

MARKET INSIGHTS

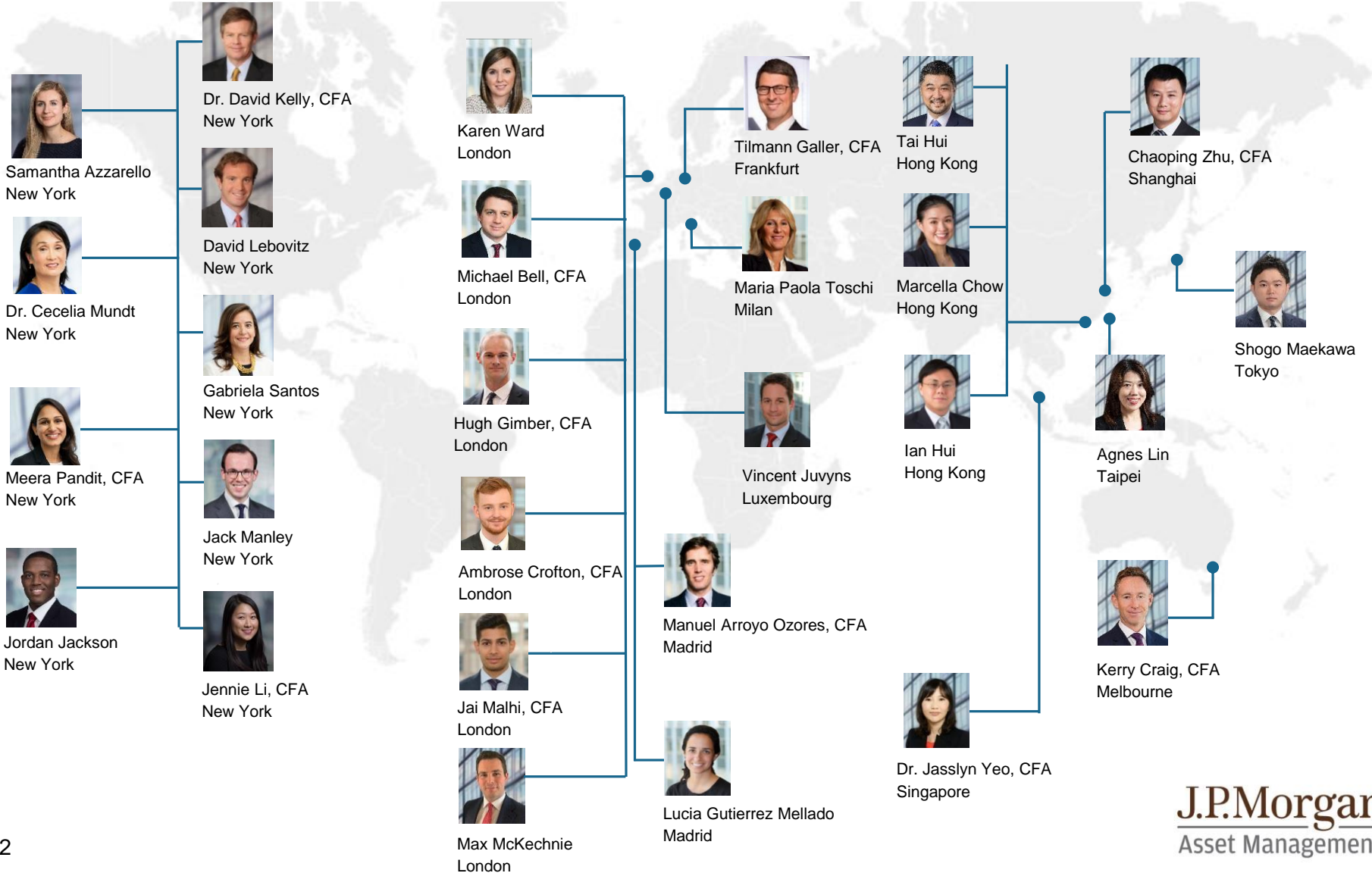
# Guide to the Markets<sup>®</sup>

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U.S. | 1Q 2021 | As of January 19, 2021

*J.P. Morgan*





**J.P.Morgan**  
Asset Management




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
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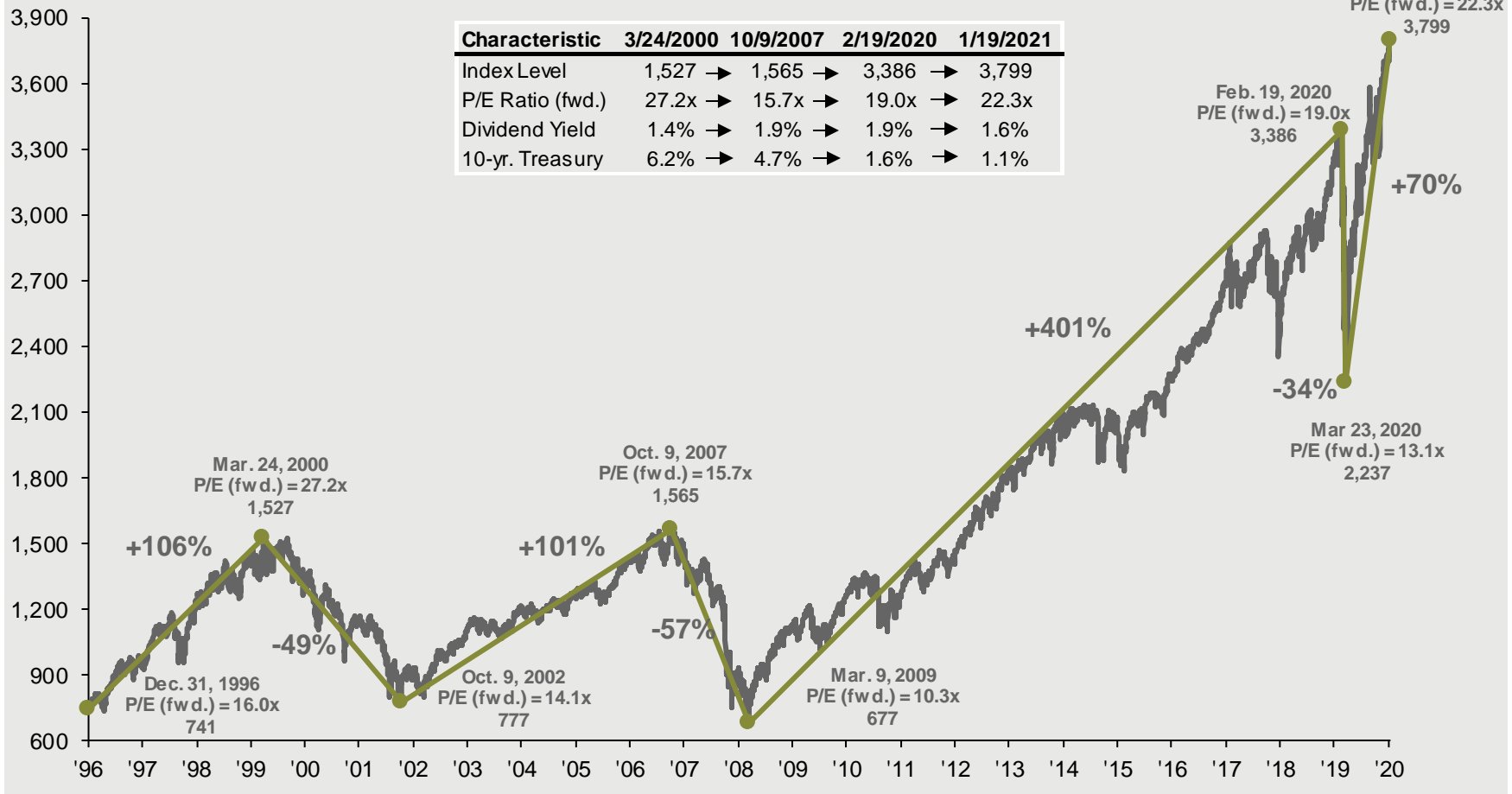
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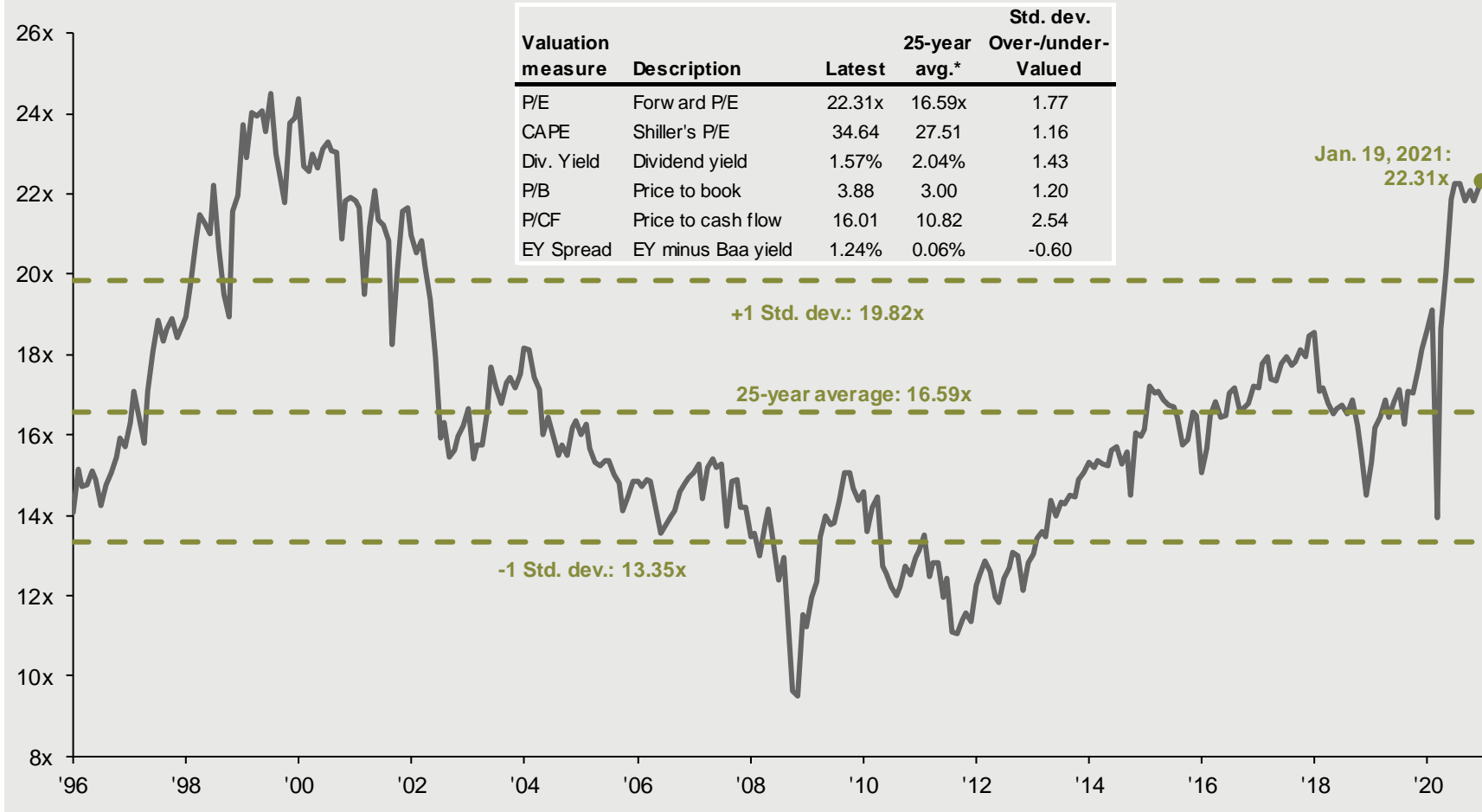
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## S&P 500 Price Index



Source: Compustat, FactSet, Federal Reserve, Standard & Poor's, J.P. Morgan Asset Management.  
 Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by Compustat.  
 Forward price-to-earnings ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on S&P 500 Index price movement only, and do not include the reinvestment of dividends. Past performance is not indicative of future returns.  
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S&P 500 Index: Forward P/E ratio

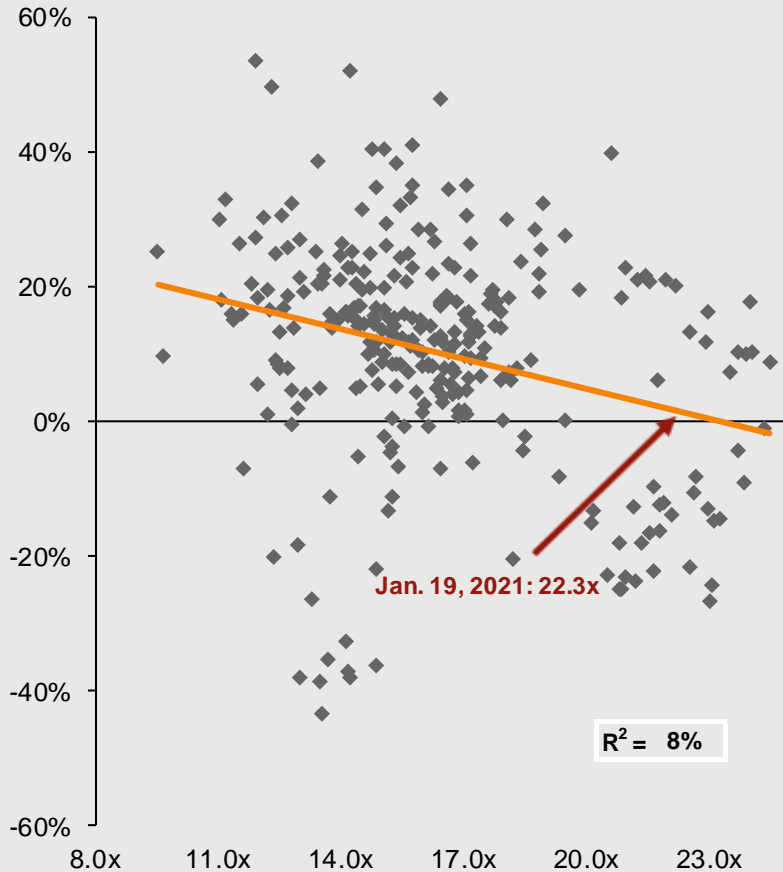


Source: FactSet, FRB, Robert Shiller, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Price-to-earnings is price divided by consensus analyst estimates of earnings per share for the next 12 months as provided by IBES since January 1996, and FactSet for January 19, 2021. Current next 12-months consensus earnings estimates are \$170. Average P/E and standard deviations are calculated using 25 years of IBES history. Shiller's P/E uses trailing 10-years of inflation-adjusted earnings as reported by companies. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Price-to-book ratio is the price divided by book value per share. Price-to-cash flow is price divided by NTM cash flow. EY minus Baa yield is the forward earnings yield (consensus analyst estimates of EPS over the next 12 months divided by price) minus the Moody's Baa seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure.

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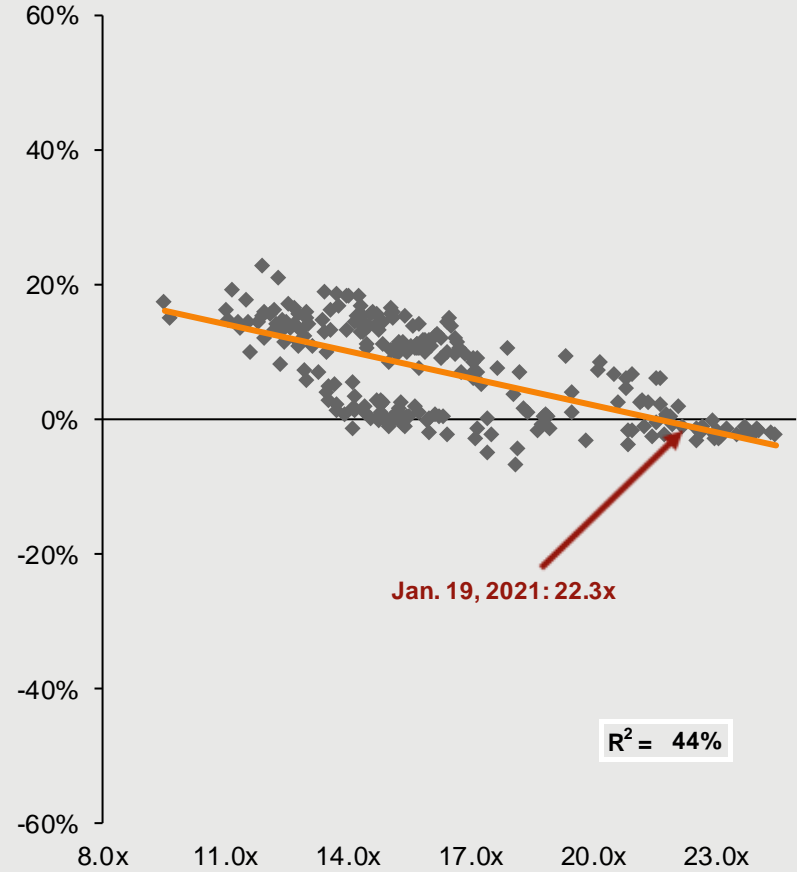
## Forward P/E and subsequent 1-yr. returns

S&P 500 Total Return Index



## Forward P/E and subsequent 5-yr. annualized returns

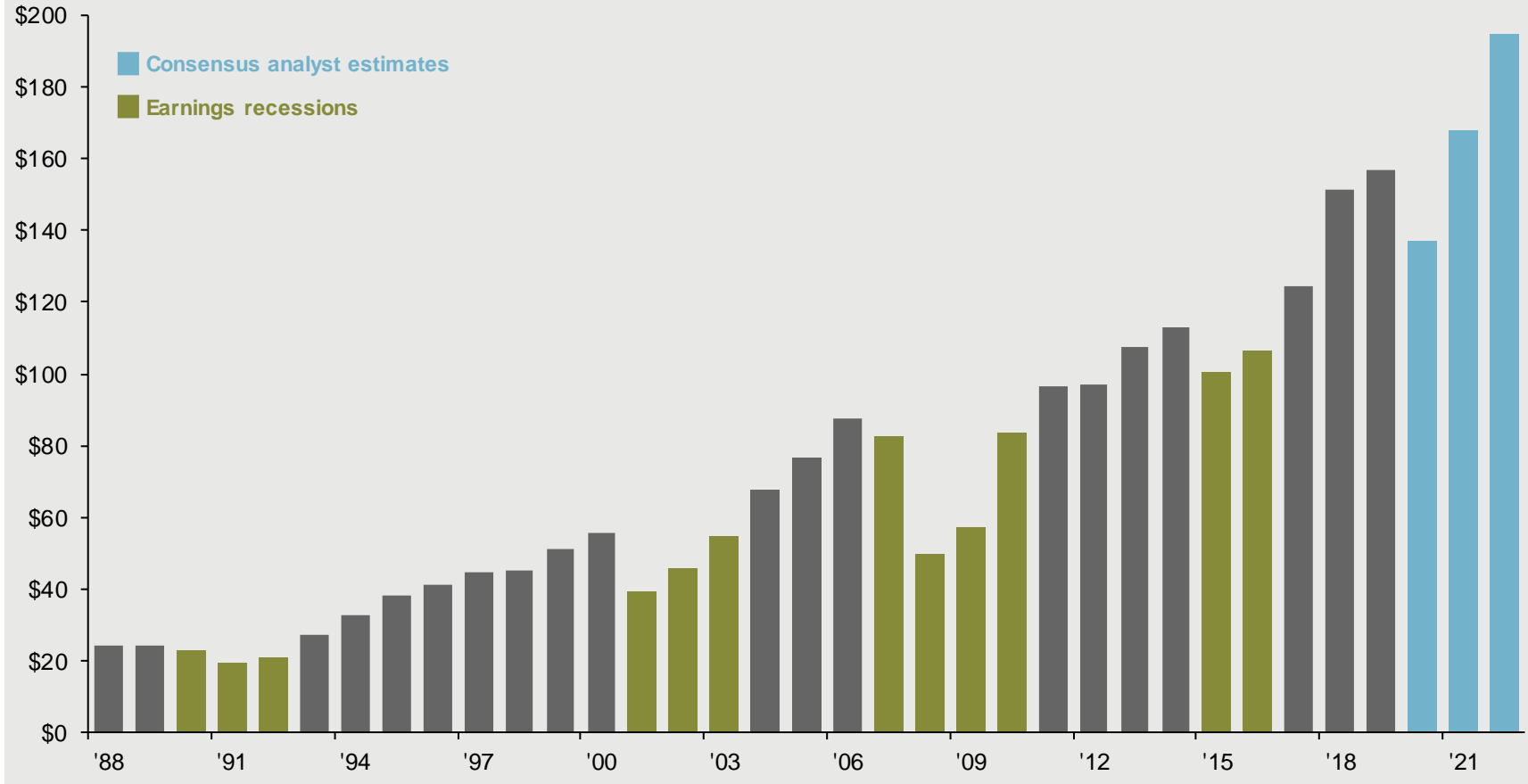
S&P 500 Total Return Index



Source: FactSet, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management. Returns are 12-month and 60-month annualized total returns, measured monthly, beginning December 31, 1995.  $R^2$  represents the percent of total variation in total returns that can be explained by forward P/E ratios. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

**S&P 500 earnings per share**

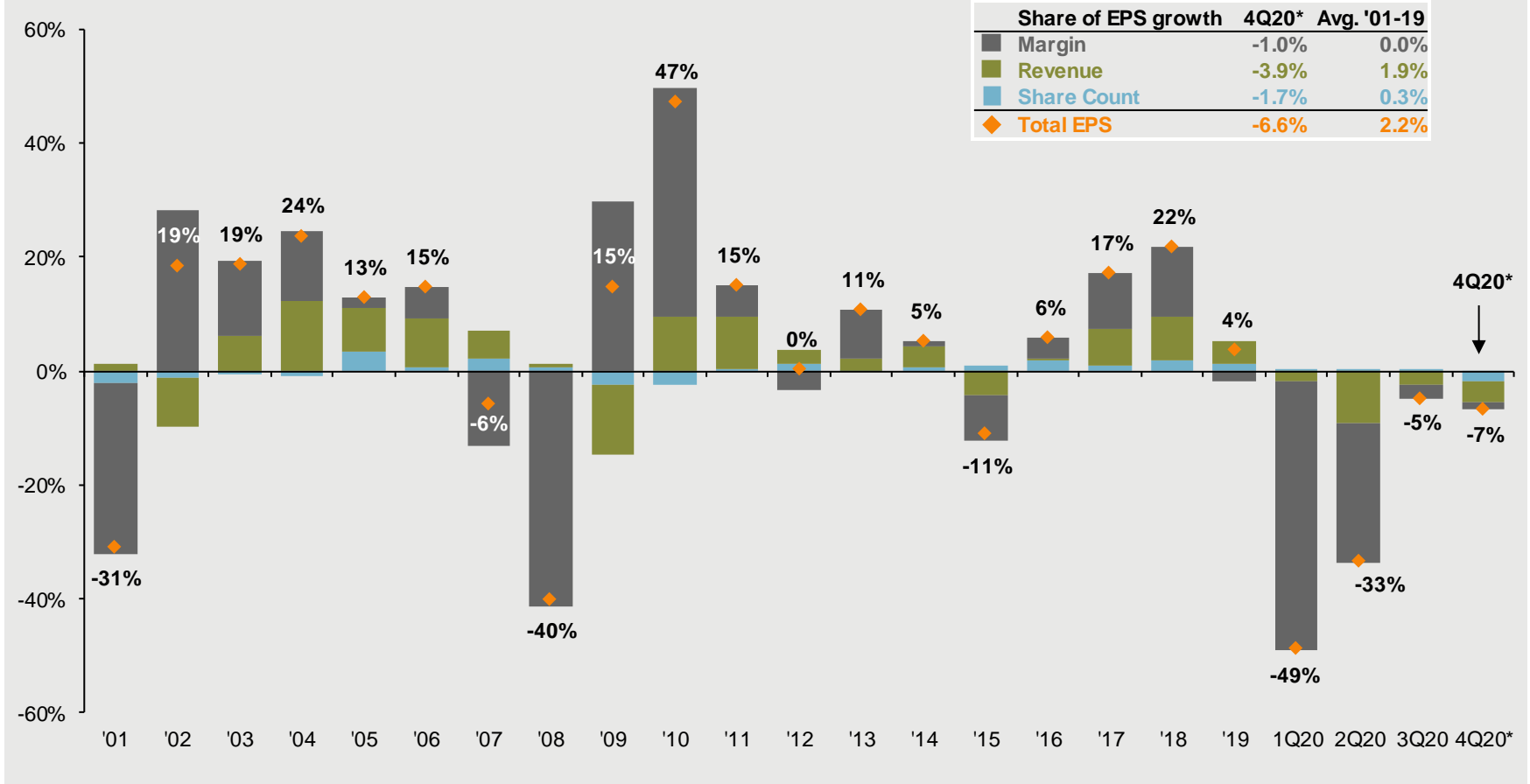
Index annual operating earnings



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.  
 Historical EPS levels are based on annual operating earnings per share. Earnings estimates are based on estimates from FactSet Market Aggregates. Past performance is not indicative of future returns.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

## S&P 500 year-over-year operating EPS growth

Annual growth broken into revenue, changes in profit margin & changes in share count



Source: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.

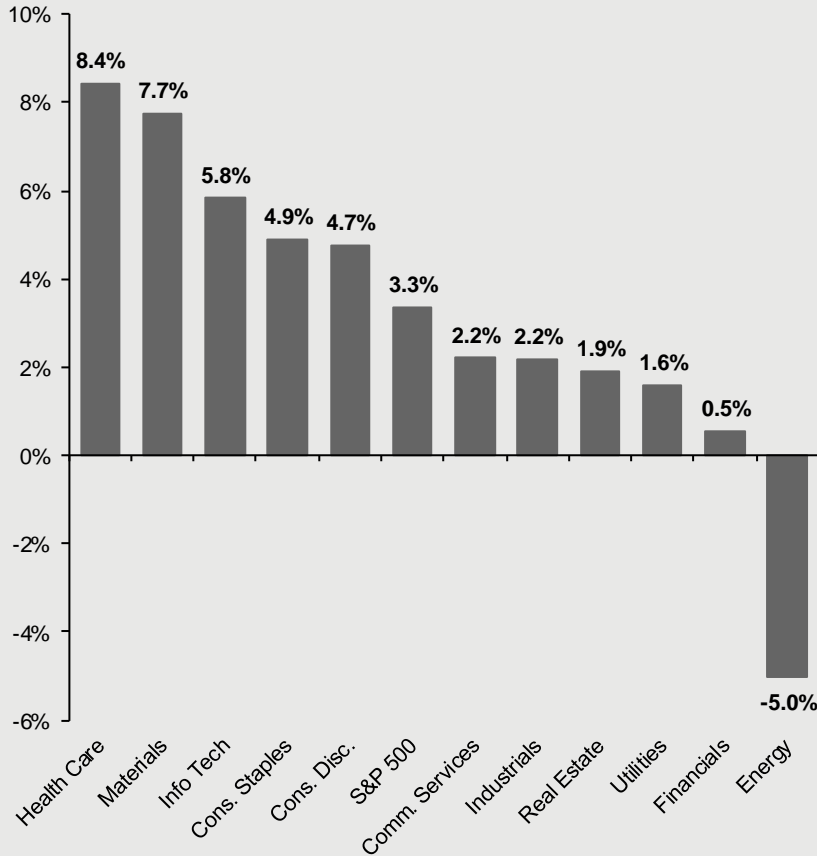
EPS levels are based on annual operating earnings per share. Percentages may not sum due to rounding. Past performance is not indicative of future returns. \*4Q20 earnings are calculated using actual earnings for 7.0% of S&P 500 market cap and earnings estimates for the remaining companies.

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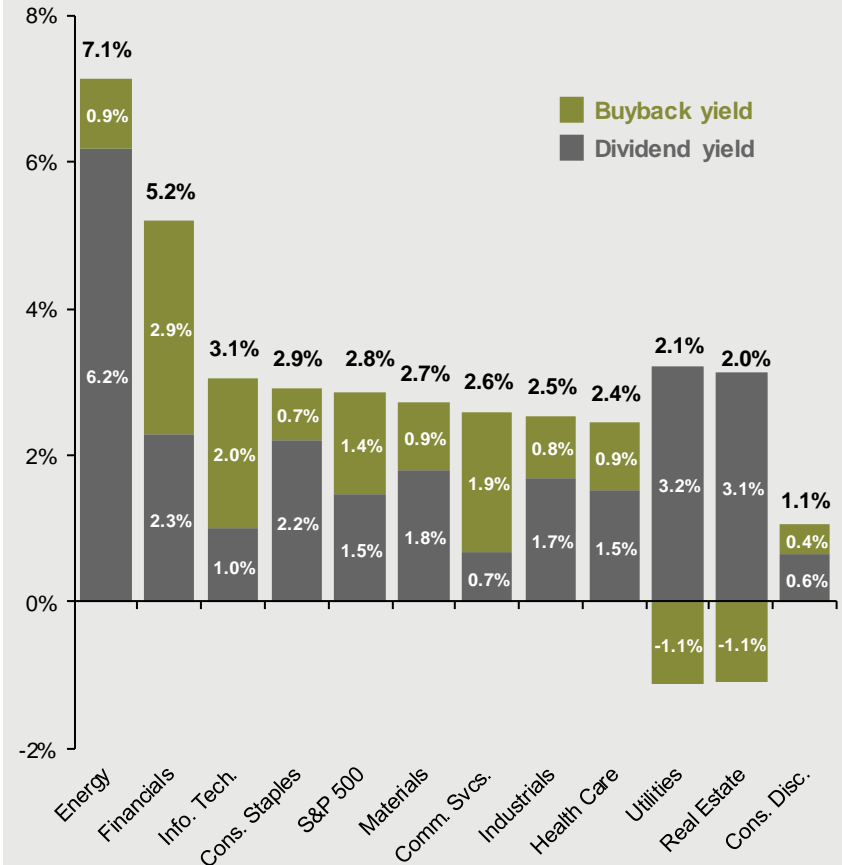
## S&P 500 2021 dividend growth

Year-over-year % change



## Total shareholder yield by sector

Last 12-months dividends and buybacks minus iss. divided by mkt. cap



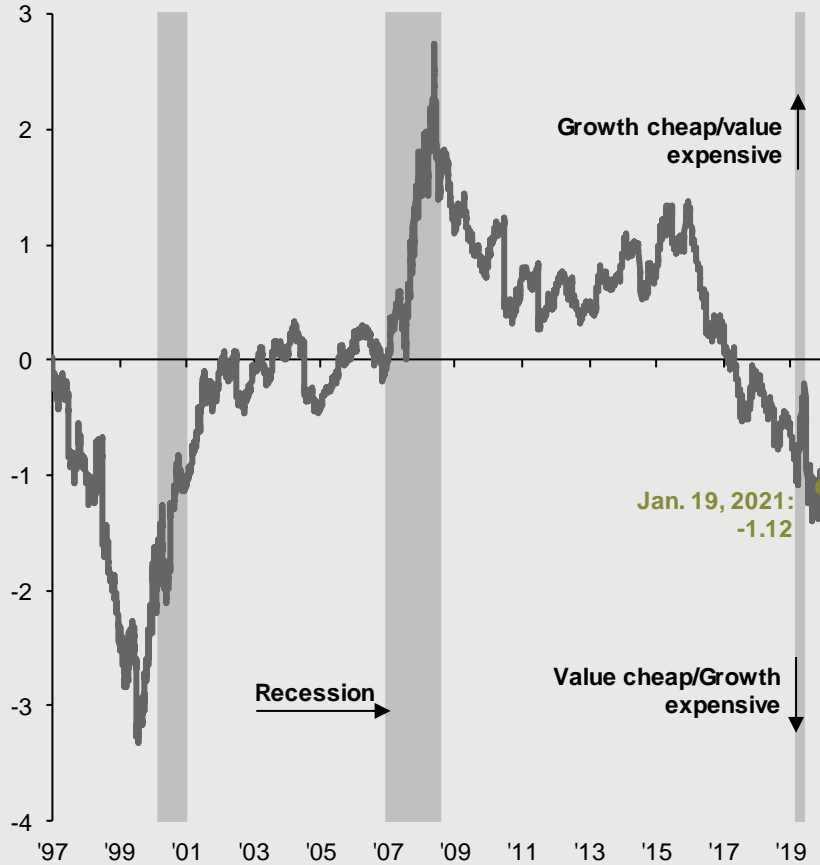
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Buyback yield is net of share issuance and is based on last 12-months net issuance divided by market capitalization. Dividend yield is calculated as the last 12-months dividend divided by market capitalization.

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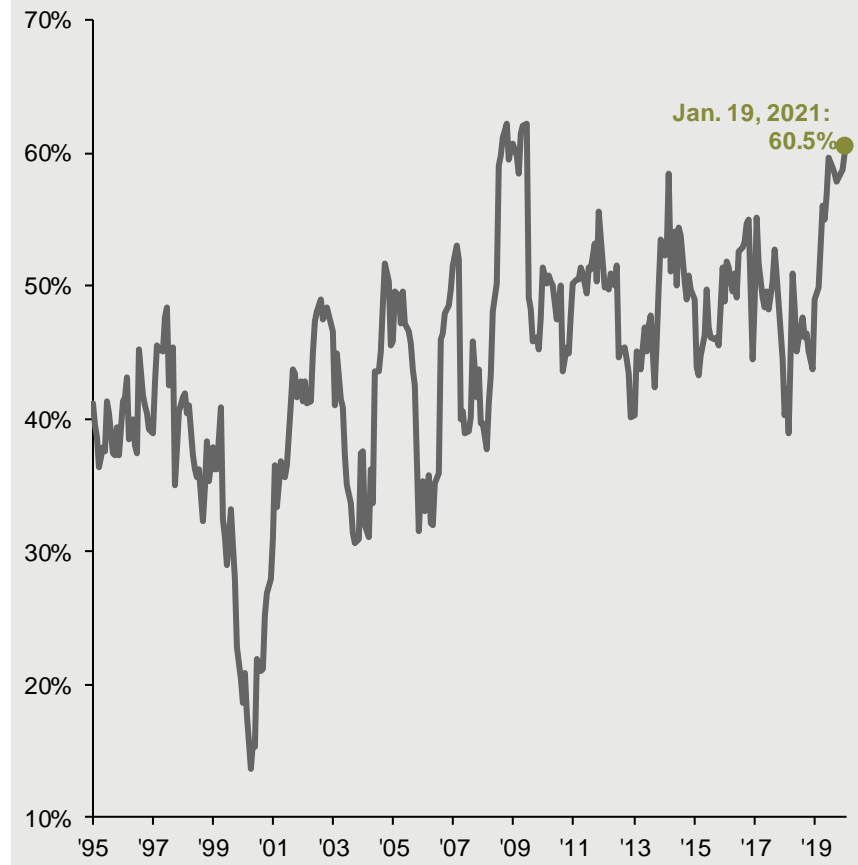
**Value vs. Growth relative valuations**

Relative fwd. P/E ratio of Value vs. Growth, z-score, Dec. 1997 - present



**Share of Value index with beta greater than 1**

Beta is based on weekly returns over a 52-week rolling period

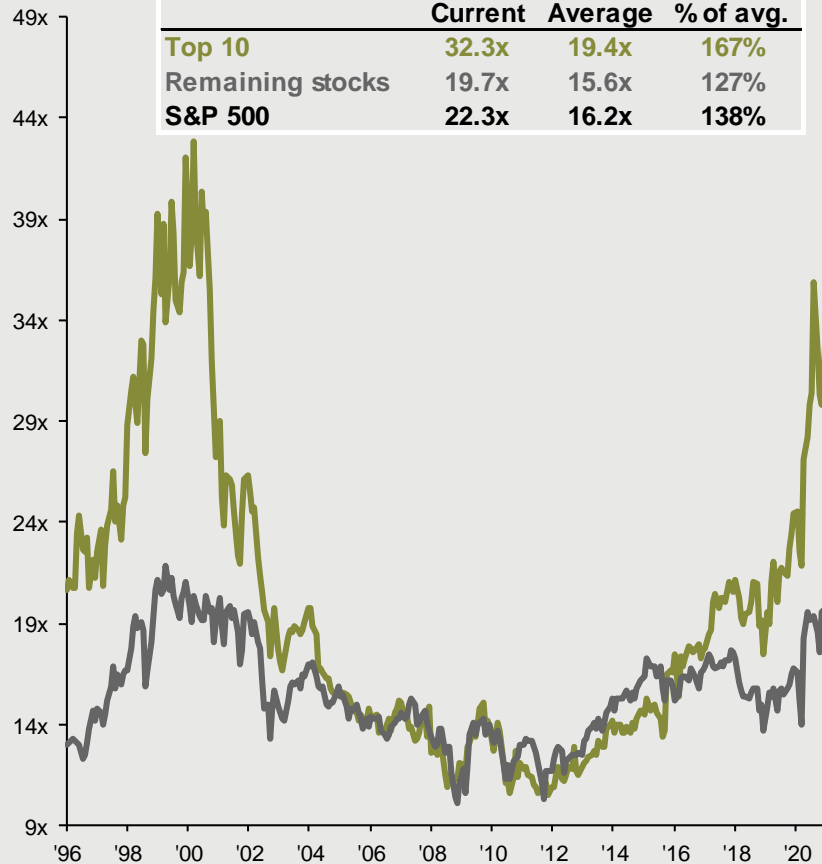


Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.  
 Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index. Beta is calculated relative to the Russell 1000 Index.  
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## P/E ratio of the top 10 and remaining stocks in the S&P 500

Next 12 months

	Current	Average	% of avg.
<b>Top 10</b>	<b>32.3x</b>	<b>19.4x</b>	<b>167%</b>
<b>Remaining stocks</b>	<b>19.7x</b>	<b>15.6x</b>	<b>127%</b>
<b>S&amp;P 500</b>	<b>22.3x</b>	<b>16.2x</b>	<b>138%</b>



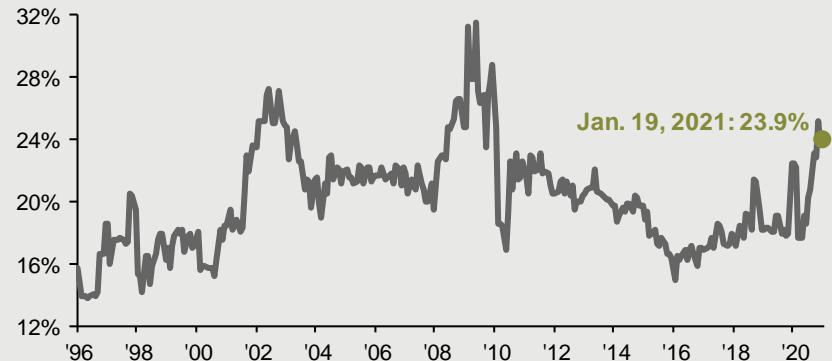
## Weight of the top 10 stocks in the S&P 500

% of market capitalization of the S&P 500



## Earnings contribution of the top 10 in the S&P 500

Based on last 12 months' earnings



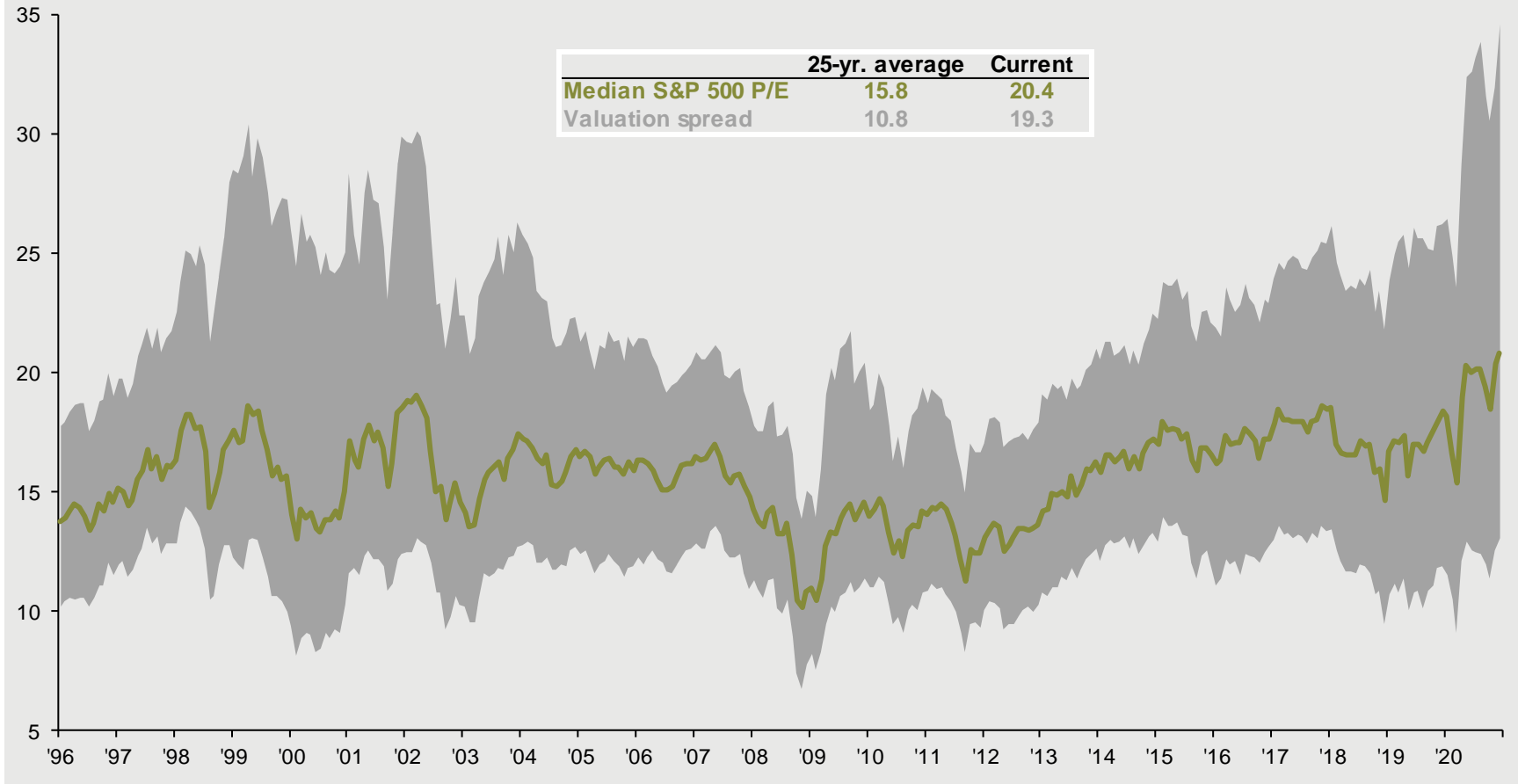
Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

The top 10 S&P 500 companies are based on the 10 largest index constituents at the beginning of each month. The weight of each of these companies is revised monthly. As of January 19, 2021, the top ten companies in the index were: AAPL (6.8%), MSFT (5.3%), AMZN (4.5%), FB (2.1%), TSLA (1.7%), GOOGL (1.7%), GOOG (1.6%), BRK.B (1.4%), JNJ (1.3%), JPM (1.2%) and V(1.2%).

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## S&P 500 valuation dispersion

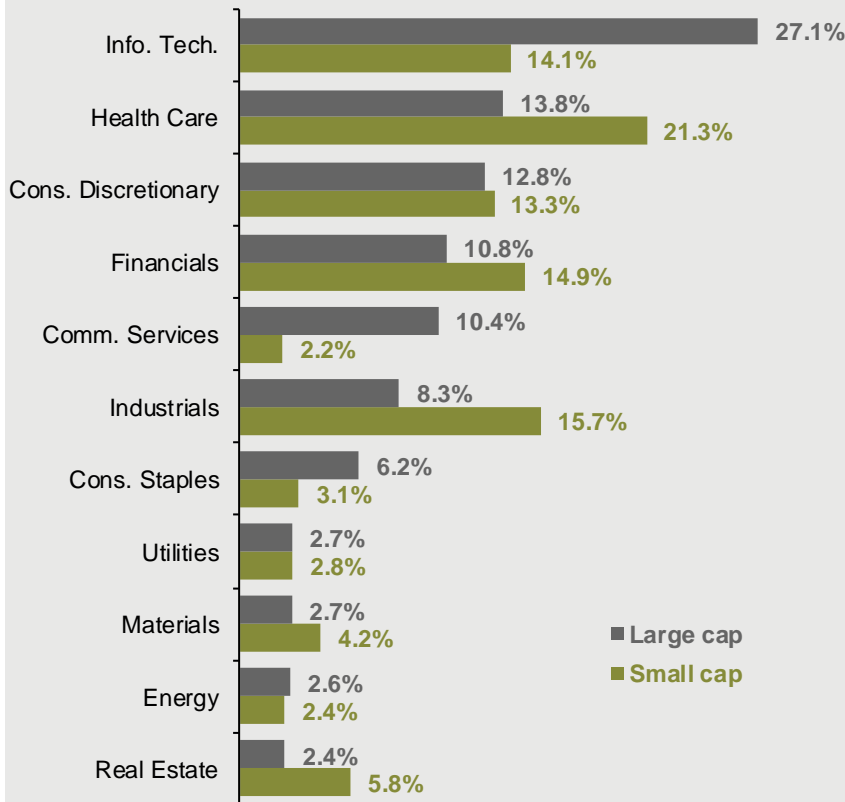
Valuation dispersion between the 20th and 80th percentile of S&P 500 stocks



Sources: Compustat, FactSet, Standard & Poor's, J.P. Morgan Asset Management.  
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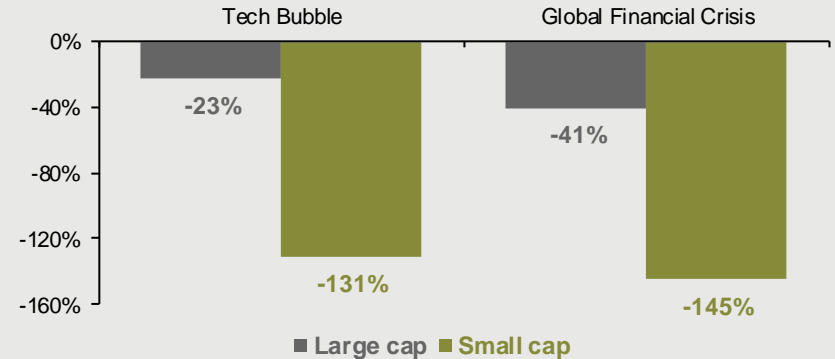
## Sector composition

% of index market capitalization



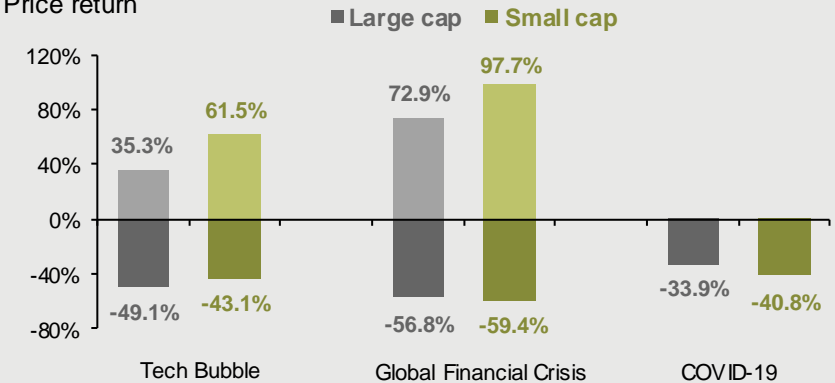
## Historical earnings drawdown

Change in LTM EPS during NBER-designated recessions



## Historical markets drawdown and next 12-month rebound

Price return



Source: FactSet, FTSE Russell, NBER, J.P. Morgan Asset Management.

The S&P 500 is used for large cap and the Russell 2000 is used for small cap. Market drawdowns during the Tech Bubble, Great Financial Crisis and COVID-19 were calculated for the periods 3/24/00 – 10/9/02, 10/9/07 – 3/9/09 and 2/19/20 – 3/23/20, respectively.

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### 10-year annualized

	Value	Blend	Growth
Large	10.7%	13.8%	16.9%
Mid	10.8%	12.7%	15.2%
Small	9.5%	12.1%	14.4%

### YTD

	Value	Blend	Growth
Large	3.3%	1.2%	0.0%
Mid	4.1%	3.8%	3.2%
Small	8.6%	8.9%	9.3%

### Since market peak (February 2020)

	Value	Blend	Growth
Large	4.9%	14.0%	26.7%
Mid	7.4%	17.1%	30.8%
Small	16.0%	28.7%	40.0%

### Since market low (March 2020)

	Value	Blend	Growth
Large	69.6%	72.2%	84.9%
Mid	89.9%	96.0%	103.4%
Small	104.1%	116.9%	127.5%

### Current P/E vs. 20-year avg. P/E

	Value	Blend	Growth
Large	18.1 / 13.7	22.3 / 15.4	31.0 / 18.5
Mid	18.7 / 14.4	23.1 / 16.2	39.8 / 20.2
Small	18.8 / 16.8	31.8 / 21.0	84.2 / 38.5

### Current P/E as % of 20-year avg. P/E

	Value	Blend	Growth
Large	132.5%	144.6%	167.2%
Mid	130.4%	142.3%	196.6%
Small	112.0%	151.7%	218.6%

Source: FactSet, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, including dividends reinvested for the stated period. Since Market Peak represents period from February 19, 2020 to January 19, 2021. Since Market Low represents period from March 23, 2020 to January 19, 2021. Returns are cumulative returns, not annualized. For all time periods, total return is based on Russell style indices with the exception of the large blend category, which is based on the S&P 500 Index. Past performance is not indicative of future returns. The price-to-earnings is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

# Returns and valuations by sector

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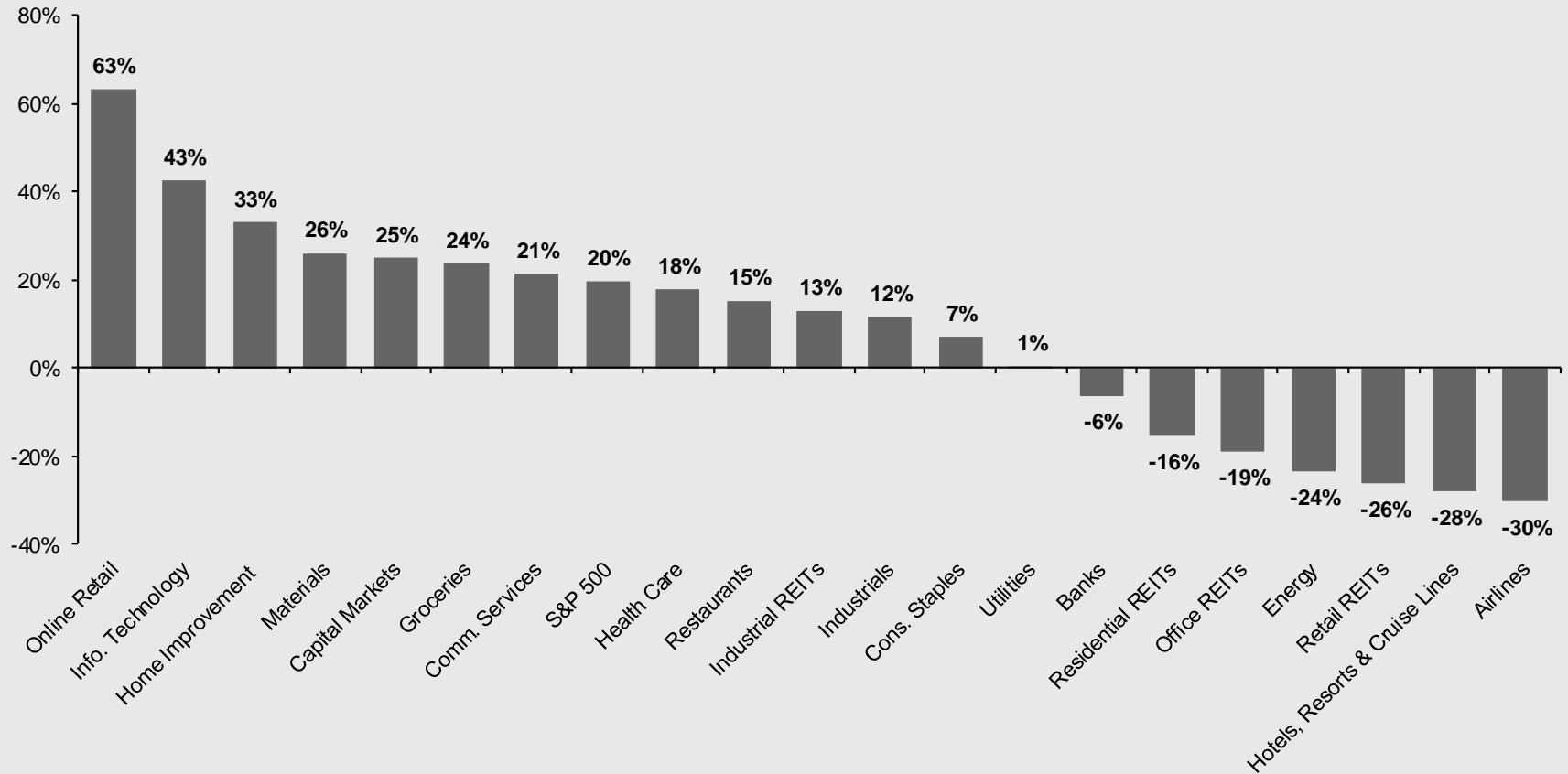
Equities

	Energy	Materials	Financials	Industrials	Cons. Discr.	Technology	Comm. Services*	Real Estate	Health Care	Cons. Staples	Utilities	S&P 500 Index	
<b>S&amp;P weight</b>	2.6%	2.7%	10.8%	8.3%	12.8%	27.1%	10.4%	2.4%	13.8%	6.2%	2.7%	100.0%	Weight
Russell Growth weight	0.1%	0.8%	1.8%	4.5%	17.1%	44.6%	10.9%	1.6%	14.2%	4.3%	0.0%	100.0%	
Russell Value weight	4.9%	4.9%	20.1%	13.3%	7.6%	9.8%	9.2%	4.2%	13.5%	7.3%	5.3%	100.0%	
<b>QTD</b>	15.1	4.4	5.3	0.6	2.5	-0.9	-1.8	-1.3	3.8	-3.3	0.0	1.2	Return (%)
<b>YTD</b>	15.1	4.4	5.3	0.6	2.5	-0.9	-1.8	-1.3	3.8	-3.3	0.0	1.2	
<b>Since market peak</b> (February 2020)	-16.2	28.0	2.4	8.2	28.4	27.3	14.0	-9.4	15.4	4.4	-7.4	14.0	
<b>Since market low</b> (March 2020)	90.2	100.3	79.4	85.5	88.1	84.8	59.6	45.5	60.0	37.4	43.8	72.2	
<b>Beta to S&amp;P 500</b>	1.55	1.18	1.22	1.15	1.12	1.07	0.95*	0.74	0.78	0.60	0.29	1.00	β
<b>Correl. to Treas. yields</b>	0.48	0.56	0.65	0.58	0.41	0.47	0.50	0.17	0.32	0.35	0.21	0.52	ρ
<b>Foreign % of sales</b>	51.3	56.8	30.1	43.8	34.0	58.2	44.7	-	38.5	32.7	-	42.9	%
<b>NTM earnings growth</b>	-1008.5%	29.3%	20.4%	74.8%	53.8%	14.6%	13.5%	4.8%	10.2%	6.8%	4.9%	22.0%	EPS
<b>20-yr avg.</b>	15.8%	18.4%	21.8%	11.2%	15.3%	13.5%	9.5%*	7.4%**	9.2%	8.2%	4.4%	11.1%	
<b>Forward P/E ratio</b>	30.3x	21.6x	14.8x	24.1x	36.8x	27.2x	22.6x	20.2x	17.0x	20.1x	18.7x	22.3x	P/E
<b>20-yr avg.</b>	13.7x	14.5x	12.4x	16.0x	18.5x	18.9x	18.8x*	15.8x	15.7x	16.9x	14.6x	15.4x	
<b>Buyback yield</b>	0.9%	0.9%	2.9%	0.8%	0.4%	2.0%	1.9%	-1.1%	0.9%	0.7%	-1.1%	1.4%	Bbk
<b>20-yr avg.</b>	1.6%	0.7%	0.1%	2.1%	2.4%	2.8%	1.2%	-1.1%	1.9%	1.8%	-1.0%	1.6%	
<b>Dividend yield</b>	5.0%	1.9%	2.0%	1.6%	0.7%	1.0%	1.0%	3.1%	1.7%	2.8%	3.3%	1.6%	Div
<b>20-yr avg.</b>	2.6%	2.6%	2.3%	2.2%	1.4%	1.1%	1.5%*	4.2%	1.8%	2.8%	3.9%	2.1%	

Source: FactSet, Russell Investment Group, Standard & Poor's, J.P. Morgan Asset Management. All calculations are cumulative total return, not annualized, including dividends for the stated period. Since market peak represents period from February 19, 2020 to January 19, 2021. Since market low represents period from March 23, 2020 to January 19, 2021. Correlation to Treasury yields are trailing 2-year monthly correlations between S&P 500 sector price returns and 10-year Treasury yield movements. Foreign percent of sales is from Standard & Poor's, S&P 500 2018: Global Sales report as of August 2019. Real Estate and Comm. Services foreign sales are not included due to lack of availability. Next 12 months (NTM) earnings growth is the percent change in next 12-months earnings estimates compared to last 12-months earnings provided by brokers. Forward P/E ratio is a bottom-up calculation based on the most recent S&P 500 Index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Buyback yield is net of share issuance and is calculated as last 12-months net buybacks divided by market cap. Dividend yield is calculated as the next 12-months consensus dividend divided by most recent price. Beta calculations are based on 10-years of monthly price returns for the S&P 500 and its sub-indices. \*Communication Services (formerly Telecom) averages and beta are based on 5-years of backtested data by JPMAM. \*\*Real estate NTM earnings growth is a 15-year average due to data availability. Past performance is not indicative of future returns.  
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## Returns since December 31, 2019

Total returns by sector and industry



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.  
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# Factor performance

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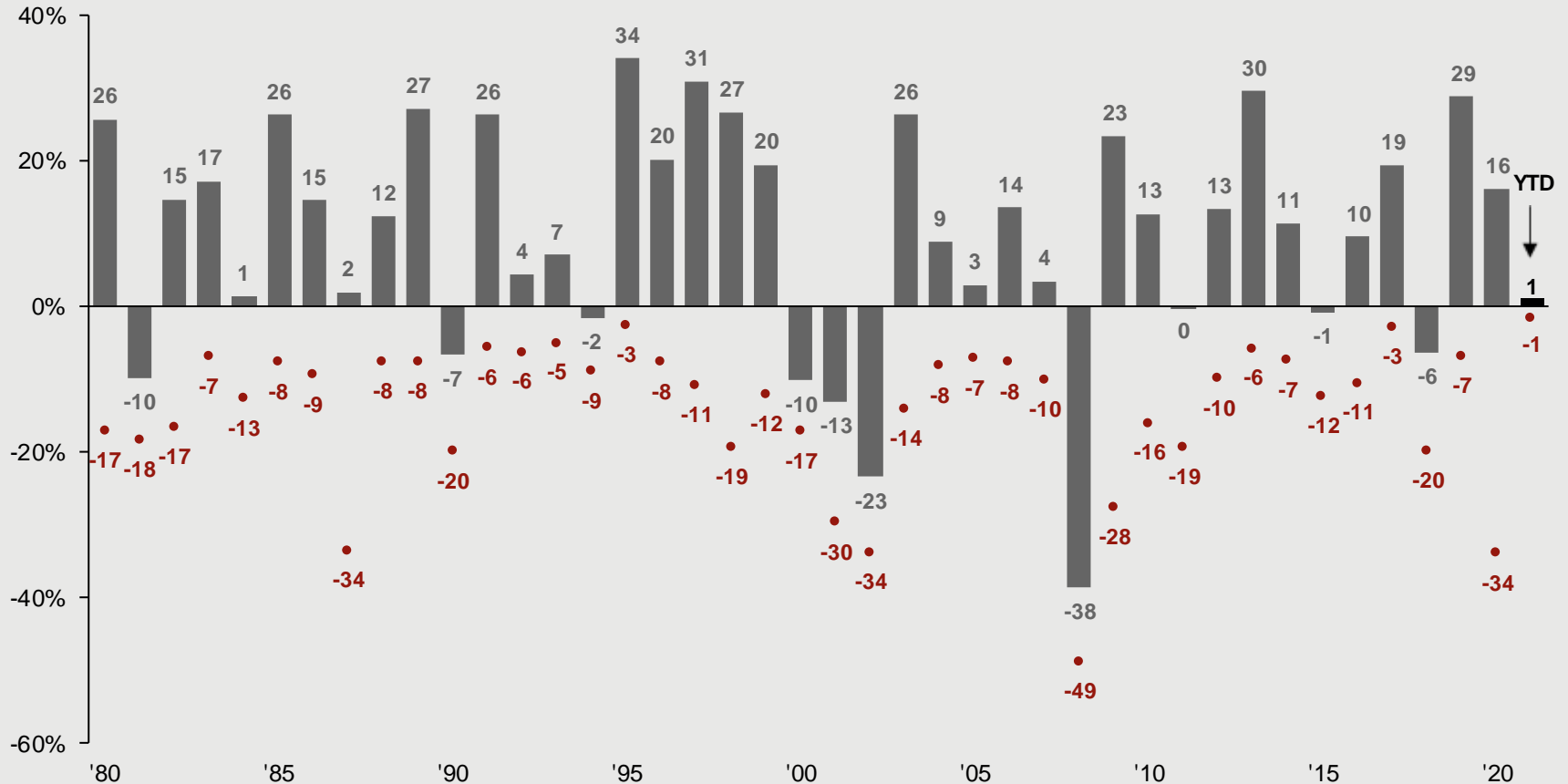
Equities

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	2006 - 2020	
																	Ann.	Vol.
High Div.	21.1%	Momen.	Min. Vol.	Value	Small Cap	High Div.	Cyclical	Value	Value	Momen.	Small Cap	Momen.	Min. Vol.	Cyclical	Momen.	Small Cap	Momen.	Small Cap
	21.1%	17.8%	-25.7%	38.8%	26.9%	14.3%	20.1%	43.2%	17.7%	9.3%	21.3%	37.8%	1.5%	36.3%	29.6%	8.9%	11.7%	22.6%
Value	19.7%	Defens.	Defens.	Cyclical	Multi-Factor	Min. Vol.	Value	Small Cap	Min. Vol.	Min. Vol.	High Div.	Cyclical	Momen.	Quality	Cyclical	Value	Quality	Value
	19.7%	17.7%	-26.7%	36.9%	18.3%	12.9%	16.8%	38.8%	16.5%	5.6%	16.3%	27.3%	-1.6%	34.4%	27.8%	7.7%	10.7%	20.3%
Small Cap	18.4%	Quality	High Div.	Multi-Factor	Momen.	Defens.	Small Cap	Multi-Factor	High Div.	Quality	Value	Quality	High Div.	Momen.	Small Cap	Momen.	Cyclical	Cyclical
	18.4%	10.1%	-27.6%	29.8%	18.2%	10.1%	16.3%	37.4%	14.9%	4.6%	15.9%	22.5%	-2.3%	28.1%	20.0%	3.3%	10.4%	19.8%
Multi-Factor	16.6%	Multi-Factor	Quality	Small Cap	Cyclical	Quality	Multi-Factor	Cyclical	Multi-Factor	Cyclical	Cyclical	Value	Defens.	Min. Vol.	Quality	Multi-Factor	Min. Vol.	Momen.
	16.6%	5.5%	-31.2%	27.2%	17.9%	7.5%	15.7%	35.0%	14.8%	2.6%	14.0%	22.2%	-2.9%	28.0%	17.1%	3.2%	10.1%	17.9%
Defens.	15.9%	Min. Vol.	Small Cap	Quality	High Div.	Multi-Factor	Momen.	Momen.	Momen.	High Div.	Multi-Factor	Multi-Factor	Cyclical	Value	Multi-Factor	Defens.	Multi-Factor	Multi-Factor
	15.9%	4.3%	-33.8%	24.9%	15.9%	7.3%	15.1%	34.8%	14.7%	0.7%	13.7%	21.5%	-5.3%	27.7%	11.4%	2.7%	9.6%	17.5%
Cyclical	15.0%	Value	Value	High Div.	Min. Vol.	Momen.	Quality	Quality	Cyclical	Multi-Factor	Min. Vol.	High Div.	Quality	Multi-Factor	Min. Vol.	High Div.	High Div.	Quality
	15.0%	1.1%	-36.9%	18.4%	14.7%	6.1%	12.8%	34.3%	13.6%	0.4%	10.7%	19.5%	-5.6%	26.6%	5.8%	2.0%	9.4%	15.6%
Min. Vol.	15.0%	High Div.	Multi-Factor	Min. Vol.	Quality	Value	Min. Vol.	High Div.	Defens.	Defens.	Quality	Min. Vol.	Multi-Factor	Small Cap	Defens.	Cyclical	Small Cap	High Div.
	15.0%	0.0%	-39.3%	18.4%	14.2%	-2.7%	11.2%	28.9%	13.0%	-0.9%	9.4%	19.2%	-9.7%	25.5%	5.2%	0.9%	8.9%	15.0%
Quality	12.8%	Cyclical	Momen.	Momen.	Value	Cyclical	Defens.	Defens.	Quality	Small Cap	Defens.	Small Cap	Small Cap	High Div.	High Div.	Quality	Defens.	Defens.
	12.8%	-0.8%	-40.9%	17.6%	12.7%	-3.4%	10.7%	28.9%	10.7%	-4.4%	7.7%	14.6%	-11.0%	22.5%	1.7%	-0.1%	8.6%	13.7%
Momen.	10.7%	Small Cap	Cyclical	Defens.	Defens.	Small Cap	High Div.	Min. Vol.	Small Cap	Value	Momen.	Defens.	Value	Defens.	Value	Min. Vol.	Value	Min. Vol.
	10.7%	-1.6%	-44.8%	16.5%	12.0%	-4.2%	10.6%	25.3%	4.9%	-6.4%	5.1%	12.3%	-11.1%	21.4%	-0.2%	-0.3%	8.6%	13.1%

Source: FactSet, MSCI, Russell, Standard & Poor's, J.P. Morgan Asset Management. The MSCI High Dividend Yield Index aims to offer a higher than average dividend yield relative to the parent index that passes dividend sustainability and persistence screens. The MSCI Minimum Volatility Index optimizes the MSCI USA Index using an estimated security co-variance matrix to produce low absolute volatility for a given set of constraints. The MSCI Defensive Sectors Index includes: Consumer Staples, Energy, Health Care and Utilities. The MSCI Cyclical Sectors Index contains: Consumer Discretionary, Communication Services, Financials, Industrials, Information Technology and Materials. Securities in the MSCI Momentum Index are selected based on a momentum value of 12-month and 6-month price performance. Constituents of the MSCI Sector Neutral Quality Index are selected based on stronger quality characteristics to their peers within the same GICS sector by using three main variables: high return-on-equity, low leverage and low earnings variability. Constituents of the MSCI Enhanced Value Index are based on three variables: price-to-book value, price-to-forward earnings and enterprise value-to-cash flow from operations. The Russell 2000 is used for small cap. The MSCI USA Diversified Multiple Factor Index aims to maximize exposure to four factors – Value, Momentum, Quality and Size. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## S&P 500 intra-year declines vs. calendar year returns

Despite average intra-year drops of 14.3%, annual returns positive in 31 of 41 years



Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management.

Returns are based on price index only and do not include dividends. Intra-year drops refers to the largest market drops from a peak to a trough during the year. For illustrative purposes only. Returns shown are calendar year returns from 1980 to 2020, over which time period the average annual return was 9.0%.

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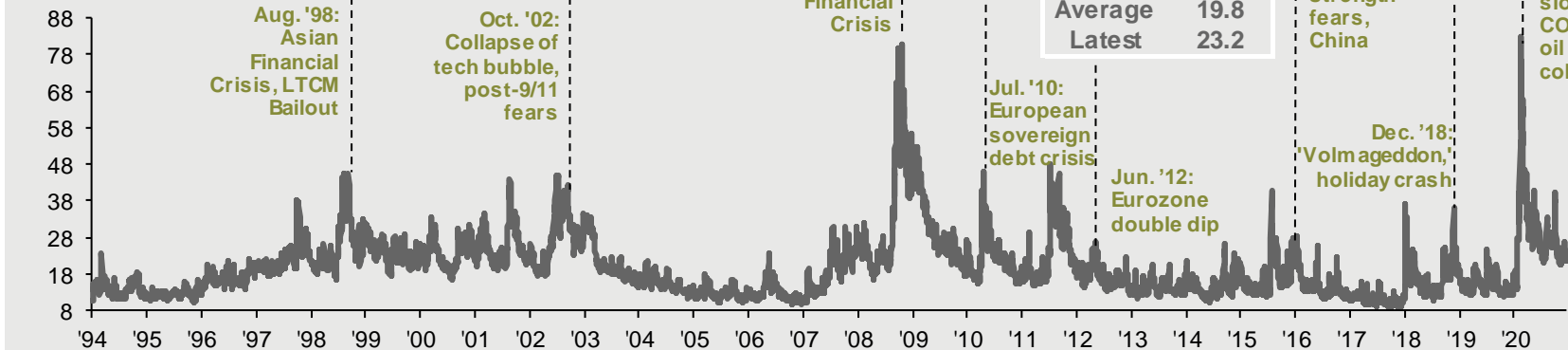
## Major market pullbacks

S&P 500 Price index



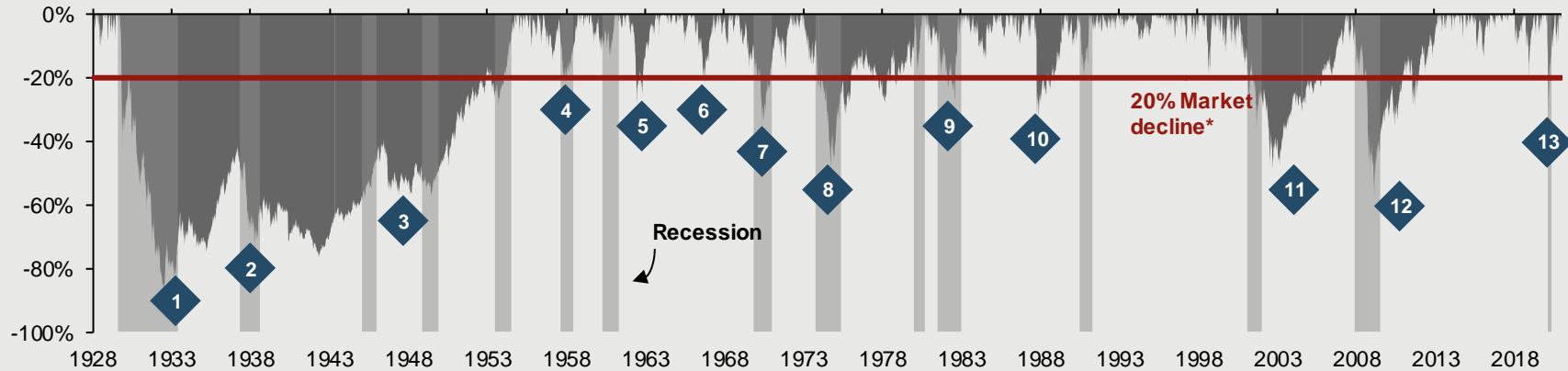
## Volatility

VIX Index



Source: CBOE, FactSet, Standard & Poor's, J.P. Morgan Asset Management.  
 Drawdowns are calculated as the prior peak to the lowest point.  
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## U.S. recessions and S&P 500 composite declines from all-time highs



## Characteristics of bull and bear markets

Market correction	Bear Market			Macro environment				Bull markets			
	Market peak	Bear return*	Duration (months)*	Recession	Commodity Spike	Aggressive Fed	Extreme Valuation	Bull begin date	Bull return	Duration (months)	
1	Crash of 1929 - Excessive leverage, irrational exuberance	Sep 1929	-86%	32	◆			◆	Jul 1926	152%	37
2	1937 Fed Tightening - Premature policy tightening	Mar 1937	-60%	61	◆		◆		Mar 1935	129%	23
3	Post WWII Crash - Post-war demobilization, recession fears	May 1946	-30%	36	◆			◆	Apr 1942	158%	49
4	Eisenhower Recession - Worldwide recession	Aug 1956	-22%	14	◆		◆	◆	Jun 1949	267%	85
5	Flash Crash of 1962 - Flash crash, Cuban Missile Crisis	Dec 1961	-28%	6				◆	Oct 1960	39%	13
6	1966 Financial Crisis - Credit crunch	Feb 1966	-22%	7			◆	◆	Oct 1962	76%	39
7	Tech Crash of 1970 - Economic overheating, civil unrest	Nov 1968	-36%	17	◆	◆	◆		Oct 1966	48%	25
8	Stagflation - OPEC oil embargo	Jan 1973	-48%	20	◆	◆			May 1970	74%	31
9	Volcker Tightening - Whip Inflation Now	Nov 1980	-27%	20	◆	◆	◆		Mar 1978	62%	32
10	1987 Crash - Program trading, overheating markets	Aug 1987	-34%	3				◆	Aug 1982	229%	60
11	Tech Bubble - Extreme valuations, .com boom/bust	Mar 2000	-49%	30	◆			◆	Oct 1990	417%	113
12	Global Financial Crisis - Leverage/housing, Lehman collapse	Oct 2007	-57%	17	◆	◆	◆		Oct 2002	101%	60
13	Global Slowdown - COVID-19, oil price war	Feb 2020	-34%	1	◆				Mar 2009	401%	142
<b>Averages</b>		-	<b>-42%</b>	<b>22</b>					-	<b>166%</b>	<b>55</b>

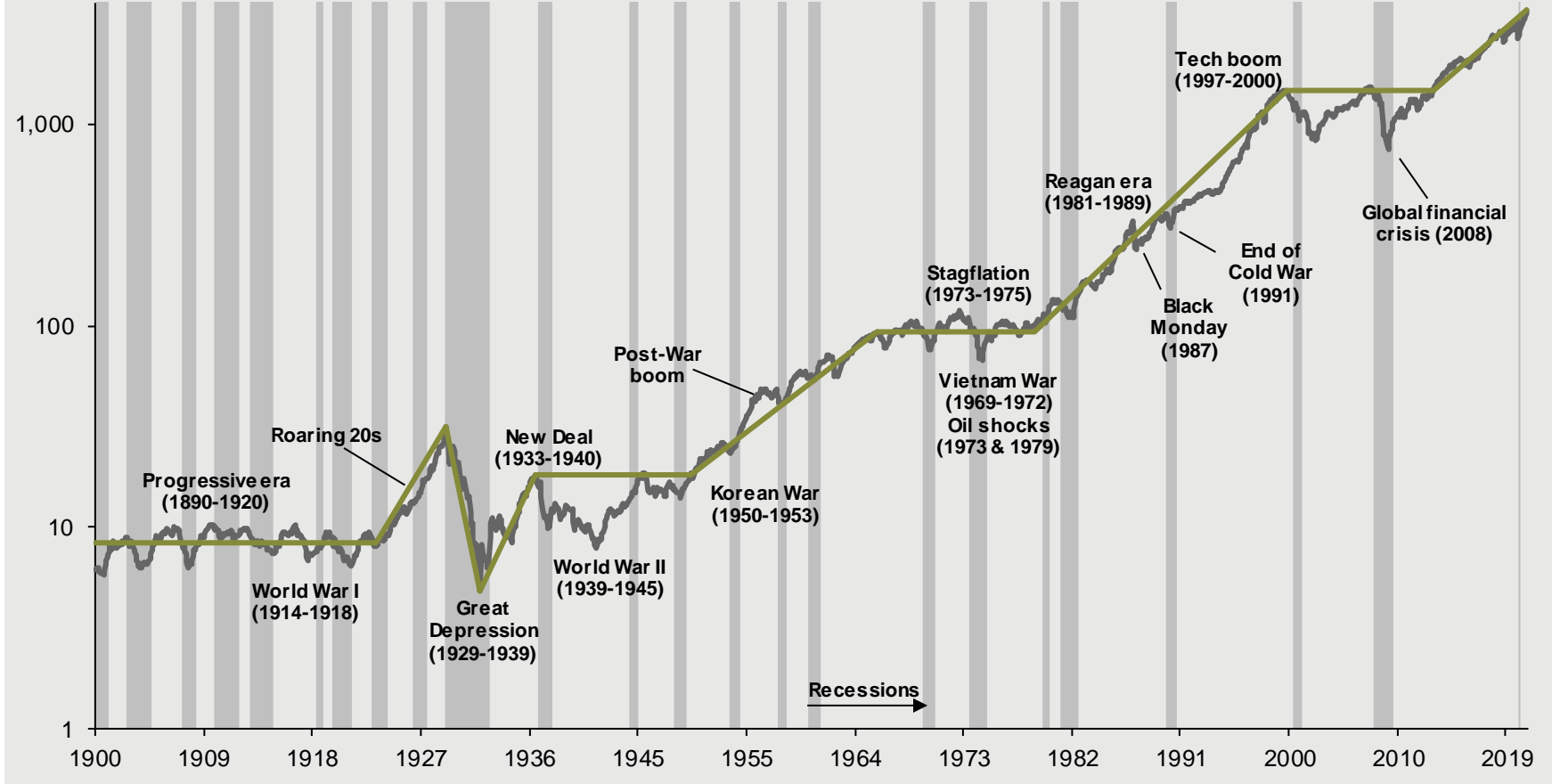
Source: FactSet, NBER, Robert Shiller, Standard & Poor's, J.P. Morgan Asset Management.

\*A bear market is defined as a 20% or more decline from the previous market high. The related market return is the peak to trough return over the cycle. Periods of "Recession" are defined using NBER business cycle dates. "Commodity spikes" are defined as movement in oil prices of over 100% over an 18-month period. Periods of "Extreme Valuations" are those where S&P 500 last 12-months P/E levels were approximately two standard deviations above long-run averages, or time periods where equity market valuations appeared expensive given the broader macroeconomic environment. "Aggressive Fed Tightening" is defined as Federal Reserve monetary tightening that was unexpected and/or significant in magnitude. Bear and bull returns are price returns.

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## S&P Composite Index

Log scale, annual



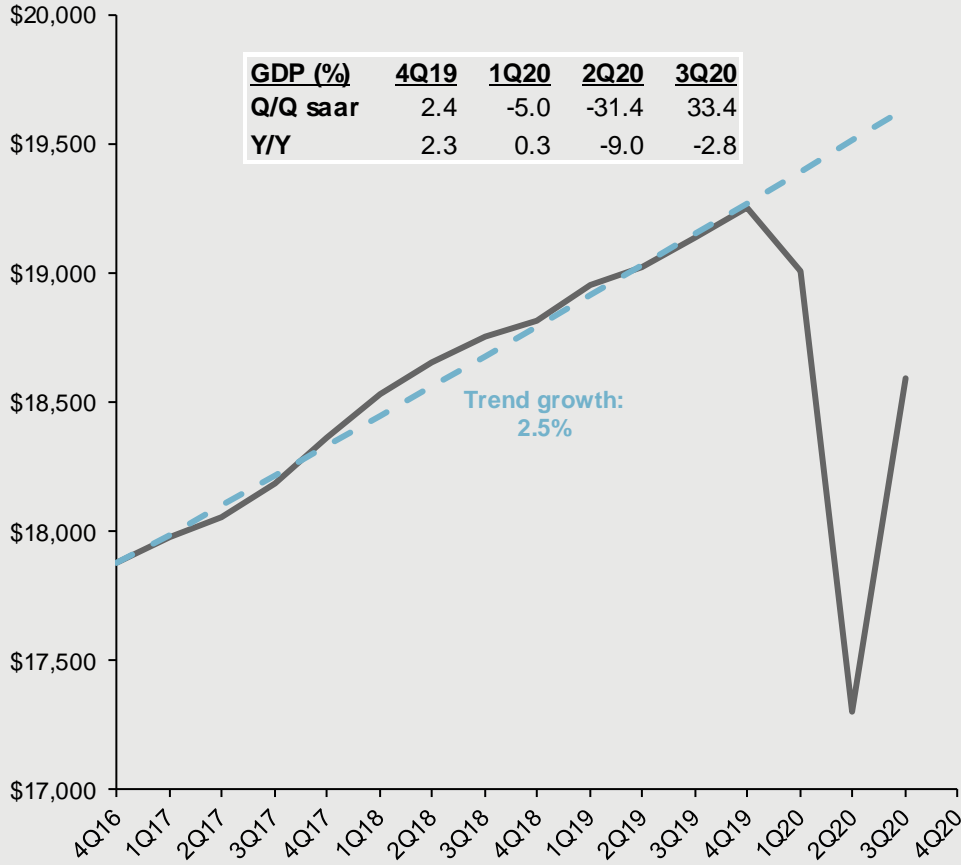
Source: FactSet, NBER, Robert Shiller, J.P. Morgan Asset Management.

Data shown in log scale to best illustrate long-term index patterns. Past performance is not indicative of future returns. Chart is for illustrative purposes only.

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## Real GDP

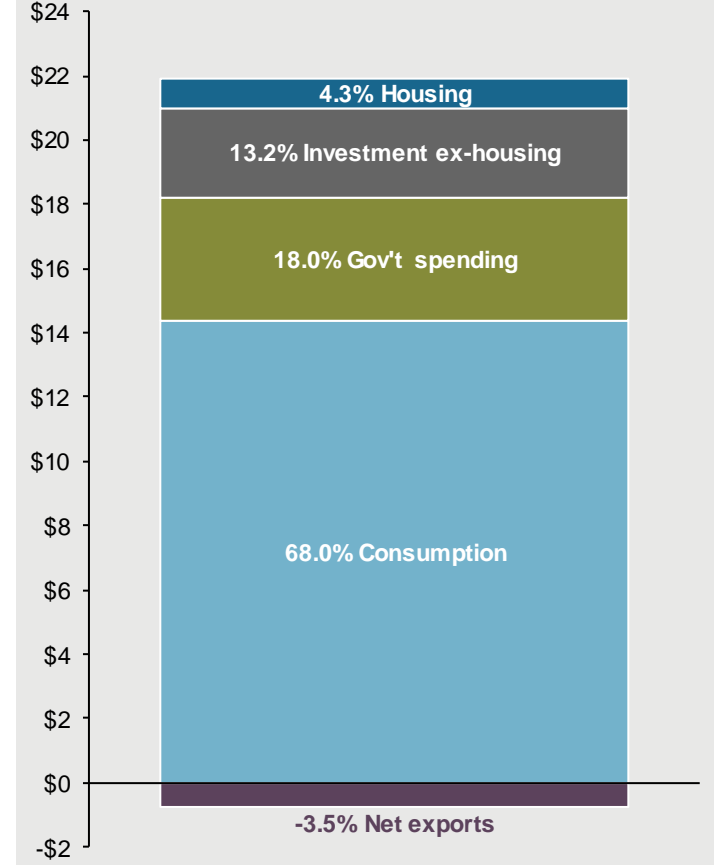
Billions of chained (2012) dollars, seasonally adjusted at annual rates



Source: BEA, FactSet, J.P. Morgan Asset Management. Values may not sum to 100% due to rounding. Guide to the Markets – U.S. Data are as of January 19, 2021.

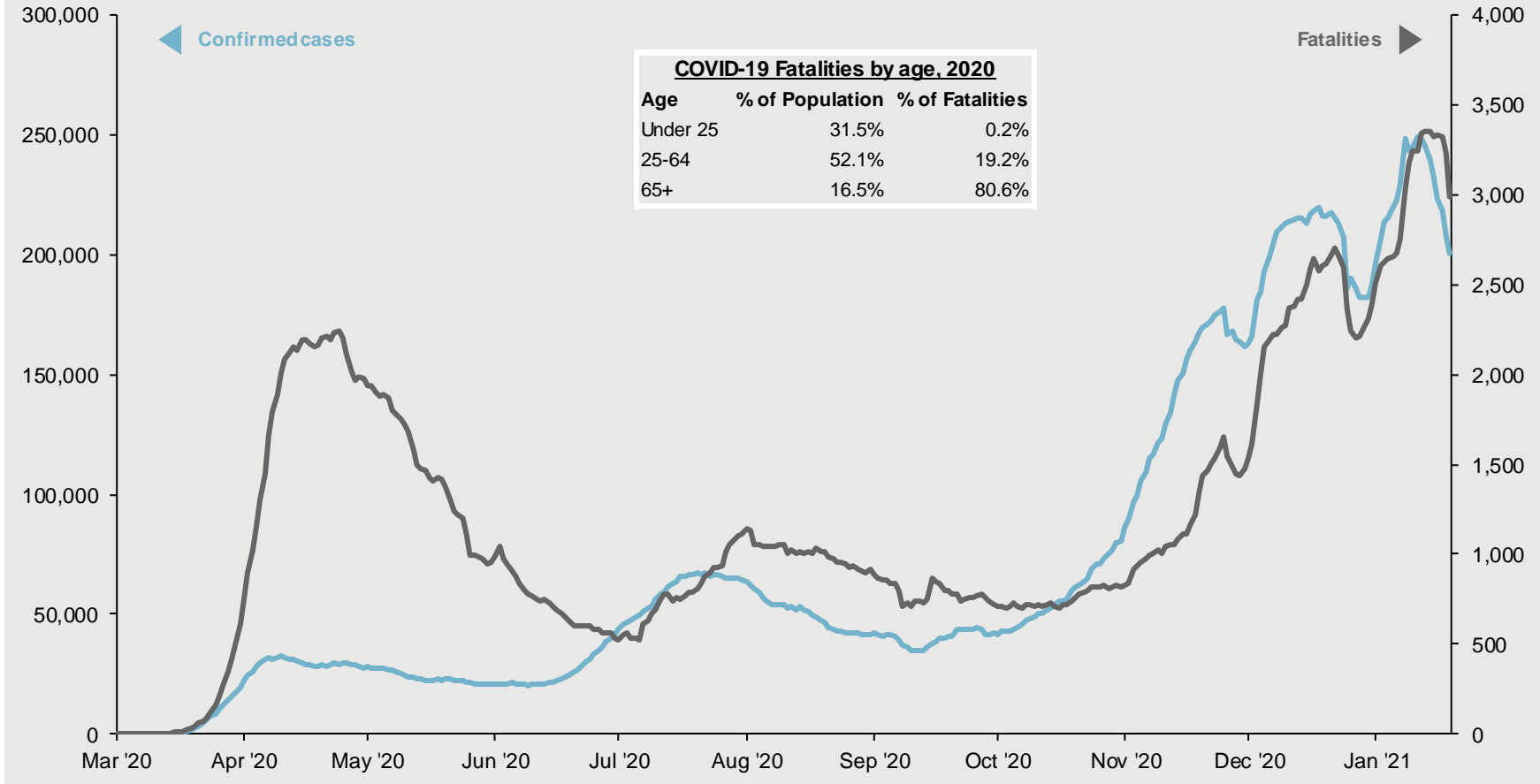
## Components of GDP

3Q20 nominal GDP, USD trillions



**Change in confirmed cases and fatalities in the U.S.**

7-day moving average, as of January 19, 2021

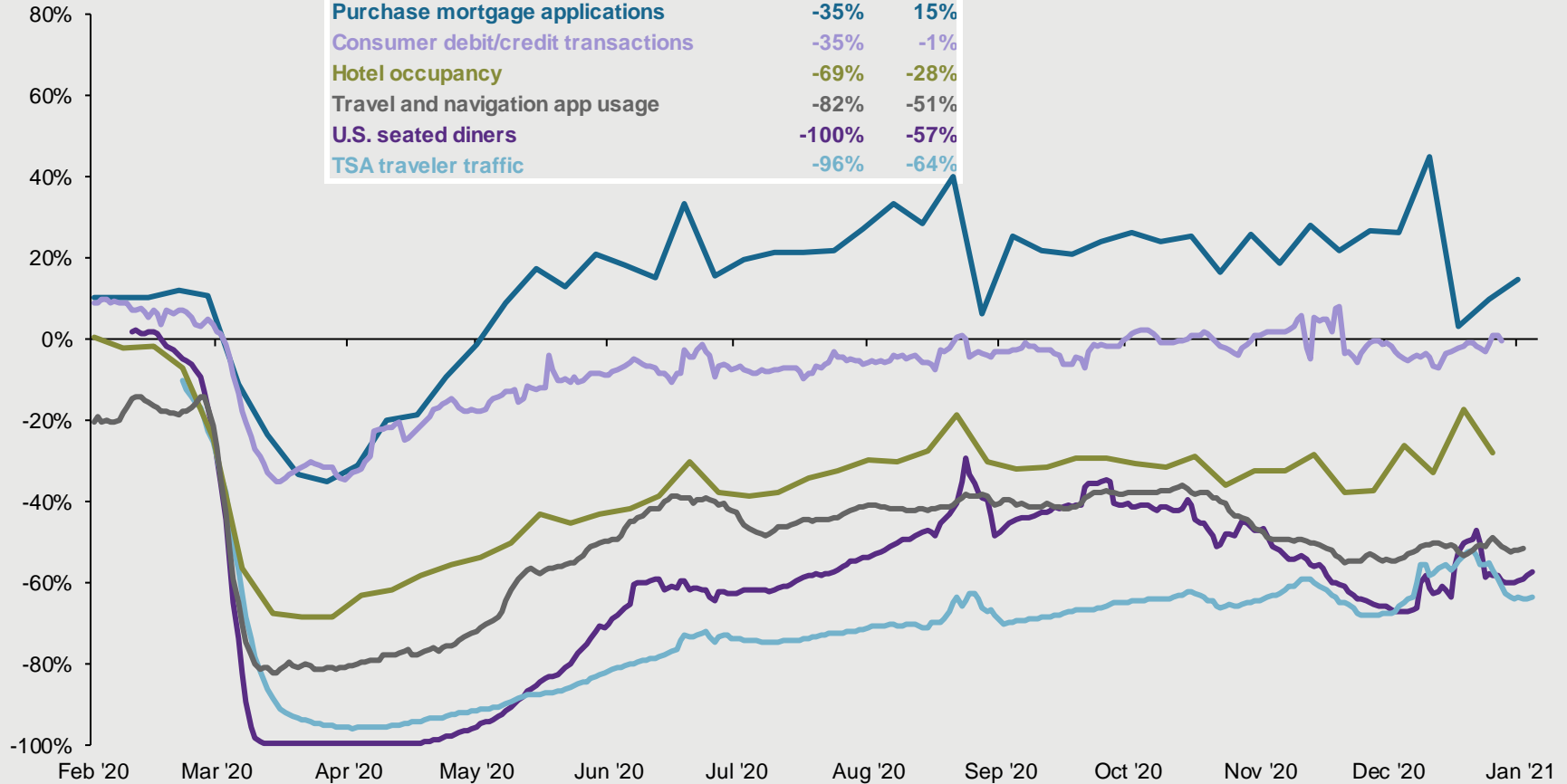


Source: Centers for Disease Control and Prevention, Johns Hopkins CSSE, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of January 19, 2021.

## High-frequency data

Year-over-year % change\*

	Min.	Current
Purchase mortgage applications	-35%	15%
Consumer debit/credit transactions	-35%	-1%
Hotel occupancy	-69%	-28%
Travel and navigation app usage	-82%	-51%
U.S. seated diners	-100%	-57%
TSA traveler traffic	-96%	-64%

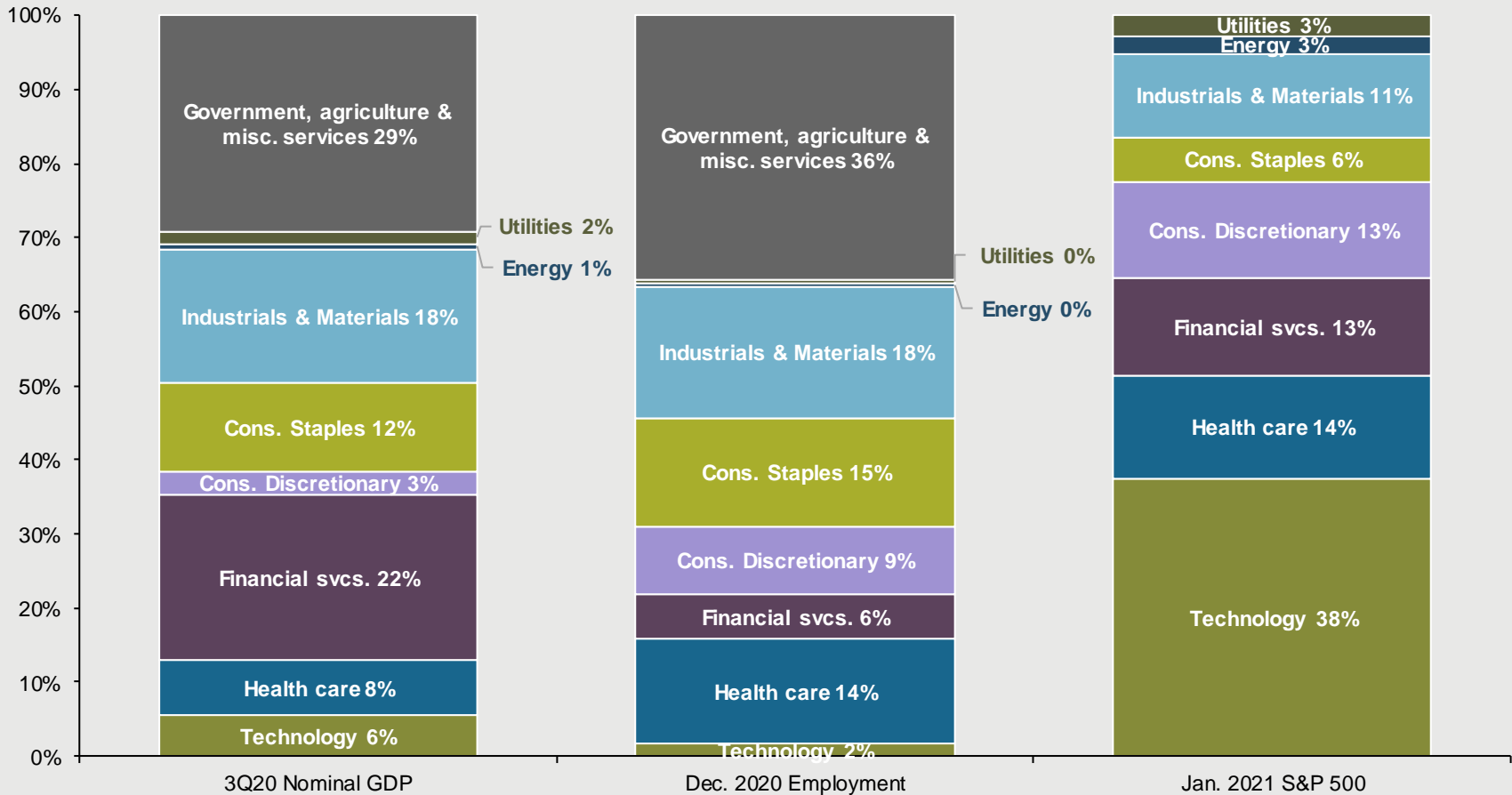


Source: App Annie, Chase, Mortgage Bankers Association (MBA), OpenTable, STR, Transportation Security Administration (TSA), J.P. Morgan Asset Management. \*Consumer debit/credit transactions, U.S. seated diners, and TSA traveler traffic are 7-day moving averages. App Annie data is compared to 2019 average and includes over 600 travel and navigation apps globally, including Google Maps, Uber, Airbnb and Booking.com. Consumer spending: This report uses rigorous security protocols for selected data sourced from Chase credit and debit card transactions to ensure all information is kept confidential and secure. All selected data is highly aggregated and all unique identifiable information—including names, account numbers, addresses, dates of birth, and Social Security Numbers—is removed from the data before the report's author receives it. *Guide to the Markets – U.S.* Data are as of January 19, 2021.



Economy

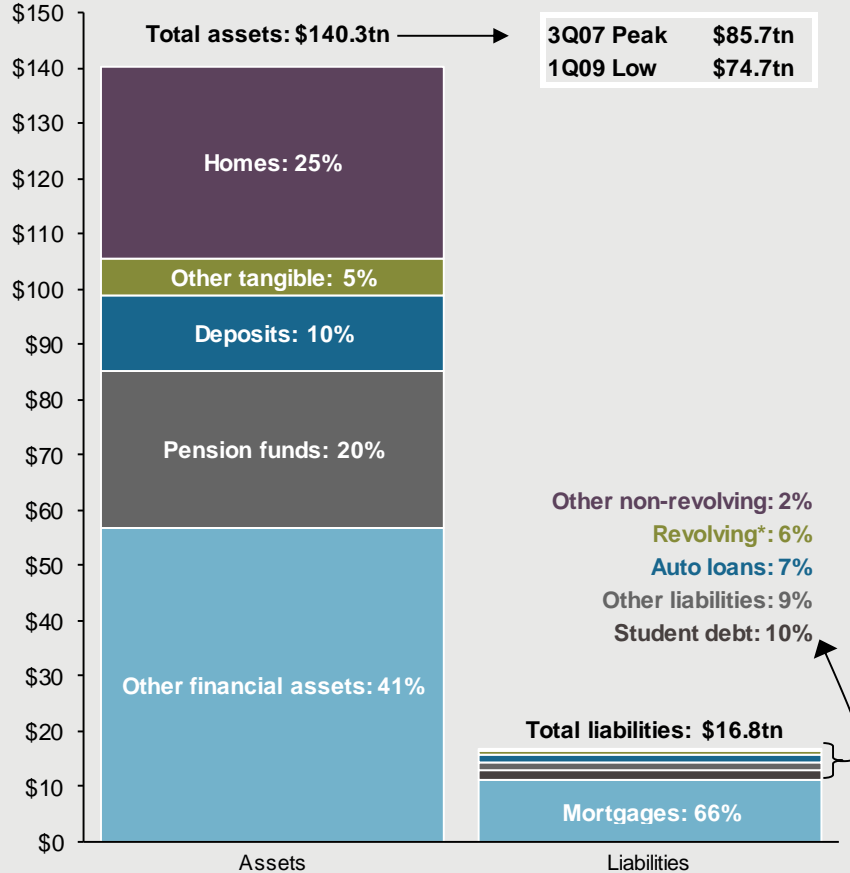
### Sector share of GDP, employment, S&P 500



Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Standard & Poor's, J.P. Morgan Asset Management. Sector share of S&P 500 based on market cap weighting. Technology: information (economy, employment), technology and communication services (S&P 500). Financial services includes real estate (S&P 500). Consumer discretionary: Arts, entertainment, recreation, accommodation, and food services (economy), leisure and hospitality (employment). Consumer staples: wholesale trade and retail trade (economy, employment). Industrials and materials: construction, manufacturing, transportation and warehousing (economy, employment). Energy: mining (economy), mining and logging (employment). Government, agriculture & misc. services: government, other services, professional and business services, education and agriculture, forestry, fishing, and hunting (economy), government, other services, professional and business services, and education (employment).  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

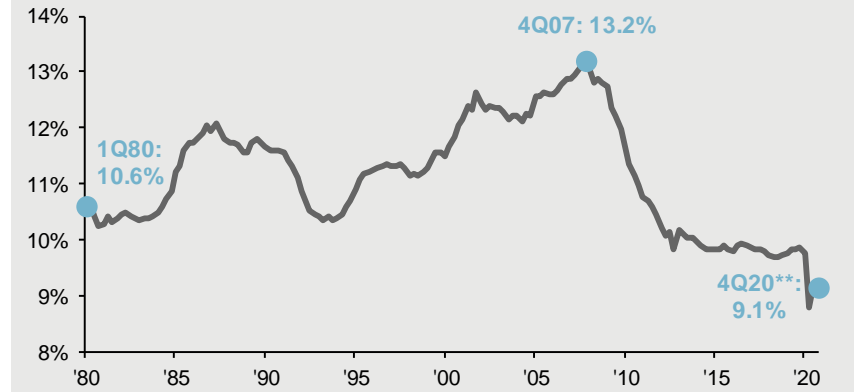
## Consumer balance sheet

3Q20, trillions of dollars outstanding, not seasonally adjusted



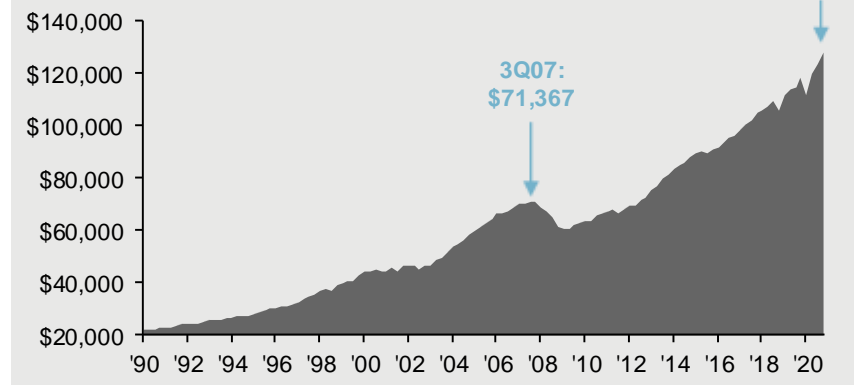
## Household debt service ratio

Debt payments as % of disposable personal income, SA

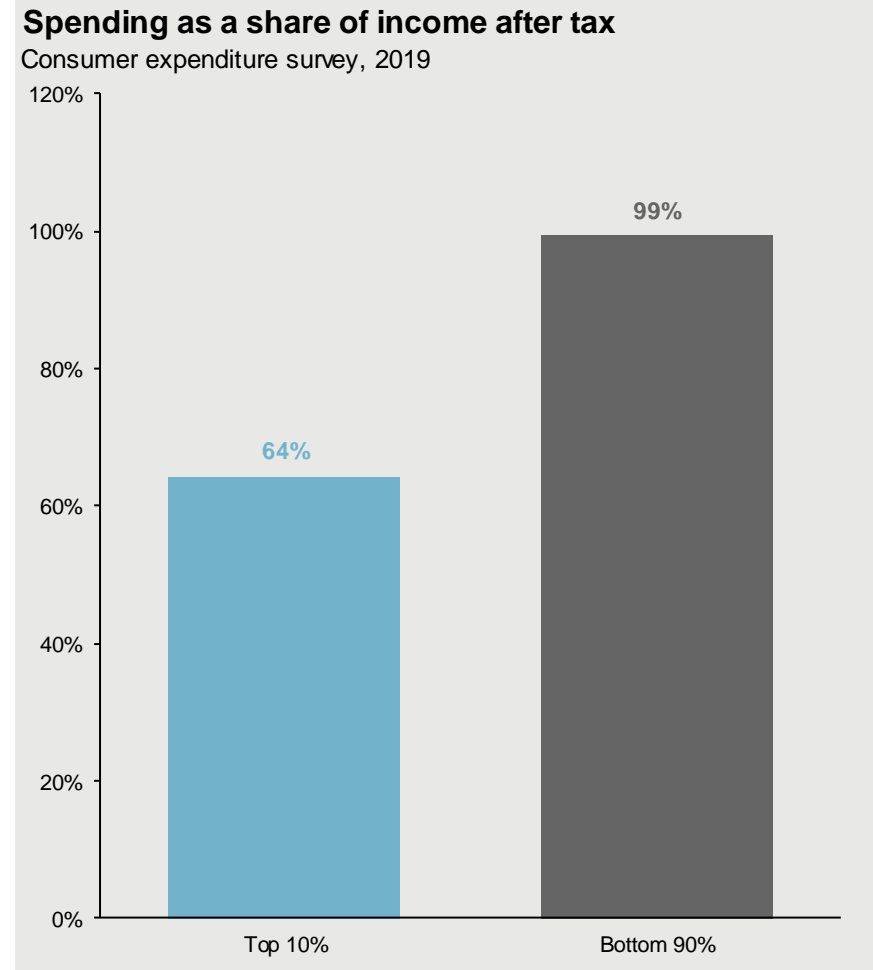
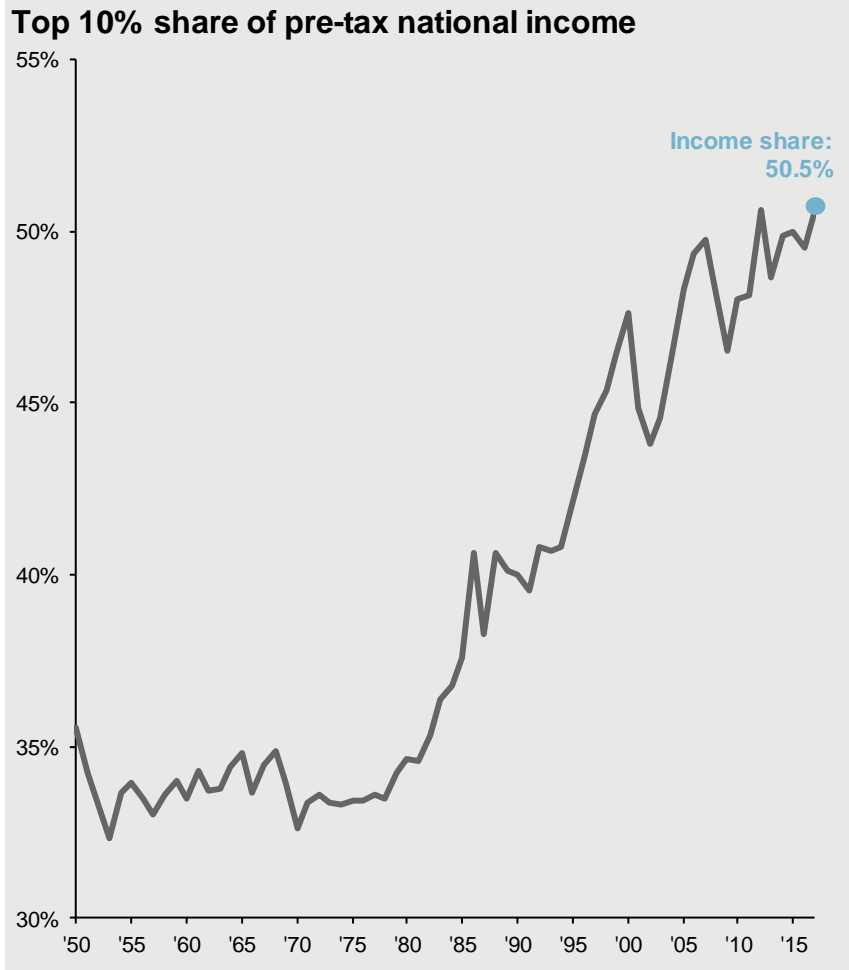


## Household net worth

Not seasonally adjusted, USD billions



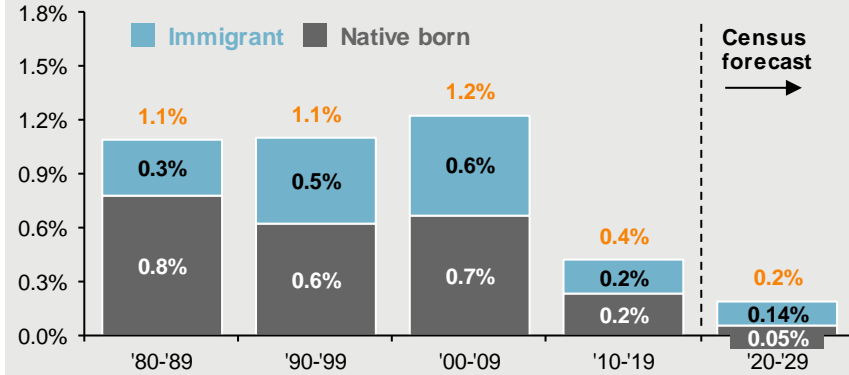
Source: FactSet, FRB, J.P. Morgan Asset Management; (Top and bottom right) BEA. Data include households and nonprofit organizations. SA – seasonally adjusted. \*Revolving includes credit cards. Values may not sum to 100% due to rounding. \*\*4Q20 figures for debt service ratio and household net worth are J.P. Morgan Asset Management estimates. *Guide to the Markets* – U.S. Data are as of January 19, 2021.



Source: Bureau of Labor Statistics, Piketty, Saez, J.P. Morgan Asset Management; (Left) "Income Inequality in the United States, 1913-1998" by Thomas Piketty and Emmanuel Saez, updated to 2018. Income is defined as market income and excludes government transfers but includes capital gains. In 2018, top decile includes all families with annual income above \$135,000; (Right) Consumer Expenditure Survey 2019. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

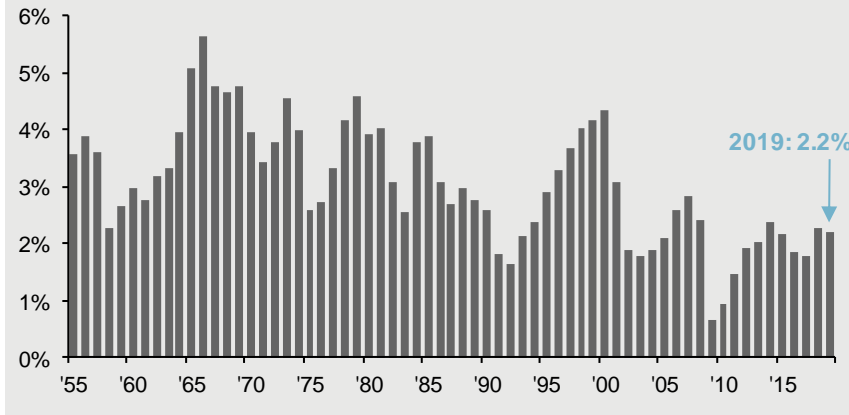
## Growth in working-age population

Percent increase in civilian non-institutional population ages 16-64



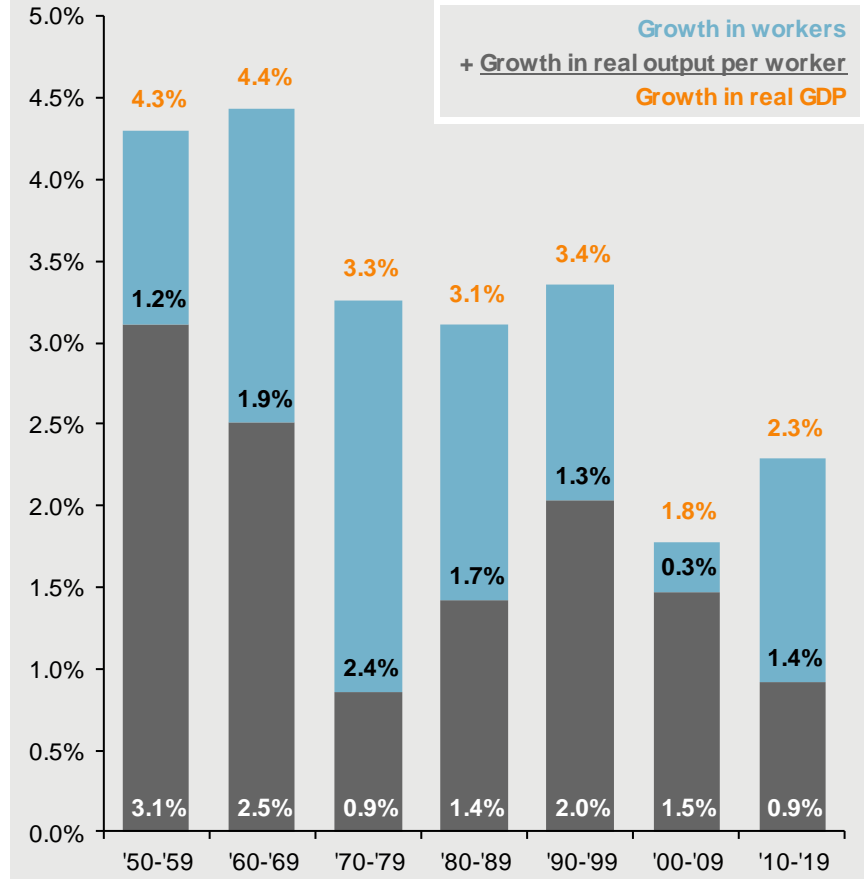
## Growth in private non-residential capital stock

Non-residential fixed assets, year-over-year % change



## Drivers of GDP growth

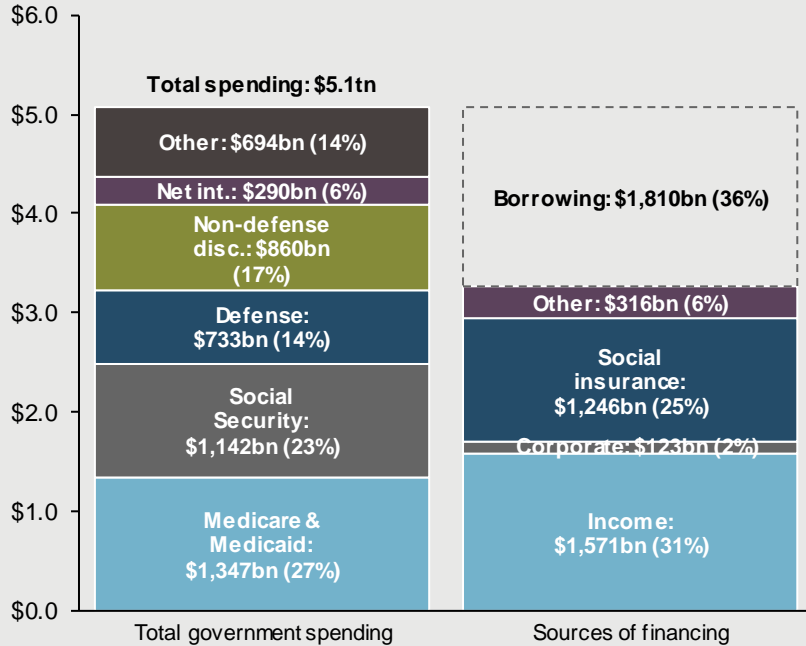
Average year-over-year % change



Source: J.P. Morgan Asset Management; (Top left) Census Bureau, DOD, DOJ; (Top left and right) BLS; (Right and bottom left) BEA. GDP drivers are calculated as the average annualized growth in the 10 years ending in 4Q19. Future working-age population is calculated as the total estimated number of Americans from the Census Bureau, per the February 2020 report, controlled for military enrollment, growth in institutionalized population and demographic trends. Growth in working-age population does not include illegal immigration; DOD Troop Readiness reports used to estimate percent of population enlisted. Numbers may not sum due to rounding. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## The 2021 federal budget

CBO Baseline forecast, USD trillions

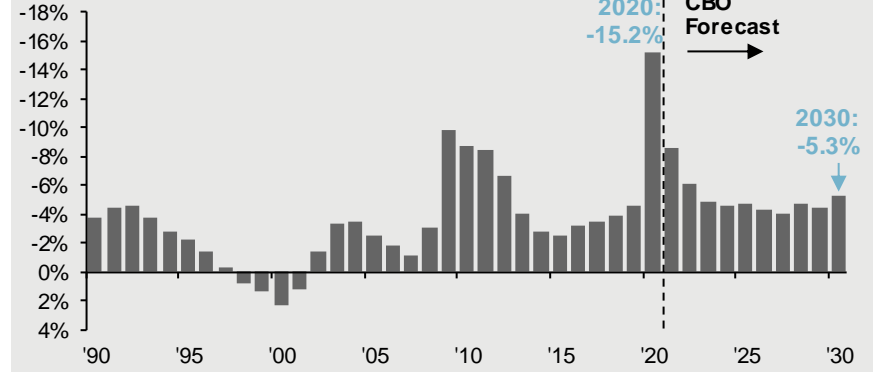


### CBO's Baseline economic assumptions

	2021	'22-'23	'24-'25	'26-'30
Real GDP growth	1.1%	2.9%	2.3%	2.1%
10-year Treasury	0.8%	1.2%	1.7%	2.7%
Headline inflation (CPI)	0.9%	1.9%	2.3%	2.2%
Unemployment	9.1%	7.0%	5.9%	4.7%

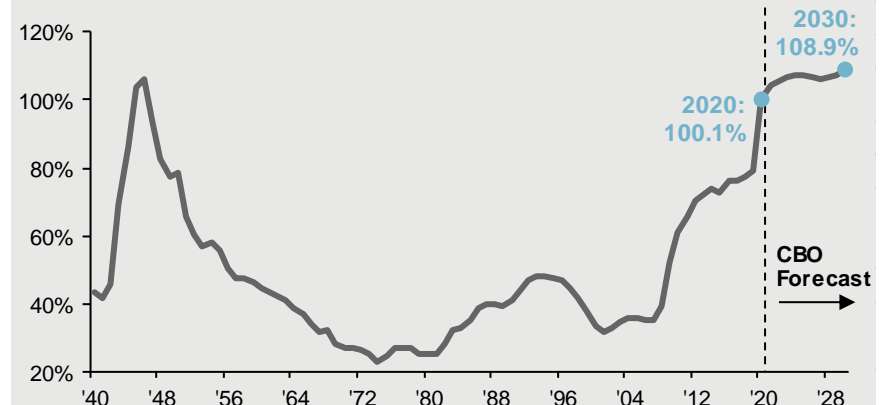
## Federal budget surplus/deficit

% of GDP, 1990 – 2030, 2020 CBO Baseline



## Federal net debt (accumulated deficits)

% of GDP, 1940 – 2030, 2020 CBO Baseline, end of fiscal year



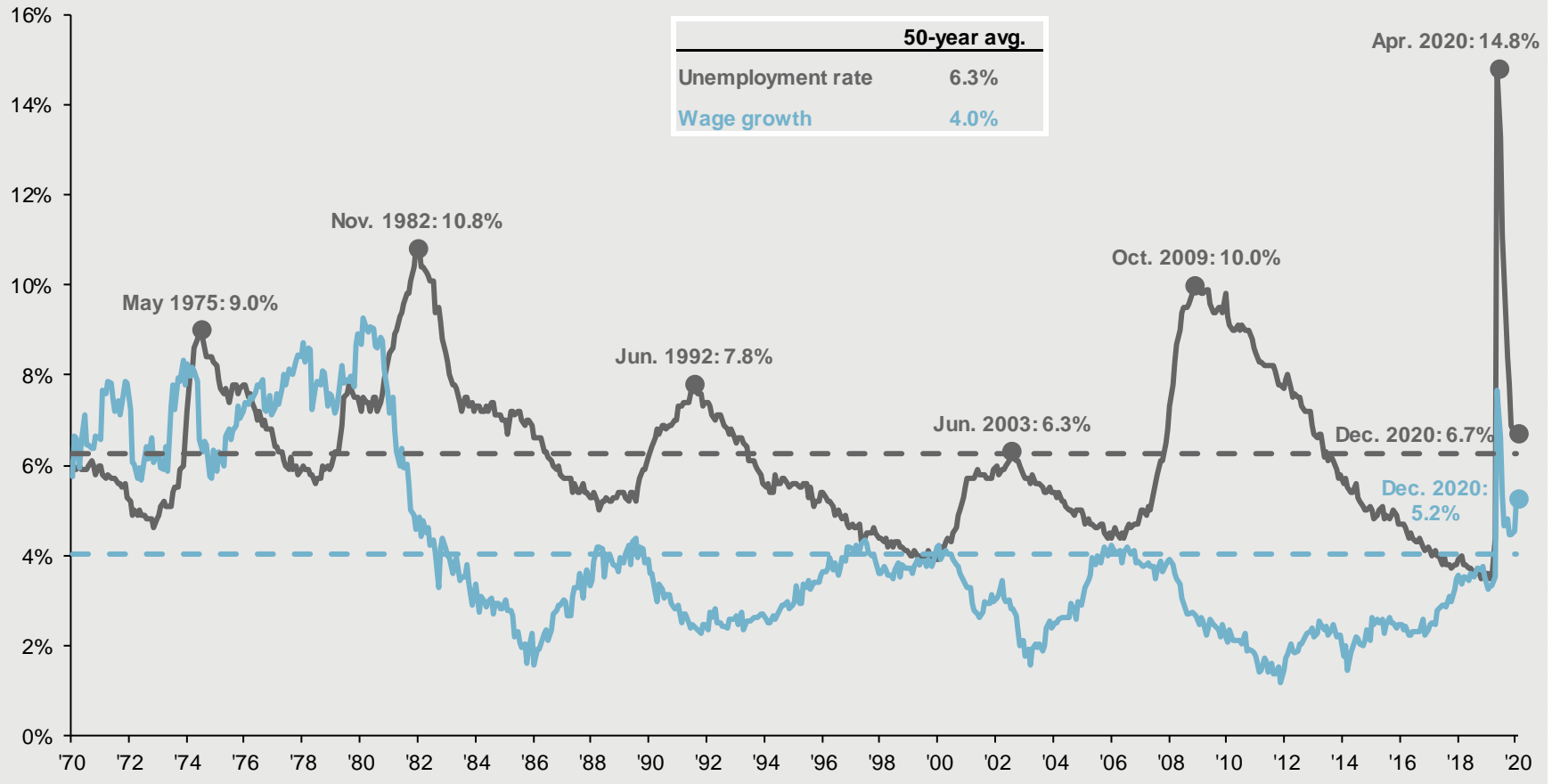
Source: CBO, J.P. Morgan Asset Management; (Top and bottom right) BEA, Treasury Department.

2021 Federal Budget is based on the Congressional Budget Office (CBO) September 2020 Baseline Budget Forecast. CBO Baseline economic assumptions are based on the Congressional Budget Office (CBO) July 2020 Update to Economic Outlook. Other spending includes, but is not limited to, health insurance subsidies, income security and federal civilian and military retirement. Note: Years shown are fiscal years (Oct. 1 through Sep. 30).

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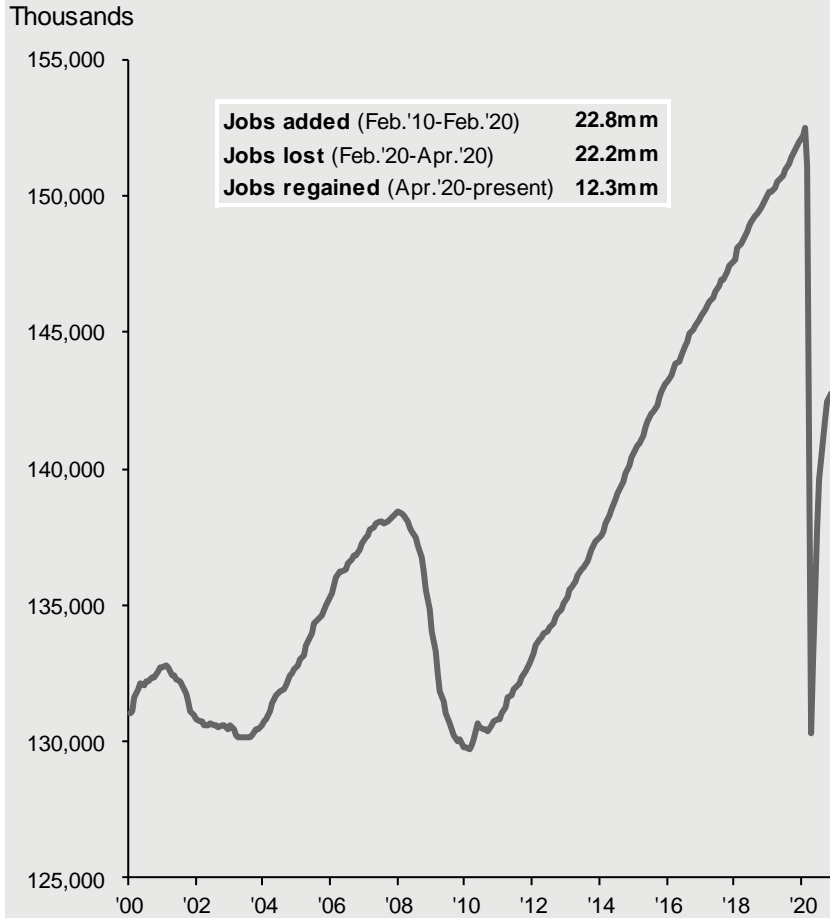
## Civilian unemployment rate and year-over-year wage growth for private production and non-supervisory workers

Seasonally adjusted, percent



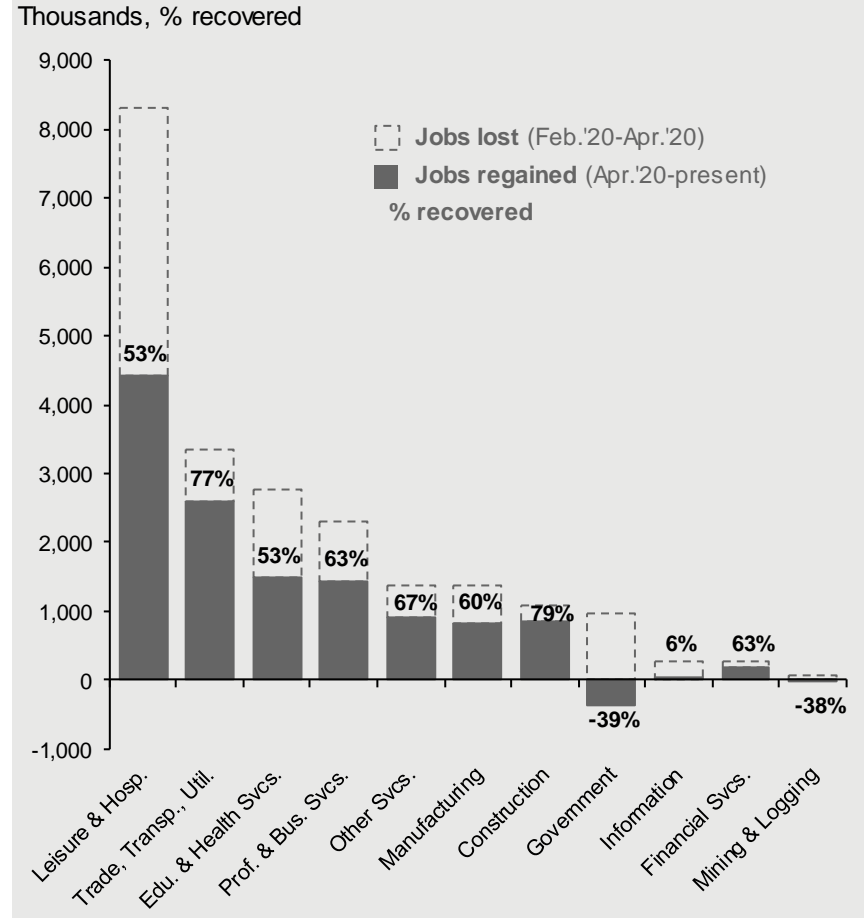
Source: BLS, FactSet, J.P. Morgan Asset Management.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

## Employees on total nonfarm payrolls

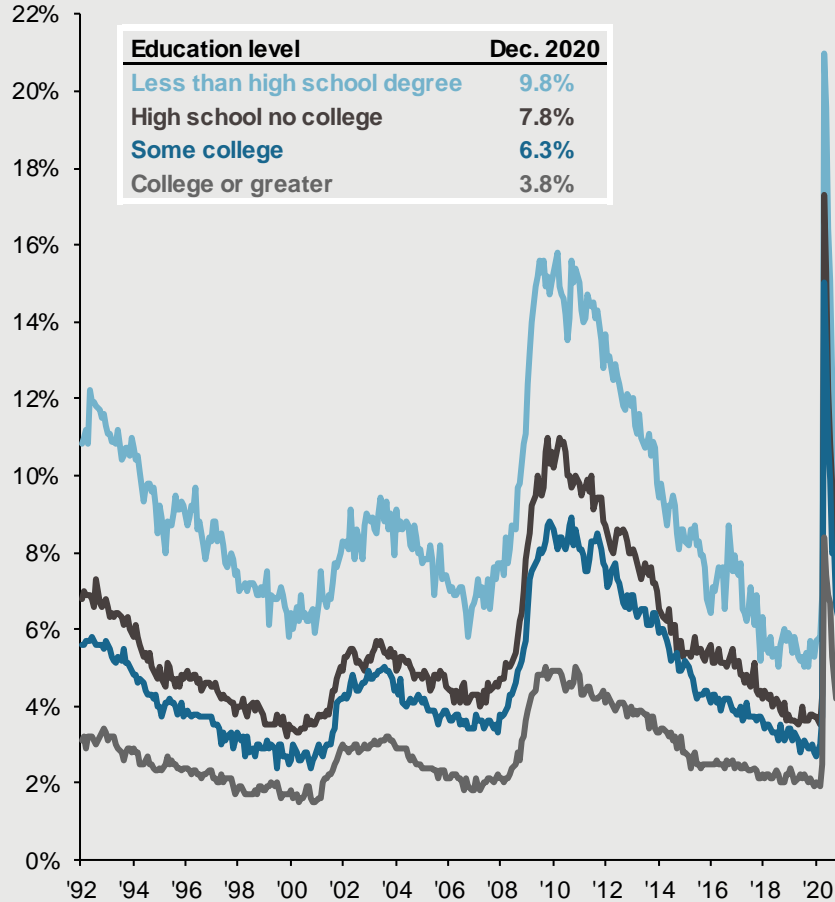


Source: Bureau of Labor Statistics, J.P. Morgan Asset Management.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

## Payroll employment lost and regained by industry

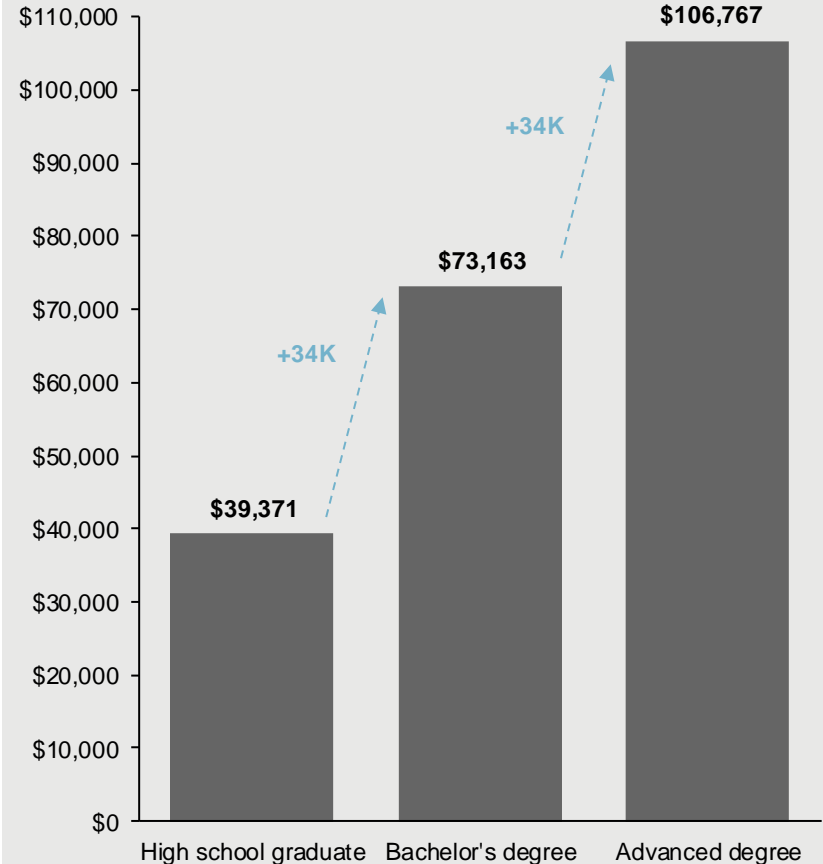


## Unemployment rate by education level



## Average annual earnings by highest degree earned

Workers aged 18 and older, 2019

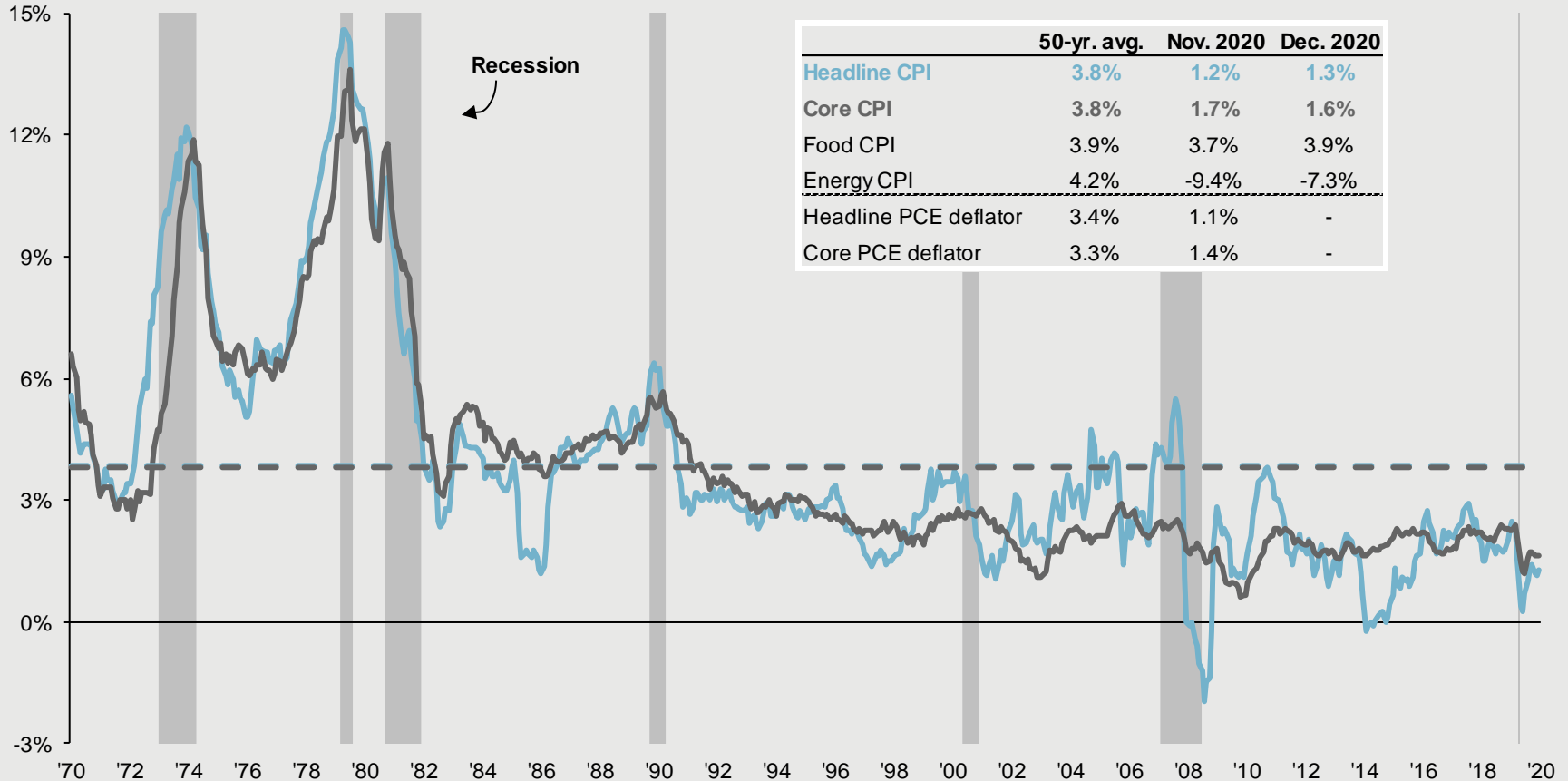


Source: J.P. Morgan Asset Management; (Left) BLS, FactSet; (Right) Census Bureau. Unemployment rates shown are for civilians aged 25 and older. Earnings by educational attainment comes from the Current Population Survey and is published under historical income tables by person by the Census Bureau. *Guide to the Markets – U.S.* Data are as of January 19, 2021.



## CPI and core CPI

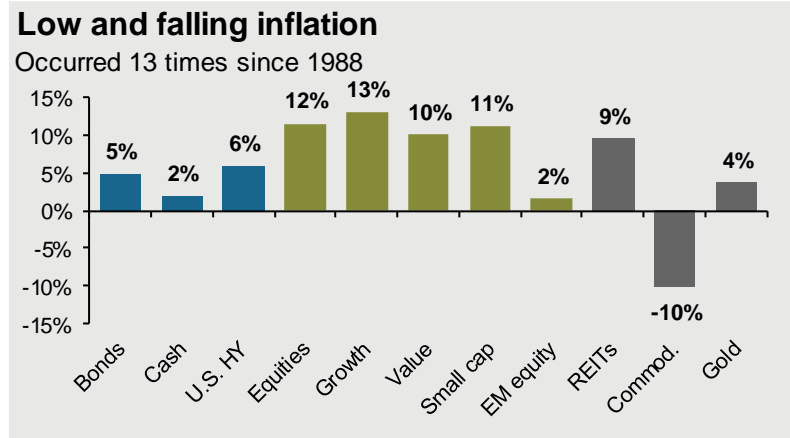
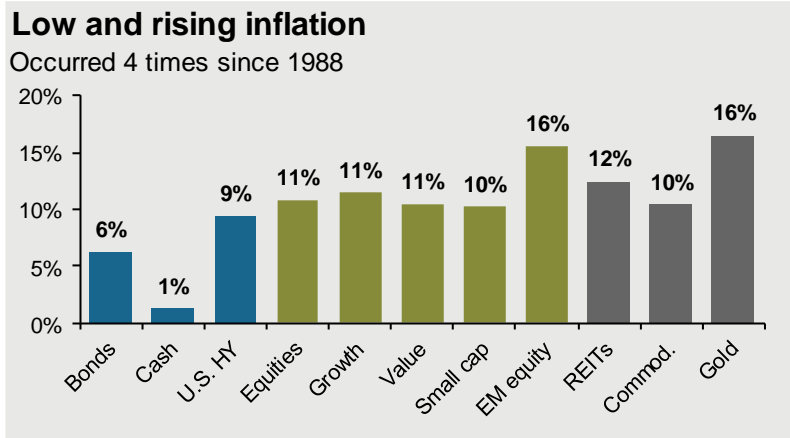
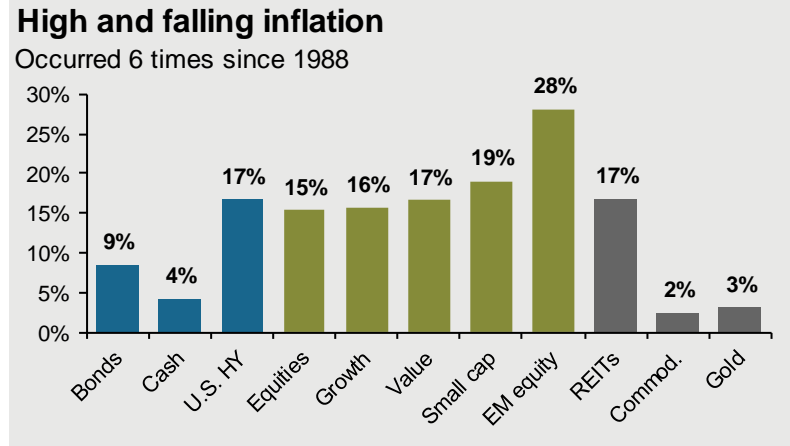
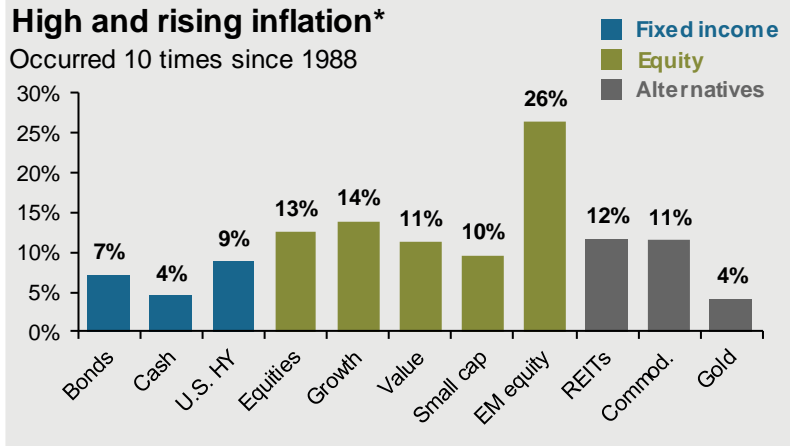
% change vs. prior year, seasonally adjusted



Source: BLS, FactSet, J.P. Morgan Asset Management.  
 CPI used is CPI-U and values shown are % change vs. one year ago. Core CPI is defined as CPI excluding food and energy prices. The Personal Consumption Expenditure (PCE) deflator employs an evolving chain-weighted basket of consumer expenditures instead of the fixed-weight basket used in CPI calculations.  
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Rising inflation

Falling inflation



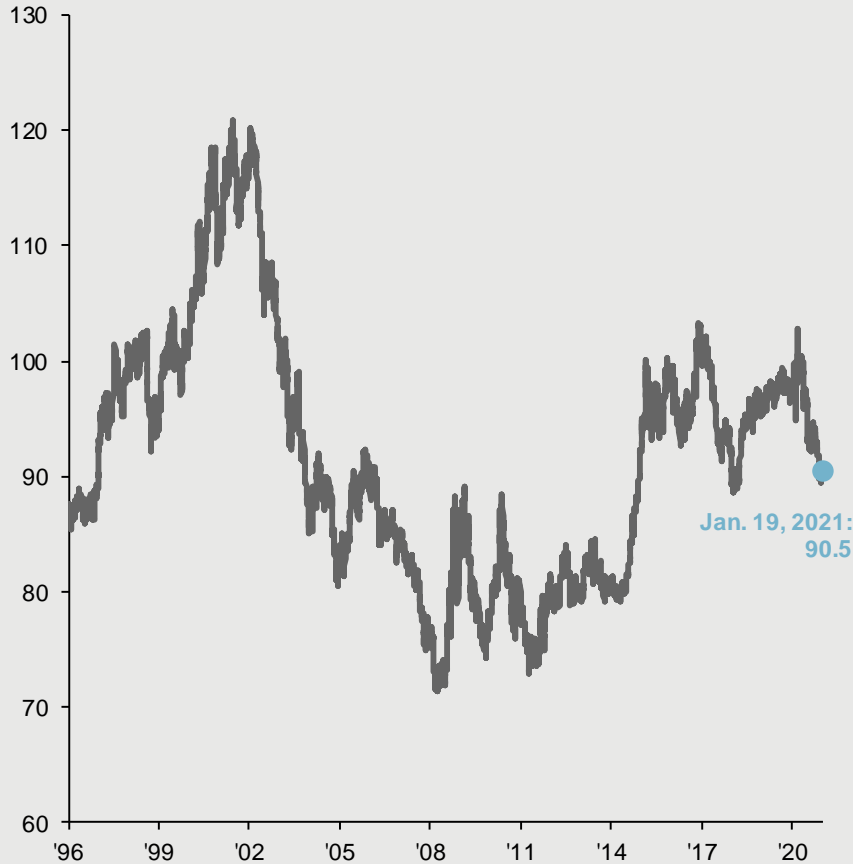
Above median  
Median inflation: 2.5%  
Below median

Source: J.P. Morgan Asset Management. \*High or low inflation distinction is relative to median CPI-U inflation for the period 1988 to 2020 (33 years), which was 2.5% y/y. Rising or falling inflation distinction is relative to previous year CPI-U inflation rate. Indices: Bonds – Bloomberg Barclays U.S. Aggregate; Cash – Bloomberg Barclays 1-3 Month T-Bill index since its inception in 1992 and 3-month T-Bill rates prior to that; U.S. high yield – Bloomberg Barclays US Aggregate Credit (corporate high yield); Equities – S&P 500; Growth – Russell 1000 Growth; Value – Russell 1000 Growth; Small Cap – Russell 2000; EM equity – MSCI Emerging Markets (USD); REITs – FTSE Nareit / All Equity REITs; Commodities – Bloomberg Commodity Index since its inception in 1992 and S&P GSCI prior to that; Gold – NYM \$/ozt continuous future closing price. For illustrative purposes only. Past performance is not indicative of comparable future returns. Returns are based on calendar year performance and are total return unless otherwise specified.

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**The U.S. dollar**

U.S. Dollar Index



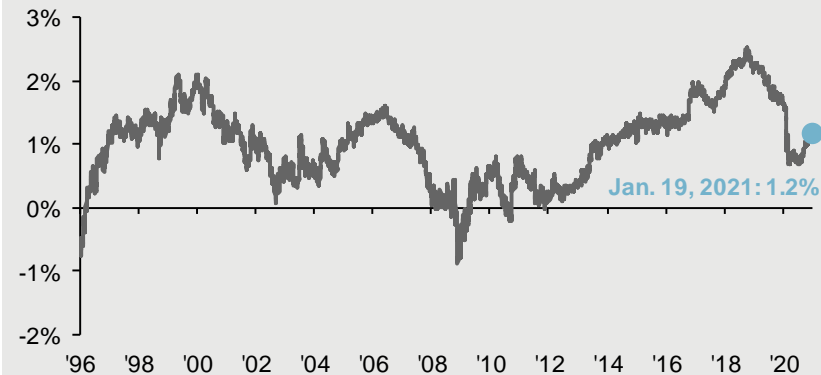
**The U.S. trade balance**

Current account balance, % of GDP



**Developed markets interest rate differentials**

Difference between U.S. and international 10-year yields\*



Source: J.P. Morgan Asset Management; (Left) FactSet, ICE; (Top right) Bureau of Economic Analysis, FactSet; (Bottom right) Tullett Prebon. Currencies in the DXY Index are: British pound, Canadian dollar, euro, Japanese yen, Swedish krona and Swiss franc. \*Interest rate differential is the difference between the 10-year U.S. Treasury yield and a basket of the 10-year yields of each major trading partner (Australia, Canada, Europe, Japan, Sweden, Switzerland and UK). Weights on the basket are calculated using the 10-year average of total government bonds outstanding in each region. Europe is defined as the 19 countries in the euro area. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

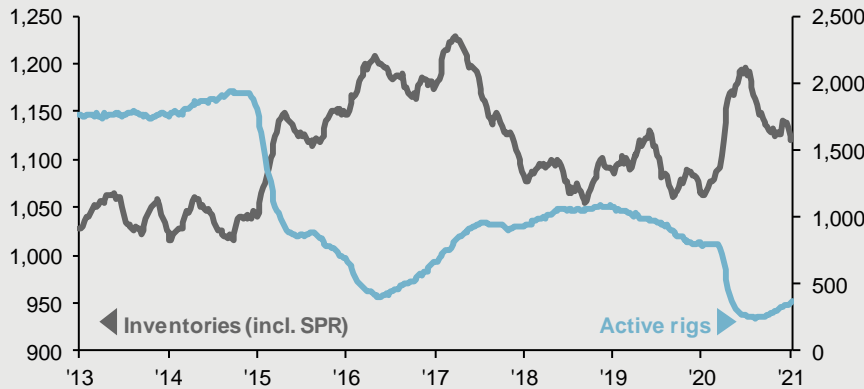
## Change in production and consumption of liquid fuels

Production, consumption and inventories, millions of barrels per day

Production	2018	2019	2020	2021*	2022*	Growth since '18
U.S.	17.9	19.5	18.6	18.7	19.6	9.2%
OPEC	36.8	34.6	30.6	32.2	33.5	-9.0%
Russia	11.4	11.5	10.5	10.6	11.6	1.3%
<b>Global</b>	<b>100.8</b>	<b>100.6</b>	<b>94.2</b>	<b>97.1</b>	<b>100.6</b>	<b>-0.2%</b>
Consumption	2018	2019	2020	2021*	2022*	Growth since '18
U.S.	20.5	20.5	18.1	19.5	20.5	0.0%
China	13.9	14.8	14.3	15.2	15.6	12.4%
<b>Global</b>	<b>100.1</b>	<b>101.2</b>	<b>92.2</b>	<b>97.8</b>	<b>101.1</b>	<b>1.0%</b>
Inventory Change	2018	2019	2020	2021*	2022*	Growth since '18
	0.7	-0.6	2.0	-0.6	-0.5	

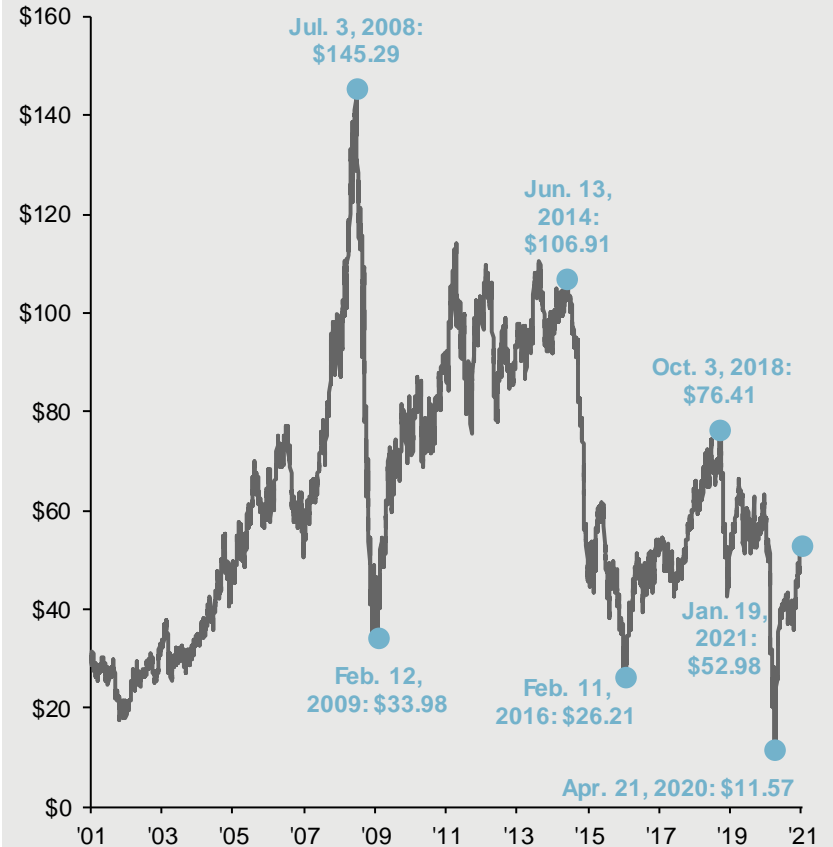
## U.S. crude oil inventories and rig count\*\*

Million barrels, number of active rigs



## Price of oil

WTI crude, nominal prices, USD/barrel

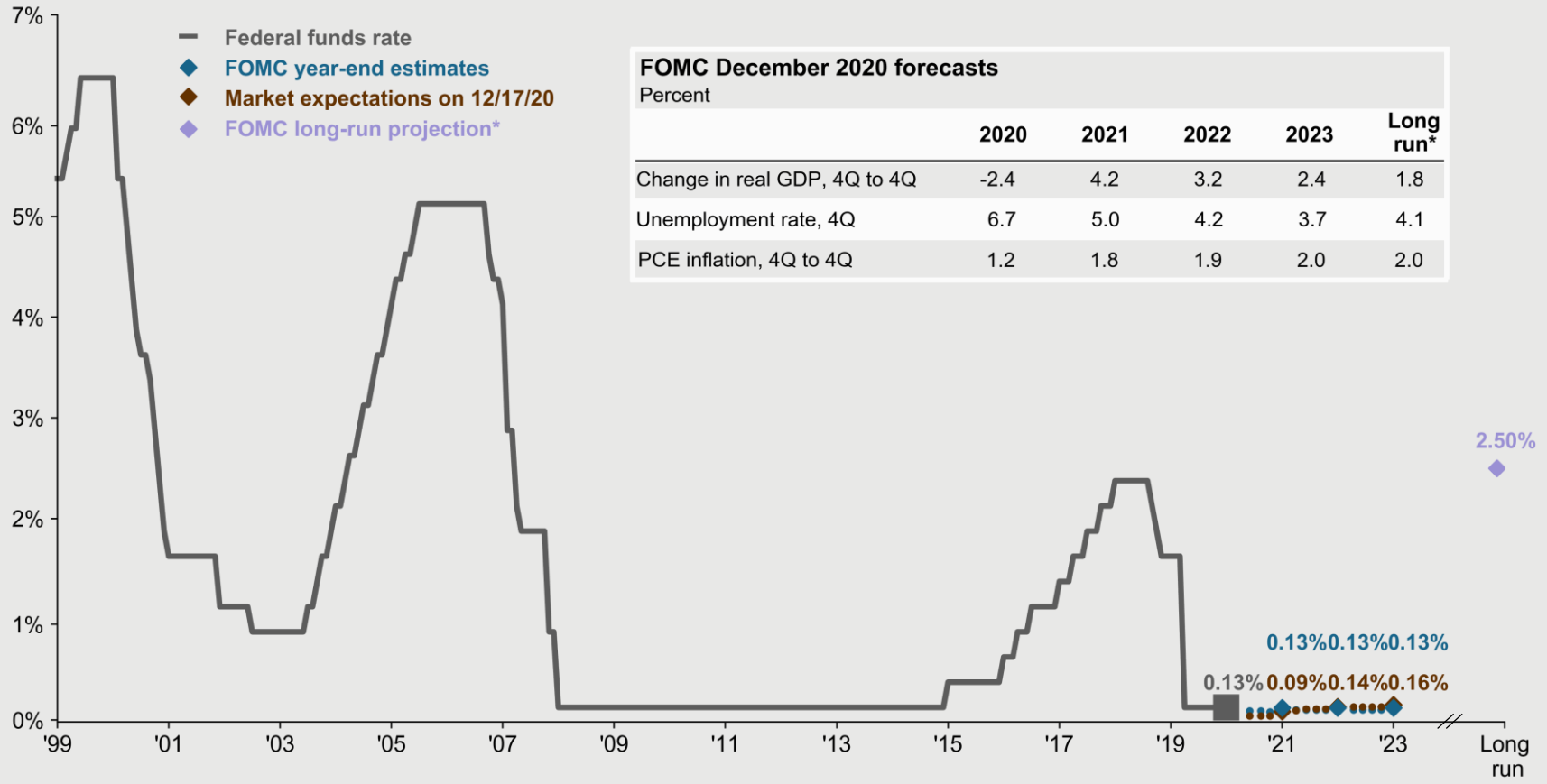


Source: J.P. Morgan Asset Management; (Top and bottom left) EIA; (Right) FactSet; (Bottom left) Baker Hughes.

\*Forecasts are from the December 2020 EIA Short-Term Energy Outlook and start in 2020. \*\*U.S. crude oil inventories include the Strategic Petroleum Reserve (SPR). Active rig count includes both natural gas and oil rigs. WTI crude prices are continuous contract NYM prices in USD. *Guide to the Markets* – U.S. Data are as of January 19, 2021.

## Federal funds rate expectations

FOMC and market expectations for the federal funds rate



Source: Bloomberg, FactSet, Federal Reserve, J.P. Morgan Asset Management.

Market expectations are the federal funds rates priced into the fed futures market as of the following date of the December 2020 FOMC meeting and are through December 2023. \*Long-run projections are the rates of growth, unemployment and inflation to which a policymaker expects the economy to converge over the next five to six years in absence of further shocks and under appropriate monetary policy.

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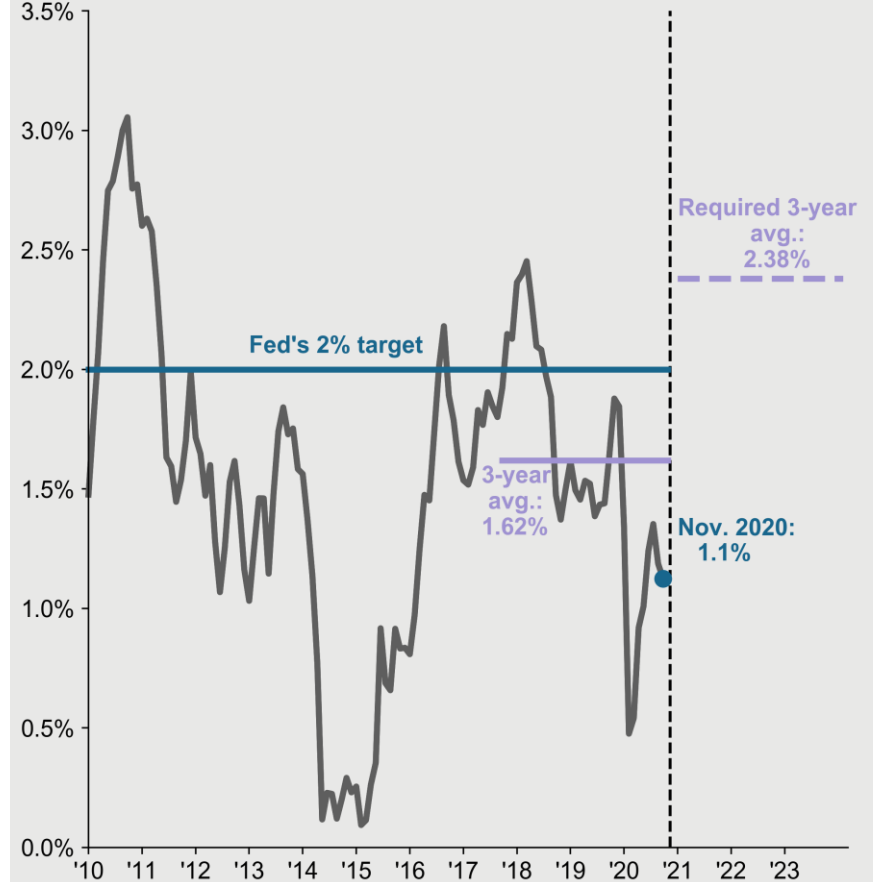
## 5-year, 5-year forward inflation expectation rate

Percent, not seasonally adjusted



## Headline personal consumption deflator

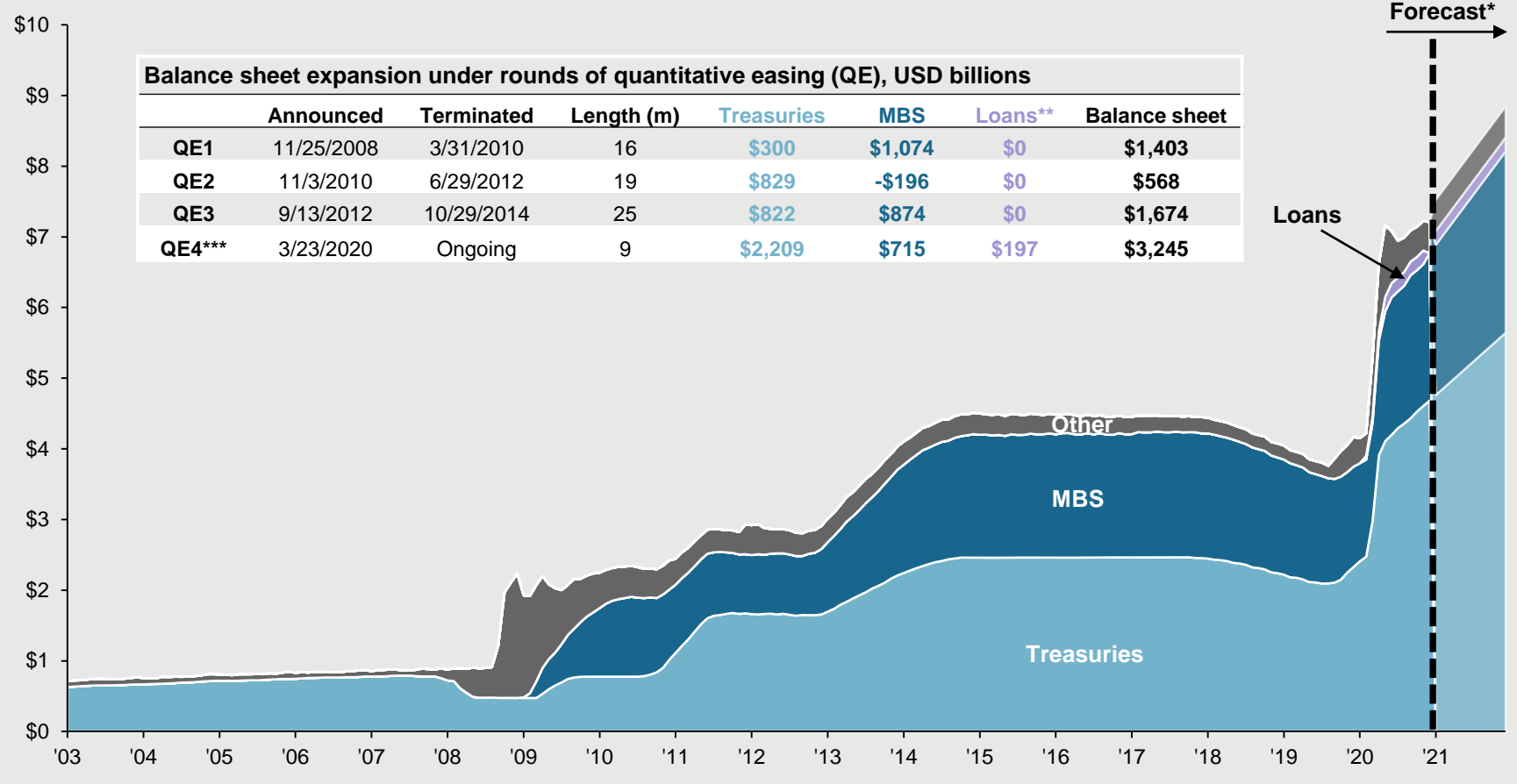
Year-over-year percent change



Source: Bureau of Economic Analysis, Federal Reserve, Federal Reserve Bank of St. Louis, J.P. Morgan Asset Management. The 5 year, 5 year forward inflation expectation rate measures the expected inflation rate (on average) over the five-year period that begins five years from today. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## The Federal Reserve balance sheet

USD trillions

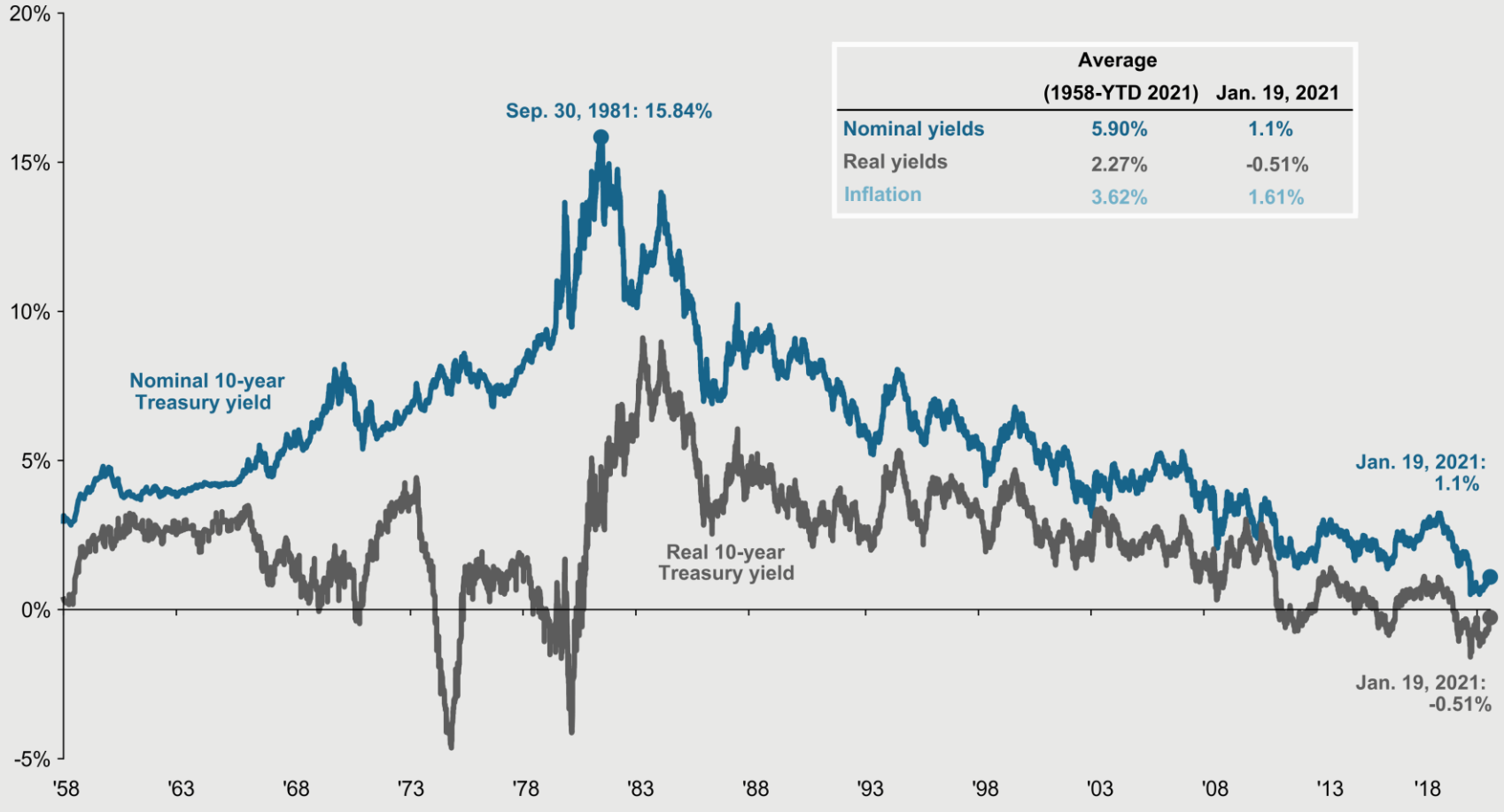


Source: FactSet, Federal Reserve, J.P. Morgan Investment Bank, J.P. Morgan Asset Management.

Currently, the balance sheet contains \$4.4 trillion in Treasuries and \$2.0 trillion in MBS. The end balance sheet forecast is \$5.4 trillion in Treasuries and \$2.5 trillion in MBS by December 2021. \*Balance sheet forecast assumes the Federal Reserve maintains its current pace of purchases of Treasuries and MBS through December 2021 as suggested in the December 2020 FOMC meeting. \*\*Loans include liquidity and credit extended through newly established corporate credit facilities in March 2020. Loan figures shown are max usage over the QE period referenced and are not growth of loan portfolio over the period. Other includes primary, secondary and seasonal loans, repurchase agreements, foreign currency reserves, and maiden lane securities. \*\*\*QE4 is ongoing and the expansion figures are as of the most recent Wednesday close as reported by the Federal Reserve.

Guide to the Markets – U.S. Data are as of January 19, 2021.

Nominal and real 10-year Treasury yields



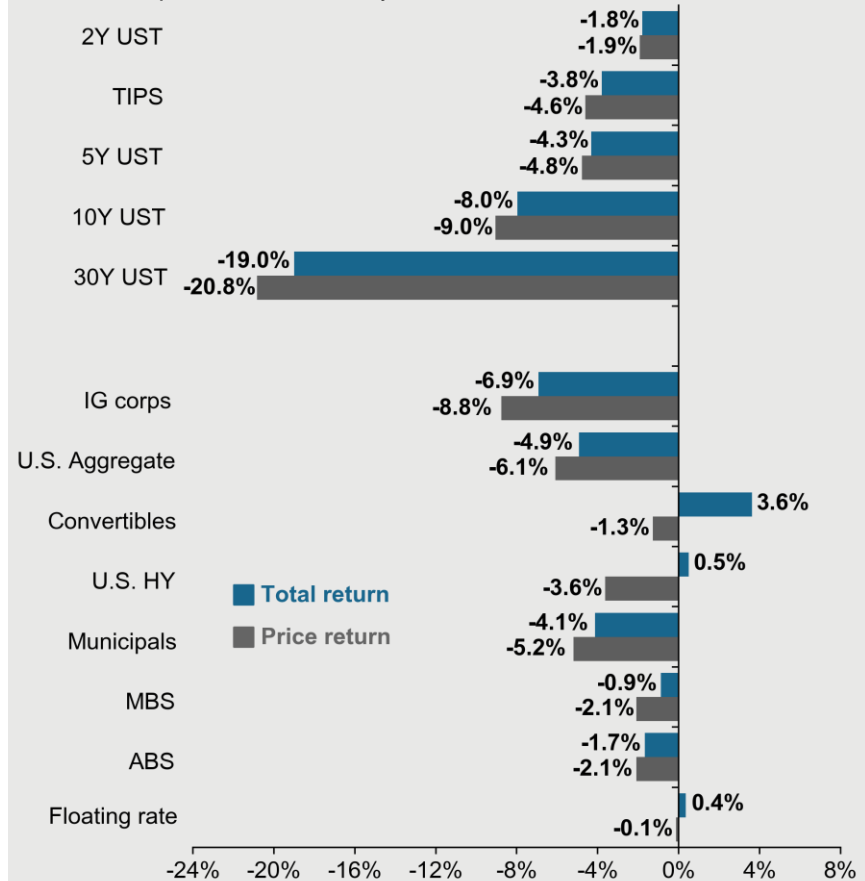
Source: BLS, FactSet, Federal Reserve, J.P. Morgan Asset Management.  
 Real 10-year Treasury yields are calculated as the daily Treasury yield less year-over-year core CPI inflation for that month except for January 2021 where real yields are calculated by subtracting out December 2020 year-over-year core inflation.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.



U.S. Treasuries	Yield		Return	Avg. Maturity	Correlation to 10-year	Correlation to S&P 500
	1/19/2021	12/31/2020	2021 YTD			
<b>2-Year</b>	0.14%	0.13%	-0.01%	2 years	0.67	-0.39
<b>5-Year</b>	0.45%	0.36%	-0.40%	5	0.92	-0.35
<b>TIPS</b>	-1.00%	-1.06%	-0.07%	10	0.58	0.19
<b>10-Year</b>	1.10%	0.93%	-1.60%	10	1.00	-0.33
<b>30-Year</b>	1.84%	1.65%	-4.30%	30	0.93	-0.33
<b>Sector</b>						
<b>IG corps</b>	1.83%	1.74%	-0.92%	12.3	0.41	0.39
<b>U.S. Aggregate</b>	1.18%	1.12%	-0.66%	8.2	0.85	0.03
<b>Convertibles</b>	4.91%	4.91%	4.61%	-	-0.30	0.89
<b>U.S. HY</b>	4.13%	4.18%	0.47%	6.5	-0.26	0.74
<b>Municipals</b>	1.06%	1.07%	0.07%	13.0	0.38	0.10
<b>MBS</b>	1.22%	1.25%	0.00%	4.0	0.81	-0.14
<b>ABS</b>	2.23%	2.87%	0.12%	2.2	-0.01	0.27
<b>Floating rate</b>	0.47%	0.54%	0.12%	1.6	-0.23	0.45

## Impact of a 1% rise in interest rates

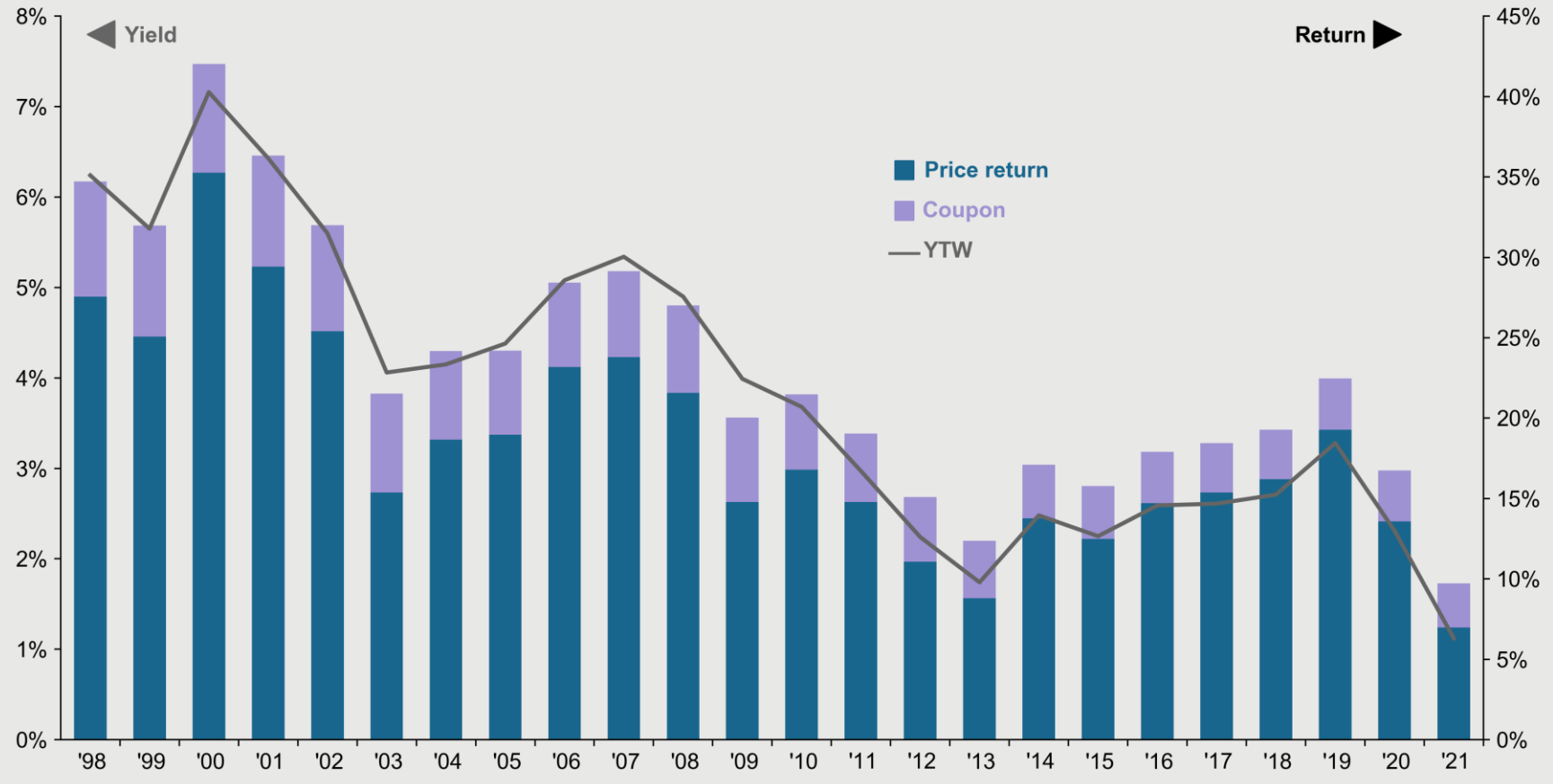
Assumes a parallel shift in the yield curve



Source: Barclays, Bloomberg, FactSet, SIFMA, Standard & Poor's, U.S. Treasury, J.P. Morgan Asset Management. Sectors shown above are provided by Bloomberg unless otherwise noted and are represented by – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; ABS: J.P. Morgan ABS Index; Corporates: U.S. Corporates; Municipals: Muni Bond; High Yield: Corporate High Yield; TIPS: Treasury Inflation-Protected Securities (TIPS); U.S. Floating rate index; Convertibles: U.S. Convertibles Composite. Convertibles yield is as of December 2020 due to data availability. Yield and return information based on bellwethers for Treasury securities. Sector yields reflect yield-to-worst. Convertibles yield is based on U.S. portion of Bloomberg Barclays Global Convertibles. Correlations are based on 15-years of monthly returns for all sectors. Issuance is based on monthly data provided by SIFMA. Past performance is not indicative of future results. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

### Impact on fixed income returns if yields fall to zero

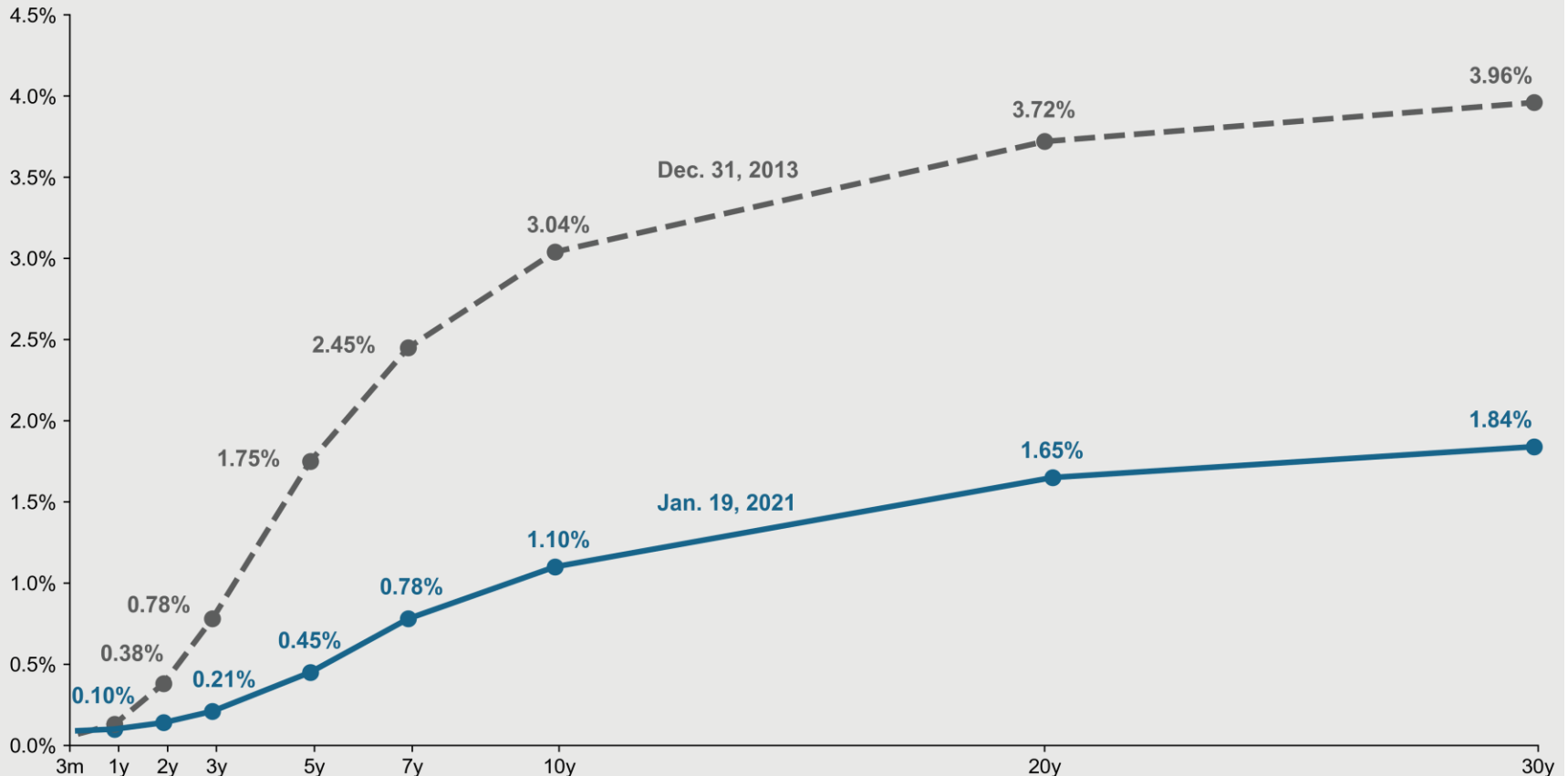
Yield-to-worst (left), annual return (right), Barclays U.S. Aggregate Index, return assumes yields fall to zero in a given year



Source: Barclays, Bloomberg, FactSet, J.P. Morgan Asset Management. Index price, coupon and yield are all averages for the given year. Change in bond price is calculated using both duration and convexity according to the following formula:  $New\ Price = (Price + (Price * -Duration * Change\ in\ Interest\ Rates)) + (0.5 * Price * Convexity * (Change\ in\ Interest\ Rates)^2)$ . Total return is the change in price plus the coupon return for the given year. Chart is for illustrative purposes only. Past performance is not indicative of future results. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

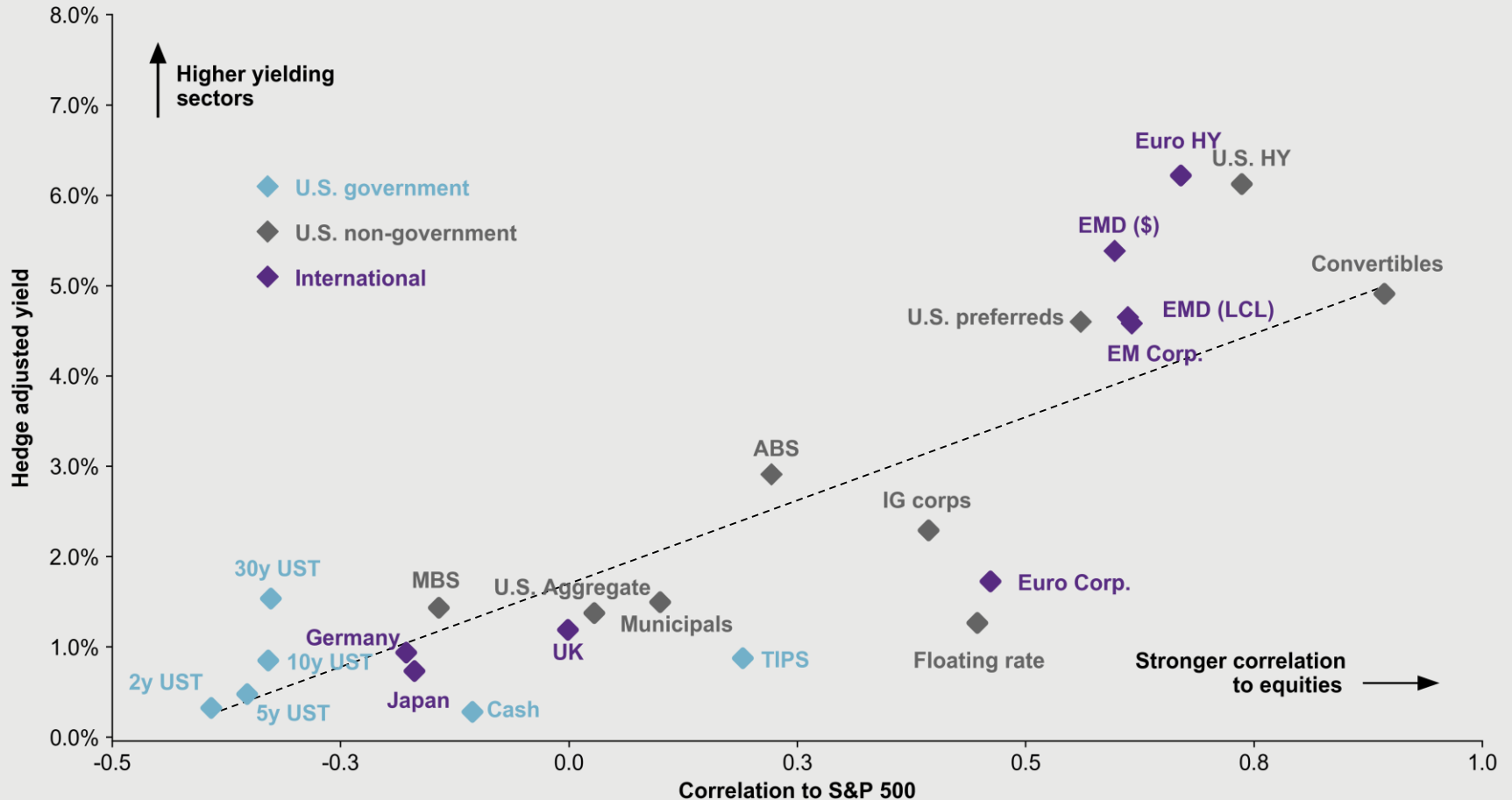
**Yield curve**

U.S. Treasury yield curve



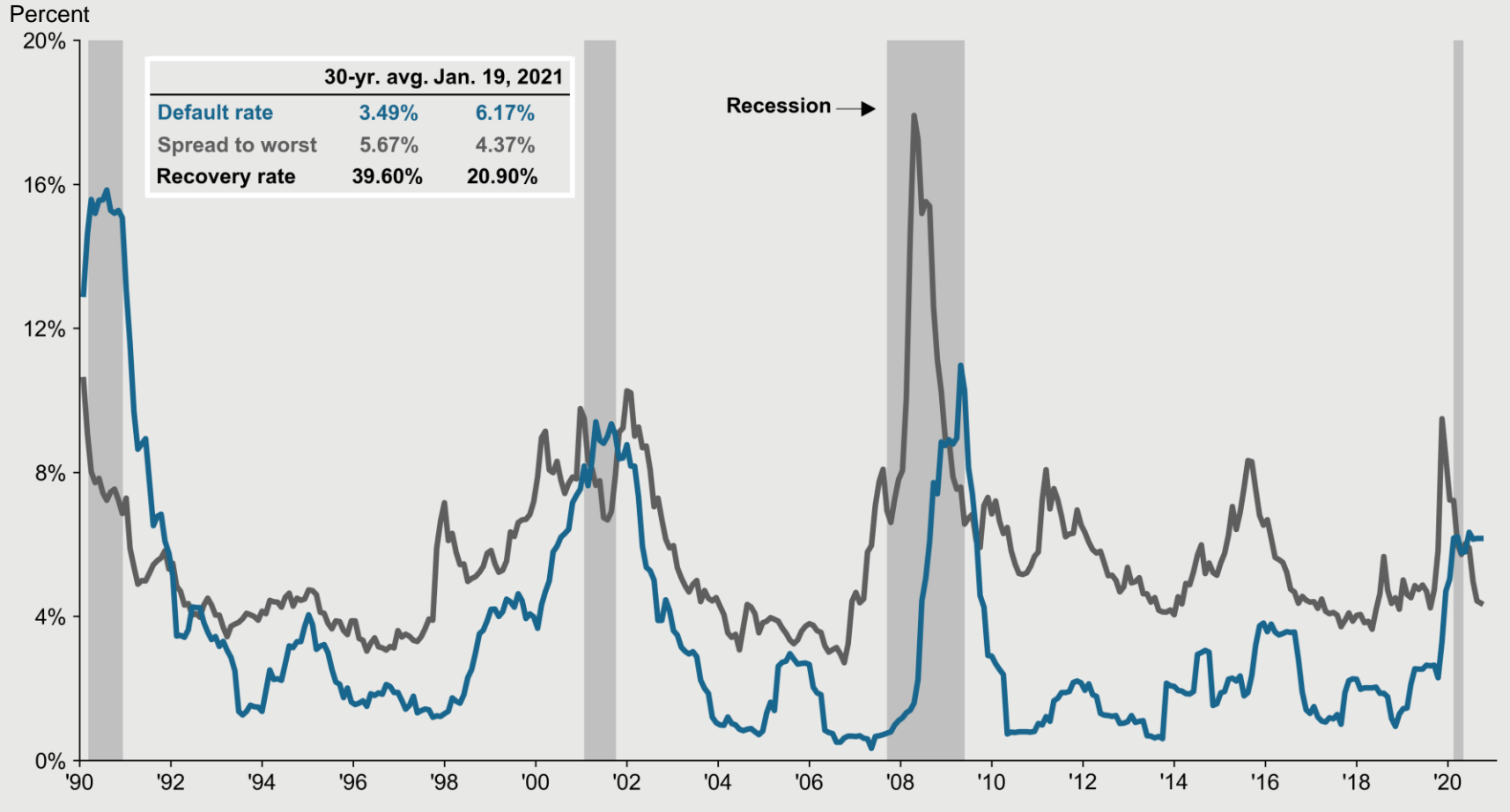
Source: FactSet, Federal Reserve, J.P. Morgan Asset Management.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

## Correlation of fixed income sectors vs. S&P 500 and yields

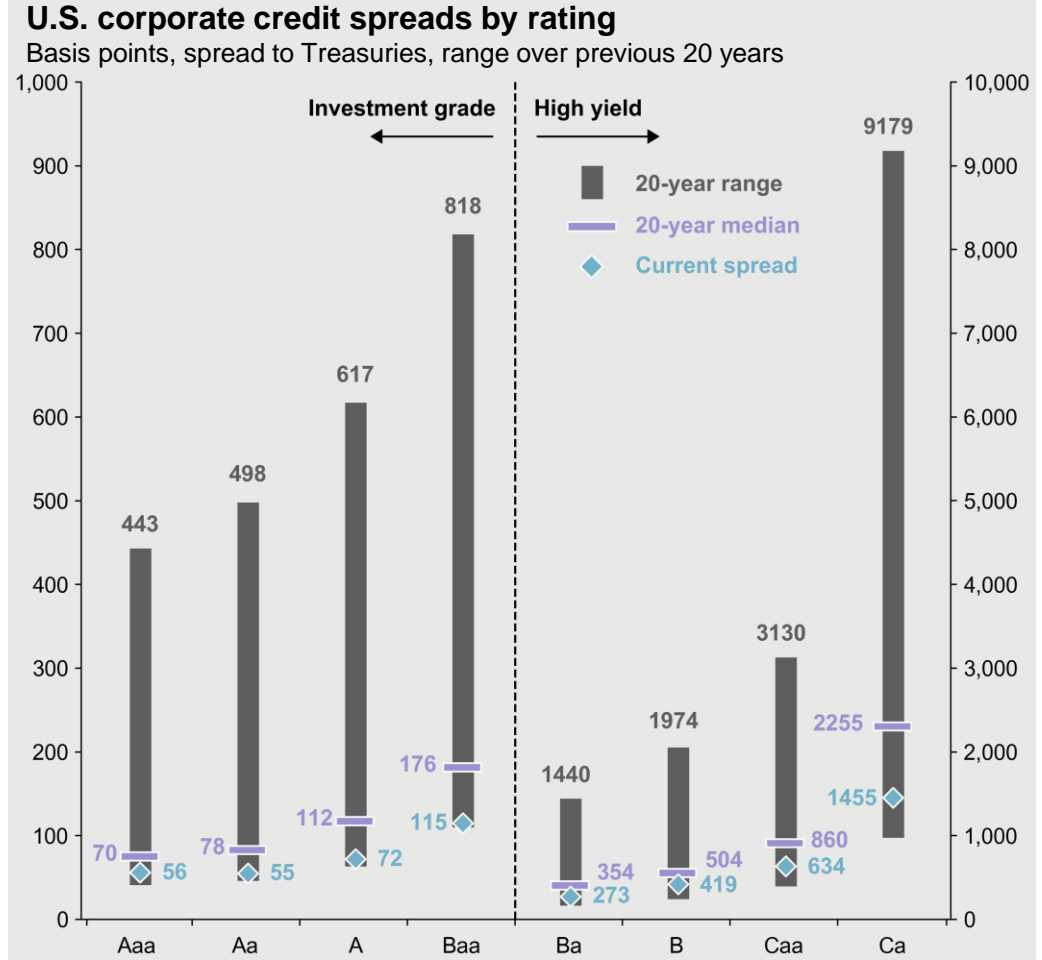
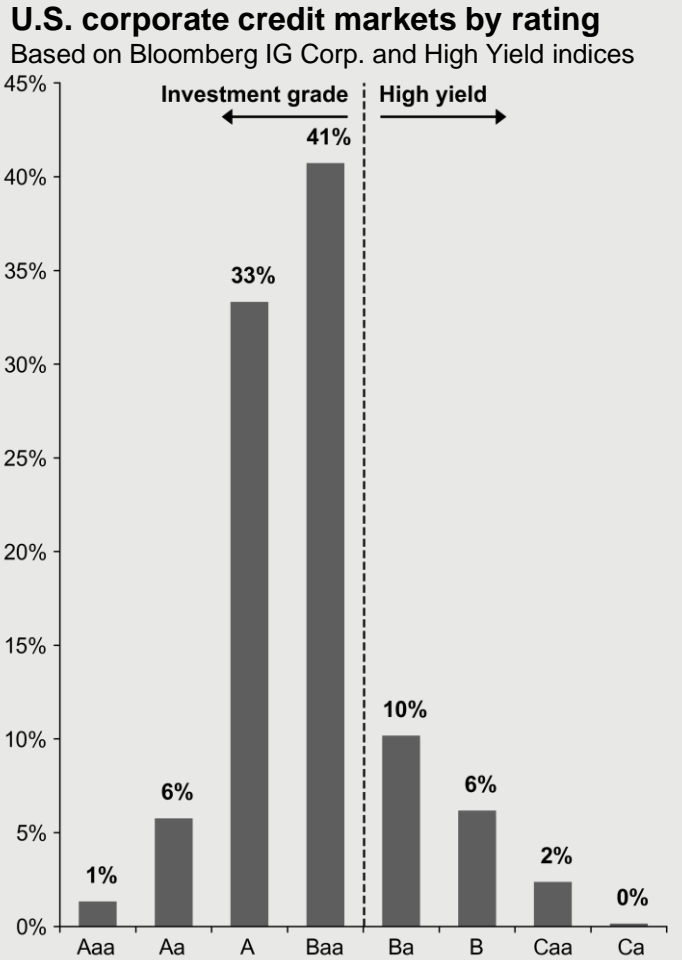


Source: Bloomberg, FactSet, ICE, J.P. Morgan Asset Management. Sectors are Bloomberg indices except for EMD and ABS – U.S. Aggregate; MBS: U.S. Aggregate Securitized - MBS; U.S. Preferreds: S&P U.S. Preferred Stock Index; U.S. corps: U.S. Corporates; Munis: Muni Bond; Cash: 1-3m Treasury; U.S. HY: Corporate High Yield; TIPS: Treasury Inflation-Protected Securities (TIPS); Floating Rate: U.S. Floating Rate; Convertibles: U.S. Convertibles Composite; ABS: J.P. Morgan ABS; EMD (\$): J.P. Morgan EMBIG Diversified; EMD (LCL): J.P. Morgan GBI EM Global Diversified; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Euro Corp.: Euro Aggregate Corporate; Euro HY: Pan-European High Yield. Convertibles yield is based on the U.S. portion of the Bloomberg Barclays Global Convertibles. Country yields are represented by the global aggregate for each country. Yield and return information based on bellwethers for Treasury securities. Correlations are based on 15-years of monthly returns for all sectors. International fixed income sector correlations are in hedged U.S. dollar returns except EMD local index. Yields for all indices are hedged using three-month LIBOR rates between the U.S. and international LIBOR and are a 12-month average. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## Default rate and spread-to-worst



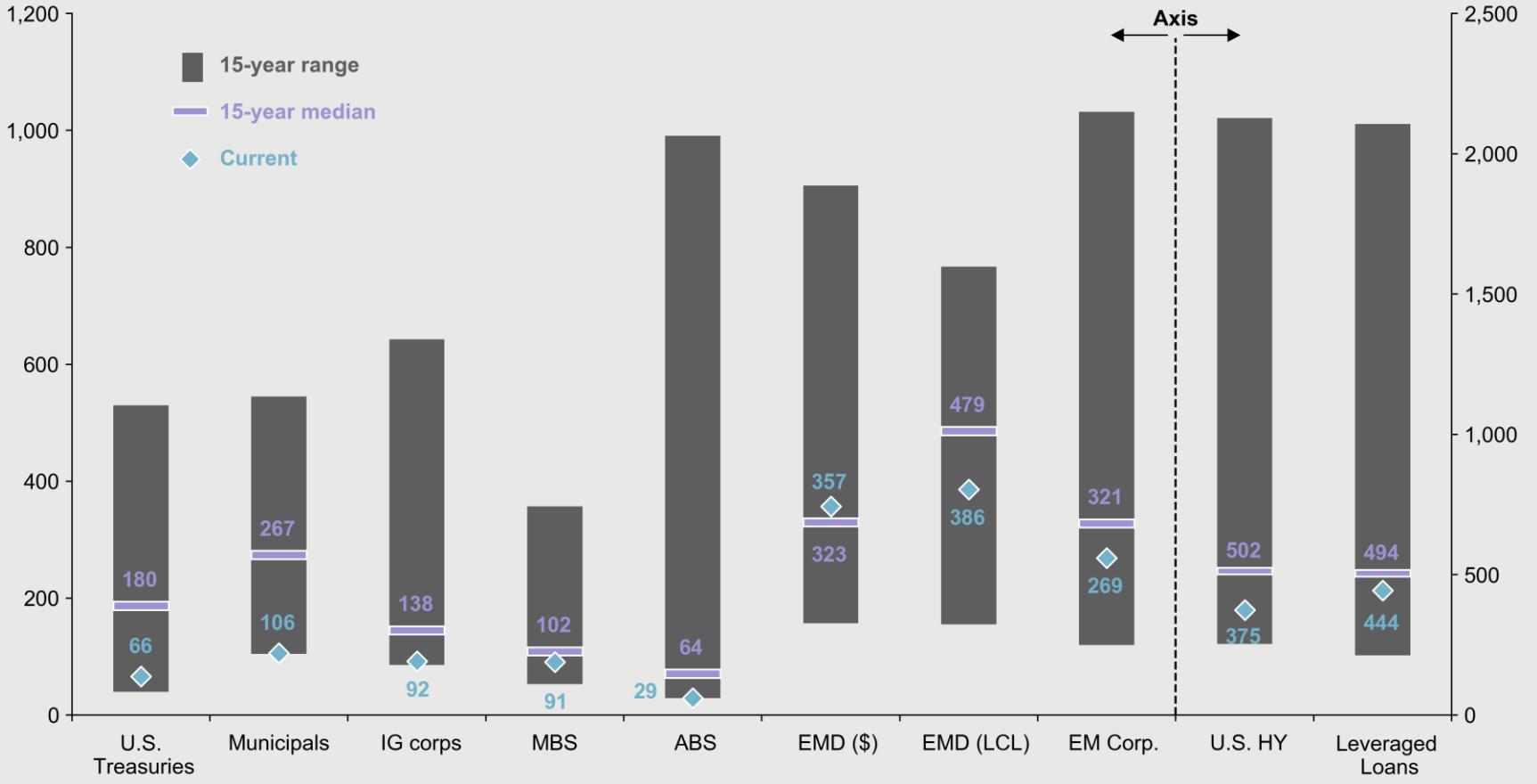
Source: J.P. Morgan Global Economic Research, J.P. Morgan Asset Management. Default rates are defined as the par value percentage of the total market trading at or below 50% of par value and include any Chapter 11 filing, prepackaged filing or missed interest payments. The default rate is an LTM figure (last twelve months) and tracks the % of defaults over the period. Recovery rates are based on the price of the defaulted bonds or loans 30-days post the default date. Default and recovery rates are as of December 2020 due to data availability. Spread to worst indicated are the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. High yield is represented by the J.P. Morgan Domestic High Yield Index. *Guide to the Markets – U.S.* Data are as of January 19, 2021.



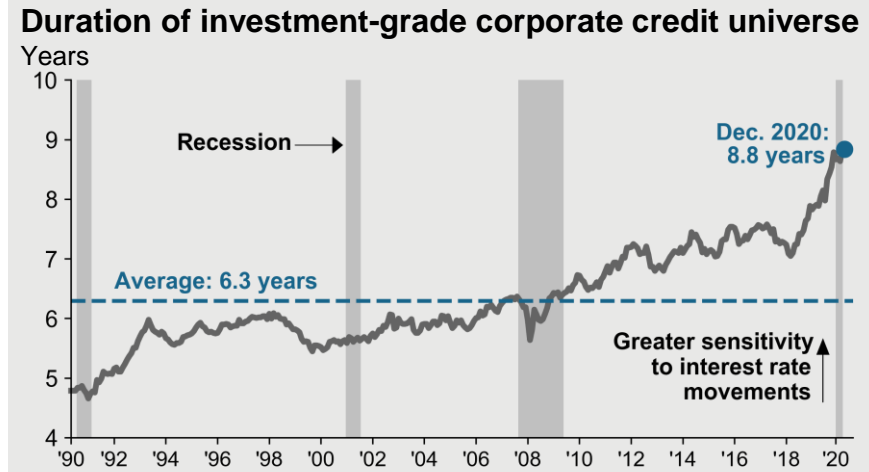
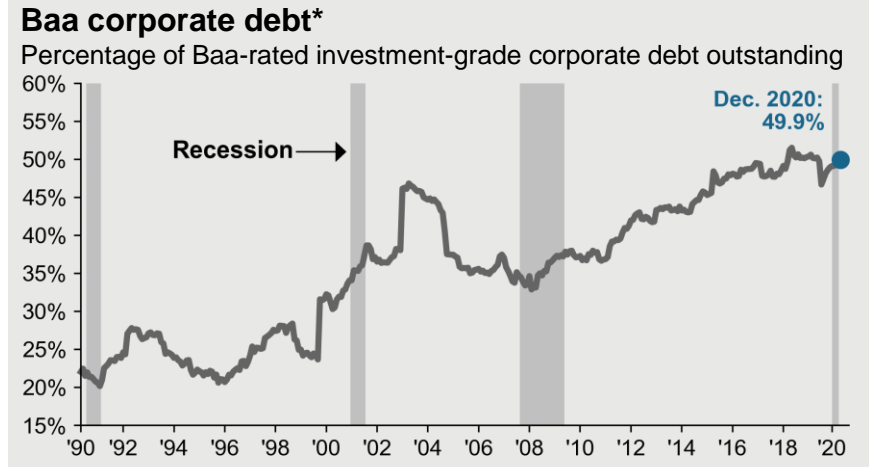
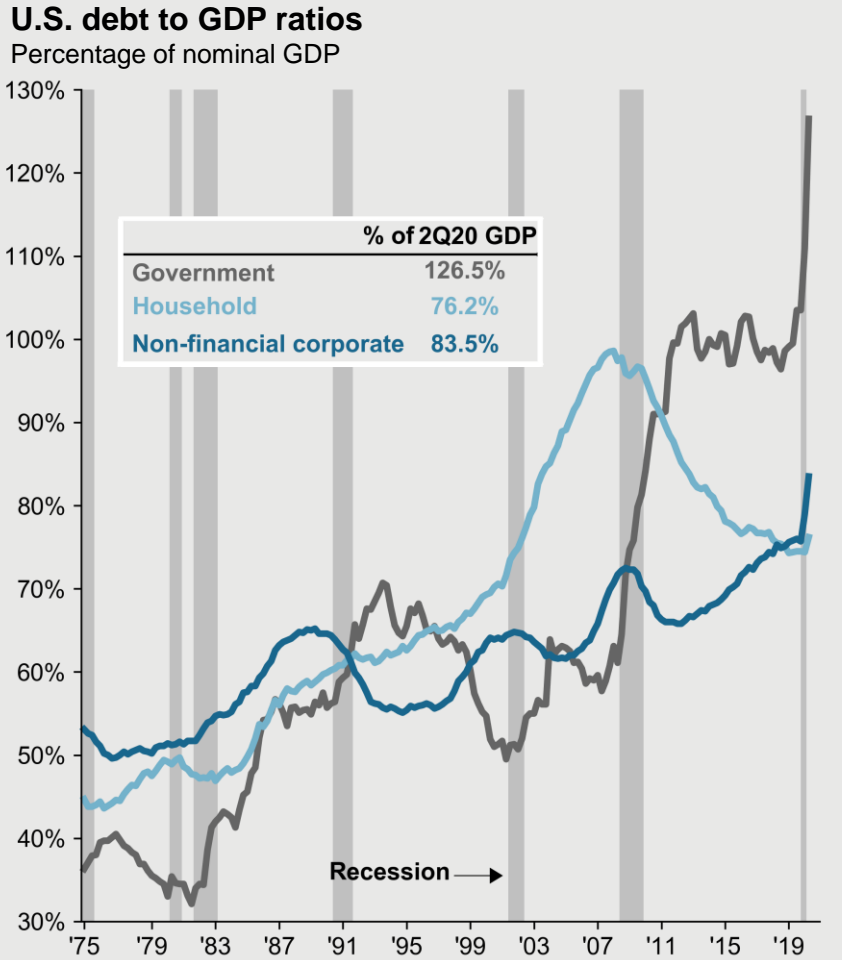
Source: Barclays, Bloomberg, FactSet, J.P. Morgan Asset Management. Distribution of corporate credit is based on the current market value of the Bloomberg US Corporate Investment Grade and U.S. High Yield sub-indices. Spread-to-worst indicated is the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

**Spread-to-worst across fixed income sectors**

Basis points, past 15 years

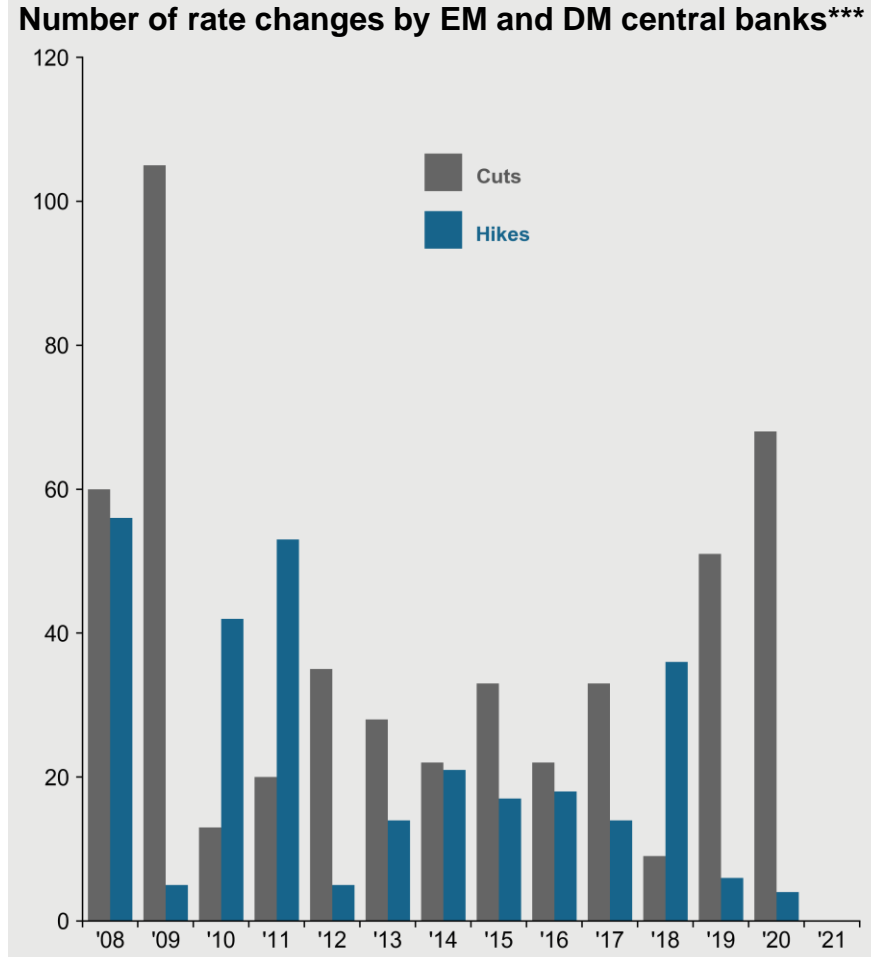
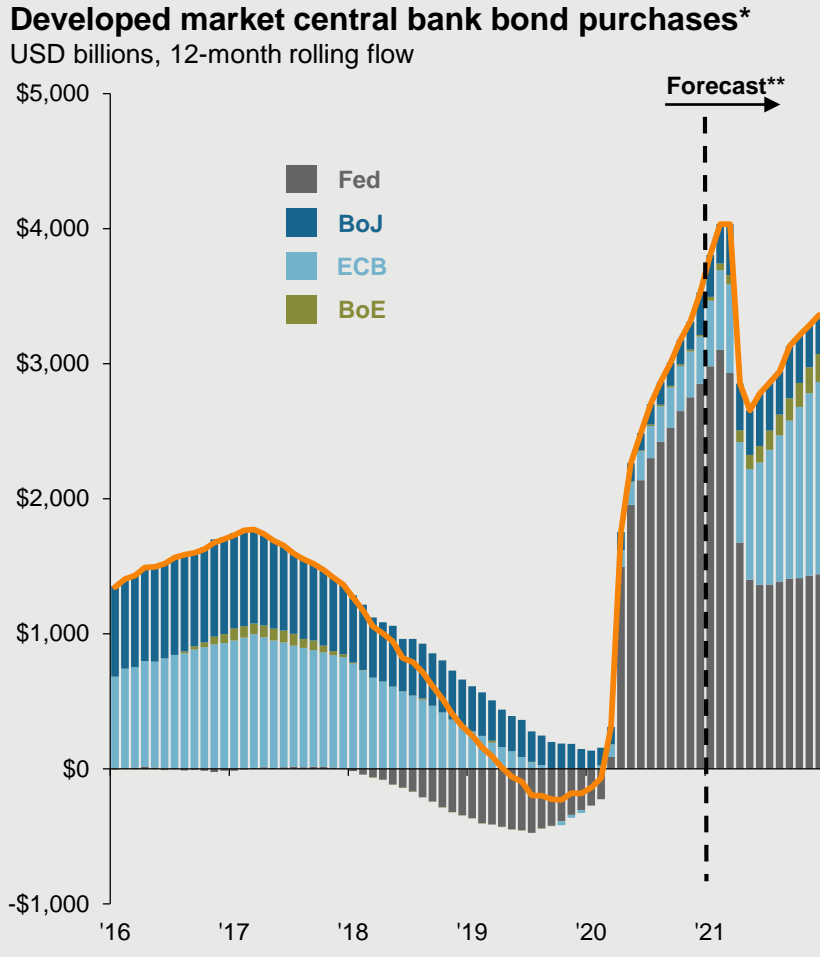


Source: Barclays, Bloomberg, FactSet, J.P. Morgan Credit Research, J.P. Morgan Asset Management. Indices used are Barclays except for emerging market debt and leveraged loans: EMD (\$): J.P. Morgan EMIGLOBAL Diversified Index; EMD (LCL): J.P. Morgan GBI-EM Global Diversified Index; EM Corp.: J.P. Morgan CEMBI Broad Diversified; Leveraged loans: JPM Leveraged Loan Index. Spread-to-worst indicated is the difference between the yield-to-worst of a bond and yield-to-worst of a U.S. Treasury security with a similar duration. All sectors shown are spread-to-worst except for Treasuries and Municipals, which are based on yield-to-worst, and Leveraged loans, which are based on spread to 3Y takeout. EM (LCL) spread-to-worst is calculated using the index yield less the YTM on the 5-year US Treasury bellwether index. Guide to the Markets – U.S. Data are as of January 19, 2021.



Source: FactSet, J.P. Morgan Asset Management; (Left) Bank for International Settlements (BIS); (Top and bottom right) Barclays, Bloomberg. Government, household and non-financial corporate debt refers to gross debt. General government debt is comprised of core debt instruments that include currency and deposits, loans and debt securities. All debt values are shown at market value. \*Baa debt outstanding and duration of investment grade is based on the Bloomberg Barclays U.S. Aggregate Investment Grade Corporate Credit Index. Baa debt is the lowest credit rating issued by Moody's for investment-grade debt.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.



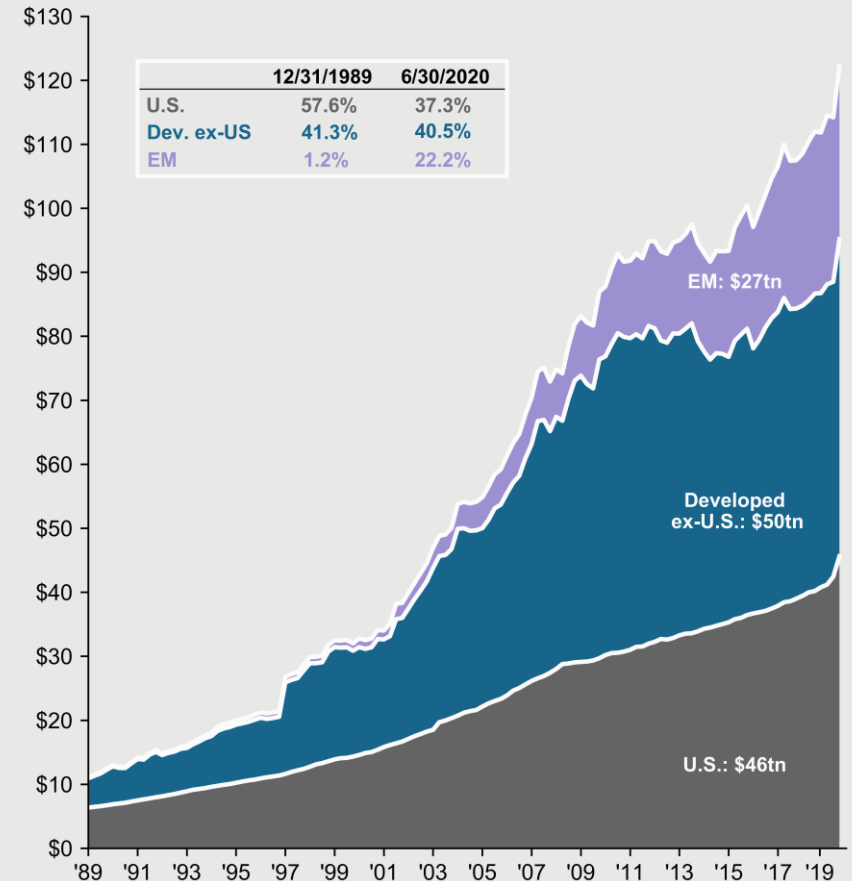


Source: J.P. Morgan Asset Management; (Left) Bank of England, Bank of Japan, European Central Bank, FactSet, Federal Reserve System, J.P. Morgan Global Economic Research; (Right) Bloomberg. \*Includes the Bank of Japan (BoJ), Bank of England (BoE), European Central Bank (ECB) and Federal Reserve. \*\*Bond purchase forecast assumes \$150bn GBP in net purchases from BoE through December 2021; BoJ QE of \$30trn JPY ann. for 2021; \$1,165trn EUR in net purchases from the ECB through December 2021; and the Federal Reserve to purchase \$960bn of Treasuries, \$480bn of agency MBS through December 2021. Fed assumptions are based on December 2020 policy announcement. \*\*\*Central banks include Australia, Brazil, Canada, Chile, China, Colombia, Denmark, euro area, Hong Kong SAR, Indonesia, India, Japan, Korea, Malaysia, Mexico, Norway, Peru, Philippines, Poland, Russia, Saudi Arabia, South Africa, Sweden, Switzerland, Thailand, Turkey, United Kingdom and the United States. *Guide to the Markets* – U.S. Data are as of January 19, 2021.

Aggregates	Yield		2021 Return		Duration	Correl. to 10-year
	1/19/2021	12/31/2020	Local	USD		
<b>U.S.</b>	1.18%	1.12%	-0.66%	-0.66%	6.1 years	0.87
<b>Gbl. ex-U.S.</b>	0.72%	0.68%	-	-0.77%	8.1	0.27
<b>Japan</b>	0.12%	0.11%	-0.17%	-0.81%	9.6	0.51
<b>Germany</b>	-0.26%	-0.28%	-0.13%	-1.01%	7.3	0.06
<b>UK</b>	0.67%	0.60%	-1.01%	-1.40%	11.2	0.18
<b>Italy</b>	0.36%	0.32%	-0.18%	-1.07%	7.5	-0.09
<b>Spain</b>	0.04%	0.00%	-0.16%	-1.04%	7.9	-0.08
<b>Sector</b>						
<b>Euro Corp.</b>	0.25%	0.24%	0.04%	-0.85%	5.4 years	0.07
<b>Euro HY</b>	3.38%	3.40%	0.54%	-0.35%	4.0	-0.31
<b>EMD(\$)</b>	4.76%	4.91%	-	-1.45%	7.8	0.07
<b>EMD(LCL)</b>	4.31%	5.22%	-0.32%	-0.72%	5.4	-0.04
<b>EM Corp.</b>	3.53%	4.51%	-	-0.30%	6.1	-0.06

## Global bond market

USD trillions



Source: J.P. Morgan Asset Management; (Left) Barclays, Bloomberg, FactSet; (Right) BIS. Fixed income sectors shown above are provided by Bloomberg and are represented by the global aggregate for each country except where noted. EMD sectors are represented by the J.P. Morgan EMBIG Diversified Index (USD), the J.P. Morgan GBI EM Global Diversified Index (LCL) and the J.P. Morgan CEMBI Broad Diversified Index (Corp). European Corporates are represented by the Bloomberg Barclays Euro Aggregate Corporate Index and the Bloomberg Barclays Pan-European High Yield Index. Sector yields reflect yield to worst. Correlations are based on 10 years of monthly returns for all sectors. Past performance is not indicative of future results. Global bond market regional breakdown may not sum to 100% due to rounding.

Guide to the Markets – U.S. Data are as of January 19, 2021.

# Fixed income sector returns

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Fixed income

																2006-2020	
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	YTD	Ann.	Vol.
EMD LCL. 15.2%	EMD LCL. 18.1%	Treas. 13.7%	High Yield 58.2%	EMD LCL. 15.7%	TIPS 13.6%	EMD USD 17.4%	High Yield 7.4%	Muni 9.1%	Muni 3.3%	High Yield 17.1%	EMD LCL. 15.2%	ABS 2.7%	EMD USD 15.0%	TIPS 11.0%	High Yield 0.5%	High Yield 7.5%	EMD LCL. 11.9%
High Yield 11.8%	TIPS 11.6%	MBS 8.3%	EMD USD 29.8%	High Yield 15.1%	Muni 10.7%	EMD LCL. 16.8%	ABS 1.3%	Corp. 7.5%	MBS 1.5%	EMD USD 10.2%	EMD USD 10.3%	Muni 1.3%	Corp. 14.5%	Corp. 9.9%	ABS 0.1%	EMD USD 6.9%	High Yield 11.2%
EMD USD 9.9%	Treas. 9.0%	Barclays Agg 5.2%	ABS 24.7%	EMD USD 12.2%	Treas. 9.8%	High Yield 15.8%	MBS -1.4%	EMD USD 7.4%	EMD USD 1.2%	EMD LCL. 9.9%	High Yield 7.5%	MBS 1.0%	High Yield 14.3%	Treas. 8.0%	Muni 0.1%	Corp. 5.8%	EMD USD 8.8%
Asset Alloc. 5.8%	Barclays Agg 7.0%	Asset Alloc. -1.9%	EMD LCL. 22.0%	Corp. 9.0%	Corp. 8.2%	Corp. 9.8%	Corp. -1.5%	MBS 6.1%	Treas. 0.8%	Corp. 6.1%	Corp. 6.4%	Treas. 0.9%	EMD LCL. 13.5%	Barclays Agg 7.5%	MBS 0.0%	EMD LCL. 5.1%	Corp. 5.9%
MBS 5.2%	MBS 6.9%	TIPS -2.4%	Corp. 18.7%	Asset Alloc. 7.6%	Barclays Agg 7.8%	Asset Alloc. 7.6%	Asset Alloc. -1.7%	Barclays Agg 6.0%	Barclays Agg 0.6%	Asset Alloc. 4.8%	Muni 5.4%	Barclays Agg 0.0%	Asset Alloc. 9.8%	High Yield 7.1%	TIPS -0.1%	Asset Alloc. 4.7%	Treas. 4.9%
Muni 4.8%	Asset Alloc. 6.2%	Muni -2.5%	Asset Alloc. 16.5%	Barclays Agg 6.5%	Asset Alloc. 7.7%	TIPS 7.0%	Barclays Agg -2.0%	Asset Alloc. 5.4%	ABS 0.2%	TIPS 4.7%	Asset Alloc. 5.3%	Asset Alloc. -0.6%	Barclays Agg 8.7%	Asset Alloc. 6.6%	Asset Alloc. -0.4%	Barclays Agg 4.5%	TIPS 4.9%
ABS 4.7%	EMD USD 6.2%	Corp. -4.9%	Muni 12.9%	TIPS 6.3%	EMD USD 7.3%	Muni 6.8%	Muni -2.6%	Treas. 5.0%	Asset Alloc. -0.4%	Barclays Agg 2.6%	Barclays Agg 3.5%	TIPS -1.3%	TIPS 8.4%	EMD USD 5.3%	Barclays Agg -0.7%	Muni 4.5%	ABS 4.3%
Barclays Agg 4.3%	Corp. 4.6%	EMD LCL. -5.2%	TIPS 11.4%	Treas. 5.9%	MBS 6.2%	Barclays Agg 4.2%	Treas. -2.8%	TIPS 3.6%	Corp. -0.7%	ABS 2.0%	TIPS 3.0%	High Yield -2.1%	Muni 7.5%	Muni 5.2%	EMD LCL. -0.7%	TIPS 4.3%	Muni 3.8%
Corp. 4.3%	Muni 3.4%	EMD USD -12.0%	Barclays Agg 5.9%	ABS 5.8%	ABS 5.1%	ABS 3.7%	EMD USD -5.2%	High Yield 2.5%	TIPS -1.4%	MBS 1.7%	ABS 3.0%	Corp. -2.5%	Treas. 6.9%	MBS 3.9%	Corp. -0.9%	MBS 4.1%	Asset Alloc. 3.8%
Treas. 3.1%	ABS 2.2%	ABS -12.7%	MBS 5.9%	MBS 5.4%	High Yield 5.0%	MBS 2.6%	TIPS -8.6%	ABS 1.7%	High Yield -4.5%	Treas. 1.0%	MBS 2.5%	EMD USD -4.3%	MBS 6.4%	ABS 3.4%	Treas. -1.0%	Treas. 4.0%	Barclays Agg 3.2%
TIPS 0.4%	High Yield 1.9%	High Yield -26.2%	Treas. -3.6%	Muni 2.4%	EMD LCL. -1.8%	Treas. 2.0%	EMD LCL. -9.0%	EMD LCL. -5.7%	EMD LCL. -14.9%	Muni 0.2%	Treas. 2.3%	EMD LCL. -6.2%	ABS 3.8%	EMD LCL. 2.7%	EMD USD -1.4%	ABS 3.4%	MBS 2.5%

Source: Barclays, Bloomberg, FactSet, J.P. Morgan Global Economic Research, J.P. Morgan Asset Management.

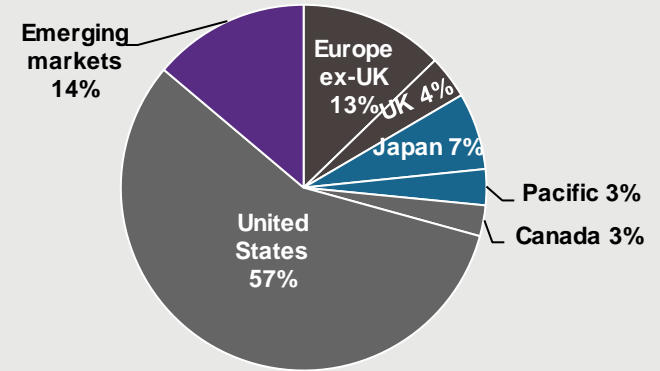
Past performance is not indicative of future returns. Fixed income sectors shown above are provided by Bloomberg unless otherwise noted and are represented by Broad Market: U.S. Aggregate Index; MBS: US Aggregate Securitized - MBS Index; ABS: J.P. Morgan ABS Index; Corporate: U.S. Aggregate Credit - Corporates - Investment Grade; Municipals: Municipal Bond Index; High Yield: U.S. Aggregate Credit - Corporate - High Yield Index; Treasuries: Global U.S. Treasury; TIPS: U.S. Treasury Inflation-Protected Notes Index; Emerging Debt USD: J.P. Morgan EMBIG Diversified Index; Emerging Debt LCL: J.P. Morgan EM Global Index. The "Asset Allocation" portfolio assumes the following weights: 20% in MBS, 5% in ABS, 20% in Corporate, 15% in Municipals, 5% in Emerging Debt USD, 5% in Emerging Debt LCL, 10% in High Yield, 15% in Treasuries, 5% in TIPS. Asset allocation portfolio assumes annual rebalancing.

Guide to the Markets – U.S. Data are as of January 19, 2021.

Returns	2021 YTD		2020		15-years	
	Local	USD	Local	USD	Ann.	Beta
<b>Regions</b>						
U.S. (S&P 500)	-	1.2	-	18.4	9.9	0.89
AC World ex-U.S.	4.2	3.7	6.5	11.1	5.4	1.08
EAFE	2.8	2.1	1.3	8.3	5.0	1.04
Europe ex-UK	1.7	0.8	2.1	11.6	5.9	1.18
Emerging markets	7.4	7.0	19.5	18.7	7.0	1.19
<b>Selected Countries</b>						
United Kingdom	4.1	3.7	-13.2	-10.4	2.9	1.02
France	1.1	0.2	-3.9	4.7	5.5	1.22
Germany	0.9	-0.0	3.0	12.3	6.5	1.31
Japan	3.3	2.6	9.2	14.9	3.7	0.73
China	9.1	9.1	28.3	29.7	11.9	1.12
India	3.7	3.6	18.6	15.9	8.0	1.28
Brazil	1.9	-0.6	4.8	-18.9	4.8	1.51
Russia	4.9	5.2	3.4	-11.6	2.7	1.51

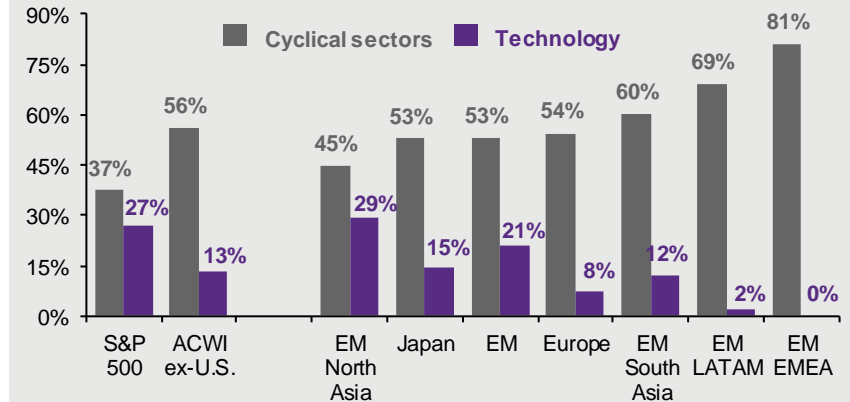
## Weights in MSCI All Country World Index

% global market capitalization, float adjusted



## Representation of cyclical and technology sectors

% of index market capitalization



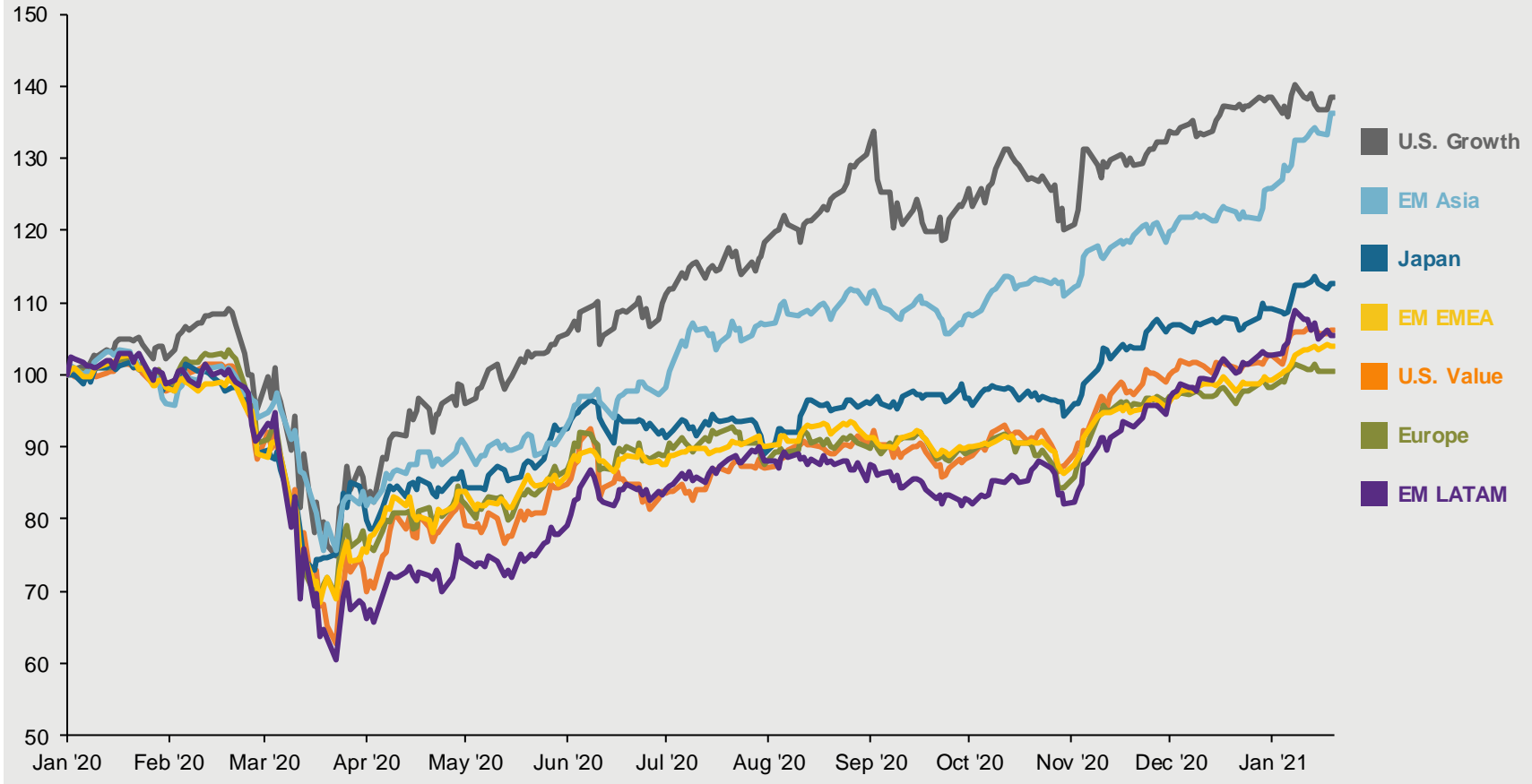
Source: FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management.

All return values are MSCI Gross Index (official) data. 15-year history based on U.S. dollar returns. 15-year return and beta figures are calculated for the time period 12/31/05 to 12/31/20. Beta is for monthly returns relative to the MSCI AC World Index. Annualized volatility is calculated as the standard deviation of quarterly returns multiplied by the square root of 4. Chart is for illustrative purposes only. Please see disclosure page for index definitions. Past performance is not a reliable indicator of current and future results. Sector breakdown includes the following aggregates: Technology (Information Technology) and cyclicals (Consumer Discretionary, Financials, Industrials, Energy and Materials). EM North Asia includes China, Taiwan and South Korea. EM South Asia includes India, Indonesia, Malaysia, Pakistan, Philippines, Taiwan and Thailand.

Guide to the Markets – U.S. Data are as of January 19, 2021.

## Global equity returns

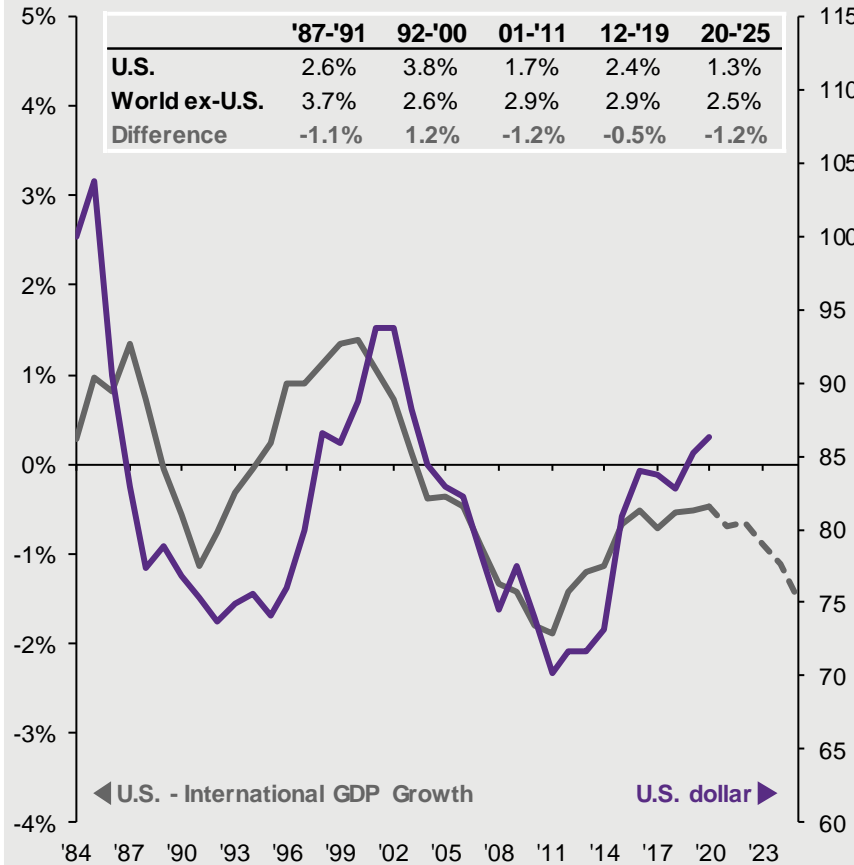
Total returns, local currency, Dec. 31, 2019=100



Source: FactSet, FTSE Russell, MSCI, J.P. Morgan Asset Management.  
 Growth is represented by the Russell 1000 Growth Index and Value is represented by the Russell 1000 Value Index.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

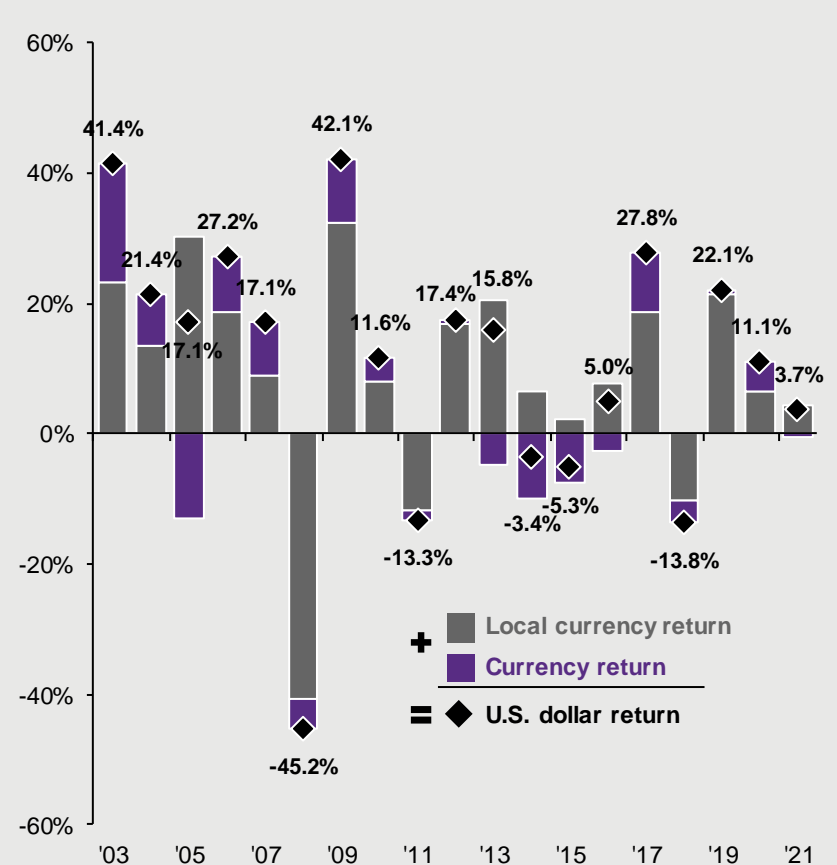
## U.S. dollar and international GDP growth

Real GDP growth: U.S.-intl. (5-year moving avg.); U.S. dollar: 100 = 1984



## Currency impact on international returns

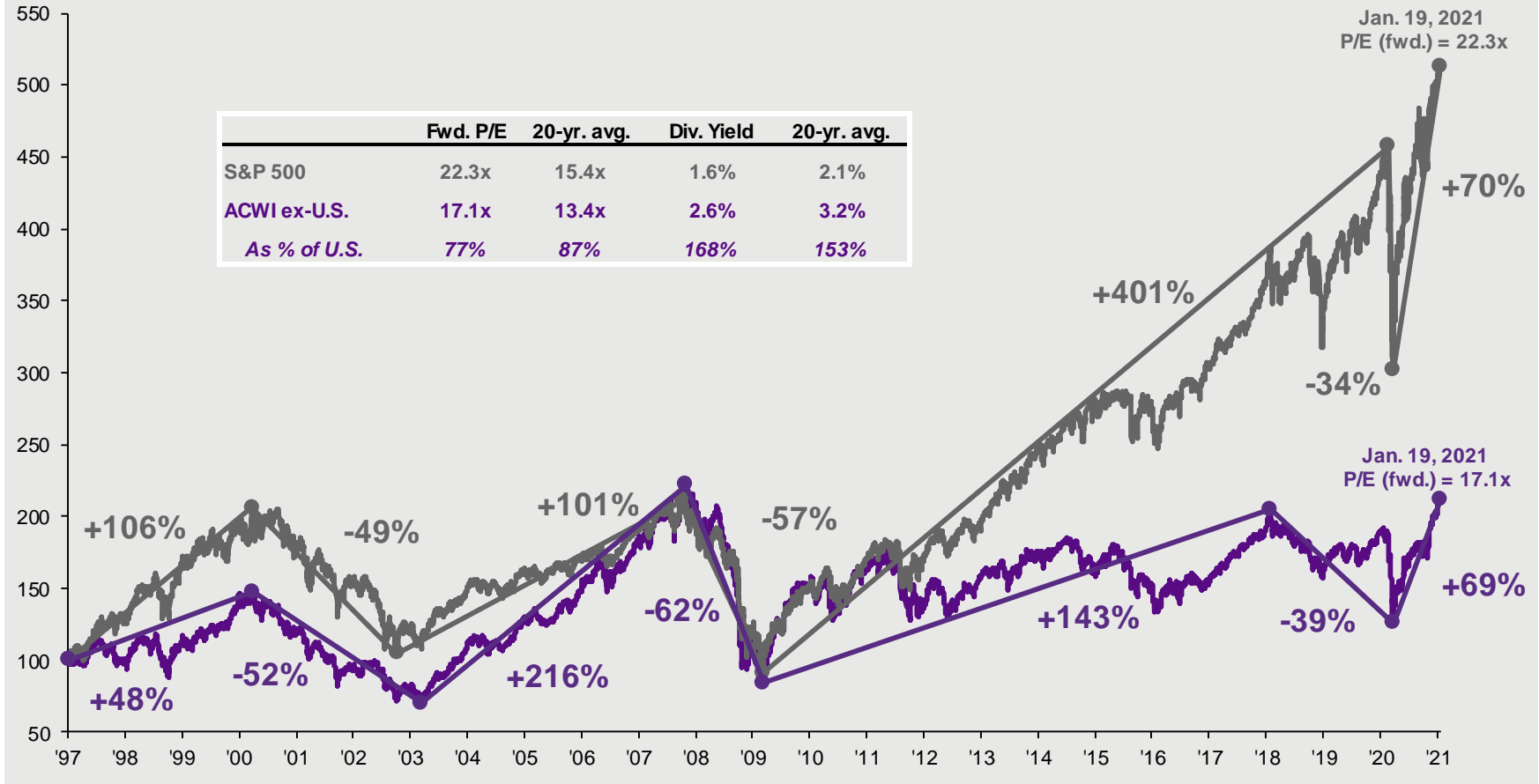
MSCI All Country World ex-U.S. Index, total return



Source: J.P. Morgan Asset Management; (Left) IMF, J.P. Morgan Global Economic Research; (Right) MSCI. Global GDP growth is based on GDP at market exchange rates as weights. U.S. dollar is the J.P. Morgan Global Economic Research real broad effective exchange rate (CPI). Past performance is not a reliable indicator of current and future results. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## MSCI All Country World ex-U.S. and S&P 500 Indices

Dec. 1996 = 100, U.S. dollar, price return



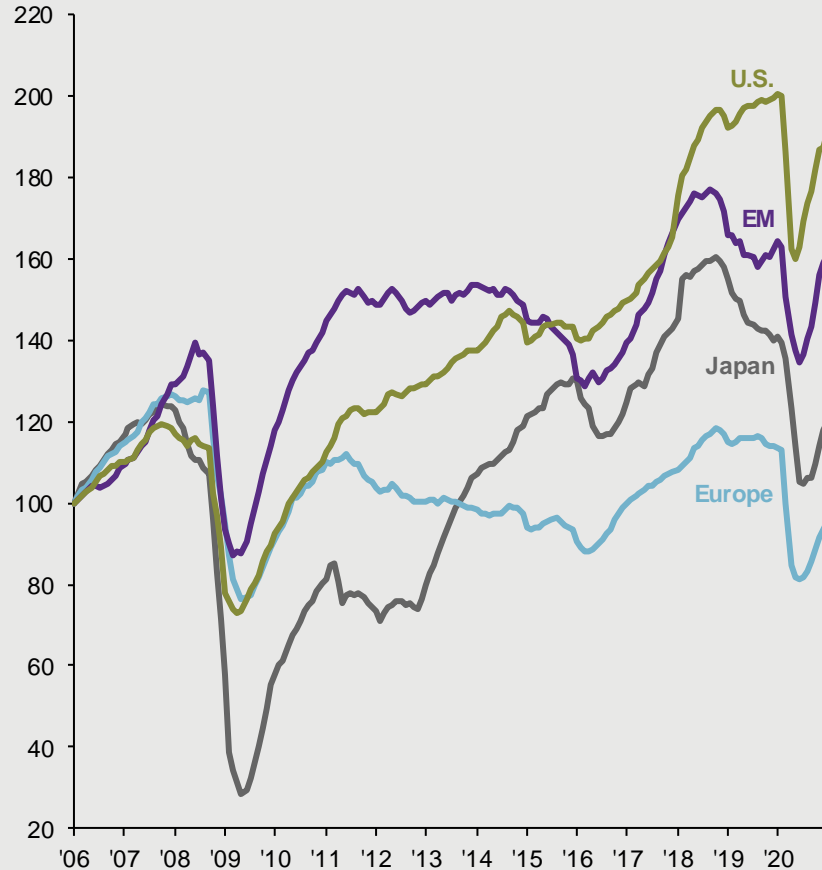
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management.

Forward price-to-earnings ratio is a bottom-up calculation based on the most recent index price, divided by consensus estimates for earnings in the next 12 months (NTM), and is provided by FactSet Market Aggregates. Returns are cumulative and based on price movement only, and do not include the reinvestment of dividends. Dividend yield is calculated as consensus estimates of dividends for the next 12 months, divided by most recent price, as provided by FactSet Market Aggregates. Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of January 19, 2021.

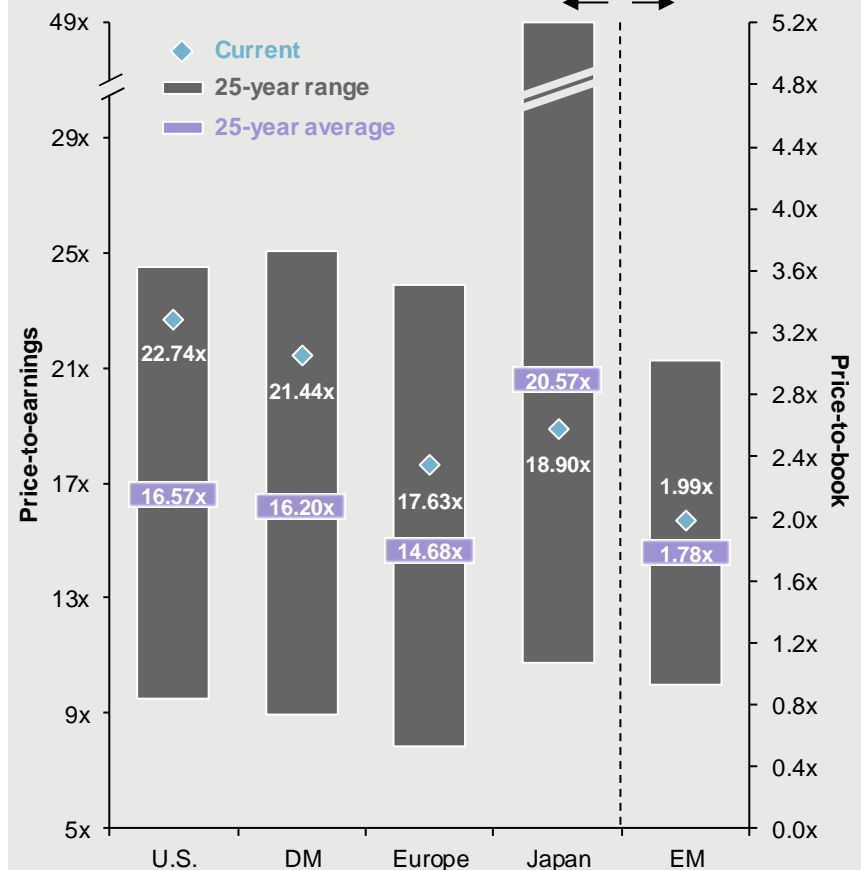
## Global earnings

EPS, local currency, next 12 months, Jan. 2006 = 100



## Global valuations

Current and 25-year historical valuations\*



Source: FactSet, MSCI, Standard & Poor's, Thomson Reuters, J.P. Morgan Asset Management.

\*Valuations refer to NTMA P/E for Europe, U.S., Japan and developed markets and P/B for emerging markets. Valuation and earnings charts use MSCI indices for all regions/countries, except for the U.S., which is the S&P 500. All indices use IBES aggregate earnings estimates, which may differ from earnings estimates used elsewhere in the book. MSCI Europe includes the eurozone as well as countries not in the currency bloc, such as Norway, Sweden, Switzerland and the UK (which collectively make up 44% of the overall index). Past performance is not a reliable indicator of current and future results.

Guide to the Markets – U.S. Data are as of January 19, 2021.



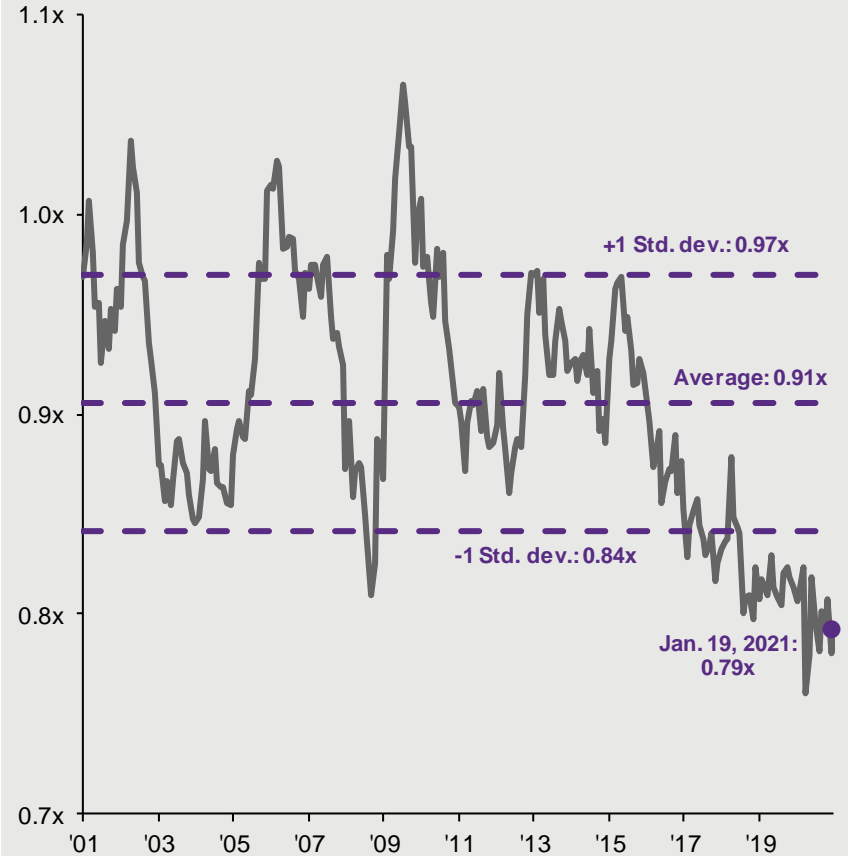
**Emerging markets: Relative price-to-book ratio**

MSCI Emerging Markets vs. S&P 500, last 12 months

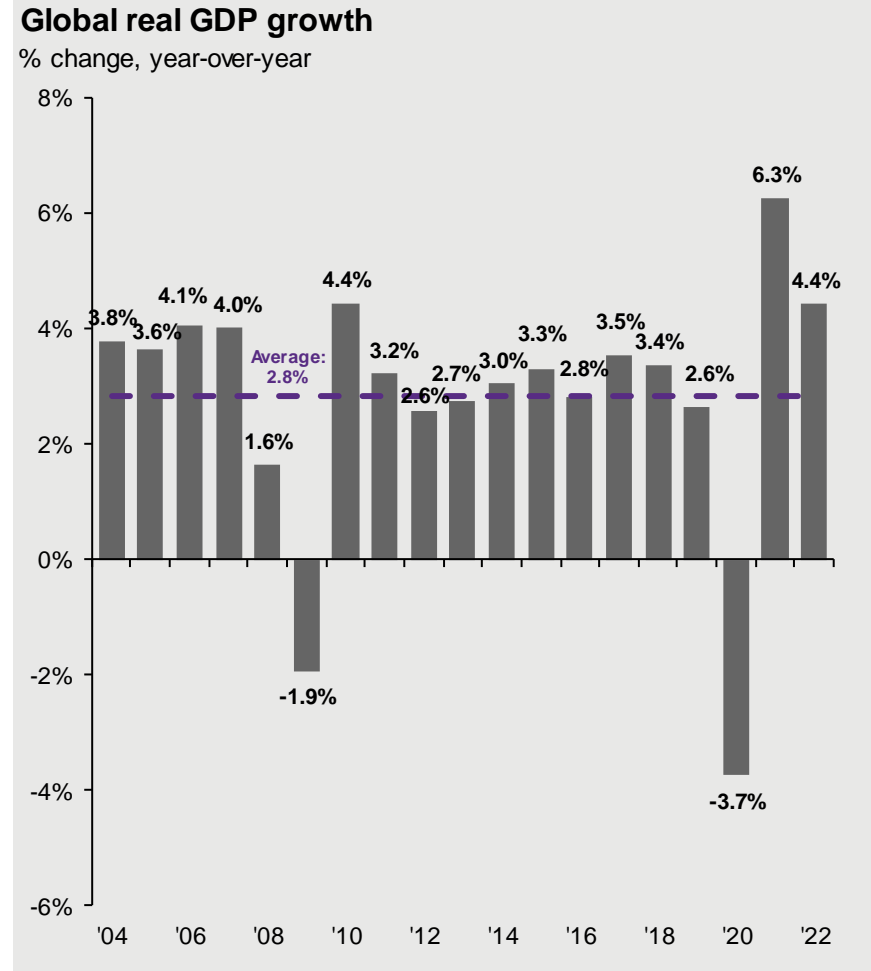
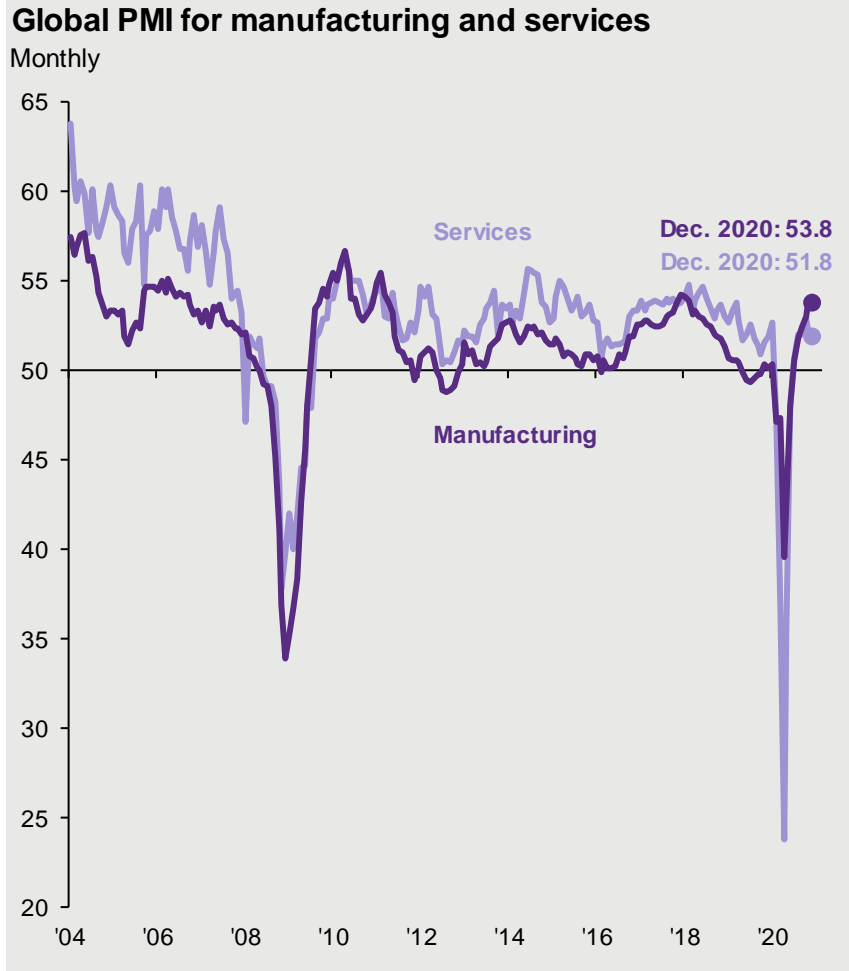


**Developed markets: Relative price-to-earnings ratio**

MSCI EAFE vs. S&P 500, next 12 months



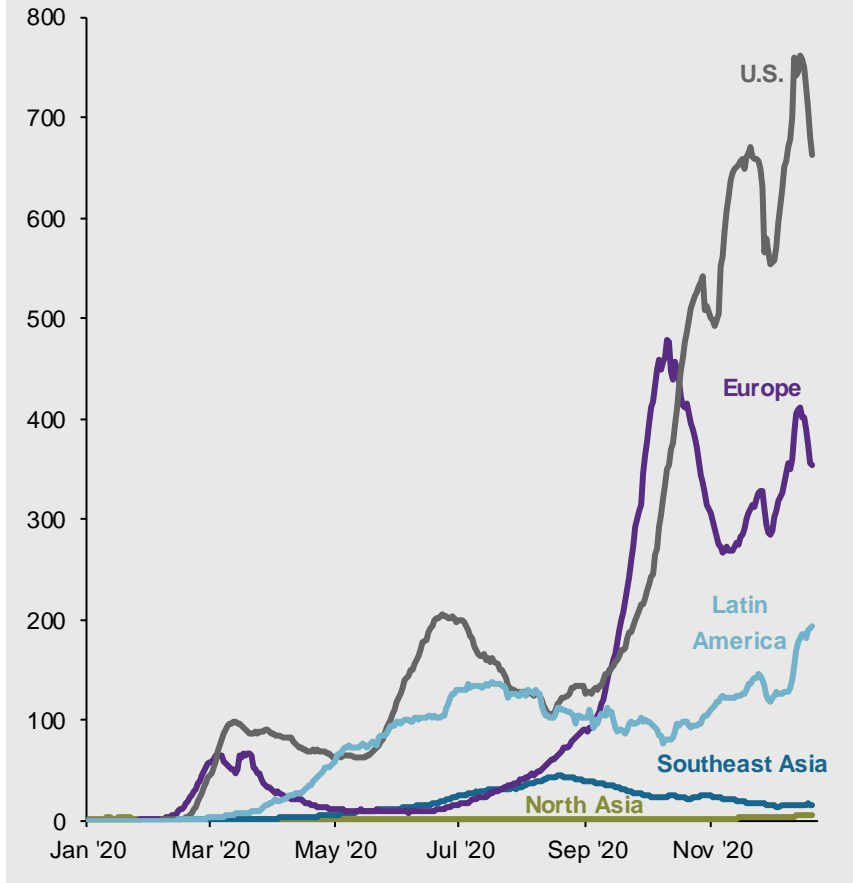
Source: FactSet, MSCI, Standard & Poor's, J.P. Morgan Asset Management. Guide to the Markets – U.S. Data are as of January 19, 2021.



Source: J.P. Morgan Asset Management; (Left) Markit; (Right) J.P. Morgan Global Economic Research. PMI is the Purchasing Managers' Index. Global GDP growth is a GDP-weighted measure of real GDP at U.S. dollar market exchange rates. 2020, 2021 and 2022 growth rates are forecasts. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

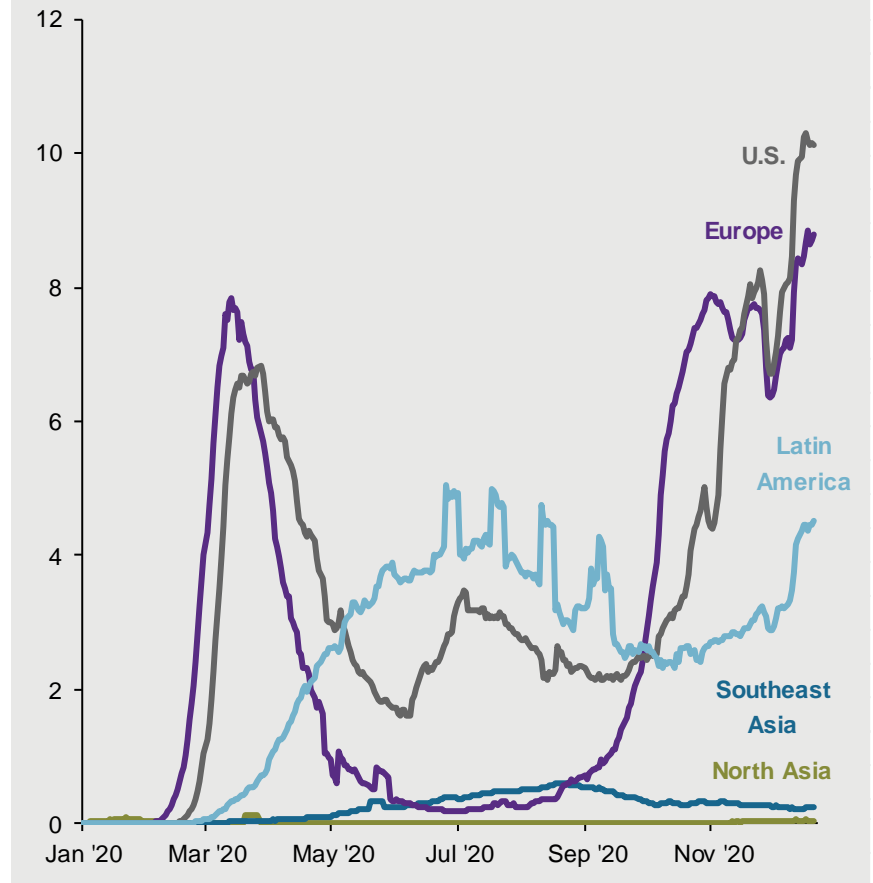
## Daily increase in cases

7-day moving average, per million people



## Daily increase in fatalities

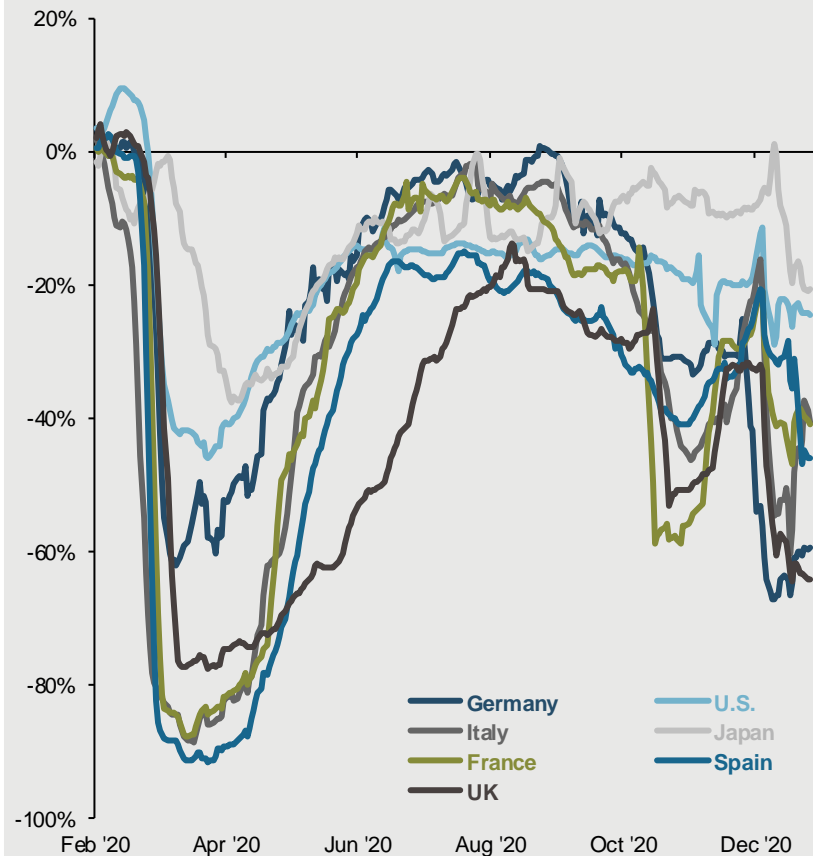
7-day moving average, per million people



Source: Johns Hopkins CSSE, The World Bank, Worldometers, J.P. Morgan Asset Management. Cases include both laboratory confirmed and “presumptive positive” cases.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

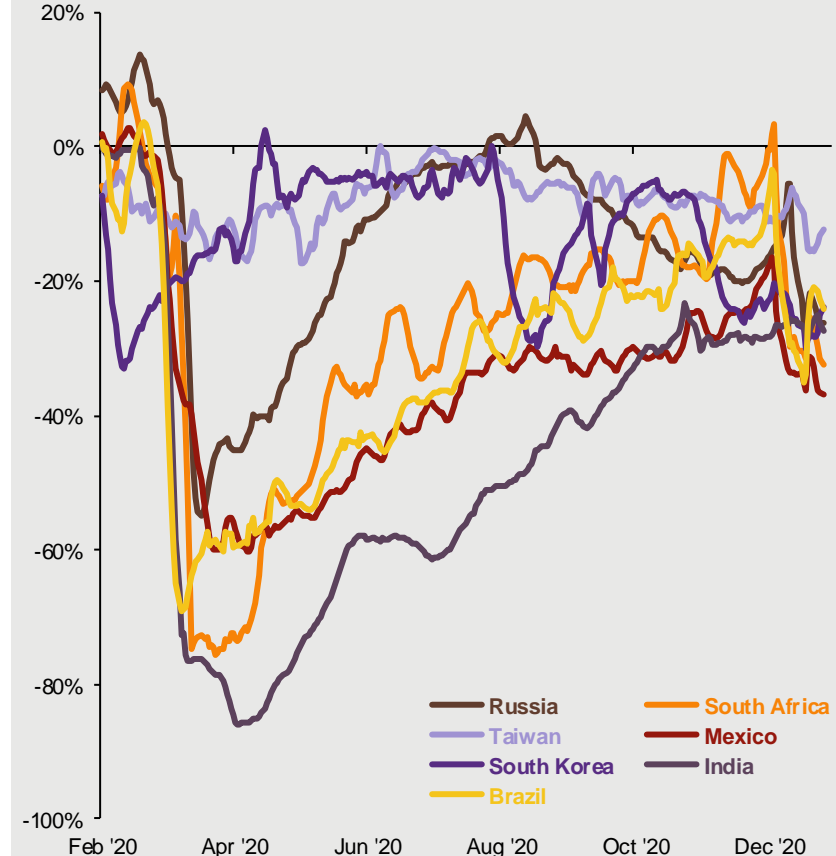
**Mobility in DM countries**

% from baseline\*, retail and recreation, 7-day moving average



**Mobility in EM countries**

% from baseline\*, retail and recreation, 7-day moving average

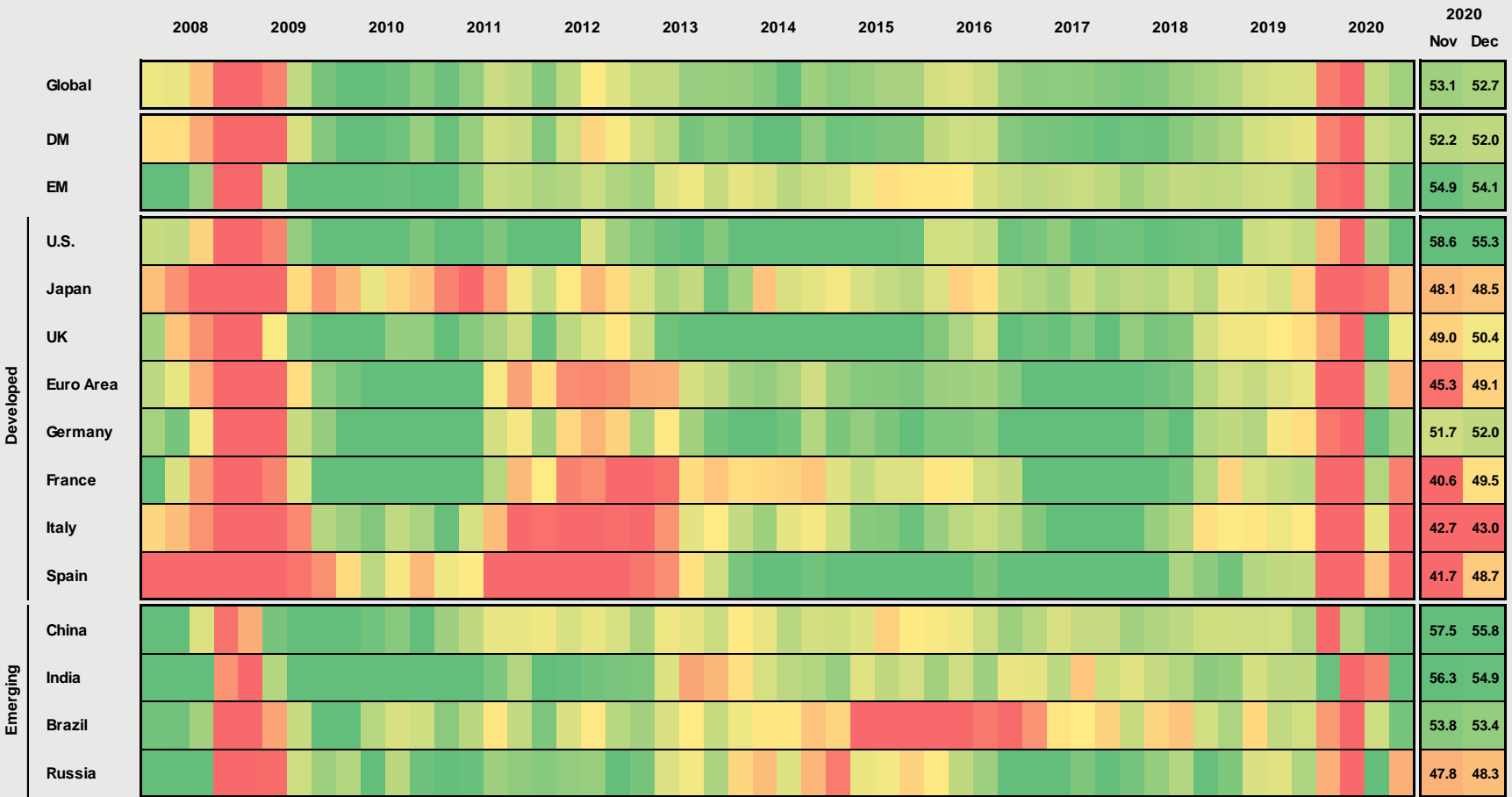


Source: Google Mobility Reports, J.P. Morgan Asset Management.

\*The baseline is the median for the corresponding day of the week, during the 5-week period from 1/3/20 to 2/6/20.

Guide to the Markets – U.S. Data are as of January 19, 2021.

## Global Composite Purchasing Managers' Index, quarterly

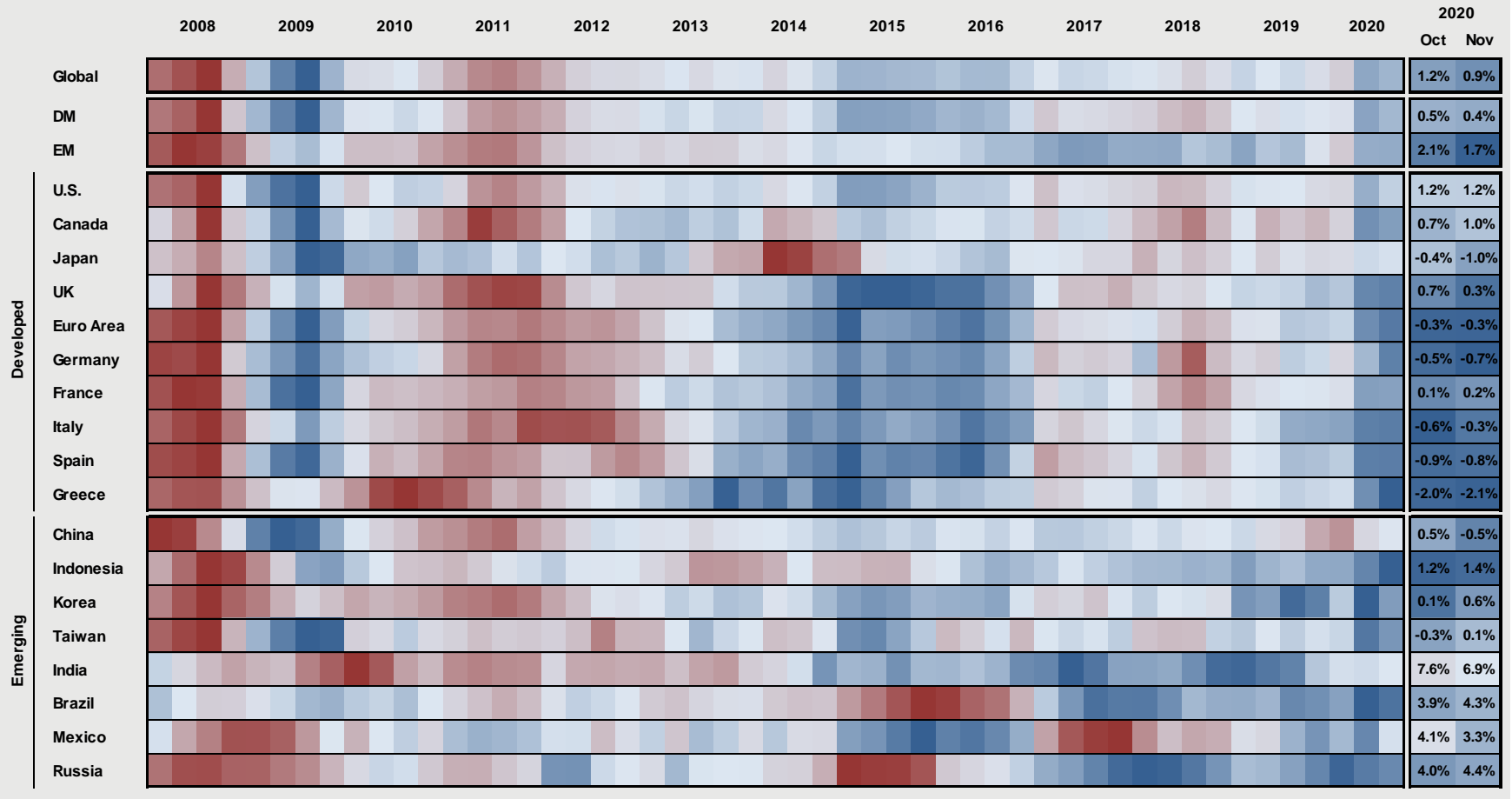


Source: Markit, J.P. Morgan Asset Management.

The Composite PMI includes both manufacturing and services subindices. Heatmap colors are based on PMI relative to the 50 level, which indicates acceleration or deceleration of the sector, for the time period shown. Heat map is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Data for the U.S. are back-tested and filled in from December 2007 to September 2009 due to lack of existing PMI figures. DM and EM represent developed markets and emerging markets, respectively.

Guide to the Markets – U.S. Data are as of January 19, 2021.

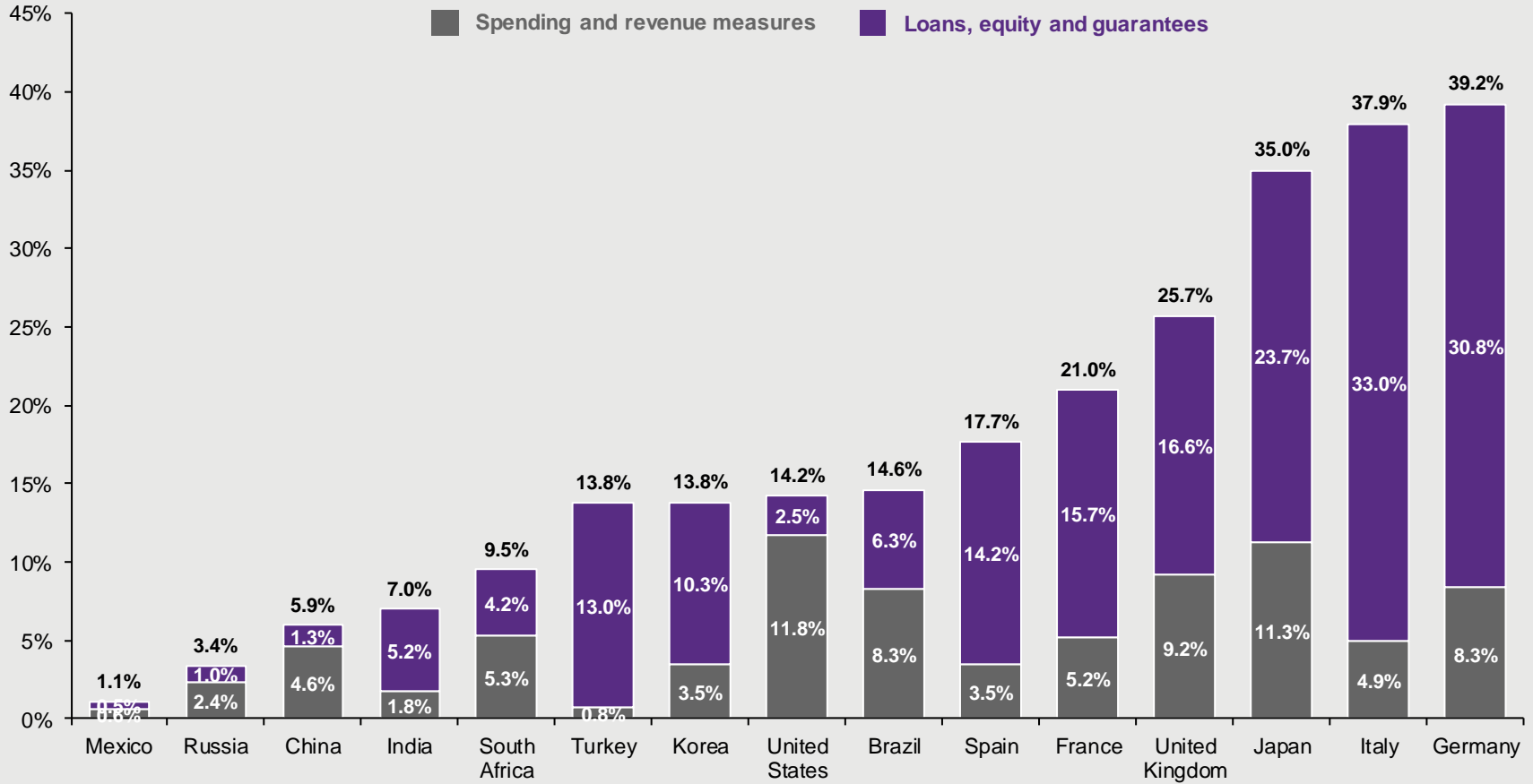
## Year-over-year headline inflation by country and region, quarterly



Source: Bank of Mexico, DGBAS, Eurostat, FactSet, Federal Reserve, Goskomstat of Russia, IBGE, India Ministry of Statistics & Programme Implementation, Japan Ministry of Internal Affairs & Communications, Korean National Statistical Office, Melbourne Institute, National Bureau of Statistics China, Statistics Canada, Statistics Indonesia, UK Office for National Statistics (ONS), J.P. Morgan Asset Management. Heatmap is based on quarterly averages, with the exception of the two most recent figures, which are single month readings. Colors determined by percentiles of inflation values over the last 10 years. Deep blue = lowest value, light blue = median, deep red = highest value. DM and EM represent developed markets and emerging markets, respectively. Guide to the Markets – U.S. Data are as of January 19, 2021.

Fiscal response to COVID-19

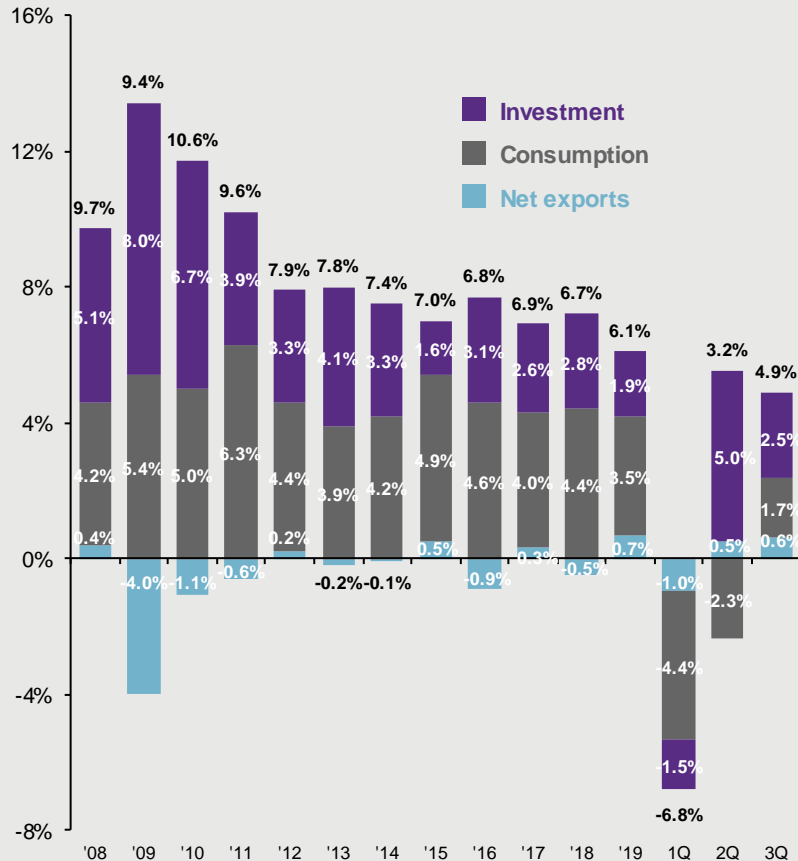
% of GDP



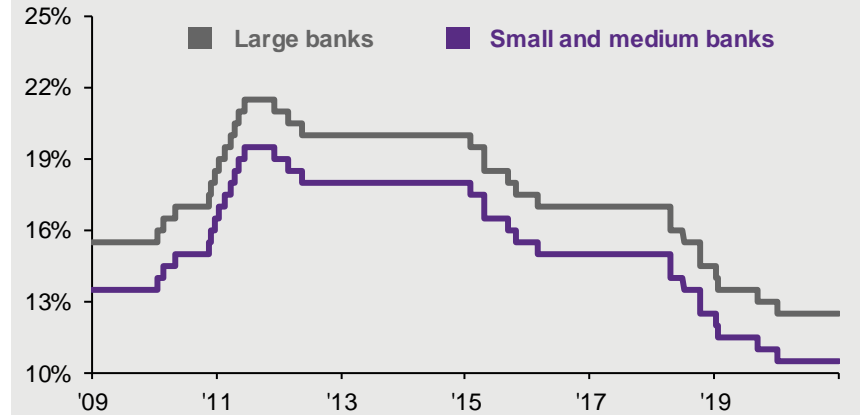
Source: IMF Fiscal Monitor, J.P. Morgan Asset Management.  
 Fiscal measures are estimates from the IMF's October 2020 Fiscal Monitor.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

## China real GDP contribution

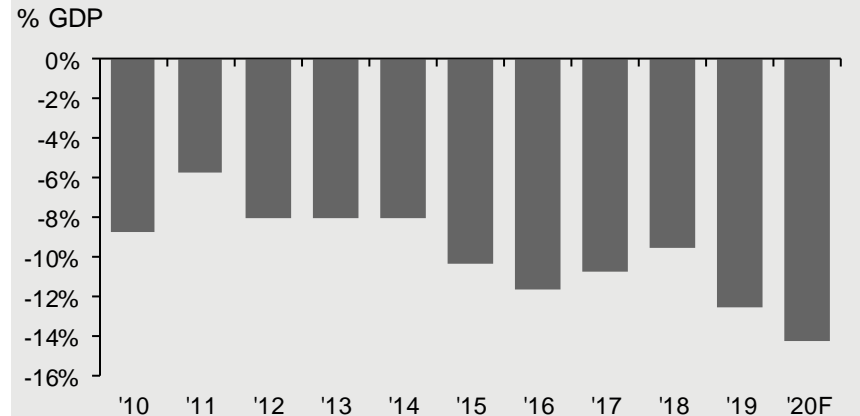
Year-over-year % change



## Monetary stimulus: Reserve requirement ratio



## Fiscal stimulus: Fiscal deficit\*

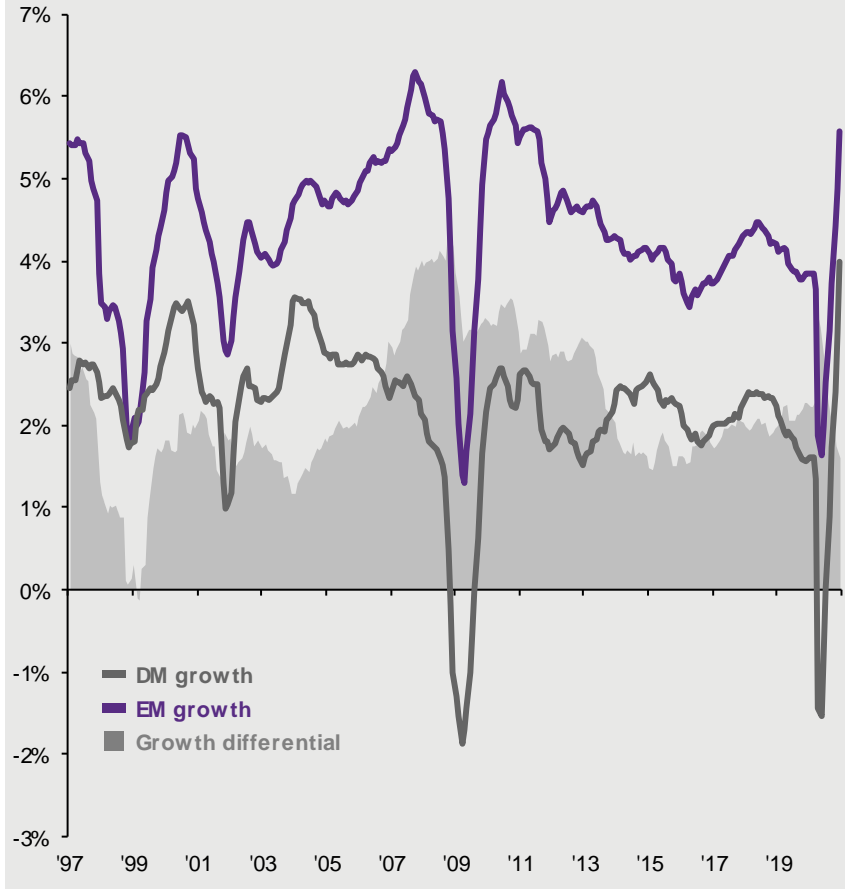


Source: FactSet, J.P. Morgan Asset Management; (Left) CEIC; (Top right) People's Bank of China; (Bottom right) China Agriculture Development Bank, China Development Bank, Ministry of Finance, People's Bank of China, Wind. \*The fiscal deficit is a J.P. Morgan Asset Management estimate of the augmented fiscal deficit. It measures the aggregate resources controlled by the government and used to support economic growth. It consists of the official budgetary deficit of the central and local governments, and additional funding raised and spent by local governments through Local Government Financing Vehicles (LGFVs) and various government-guided funds, whose activities are considered quasi-fiscal.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.



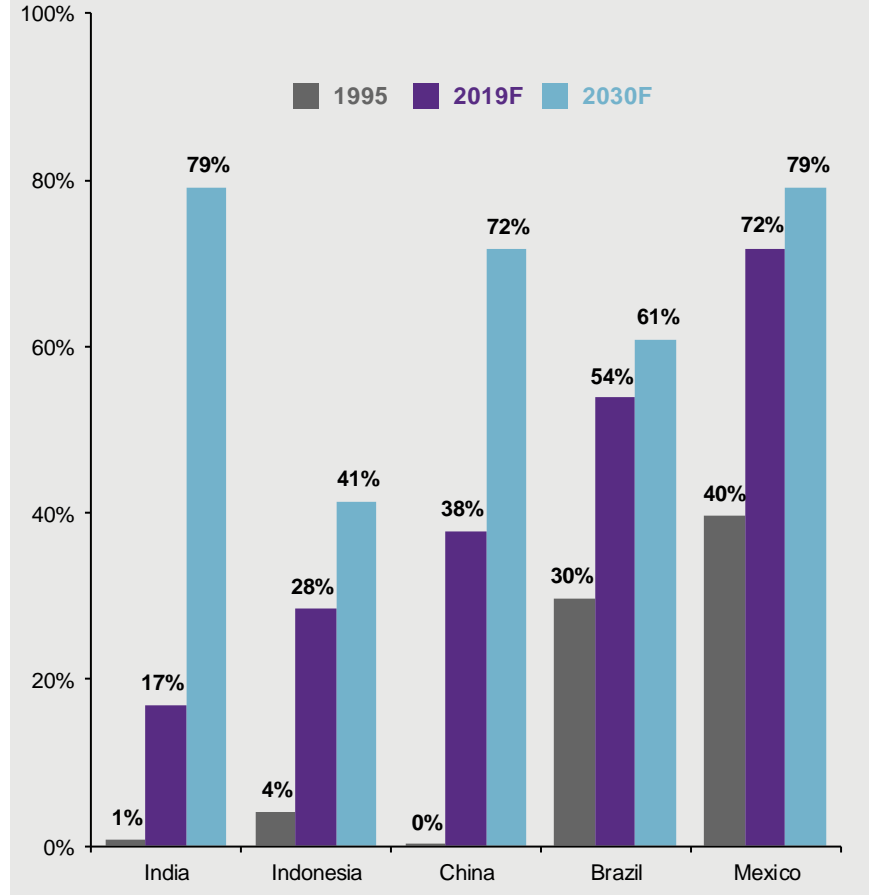
## EM vs. DM growth

Monthly, consensus expectations for GDP growth in 12 months



## Growth of the middle class

Percent of total population



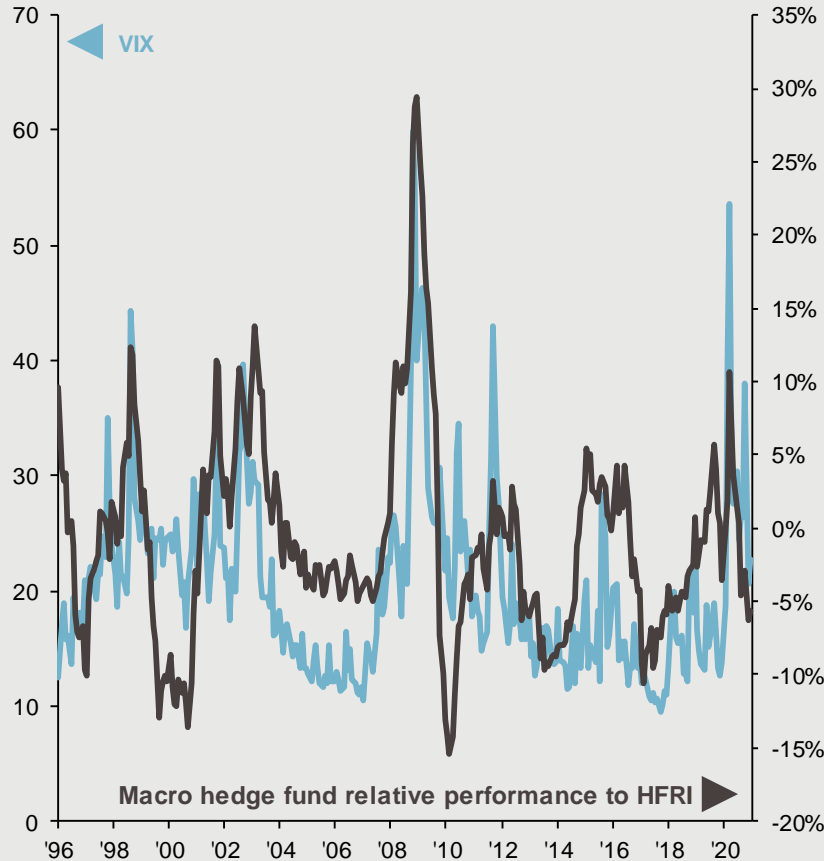
Source: J.P. Morgan Asset Management; (Left) Consensus Economics; (Right) Brookings Institute. "Growth differential" is consensus estimates for EM growth in the next 12 months minus consensus estimates for DM growth in the next 12 months, provided by Consensus Economics. Middle class is defined as \$3,600-\$36,000 annual per capita income in purchasing power parity terms. Historical and forecast figures come from the Brookings Institution, Development, Aid and Governance Indicators. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currency.	EMD	Comdty.	REITs	Hedge funds	Private equity	Gold	Ann. Volatility
U.S. Large Cap	1.00	0.89	0.81	-0.20	0.86	0.05	-0.40	0.68	0.64	0.75	0.91	0.87	-0.02	15%
EAFE		1.00	0.92	-0.22	0.85	0.03	-0.55	0.73	0.67	0.62	0.90	0.92	0.08	16%
EME			1.00	-0.10	0.83	0.11	-0.68	0.81	0.71	0.55	0.81	0.85	0.29	19%
Bonds				1.00	0.00	0.81	-0.04	0.29	-0.09	0.13	-0.21	-0.29	0.68	3%
Corp. HY					1.00	0.21	-0.47	0.86	0.78	0.74	0.85	0.81	0.17	8%
Munis						1.00	-0.13	0.51	0.10	0.40	0.02	-0.05	0.57	3%
Currencies							1.00	-0.55	-0.58	-0.15	-0.34	-0.56	-0.47	6%
EMD								1.00	0.68	0.66	0.69	0.66	0.49	7%
Commodities									1.00	0.45	0.66	0.68	0.31	15%
REITs										1.00	0.65	0.59	0.03	16%
Hedge funds											1.00	0.88	0.00	5%
Private equity												1.00	0.02	7%
Gold													1.00	15%

Source: Barclays Inc., Bloomberg, Cambridge Associates, Credit Suisse/Tremont, FactSet, Federal Reserve, MSCI, Standard & Poor's, J.P. Morgan Asset Management.  
 Indices used – Large Cap: S&P 500 Index; Currencies: Federal Reserve Trade-Weighted Dollar; EAFE: MSCI EAFE; EME: MSCI Emerging Markets; Bonds: Bloomberg Barclays Aggregate; Corp HY: Bloomberg Barclays Corporate High Yield; EMD: Bloomberg Barclays Emerging Market; Comdty.: Bloomberg Commodity Index; REIT: NAREIT All equity Index; Hedge funds: CS/Tremont Hedge Fund Index; Private equity: Cambridge Associates Global Buyout & Growth Index; Gold: Gold continuous contract (\$/oz). Private equity data are reported on a one- to two-quarter lag. All correlation coefficients and annualized volatility are calculated based on quarterly total return data for period from 12/31/10 to 12/31/20, except for Private equity, which is based on the period from 6/30/10 to 6/30/20. This chart is for illustrative purposes only.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

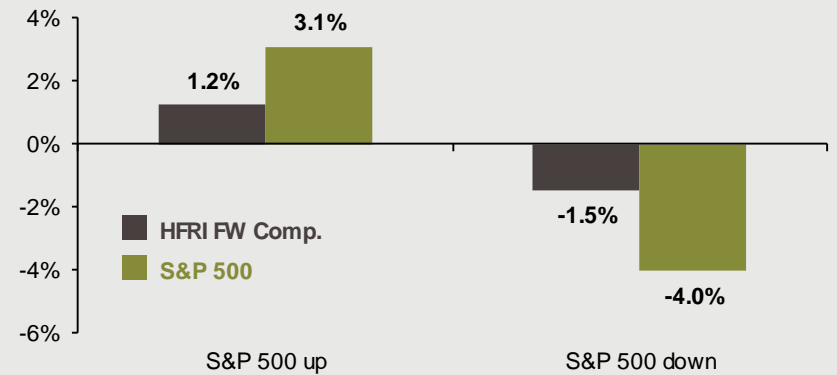
## Macro hedge fund relative performance & volatility

VIX index level, y/y change in rel. perf. of HFRI Macro index



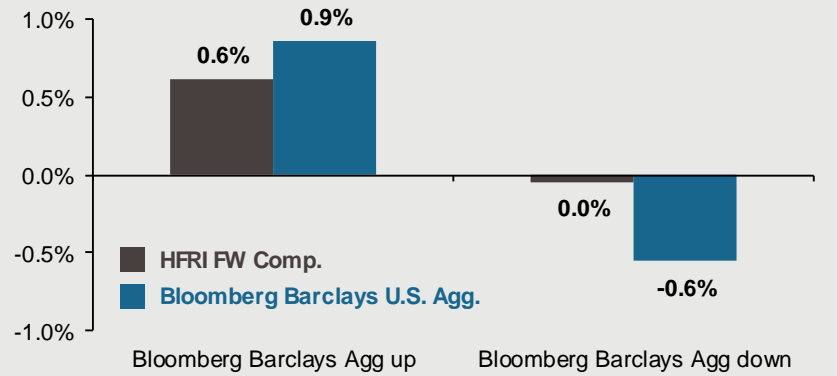
## Hedge fund returns in different market environments

Average return in up and down months for S&P 500



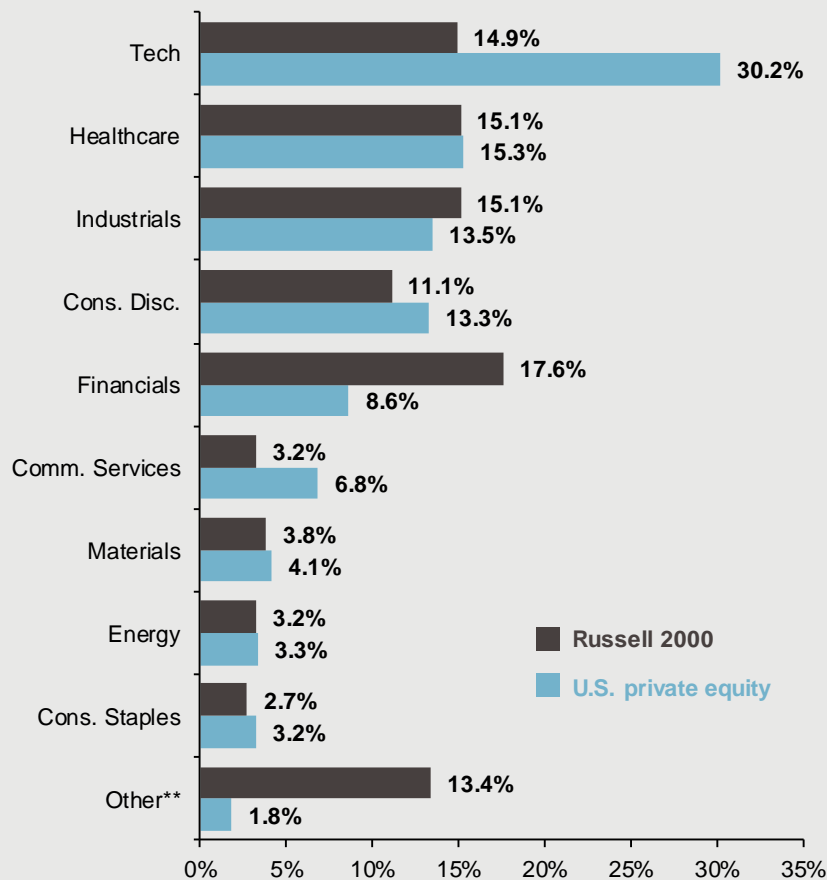
## Hedge fund returns in different market environments

Average return in up and down months for Bloomberg Barclays Agg.

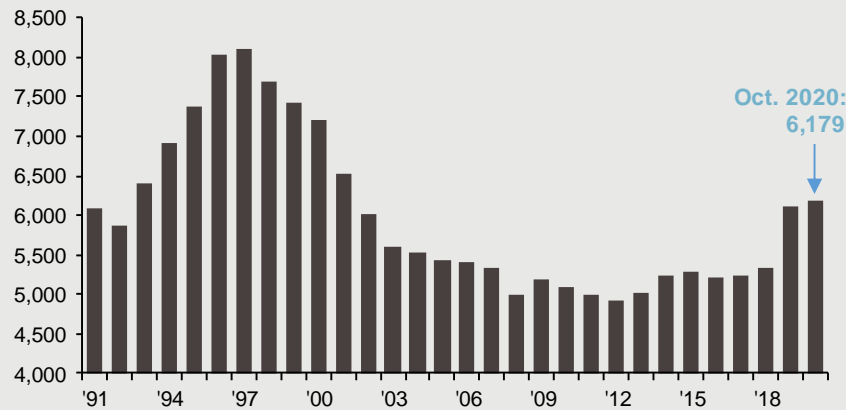


Source: Barclays, Bloomberg, FactSet, Hedge Fund Research Indices (HFRI), Standard & Poor's, J.P. Morgan Asset Management. HFRI Macro Index - Investment managers that trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches and long- and short-term holding periods.  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

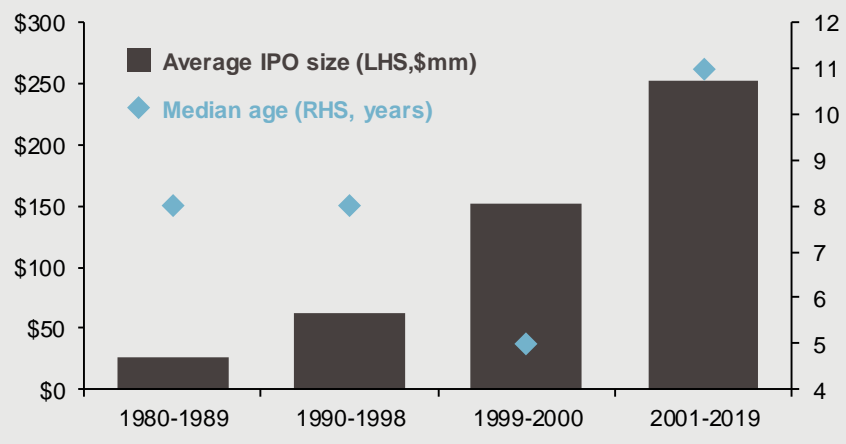
Private vs. public equity sector weights



Number of U.S. listed companies\*\*



Average size and median age at IPO



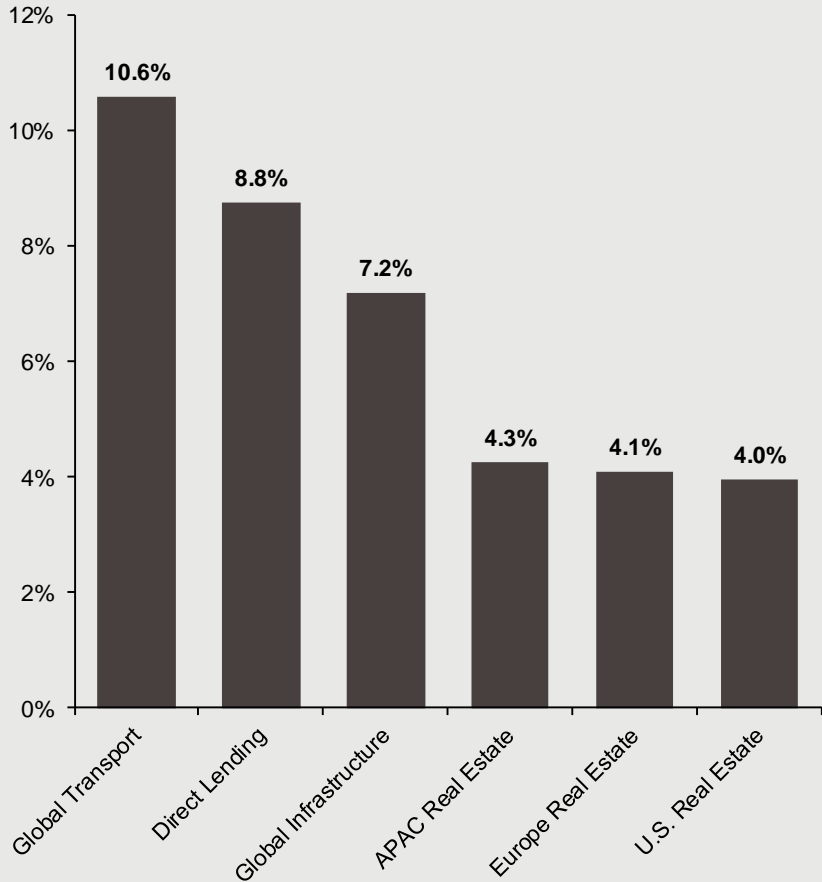
Sources: Cambridge Associates, Jay Ritter, Russell, University of Florida, World Federation of Exchanges, J.P. Morgan Asset Management.

The sample is IPOs with an offer price of at least \$5.00, excluding ADRs, unit offers, closed-end funds, REITs, natural resource limited partnerships, small best efforts offers, banks and S&Ls, and stocks not listed on CRSP (CRSP includes Amex, NYSE, and NASDAQ stocks). Average IPO size is defined as the aggregate IPO proceeds during the period shown, divided by the number of IPOs.

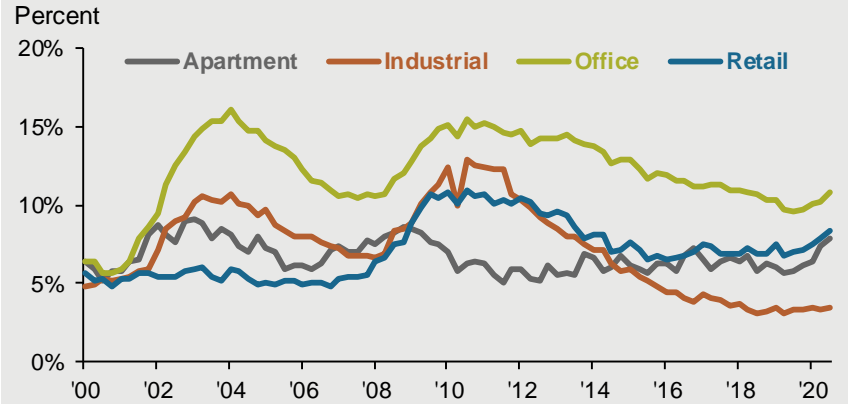
\*Number of listed U.S. companies is represented by the sum of number of companies listed on the NYSE and the NASDAQ. \*\*Other includes real estate and utilities. Percentages may not sum due to rounding. Sector weights are as of 6/30/19.

Guide to the Markets – U.S. Data are as of January 19, 2021.

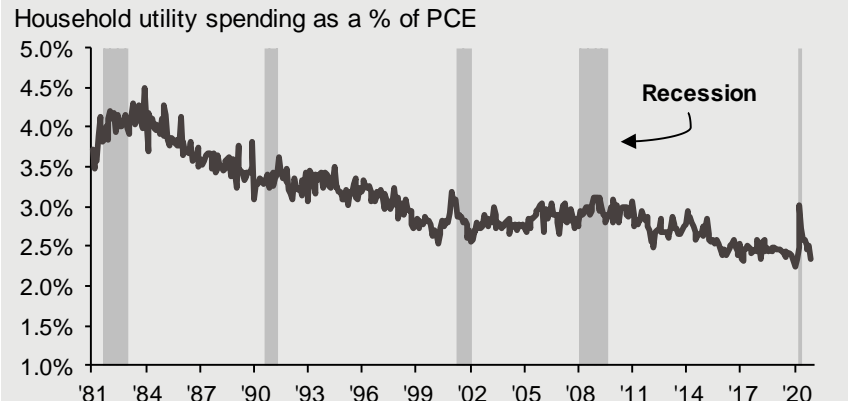
## Alternative asset class yields



## U.S. real estate vacancy rates by property type



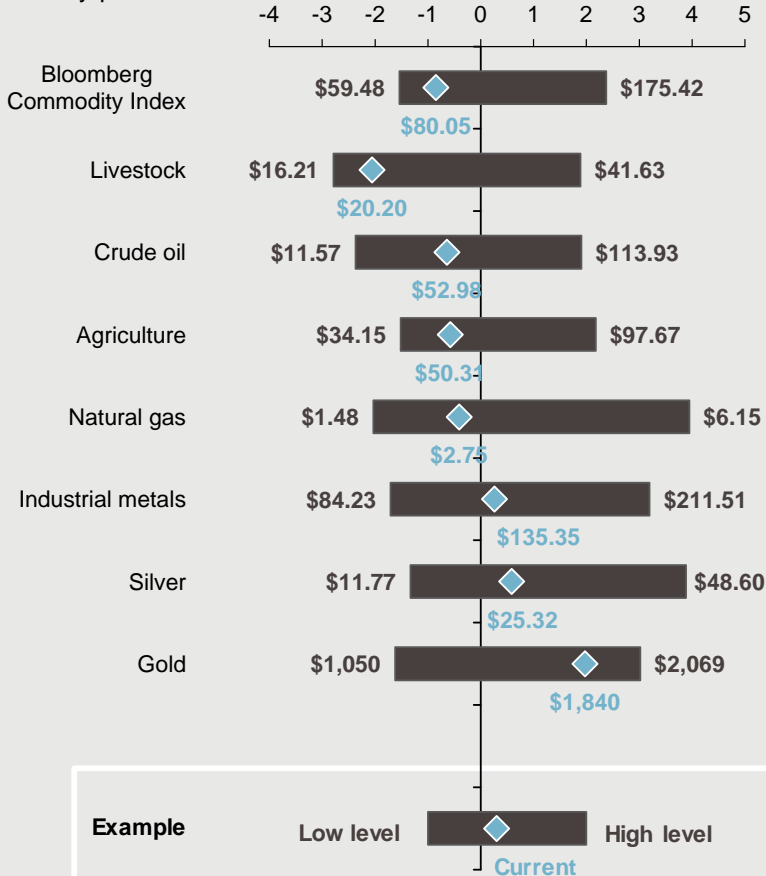
## Household utility spending



Source: BEA, Clarkson, Cliffwater, Drewry Maritime Consultants, MSCI, NCREIF, FactSet, J.P. Morgan Asset Management. Global transport yield is as of 09/30/2020. Direct Lending, Global Infrastructure, and U.S, Europe, and APAC Real Estate yields are as of 6/30/2020. Global Transport: Levered yields for transport assets calculated as the difference between charter rates (rental income), operating expenses, debt amortization and interest expenses, as a percentage of equity value. Yields for each of the sub-vessel types are calculated and respective weightings are applied to arrive at the current levered yields for Global Transportation; Direct Lending: Cliffwater Direct Lending Index; Global Infrastructure: MSCI Global Infrastructure Asset Index-Low Risk; U.S. Real Estate: NCREIF-ODCE Index; Europe core real estate: IPD Global Property Fund Index – Continental Europe. Asia Pacific (APAC) core real estate: IPD Global Property Fund Index – Asia-Pacific. Data is based on availability as of January 19, 2021.

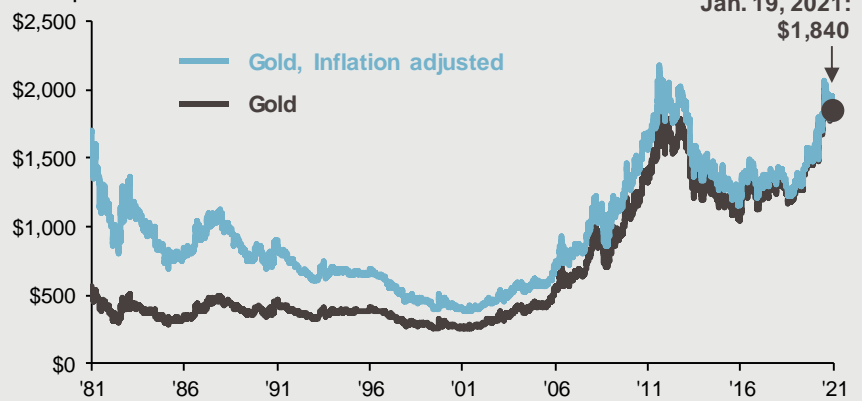
**Commodity prices**

Commodity price z-scores



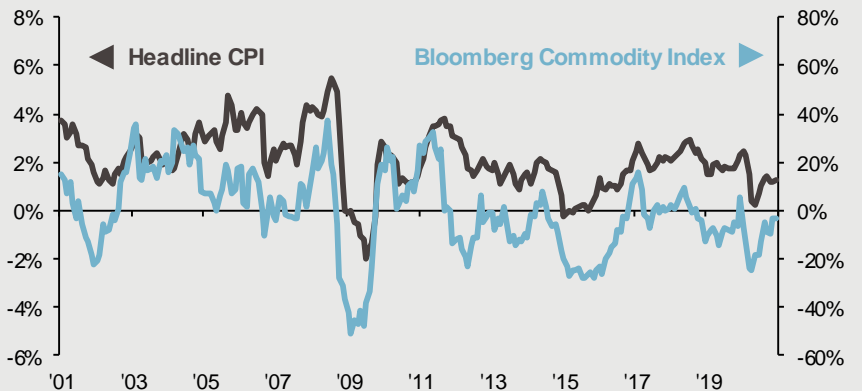
**Gold prices**

USD per ounce



**Commodity prices and inflation**

Year-over-year % change



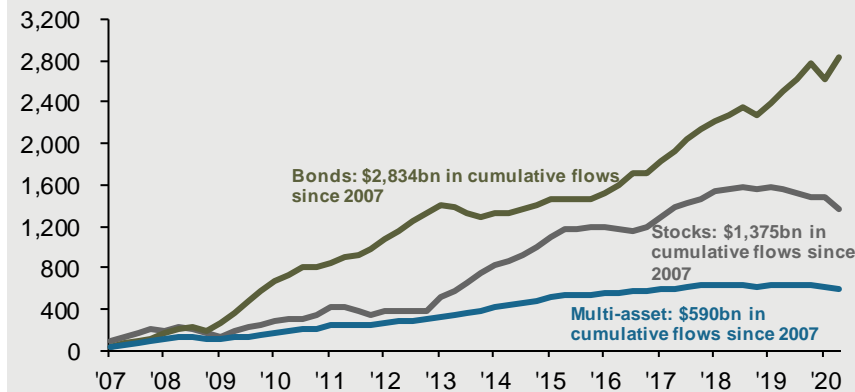
Source: FactSet, J.P. Morgan Asset Management; (Left) Bloomberg, CME; (Top right) BLS, CME; (Bottom right) Bloomberg, BLS. Commodity prices are represented by the appropriate Bloomberg Commodity sub-index. Crude oil shown is WTI. Other commodity prices are represented by futures contracts. Z-scores are calculated using daily prices over the past 10 years. *Guide to the Markets – U.S.* Data are as of January 19, 2021.



USD billions	AUM	Registered product flows																	
		YTD	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003
<b>U.S. equity</b>	10,530	(203)	(81)	4	32	(1)	(3)	104	170	(31)	(32)	21	20	(2)	17	73	111	172	142
<b>World equity</b>	3,928	(40)	12	90	247	14	206	139	200	63	24	85	55	(35)	181	166	132	88	40
<b>Taxable bond</b>	4,890	365	415	122	388	215	44	74	19	298	169	226	309	61	106	54	46	30	45
<b>Tax-free bond</b>	919	41	105	11	34	32	22	34	(53)	50	(8)	13	71	12	14	17	7	(6)	(3)
<b>Multi-asset</b>	2,950	(70)	21	(7)	63	35	58	88	90	45	29	62	38	14	96	76	81	81	50
<b>Liquidity</b>	4,178	684	576	250	113	196	36	46	45	3	(31)	(331)	(252)	637	462	162	66	(32)	(86)

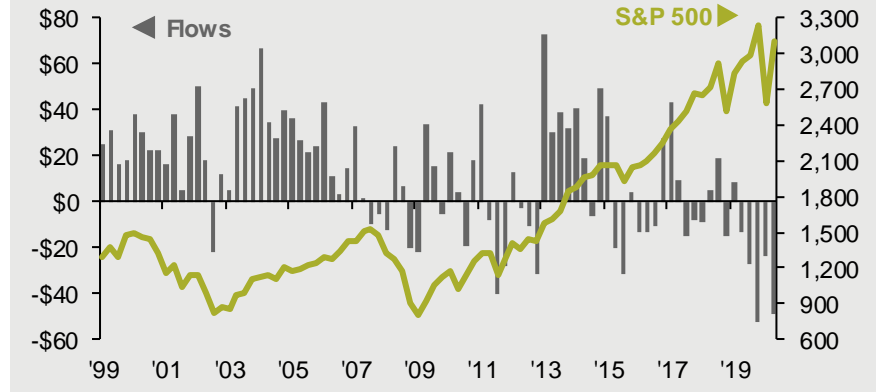
## Cumulative flows into long-term asset products

Mutual fund and ETF flows, quarterly, USD billions



## Flows into U.S. equity funds & S&P 500 performance

Mutual fund and ETF flows, price index, quarterly, USD billions

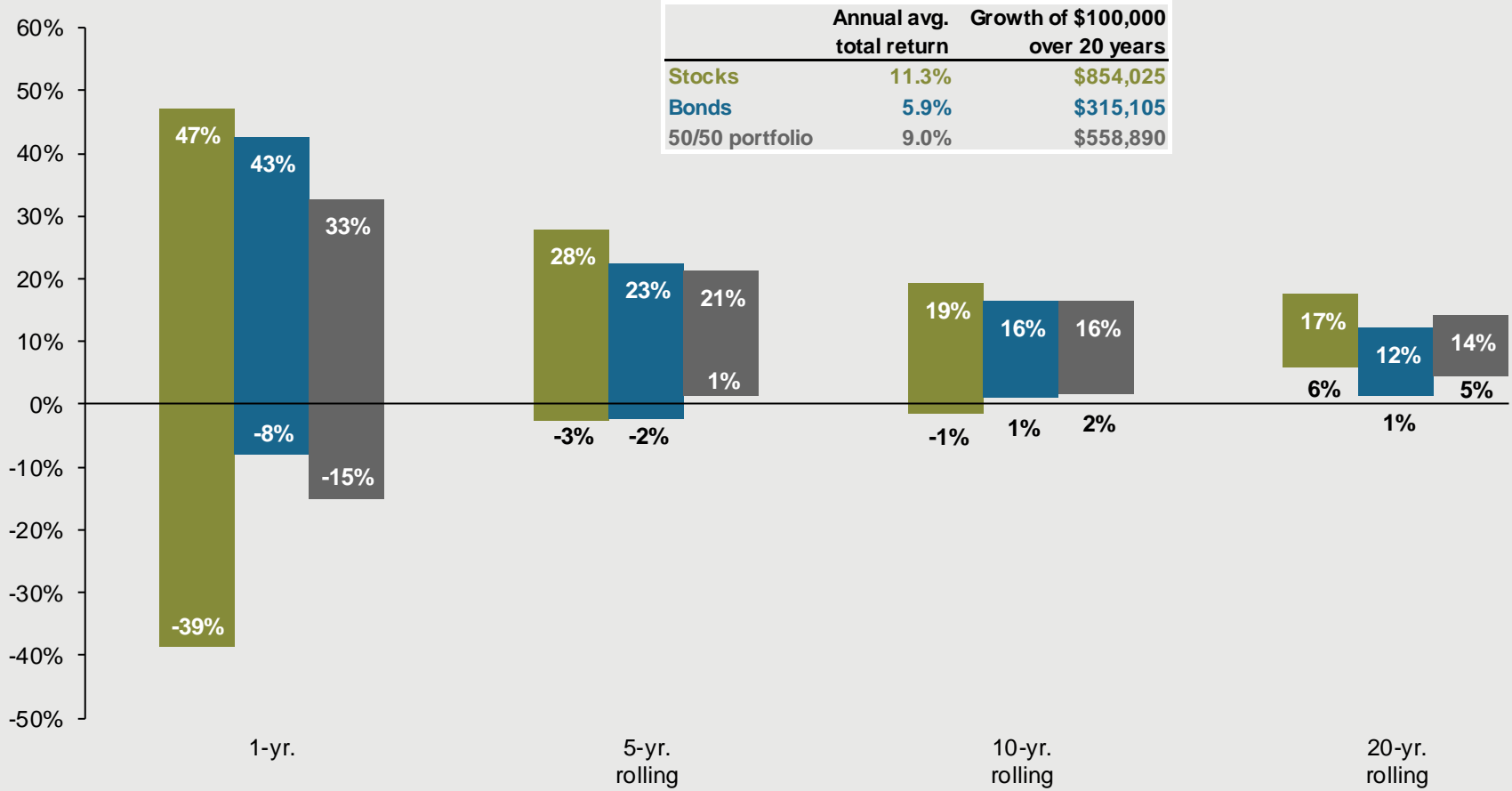


Source: Strategic Insight Simfund, J.P. Morgan Asset Management. All data include flows through November 2020 and capture all registered product flows (open-end mutual funds and ETFs). Simfund data are subject to periodic revisions. World equity flows are inclusive of emerging market, global equity and regional equity flows. Multi-asset flows include asset allocation, balanced fund, flexible portfolio and mixed income flows. *Guide to the Markets – U.S.* Data are as of January 19, 2021.



## Range of stock, bond and blended total returns

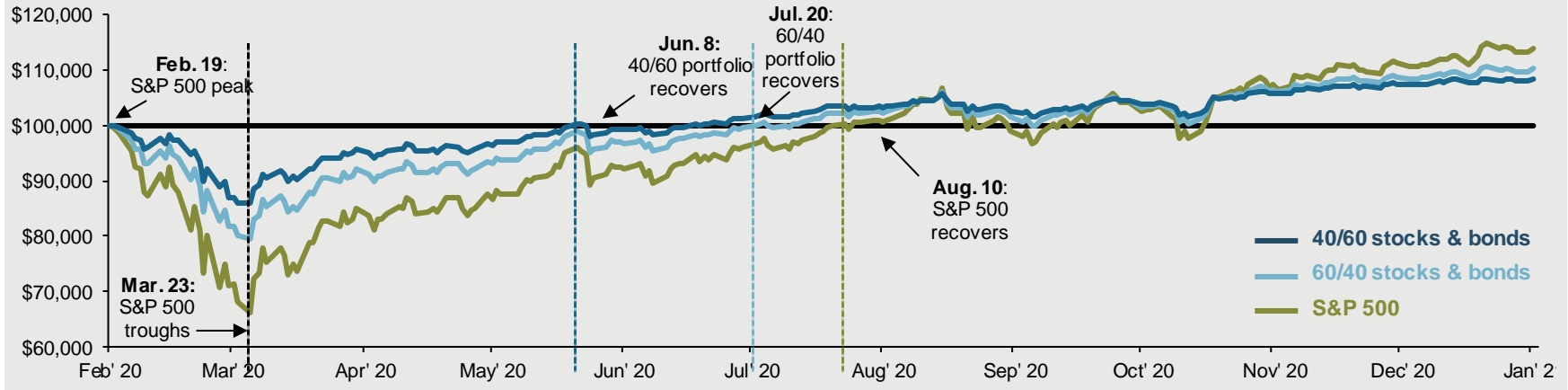
Annual total returns, 1950-2020



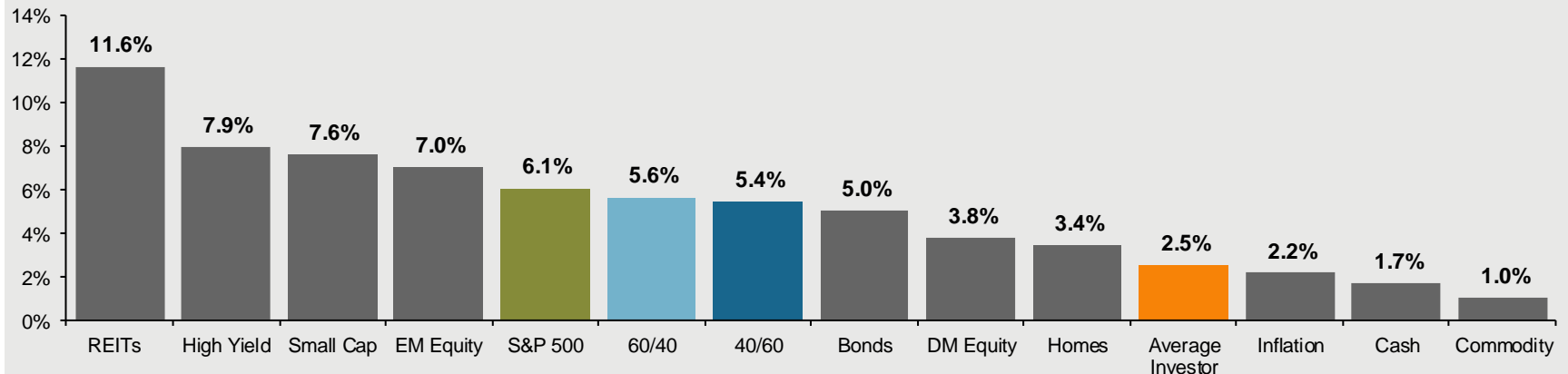
Source: Barclays, Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management. Returns shown are based on calendar year returns from 1950 to 2020. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Barclays Aggregate thereafter. Growth of \$100,000 is based on annual average total returns from 1950 to 2020.

Guide to the Markets – U.S. Data are as of January 19, 2021.

## Portfolio returns: Equities vs. equity and fixed income blend

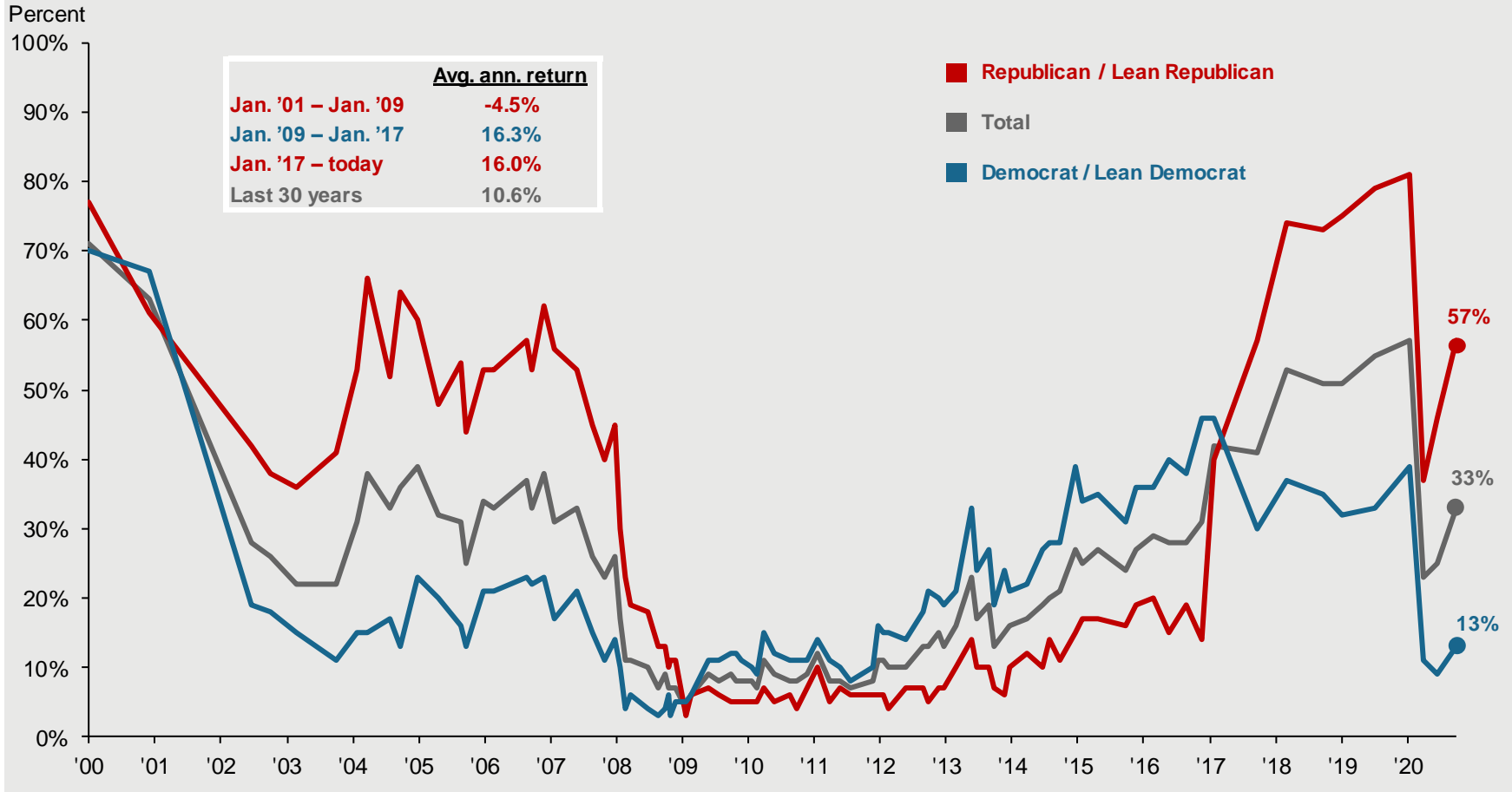


## 20-year annualized returns by asset class (1999 – 2019)



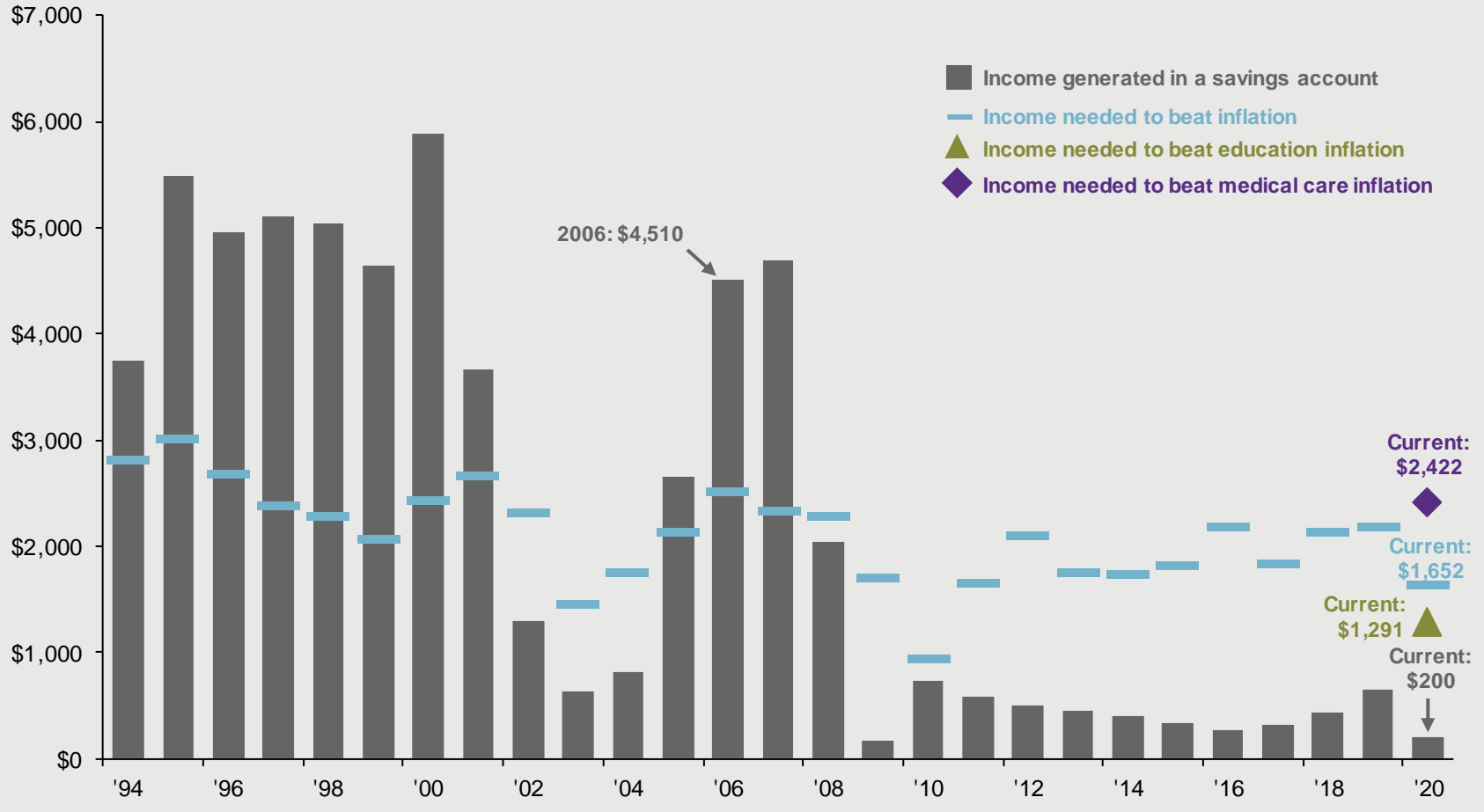
Source: Barclays, Bloomberg, FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Bottom) Dalbar Inc, MSCI, NAREIT, Russell. Indices used are as follows: REITs: NAREIT Equity REIT Index, Small cap: Russell 2000, EM Equity: MSCI EM, DM Equity: MSCI EAFE, Commodity: Bloomberg Commodity Index, High Yield: Bloomberg Barclays Global HY Index, Bonds: Bloomberg Barclays U.S. Aggregate Index, Homes: median sale price of existing single-family homes, Cash: Bloomberg Barclays 1-3m Treasury, Inflation: CPI. 60/40: A balanced portfolio with 60% invested in S&P 500 Index and 40% invested in high-quality U.S. fixed income, represented by the Bloomberg Barclays U.S. Aggregate Index. The portfolio is rebalanced annually. Average asset allocation investor return is based on an analysis by Dalbar Inc., which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. Returns are annualized (and total return where applicable) and represent the 20-year period ending 12/31/19 to match Dalbar's most recent analysis. *Guide to the Markets – U.S.* Data are as of January 19, 2021.

## Percentage of Republicans and Democrats who rate national economic conditions as excellent or good



Source: Pew Research Center, J.P. Morgan Asset Management. Pew Research Center, October 2020, "Republicans, Democrats Move Even Further Apart in Coronavirus Concerns" Question: Thinking about the nation's economy, How would you rate economic conditions in this country today... as excellent, good, only fair, or poor?  
 Guide to the Markets – U.S. Data are as of January 19, 2021.

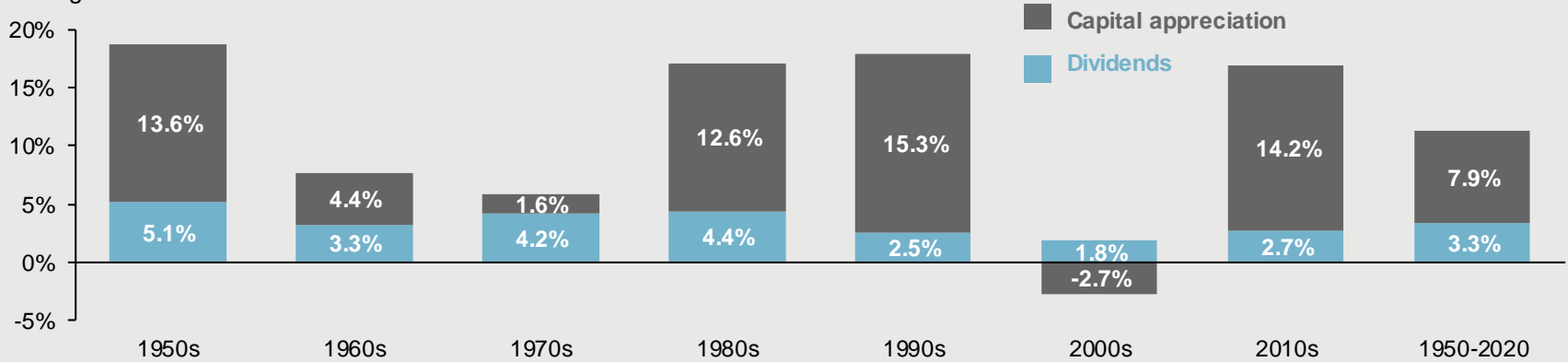
## Income earned on \$100,000 in a savings account\*



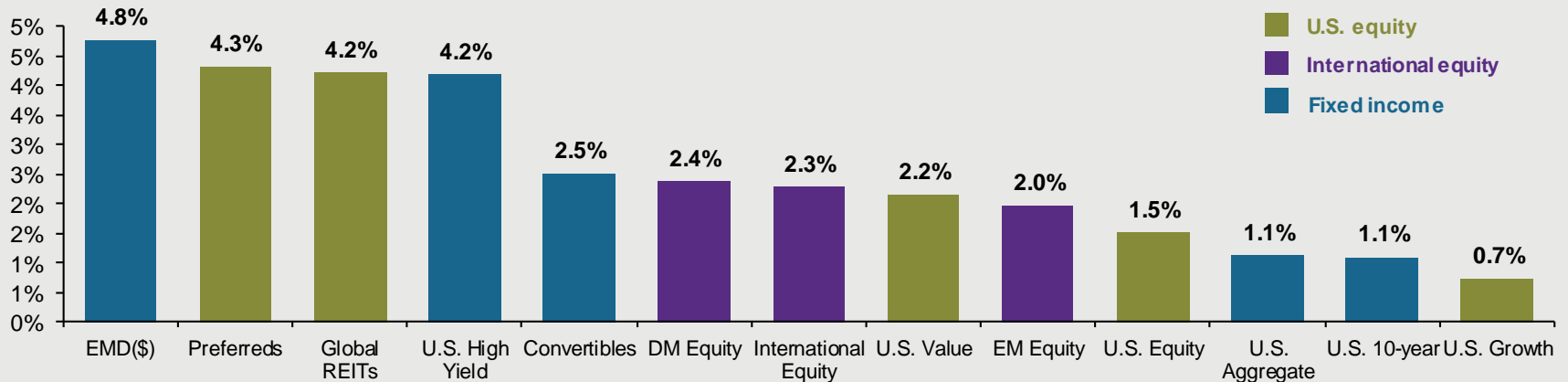
Source: Bankrate.com, BLS, FactSet, Federal Reserve System, J.P. Morgan Asset Management.  
 \*Savings account is based on the national average annual percentage rate (APR) on money market accounts from Bankrate.com from 2010 onward. Prior to 2010, money market yield is based on taxable money market funds return data from the Federal Reserve. Annual income is for illustrative purposes and is calculated based on the average money market yield during each year and \$100,000 invested. Current inflation is based on November 2020 Core CPI, education inflation and medical care inflation. Current savings account is based on the December 2020 national average annual percentage rate (APR) on money market accounts. Past performance is not indicative of comparable future results.  
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## S&P 500 total return: Dividends vs. capital appreciation

Average annualized returns

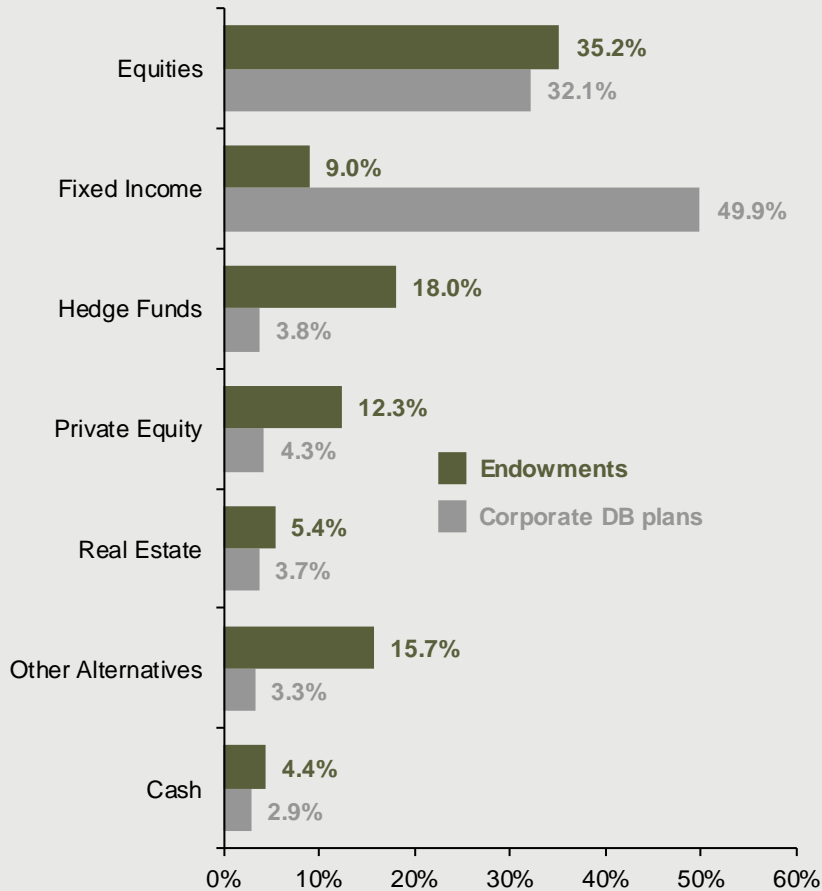


## Asset class yields

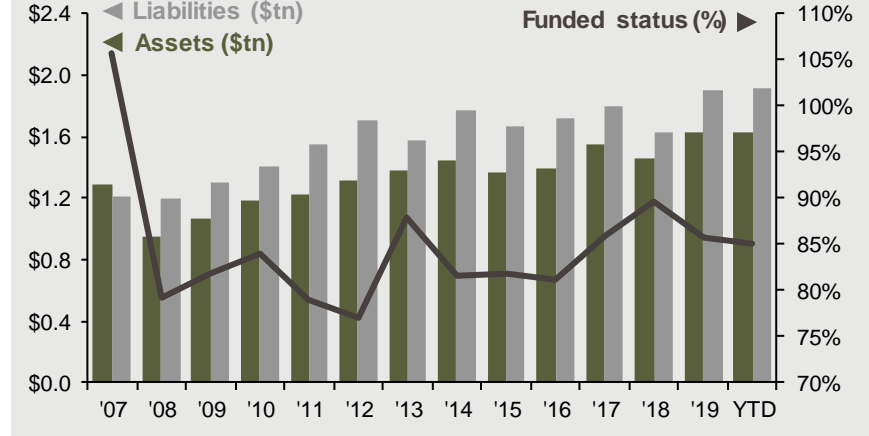


Source: FactSet, Standard & Poor's, J.P. Morgan Asset Management; (Top) Ibbotson; (Bottom) BAML, Barclays, Bloomberg, Federal Reserve, FTSE, J.P. Morgan, MSCI, NCREIF, Russell. Dividend vs. capital appreciation returns are through 12/31/19. Yields are most current. Preferreds: BAML Hybrid Preferred Securities; U.S. High Yield: Bloomberg US Corporate High Yield; Global REITs: FTSE NAREIT Global REITs; U.S. Aggregate: Bloomberg Barclays US Aggregate; EMD(\$): J.P. Morgan EMBIG Diversified; Convertibles: Bloomberg Barclays U.S. Convertibles Composite; International Equity: MSCI AC World ex-U.S.; EM Equity: MSCI Emerging Markets; DM Equity: MSCI EAFE; U.S. Equity: S&P 500; U.S. Growth: Russell 1000 Growth; U.S. Value: Russell 1000 Value; U.S. 10-year: Tullett Prebon. *Guide to the Markets - U.S.* Data are as of January 19, 2021.

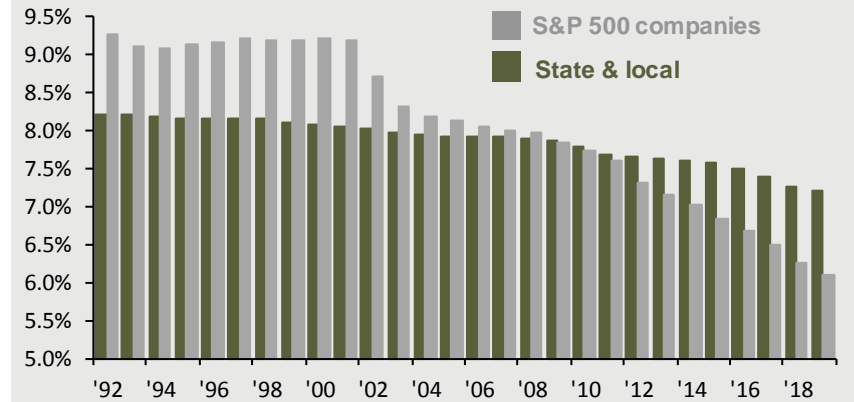
## Asset allocation: Corporate DB plans vs. endowments



## Defined benefit plans: Milliman 100 companies



## Pension return assumptions



Source: J.P. Morgan Asset Management; (Left) NACUBO (National Association of College and University Business Officers), Towers Watson; (Top right) Milliman Pension Funding Index; (Bottom right) Census for Governments, Compustat, FactSet, S&P 500 corporate 10-Ks. Endowment asset allocation as of 2019. Corporate DB plan asset allocation as of 2018. Endowments represents dollar-weighted average data of 749 colleges and universities. Corporate DB plans represents aggregate asset allocation of Fortune 1000 pension plans. Pension return assumptions based on all available and reported data from S&P 500 Index companies. State and local pension return assumptions are weighted by plan size. Pension assets, liabilities and funded status based on Milliman 100 companies reporting pension data as of October 31, 2020. All information is shown for illustrative purposes only.

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**All indexes are unmanaged and an individual cannot invest directly in an index. Index returns do not include fees or expenses.**

*Equities:*

The **Dow Jones Industrial Average** is a price-weighted average of 30 actively traded blue-chip U.S. stocks.

The **MSCI ACWI (All Country World Index)** is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.

The **MSCI EAFE Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the US & Canada.

The **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets.

The **MSCI Europe Index** is a free float-adjusted market capitalization index that is designed to measure developed market equity performance in Europe.

The **MSCI Pacific Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance in the Pacific region.

The **Russell 1000 Index**® measures the performance of the 1,000 largest companies in the Russell 3000.

The **Russell 1000 Growth Index**® measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 1000 Value Index**® measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 2000 Index**® measures the performance of the 2,000 smallest companies in the Russell 3000 Index.

The **Russell 2000 Growth Index**® measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

The **Russell 2000 Value Index**® measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The **Russell 3000 Index**® measures the performance of the 3,000 largest U.S. companies based on total market capitalization.

The **Russell Midcap Index**® measures the performance of the 800 smallest companies in the Russell 1000 Index.

The **Russell Midcap Growth Index**® measures the performance of those Russell Midcap companies with higher price-to-book ratios and higher forecasted growth values. The stocks are also members of the Russell 1000 Growth index.

The **Russell Midcap Value Index**® measures the performance of those Russell Midcap companies with lower price-to-book ratios and lower forecasted growth values. The stocks are also members of the Russell 1000 Value index.

The **S&P 500 Index** is widely regarded as the best single gauge of the U.S. equities market. The index includes a representative sample of 500 leading companies in leading industries of the U.S. economy. The **S&P 500 Index** focuses on the large-cap segment of the market; however, since it includes a significant portion of the total value of the market, it also represents the market.

*Fixed income:*

The **Bloomberg Barclays 1-3 Month U.S. Treasury Bill Index** includes all publicly issued zero-coupon US Treasury Bills that have a remaining maturity of less than 3 months and more than 1 month, are rated investment grade, and have \$250 million or more of outstanding face value. In addition, the securities must be denominated in U.S. dollars and must be fixed rate and non convertible.

The **Bloomberg Barclays Global High Yield Index** is a multi-currency flagship measure of the global high yield debt market. The index represents the union of the US High Yield, the Pan-European High Yield, and Emerging Markets (EM) Hard Currency High Yield Indices. The high yield and emerging markets sub-components are mutually exclusive. Until January 1, 2011, the index also included CMBS high yield securities.

The **Bloomberg Barclays Municipal Index** consists of a broad selection of investment-grade general obligation and revenue bonds of maturities ranging from one year to 30 years. It is an unmanaged index representative of the tax-exempt bond market.

The **Bloomberg Barclays US Dollar Floating Rate Note (FRN) Index** provides a measure of the U.S. dollar denominated floating rate note market.

The **Bloomberg Barclays US Corporate Investment Grade Index** is an unmanaged index consisting of publicly issued US Corporate and specified foreign debentures and secured notes that are rated investment grade (Baa3/BBB or higher) by at least two ratings agencies, have at least one year to final maturity and have at least \$250 million par amount outstanding. To qualify, bonds must be SEC-registered.

The **Bloomberg Barclays US High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.

The **Bloomberg Barclays US Mortgage Backed Securities Index** is an unmanaged index that measures the performance of investment grade fixed-rate mortgage backed pass-through securities of GNMA, FNMA and FHLMC.

The **Bloomberg Barclays US TIPS Index** consists of Inflation-Protection securities issued by the U.S. Treasury.

The **J.P. Morgan Emerging Market Bond Global Index (EMBI)** includes U.S. dollar denominated Brady bonds, Eurobonds, traded loans and local market debt instruments issued by sovereign and quasi-sovereign entities.

The **J.P. Morgan Domestic High Yield Index** is designed to mirror the investable universe of the U.S. dollar domestic high yield corporate debt market.

The **J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified (CEMBI Broad Diversified)** is an expansion of the **J.P. Morgan Corporate Emerging Markets Bond Index (CEMBI)**. The CEMBI is a market capitalization weighted index consisting of U.S. dollar denominated emerging market corporate bonds.

The **J.P. Morgan Emerging Markets Bond Index Global Diversified (EMBI Global Diversified)** tracks total returns for U.S. dollar-denominated debt instruments issued by emerging market sovereign and quasi-sovereign entities: Brady bonds, loans, Eurobonds. The index limits the exposure of some of the larger countries.

The **J.P. Morgan GBI EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.

The **U.S. Treasury Index** is a component of the U.S. Government index.

*Other asset classes:*

The **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for the asset class.

The **Bloomberg Commodity Index** and related sub-indices are composed of futures contracts on physical commodities and represents twenty two separate commodities traded on U.S. exchanges, with the exception of aluminum, nickel, and zinc

The **Cambridge Associates U.S. Global Buyout and Growth Index®** is based on data compiled from 1,768 global (U.S. & ex – U.S.) buyout and growth equity funds, including fully liquidated partnerships, formed between 1986 and 2013.

The **CS/Tremont Hedge Fund Index** is compiled by Credit Suisse Tremont Index, LLC. It is an asset-weighted hedge fund index and includes only funds, as opposed to separate accounts. The Index uses the Credit Suisse/Tremont database, which tracks over 4500 funds, and consists only of funds with a minimum of US\$50 million under management, a 12-month track record, and audited financial statements. It is calculated and rebalanced on a monthly basis, and shown net of all performance fees and expenses. It is the exclusive property of Credit Suisse Tremont Index, LLC.

The **HFRI Monthly Indices (HFRI)** are equally weighted performance indexes, utilized by numerous hedge fund managers as a benchmark for their own hedge funds. The HFRI are broken down into 4 main strategies, each with multiple sub strategies. All single-manager HFRI Index constituents are included in the HFRI Fund Weighted Composite, which accounts for over 2200 funds listed on the internal HFR Database.

The **NAREIT EQUITY REIT Index** is designed to provide the most comprehensive assessment of overall industry performance, and includes all tax-qualified real estate investment trusts (REITs) that are listed on the NYSE, the American Stock Exchange or the NASDAQ National Market List.

The **NFI-ODCE**, short for NCREIF Fund Index - Open End Diversified Core Equity, is an index of investment returns reporting on both a historical and current basis the results of 33 open-end commingled funds pursuing a core investment strategy, some of which have performance histories dating back to the 1970s. The NFI-ODCE Index is capitalization-weighted and is reported gross of fees. Measurement is time-weighted.

*Definitions:*

Investing in **alternative assets** involves higher risks than traditional investments and is suitable only for sophisticated investors. Alternative investments involve greater risks than traditional investments and should not be deemed a complete investment program. They are not tax efficient and an investor should consult with his/her tax advisor prior to investing. Alternative investments have higher fees than traditional investments and they may also be highly leveraged and engage in speculative investment techniques, which can magnify the potential for investment loss or gain. The value of the investment may fall as well as rise and investors may get back less than they invested.

**Bonds** are subject to interest rate risks. Bond prices generally fall when interest rates rise.

Investments in **commodities** may have greater volatility than investments in traditional securities, particularly if the instruments involve leverage. The value of commodity-linked derivative instruments may be affected by changes in overall market movements, commodity index volatility, changes in interest rates, or factors affecting a particular industry or commodity, such as drought, floods, weather, livestock disease, embargoes, tariffs and international economic, political and regulatory developments. Use of leveraged commodity-linked derivatives creates an opportunity for increased return but, at the same time, creates the possibility for greater loss.

**Derivatives** may be riskier than other types of investments because they may be more sensitive to changes in economic or market conditions than other types of investments and could result in losses that significantly exceed the original investment. The use of derivatives may not be successful, resulting in investment losses, and the cost of such strategies may reduce investment returns.

**Distressed Restructuring Strategies** employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) as a result of either formal bankruptcy proceeding or financial market perception of near term proceedings.

Investments in **emerging markets** can be more volatile. The normal risks of investing in foreign countries are heightened when investing in emerging markets. In addition, the small size of securities markets and the low trading volume may lead to a lack of liquidity, which leads to increased volatility. Also, emerging markets may not provide adequate legal protection for private or foreign investment or private property.

The price of **equity** securities may rise, or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries, or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general may decline over short or extended periods of time.

**Equity market neutral strategies** employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. Equity Market Neutral Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

**Global macro strategies** trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

**International** investing involves a greater degree of risk and increased volatility. Changes in currency exchange rates and differences in accounting and taxation policies outside the U.S. can raise or lower returns. Some overseas markets may not be as politically and economically stable as the United States and other nations.

There is no guarantee that the use of **long and short positions** will succeed in limiting an investor's exposure to domestic stock market movements, capitalization, sector swings or other risk factors. Using long and short selling strategies may have higher portfolio turnover rates. Short selling involves certain risks, including additional costs associated with covering short positions and a possibility of unlimited loss on certain short sale positions.

**Merger arbitrage strategies** which employ an investment process primarily focused on opportunities in equity and equity related instruments of companies which are currently engaged in a corporate transaction.

**Mid-capitalization** investing typically carries more risk than investing in well-established "blue-chip" companies. Historically, mid-cap companies' stock has experienced a greater degree of market volatility than the average stock.

**Price to forward earnings** is a measure of the price-to-earnings ratio (P/E) using forecasted earnings. **Price to book value** compares a stock's market value to its book value. **Price to cash flow** is a measure of the market's expectations of a firm's future financial health. **Price to dividends** is the ratio of the price of a share on a stock exchange to the dividends per share paid in the previous year, used as a measure of a company's potential as an investment.

**Real estate** investments may be subject to a higher degree of market risk because of concentration in a specific industry, sector or geographical sector. Real estate investments may be subject to risks including, but not limited to, declines in the value of real estate, risks related to general and economic conditions, changes in the value of the underlying property owned by the trust and defaults by borrower.

**Relative Value Strategies** maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

**Small-capitalization** investing typically carries more risk than investing in well-established "blue-chip" companies since smaller companies generally have a higher risk of failure. Historically, smaller companies' stock has experienced a greater degree of market volatility than the average stock.



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Unless otherwise stated, all data are as of January 19, 2021 or most recently available.

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