

# Q4

## Quarterly Market Review

Fourth Quarter 2017



MSA FINANCIAL

FINANCIAL PLANNING | ASSET MANAGEMENT



# Quarterly Market Review

Fourth Quarter 2017

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



# Market Summary

## Index Returns

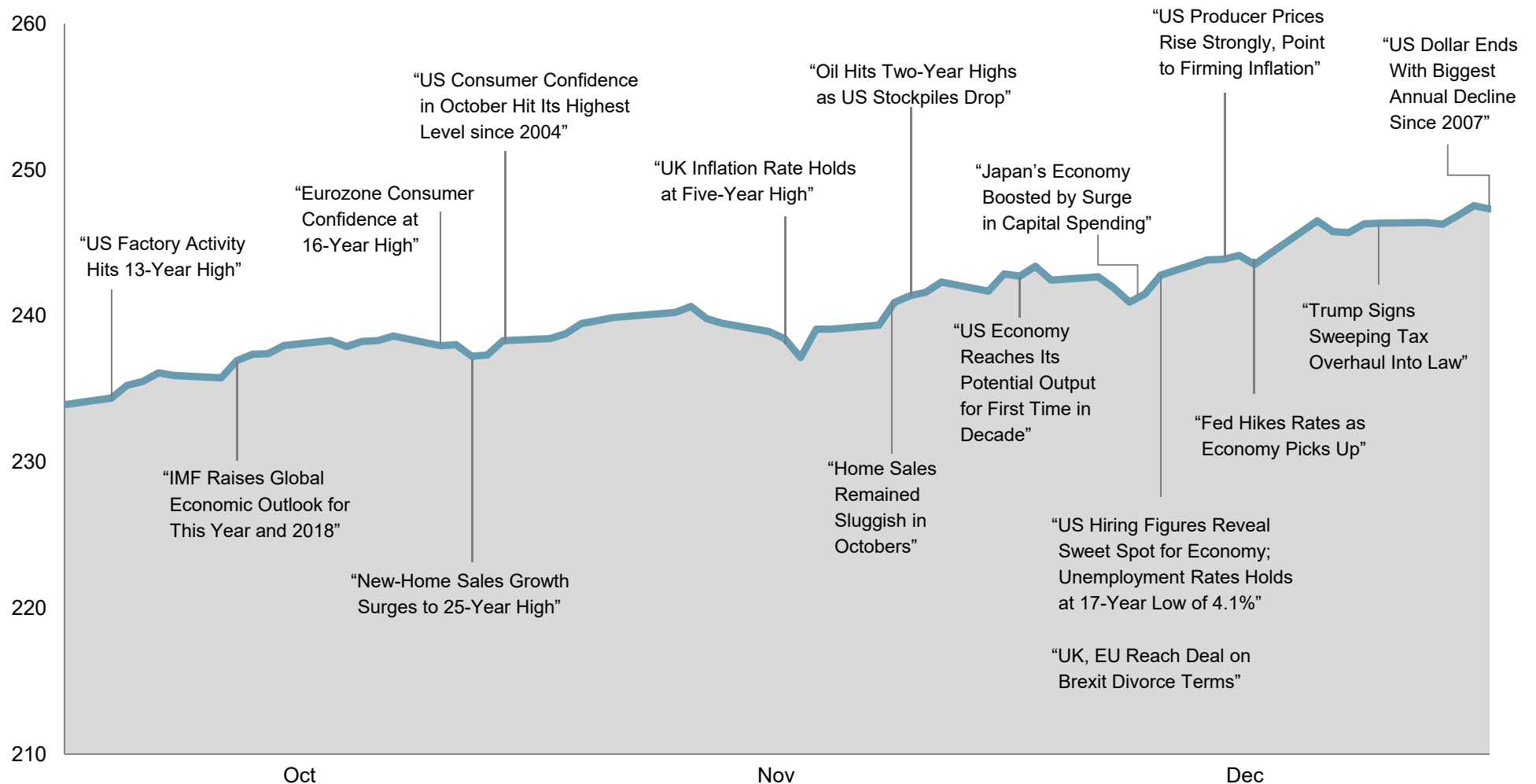
	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate		US Bond Market	Global Bond Market ex US
<b>Q4 2017</b>	<b>STOCKS</b>					<b>BONDS</b>	
	<b>6.34%</b> 	<b>4.23%</b> 	<b>7.44%</b> 	<b>2.97%</b> 		<b>0.39%</b> 	<b>1.10%</b> 
<b>Since Jan. 2001</b>							
Avg. Quarterly Return	2.0%	1.6%	3.2%	2.7%		1.2%	1.1%
Best Quarter	16.8%	25.9%	34.7%	32.3%		4.6%	5.5%
	Q2 2009	Q2 2009	Q2 2009	Q3 2009		Q3 2001	Q4 2008
Worst Quarter	-22.8%	-21.2%	-27.6%	-36.1%		-3.0%	-3.2%
	Q4 2008	Q4 2008	Q4 2008	Q4 2008		Q4 2016	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 2018, all rights reserved. Bloomberg Barclays data provided by Bloomberg. Citi fixed income indices © 2018 by Citigroup.



# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q4 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.

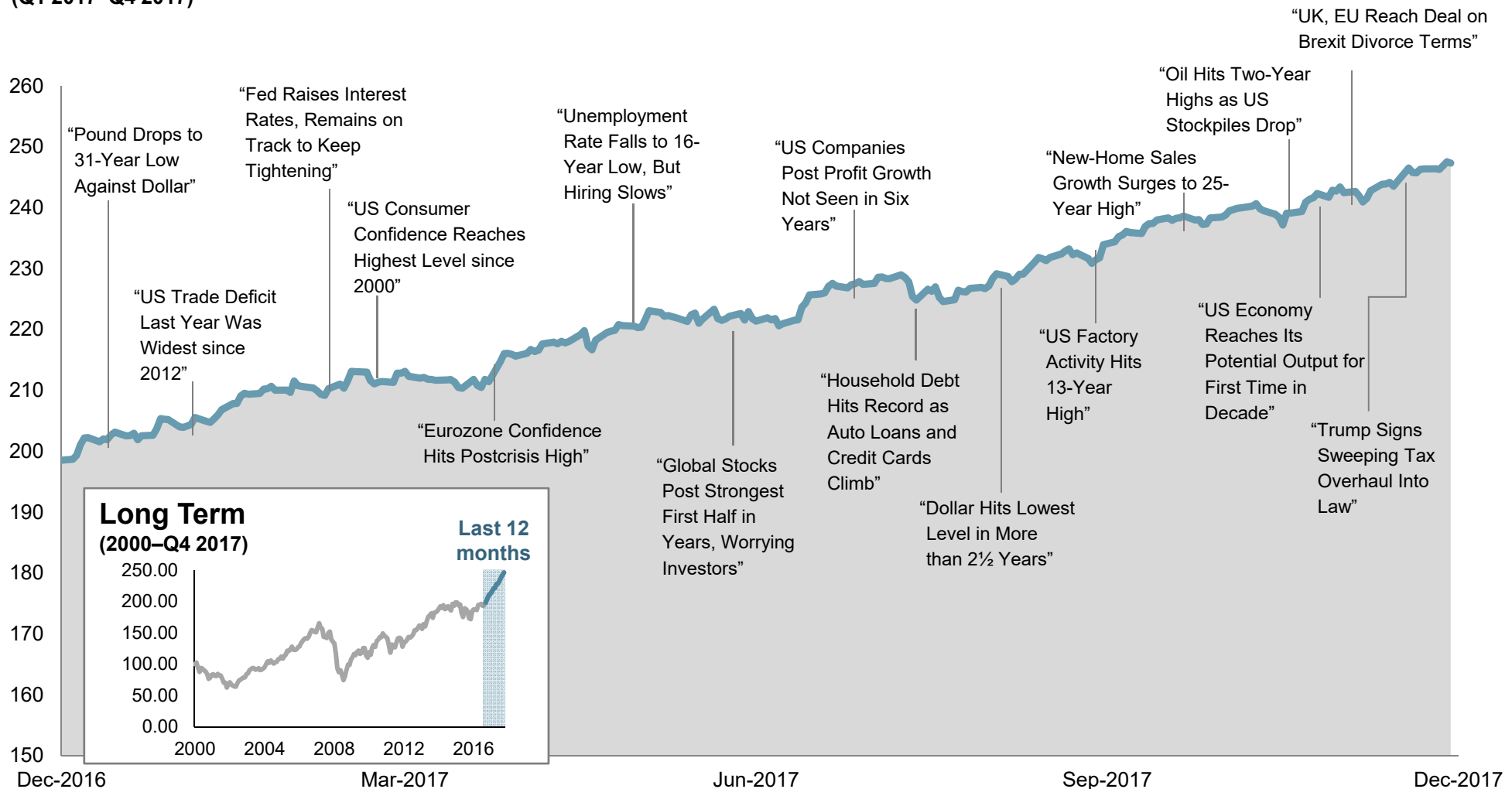
Graph Source: MSCI ACWI Index [net div.], MSCI data © MSCI 2018, all rights reserved.  
It is not possible to invest directly in an index. Performance does not reflect the expenses associated with management of an actual portfolio. Past performance is not a guarantee of future results.



# World Stock Market Performance

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

## Short Term (Q1 2017–Q4 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 2018, all rights reserved.

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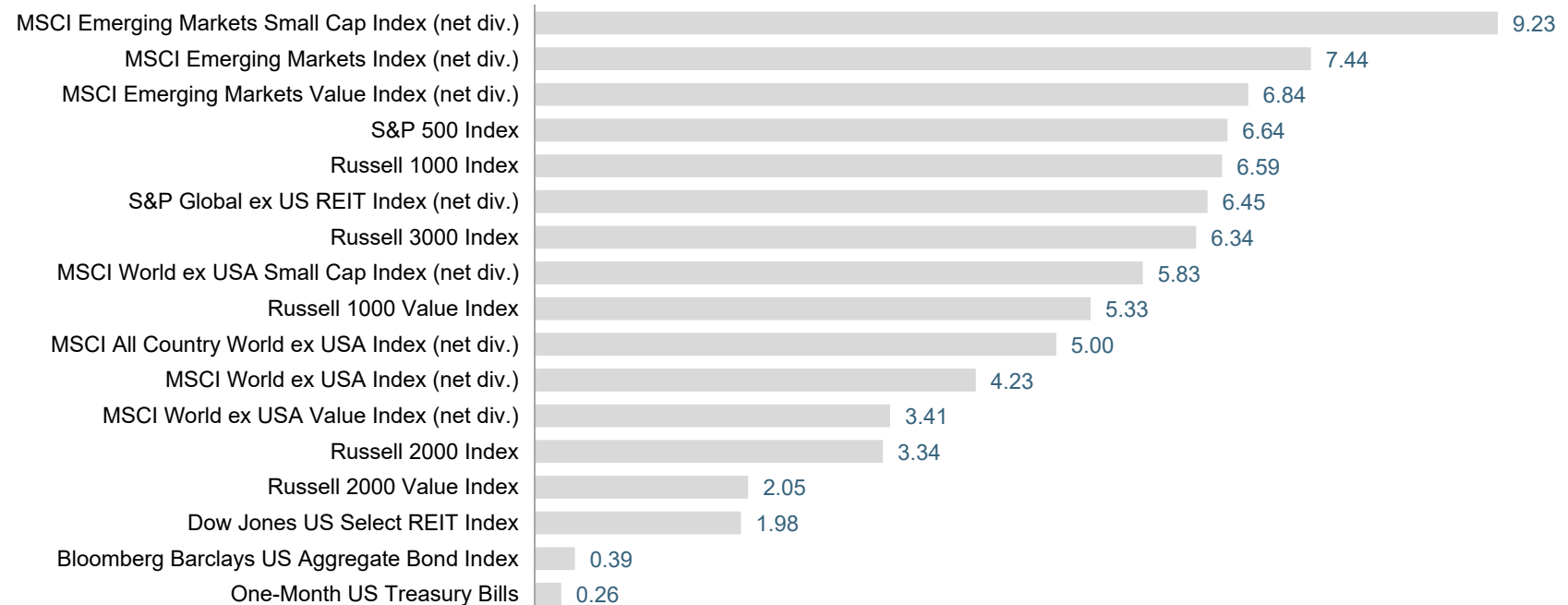


# World Asset Classes

## Fourth Quarter 2017 Index Returns (%)

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

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



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# US Stocks

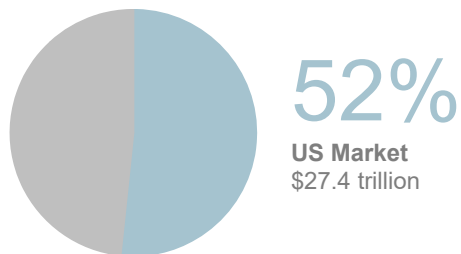
## Fourth Quarter 2017 Index Returns

The US equity market posted a positive return for the quarter, outperforming non-US developed markets but underperforming emerging markets.

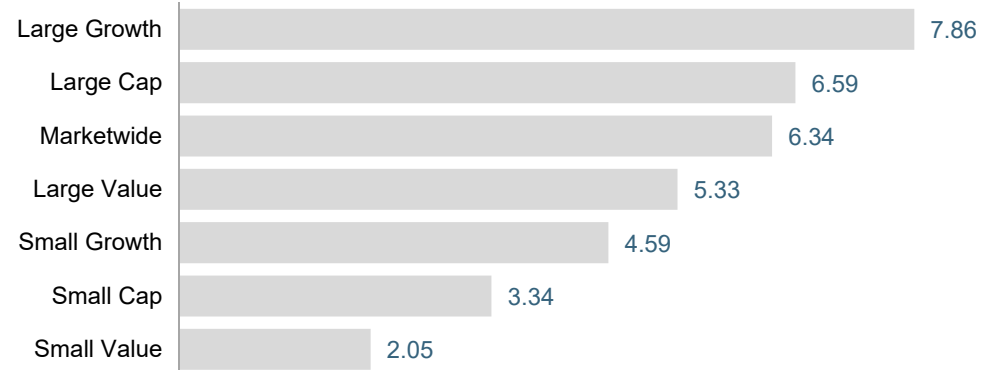
Value underperformed growth in the US across large and small cap indices.

Overall, small caps in the US underperformed large caps.

### World Market Capitalization—US



### Ranked Returns for the Quarter (%)



### Period Returns (%)

\* Annualized

Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Large Growth	30.21	13.79	17.33	10.00
Small Growth	22.17	10.28	15.21	9.19
Large Cap	21.69	11.23	15.71	8.59
Marketwide	21.13	11.12	15.58	8.60
Small Cap	14.65	9.96	14.12	8.71
Large Value	13.66	8.65	14.04	7.10
Small Value	7.84	9.55	13.01	8.17

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# International Developed Stocks

## Fourth Quarter 2017 Index Returns

In US dollar terms, developed markets underperformed the US and emerging markets during the quarter.

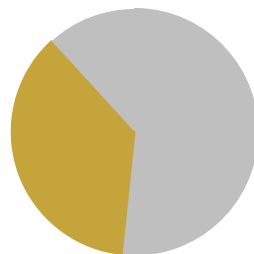
Looking at market indices, the value effect was negative.

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

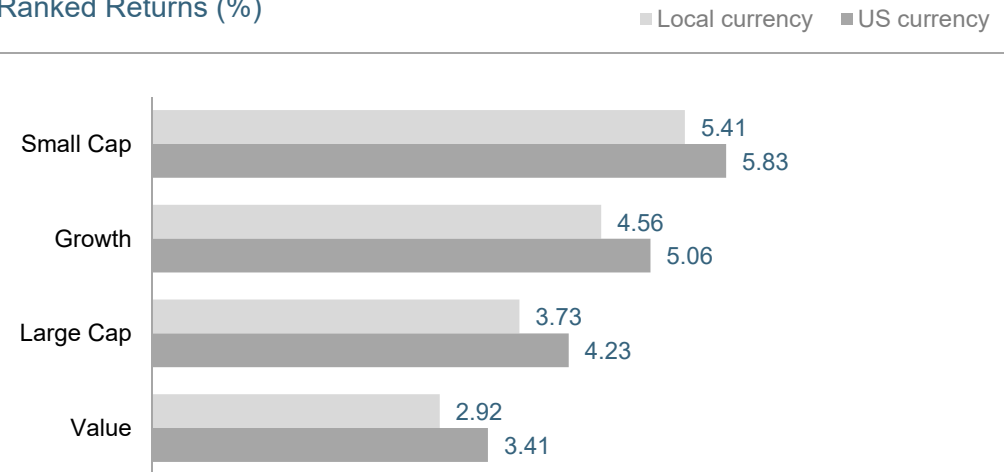
### World Market Capitalization—International Developed

**37%**

International  
Developed  
Market  
\$19.4 trillion



### Ranked Returns (%)



### Period Returns (%)

\* Annualized

Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Small Cap	31.04	12.96	11.37	5.16
Growth	27.61	8.38	8.22	2.36
Large Cap	24.21	7.36	7.46	1.87
Value	21.04	6.26	6.64	1.32

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# Emerging Markets Stocks

## Fourth Quarter 2017 Index Returns

In US dollar terms, emerging markets outperformed the US and non-US developed markets during the quarter.

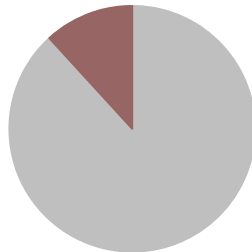
Looking at broad market indices, the value effect was negative.

Small caps outperformed large caps in emerging markets.

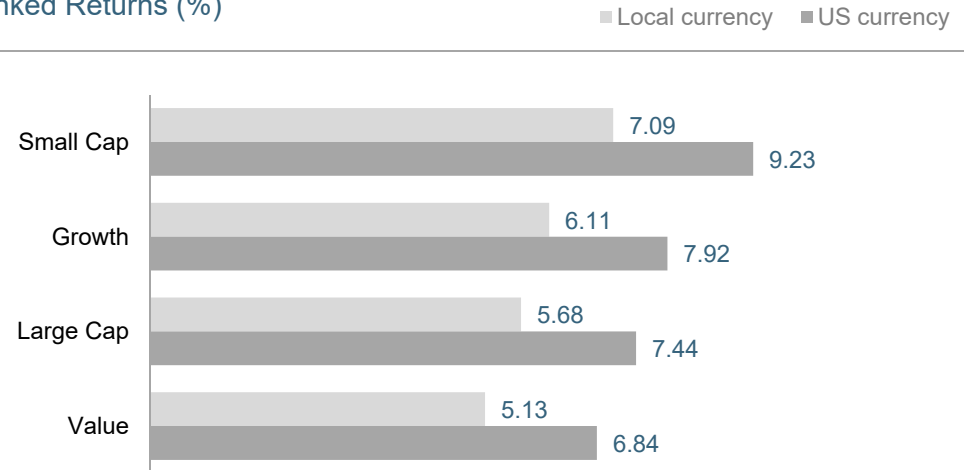
### World Market Capitalization—Emerging Markets

**12%**

**Emerging Markets**  
\$6.2 trillion



### Ranked Returns (%)



### Period Returns (%)

\* Annualized

Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Growth	46.80	11.88	6.85	2.35
Large Cap	37.28	9.10	4.35	1.68
Small Cap	33.84	8.44	5.41	2.78
Value	28.07	6.21	1.75	0.91

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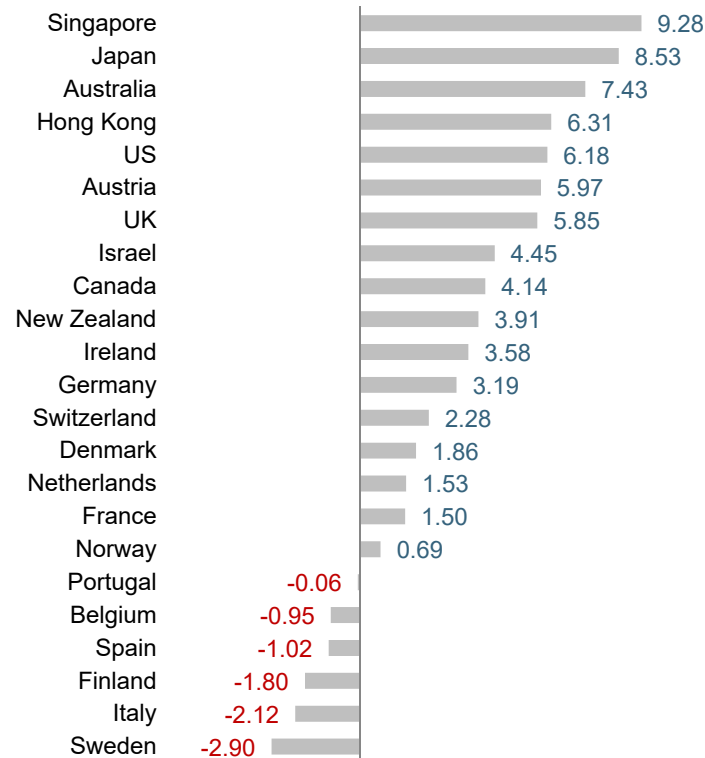


# Select Country Performance

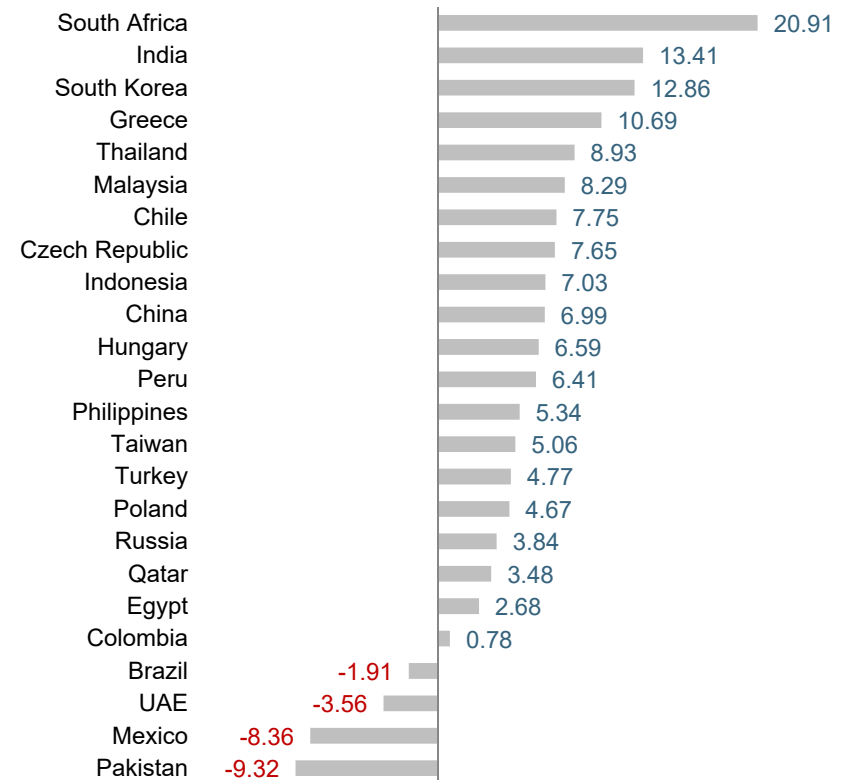
## Fourth Quarter 2017 Index Returns

In US dollar terms, Singapore and Japan recorded the highest country performance in developed markets, while Sweden and Italy posted the lowest returns for the quarter. In emerging markets, South Africa and India posted the highest country returns, while Pakistan and Mexico had the lowest performance.

### Ranked Developed Markets Returns (%)



### Ranked Emerging Markets Returns (%)



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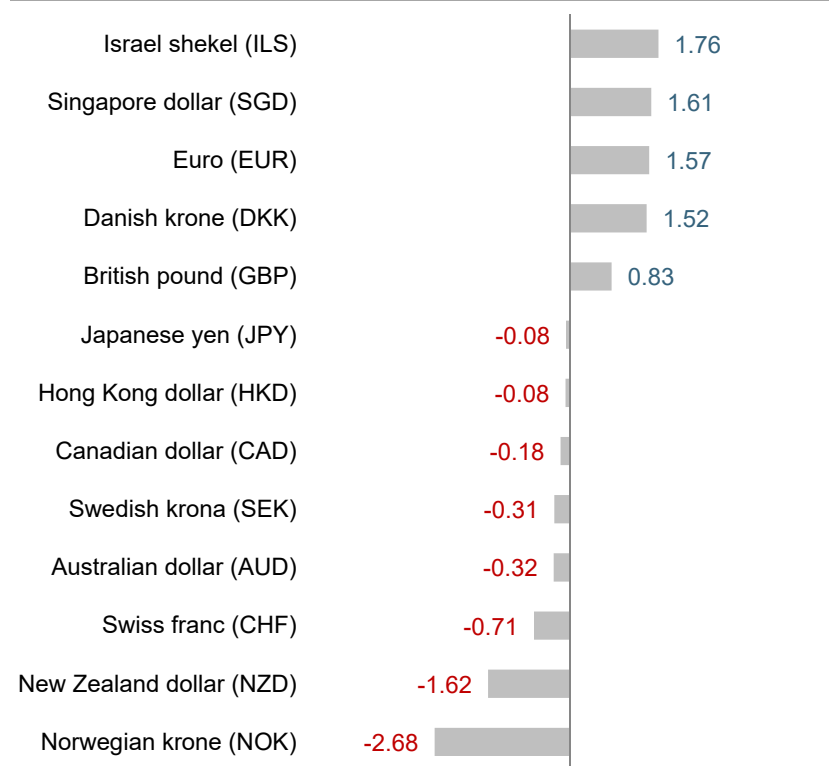


# Select Currency Performance vs. US Dollar

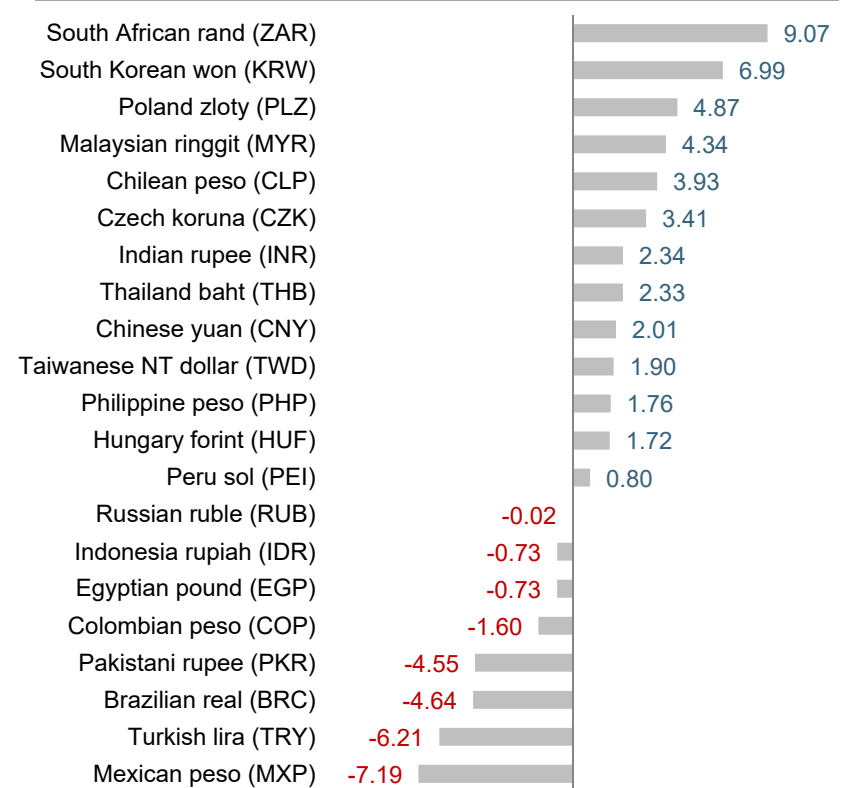
Fourth Quarter 2017

In developed markets, the Israeli shekel and the Singapore dollar both appreciated over 1.6%, while the Norwegian krone depreciated approximately 3% during the quarter. In emerging markets, the South African rand appreciated more than 9%, while the Mexican peso depreciated over 7%.

## Ranked Developed Markets (%)



## Ranked Emerging Markets (%)



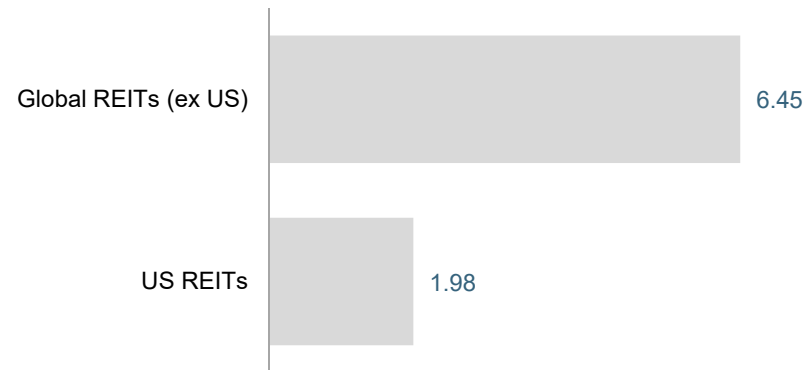


# Real Estate Investment Trusts (REITs)

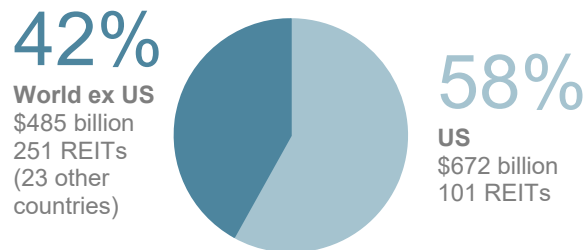
## Fourth Quarter 2017 Index Returns

Non-US real estate investment trusts outperformed US REITs.

### Ranked Returns (%)



### Total Value of REIT Stocks



### Period Returns (%)

Asset Class	* Annualized			
	1 Year	3 Years*	5 Years*	10 Years*
Global REITs (ex US)	15.64	4.78	5.49	2.05
US REITs	3.76	4.97	9.09	7.07

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 © 2018.



# Commodities

## Fourth Quarter 2017 Index Returns

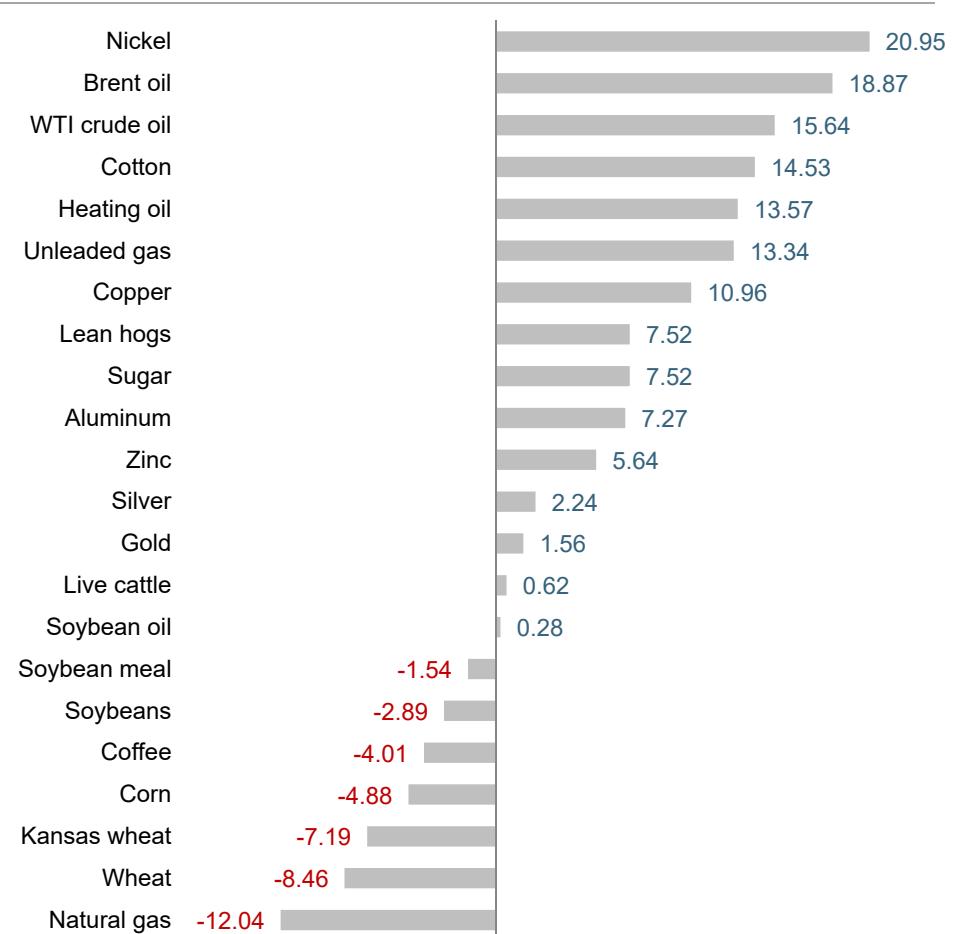
The Bloomberg Commodity Index Total Return gained 4.71% in the fourth quarter, bringing the 2017 total annual return to 1.70%.

Petroleum led quarterly performance. Brent crude oil returned 18.87%, and WTI crude oil gained 15.64%. Grains was the worst-performing complex, with Chicago wheat and Kansas wheat declining by 8.46% and 7.19%, respectively.

Asset Class	Period Returns (%)			
	1 Year	3 Years*	5 Years*	10 Years*
Commodities	1.70	-5.03	-8.45	-6.83

\* Annualized

### Ranked Returns for Individual Commodities (%)





# Fixed Income

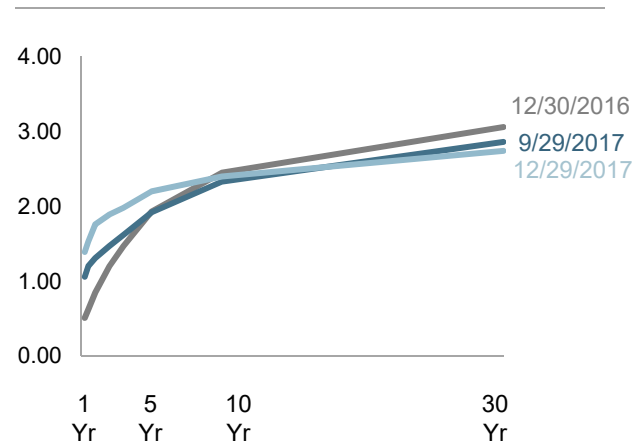
## Fourth Quarter 2017 Index Returns

Interest rate changes across the US fixed income market were mixed during the fourth quarter. The yield on the 5-year Treasury note rose 28 basis points (bps), ending at 2.20%. The yield on the 10-year Treasury note increased 7 bps to 2.40%. The 30-year Treasury bond yield decreased 12 bps to finish at 2.74%.

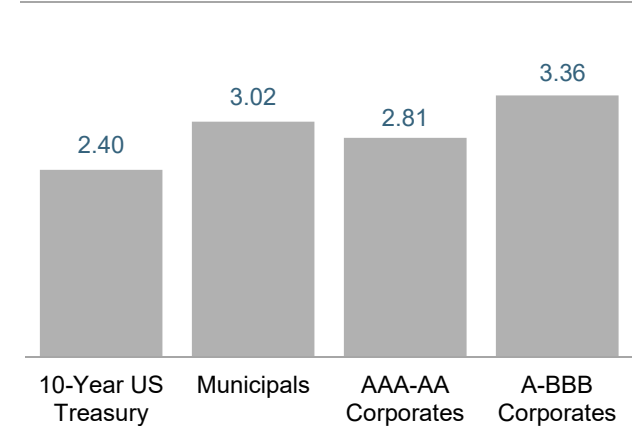
In terms of total returns, short-term corporate bonds declined 0.04% during the quarter but increased 1.85% for the year. Intermediate-term corporate bonds gained 0.17% for the quarter and 3.92% for the year.

The total returns for short-term municipal bonds were -0.65% for the quarter and 1.61% for the year. Intermediate-term municipal bonds fell 0.09% for the quarter but gained 4.70% for the year. Revenue bonds outperformed general obligation bonds for the year.

US Treasury Yield Curve (%)



Bond Yields across Issuers (%)



Period Returns (%)

Asset Class	* Annualized			
	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg Barclays Long US Government Bond Index	8.53	2.85	3.49	6.49
Bloomberg Barclays US Corporate High Yield Index	7.50	6.35	5.78	8.03
Bloomberg Barclays Municipal Bond Index	5.45	2.98	3.02	4.46
Bloomberg Barclays US Aggregate Bond Index	3.54	2.24	2.10	4.01
Bloomberg Barclays US TIPS Index	3.01	2.05	0.13	3.53
Citi World Government Bond Index 1-5 Years (hedged to USD)	1.13	1.21	1.23	2.13
ICE BofAML 3-Month US Treasury Bill Index	0.86	0.41	0.27	0.39
ICE BofAML 1-Year US Treasury Note Index	0.57	0.49	0.38	0.90

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). Citi fixed income indices © 2018 by Citigroup. ICE BofAML index data © 2018 ICE Data Indices, LLC. The S&P data are provided by Standard & Poor's Index Services Group.



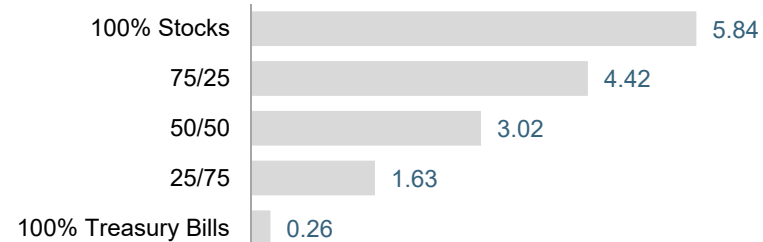
# Impact of Diversification

## Fourth Quarter 2017 Index Returns

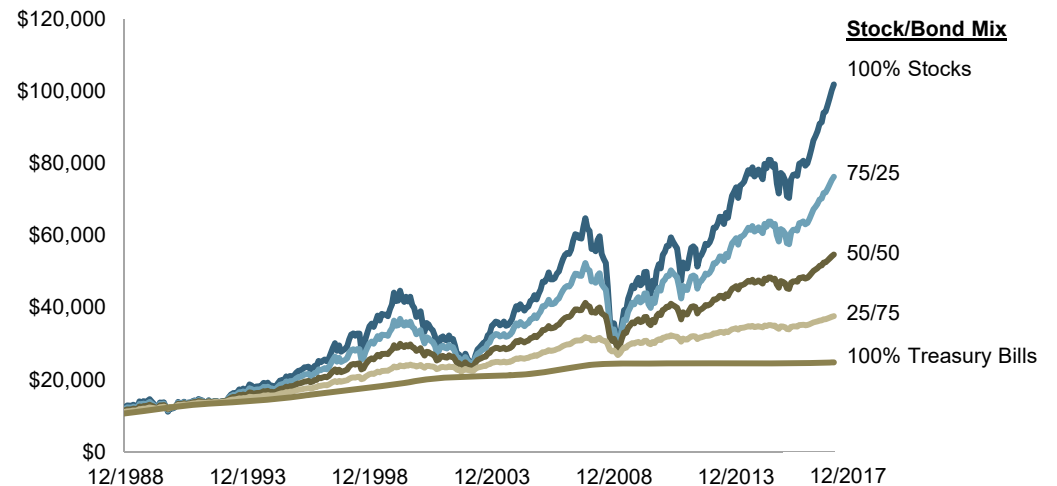
These portfolios illustrate the performance of different global stock/bond mixes. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

Asset Class	Period Returns (%)					10-Year STDEV <sup>1</sup>
	1 Year	3 Years*	5 Years*	10 Years*	* Annualized	
100% Stocks	24.62	9.89	11.40	5.22	16.80	
75/25	18.23	7.54	8.59	4.26	12.59	
50/50	12.14	5.15	5.79	3.11	8.38	
25/75	6.33	2.75	3.00	1.78	4.18	
100% Treasury Bills	0.80	0.34	0.21	0.30	0.16	

### 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).



# 2017 Annual Market Review



# 2017 Annual Market Review



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This report features world capital market performance for the past year.

## Overview:

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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

Impact of Diversification



# 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>2017</b>	<b>STOCKS</b>				<b>BONDS</b>	
	<b>21.13%</b> 	<b>24.21%</b> 	<b>37.28%</b> 	<b>7.41%</b> 	<b>3.54%</b> 	<b>2.06%</b> 
<b>Since Jan. 2001</b>						
Avg. Annual Return	8.4%	7.0%	14.8%	11.0%	4.8%	4.5%
Best Year	33.6% <b>2013</b>	39.4% <b>2003</b>	78.5% <b>2009</b>	37.4% <b>2006</b>	10.3% <b>2002</b>	9.8% <b>2014</b>
Worst Year	-37.3% <b>2008</b>	-43.6% <b>2008</b>	-53.3% <b>2008</b>	-45.7% <b>2008</b>	-2.0% <b>2013</b>	1.4% <b>2013</b>

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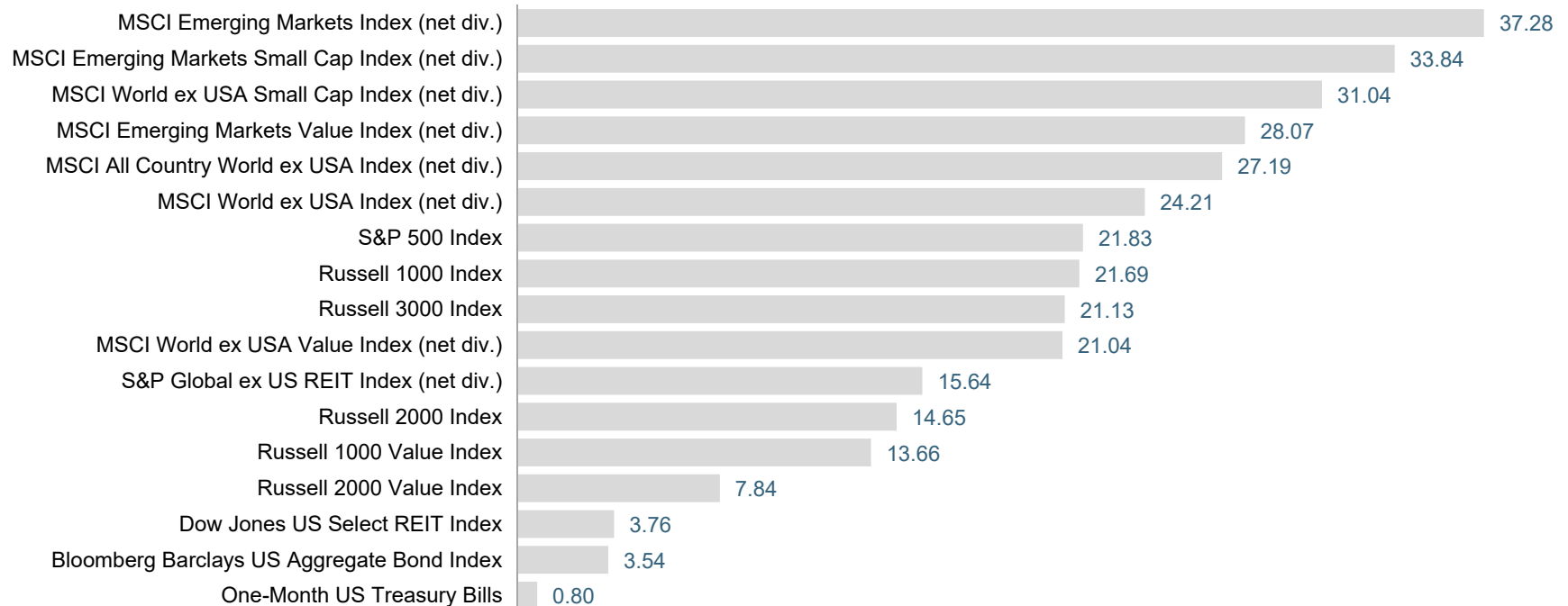


# World Asset Classes

## 2017 Index Returns (%)

Looking at broad market indices, emerging markets outperformed US and non-US developed markets in 2017.

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



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# US Stocks

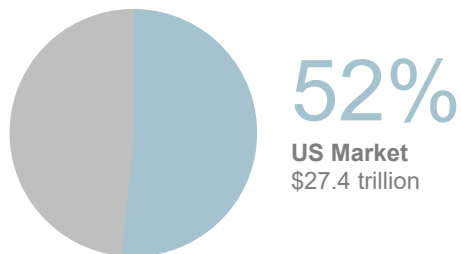
## 2017 Index Returns

The US equity market posted positive returns for 2017 but underperformed non-US developed and emerging markets.

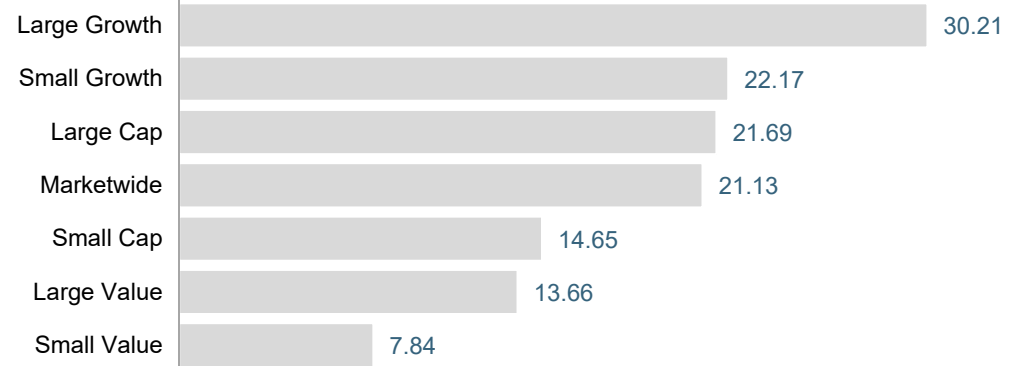
Value underperformed growth in the US across large and small cap indices.

Small caps underperformed large caps in the US.

### World Market Capitalization—US



### Ranked Returns for 2017 (%)



### Period Returns (%)

Asset Class	* Annualized			
	1 Year	3 Years*	5 Years*	10 Years*
Large Growth	30.21	13.79	17.33	10.00
Small Growth	22.17	10.28	15.21	9.19
Large Cap	21.69	11.23	15.71	8.59
Marketwide	21.13	11.12	15.58	8.60
Small Cap	14.65	9.96	14.12	8.71
Large Value	13.66	8.65	14.04	7.10
Small Value	7.84	9.55	13.01	8.17

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# International Developed Stocks

## 2017 Index Returns

In US dollar terms, non-US developed markets outperformed the US market but underperformed emerging markets during 2017.

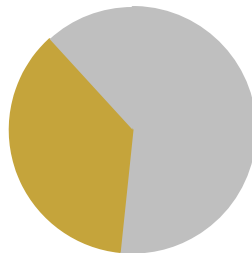
Looking at broad market indices, the value effect was negative.

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

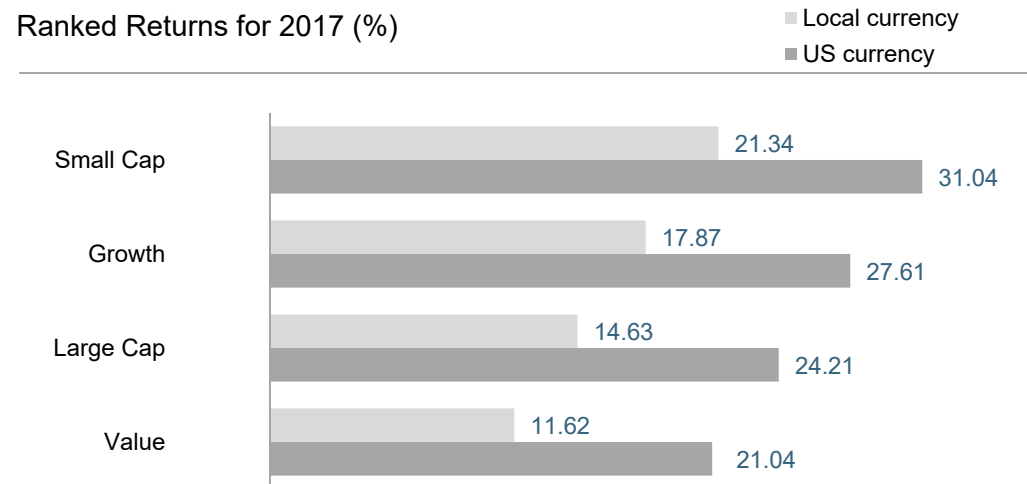
### World Market Capitalization—International Developed

**37%**

**International  
Developed  
Market**  
\$19.4 trillion



### Ranked Returns for 2017 (%)



### Period Returns (%)

Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Small Cap	31.04	12.96	11.37	5.16
Growth	27.61	8.38	8.22	2.36
Large Cap	24.21	7.36	7.46	1.87
Value	21.04	6.26	6.64	1.32

\* 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 2018, all rights reserved.



# Emerging Markets Stocks

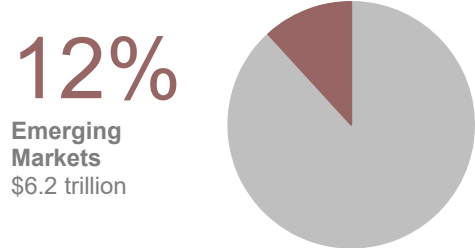
## 2017 Index Returns

In US dollar terms, emerging markets outperformed the US and non-US developed markets for the year.

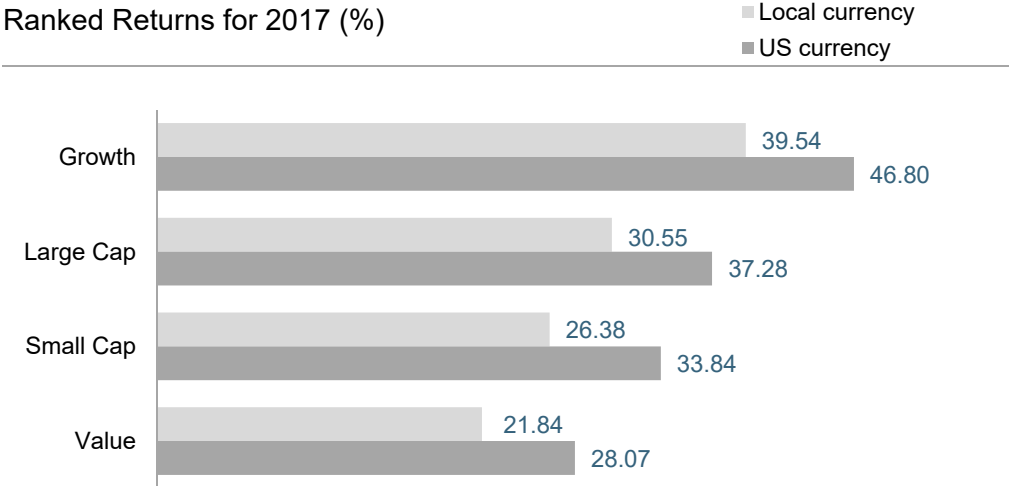
Across the large cap and mid cap space, the value effect was negative; however, in the small cap space, the effect was positive.

Overall, small caps underperformed large caps in emerging markets.

### World Market Capitalization—Emerging Markets



### Ranked Returns for 2017 (%)



### Period Returns (%)

Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Growth	46.80	11.88	6.85	2.35
Large Cap	37.28	9.10	4.35	1.68
Small Cap	33.84	8.44	5.41	2.78
Value	28.07	6.21	1.75	0.91

\* 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 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.

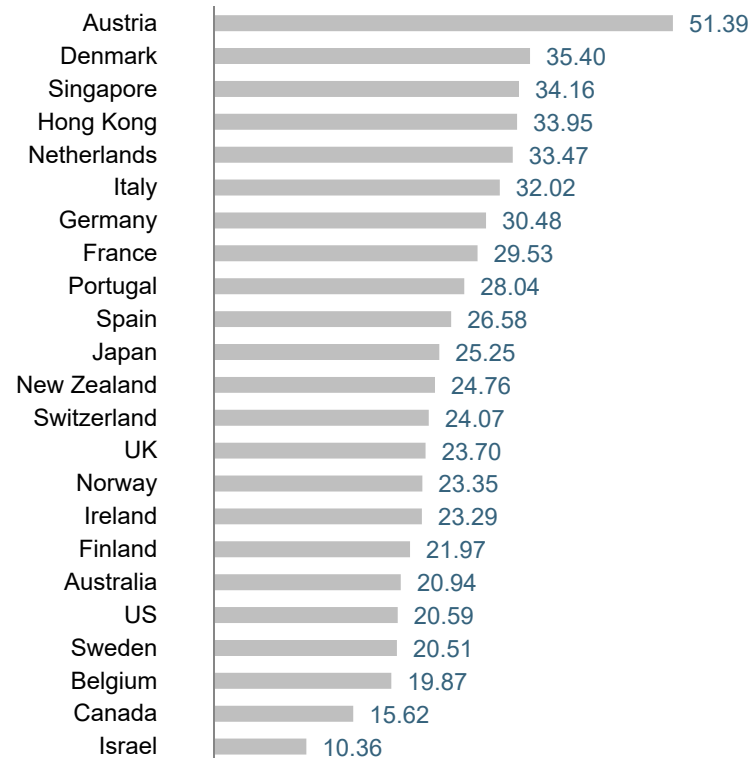


# Select Country Performance

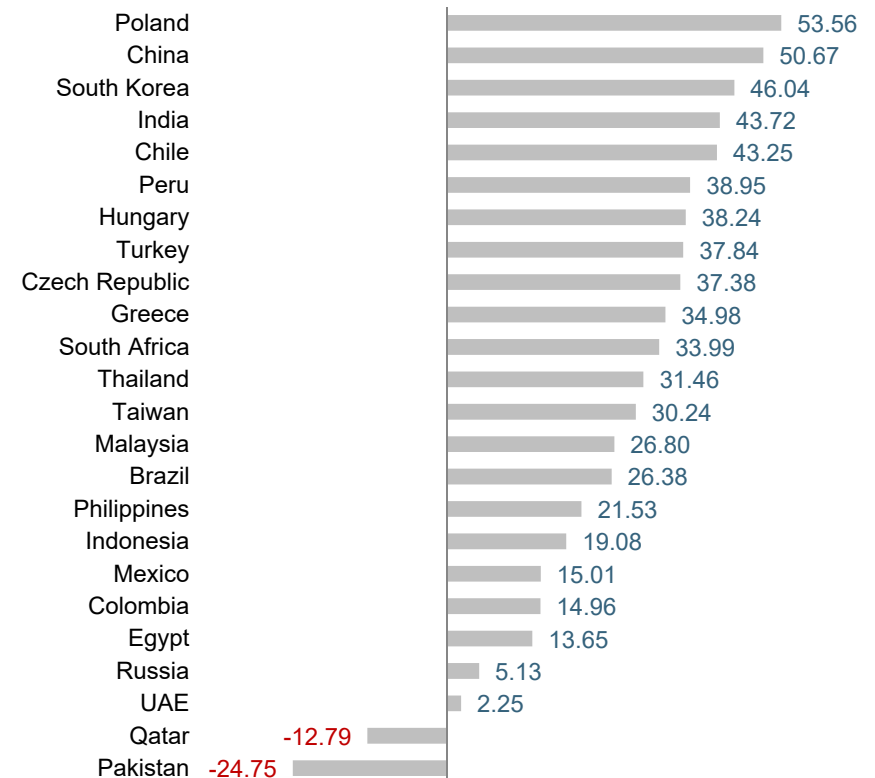
## 2017 Index Returns

In US dollar terms, Austria recorded the highest country performance in developed markets with a gain of more than 50%, while Israel posted the lowest return for the year. In emerging markets, Poland and China posted the highest country returns, each returning over 50%, while Pakistan and Qatar 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 2018, all rights reserved. UAE and Qatar have been reclassified as emerging markets by MSCI, effective May 2014.

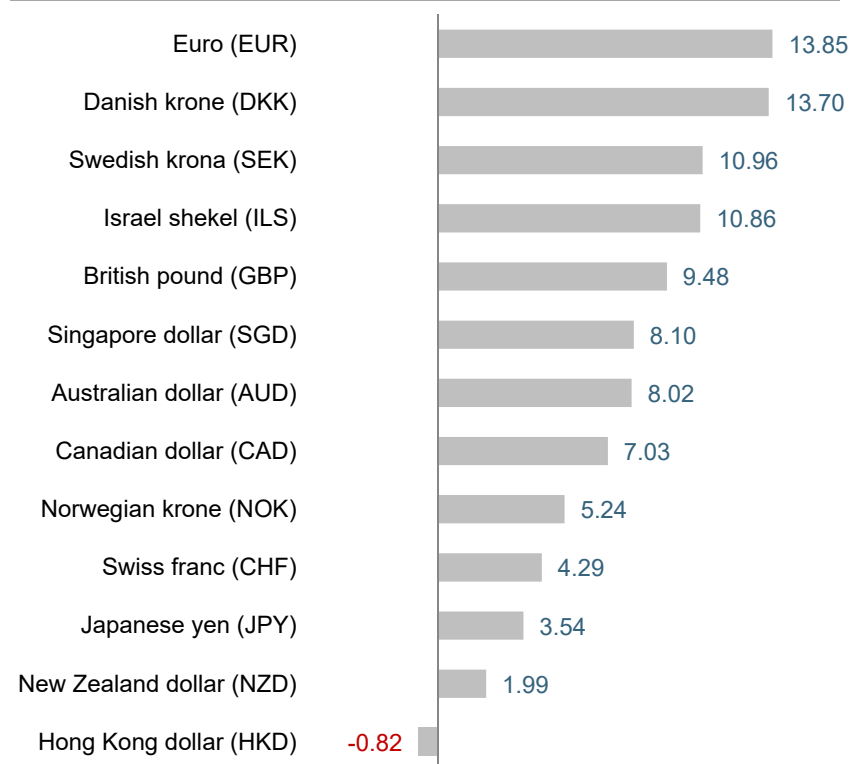


# Select Currency Performance vs. US Dollar

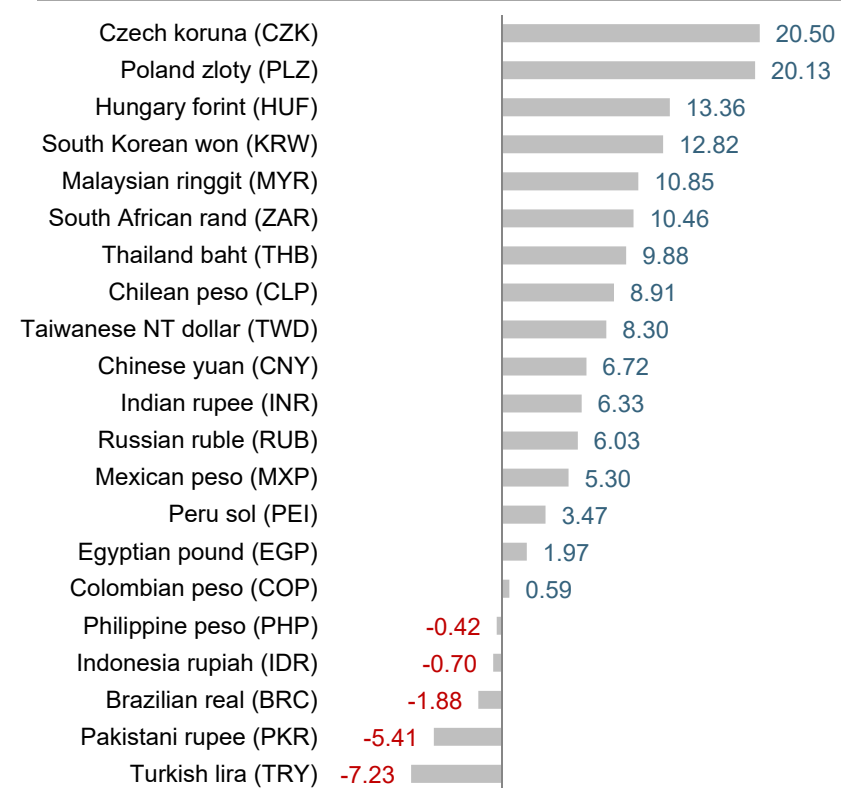
2017

Most developed market currencies appreciated against the US dollar in 2017. The euro and Danish krone appreciated the most with gains of almost 14%, while the Hong Kong dollar depreciated. In emerging markets, the Polish zloty and the Czech koruna appreciated more than 20%, while the Turkish lira depreciated over 7%.

## Ranked Developed Markets (%)



## Ranked 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. MSCI data © MSCI 2018, all rights reserved.



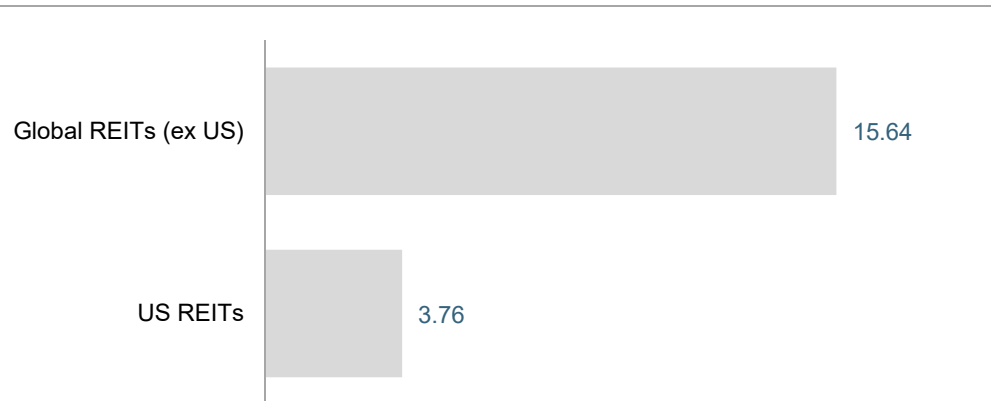


# Real Estate Investment Trusts (REITs)

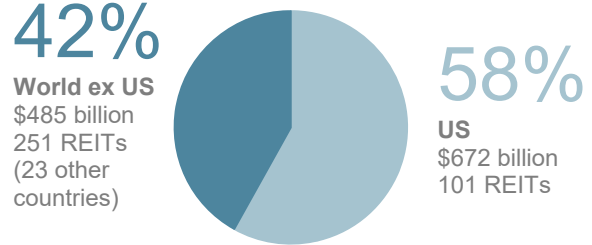
## 2017 Index Returns

Non-US real estate investment trusts outperformed US REITs in 2017.

### Ranked Returns for 2017 (%)



### Total Value of REIT Stocks



### Period Returns (%)

Asset Class	* Annualized			
	1 Year	3 Years*	5 Years*	10 Years*
Global REITs (ex US)	15.64	4.78	5.49	2.05
US REITs	3.76	4.97	9.09	7.07

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 © 2018.



# Commodities

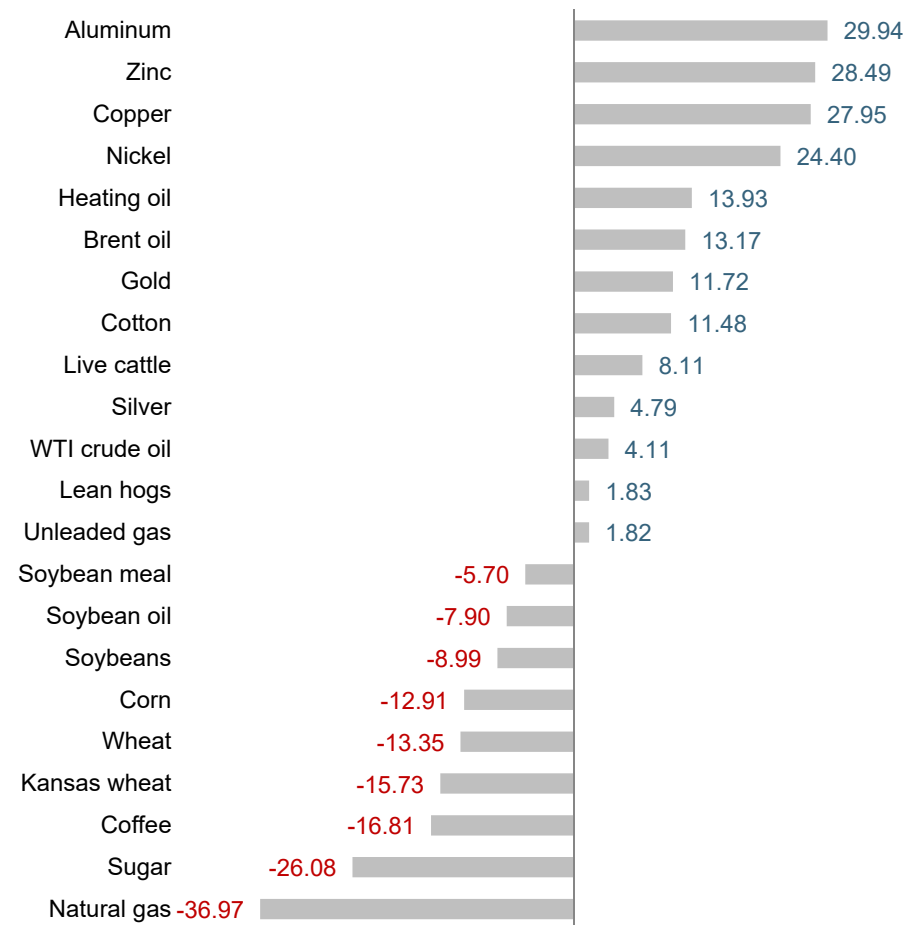
## 2017 Returns

The Bloomberg Commodity Index Total Return advanced 1.70% in 2017.

Aluminum was the strongest performer, posting a return of 29.94%. Zinc and copper followed with respective returns of 28.49% and 27.95%. Natural gas was the weakest performer, falling 36.97%.

Period Returns (%)		* Annualized		
Asset Class	1 Year	3 Years*	5 Years*	10 Years*
Commodities	1.70	-5.03	-8.45	-6.83

### Ranked Returns for Individual Commodities (%)





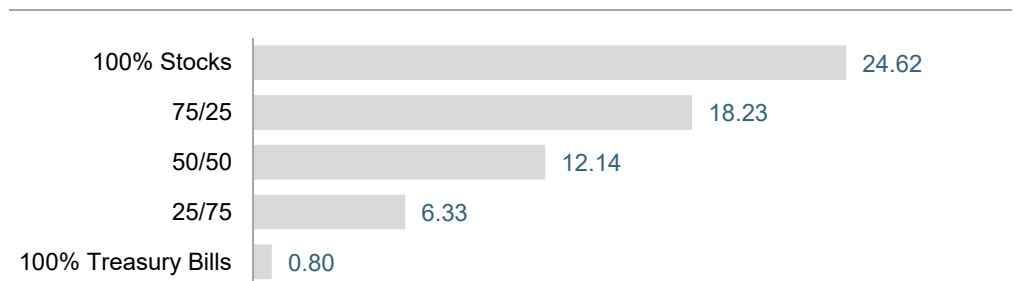
# Impact of Diversification

## 2017 Index Returns

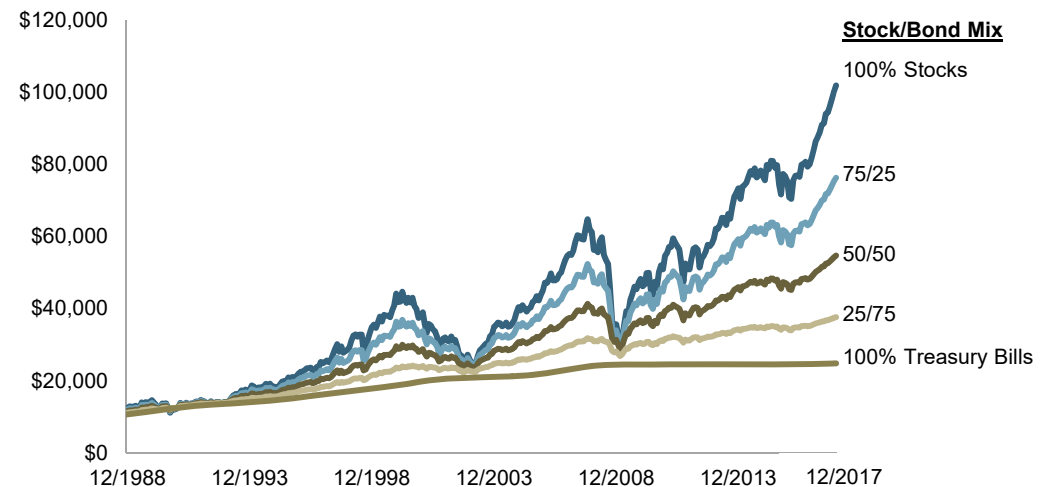
These portfolios illustrate the performance of different global stock/bond mixes. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

Period Returns (%)						* Annualized
Asset Class	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV <sup>1</sup>	
100% Stocks	24.62	9.89	11.40	5.22	16.80	
75/25	18.23	7.54	8.59	4.26	12.59	
50/50	12.14	5.15	5.79	3.11	8.38	
25/75	6.33	2.75	3.00	1.78	4.18	
100% Treasury Bills	0.80	0.34	0.21	0.30	0.16	

### Ranked Returns for 2017 (%)



### 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).