



# Q3

## Quarterly Market Review

Third Quarter 2018



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Third Quarter 2018



This report features world capital market performance and a timeline of events for the past quarter. It begins with a global overview, then features the returns of stock and bond asset classes in the US and international markets.

The report also illustrates the impact of globally diversified portfolios and features a quarterly topic.

## Overview:

Market Summary

World Stock Market Performance

World Asset Classes

US Stocks

International Developed Stocks

Emerging Markets Stocks

Select Country Performance

Select Currency Performance vs. US Dollar

Real Estate Investment Trusts (REITs)

Commodities







Fixed Income

Impact of Diversification

Quarterly Topic: Total Cost of Fund Ownership

# Market Summary

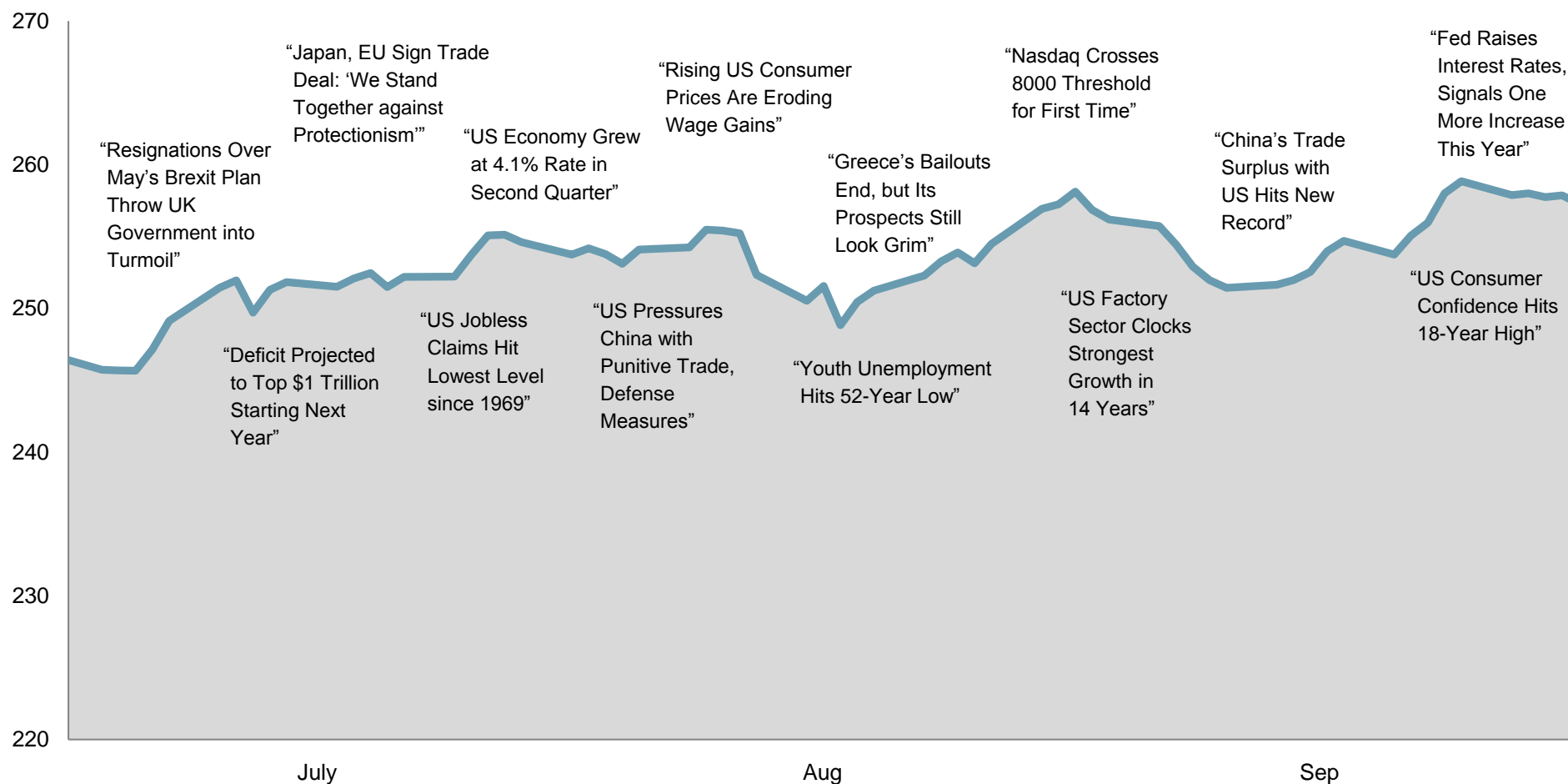
## Index Returns

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate		US Bond Market	Global Bond Market ex US
<b>Q3 2018</b>	<b>STOCKS</b>					<b>BONDS</b>	
	7.12%	1.31%	-1.09%	-0.03%		0.02%	-0.17%
							
<b>Since Jan. 2001</b>							
Avg. Quarterly Return	2.0%	1.5%	2.9%	2.6%		1.1%	1.1%
Best Quarter	16.8%	25.9%	34.7%	32.3%		4.6%	4.6%
	2009 Q2	2009 Q2	2009 Q2	2009 Q3		2001 Q3	2008 Q4
Worst Quarter	-22.8%	-21.2%	-27.6%	-36.1%		-3.0%	-2.7%
	2008 Q4	2008 Q4	2008 Q4	2008 Q4		2016 Q4	2015 Q2

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 Market ex US (Bloomberg Barclays Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2018, all rights reserved. Bloomberg Barclays data provided by Bloomberg. FTSE fixed income © 2018 FTSE Fixed Income LLC, all rights reserved.

# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q3 2018



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.

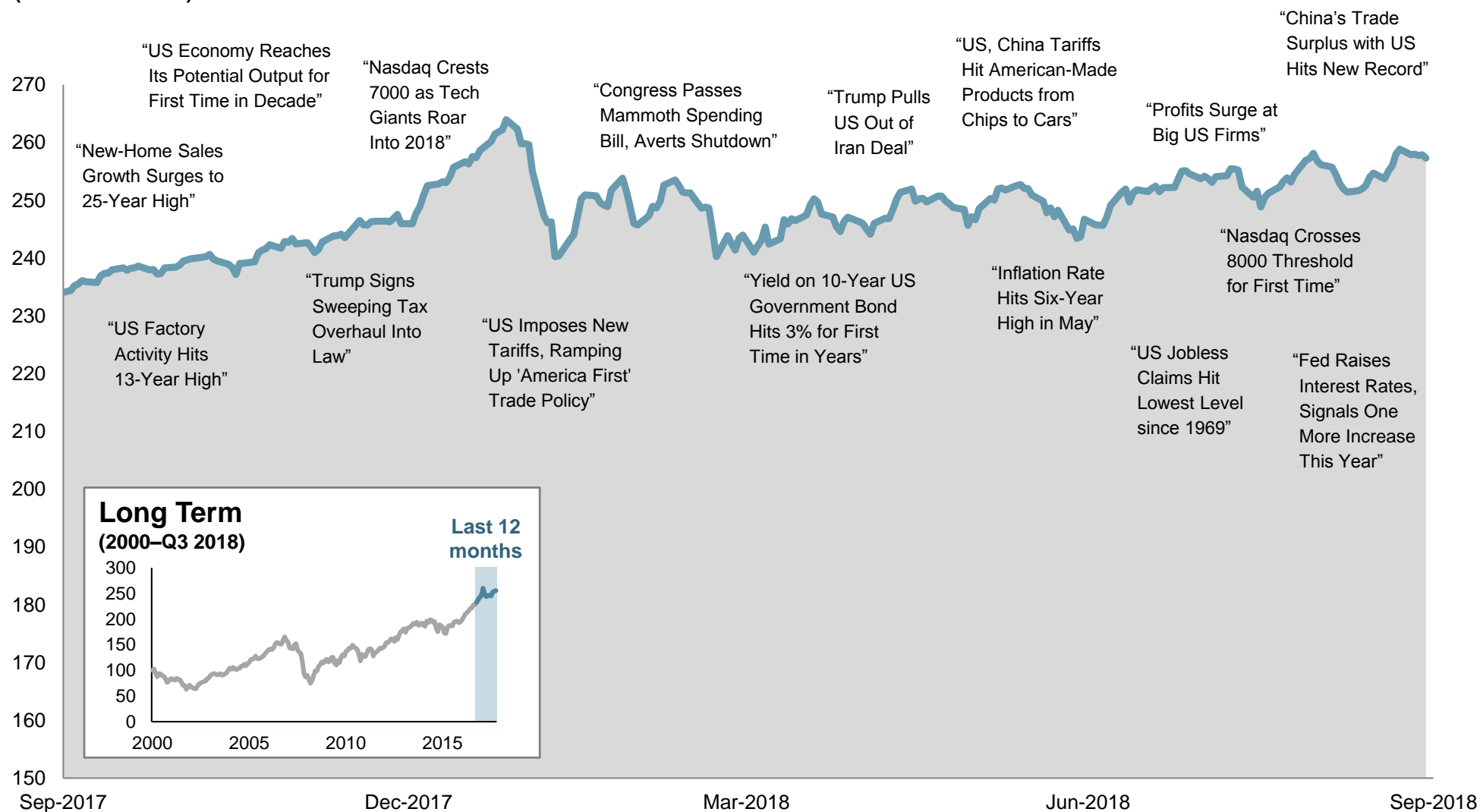
Graph Source: MSCI ACWI Index [net div.], MSCI data © MSCI 2018, all rights reserved.

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 (Q4 2017–Q3 2018)



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 2018, 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.**

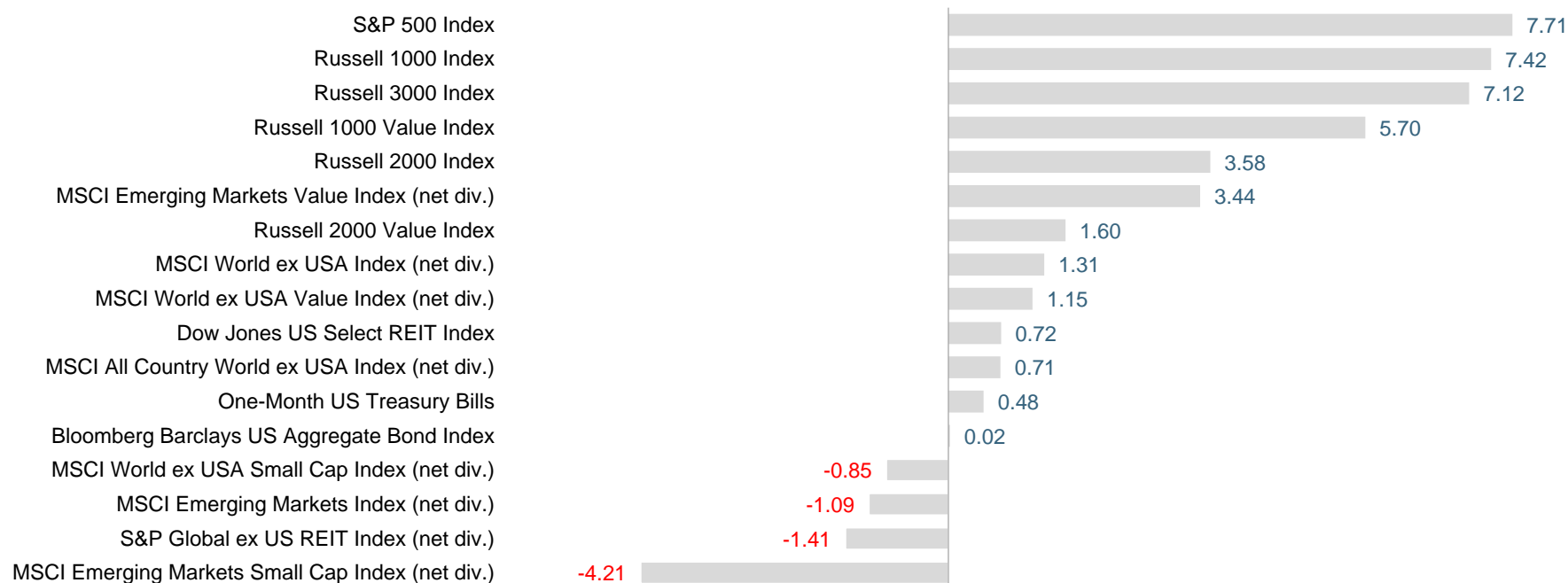
# World Asset Classes

## Third Quarter 2018 Index Returns (%)

Looking at broad market indices, the US outperformed non-US developed and emerging markets during the quarter.

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

REIT indices underperformed equity market indices in both the US and non-US developed markets.



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# US Stocks

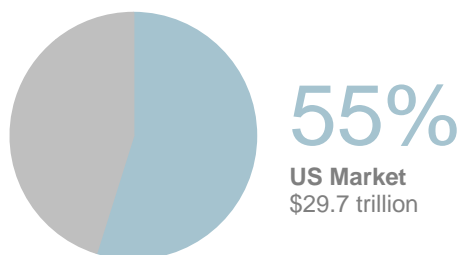
## Third Quarter 2018 Index Returns

The US equity market posted a positive return, outperforming both non-US developed and emerging markets.

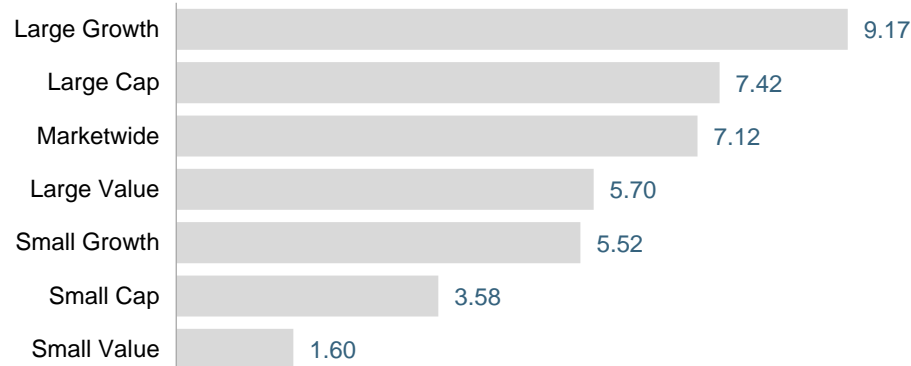
Value underperformed growth in the US across large and small cap stocks.

Small caps underperformed large caps in the US.

### World Market Capitalization—US



### Ranked Returns for the Quarter (%)



### Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Large Growth	17.09	26.30	20.55	16.58	14.31
Small Growth	15.76	21.06	17.98	12.14	12.65
Small Cap	11.51	15.24	17.12	11.07	11.11
Marketwide	10.57	17.58	17.07	13.46	12.01
Large Cap	10.49	17.76	17.07	13.67	12.09
Small Value	7.14	9.33	16.12	9.91	9.52
Large Value	3.92	9.45	13.55	10.72	9.79

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 2018, all rights reserved.

# International Developed Stocks

## Third Quarter 2018 Index Returns

In US dollar terms, developed markets outside the US underperformed the US but outperformed emerging markets during the quarter.

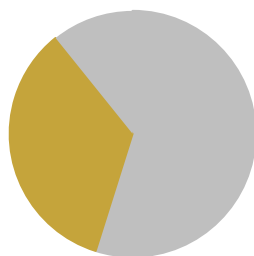
Large cap value stocks underperformed large cap growth stocks in non-US developed markets; however, small cap value outperformed small cap growth.

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

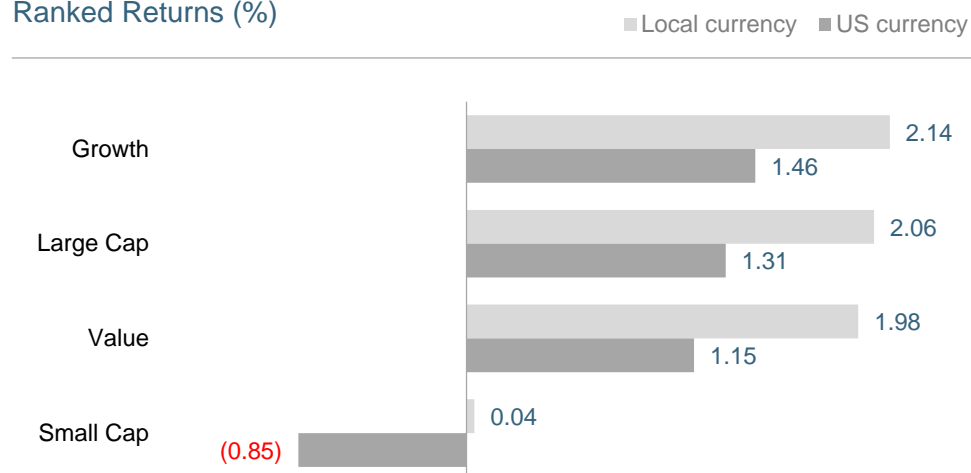
### World Market Capitalization—International Developed

**34%**

International  
Developed  
Market  
\$18.6 trillion



### Ranked Returns (%)



### Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Growth	0.39	5.47	9.91	5.37	5.78
Large Cap	-1.50	2.67	9.32	4.24	5.18
Small Cap	-2.28	3.42	12.23	7.07	9.04
Value	-3.43	-0.13	8.65	3.05	4.51

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# Emerging Markets Stocks

## Third Quarter 2018 Index Returns

In US dollar terms, emerging markets posted negative returns for the quarter, underperforming developed markets including the US.

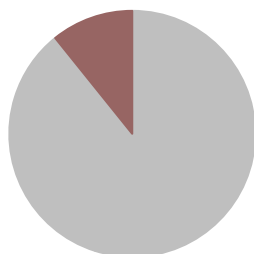
The value effect was positive, particularly in large caps in emerging markets.

Small caps underperformed large caps.

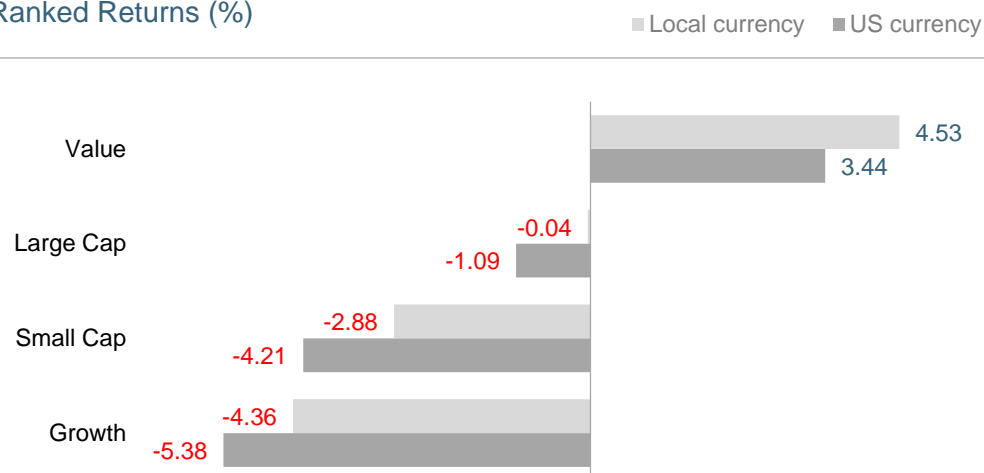
### World Market Capitalization—Emerging Markets

11%

Emerging Markets  
\$5.8 trillion



### Ranked Returns (%)



### Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Value	-4.28	2.27	11.55	2.04	4.53
Large Cap	-7.68	-0.81	12.36	3.61	5.40
Growth	-10.94	-3.89	13.03	5.08	6.18
Small Cap	-12.30	-4.20	7.43	2.72	7.43

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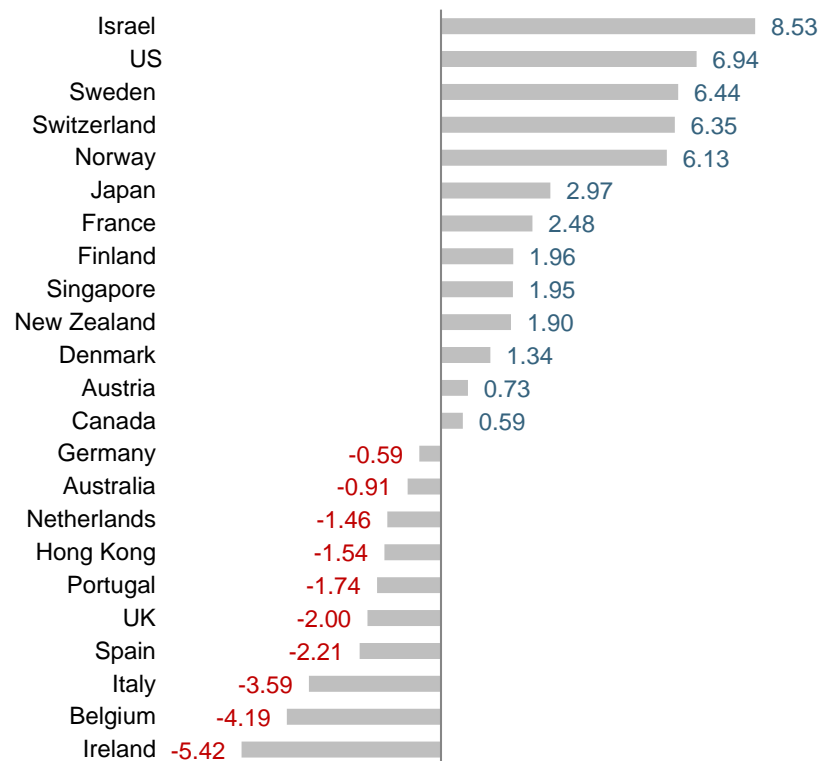
Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small Cap (MSCI Emerging Markets Small Cap Index), Value (MSCI Emerging Markets Value Index), and Growth (MSCI Emerging Markets Growth Index). All index returns are net of withholding tax on dividends. World Market 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 2018, 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

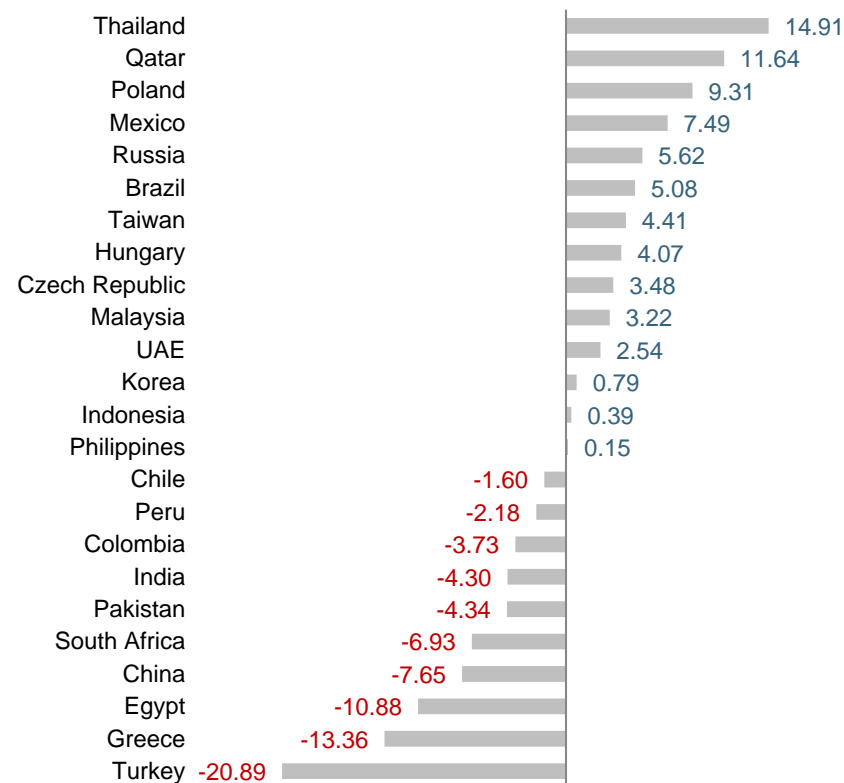
## Third Quarter 2018 Index Returns

In US dollar terms, Israel, the US, and Sweden recorded the highest country performance in developed markets, while Ireland and Belgium posted the lowest returns for the quarter. In emerging markets, Thailand and Qatar recorded the highest country performance, while Turkey, Greece, Egypt, and China posted the lowest performance.

### Ranked Developed Markets Returns (%)



### Ranked Emerging Markets Returns (%)



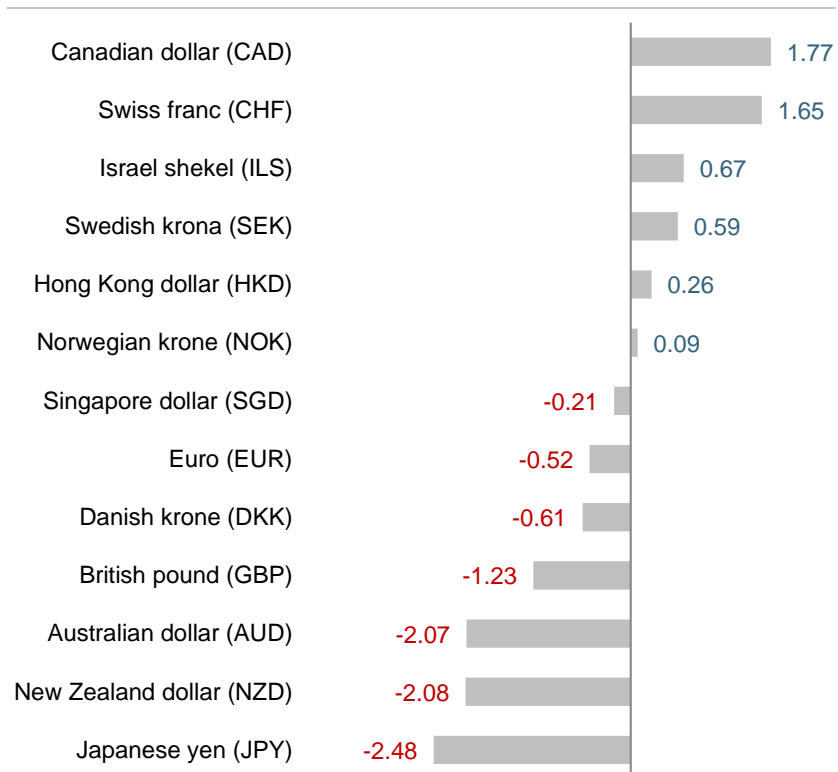
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Country performance based on respective indices in the MSCI World ex US IMI Index (for developed 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 2018, all rights reserved. UAE and Qatar have been reclassified as emerging markets by MSCI, effective May 2014.

# Select Currency Performance vs. US Dollar

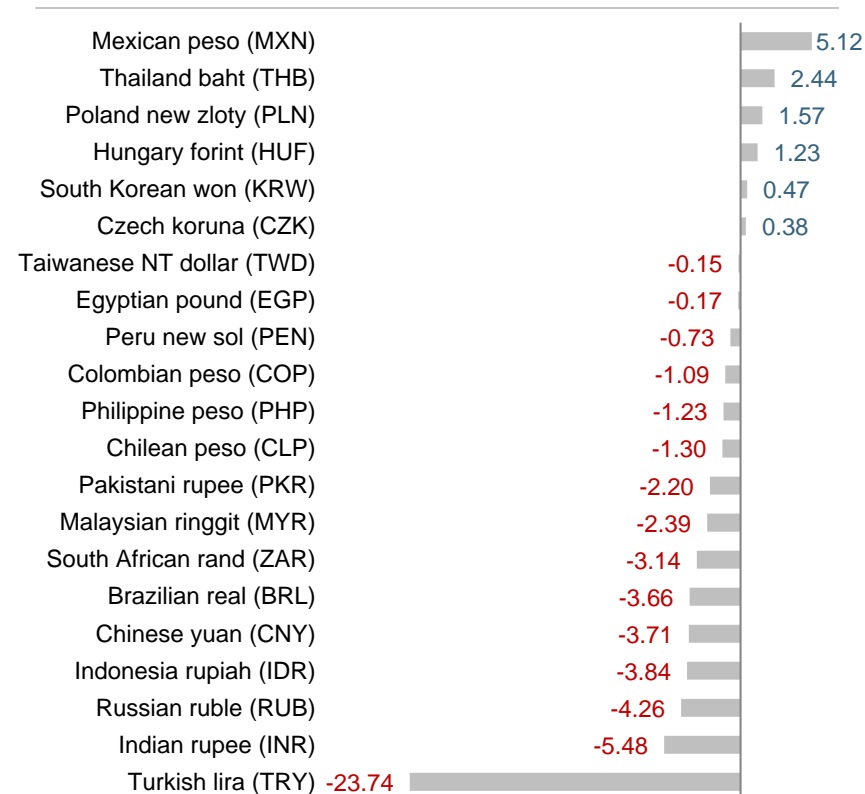
Third Quarter 2018

In developed markets, currencies recorded mixed results vs. the US dollar. The Canadian dollar and the Swiss franc appreciated over 1.5% vs. the US dollar, but the Japanese yen and Australian and New Zealand dollars all each depreciated more than 2%. In emerging markets, most currencies depreciated against the US dollar. The Turkish lira fell over 20%, but the Mexican Peso appreciated more than 5%.

## Ranked Developed Markets (%)



## Ranked Emerging Markets (%)

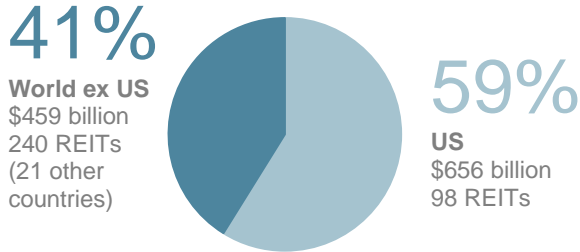


# Real Estate Investment Trusts (REITs)

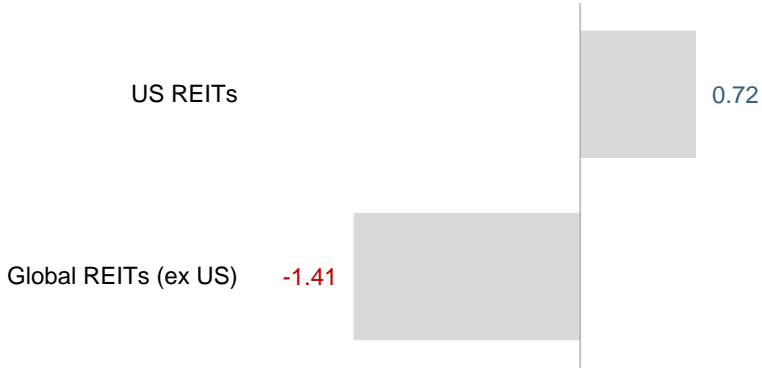
## Third Quarter 2018 Index Returns

US real estate investment trusts outperformed non-US REITs in US dollar terms.

### Total Value of REIT Stocks



### Ranked Returns (%)



### Period Returns (%)

Asset Class	* Annualized				
	YTD	1 Year	3 Years*	5 Years*	10 Years*
Dow Jones US Select REIT Index	2.56	4.59	6.88	9.14	7.21
S&P Global ex US REIT Index (net div.)	-2.88	3.39	5.66	4.18	5.40

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 data © 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. S&P data © 2018 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Commodities

## Third Quarter 2018 Index Returns

The Bloomberg Commodity Index Total Return declined 2.02% in the third quarter.

The energy complex led performance. Heating oil gained 5.63%, and Brent oil returned 5.21%.

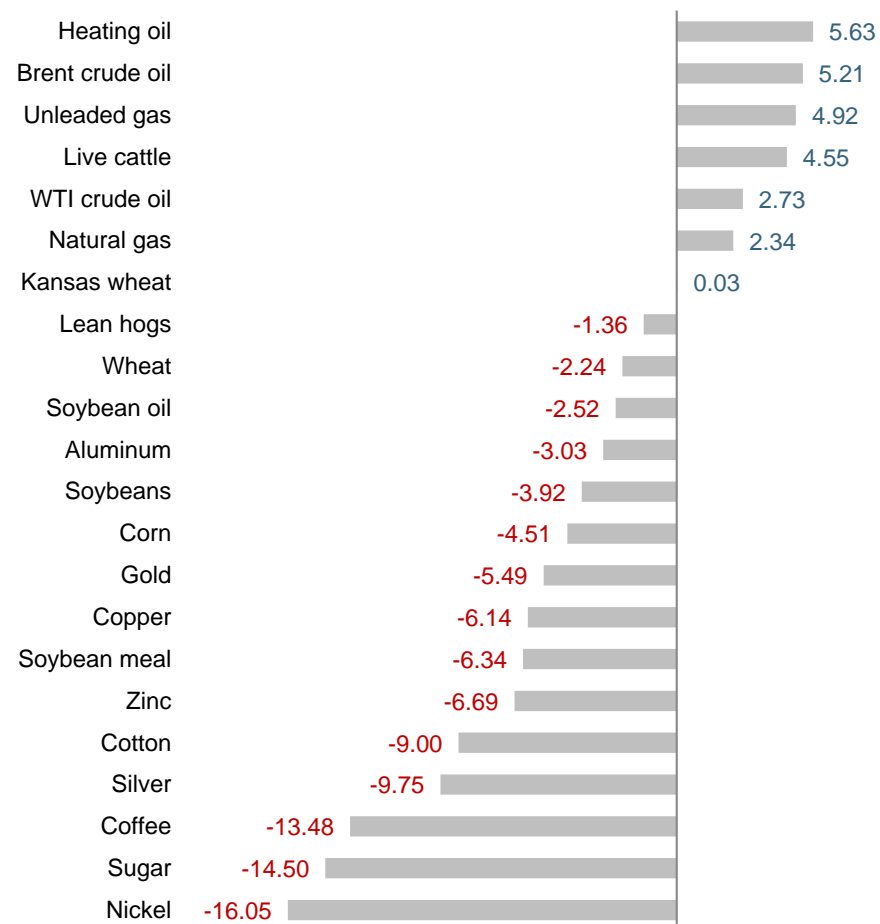
Nickel, the worst-performing commodity, declined 16.05%. Sugar lost 14.50%, and coffee fell 13.48%.

### Period Returns (%)

\* Annualized

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Commodities	-2.02	-2.03	2.59	-0.11	-7.18	-6.24

### Ranked Returns for Individual Commodities (%)



# Fixed Income

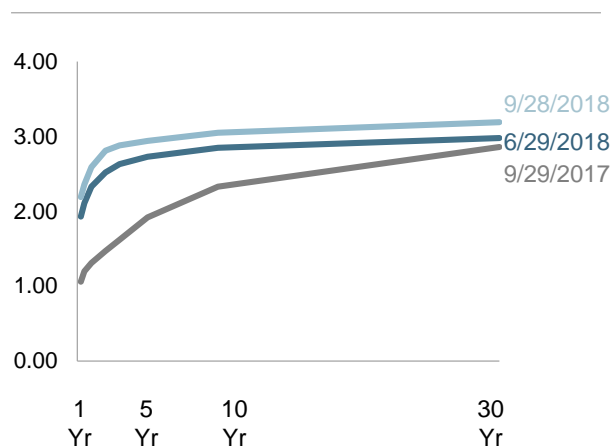
## Third Quarter 2018 Index Returns

Interest rates increased in the US during the third quarter. The yield on the 5-year Treasury note rose 21 basis points (bps), ending at 2.94%. The yield on the 10-year Treasury note increased 20 bps to 3.05%. The 30-year Treasury bond yield rose 21 bps to 3.19%.

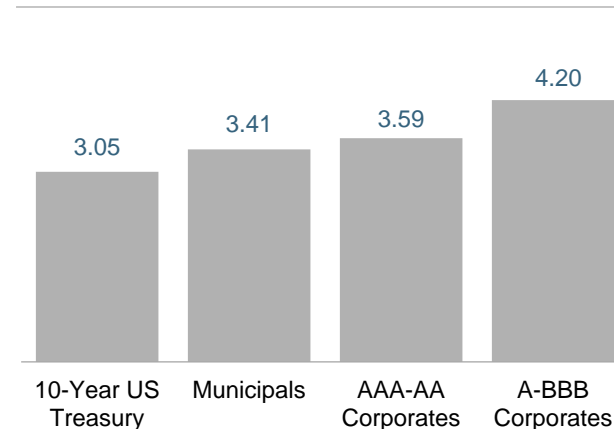
On the short end of the yield curve, the 1-month Treasury bill yield increased 35 bps to 2.12%, while the 1-year Treasury bill yield rose 26 bps to 2.59%. The 2-year Treasury note yield finished at 2.81% after an increase of 29 bps.

In terms of total return, short-term corporate bonds gained 0.71%, while intermediate-term corporates returned 0.80%. Short-term municipal bonds declined 0.11%, while intermediate-term munis dipped 0.06%. Revenue bonds (-0.16%) performed in line with general obligation bonds (-0.14%).

US Treasury Yield Curve (%)



Bond Yields across Issuers (%)



Period Returns (%)

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg Barclays US High Yield Corporate Bond Index	2.40	2.57	3.05	8.15	5.54	9.46
ICE BofAML US 3-Month Treasury Bill Index	0.49	1.30	1.59	0.84	0.52	0.34
ICE BofAML 1-Year US Treasury Note Index	0.41	1.07	1.08	0.74	0.55	0.71
FTSE World Government Bond Index 1-5 Years (hedged to USD)	0.17	0.58	0.64	1.04	1.26	1.90
Bloomberg Barclays US Aggregate Bond Index	0.02	-1.60	-1.22	1.31	2.16	3.77
Bloomberg Barclays Municipal Bond Index	-0.15	-0.40	0.35	2.24	3.54	4.75
FTSE World Government Bond Index 1-5 Years	-0.63	-1.68	-1.39	0.84	-1.16	0.88
Bloomberg Barclays US TIPS Index	-0.82	-0.84	0.41	2.04	1.37	3.32
Bloomberg Barclays US Government Bond Index Long	-2.82	-5.71	-3.50	0.78	4.41	5.45

\*Annualized

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 (SBBBI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2018 FTSE Fixed Income LLC, all rights reserved. ICE BofAML index data © 2018 ICE Data Indices, LLC.

# Impact of Diversification

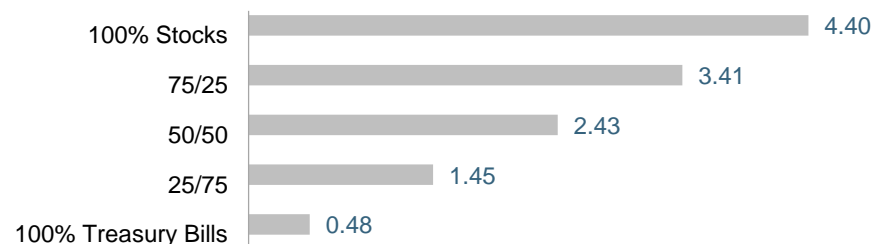
## Third Quarter 2018 Index Returns

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

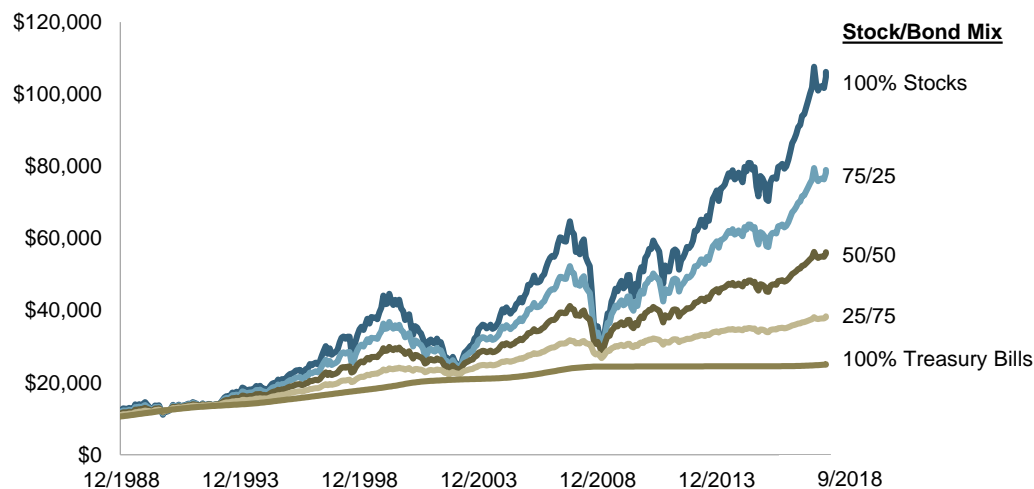
### Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*	* Annualized
						10-Year STDEV
100% Stocks	4.26	10.35	14.02	9.25	8.77	15.83
75/25	3.56	8.14	10.64	7.08	6.85	11.87
50/50	2.82	5.93	7.31	4.89	4.78	7.91
25/75	2.05	3.71	4.01	2.68	2.58	3.95
100% Treasury Bills	1.24	1.50	0.75	0.45	0.27	0.14

### 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 2018, 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).