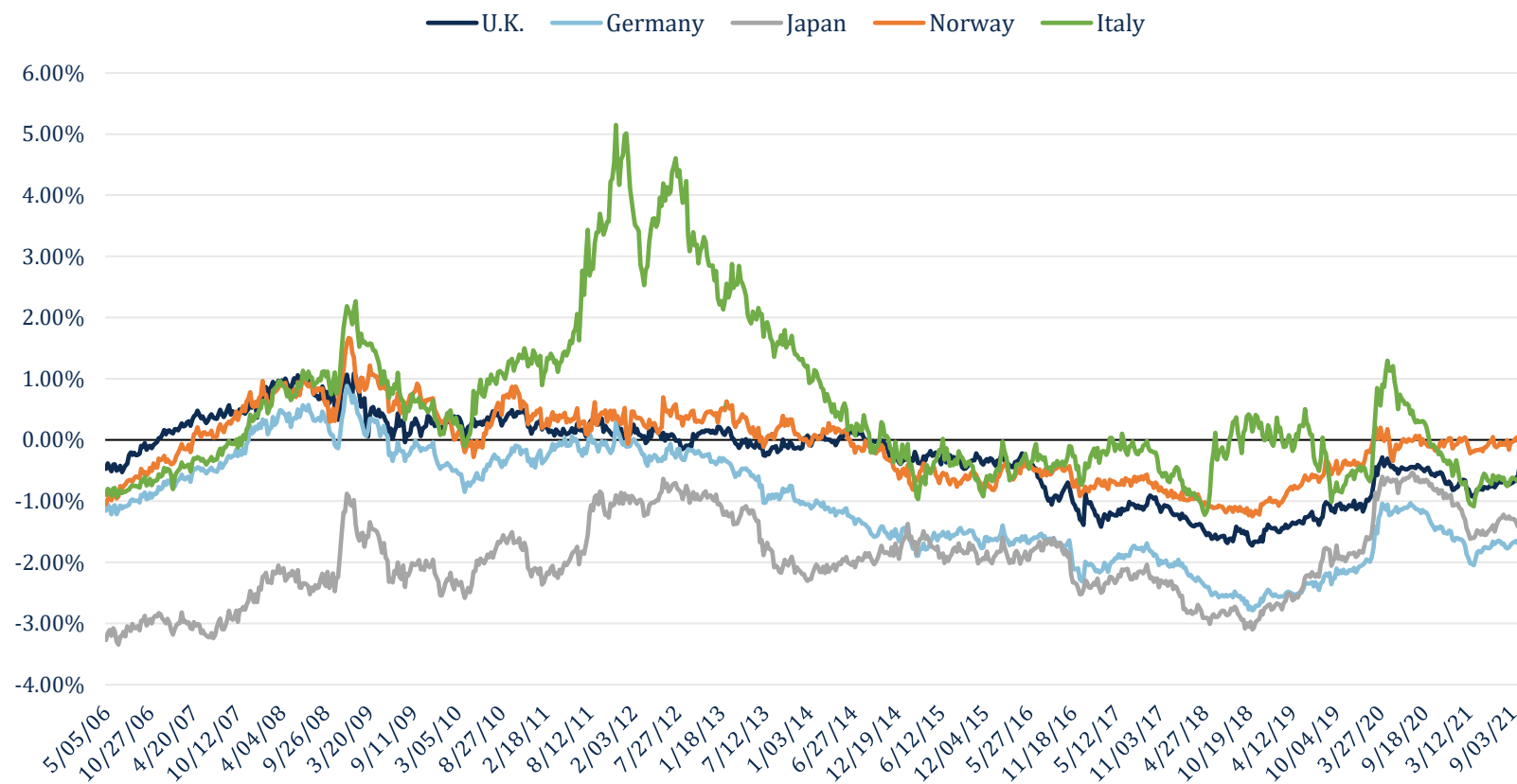
Treasury yield spreads for each country measured relative to U.S. 10-Year Treasury benchmark.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

Nominal Yields vs Real Yields
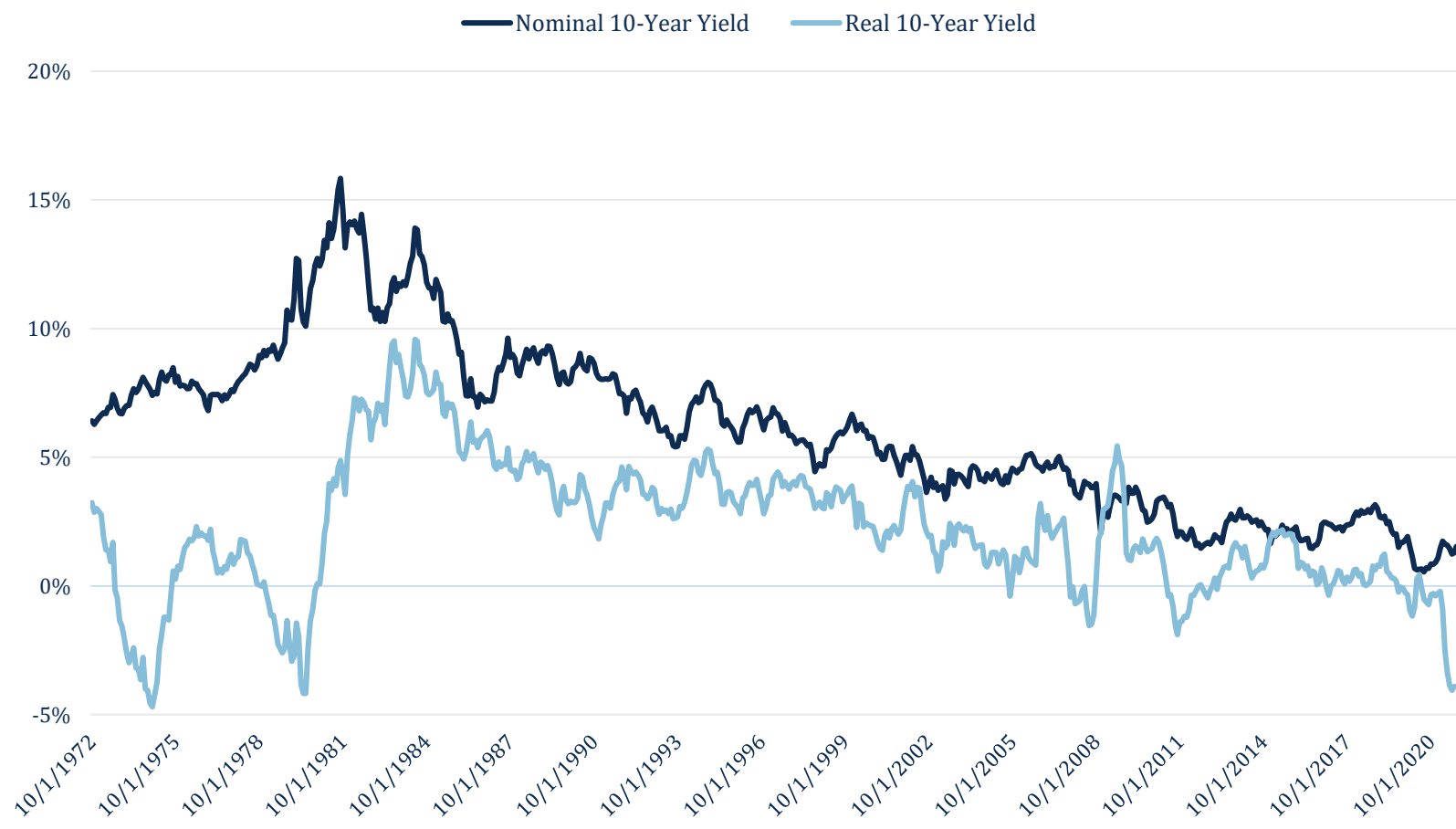
The Nominal Yield contains an inflation premium (expected inflation). While the Real Yield represents Nominal yield (less) Inflation

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

Approximate Interest Rate Risk with a +/- 1% Move in Rates

Chart (left): Approximate return with a 1% fall in rates

Index	Approximate return
U.S. CMBS	6.26%
U.S. MBS	6.74%
U.S. High Yield	6.79%
U.S. IG	15.39%
U.S. Agg.	10.14%

Chart (right): Approximate Return given a 1% rise in Rates

Index	Approximate return
U.S. CMBS	-3.105%
U.S. MBS	-4.458%
U.S. High Yield	-4.263%
U.S. IG	-5.778%
U.S. Agg.	-5.779%
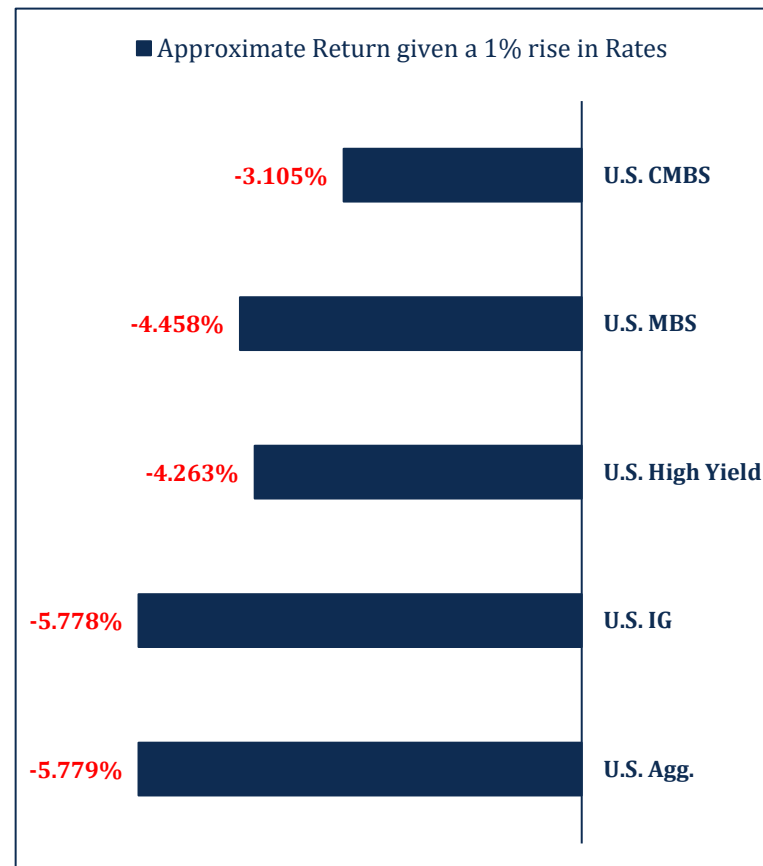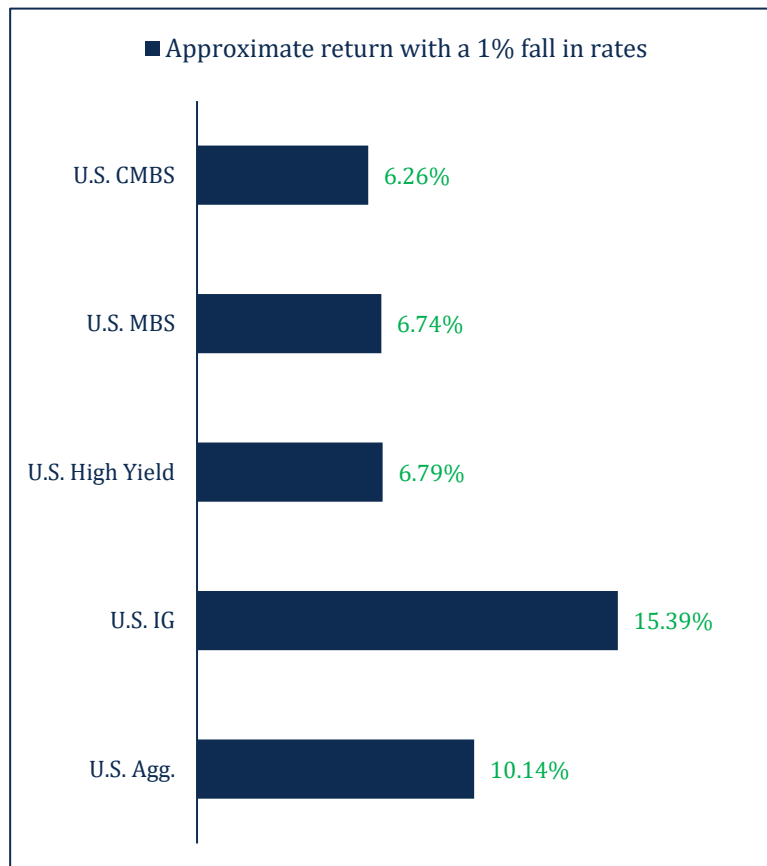
Indices used: U.S. Agg. – Bloomberg Barclays U.S. Aggregate, U.S. CMBS – BB Agg Corporate MBS, U.S. MBS – BB Agg MBS, U.S. High Yield – BB Agg Corp. High Yield, U.S. IG – BB Agg Corp. Investment Grade. Approximate return is calculated using effective duration and effective convexity.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Fixed Income

U.S. Equity Markets
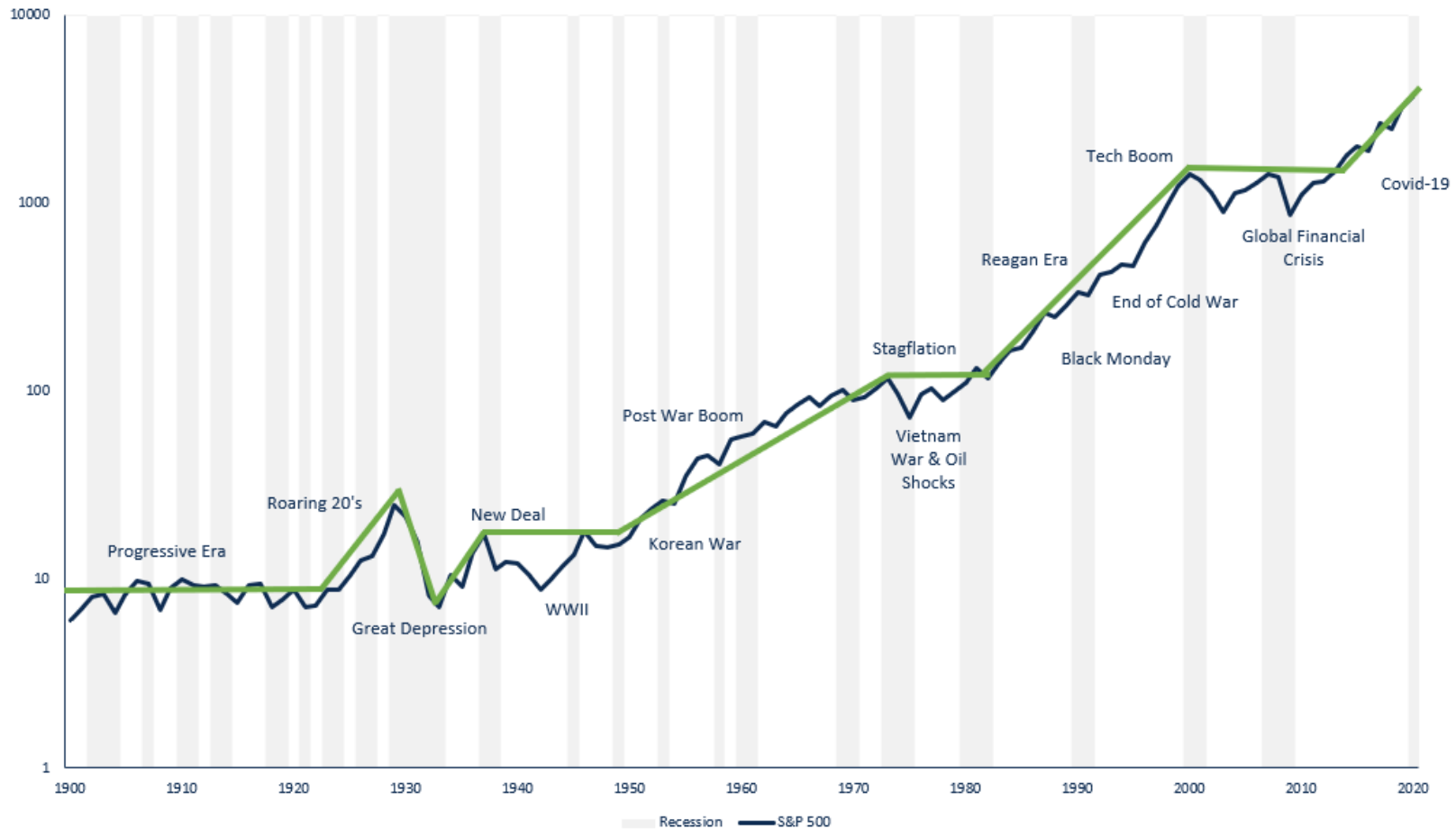
S&P Price set to Log Scale (Based on % change moves) to better display business cycles.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Performance by Sector, Style and Size

Horizontal bar chart — Performance by Sector (YTD vs 2020):

Sector	YTD	2020
Real Estate	21%	-12%
Utilities	5%	-11%
Communication Services	8%	50%
Information Technology	14%	55%
Financials	32%	-5%
Health Care	1%	47%
Consumer Staples	7%	13%
Consumer Discretionary	16%	105%
Industrials	13%	17%
Materials	20%	13%
Energy	82%	-35%

Legend: ■ YTD ■ 2020
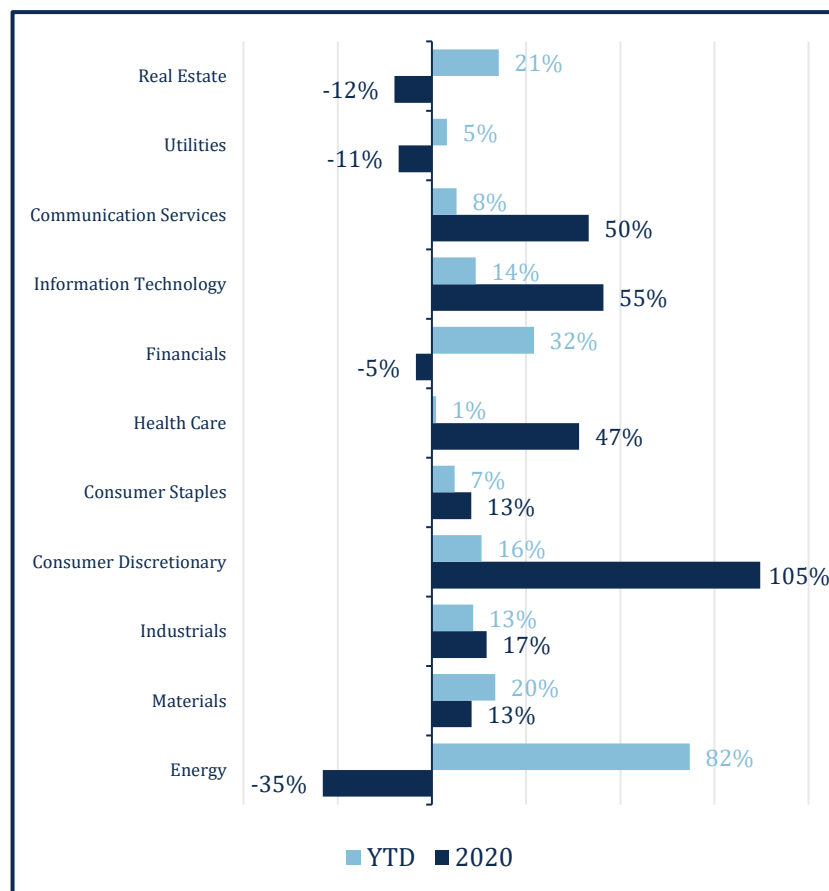
Year to Date - 2021

	Value	Core	Growth
Large	17.2%	18.3%	19.5%
Mid	24.9%	19.7%	13.7%
Small	25.6%	19.4%	12.9%

2020

	Value	Core	Growth
Large	-2.4%	19.4%	42.8%
Mid	-0.3%	18.0%	36.5%
Small	-0.6%	17.4%	36.3%

Performance by sector uses S&P Thematic indices assigned to track each listed sector, while MSCI indices are used to calculate style and size performance, using MSCI's respective index for each category.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

U.S. Equity
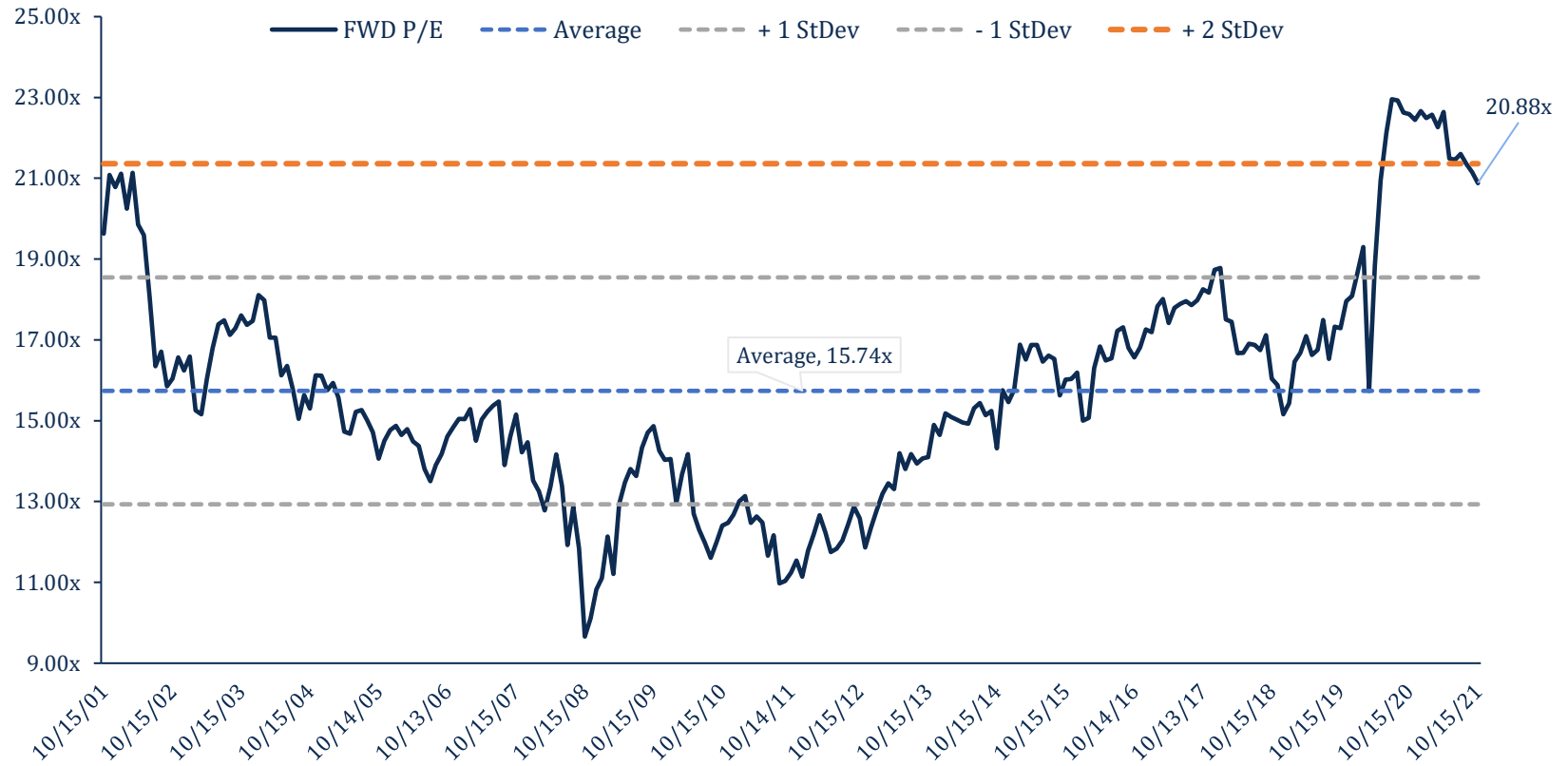
FWD P/E – Measured as current price divided by the next 12 months forward looking earnings per share (EPS) for the S&P 500.
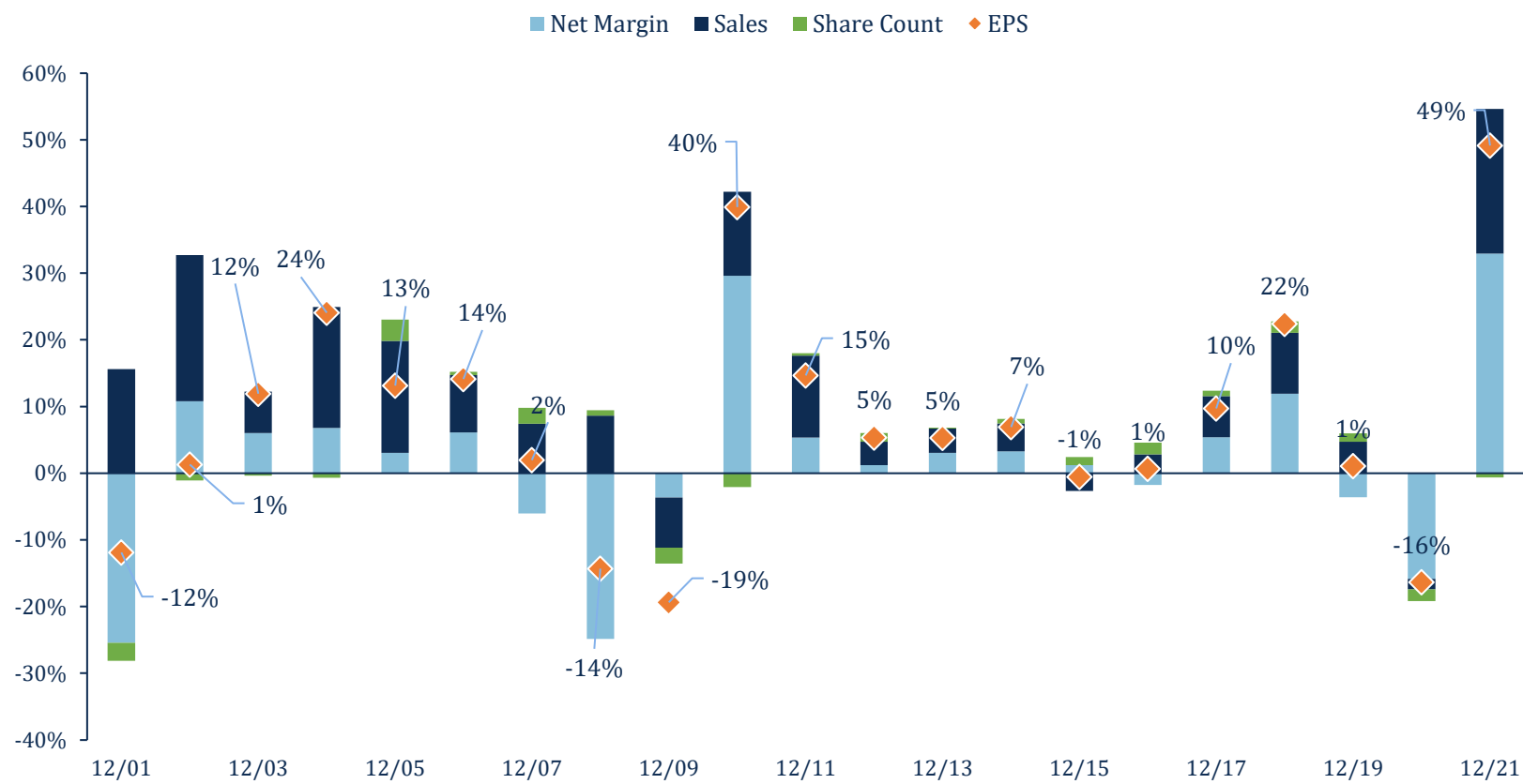
Index used: S&P 500. Chart breaks down the components of YoY EPS change, on a calendar year basis.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

S&P 500 – Earnings Per Share (EPS)

Left chart; displays actual and forecasted eps for the S&P 500 index. Forecasts are filled with light blue, calculated through FactSet Market Aggregates. Right chart; using the S&P 500 index to measure the index price return relative to valuations and earnings growth.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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U.S. Equity

Return values are calculated for the S&P 500 Index on a calendar year basis. Intra-year declines are calculated based on the largest peak to trough fall within the respective calendar year.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

EPS and Return % Change during Recessions

Left chart — EPS Decline

	Tech Bubble		GFC		Covid-19	
	Large Cap	Small Cap	Large Cap	Small Cap	Large Cap	Small Cap
EPS Decline	-20.9%	-54.2%	-32.5%	-61.8%	-17.6%	-53.1%

Right chart — Max Drawdown / 12 Month Rebound

	Tech Bubble		GFC		Covid-19	
	Large Cap	Small Cap	Large Cap	Small Cap	Large Cap	Small Cap
12 Month Rebound	34.8%	62.1%	71.8%	97.2%	77.8%	121.2%
Max Drawdown	-49.1%	-46.1%	-53.4%	-54.9%	-34.1%	-41.1%
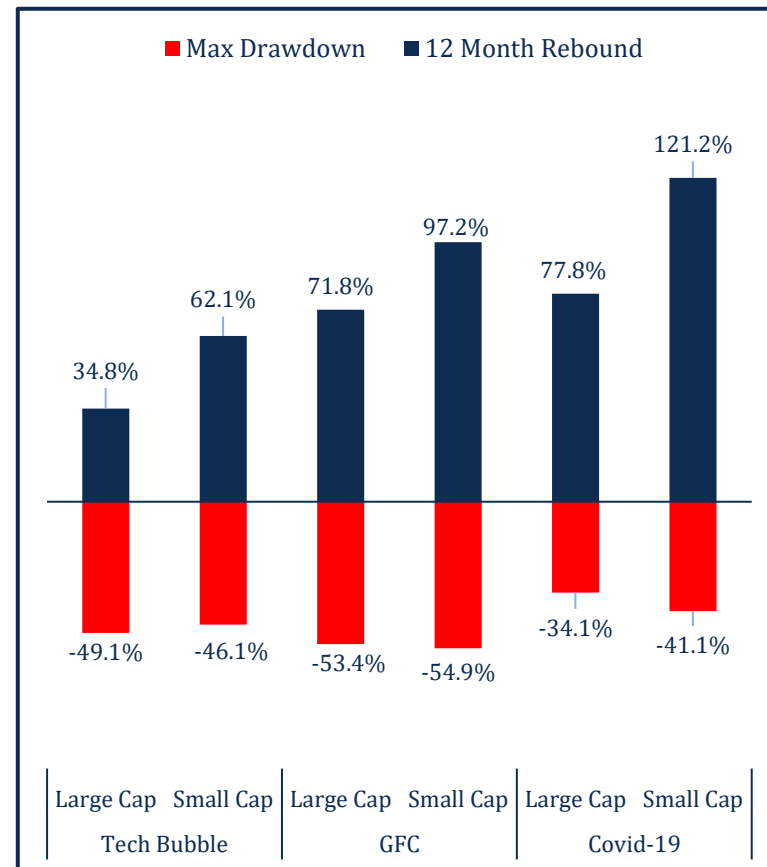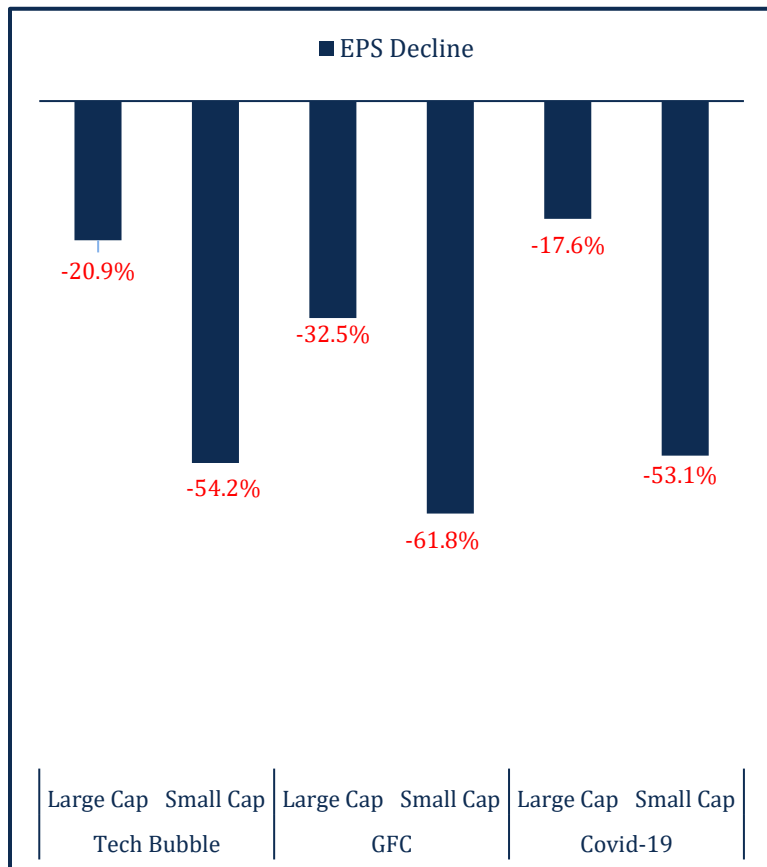
Indices used: Large Cap – S&P 500, Small Cap – Russell 2000. (Left) Measures the drawdowns in EPS for large and small cap stocks during the last 3 major recessions. (Right) Measures the max drawdown during the last three major recessions for large and small cap equity, along with the following 12 month rebound.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

- This table displays he annual distribution of daily S&P 500 price movements from 1980 to Current day

- ~50% of the time, the daily return falls within the range of -0.5% to +0.5%.

- On the tail ends (less -4%) and (More than 4%), the sum of these occurrences equate to 2 times a year. So, on average, a drastic move + or -, will happen on less then 1% of total trading days during the year.

Interval 0.5%

	Total Trading Days	< -4%	-4.0% / -3.5%	-3.5% / -3.0%	-3.0% / -2.5%	-2.5% / -2.0%	-2.0% / -1.5%	-1.5% / -1.0%	-1.0% / -0.5%	-0.5% / 0.0%	0.0% / 0.5%	0.5% / 1.0%	1.0% / 1.5%	1.5% / 2.0%	2.0% / 2.5%	2.5% / 3.0%	3.0% / 3.5%	3.5% / 4.0%	> 4.0%	Annual Return	Intra-Year decline
Average Obs./Year		1	0	1	2	4	8	14	29	67	65	36	18	8	3	2	1	1	1		
Avg. % of Days in the Year		0%	0%	0%	1%	1%	3%	5%	11%	25%	25%	14%	7%	3%	1%	1%	0%	0%	0%		
2021	206	0	0	0	1	3	3	9	24	55	54	31	20	5	1	0	0	0	0	15%	-4%
2020	253	9	2	5	5	4	10	10	24	48	45	36	31	14	4	3	4	0	8	16%	-34%
2019	261	0	0	0	3	2	4	6	25	71	82	46	18	2	1	0	1	0	0	29%	-7%
2018	260	1	1	3	2	8	8	9	30	67	65	35	20	7	3	1	0	0	1	-6%	-20%
2017	260	0	0	0	0	0	2	2	10	103	106	33	4	0	0	0	0	0	0	19%	-3%
2016	261	0	1	0	0	4	5	12	24	84	75	30	14	8	4	0	0	0	0	10%	-11%
2015	261	0	1	1	2	2	8	17	30	81	53	25	30	7	2	1	0	1	0	-1%	-13%
2014	261	0	0	0	0	4	6	9	28	70	86	39	14	3	2	0	0	0	0	11%	-7%
2013	261	0	0	0	1	1	2	13	20	77	78	48	18	1	1	1	0	0	0	30%	-6%
2012	261	0	0	0	0	3	6	12	27	81	72	31	15	11	3	0	0	0	0	13%	-10%
2011	256	4	1	1	6	9	12	15	24	50	53	37	21	13	4	4	3	0	3	0%	-19%
2010	261	0	1	4	2	3	11	16	22	58	74	31	19	8	6	3	2	0	1	13%	-16%
2009	255	6	0	6	4	12	8	19	17	49	44	34	22	13	11	5	5	1	5	23%	-28%
2008	247	15	2	6	7	11	14	20	26	34	39	29	16	12	7	5	0	6	13	-38%	-49%
2007	261	0	0	1	6	4	8	15	24	66	68	38	17	8	3	3	0	0	0	4%	-10%
2006	260	0	0	0	0	0	4	9	23	84	90	34	10	4	2	0	0	0	0	14%	-8%
2005	260	0	0	0	0	0	2	15	42	60	86	42	10	3	0	0	0	0	0	3%	-7%
2004	262	0	0	0	0	0	4	16	32	70	82	37	16	5	0	0	0	0	0	9%	-8%
2003	261	0	1	0	2	2	8	24	37	50	56	36	23	12	6	1	2	1	0	26%	-14%
2002	260	1	1	5	5	17	20	23	28	49	26	33	17	13	10	3	2	3	5	-23%	-34%
2001	259	2	0	2	3	6	24	17	29	59	38	30	26	13	5	3	0	2	2	-13%	-30%
2000	259	1	1	2	4	11	12	23	38	48	36	36	20	10	6	5	5	1	1	-10%	-17%
1999	261	0	0	0	2	7	13	18	39	53	37	40	22	16	10	3	0	1	0	20%	-12%
1998	260	1	2	2	3	4	8	12	33	56	52	41	24	12	5	2	0	2	2	27%	-19%
1997	260	1	0	0	2	3	11	14	36	54	54	36	29	12	4	3	1	0	1	31%	-11%
1996	262	0	0	1	1	1	6	8	26	81	66	51	16	5	0	0	0	0	0	20%	-8%
1995	260	0	0	0	0	0	1	3	18	82	107	40	8	1	0	0	0	0	0	34%	-3%
1994	260	0	0	0	0	1	7	7	26	86	86	35	9	2	1	0	0	0	0	-2%	-10%
1993	261	0	0	0	0	1	1	5	23	101	91	29	8	2	0	0	0	0	0	7%	-5%
1992	262	0	0	0	0	0	1	10	38	83	83	30	15	2	0	0	0	0	0	4%	-6%
1991	261	0	1	0	0	1	4	19	28	84	52	38	20	7	3	3	0	1	0	26%	-6%
1990	261	0	0	1	3	4	10	24	34	50	69	33	19	9	3	1	1	0	0	-7%	-20%
1989	259	1	0	0	0	1	5	7	30	65	82	43	18	6	1	1	0	0	0	27%	-8%
1988	259	2	0	0	1	2	8	18	27	65	73	28	20	6	7	2	1	1	0	12%	-8%
1987	257	4	2	0	4	10	10	12	21	55	51	39	20	13	11	6	0	0	3	2%	-34%
1986	260	1	0	1	2	2	8	12	23	71	73	33	24	8	3	0	0	0	0	15%	-9%
1985	261	0	0	0	0	0	0	7	38	80	77	38	11	9	1	0	0	0	0	26%	-8%
1984	261	0	0	0	0	0	5	11	55	77	57	31	11	7	4	3	0	0	0	1%	-13%
1983	260	0	0	0	1	0	12	13	34	61	68	43	18	7	2	1	0	0	0	17%	-7%
1982	261	0	1	0	0	5	10	22	40	69	38	32	15	18	3	3	2	2	1	15%	-17%
1981	261	0	0	0	1	3	7	19	42	68	55	42	16	5	3	0	0	0	0	-10%	-18%
1980	262	0	0	1	2	4	11	19	30	55	53	44	23	16	1	2	0	1	0	26%	-17%

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
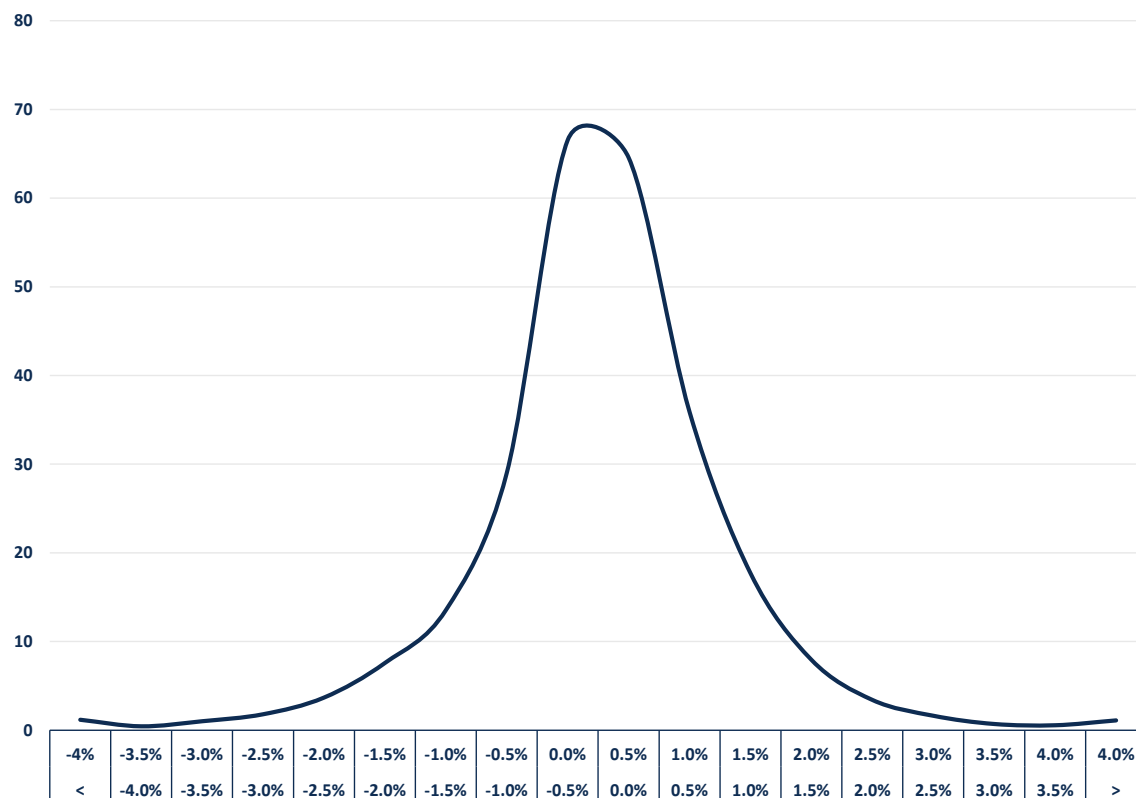
Daily Return - Descriptive Statistics	
Mean	0.000401
Standard Error	0.000107
Median	0.000284
Mode	0
Standard Deviation	0.01109
Sample Variance	0.000123
Kurtosis	21.09167
Skewness	-0.74631
Range	0.320478
Minimum	-0.20467
Maximum	0.115809
Sum	4.34679
Count	10841
Confidence Level(95.0%)	0.000209

Distribution is Peaked (Note: Kurtosis Value of 21 in Descriptive statistics). Kurtosis > 3 is the measure of vertical height in the distribution. The higher Kurtosis shows that historically, you will have more observations in the "tails" of the chart (daily moves of +/- 4% of greater). Mean is slightly higher than median which infers that we are slightly skewed to the right. Historical distribution of S&P daily returns is a Nonnormal distribution

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
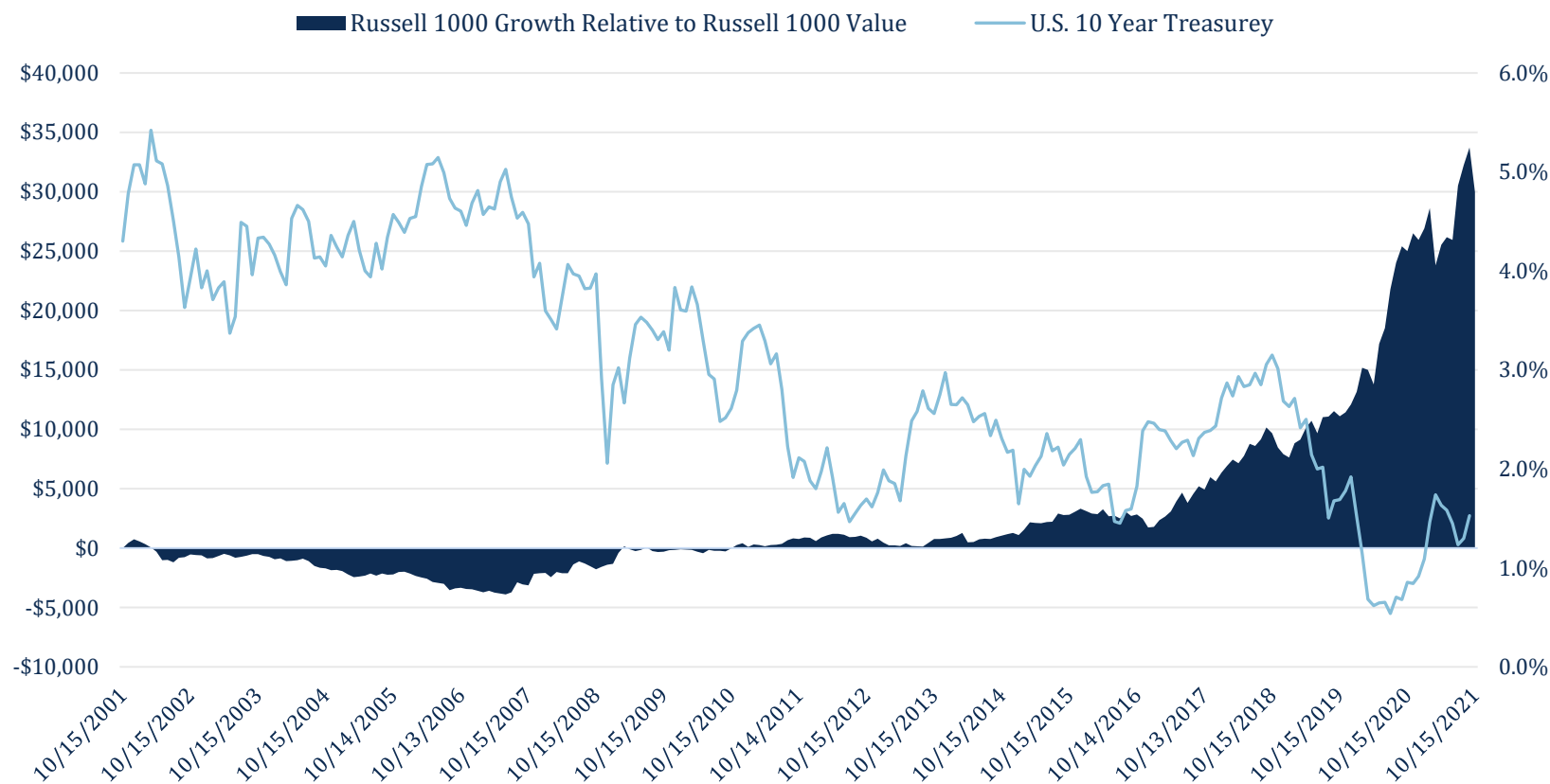
Indices used: U.S. Large Cap Value Equity – Russell 1000 Value, U.S. Large Cap Growth Equity – Russell 1000 Growth. Russell 1000 Growth Index and Russell 1000 Value Index both indexed to 10,000 and subtracted (Growth – Value), to show relative outperformance. Growth outperformance is inversely correlated with U.S. 10-yr Treasury Yield.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
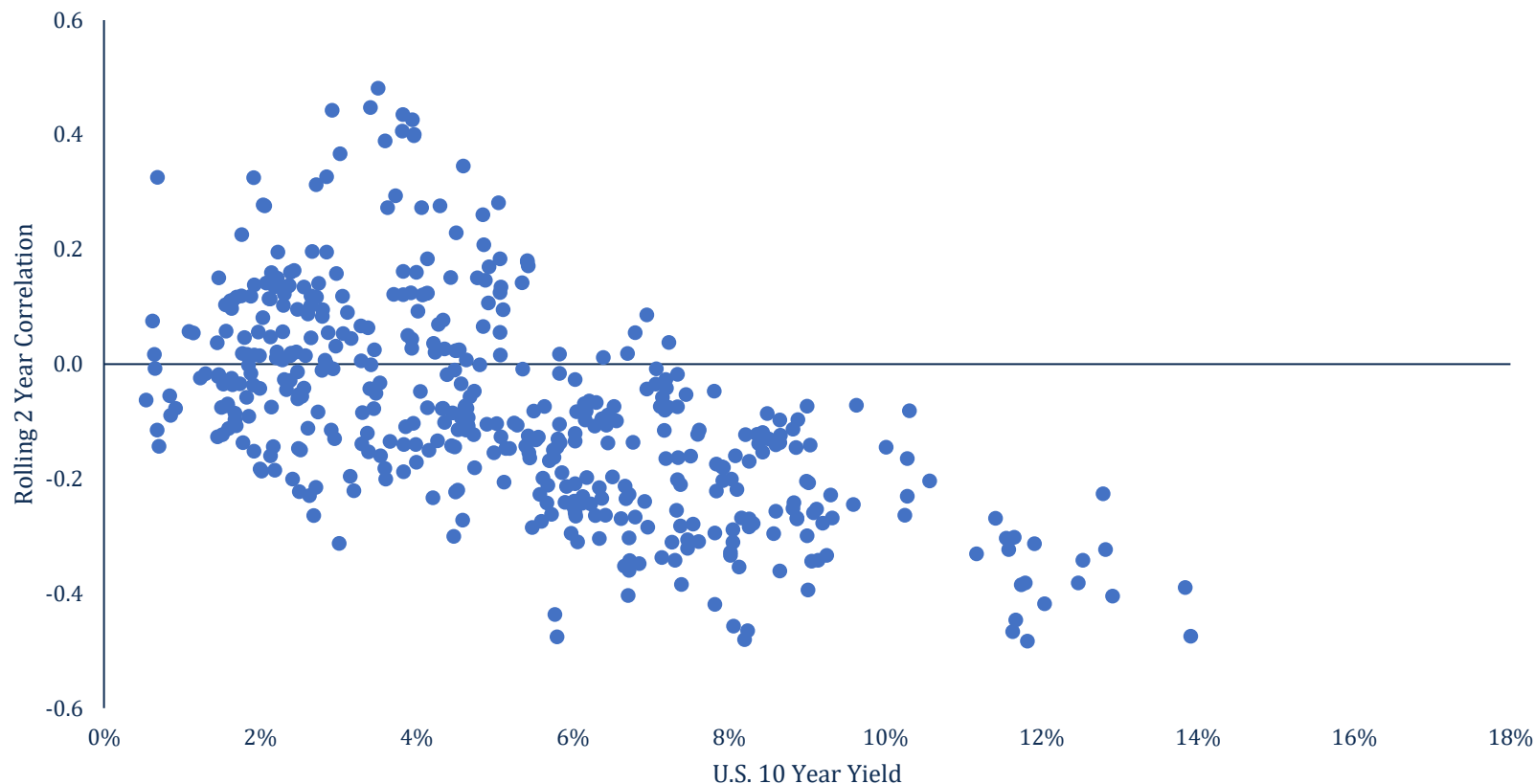
Index used: S&P 500. Equities move with rates until rates reach 3.3%, once rates breach 4.3%, equities begin moving inversely with negative correlations. Data is measured on a 40-year historical monthly basis.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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U.S. Equity

Valuation Sensitivity to Interest Rates
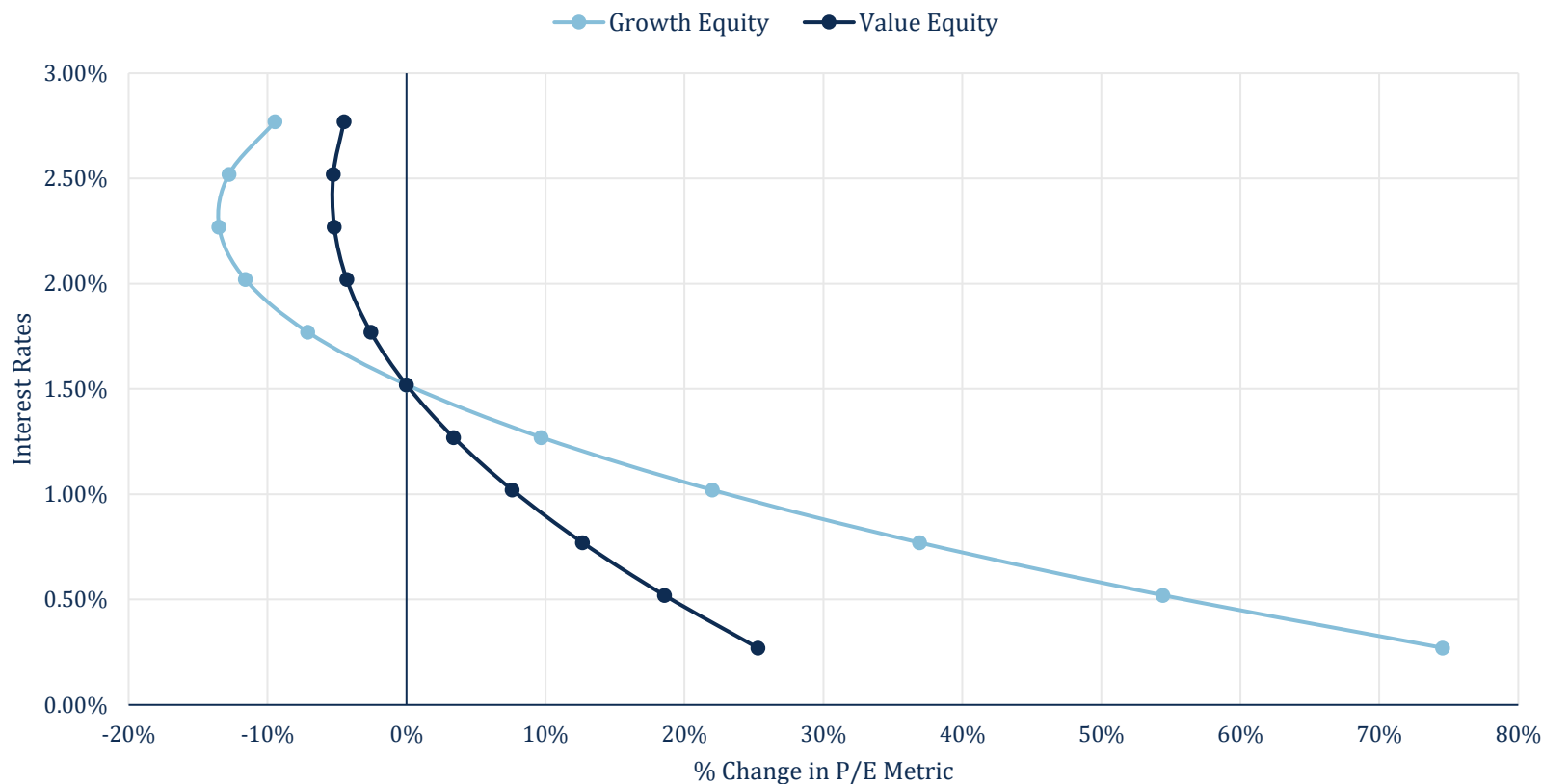
Indices used: Growth – Russell 1000 Growth, Value – Russell 1000 Value. This chart highlights the change in FWD P/E ratios relative to different interest rate levels. Sensitivity is measured by a quadratic regression comparing the 10-year historical FWD P/Es to historical treasury yields. Overall, we observe that growth equities are more sensitive to changes in interest rates than value equity.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

10/18/2021

U.S. Equity
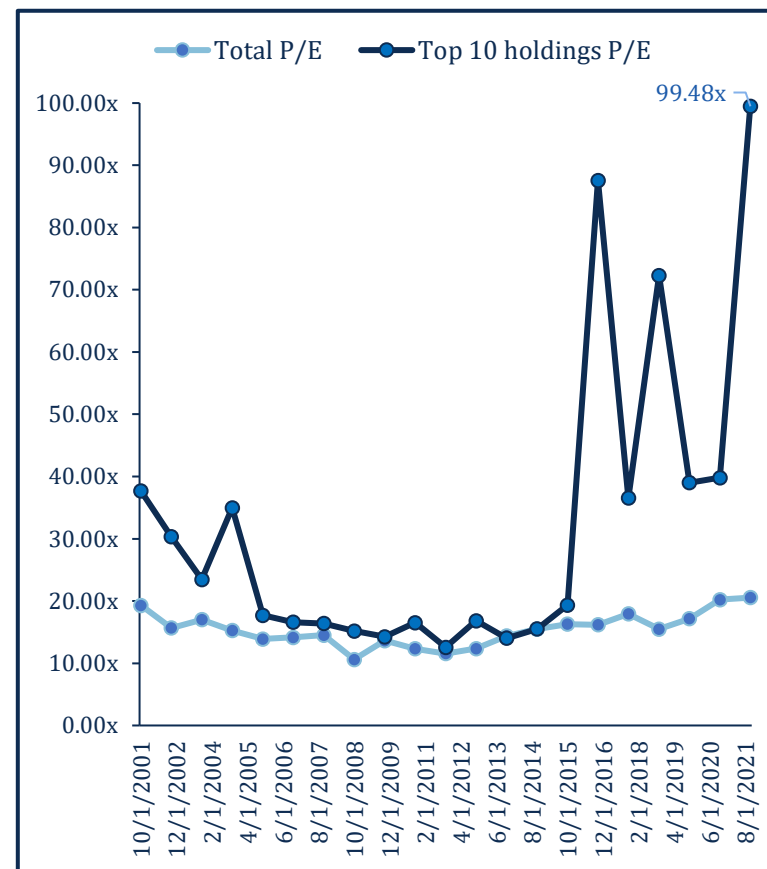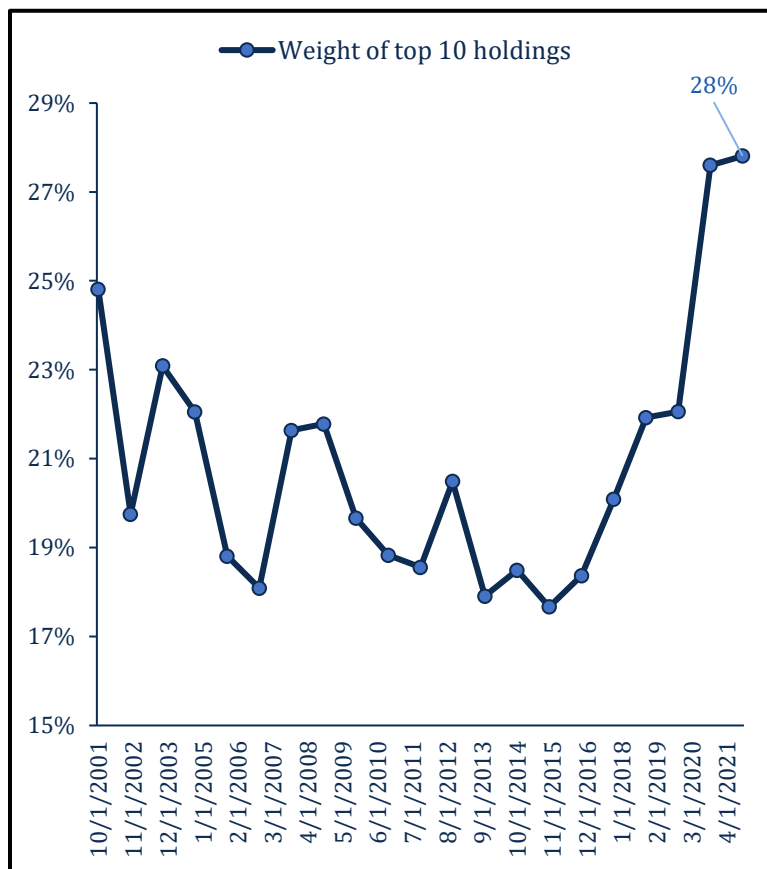
(Left) - % weight of the top 10 holdings in the S&P 500 over time. (Right) – P/E of top 10 holdings in the S&P 500 vs. the actual P/E of the S&P 500. (Note: 2021's inclusion of Tesla props up top 10 P/E and could be seen as an outlier). P/E metric used is trailing twelve months (TTM)

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

	Rank By Weight					
Year	1	2	3	4	5	Cumulative Weight
1999	MSFT	GE	CSCO	WMT	INTC	13%
2000	GE	XOM	PFE	CSCO	WMT	12%
2001	GE	MSFT	XOM	WMT	C	13%
2002	MSFT	GE	XOM	WMT	PFE	12%
2003	GE	MSFT	PFE	XOM	C	13%
2004	GE	XOM	MSFT	C	WMT	12%
2005	GE	XOM	C	MSFT	BAC	10%
2006	XOM	GE	C	MSFT	BAC	12%
2007	XOM	GE	MSFT	T	PG	10%
2008	XOM	PG	T	JNJ	GE	11%
2009	XOM	MSFT	AAPL	JNJ	PG	11%
2010	XOM	AAPL	MSFT	GE	CVX	11%
2011	XOM	AAPL	IBM	CVX	MSFT	12%
2012	AAPL	XOM	GE	CVX	IBM	13%
2013	AAPL	XOM	GOOGL	MSFT	GE	11%
2014	AAPL	XOM	MSFT	JNJ	BRK.B	11%
2015	AAPL	MSFT	XOM	GE	JNJ	11%
2016	AAPL	MSFT	XOM	JNJ	BRK.B	11%
2017	AAPL	MSFT	AMZN	FB	BRK.B	12%
2018	MSFT	AAPL	AMZN	BRK.B	JNJ	14%
2019	AAPL	MSFT	AMZN	FB	BRK.B	16%
2020	AAPL	MSFT	AMZN	FB	TSLA	20%
2021	AAPL	MSFT	AMZN	FB	GOOGL	21%

Top 5 holdings, ranked by % weight of total index. Cumulative weight is the sum of the individual weights of the top 5 positions.

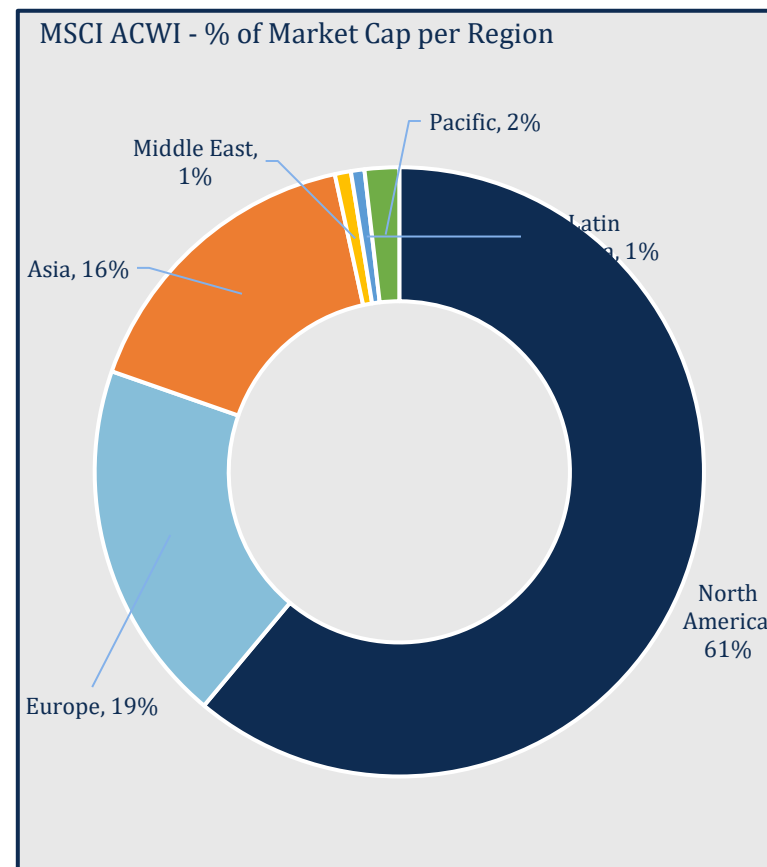Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

U.S. Equity

International Equity Markets

Performance Returns in USD	2021 YTD	2020	10-Yr Annualized
Regions			
U.S.	19.0%	16.6%	13.6%
AC World ex-U.S.	7.7%	10.9%	6.7%
EAFE	9.6%	8.0%	7.4%
Emerging Markets	0.5%	17.7%	4.6%
Selected Countries			
United Kingdom	12.3%	-16.5%	2.1%
France	19.2%	-6.8%	8.2%
Germany	10.4%	0.0%	6.9%
Japan	12.4%	5.9%	10.2%
China	-14.4%	27.2%	5.0%
Brazil	-9.3%	2.2%	5.3%
Canada	20.4%	0.3%	5.5%
Russia	38.5%	-16.9%	1.0%
India	32.8%	16.0%	11.8%

MSCI ACWI - % of Market Cap per Region

- Middle East, 1%
- Pacific, 2%
- Latin America, 1%
- Asia, 16%
- North America, 61%
- Europe, 19%

Indices used: (Left) U.S. – S&P 500, ACWI ex U.S. – MSCI ACWX, EAFE – MSCI EAFE, Emerging Markets – MSCI EME, United Kingdom – MSCI UK, France – MSCI France, Germany – MSCI Germany, Japan – MSCI Japan, China – MSCI China, Brazil – MSCI Brazil, Canada – MSCI Canada, Russia – FTSE Russia, India – MSCI India. (Right) MSCI ACWI – MSCI All Country World Index.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

MSCI EAFE - % of Market Cap per Region

Pacific, 7%

Middle East, 1%

Asia, 28%

Europe, 64%

■ Europe ■ Asia ■ Pacific ■ Middle East

MSCI EME - % of Market Cap per Region

Latin America, 5%

Middle East, 5%

North America, 2%

Europe, 5%

Africa, 3%

Asia, 78%

■ North America ■ Europe ■ Asia
■ Africa ■ Middle East ■ Latin America
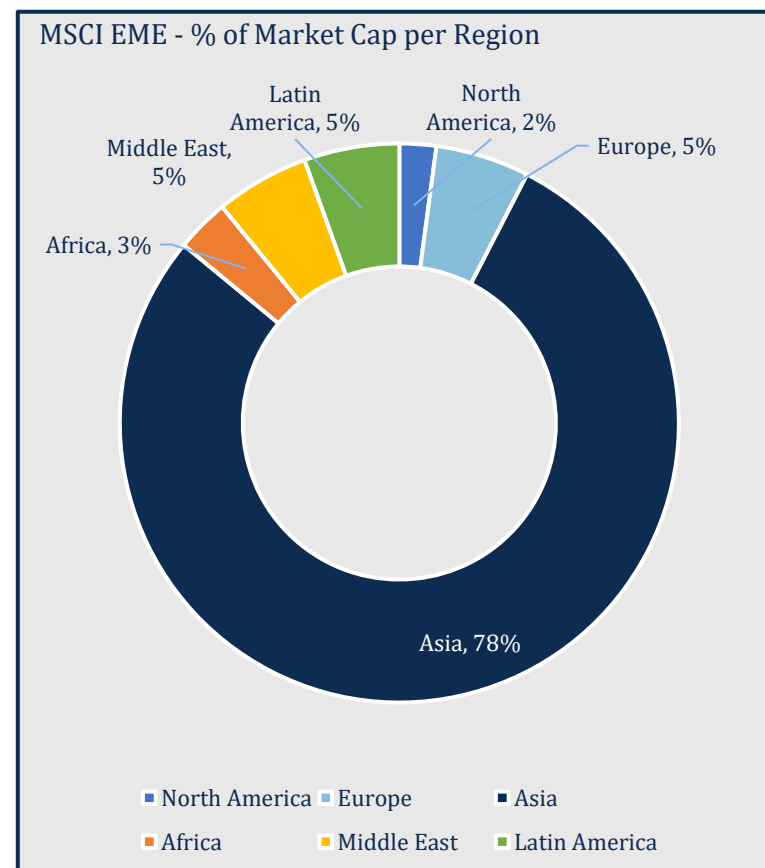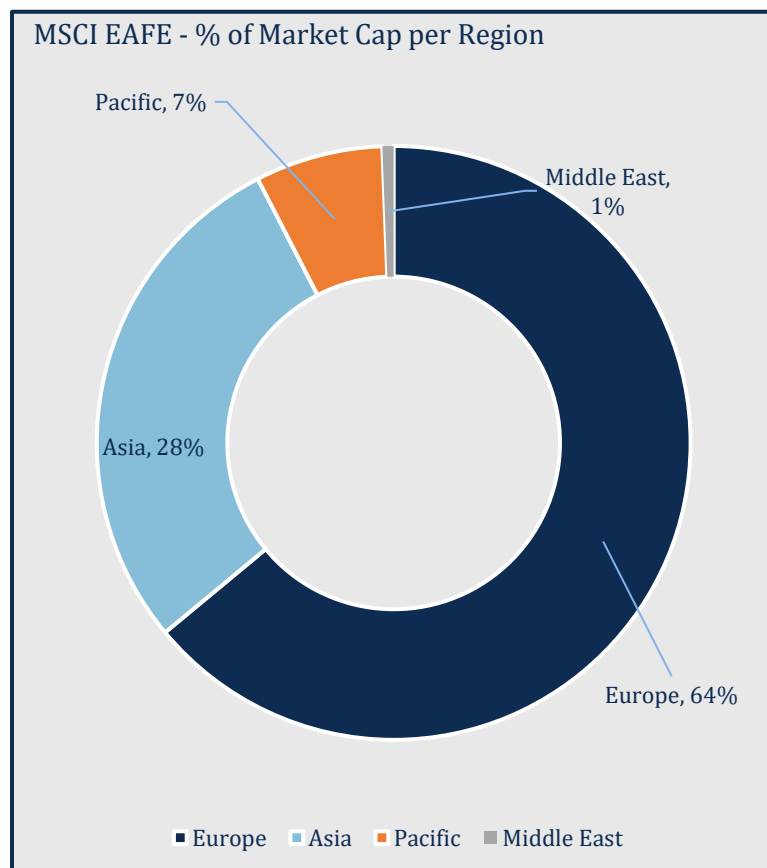
Indices used: Developed International – MSCI EAFE, Emerging Markets – MSCI EME

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Forward P/E for Developed Markets excluding U.S. Equity

Legend: FWD P/E — Average — — + 1 StDev — — - 1 StDev

Average, 13.79x

15x
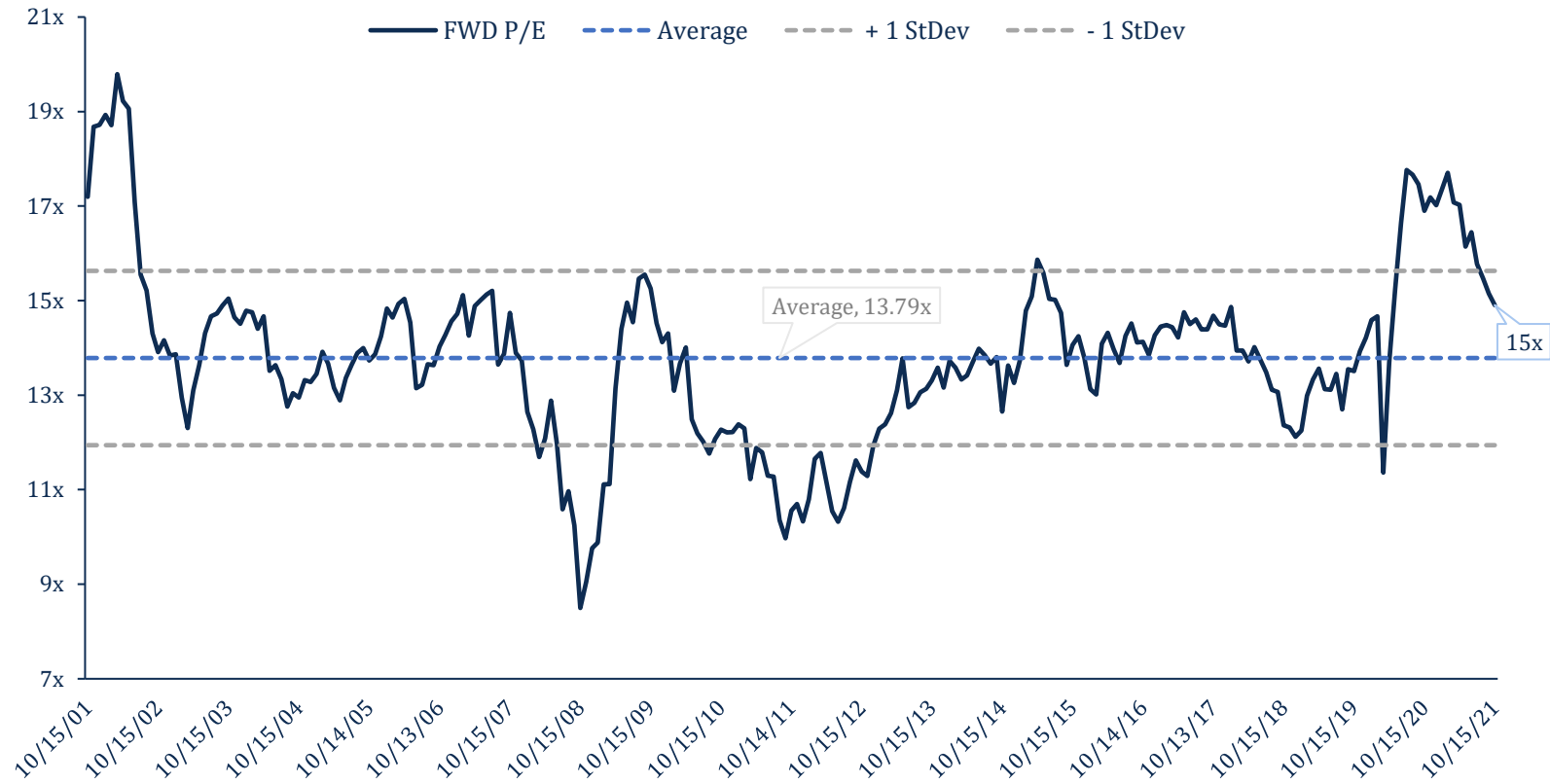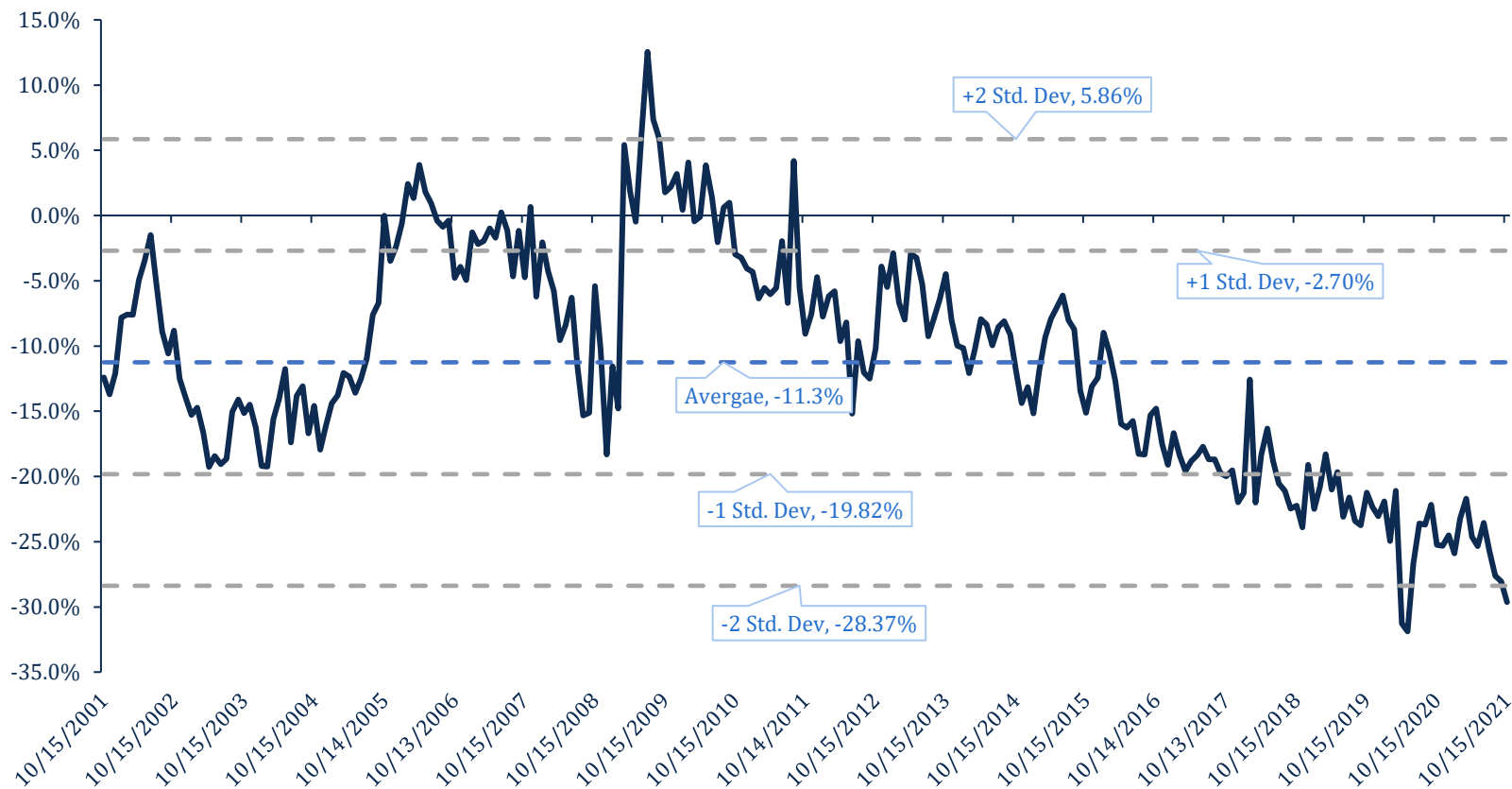
Developed ex USA FWD P/E is measured by MSCI ACWI ex USA.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

15.0%
10.0%
5.0%
0.0%
-5.0%
-10.0%
-15.0%
-20.0%
-25.0%
-30.0%
-35.0%

+2 Std. Dev, 5.86%
+1 Std. Dev, -2.70%
Avergae, -11.3%
-1 Std. Dev, -19.82%
-2 Std. Dev, -28.37%

10/15/2001, 10/15/2002, 10/15/2003, 10/15/2004, 10/14/2005, 10/13/2006, 10/15/2007, 10/15/2008, 10/15/2009, 10/15/2010, 10/14/2011, 10/15/2012, 10/15/2013, 10/15/2014, 10/15/2015, 10/14/2016, 10/13/2017, 10/15/2018, 10/15/2019, 10/15/2020, 10/15/2021

Indices used: International – MSCI ACWI ex U.S., U.S. – S&P 500. This chart compares the relative valuation levels of International equities to U.S. equities. It is measured relatively (international FWD PE/ U.S. PE – 1), to show whether there is a discount or premium in the international equity markets. Negative values represent a discount, while positive represents a premium.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Dividend Yields for International and U.S. Equities

Legend: U.S. Dividend Yield — International Dividend Yield
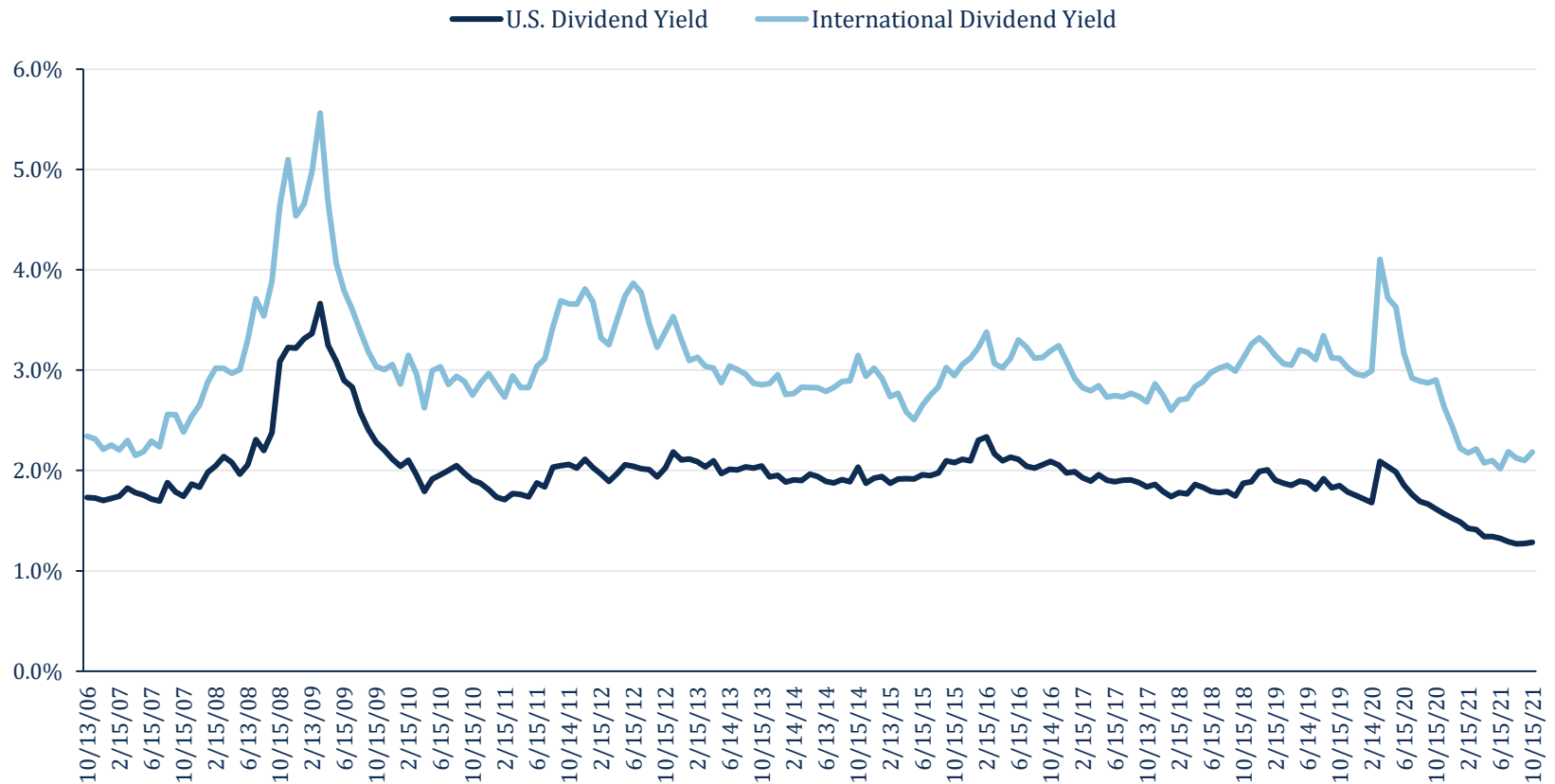
Indices used: International – MSCI ACWI ex U.S., U.S. – S&P 500. This chart compares U.S. Dividend yields vs. International dividend yields. Historically, international equity has offered higher yields.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

International Equity

Forward P/E for Global Markets
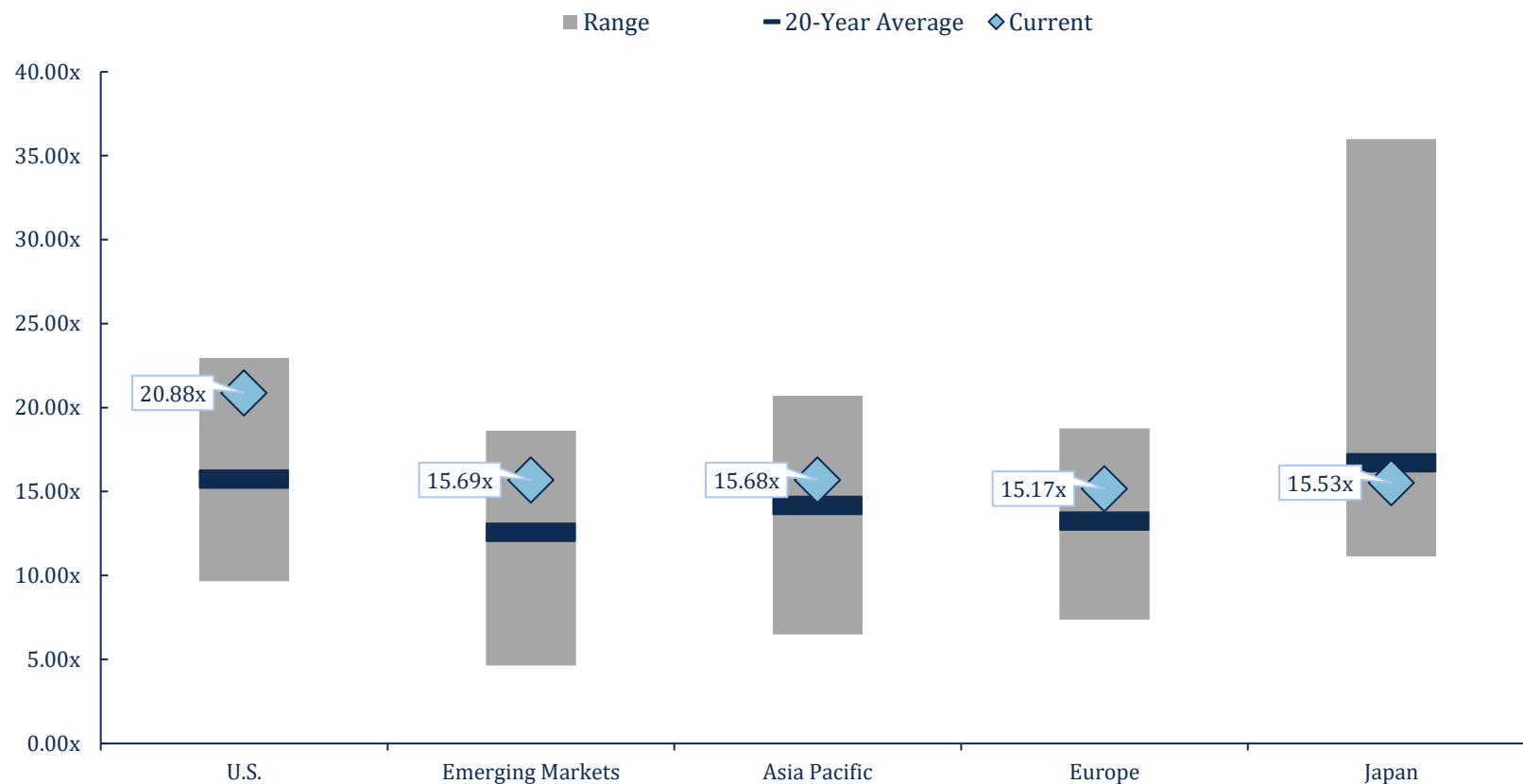
Range is a measure of 20-year historical. *Indices used are;* U.S. – S&P 500, Emerging Markets – MSCI EME, Asia Pacific – FactSet Asia Pacific Market Aggregate, Europe - FactSet Europe Market Aggregate, Japan - FactSet Japan Market Aggregate

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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International Equity

Vaccination Rate – Cumulative Doses Per 100 People

Legend: Japan, China, U.S., Germany, U.K., France, India, Brazil, Canada
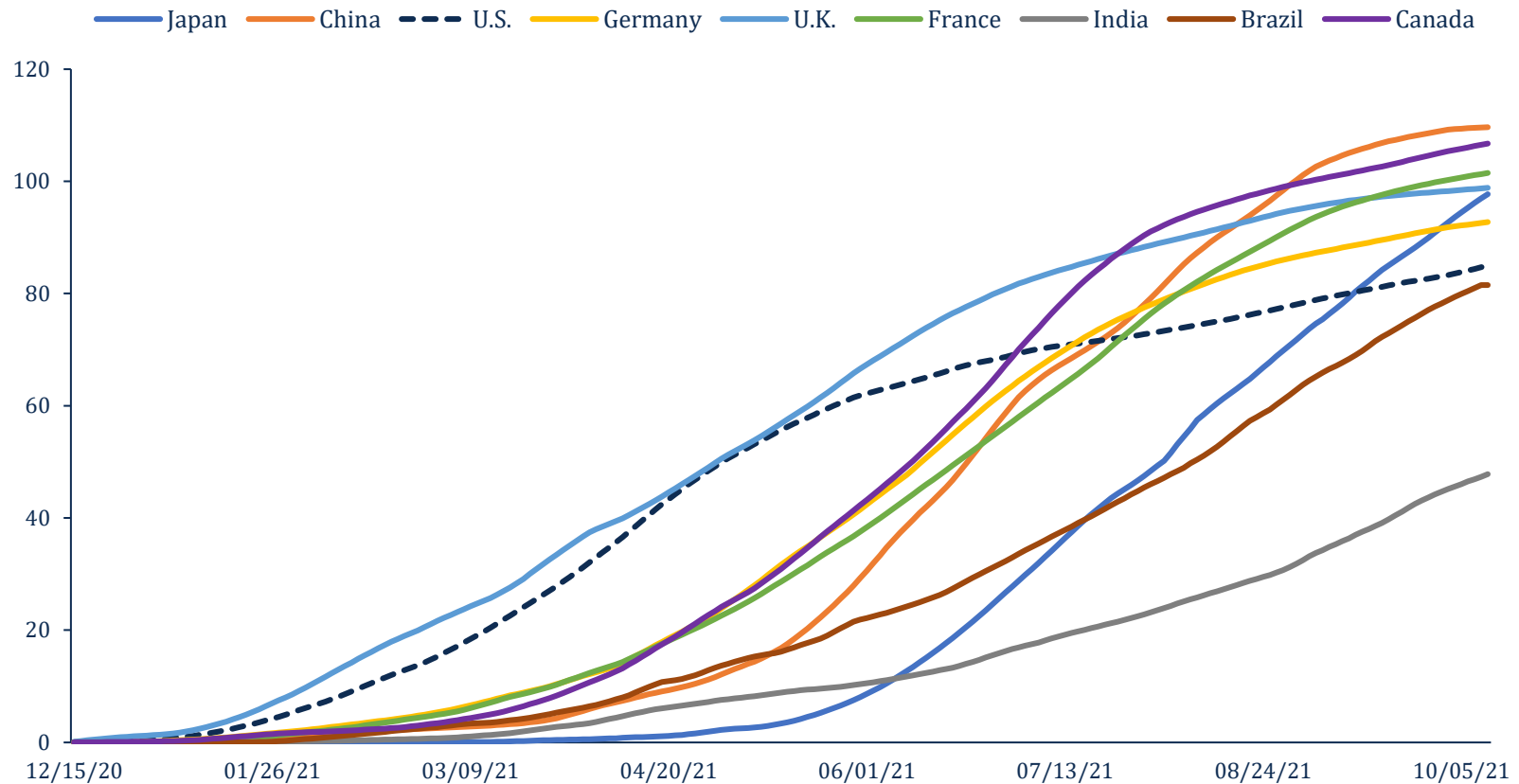
Data includes both 1st and 2nd doses.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

North Star
Advisory Group LLC

Alternatives

Asset Class Correlations

	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currency	EMD	Commodity	REITs	Hedge Funds	Private Equity	Gold
U.S. Large Cap	1												
EAFE	84.3%	1											
Emerging Equity	77.8%	72.5%	1										
Bonds	-6.9%	-12.2%	6.2%	1									
Corp. HY	76.9%	70.6%	78.4%	20.6%	1								
Munis	0.1%	4.8%	12.9%	71.4%	28.4%	1							
Currency	-57.8%	-45.7%	-73.2%	-8.5%	-62.8%	-15.4%	1						
Emerging Debt	58.6%	55.6%	68.8%	44.2%	83.8%	53.3%	-68.8%	1					
Commodity	52.2%	40.0%	58.2%	-8.7%	61.7%	5.8%	-65.4%	55.1%	1				
REITs	70.6%	61.1%	58.4%	34.6%	71.9%	36.4%	-45.8%	66.1%	39.5%	1			
Hedge Funds	8.0%	2.5%	-2.7%	-7.3%	-4.8%	-0.2%	4.4%	-5.7%	-10.6%	0.8%	1		
Private Equity	86.3%	85.6%	75.7%	-5.3%	83.9%	8.7%	-62.7%	68.0%	56.0%	71.5%	4.3%	1	
Gold	7%	-8%	22%	41%	21%	28%	-41%	38%	39%	15%	-15%	9%	1

Indices used in order from U.S. Large Cap to Gold are; S&P 500, MSCI EAFE, MSCI EME, Bloomberg Barclay's Agg. Bond Index, Bloomberg Barclay's Corp. High Yield, Bloomberg Barclay's Municipal Bond Index, Federal Reserve effective exch. Rate index, Bloomberg Barclay's Emerging Bond Index, Bloomberg Commodity Index, FTSE All REITS, Credit Suisse Hedge Fund Index, LPX Direct Listed P.E. Index, and GC00 gold futures. Correlation calculations use 10-year historical pricing data.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Commodities

| Price and Performance - Commodities	Current Price	1-Month Return	YTD Return	2020 Return
Energy				
Crude Oil WTI	$82.3	13.6%	71.7%	-44.2%
Brent Crude Oil	$84.8	7.1%	62.8%	-24.7%
Henry Rub Natural Gas	$5.4	-2.2%	101.1%	-45.7%
Metals				
Gold	$1,768	-1.5%	-7.3%	18.7%
Silver	$4.7	7.3%	33.7%	23.2%
Copper	$23.3	-1.9%	-12.1%	43.1%
Platinum	$1,059	13.6%	-2.4%	7.2%
Food and Materials				
Lumber	$760	27.5%	10.9%	184.7%
Cocoa	$2,607	-2.1%	-1.6%	2.1%
Coffee	$2.0	8.6%	49.4%	-9.6%
Cotton	$1.1	15.0%	31.9%	9.6%
Orange Juice	$1.2	-15.5%	-13.3%	16.3%
Sugar	$0.2	-2.3%	30.0%	12.2%
Grains				
Corn	$5.3	-1.5%	26.5%	13.1%
Oats	$6.6	22.4%	78.0%	31.8%
Rough Rice	$13.9	1.1%	9.3%	-4.5%
Soybeans	$12.2	-5.9%	0.4%	34.6%
Wheat	$7.3	3.1%	10.6%	10.7%

All prices and price returns are based on each respective commodity's daily futures price.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
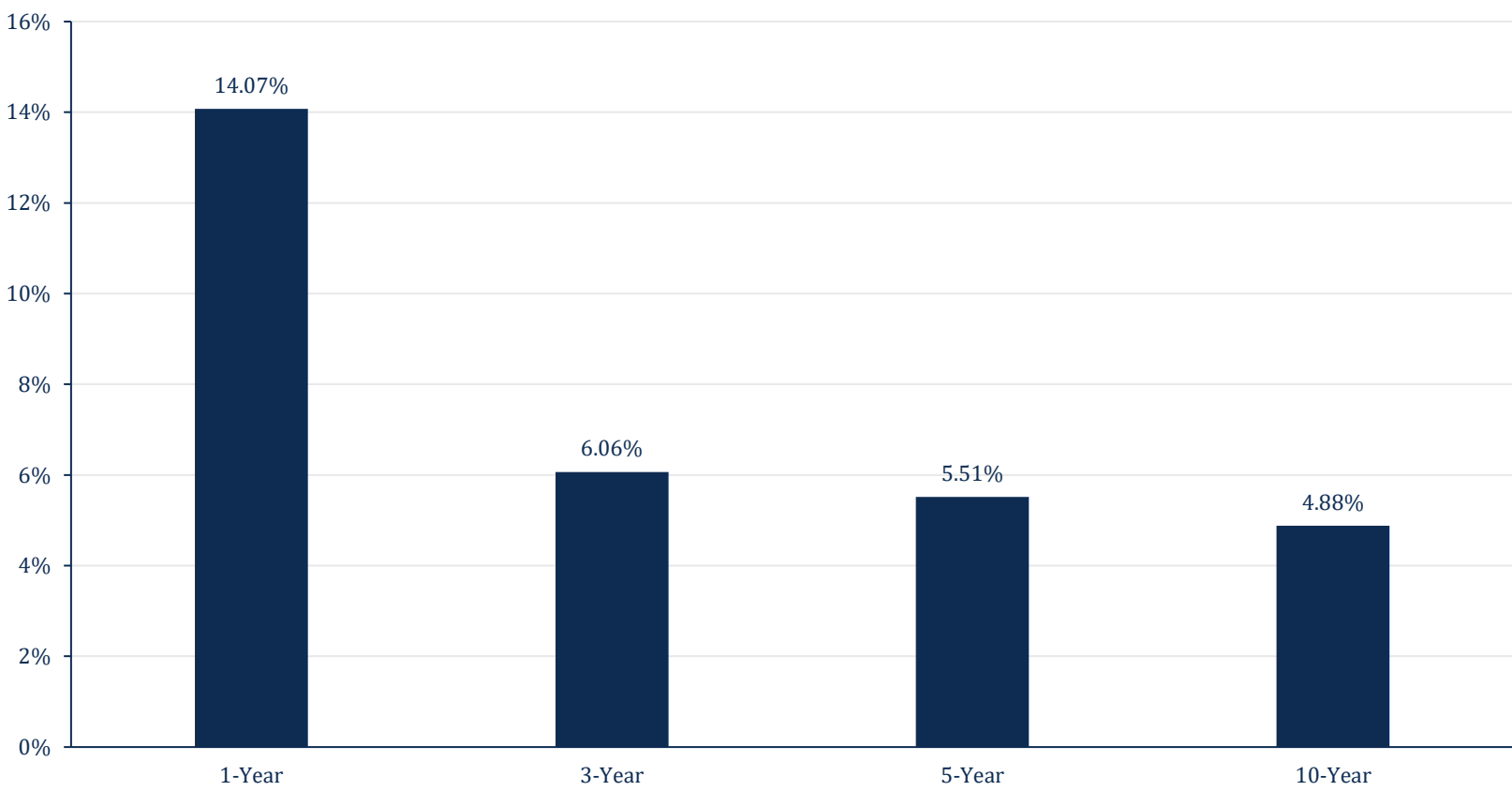
Alternatives

Real Estate Value Growth – 20 Year Indexed to 100
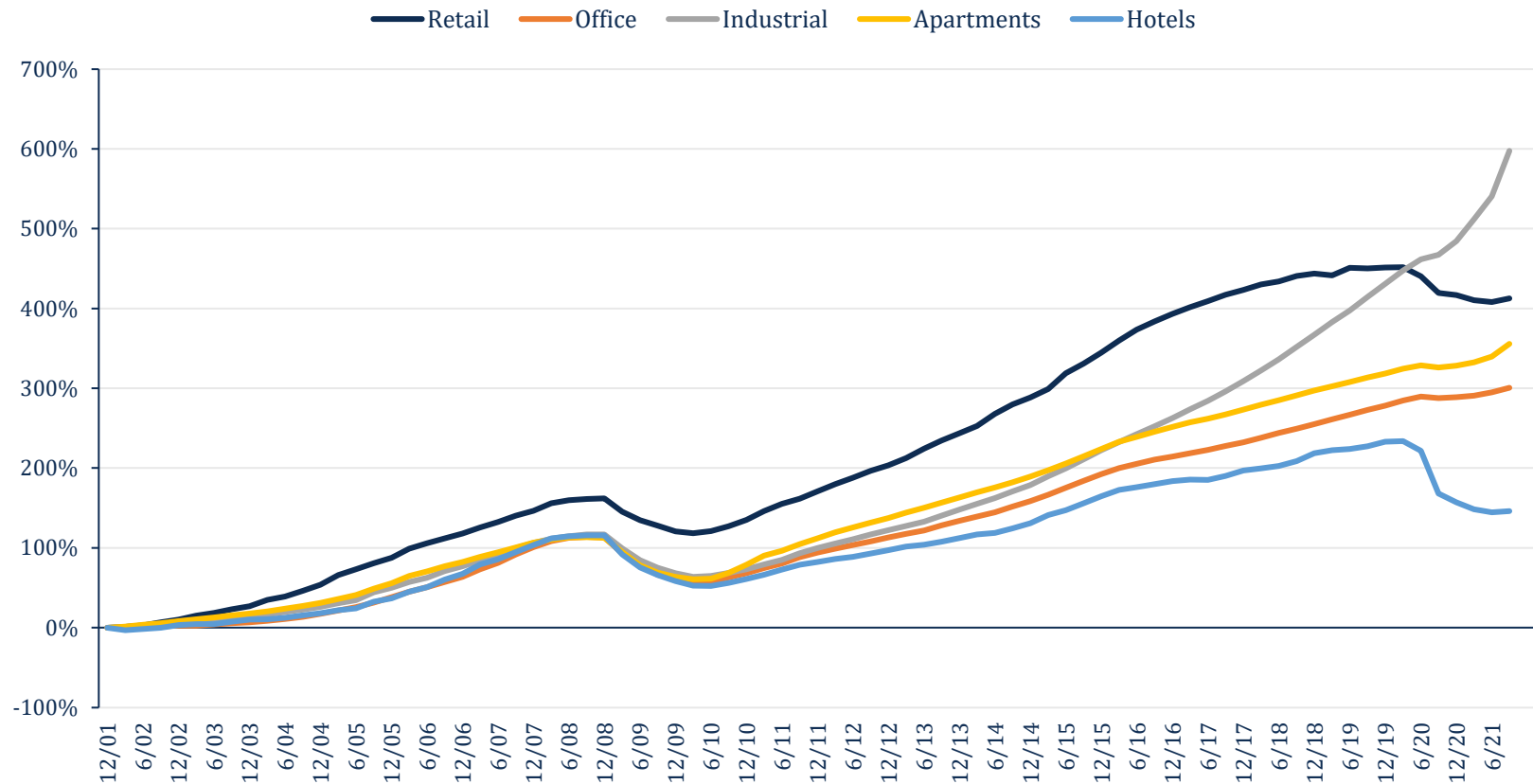
Returns are measured quarterly by NCREIF. Returns are indexed to 100.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

10/18/2021
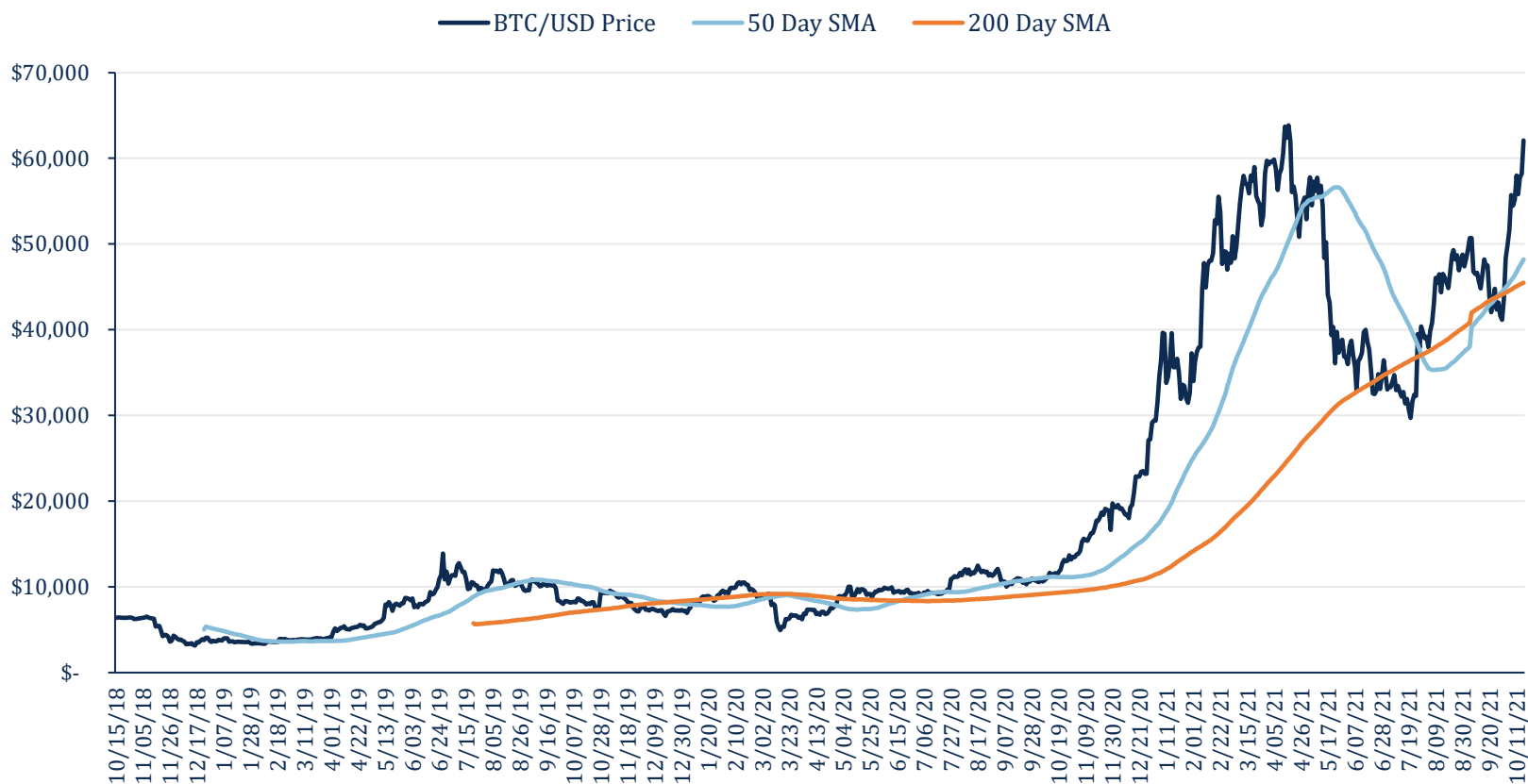
Alternatives

Hedge Fund Returns

Index used: Credit Suisse Hedge Fund Index. 3-, 5-, and 10-year return values are annualized.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.
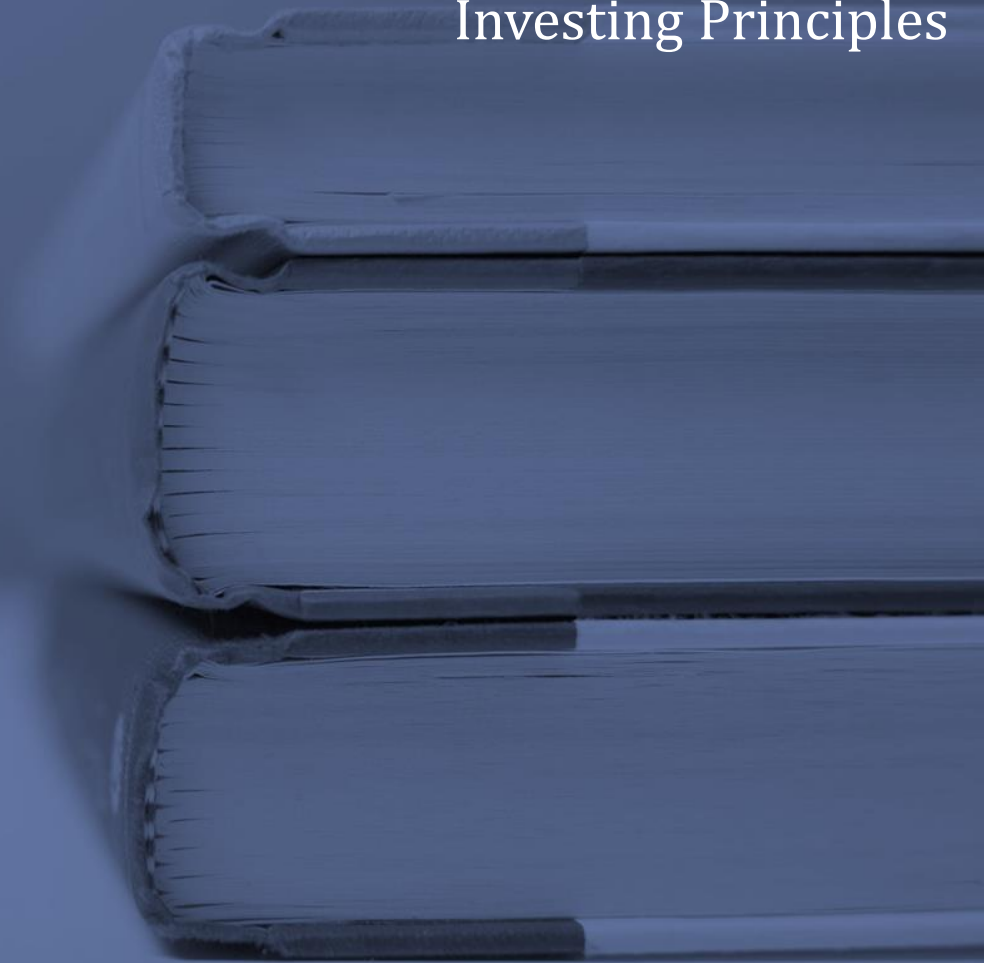
Alternatives

Bitcoin's price is measured relative to USD as the dollar amount of USD per 1 Bitcoin. Moving averages are a simple moving average calculation. Pricing source: BTC USA Futures (BTC00-USA – FactSet Global).
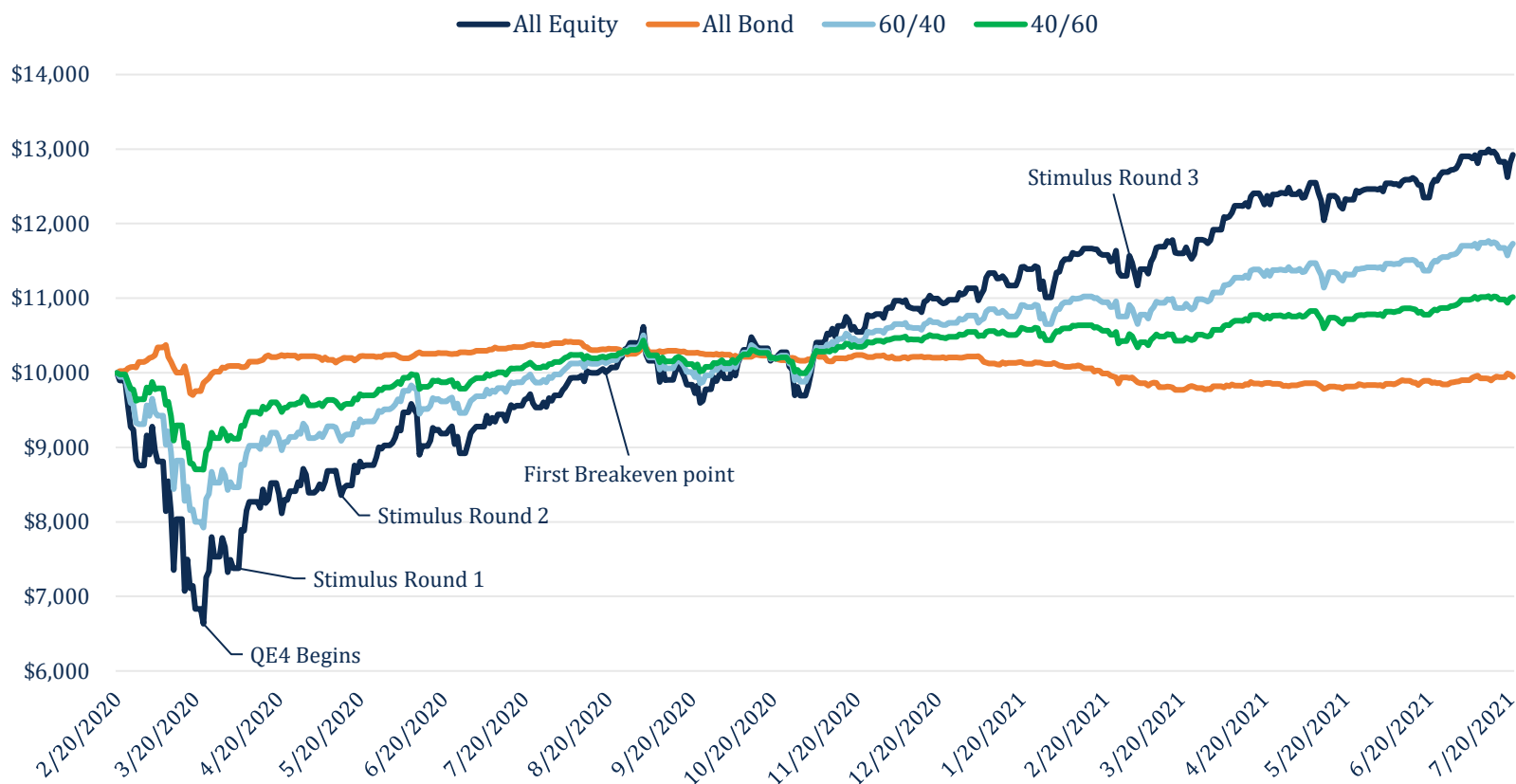
Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

10/18/2021

Alternatives

Investing Principles

Covid Recovery by Asset Mix Invested on 2/20/2020 — line chart comparing All Equity, All Bond, 60/40, and 40/60 portfolios from 2/20/2020 to 7/20/2021. Annotations: QE4 Begins, Stimulus Round 1, Stimulus Round 2, First Breakeven point, Stimulus Round 3.
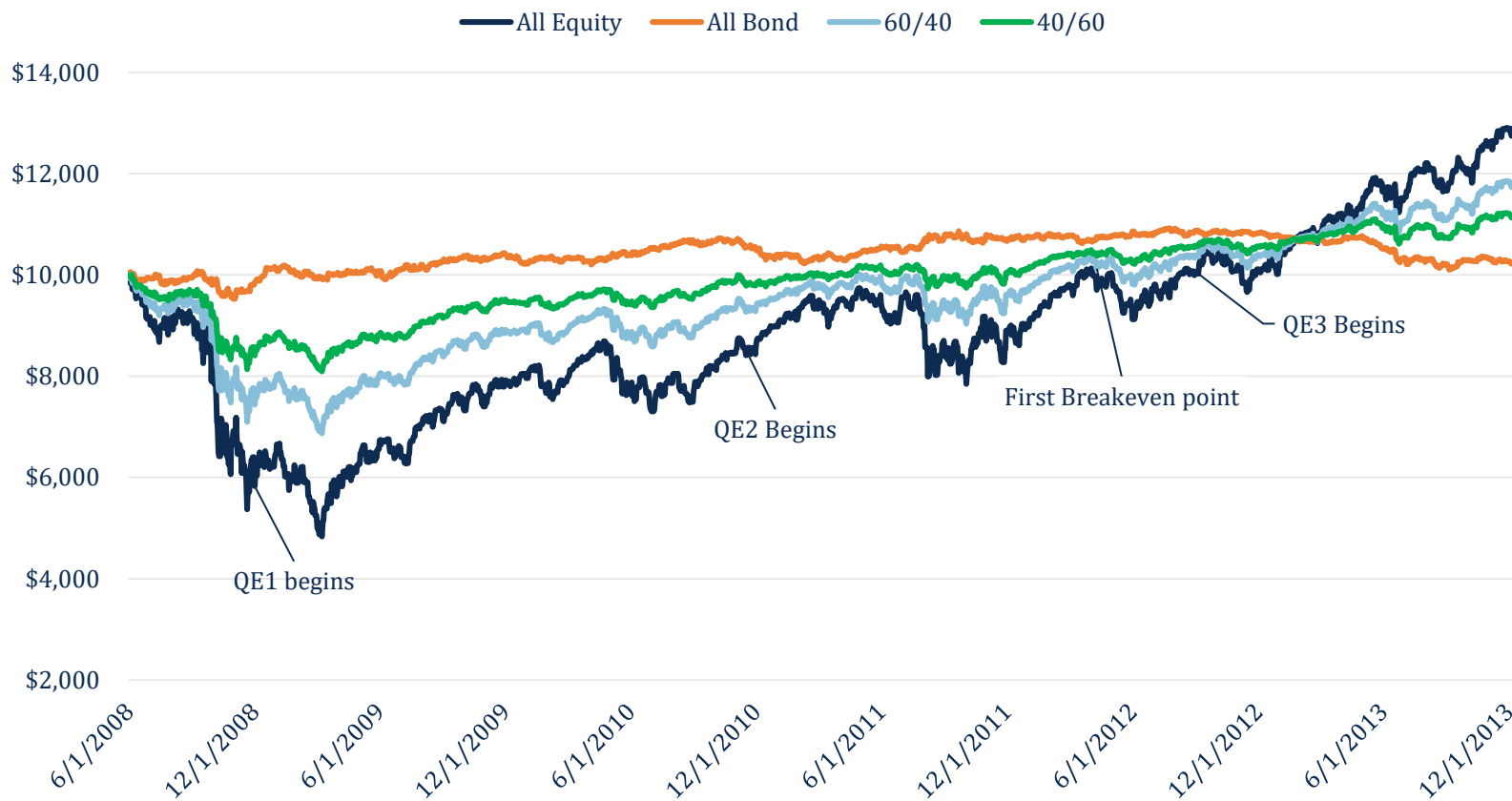
Stock and Bond Portfolios are comprised of the S&P 500 and the Bloomberg Barclay's Aggregate Bond Index. On an all-equity portfolio, the time to first break even point from the Covid-19 drop was ~5.5 Months. The QE (Quantitative Easing) start date was 3/23/2020.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

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Legend: All Equity — All Bond — 60/40 — 40/60

Chart annotations: QE1 begins, QE2 Begins, First Breakeven point, QE3 Begins

Y-axis: $2,000 / $4,000 / $6,000 / $8,000 / $10,000 / $12,000 / $14,000

X-axis: 6/1/2008, 12/1/2008, 6/1/2009, 12/1/2009, 6/1/2010, 12/1/2010, 6/1/2011, 12/1/2011, 6/1/2012, 12/1/2012, 6/1/2013, 12/1/2013

Stock and Bond Portfolios are comprised of the S&P 500 and the Bloomberg Barclay's Aggregate Bond Index. The time to first break even point from the GFC was ~4.2 years. QE start date was 11/20/2008.

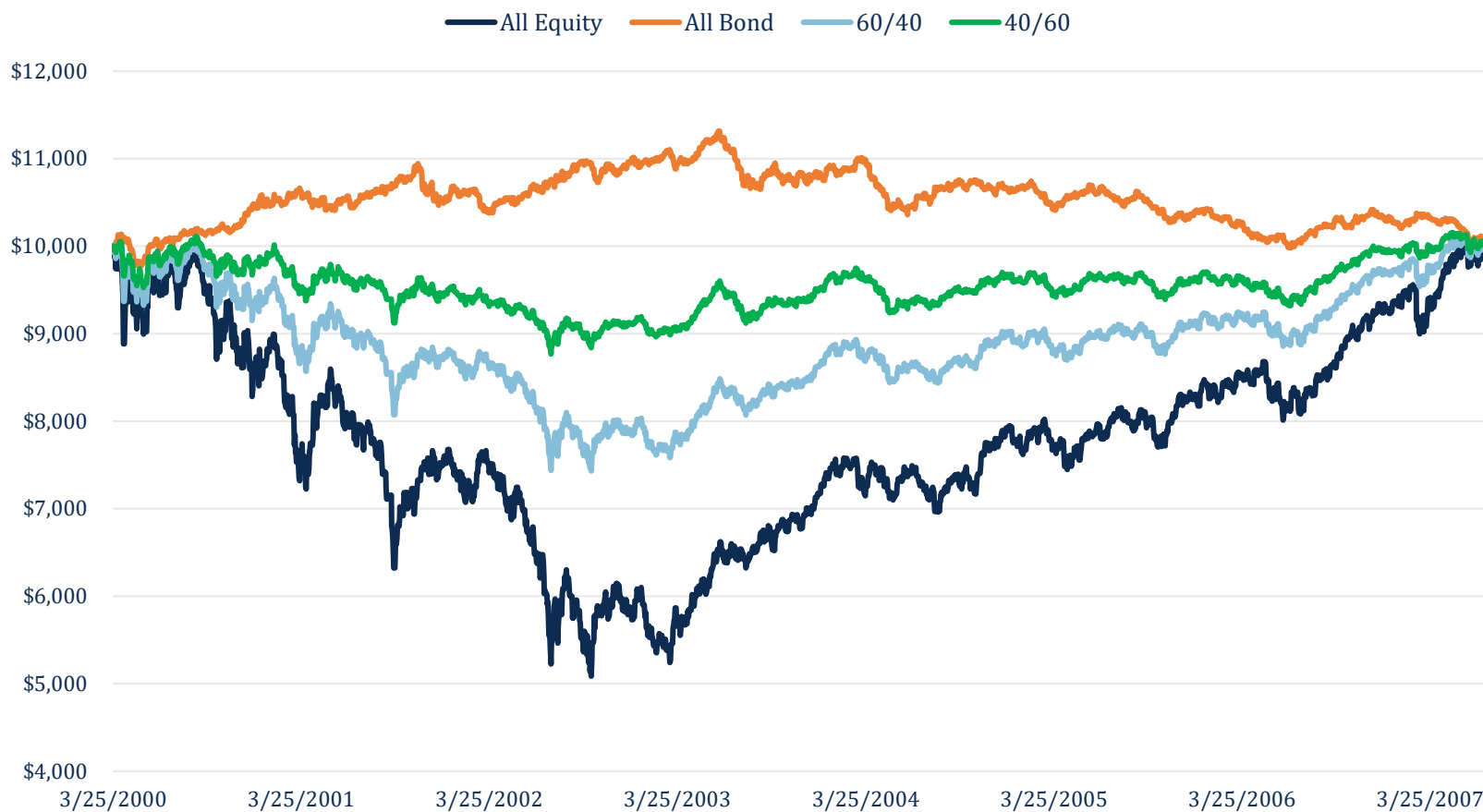Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Stock and Bond Portfolios are comprised of the S&P 500 and the Bloomberg Barclay's Aggregate Bond Index. The time to first break even point from Tech burst was ~7 years.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Avg. Annual Earnings on $100k Savings Balance
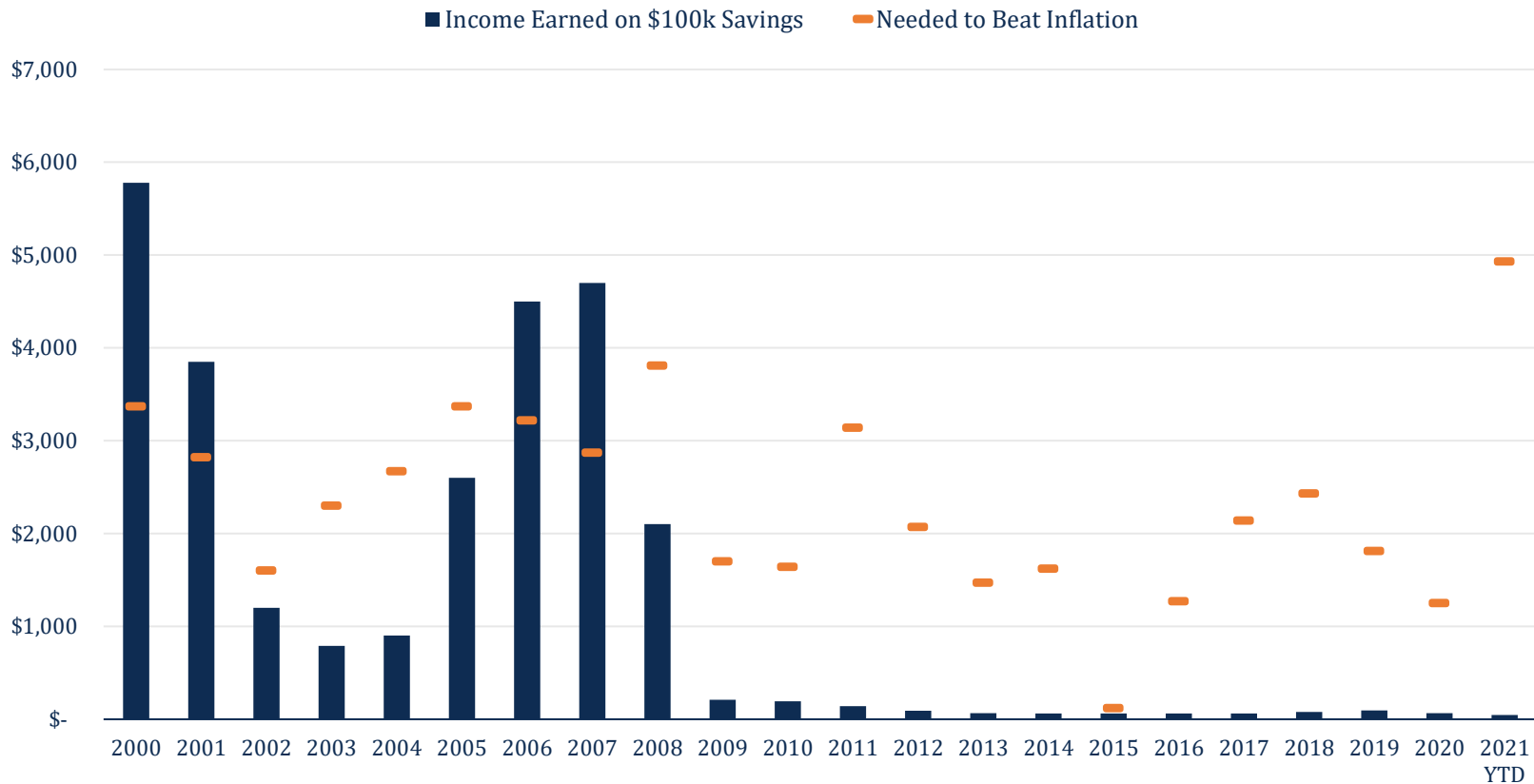
Savings income based on BankRate.com aggregate savings account yield on a calendar year basis. Earnings to beat inflation measured as Core CPI Quarterly YoY growth.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

10/18/2021

Investing Principles

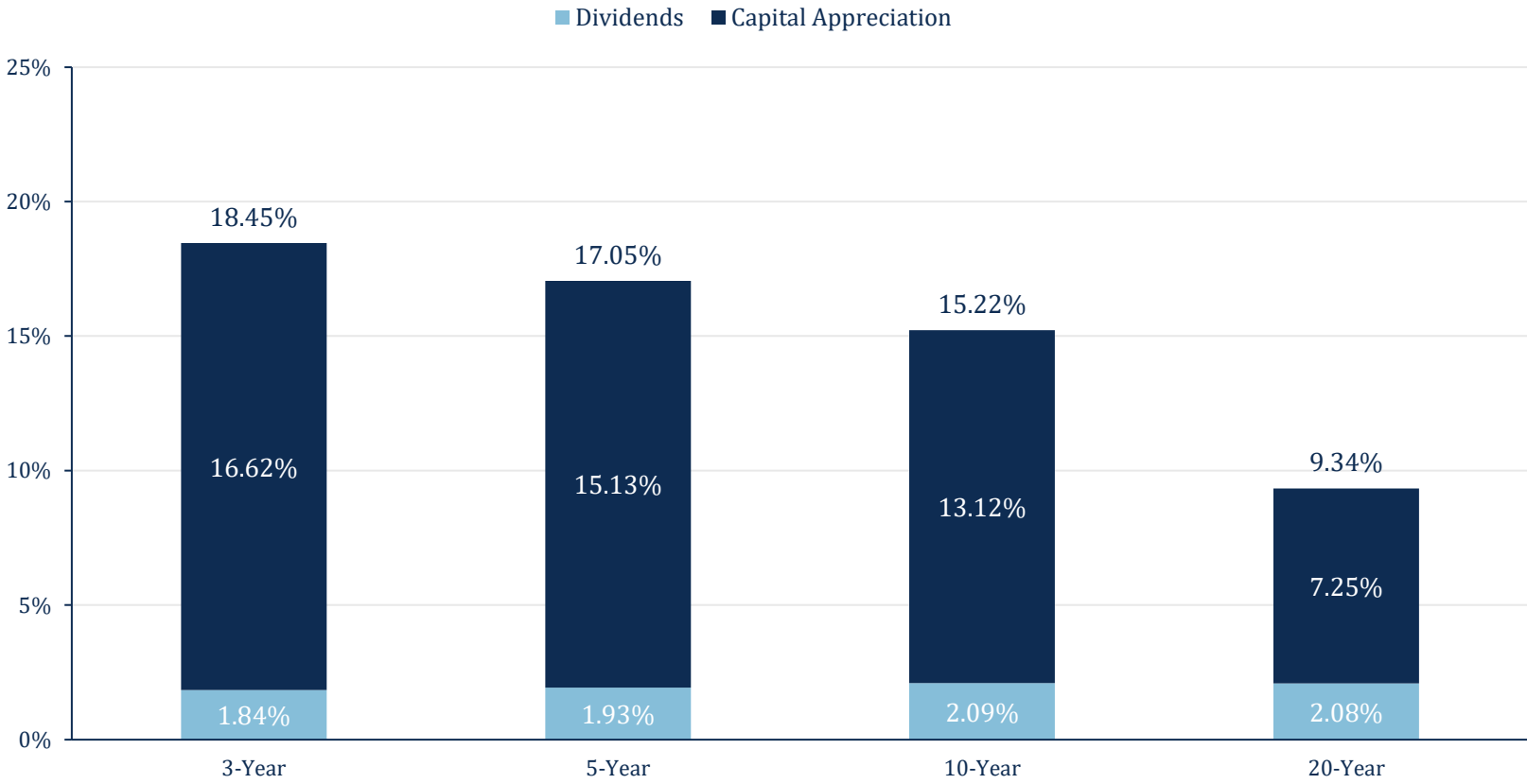# S&P 500 - Annualized Returns - Capital Appreciation vs. Dividends

NORTH STAR
Advisory Group LLC

Legend: ■ Dividends ■ Capital Appreciation

Chart — S&P 500 annualized returns:

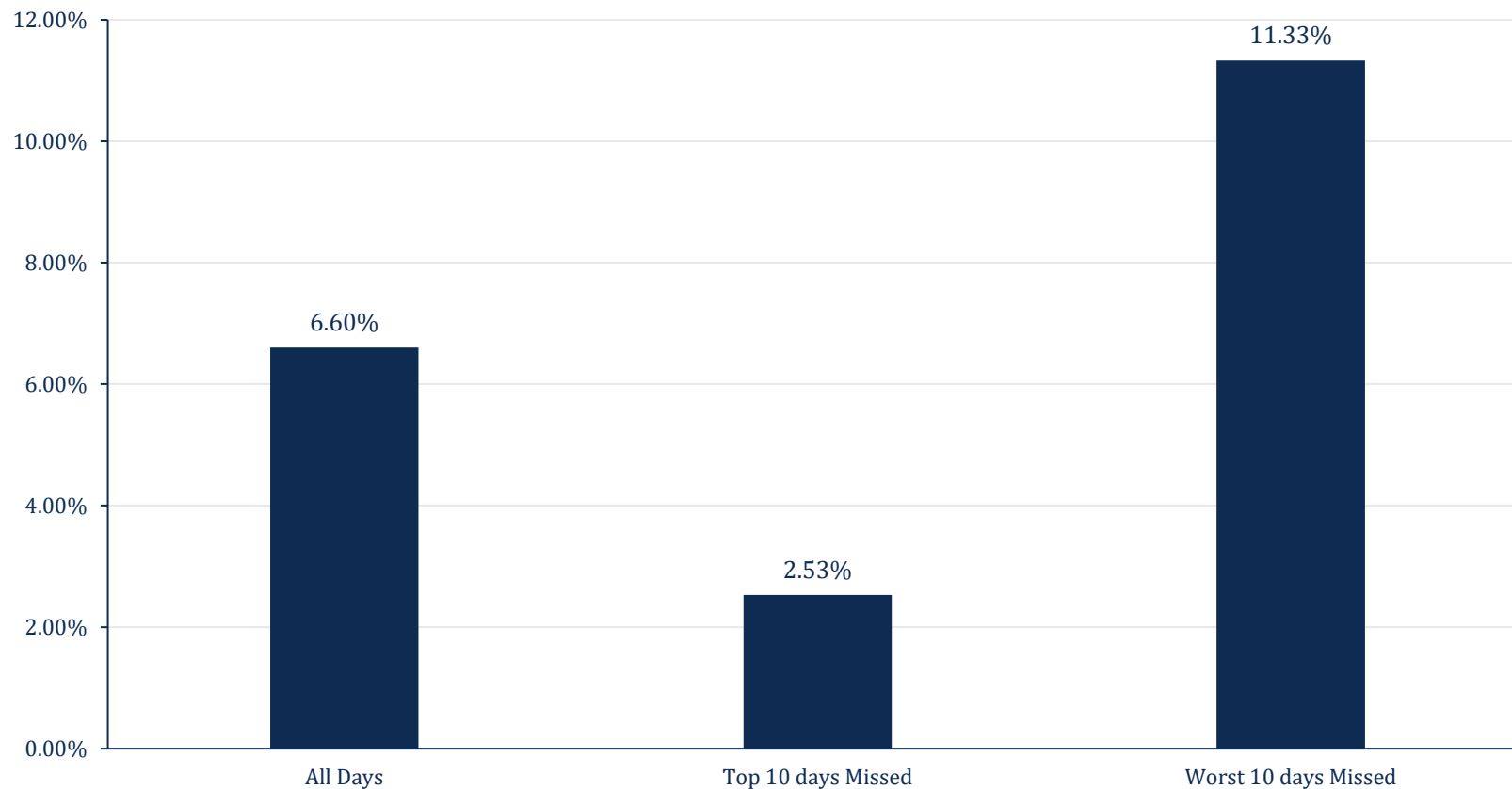| Period	Total	Capital Appreciation	Dividends
3-Year	18.45%	16.62%	1.84%
5-Year	17.05%	15.13%	1.93%
10-Year	15.22%	13.12%	2.09%
20-Year	9.34%	7.25%	2.08%

S&P 500 annualized returns broken out between dividend yield return and capital (price) appreciation.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Investing Principals

Index used: S&P 500. Return values are measured as daily return over a 20-year historical timeline (dividend reinvestment not included n calculation). Top 10 days missed – 10 largest daily gains replaced with 0% gain. Worst 10 days missed – 10 largest daily losses replaced with 0% gain.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Equity Market Returns by Administration
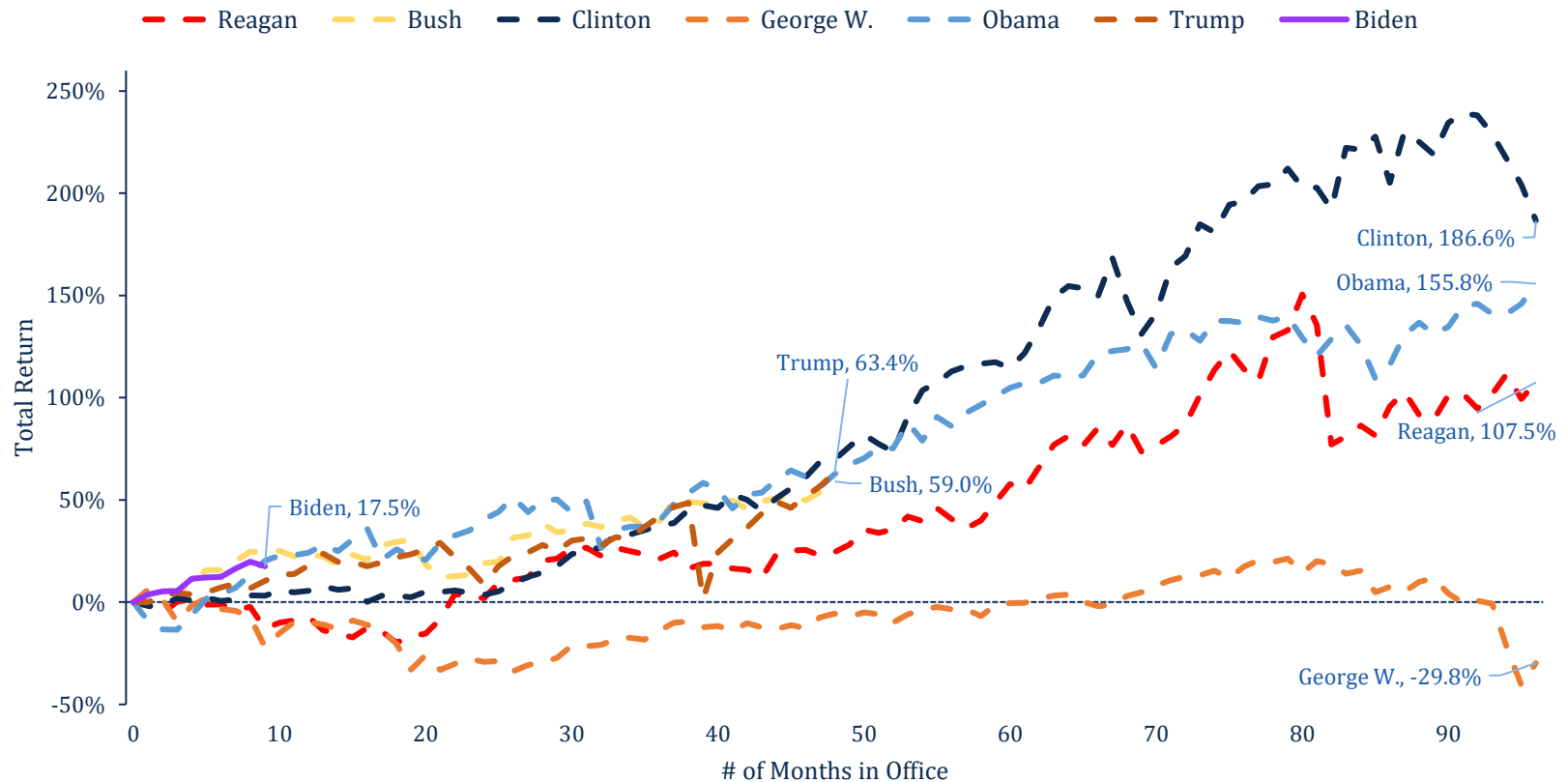
Returns values are a total return calculation on the S&P 500, including dividend reinvestment.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Investing Principals

North Star
Advisory Group LLC

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FactSet is an unaffiliated third-party financial data provider. All data used and presented in this report is sourced from FactSet Global. FactSet Global aggregates, compiles, and tracks financial data including; price, volume, macroeconomic, microeconomic, industry, firm level and various other qualitative and quantitative data from various other sources. Those additional sources are listed below and are also highlighted in many of the slides.

Additional Sources: BEA – U.S. Bureau of Economic Analysis, DOL – U.S. Department of Labor, Federal Reserve System, S&P Global, Bloomberg, MSCI Global, FTSE Russell, Credit Suisse, NCREIF – National Council of Real Estate Investment Fiduciaries, ISM – Institute of Supply Management, Yale Economics, U.S. Bureau of the Census, U.S. Bureau of the Census, U.S. Department of Housing & Urban Development.

Unless otherwise stated, all data and values are as of 9/30/2021, or most recently available.

Prepared by: Mark Kangas, CFP®, and Brian Duffield | See our team here: NSAG Team.

Name:	FactSet Symbol:	Index Family Description:
S&P 500	SP50	The S&P 500 includes 500 leading companies in leading industries of the U.S. economy. It is a core component of the U.S. indices that could be used as building blocks for portfolio construction. It is also the U.S. component of S&P Global 1200.
Bloomberg US Aggregate	LHMN0001	The Bloomberg US Aggregate Bond Index, or the Agg, is a broad base, market capitalization-weighted bond market index representing intermediate term investment grade bonds traded in the United States. Investors frequently use the index as a stand-in for measuring the performance of the US bond market.
MSCI EAFE	990300	The MSCI EAFE Index is an equity index which captures large and mid cap representation across 21 Developed Markets countries* around the world, excluding the US and Canada. With 845 constituents, the index covers approximately 85% of the free floatadjusted market capitalization in each country.
MSCI EM (Emerging Markets)	891800	The MSCI Emerging Markets Index captures large and mid cap representation across 27 Emerging Markets (EM) countries. With 1,418 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
Russell 1000 Value	R.1000V	The Russell 1000 Index is a stock market index that tracks the highest-ranking 1,000 value stocks in the Russell 3000 Index, which represent about 90% of the total market capitalization of that index.
Russell 1000 Growth	R.1000G	The Russell 1000 Index is a stock market index that tracks the highest-ranking 1,000 growth stocks in the Russell 3000 Index, which represent about 90% of the total market capitalization of that index.
Russell 2000	R.2000	Built in 1984, the Russell U.S. Indexes are designed to represent the investable U.S. equity market. The indexes are market cap-weighted and include only common stocks incorporated in the United States and its territories. All indexes are subsets of the Russell 3000 Index, which represents approximately 98% of the investable U.S. equity market.
S&P Completion Energy	SPCI001	The S&P Completion Index (CI) Energy comprises those companies included in the S&P CI that are classified as members of the GICS® Energy sector.
S&P Completion Materials	SPCI002	The S&P Completion Index (CI) Materials comprises those companies included in the S&P CI that are classified as members of the GICS® Materials sector.
S&P Completion Industrials	SPCI003	The S&P Completion Index (CI) Industrials comprises those companies included in the S&P CI that are classified as members of the GICS® Industrial's sector.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

S&P Completion Consumer Discretionary	SPCI004	The S&P Completion Index (CI) Consumer Discretionary comprises those companies included in the S&P CI that are classified as members of the GICS® Consumer Discretionary sector.
S&P Completion Consumer Staples	SPCI005	The S&P Completion Index (CI) Consumer Staples comprises those companies included in the S&P CI that are classified as members of the GICS® Consumer Staples sector.
S&P Completion Health Care	SPCI006	The S&P Completion Index (CI) Health Care comprises those companies included in the S&P CI that are classified as members of the GICS® Health Care sector.
S&P Completion Financials	SPCI007	The S&P Completion Index (CI) Financials comprises those companies included in the S&P CI that are classified as members of the GICS® Financials sector.
S&P Completion Information Technology	SPCI008	The S&P Completion Index (CI) Information Technology comprises those companies included in the S&P CI that are classified as members of the GICS® Information Technology sector.
S&P Completion Communication Services	SPCI009	The S&P Completion Index (CI) Communication Services comprises those companies included in the S&P CI that are classified as members of the GICS® Communication Services sector.
S&P Completion Utilities	SPCI010	The S&P Completion Index (CI) Utilities comprises those companies included in the S&P CI that are classified as members of the GICS® Utilities sector.
S&P Completion Real Estate	SPCI011	The S&P Completion Index (CI) Real Estate comprises those companies included in the S&P CI that are classified as members of the GICS® Real Estate sector.
MSCI USA Large Cap Value	MS650145	The MSCI USA Large Cap Value Index captures large cap US securities exhibiting overall value style characteristics. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
MSCI US Large Cap (300)	MS600065	The MSCI US Large Cap 300 Index is designed to measure the performance of the large cap segment of the US equity market. The index represents approximately 71% of the free float-adjusted market capitalization in the US equity market.

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MSCI US Large Cap (300) Growth	MS600469	The MSCI USA Large Cap Growth Index captures large cap securities exhibiting overall growth style characteristics in the US. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
MSCI US Mid Cap (450) Value	MS600467	The MSCI US Mid Cap 450 Index is comprised of the next largest 450 value companies in terms of market capitalization of the US equity market and designed to measure the performance of the mid cap segment. The index represents approximately 16% of the free float-adjusted market capitalization of the US equity market.
MSCI US Mid Cap (450)	MS600251	The MSCI US Mid Cap 450 Index is comprised of the next largest 450 companies in terms of market capitalization of the US equity market and designed to measure the performance of the mid cap segment. The index represents approximately 16% of the free float-adjusted market capitalization of the US equity market.
MSCI US Mid Cap (450) Growth	MS600470	The MSCI US Mid Cap 450 Index is comprised of the next largest 450 growth companies in terms of market capitalization of the US equity market and designed to measure the performance of the mid cap segment. The index represents approximately 16% of the free float-adjusted market capitalization of the US equity market.
MSCI US Small Cap (1750) Value	MS600468	The MSCI USA Small Cap Value Index captures small cap securities exhibiting overall value style characteristics across the US equity markets. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
MSCI US Small Cap (1750)	MS600344	The MSCI US Small Cap 1750 Index is comprised of the remaining smallest 1,750 companies in the US Investable Market 2500 Index of the US equity market and designed to measure the performance of the small cap segment. The index represents approximately 11.5% of the free float-adjusted market capitalization of the US equity market.
MSCI US Small Cap (1750) Growth	MS600471	The MSCI US Small Cap Growth Index captures small cap securities exhibiting overall growth style characteristics in the US. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
MSCI World ex USA	991000	The MSCI World ex USA Index captures large and mid cap representation across 22 of 23 Developed Markets (DM) countries*-- excluding the United States. With 936 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.
MSCI United Kingdom	982600	The MSCI United Kingdom Index is designed to measure the performance of the large and mid cap segments of the UK market. With 86 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in the UK.
FTSE France	180918	The FTSE France RIC Capped Index represents the performance of French large and mid capitalization stocks.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

FTSE Germany	180924	The FTSE Germany All Cap Index is part of a range of indexes designed to help European investors benchmark their investments. It is a market-capitalization weighted index representing the performance of German large, mid and small cap stocks.
MSCI Japan	939200	The MSCI Japan Index is designed to measure the performance of the large and mid cap segments of the Japanese market. With 272 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan.
MSCI China	MS302400	The MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs). With 740 constituents, the index covers about 85% of this China equity universe. Currently, the index includes Large Cap A and Mid Cap A shares represented at 20% of their free float adjusted market capitalization.
MSCI Brazil	907600	he MSCI Brazil Index is designed to measure the performance of the large and mid cap segments of the Brazilian market. With 53 constituents, the index covers about 85% of the Brazilian equity universe.
MSCI Canada	912400	The MSCI Canada Index is designed to measure the performance of the large and mid cap segments of the Canada market. With 91 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Canada.
FTSE Russia	i04787	The FTSE Russia RIC Capped Index represents the performance of Russian large and mid capitalization stocks.
MSCI India	935600	The MSCI India Index is designed to measure the performance of the large and mid cap segments of the Indian market. With 101 constituents, the index covers approximately 85% of the Indian equity universe.
Bloomberg US Corporate Investment Grade	LHMN2765	The Bloomberg Barclays U.S. Corporate Bond Index is an unmanaged market-value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more. You cannot invest directly in an index.
Bloomberg US High Yield - Corporate	LHMN2814	The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded (Future Ticker: I00012US)
Bloomberg US MBS (30 Y)	LHMN10926	The Index tracks agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC); investment grade debt asset backed securities; and investment grade commercial mortgage-backed securities. The index is constructed by grouping individual pools into aggregates or generics based on program, coupon, and vintage. You cannot invest directly in an index.

Source: FactSet Global, 2021 | All data and values are as of 9/30/2021, or most recently available.

Bloomberg US CMBS 2.0	LHMN26711	The Index tracks agency mortgage-backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC); investment grade debt asset backed securities; and investment grade commercial mortgage-backed securities. The index is constructed by grouping individual pools into aggregates or generics based on program, coupon, and vintage. You cannot invest directly in an index.
FactSet Market Indices - Emerging	FR0000R5	FactSet Market Indices are time-series composite indices based on proprietary country, region, sector, and industry classifications. Aggregates are valuable benchmarks for company and trend analysis.
FactSet Market Indices - Asia Pacific	FR0000R2	
FactSet Market Indices - Europe	FR0000R3	
FactSet Market Indices - Japan	FC0000JP	
Bloomberg Municipal Bond	LHMN0730	The Bloomberg Barclays Municipal Bond Index is an unmanaged index composed of long-term tax-exempt bonds with a minimum credit rating of Baa. You cannot invest directly in an index.
Federal Reserve nominal broad effective exchange rate index - United States	FRBUSANEXB	Nominal effective exchange rates are calculated as geometric weighted averages of bilateral exchange rates. Used for calculating correlation of asset class returns to currency fluctuations
Bloomberg Emerging Markets USD Aggregate	LHMN0014	The Bloomberg Barclays Emerging Markets Hard Currency Aggregate Index is a flagship hard currency Emerging Markets debt benchmark that includes USD-denominated debt from sovereign, quasi-sovereign, and corporate EM issuers. You cannot invest directly in an index.
Bloomberg Commodity Index	BBGCICMP	The Bloomberg Commodity Index (BCOM) is a broadly diversified commodity price index distributed by Bloomberg Indexes.
FTSE Nareit All REITs	FNARXXXX	The FTSE NAREIT US Real Estate Index Series is designed to present investors with a comprehensive family of REIT performance indexes that span the commercial real estate space across the US economy, offering exposure to all investment and property sectors. In addition, the more narrowly focused property sector and sub-sector indexes provide the facility to concentrate commercial real estate exposure in more selected markets.
Credit Suisse Hedge Fund Index	CSTHF000	The Dow Jones Credit Suisse Hedge Fund Indexes (formerly known as the Credit Suisse/Tremont Hedge Fund Index) offer asset-weighted benchmarks of hedge fund performance, using rules-based selection criteria, transparent methodology and published constituents. Flagship indices include Dow Jones Credit Suisse Hedge Fund Index, Dow Jones Credit Suisse Core Hedge Fund Index, Dow Jones Credit Suisse All Hedge Index, Dow Jones Credit Suisse Blue Chip Hedge Fund Index and Dow Jones Credit Suisse LEA Hedge Fund Index.
LPX Direct Listed Private Equity Index	LPXDITU	Based on a global universe of listed private equity companies, the LPX Listed Private Equity Index Series are modularly structured to ensure optimal benchmarking. A proprietary industry classification scheme ensures transparency and comparability and thus a representative composition of the indices.
Gold NYMEX Near Term ($/ozt)	NYGOLD-FDS	** Gold Futures prices measured to observe correlation with other asset classes **

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