

# Q2- 2017

**INTEGRITY**  
INVESTMENT ADVISORS

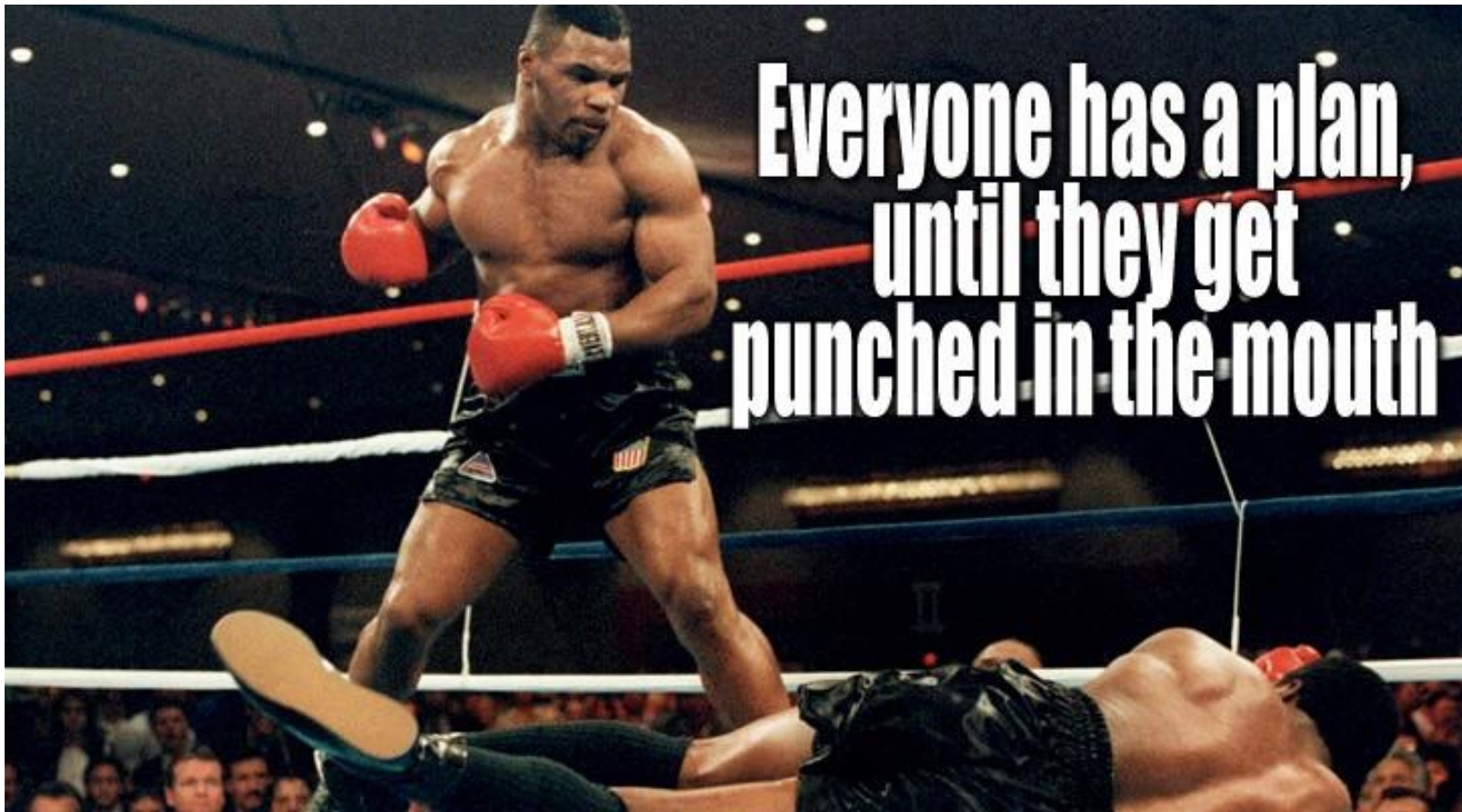
*Invest with integrity.*

Quarterly Market Review

Second Quarter 2017

# 7 Keys to Success in 2017

1. The bull market in stocks has entered the 9<sup>th</sup> year, anticipate more volatility in 2017. Maybe much more with Trump as President.
2. With current high valuations, expected returns for both stocks and bonds may be below historical averages over the next 7+ years.
3. Make sure you understand your portfolio's "fire drill" scenario.
4. Focus on what you can control. Saving, spending, your job, your family, your health.
5. Target to save 20%+ of gross family income. This helps to make up for low returns
6. Track your spending with [www.mint.com](http://www.mint.com)
7. Stay diversified, don't reach for yield or chase hot returns. Be ready to rebalance when we have a major pullback -20%+.
8. Have discipline & let markets work for you over the next 10 to 20+ years! Trying to guess the market peak is usually a fools game.



**What is our Plan for the next recession?  
What do we believe?**

# 3 Most important words

“It isn’t what you don’t know that gets you in trouble. It’s what you know for sure that just isn’t so.” – Mark Twain

- Where will the S&P be at the end of the year?
- Where will the 10-year yield be at the end of the year?
- Where will Crude be a year from now?
- Is Gold a good investment here?
- Will the U.S. enter a recession this year? 3 years?
- What will be the best performing stocks/sectors/asset classes over the next day/month/year?
- Will the Fed hike rates this year? How many times?
- Who will win the next election and what impact will it have on the economy/markets?

I  
Don't  
Know

**View the future as a probability distribution rather than a single potential outcome.**

# THE HIERARCHY OF DECISIONS



**It is important to focus on risk control.**

# Secular bull mkt or recession?

## Fuel in Tank

Fuel is slight

Low and slow growth

FED has done heavy lifting

Little policy help from DC

People with college degree  
have jobs (skills gap)

Negative yields forcing  
investors to take risk

## Spark for Fuel

Fiscal stimulus

Investment in infrastructure

Corp Tax reform

Less Regulation burden

Repatriate foreign dollars

Personal tax reform

Cheap US energy

Manufacturing innovation

Technology revolution

Gigantic amounts of capital

Economy ≠ Stock Market (We will see what Trump &  
Republicans accomplish)

The Long-Term	The Short-Term
Ensure goals & objectives are met	Manage risk & expectations
Markets are kinda, sorta efficient	Markets can be wildly inefficient
Volatility is more consistent	Volatility is random & tends to cluster
How do we grow the portfolio to reach our goals?	How do we survive severe market disruptions?

Getting the risk profile and time horizon right is imperative, but that's just the beginning. The process of implementing a comprehensive plan involves:

- Setting realistic expectations
- Clarifying and reminding people of their goals
- Making changes to the portfolio or plan when circumstances dictate
- Ongoing communication and education

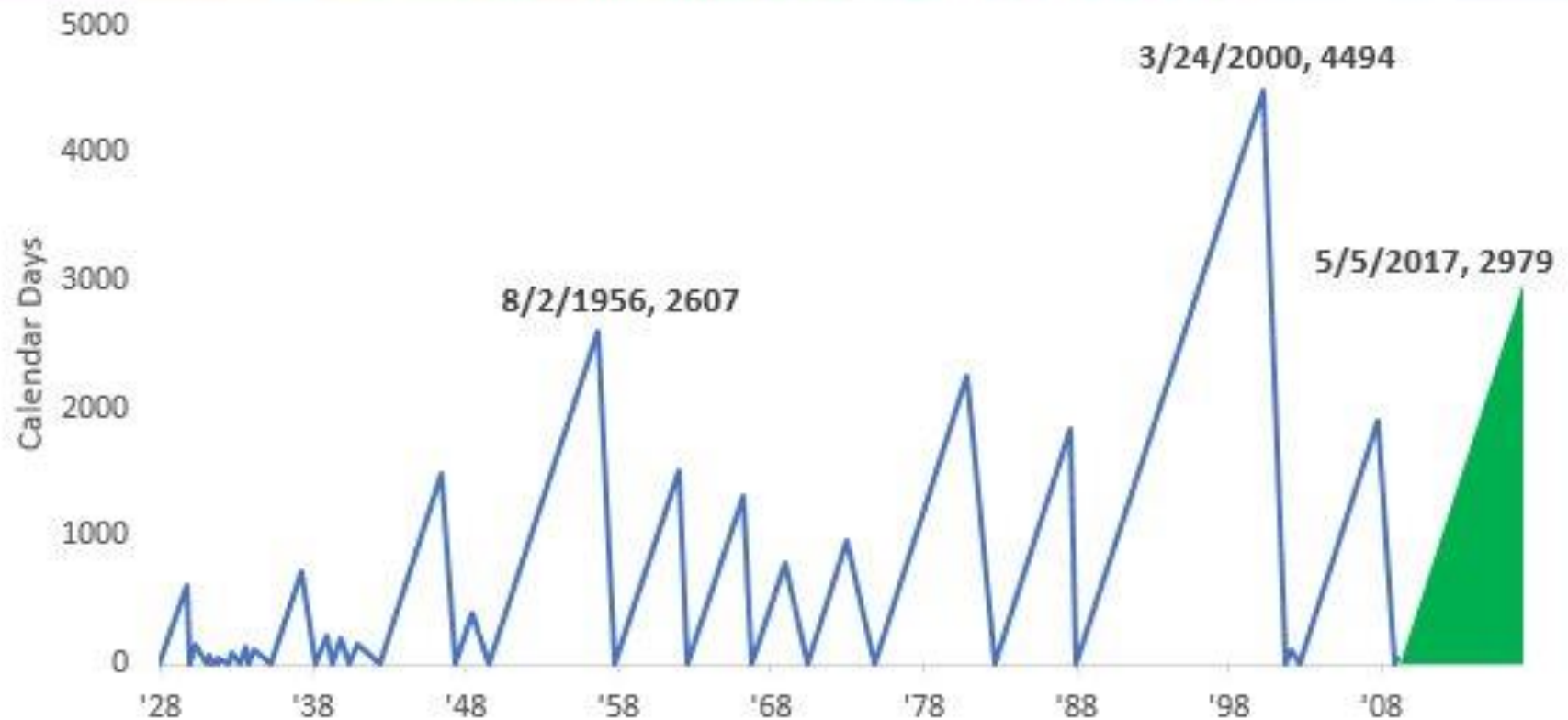
**It is critical to balance long-term goals with short-term needs.**

## Why Institutional Investors Underperform \*

1. High Fees Reduce Returns
2. Lack of Discipline
3. Excessive Trading / Costs
4. Incoherent Investment Philosophy
5. High Turnover
6. Over Confidence
7. Deviating from Strategy (“style drift”)
8. Believing Forecasts / Predictions
9. Over-Concentration of Holdings
10. Emotional Decision-making

**Philosophy, Strategy, Process and Discipline**





**This is the 2<sup>nd</sup> longest bull market in history**

### S&P 500 Bear Markets Since WWII

S&P 500 Peak	Subsequent Drawdown	P/E Ratio (TTM)	CAPE Ratio	10 Year Treasury Yield	Dividend Yield	Inflation Rate (TTM)
May 1946	-26.6%	22.8	16.0	2.2%	3.6%	3.4%
June 1948	-20.6%	9.0	11.6	2.4%	6.0%	9.5%
July 1957	-20.7%	13.6	16.9	3.9%	3.7%	3.3%
Jan. 1962	-26.4%	20.4	21.2	4.1%	2.9%	0.7%
Feb. 1966	-22.2%	17.4	23.7	4.8%	3.0%	2.6%
Nov. 1968	-36.1%	18.8	22.2	5.7%	3.0%	4.7%
Jan. 1973	-48.2%	17.1	18.7	6.5%	2.6%	3.6%
Sept. 1976	-19.4%	11.0	11.8	7.6%	3.7%	5.5%
Nov. 1980	-27.1%	9.5	9.7	12.7%	4.8%	12.6%
July 1987	-33.5%	20.1	17.3	8.5%	2.8%	3.9%
July 1990	-19.9%	16.4	17.8	8.5%	3.3%	4.8%
July 1998	-19.3%	29.4	38.3	5.5%	1.4%	1.7%
Mar. 2000	-49.1%	26.8	43.2	6.3%	1.2%	3.8%
Oct. 2007	-56.8%	23.4	27.3	4.5%	1.8%	3.5%
Apr. 2011	-19.4%	16.3	23.1	3.5%	1.7%	3.2%
<b>Now</b>	<b>???</b>	<b>24.8</b>	<b>28.7</b>	<b>2.4%</b>	<b>1.9%</b>	<b>2.5%</b>

**Lower yields for longer or bear market?**

**Table 3: Historical S&P 500 total returns preceding market peaks since 1937**

Peak	Return			% of cycle return		
	24 months	12 months	6 months	24 months	12 months	6 months
Mar-37	129%	33%	19%	58%	12%	7%
May-46	72%	33%	15%	46%	19%	8%
Aug-56	74%	20%	15%	24%	5%	3%
Dec-61	32%	32%	11%	34%	34%	11%
Feb-66	30%	11%	11%	34%	12%	12%
Nov-68	44%	18%	12%	82%	35%	23%
Jan-73	39%	19%	14%	52%	25%	17%
Nov-80	65%	39%	29%	44%	25%	18%
Aug-87	93%	40%	20%	46%	18%	8%
Jul-90	45%	15%	10%	65%	21%	14%
Mar-00	42%	22%	20%	11%	5%	4%
Oct-07	36%	18%	9%	38%	18%	9%
Average	58%	25%	16%	44%	19%	11%
Median	45%	21%	14%	45%	19%	10%
Min	30%	11%	9%	11%	5%	3%
Max	129%	40%	29%	82%	35%	23%

Source: BofA Merrill Lynch US Equity & Quant Strategy, Bloomberg, S&P

**You don't want to miss the end of a bull market**

<b>President</b>	<b>Inaguration Date</b>	<b>End of Term</b>	<b>Worst Stock Market Drawdown</b>
<b>Herbert Hoover</b>	Mar. 4, 1929	Mar. 3, 1933	-86.19%
<b>Franklin Roosevelt*</b>	Mar. 4, 1933	Jan. 19, 1937	-33.93%
	Jan. 20, 1937	Jan. 19, 1941	-54.47%
	Jan. 20, 1941	Apr. 11, 1945	-28.79%
<b>Harry Truman</b>	Apr. 12, 1945	Jan. 19, 1949	-28.47%
	Jan. 20, 1949	Jan. 19, 1953	-14.02%
<b>Dwight Eisenhower</b>	Jan. 20, 1953	Jan. 20, 1957	-14.43%
	Jan. 21, 1957	Jan. 19, 1961	-20.66%
<b>John F. Kennedy*</b>	Jan. 20, 1961	Jan. 19, 1965	-27.97%
<b>Lyndon Johnson</b>	Jan. 20, 1965	Jan. 19, 1969	-22.18%
<b>Richard Nixon**</b>	Jan. 20, 1969	Jan. 19, 1973	-34.73%
	Jan. 20, 1973	Jan. 19, 1977	-47.32%
<b>Jimmy Carter</b>	Jan. 20, 1977	Jan. 19, 1981	-17.07%
<b>Ronald Reagan</b>	Jan. 20, 1981	Jan. 20, 1985	-25.30%
	Jan. 21, 1985	Jan. 19, 1989	-33.51%
<b>George Bush</b>	Jan. 20, 1989	Jan. 19, 1993	-19.92%
<b>Bill Clinton</b>	Jan. 20, 1993	Jan. 19, 1997	-8.94%
	Jan. 20, 1997	Jan. 19, 2001	-19.34%
<b>George W. Bush</b>	Jan. 20, 2001	Jan. 19, 2005	-43.46%
	Jan. 20, 2005	Jan. 19, 2009	-51.93%
<b>Barack Obama</b>	Jan. 20, 2009	Jan. 19, 2013	-22.60%
	Jan. 21, 2013	Jan. 19, 2017	-14.16%
<b>Donald Trump</b>	Jan. 20, 2017	???	???

\*Lyndon Johnson sworn in Nov. 22. 1963

\*\*Gerald Ford sworn in Aug. 9, 1974

**The market goes down under every President**


S&P 500 Bear Markets (defined by 20% Peak to Trough Decline): 1929 - Present						
Bear Market Period (Highlight = no Recession)	Bear Market Length (Months)	NBER Recessions	Length of Recession (Months)	S&P Start	S&P End	% Change
May 2011 to Oct 2011	5			1371	1075	-22%
Oct 2007 to Mar 2009	17	Dec 2007 to Jun 2009	18	1576	667	-58%
Mar 2000 to Oct 2002	31	Mar 2001 to Nov 2001	8	1553	769	-51%
Jul 1998 to Oct 1998	3			1191	923	-22%
Jul 1990 to Oct 1990	3	Jul 1990 to Mar 1991	8	370	295	-20%
Aug 1987 to Oct 1987	2			338	216	-36%
Nov 1980 to Aug 1982	22	Jul 1981 to Nov 1982	16	142	102	-28%
Sep 1976 to Mar 1978	18			109	86	-20%
Jan 1973 to Oct 1974	21	Nov 1973 to Mar 1975	16	122	61	-50%
Dec 1968 to May 1970	17	Dec 1969 to Nov 1970	11	109	69	-37%
Feb 1966 to Oct 1966	8			95	72	-24%
Dec 1961 to Jun 1962	6			73	51	-29%
Aug 1956 to Oct 1957	14	Aug 1957 to Apr 1958	8	50	39	-21%
Jun 1948 to Jun 1949	12	Nov 1948 to Oct 1949	11	17	14	-21%
May 1946 to May 1947	12			19	14	-28%
Nov 1938 to Apr 1942	36			14	7	-46%
Mar 1937 to Mar 1938	12	May 1937 to Jun 1938	13	19	9	-54%
Jul 1933 to Mar 1935	20			12	8	-34%
Sep 1932 to Feb 1933	5			9	6	-41%
Sep 1929 to Jun 1932	33	Aug 1929 to Mar 1933	43	32	4	-86%
Average Without Recession	12					-30%
Average With Recession	17					-43%
Average All	15					-36%

Source: via Pension Partners

Significant declines can happen without a recession.

S&P 500: Max Intra-Year Drawdowns (1928 - 2017)									
Year	Return	Year	Return	Year	Return	Year	Return	Year	Return
1928	-10.3%	1946	-26.6%	1964	-3.5%	1982	-16.6%	2000	-17.2%
1929	-44.6%	1947	-14.7%	1965	-9.6%	1983	-6.9%	2001	-29.7%
1930	-44.3%	1948	-13.5%	1966	-22.2%	1984	-12.7%	2002	-33.8%
1931	-57.5%	1949	-13.2%	1967	-6.6%	1985	-7.7%	2003	-14.1%
1932	-51.0%	1950	-14.0%	1968	-9.3%	1986	-9.4%	2004	-8.2%
1933	-29.4%	1951	-8.1%	1969	-16.0%	1987	-33.5%	2005	-7.2%
1934	-29.3%	1952	-6.8%	1970	-25.9%	1988	-7.6%	2006	-7.7%
1935	-15.9%	1953	-14.8%	1971	-13.9%	1989	-7.6%	2007	-10.1%
1936	-12.8%	1954	-4.4%	1972	-5.1%	1990	-19.9%	2008	-48.8%
1937	-45.5%	1955	-10.6%	1973	-23.4%	1991	-5.7%	2009	-27.6%
1938	-28.9%	1956	-10.8%	1974	-37.6%	1992	-6.2%	2010	-16.0%
1939	-21.2%	1957	-20.7%	1975	-14.1%	1993	-5.0%	2011	-19.4%
1940	-29.6%	1958	-4.4%	1976	-8.4%	1994	-8.9%	2012	-9.9%
1941	-22.9%	1959	-9.2%	1977	-15.6%	1995	-2.5%	2013	-5.8%
1942	-17.8%	1960	-13.4%	1978	-13.6%	1996	-7.6%	2014	-7.4%
1943	-13.1%	1961	-4.4%	1979	-10.2%	1997	-10.8%	2015	-12.4%
1944	-6.9%	1962	-26.9%	1980	-17.1%	1998	-19.3%	2016	-10.5%
1945	-6.9%	1963	-6.5%	1981	-18.4%	1999	-12.1%	2017	-2.8%

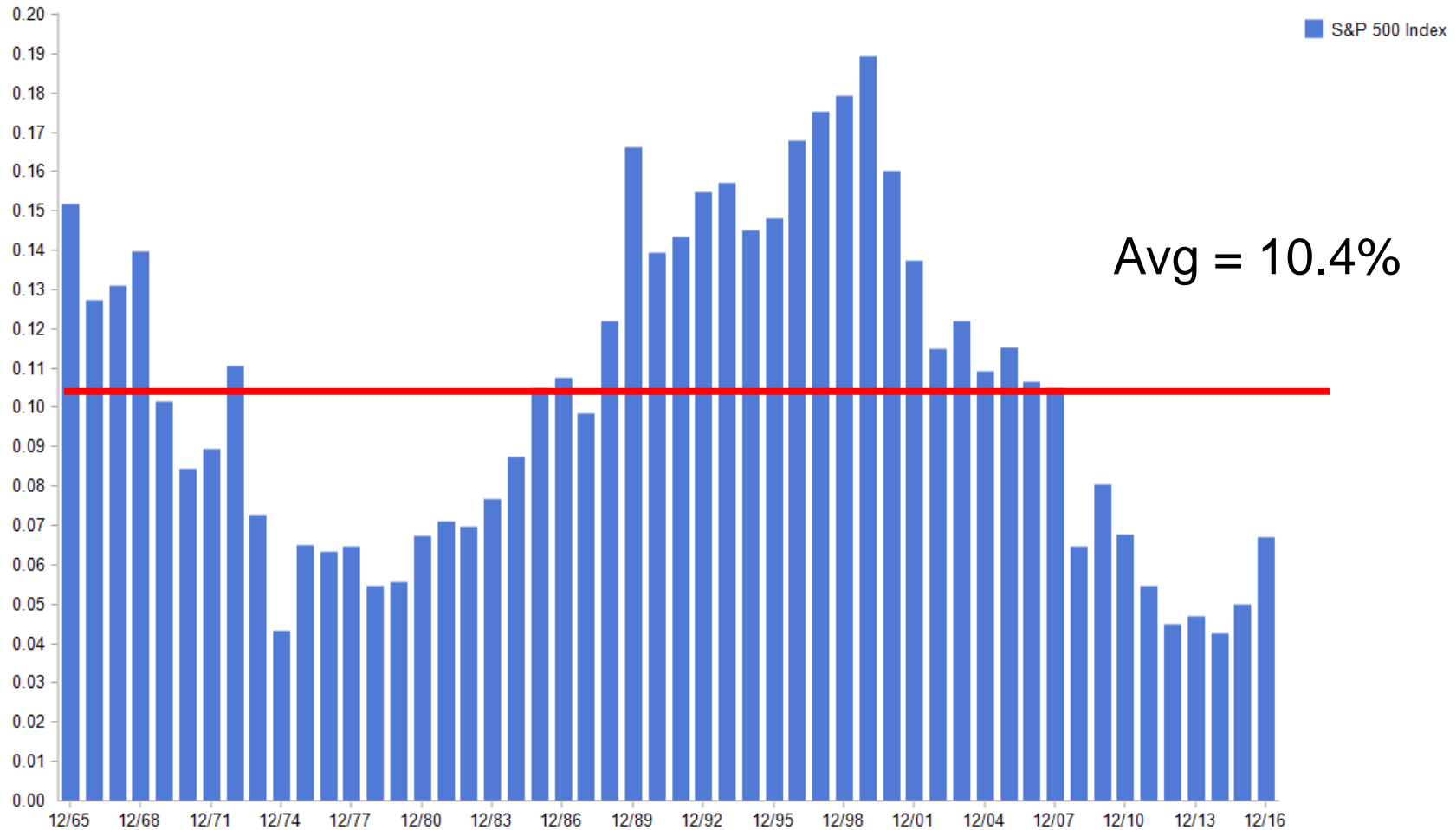
Pension Partners  
THE AT&T ROTATION MANAGER

 @CharlieBilello

**This has been one of the least volatile years so far!**

## Rolling Returns Chart

01/1965 - 12/2016 ; Default Currency: USD, Rolling Span: 15 Years, Step Interval: 1 Year



**Focus on the long-term.  
15 yr. rolling periods since 1950!**

## Asset Class Performance YTD, QTD, and This Week - Total Return (%)

6/30/17

US Related		This			Global		This		
ETF	Description	Week	Q2	YTD	ETF	Description	Week	Q2	YTD
SPY	S&P 500	-0.55	3.07	9.17	EWA	Australia	1.50	-2.00	9.52
DIA	Dow 30	-0.23	3.93	9.19	EWZ	Brazil	3.33	-8.09	3.26
QQQ	Nasdaq 100	-2.55	4.26	16.73	EWC	Canada	1.52	0.37	3.18
IJH	S&P Midcap 400	0.18	1.95	5.91	ASHR	China	2.02	8.48	16.25
IJR	S&P Smallcap 600	0.35	1.67	2.60	EWQ	France	-0.38	10.36	18.59
IWB	Russell 1000	-0.48	3.06	9.15	EWG	Germany	-0.88	7.34	16.54
IWM	Russell 2000	0.01	2.50	4.80	EWH	Hong Kong	-0.34	7.09	22.32
IWV	Russell 3000	-0.48	2.94	8.75	PIN	India	-0.74	0.53	19.45
					EWI	Italy	1.02	9.97	16.92
IVW	S&P 500 Growth	-1.46	4.42	13.15	EWJ	Japan	-0.74	4.85	10.51
IJK	Midcap 400 Growth	-0.29	3.23	8.39	EWV	Mexico	0.71	6.58	24.03
IJT	Smallcap 600 Growth	-0.09	2.10	4.37	EWP	Spain	1.17	9.02	25.06
IVE	S&P 500 Value	0.56	1.45	4.67	RSX	Russia	1.70	-7.26	-9.66
IJJ	Midcap 400 Value	0.75	0.48	3.06	EWU	UK	0.88	4.69	11.04
IJS	Smallcap 600 Value	0.89	1.15	0.62					
DVY	DJ Dividend	-0.27	2.02	5.74	EFA	EAFE	0.09	6.38	14.78
RSP	S&P 500 Equalweight	0.00	2.40	7.75	EEM	Emerging Mkts	-0.27	5.57	18.78
					IOO	Global 100	-0.47	4.59	11.44
FXB	British Pound	2.35	3.83	5.45	EEB	BRIC	0.58	1.70	11.34
FXE	Euro	1.96	6.84	8.04					
FXV	Yen	-1.11	-1.14	3.65	DBC	Commodities	4.56	-5.00	-8.78
					USO	Oil	7.22	-10.71	-18.94
XLY	Cons Disc	0.12	2.22	10.78	UNG	Nat. Gas	2.73	-10.44	-27.41
XLP	Cons Stap	-0.99	1.44	7.64	GLD	Gold	-1.18	-0.59	7.67
XLE	Energy	0.84	-6.50	-12.70	SLV	Silver	-0.51	-8.93	3.97
XLF	Financials	3.26	4.36	6.90					
XLV	Health Care	-1.53	6.98	15.82	SHY	1-3 Yr Treasuries	-0.07	0.18	0.39
XLI	Industrials	0.15	5.18	10.48	IEF	7-10 Yr Treasuries	-1.10	1.42	2.47
XLB	Materials	-0.07	3.15	9.12	TLT	20+ Yr Treasuries	-2.08	4.31	6.13
XLK	Technology	-2.81	3.06	14.05	AGG	Aggregate Bond	-0.49	1.58	2.40
IYZ	Telecom	-0.38	0.36	-5.13	BND	Total Bond Market	-0.51	1.56	2.34
XLU	Utilities	-2.35	2.08	8.66	TIP	T.I.P.S.	-0.77	-0.46	0.84

**International, tech and HC have led in 2017**



6/30/17

Figure 10. Global Bear Market Checklist

	Start Of Proper Bear Markets		Now
	Mar-00	Oct-07	
<b>Global Equity Valuations</b>			
Trailing PE	33	17	20
Fwd PE	24	14	16
DY	1.3	2.1	2.4
CAPE	48	30	23
Global Equity Risk Premium	1.0%	3.3%	4.0%
<b>US Yield Curve (10Y minus 2Y)</b>	-0.5	0.0	0.9
<b>Sentiment</b>			
Global Analyst Bullishness (std dev)	1.7	1.0	-0.3
US Panic Euphoria Model	1.09	0.42	0.1
Global Equity Fund Flows Previous 12m	\$300bn	\$50bn	\$145bn
<b>Corporate Behaviour</b>			
Global Capex Growth (YoY)	8% (1999)	11% (2007)	3% (2017e)
M&A (Previous 6m as % of Mkt cap)	6.1%	4.2%	2.3%
IPOs (Previous 12m as % of DM Mkt cap)	0.70%	0.40%	0.20%
<b>Profitability</b>			
Global RoE	12.2%	16.1%	10.9%
Global EPS Growth, Previous 12m change (peak to trough)	14% (-38%)	14% (-57%)	+10%
<b>Balance sheets / credit markets</b>			
Asset/Equity (US Financials)	16x	16x	10x
Net Debt/EBITDA (US ex Fins)	1.8x	1.4x	1.6x
US HY Bond Spread	600bp	600bp	398bp
US IG Bond Spread	175bp	175bp	116bp
<b># of sell signals</b>	17.5/18	13/18	2/18
Source: Citi Research. Shading colour code: Red= worrying, Amber = perhaps, White = not worrying.*Consensus			
Source: Citi Research			

Valuations are high but not like 2000 or 2007

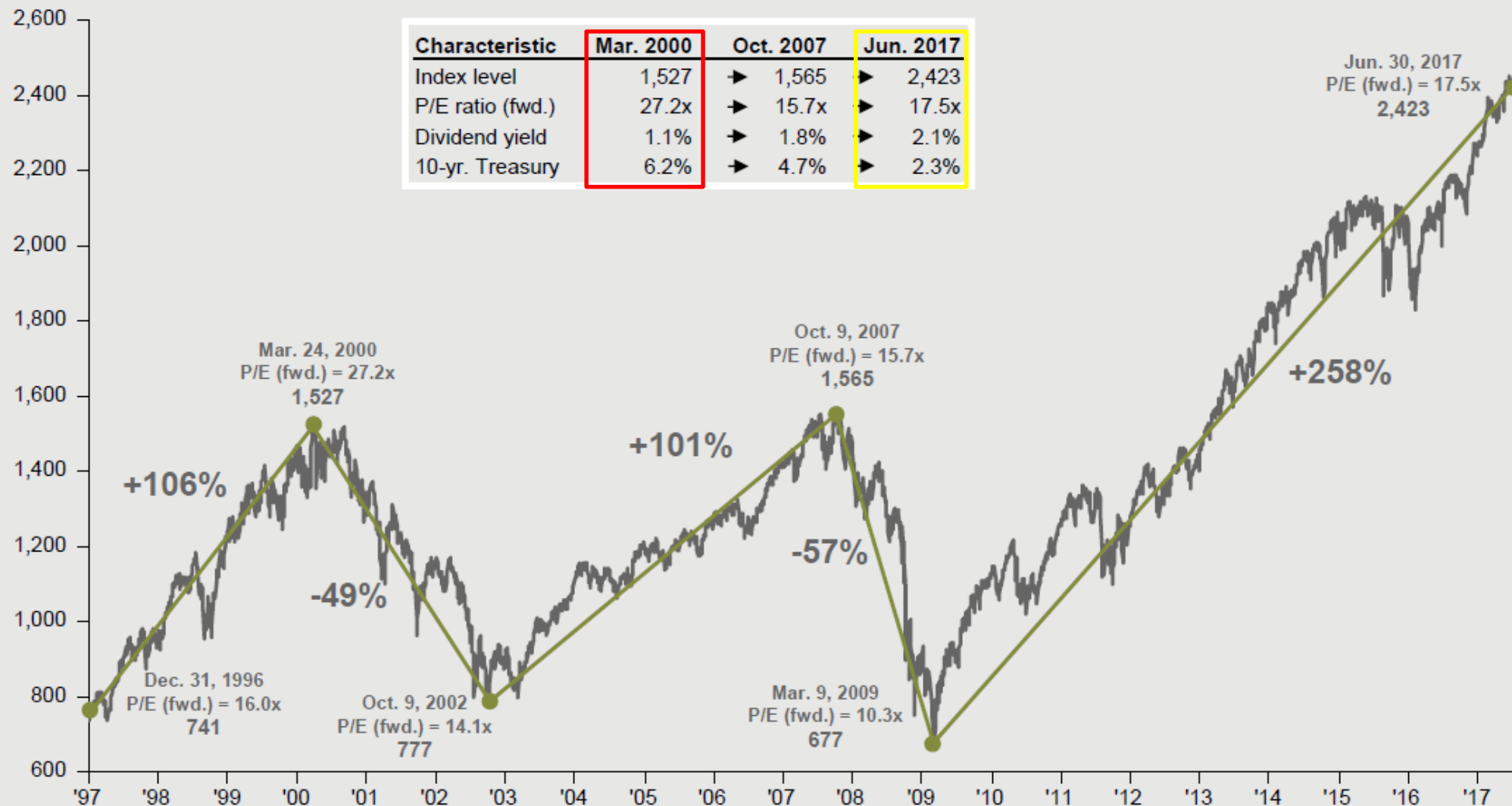
## Economic Indicators

Economic Indicator	Status	Comments
Growth		Recent data suggest that the second quarter rebound will fall short of earlier expectations, but the underlying trend should be a bit above the long-term sustainable pace (1.5-2.0%).
Employment		Growth in nonfarm payrolls appears to be slowing down as the job market gets tighter, still above a pace consistent with population growth.
Consumer Spending		Wage and job growth have remained supportive, but the 2Q17 rebound has been less than expected. Flat or lower gasoline prices should lead to a rebound in purchasing power.
Business Investment		Businesses remain generally optimistic. The energy rebound has helped. However, the first quarter's pace of improvement may be difficult to maintain.
Manufacturing		Uneven in recent months, factory output has improved following a soft patch in recent years. The underlying trend does not appear especially strong by historical standards.
Housing and Construction		Weather provided a boost in 1Q17. Builders continue to note supply constraints (lack of lots on which to build, a scarcity of skilled labor, higher construction costs).
Inflation		Uneven in the first few months of the year (not unusual), the underlying trend in consumer price inflation remains below the Fed's goal. Pipeline pressure have been mixed. Wage pressures are somewhat higher than a couple of years ago, but are not especially strong.
Monetary Policy		The Fed expects to raise short-term interest rates gradually and has issued guidelines for how it will reduce the size of the balance sheet. Personnel changes (three vacancies on the Fed's Board of Governors, Yellen's term as chair runs to February 3) add uncertainty.
Long-Term Interest Rates		Constraints on the Trump agenda have reduced concerns of a large surge in the federal budget deficit. Inflation pressures do not appear to be as strong as feared. Lower interest rates abroad should keep U.S. bond yields from rising rapidly
Fiscal Policy		State and local government budgets are in better shape and spending should add a bit to overall GDP growth. At the federal level, the timing, character, and scale of infrastructure spending and tax cuts is very much in doubt, but (while hope remains) expectations have been pared back.
The Dollar		Likely range-bound in the near term, with Fed policy (dollar-positive if tightening continues) and Washington turmoil (dollar-negative) seen as competing forces.
Rest of the World		Brexit negotiations should be difficult for the U.K. and Chinese debt levels are a concern. However, the global economic outlook is a bit brighter. The possibility of trade conflicts is a decreased risk, but one that is still hard to gauge.

Economy looks in good shape & confidence is high.

# S&P 500 Index at inflection points

## S&P 500 Price Index



**Stocks are up big since 2009.**

## S&P 500 Index: Forward P/E ratio



**Stocks are not that expensive.**

Source: Price  
1989, trailing  
divide  
minus

seasoned corporate bond yield. Std. dev. over-/under-valued is calculated using the average and standard deviation over 25 years for each measure. \*P/CF is a 20-year average due to cash flow data availability. Guide to the Markets – U.S. Data are as of June 30, 2017.

# Returns and valuations by style

## QTD

	Value	Blend	Growth
Large	1.3%	3.1%	4.7%
Mid	1.4%	2.7%	4.2%
Small	0.7%	2.5%	4.4%

## YTD

	Value	Blend	Growth
Large	4.7%	9.3%	14.0%
Mid	5.2%	8.0%	11.4%
Small	0.5%	5.0%	10.0%

## Since market peak (October 2007)

	Value	Blend	Growth
Large	67.9%	91.2%	119.4%
Mid	102.5%	103.9%	102.3%
Small	81.5%	91.8%	101.2%

## Since market low (March 2009)

	Value	Blend	Growth
Large	318.6%	327.2%	347.4%
Mid	416.9%	391.9%	367.7%
Small	348.8%	362.5%	374.8%

## Current P/E vs. 15-year avg. P/E\*

	Value	Blend	Growth
Large	15.7 / 13.1	17.5 / 14.4	20.4 / 16.6
Mid	16.3 / 14.1	18.0 / 15.7	21.0 / 18.1
Small	19.0 / 16.9	24.6 / 20.2	34.2 / 25.4

## Current P/E as % of 15-year avg. P/E\*

	Value	Blend	Growth
Large	119.3%	120.9%	122.9%
Mid	115.6%	114.8%	116.2%
Small	112.8%	121.7%	134.6%

**In 2017, Growth has led.**

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 10/9/07 – 6/30/17

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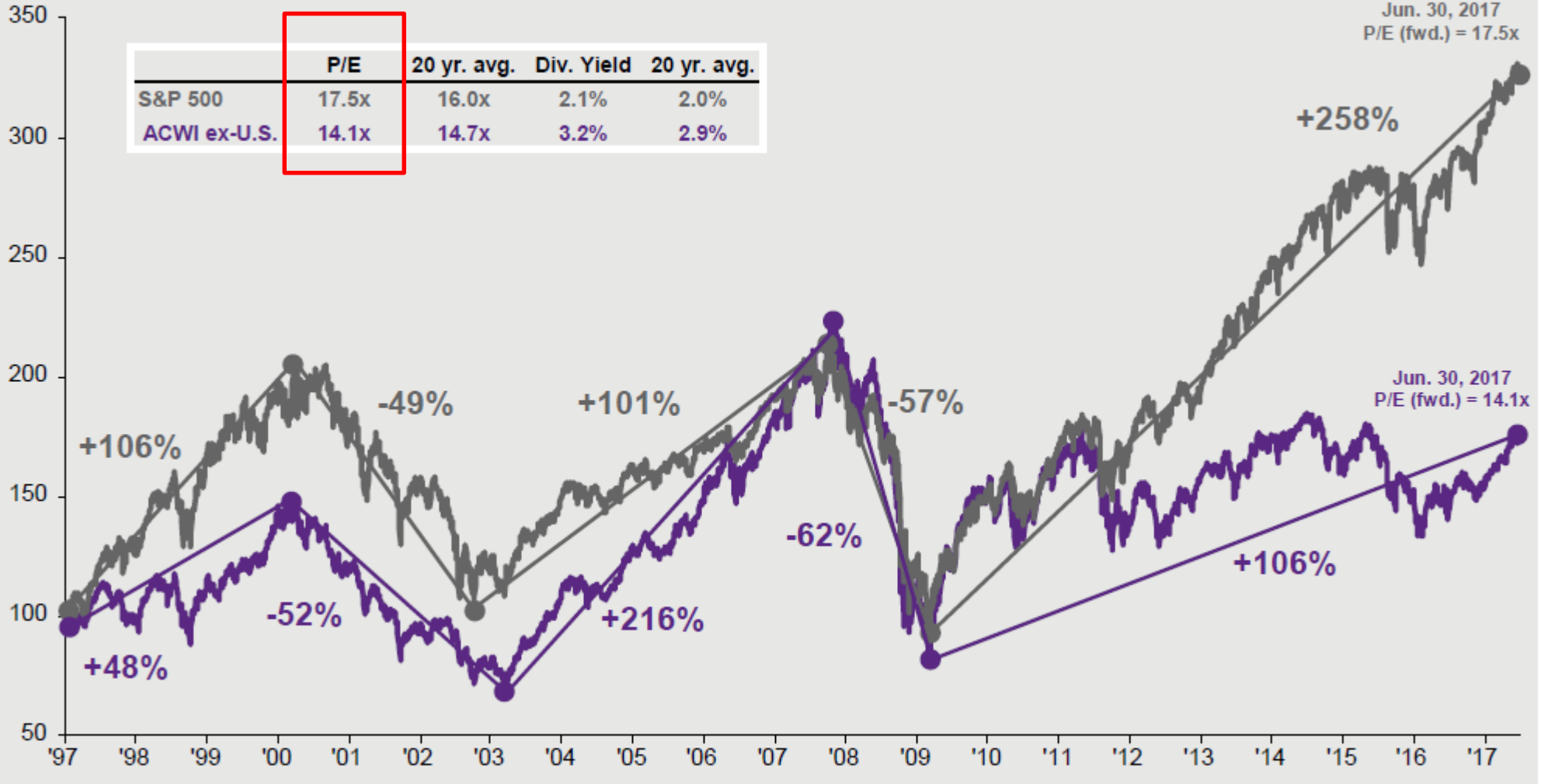
Market Aggregates.

Guide to the Markets – U.S. Data are as of June 30, 2017.

# U.S. and international equities at inflection points

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

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

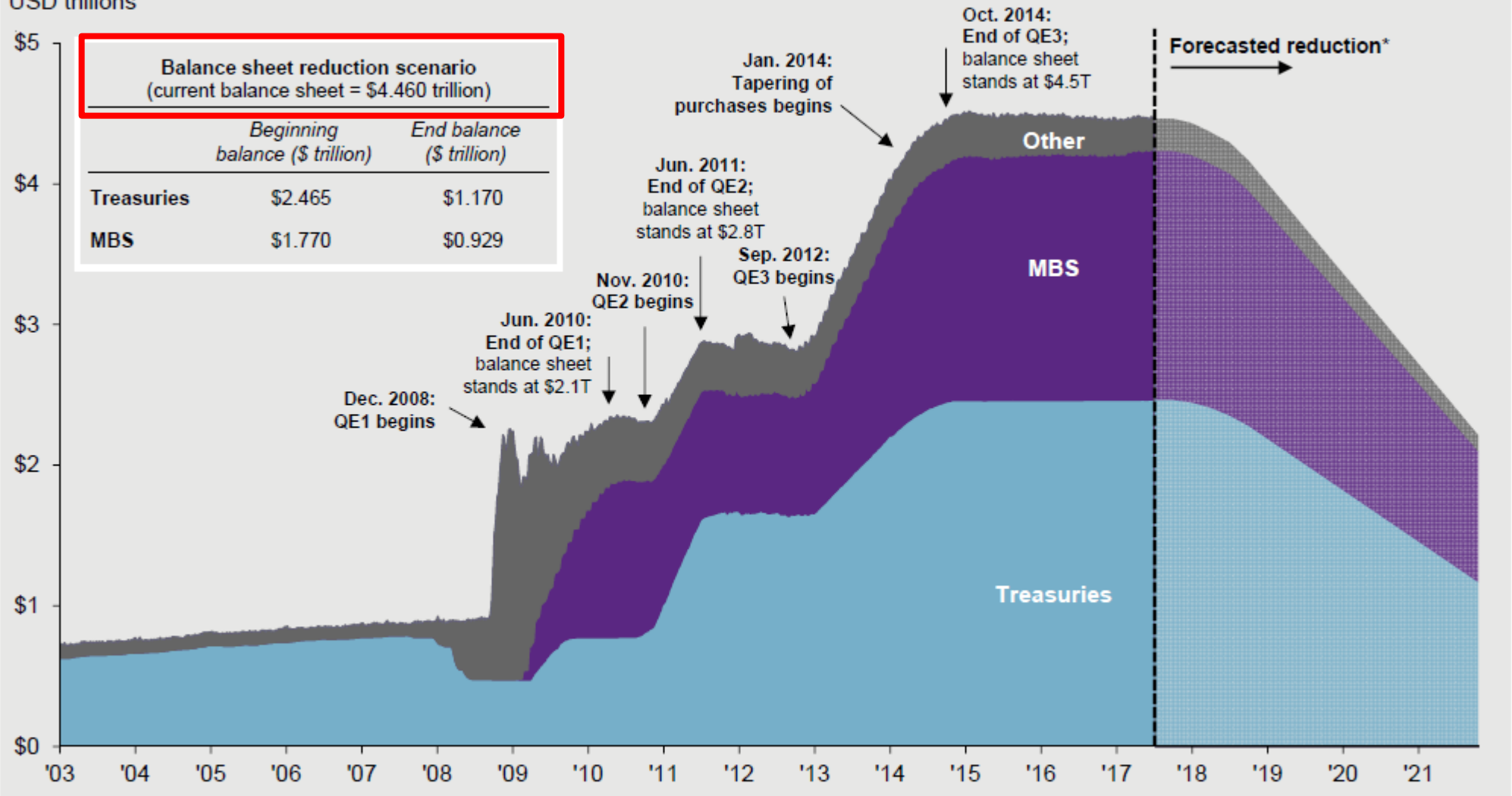


Source: MSCI, Standard & Poor's, FactSet, J.P. Morgan Asset Management.

**US stocks have led since 2009.**

The Federal Reserve balance sheet

USD trillions



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

\*Balance sheet reduction assumes reduction from current level, beginning October 2017 and lasting four years, concluding in October 2021. Reduction of Treasuries and MBS is per FOMC guidelines from the June 2017 meeting minutes: Treasury securities will be reduced \$6 billion per month initially and reduction rate will increase in steps of \$6 billion at three-month intervals over 12 months until reaching \$30 billion per month; MBS will be reduced \$4 billion per month initially and reduction rate will increase in steps of \$4 billion at three-month intervals over 12 months until reaching \$20 billion per month; Other assets are reduced in proportion. Forecasts do not take into account months where maturing assets do not exceed the stated cap nor do they consider the reinvestment of principal or interest repayment in excess of the stated cap.







Guide to the Markets – U.S. Data are as of June 30, 2017.

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# Market Summary

## Index Returns

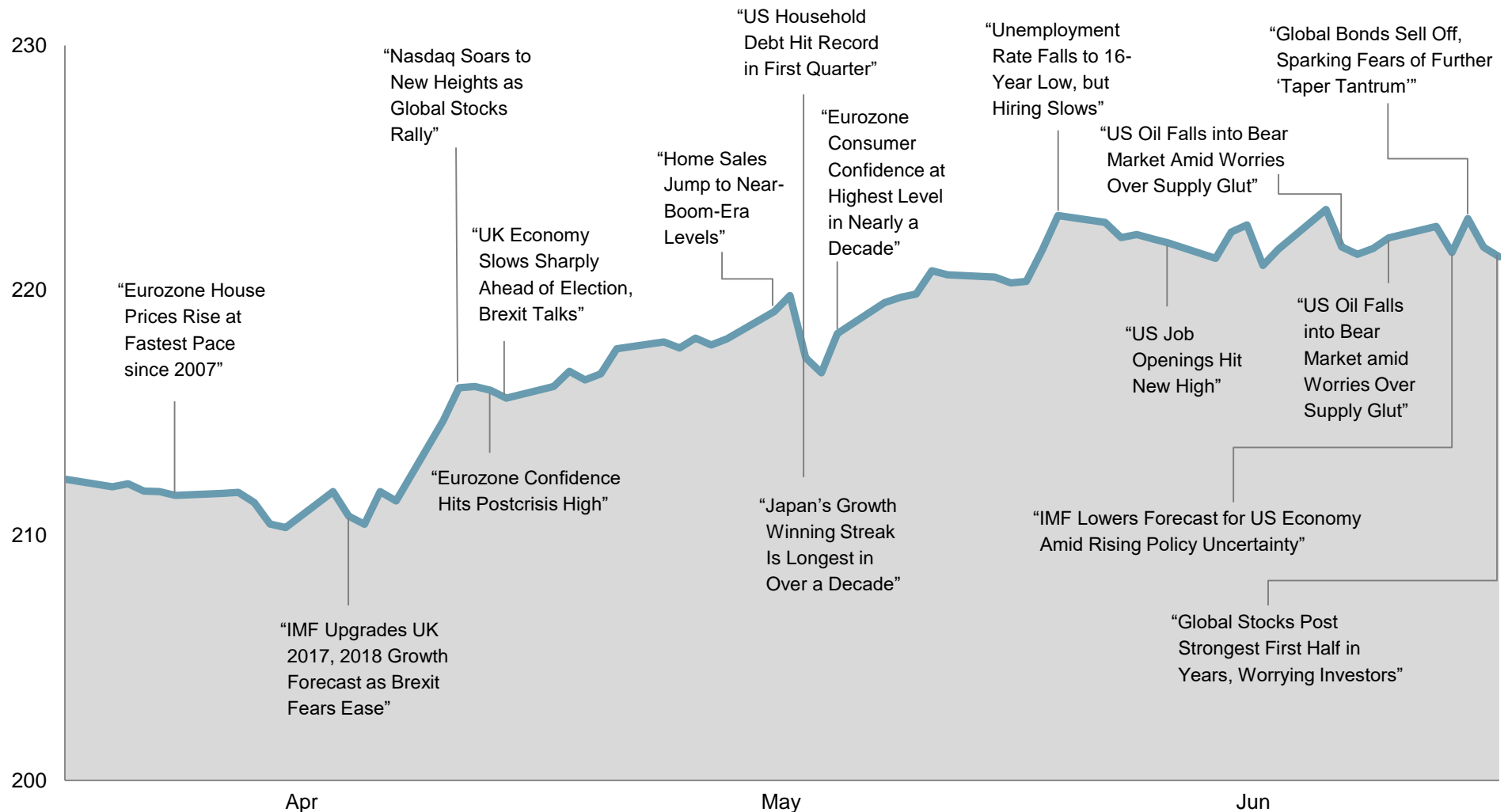
	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
<b>Q2 2017</b>	<b>STOCKS</b>				<b>BONDS</b>	
	3.02%	5.63%	6.27%	1.67%	1.45%	0.60%
						
<b>Since Jan. 2001</b>						
Avg. Quarterly Return	1.9%	1.5%	3.1%	2.7%	1.2%	1.1%
Best Quarter	16.8% Q2 2009	25.9% Q2 2009	34.7% Q2 2009	32.3% Q3 2009	4.6% Q3 2001	5.5% Q4 2008
Worst Quarter	-22.8% Q4 2008	-21.2% Q4 2008	-27.6% Q4 2008	-36.1% Q4 2008	-3.0% Q4 2016	-3.2% Q2 2015

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net div.]), Emerging Markets (MSCI Emerging Markets Index [net div.]), Global Real Estate (S&P Global REIT Index [net div.]), US Bond Market (Bloomberg Barclays US Aggregate Bond Index), and Global Bond ex US Market (Citi WGBI ex USA 1-30 Years [Hedged to USD]). The S&P data are provided by Standard & Poor's Index Services Group. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2017, all rights reserved. Bloomberg Barclays data provided by Bloomberg. Citi fixed income indices copyright 2017 by Citigroup.



# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q2 2017



These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

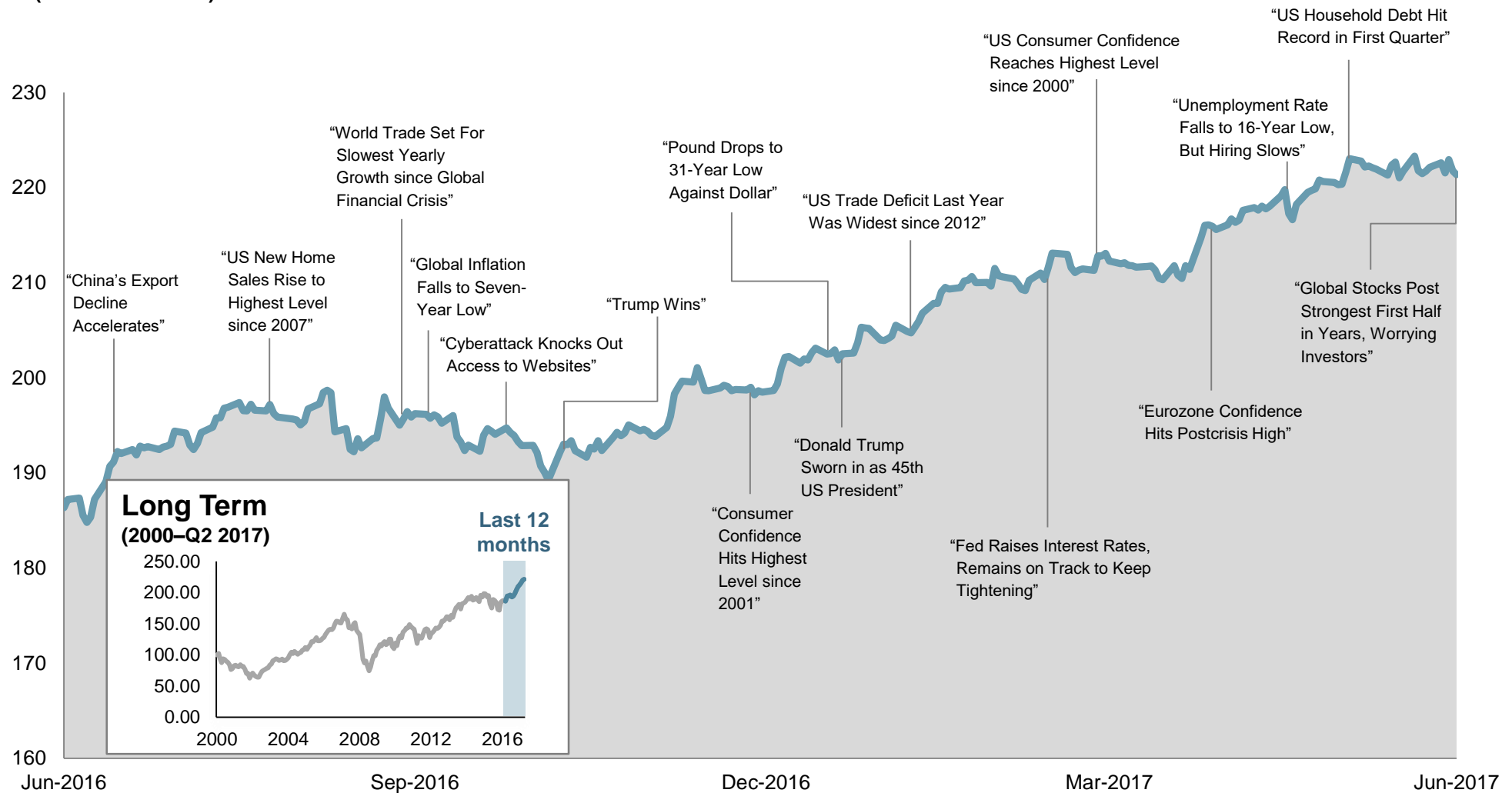
Graph Source: MSCI ACWI Index [net div.]. MSCI data © MSCI 2017, all rights reserved.

It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio. Past performance is not a guarantee of future results.

# World Stock Market Performance

MSCI All Country World Index with selected headlines from past 12 months

## Short Term (Q3 2016–Q2 2017)



These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index [net div.]. MSCI data © MSCI 2017, all rights reserved.

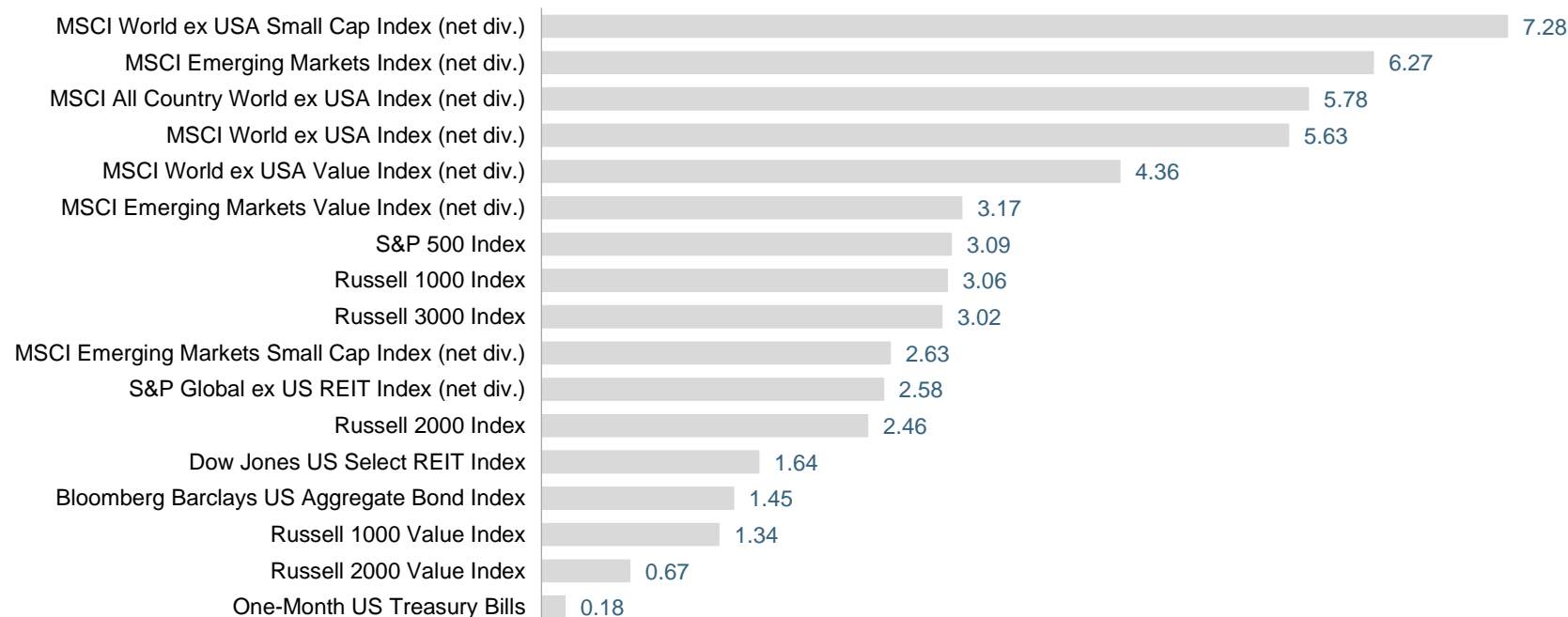
It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio. **Past performance is not a guarantee of future results.**

# World Asset Classes

## Second Quarter 2017 Index Returns (%)

Looking at broad market indices, non-US developed markets and emerging markets recorded similar returns, outperforming the US during the quarter.

The value effect was negative in the US, non-US, and emerging markets. Small caps outperformed large caps in non-US developed markets but underperformed in the US and emerging markets.



Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. The S&P data is provided by Standard & Poor's Index Services Group. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2017, all rights reserved. Dow Jones data (formerly Dow Jones Wilshire) provided by Dow Jones Indices. Bloomberg Barclays data provided by Bloomberg. Treasury bills © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

# US Stocks

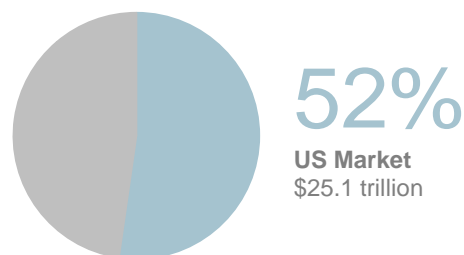
## Second Quarter 2017 Index Returns

The broad US equity market posted positive returns for the quarter but underperformed both non-US developed and emerging markets.

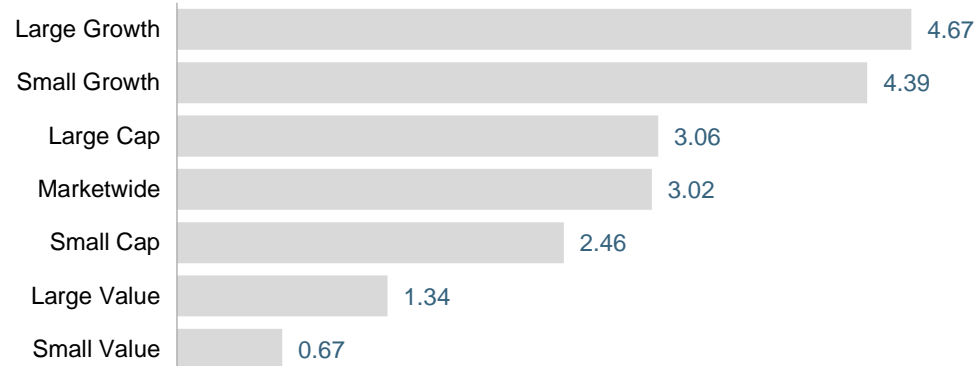
Value underperformed growth indices in the US across all size ranges.

Small caps in the US underperformed large caps.

### World Market Capitalization—US



### Ranked Returns for the Quarter (%)



### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Marketwide	8.93	18.51	9.10	14.58	7.26
Large Cap	9.27	18.03	9.26	14.67	7.29
Large Value	4.66	15.53	7.36	13.94	5.57
Large Growth	13.99	20.42	11.11	15.30	8.91
Small Cap	4.99	24.60	7.36	13.70	6.92
Small Value	0.54	24.86	7.02	13.39	5.92
Small Growth	9.97	24.40	7.64	13.98	7.82

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Marketwide (Russell 3000 Index), Large Cap (Russell 1000 Index), Large Cap Value (Russell 1000 Value Index), Large Cap Growth (Russell 1000 Growth Index), Small Cap (Russell 2000 Index), Small Cap Value (Russell 2000 Value Index), and Small Cap Growth (Russell 2000 Growth Index). World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. Russell 3000 Index is used as the proxy for the US market. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2017, all rights reserved.

# International Developed Stocks

## Second Quarter 2017 Index Returns

In US dollar terms, developed markets outperformed the US equity market and had similar performance to emerging markets indices during the quarter.

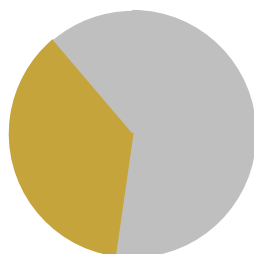
Looking at broad market indices, the value effect was negative across all size ranges in non-US developed markets.

Small caps outperformed large caps in non-US developed markets.

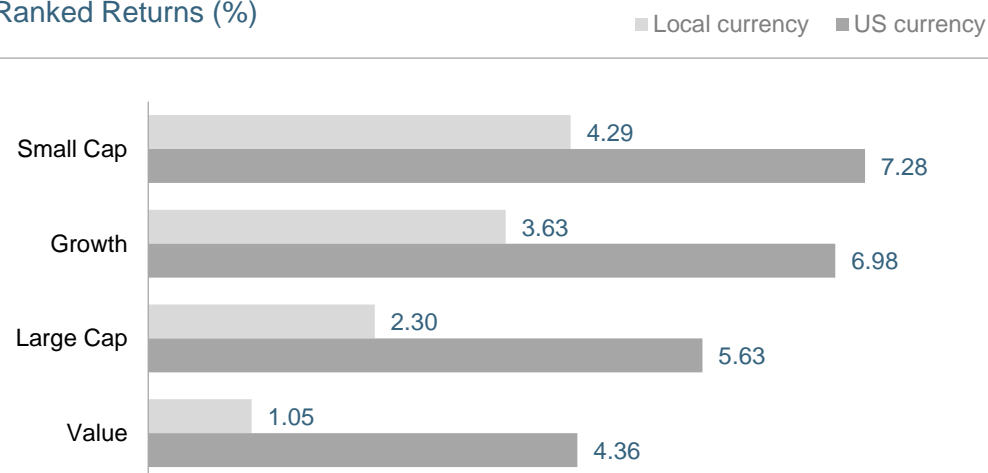
### World Market Capitalization—International Developed

**36%**

International  
Developed  
Market  
\$17.5 trillion



### Ranked Returns (%)



### Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Large Cap	12.82	19.49	0.67	8.15	1.00
Small Cap	15.45	21.26	4.02	11.43	2.92
Value	10.27	24.24	-0.94	7.69	0.09
Growth	15.57	14.90	2.22	8.54	1.84

\* Annualized

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Large Cap (MSCI World ex USA Index), Small Cap (MSCI World ex USA Small Cap Index), Value (MSCI World ex USA Value Index), and Growth (MSCI World ex USA Growth). All index returns are net of withholding tax on dividends. World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. MSCI World ex USA IMI Index is used as the proxy for the International Developed market. MSCI data © MSCI 2017, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# Emerging Markets Stocks

## Second Quarter 2017 Index Returns

In US dollar terms, emerging markets indices outperformed the US and recorded similar performance to developed markets outside the US.

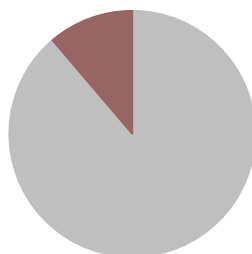
Looking at broad market indices, the value effect was negative across all size ranges in emerging markets.

Small caps underperformed large caps in emerging markets.

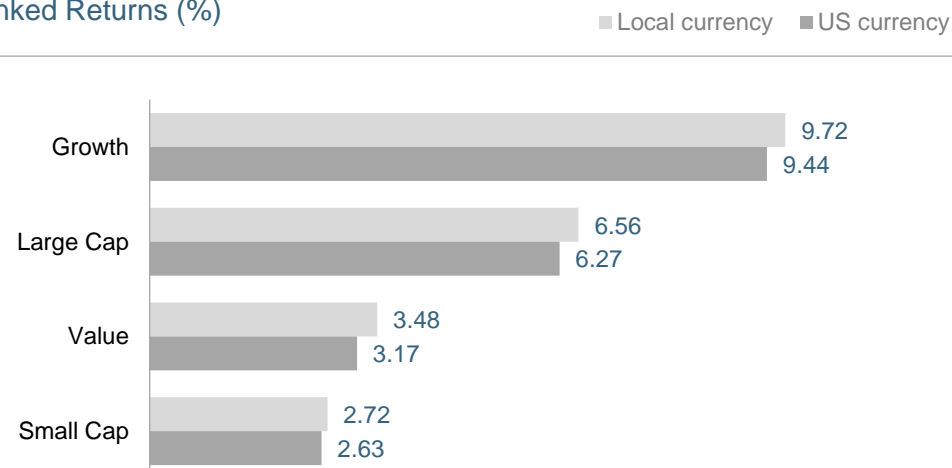
### World Market Capitalization—Emerging Markets

**11%**

Emerging Markets  
\$5.4 trillion



### Ranked Returns (%)



### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Large Cap	18.43	23.75	1.07	3.96	1.91
Small Cap	15.99	17.03	0.81	5.15	2.17
Value	13.65	21.57	-1.33	1.67	1.53
Growth	23.45	25.99	3.42	6.18	2.22

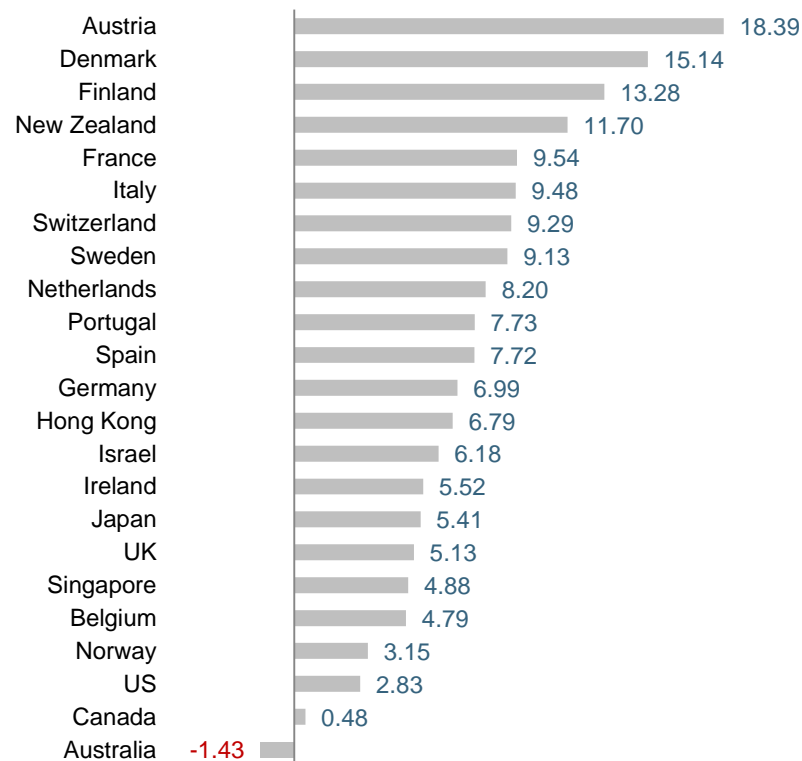
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small Cap (MSCI Emerging Markets Small Cap Index), Value (MSCI Emerging Markets Value Index), and Growth (MSCI Emerging Markets Growth Index). All index returns are net of withholding tax on dividends. World Market Cap represented by Russell 3000 Index, MSCI World ex USA IMI Index, and MSCI Emerging Markets IMI Index. MSCI Emerging Markets IMI Index used as the proxy for the emerging market portion of the market. MSCI data © MSCI 2017, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# Select Country Performance

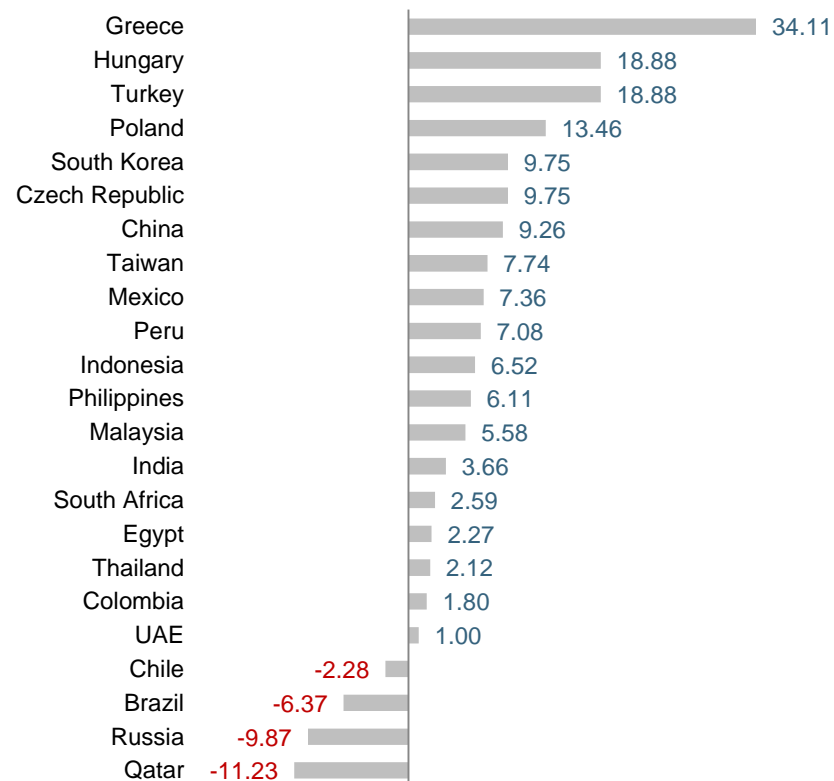
## Second Quarter 2017 Index Returns

In US dollar terms, Austria and Denmark recorded the highest country performance in developed markets, while Australia and Canada posted the lowest returns for the quarter. In emerging markets, Greece, Hungary, and Turkey posted the highest country returns, while Qatar and Russia had the lowest performance.

Ranked Developed Markets Returns (%)



Ranked Emerging Markets Returns (%)



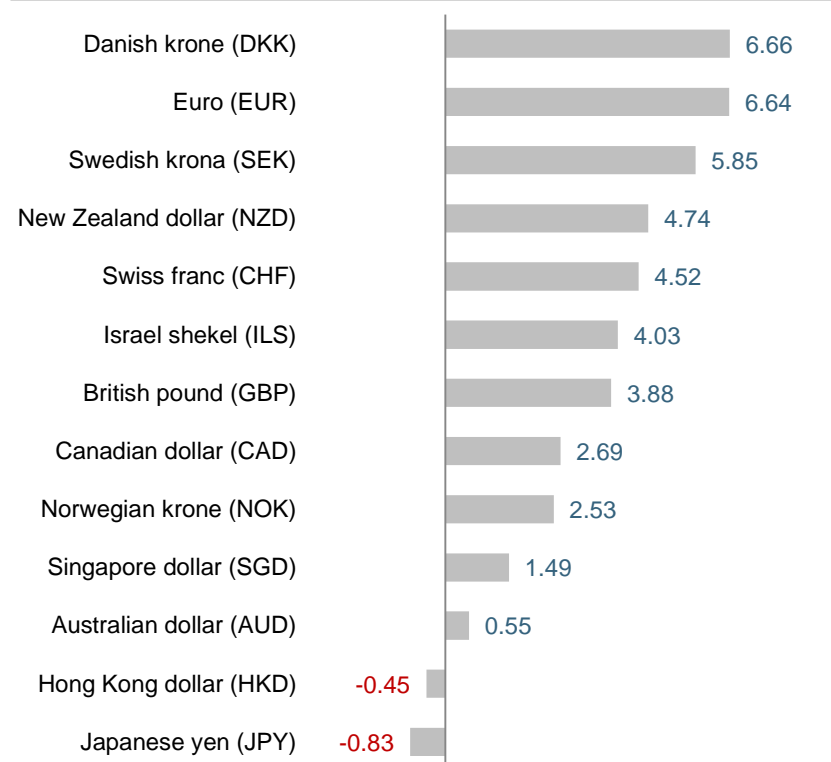
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Country performance based on respective indices in the MSCI World ex US IMI Index (for developed markets), MSCI USA IMI Index (for US), and MSCI Emerging Markets IMI Index. All returns in USD and net of withholding tax on dividends. MSCI data © MSCI 2017, all rights reserved. UAE and Qatar have been reclassified as emerging markets by MSCI, effective May 2014.

# Select Currency Performance vs. US Dollar

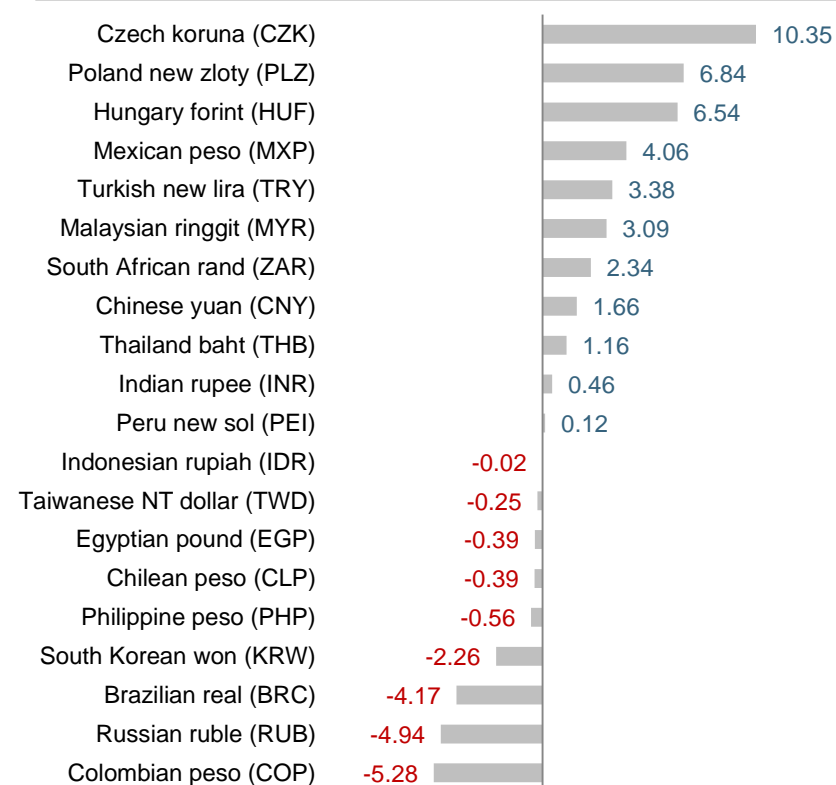
Second Quarter 2017

Most non-US developed currencies appreciated against the US dollar during the quarter, with the Danish krone and the euro experiencing the biggest gains. Emerging markets currencies were mixed vs. the US dollar. The Czech koruna appreciated by more than 10%, while the Russian ruble, Brazilian real, and Columbian peso depreciated by more than 4%.

## Ranked Developed Markets (%)



## Ranked Emerging Markets (%)



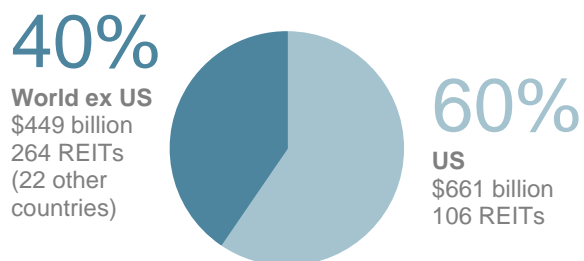


# Real Estate Investment Trusts (REITs)

## Second Quarter 2017 Index Returns

Non-US real estate investment trusts outperformed US REITs.

### Total Value of REIT Stocks



### Ranked Returns (%)



### Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
US REITs	1.36	-2.43	8.04	9.00	5.42
Global REITs (ex US)	6.30	-0.37	1.13	6.86	0.20

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Number of REIT stocks and total value based on the two indices. All index returns are net of withholding tax on dividends. Total value of REIT stocks represented by Dow Jones US Select REIT Index and the S&P Global ex US REIT Index. Dow Jones US Select REIT Index used as proxy for the US market, and S&P Global ex US REIT Index used as proxy for the World ex US market. Dow Jones US Select REIT Index data provided by Dow Jones ©. S&P Global ex US REIT Index data provided by Standard and Poor's Index Services Group © 2017.

# Commodities

## Second Quarter 2017 Index Returns

The Bloomberg Commodity Index Total Return declined 3.00% during the second quarter.

The livestock and grains complexes led quarterly performance, with lean hogs returning 14.44%, live cattle 8.59%, wheat (Chicago) 15.95%, and wheat (Kansas) 17.82%.

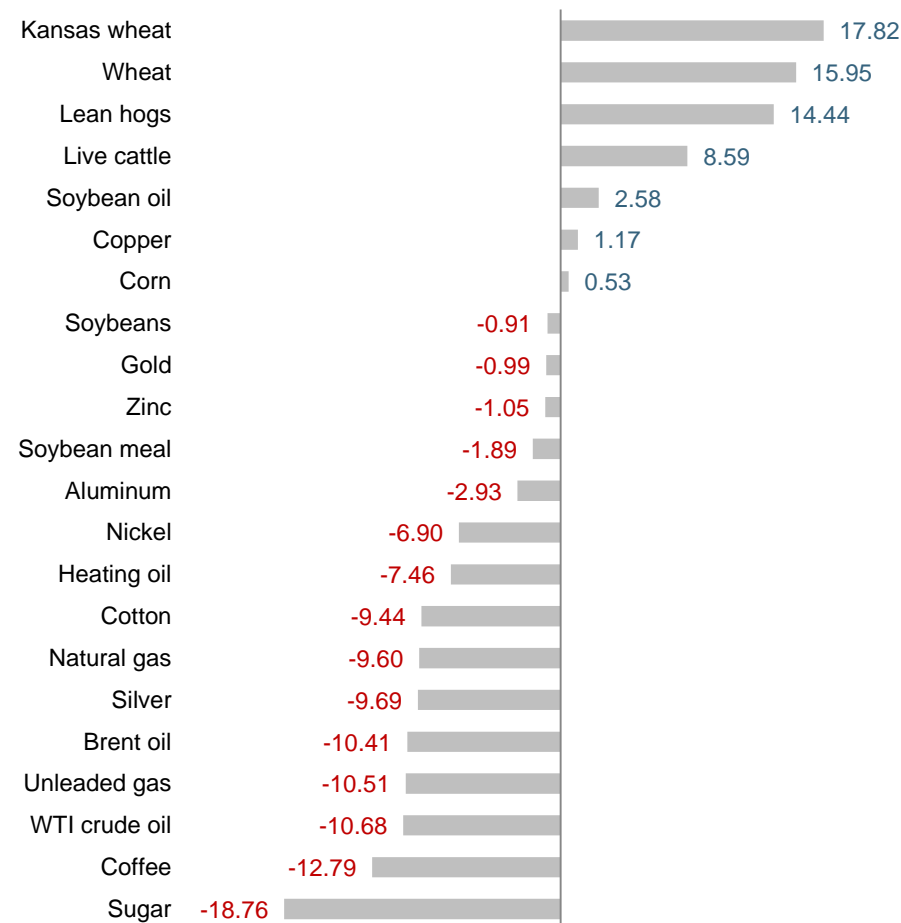
Softs was the worst-performing complex, with sugar and coffee declining 18.76% and 12.79%, respectively. Cotton also experienced a decline, decreasing 9.44%.

### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Commodities	-5.26	-6.50	-14.81	-9.25	-6.49

### Ranked Returns for Individual Commodities (%)



# Fixed Income

## Second Quarter 2017 Index Returns

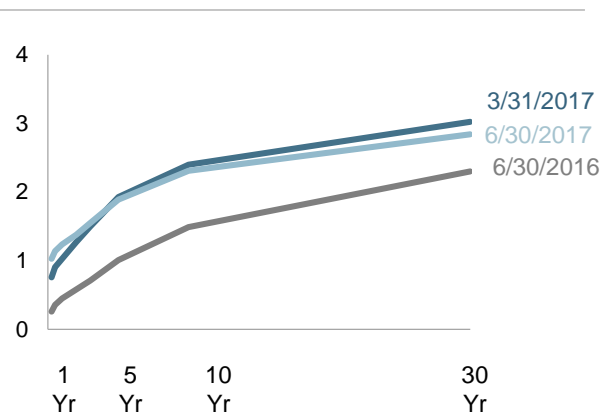
Interest rates were mixed across the US fixed income market during the second quarter. The yield on the 5-year Treasury note decreased 4 basis points (bps) to 1.89%. The yield on the 10-year Treasury note decreased 9 bps to 2.31%. The 30-year Treasury bond yield decreased 18 bps to finish at 2.84%.

The yield on the 1-year Treasury bill rose 21 bps to 1.24%, and the 2-year Treasury note yield rose 11 bps to 1.38%. The yield on the 3-month Treasury bill climbed 27 bps to 1.03%, while the 6-month Treasury bill yield increased 23 bps to 1.14%.

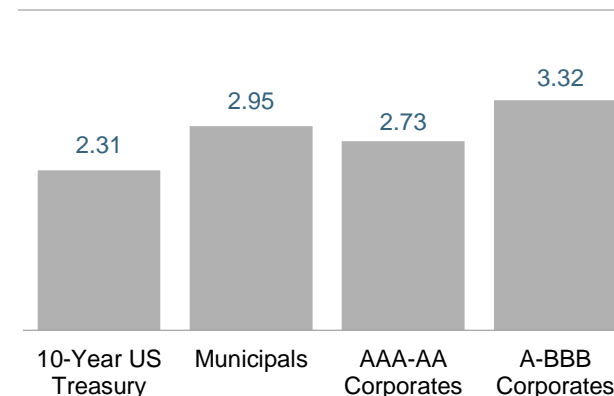
In terms of total returns, short-term corporate bonds gained 0.59% and intermediate corporates gained 1.49%.

Short-term municipal bonds gained 0.56%, while intermediate-term municipal bonds returned 1.97%. Revenue bonds gained 2.19%, outperforming general obligation bonds by 39 bps.

US Treasury Yield Curve (%)



Bond Yields across Issuers (%)



Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg Barclays Long US Government Bond Index	5.44	-6.96	5.54	2.82	7.27
Bloomberg Barclays Municipal Bond Index	3.57	-0.49	3.33	3.26	4.60
Bloomberg Barclays US Aggregate Bond Index	2.27	-0.31	2.48	2.21	4.48
Bloomberg Barclays US Corporate High Yield Index	4.93	12.70	4.48	6.89	7.67
Bloomberg Barclays US TIPS Index	0.85	-0.63	0.63	0.27	4.27
BofA Merrill Lynch 1-Year US Treasury Note Index	0.30	0.40	0.41	0.37	1.21
BofA Merrill Lynch Three-Month US Treasury Bill Index	0.31	0.49	0.23	0.17	0.58
Citi World Government Bond Index 1-5 Years (hedged to USD)	0.65	0.28	1.30	1.37	2.52

One basis point equals 0.01%. Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Yield curve data from Federal Reserve. State and local bonds are from the S&P National AMT-Free Municipal Bond Index. AAA-AA Corporates represent the Bank of America Merrill Lynch US Corporates, AA-AAA rated. A-BBB Corporates represent the Bank of America Merrill Lynch US Corporates, BBB-A rated. Bloomberg Barclays data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (S&BBI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). Citi fixed income indices copyright 2017 by Citigroup. The BofA Merrill Lynch Indices are used with permission; © 2017 Merrill Lynch, Pierce, Fenner & Smith Incorporated; all rights reserved. Merrill Lynch, Pierce, Fenner & Smith Incorporated is a wholly owned subsidiary of Bank of America Corporation. The S&P data are provided by Standard & Poor's Index Services Group.

# Impact of Diversification

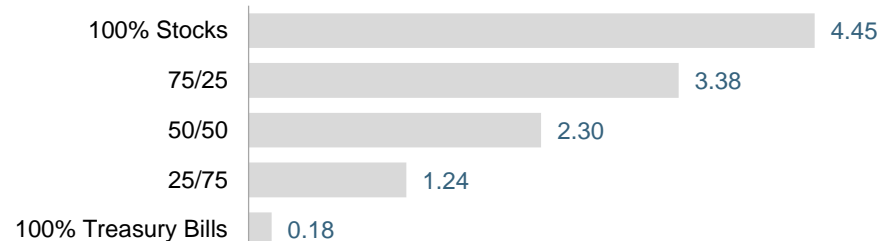
## Second Quarter 2017 Index Returns

These portfolios illustrate the performance of different global stock/bond mixes. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

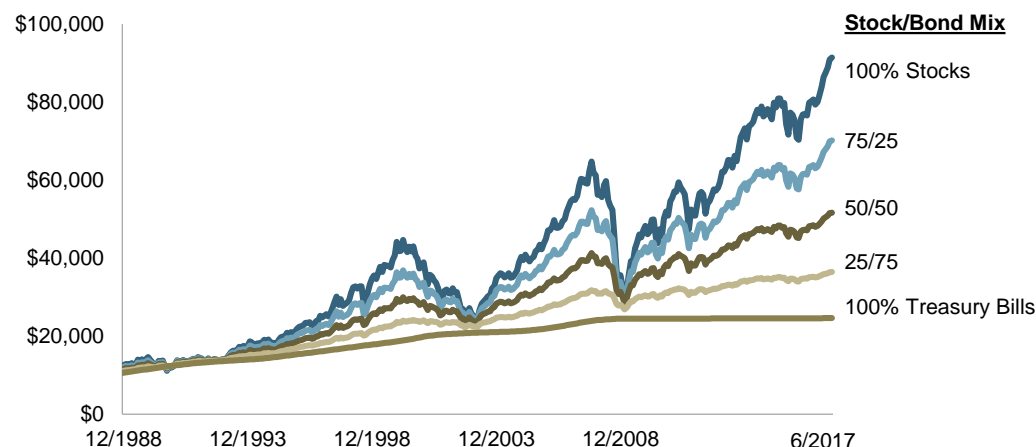
### Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*	* Annualized
						10-Year STDEV <sup>1</sup>
100% Stocks	11.82	19.42	5.39	11.14	4.27	16.96
75/25	8.84	14.41	4.17	8.38	3.60	12.71
50/50	5.93	9.57	2.89	5.62	2.73	8.46
25/75	3.08	4.90	1.56	2.87	1.68	4.22
100% Treasury Bills	0.29	0.40	0.17	0.12	0.45	0.29

### Ranked Returns (%)



### Growth of Wealth: The Relationship between Risk and Return



1. STDEV (standard deviation) is a measure of the variation or dispersion of a set of data points. Standard deviations are often used to quantify the historical return volatility of a security or portfolio.

Diversification does not eliminate the risk of market loss. **Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect expenses associated with the management of an actual portfolio.** Asset allocations and the hypothetical index portfolio returns are for illustrative purposes only and do not represent actual performance. Global Stocks represented by MSCI All Country World Index (gross div.) and Treasury Bills represented by US One-Month Treasury Bills. Globally diversified allocations rebalanced monthly, no withdrawals. Data © MSCI 2017, all rights reserved. Treasury bills © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld).

# When Rates Go Up, Do Stocks Go Down?

Second Quarter 2017

## Should stock investors worry about changes in interest rates?

Research shows that, like stock prices, changes in interest rates and bond prices are largely unpredictable.<sup>1</sup> It follows that an investment strategy based upon attempting to exploit these sorts of changes isn't likely to be a fruitful endeavor. Despite the unpredictable nature of interest rate changes, investors may still be curious about what might happen to stocks if interest rates go up.

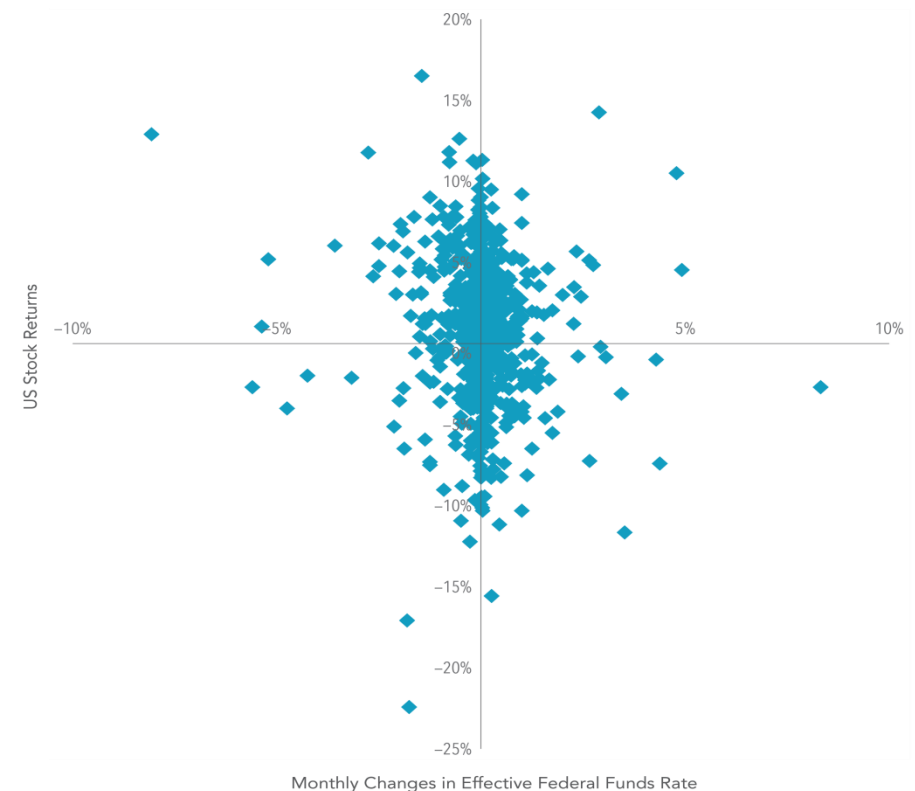
Unlike bond prices, which tend to go down when yields go up, stock prices might rise or fall with changes in interest rates. For stocks, it can go either way because a stock's price depends on both future cash flows to investors and the discount rate they apply to those expected cash flows. When interest rates rise, the discount rate may increase, which in turn could cause the price of the stock to fall. However, it is also possible that when interest rates change, expectations about future cash flows expected from holding a stock also change. So, if theory doesn't tell us what the overall effect should be, the next question is what does the data say?

### Recent Research

Recent research performed by Dimensional Fund Advisors helps provide insight into this question.<sup>2</sup> The research examines the correlation between monthly US stock returns and changes in interest rates.<sup>3</sup>

**Exhibit 1** shows that while there is a lot of noise in stock returns and no clear pattern, not much of that variation appears to be related to changes in the effective federal funds rate.<sup>4</sup>

Exhibit 1. Monthly US Stock Returns against Monthly Changes in Effective Federal Funds Rate, August 1954–December 2016



Monthly US stock returns are defined as the monthly return of the Fama/French Total US Market Index and are compared to contemporaneous monthly changes in the effective federal funds rate. Bond yield changes are obtained from the Federal Reserve Bank of St. Louis.

1. See, for example, Fama 1976, Fama 1984, Fama and Bliss 1987, Campbell and Shiller 1991, and Duffee 2002.

2. Wei Dai, "Interest Rates and Equity Returns" (Dimensional Fund Advisors, April 2017).

3. US stock market defined as Fama/French Total US Market Index.

4. The federal funds rate is the interest rate at which depository institutions lend funds maintained at the Federal Reserve to another depository institution overnight.

# When Rates Go Up, Do Stocks Go Down?

(continued from page 16)

For example, in months when the federal funds rate rose, stock returns were as low as -15.56% and as high as 14.27%. In months when rates fell, returns ranged from -22.41% to 16.52%. Given that there are many other interest rates besides just the federal funds rate, Dai also examined longer-term interest rates and found similar results.

So to address our initial question: when rates go up, do stock prices go down? The answer is yes, but only about 40% of the time. In the remaining 60% of months, stock returns were positive. This split between positive and negative returns was about the same when examining all months, not just those in which rates went up. In other words, there is not a clear link between stock returns and interest rate changes.

## CONCLUSION

There's no evidence that investors can reliably predict changes in interest rates. Even with perfect knowledge of what will happen with future interest rate changes, this information provides little guidance about subsequent stock returns. Instead, staying invested and avoiding the temptation to make changes based on short-term predictions may increase the likelihood of consistently capturing what the stock market has to offer.

## GLOSSARY

**Discount Rate:** Also known as the “required rate of return,” this is the expected return investors demand for holding a stock.

**Correlation:** A statistical measure that indicates the extent to which two variables are related or move together. Correlation is positive when two variables tend to move in the same direction and negative when they tend to move in opposite directions.

## INDEX DESCRIPTIONS

**Fama/French Total US Market Index:** Provided by Fama/French from CRSP securities data. Includes all US operating companies trading on the NYSE, AMEX, or Nasdaq NMS. Excludes ADRs, investment companies, tracking stocks, non-US incorporated companies, closed-end funds, certificates, shares of beneficial interests, and Berkshire Hathaway Inc. (Permco 540).

Source: Dimensional Fund Advisors LP.

Results shown during periods prior to each Index's index inception date do not represent actual returns of the respective index. Other periods selected may have different results, including losses. Backtested index performance is hypothetical and is provided for informational purposes only to indicate historical performance had the index been calculated over the relevant time periods. Backtested performance results assume the reinvestment of dividends and capital gains.

Eugene Fama and Ken French are members of the Board of Directors for and provide consulting services to Dimensional Fund Advisors LP.

There is no guarantee investment strategies will be successful. Investing involves risks including possible loss of principal.

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For more information or to discuss your portfolio needs, please contact Todd Moerman @ 303-549-4720 or 970-818-5266 or toll free 855-863-3332.

Thank you for your business.

If you have any friends or family who need a 2<sup>nd</sup> opinion, please contact us.

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