HEMINGTON
WEALTH MANAGEMENT

QUARTERLY MARKET REVIEW

Q3

THIRD QUARTER 2018

Quarterly Topic: Total Cost of Ownership

Costs matter. Whether you're buying a car or selecting an investment strategy, the costs you expect to pay are likely to be an important factor in making any major financial decision.

People rely on a lot of different information about costs to help inform these decisions. When you buy a car, for example, the sticker price indicates approximately how much you can expect to pay for the car itself. But the costs of car ownership do not end there. Taxes, insurance, fuel, routine maintenance, and unexpected repairs are also important considerations in the overall cost of a car. Some of these costs are easily observed, while others are more difficult to assess. Similarly, when investing in mutual funds, different variables need to be considered to evaluate how cost-effective a strategy may be for a particular investor.

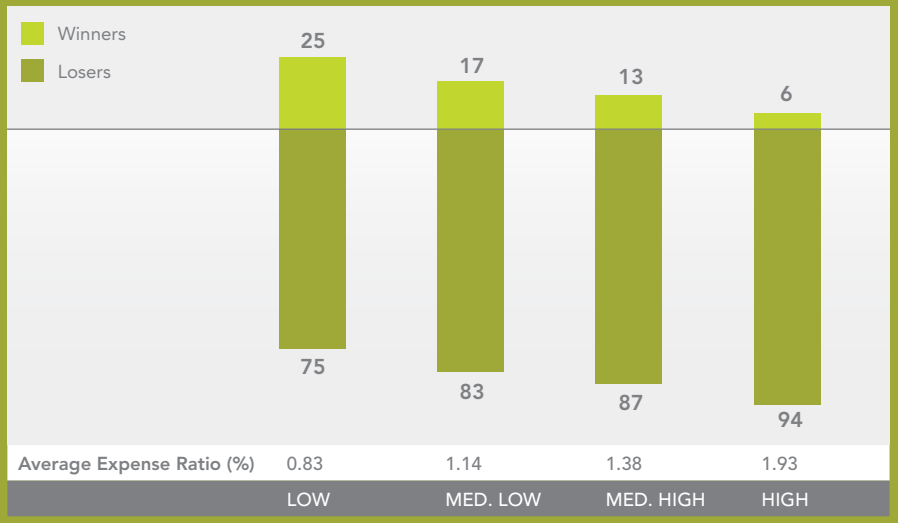
Expense Ratios

Mutual funds have many costs, all of which affect the net return to investors. One easily observable cost is the expense ratio. Like the sticker price of a car, the expense ratio tells you a lot about what you can expect to pay for an investment strategy. Expense ratios strongly influence fund selection for many investors, and it's easy to see why.

Exhibit 1 illustrates the outperformance rate, or the percentage of funds that beat their category index, for active equity mutual funds over the 15-year period ending December 31, 2017. To see the link between expense ratio and performance, outperformance rates are shown for quartiles of funds sorted by their expense ratio. As the chart shows, while active funds have mostly lagged indices across the board, the outperformance rate has been inversely related to expense ratio. Just 6% of funds in the highest expense ratio quartile beat their index, compared to 25% for the lowest expense ratio group.

This data indicates that a high expense ratio presents a challenging hurdle for funds to overcome, especially over longer time horizons. From the investor's point of view, an expense ratio of 0.25% vs. 1.25% means savings of $10,000 per year on every $1 million invested. As **Exhibit 2** helps to illustrate, those dollars can really add up over time.

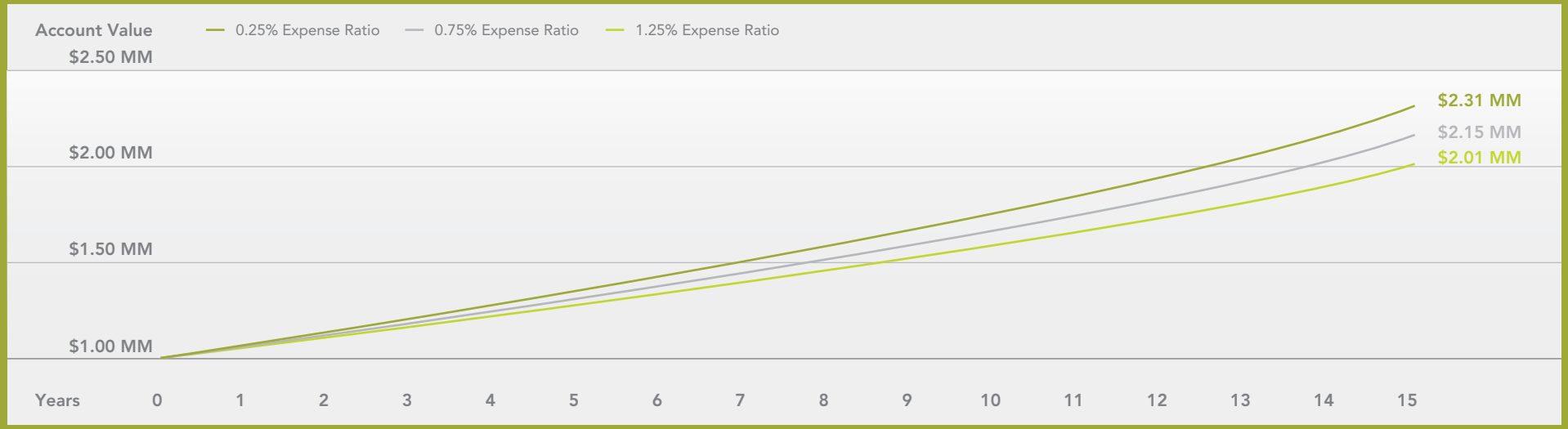
Exhibit 1. High Costs Can Reduce Performance, Equity Fund Winners and Losers Based on Expense Ratios (%)



The sample includes funds at the beginning of the 15-year period ending December 31, 2017. Funds are sorted into quartiles within their category based on average expense ratio over the sample period. The chart shows the percentage of winner and loser funds by expense ratio quartile; winners are funds that survived and outperformed their respective Morningstar category benchmark, and losers are funds that either did not survive or did not outperform their respective Morningstar category benchmark. US-domiciled open-end mutual fund data is from Morningstar and Center for Research in Security Prices (CRSP) from the University of Chicago. Equity fund sample includes the Morningstar historical categories: Diversified Emerging Markets, Europe Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Blend, Foreign Small/Mid Growth, Foreign Small/Mid Value, Japan Stock, Large Blend, Large Growth, Large Value, Mid-Cap Blend, Mid-Cap Value, Miscellaneous Region, Pacific/Asia ex-Japan Stock, Small Blend, Small Growth, Small Value, and World Stock. For additional information regarding the Morningstar historical categories, please see "The Morningstar Category Classifications" at morningstardirect.morningstar.com/clientcomm/Morningstar_Categories_US_April_2016.pdf. Index funds and fund-of-funds are excluded from the sample. The return, expense ratio, and turnover for funds with multiple share classes are taken as the asset-weighted average of the individual share class observations. For additional methodology, please refer to Dimensional Fund Advisors' brochure, Mutual Fund Landscape 2018. Past performance is no guarantee of future results.

Quarterly Topic Continued: Total Cost of Ownership

Exhibit 2. Hypothetical Growth of $1 Million at 6%, Less Expenses



For illustrative purposes only and not representative of an actual investment. This hypothetical illustration is intended to show the potential impact of higher expense ratios and does not represent any investor's actual experience. Assumes a starting account balance of $1 million and a 6% compound annual growth rate less expense ratios of 0.25%, 0.75%, and 1.25% applied over a 15-year time horizon. Performance of a hypothetical investment does not reflect transaction costs, taxes, other potential costs, or returns that any investor would have actually attained and may not reflect the true costs, including management fees of an actual portfolio. Actual results may vary significantly. Changing the assumptions would result in different outcomes. For example, the savings and difference between the ending account balances would be lower if the starting investment amount were lower.

Going Beyond the Expense Ratio

The poor track record of mutual funds with high expense ratios has led many investors to select mutual funds based on expense ratio alone. However, as with a car's sticker price, an expense ratio is not an all-encompassing measure of the cost of ownership. Take, for example, index funds, which often rank near the bottom of their peers on expense ratio.

Index funds are designed to track or match the components of an index formed by an index provider, such as Russell or MSCI. Important decisions in the investment process, such as which securities to include in the index, are outsourced to an index provider and are not within the fund manager's discretion. For example, the prescribed reconstitution schedule for an index, which is the process of deleting or adding certain stocks to the index, may cause index funds to buy stocks when buy demand is high and sell stocks when buy demand is low. This price-insensitive buying and selling may be required so that the index fund can stay true to its investment mandate of tracking an underlying index. This can result in suboptimal transaction prices for the index fund and diminished overall returns. In other words, for a given amount of trading (or turnover), the cost per unit of trading may be higher for such a strictly regimented approach to investing.

Quarterly Topic Continued: Total Cost of Ownership

Moreover, this cost will not appear explicitly to investors assessing such a fund on expense ratio alone. Further, because indices are reconstituted infrequently (typically once per year), funds seeking to track them may also be forced to buy and sell holdings based on stale eligibility criteria. For example, the characteristics of a stock considered a value stock[1] as of the last reconstitution date may change over time, but between reconstitution dates, those changes would not affect that stock's inclusion or weighting in a value index. That means incoming cash flows to a value index fund could actually be used to purchase stocks that currently look more like growth stocks[2] and vice versa. Metaphorically, these managers' attention may be more focused on the rear-view mirror than on the road ahead for investors.

For active approaches like stock picking, both the total amount of trading and the cost per trade may be high. If a manager trades excessively or inefficiently, costs like commissions and price impact from trading can eat away at returns. Viewed through the lens of our car analogy, this impact is like the toll on your vehicle from incessantly jamming the brakes or accelerating quickly. Subjecting the car to such treatment may result in added wear and tear and greater fuel consumption, increasing your total cost of ownership. Similarly, excessive trading can lead to negative tax consequences for a fund, which can increase the cost of ownership for investors holding funds in taxable accounts. Such trading costs can be reduced by avoiding unnecessary turnover and seeking to minimize the cost per trade.

In contrast to both highly regimented indexing and high-turnover active strategies, employing a flexible investment approach that reduces the need for immediacy, and thus enables opportunistic execution, is one way to potentially reduce implicit costs. Keeping turnover low, remaining flexible, and transacting only when the potential benefits of a trade outweigh the costs can help keep overall trading costs down and help reduce the total cost of ownership.

Conclusion

The total cost of ownership of a mutual fund can be difficult to assess and requires a thorough understanding of costs beyond what an expense ratio can tell investors on its own. We believe investors should look beyond any one cost metric and instead evaluate the total cost of ownership of an investment solution.

1. A stock trading at a low price relative to a measure of fundamental value, such as book value or earnings.
2. A stock trading at a high price relative to a measure of fundamental value, such as book value or earnings.

Quarterly Market Review

OVERVIEW

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 performance of globally diversified portfolios and features a quarterly topic.

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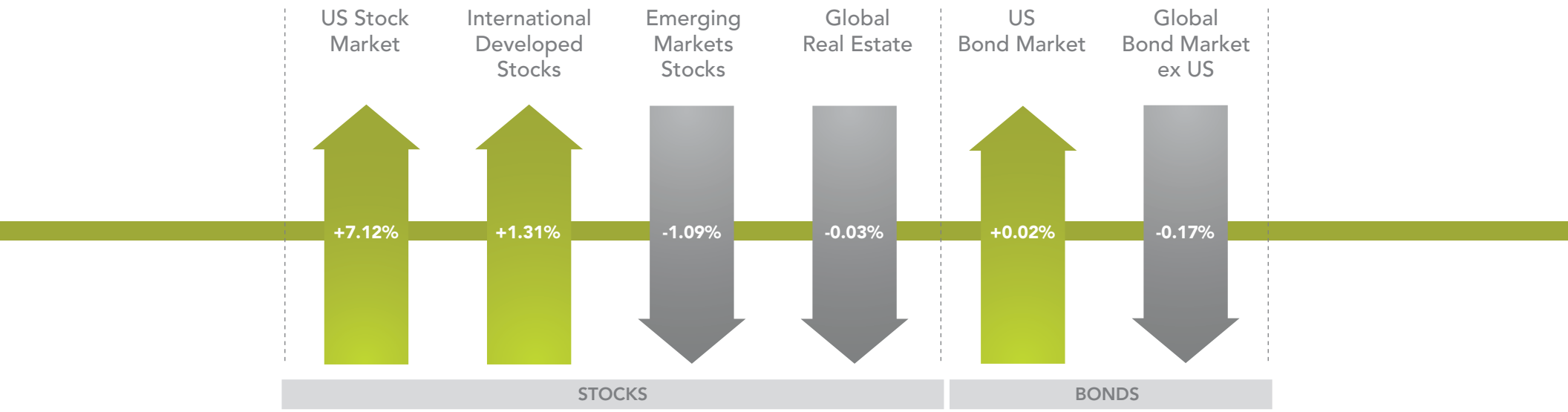
Market Summary: Index Returns

THIRD QUARTER 2018



Since Jan. 2001

Avg. Quarterly Return	2.0%	1.5%	2.9%	2.6%	1.1%	1.1%
Best Quarter	16.8% **Q2 2009**	25.9% **Q2 2009**	34.7% **Q2 2009**	32.3% **Q3 2009**	4.6% **Q3 2001**	4.6% **Q4 2008**
Worst Quarter	-22.8% **Q4 2008**	-21.2% **Q4 2008**	-27.6% **Q4 2008**	-36.1% **Q4 2008**	-3.0% **Q4 2016**	-2.7% **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 Market ex US (Bloomberg Barclays Global Aggregate ex-USD Bond Index [hedged to USD]).

Impact of Diversification: Index Returns

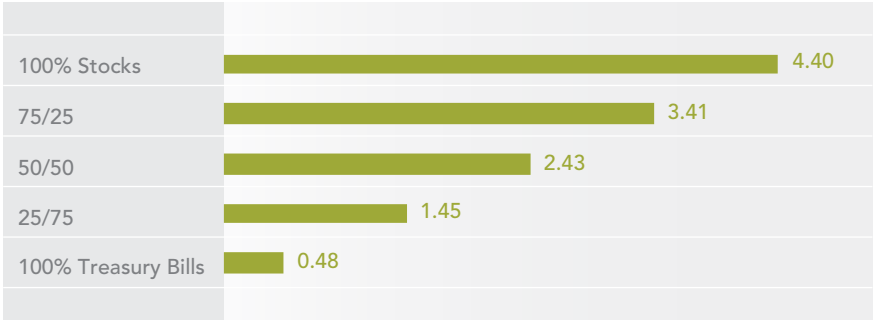
These portfolios illustrate the performance of different global stock/bond mixes and highlight the benefits of diversification. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV[1]
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

• Annualized

Ranked Returns for the Quarter (%)



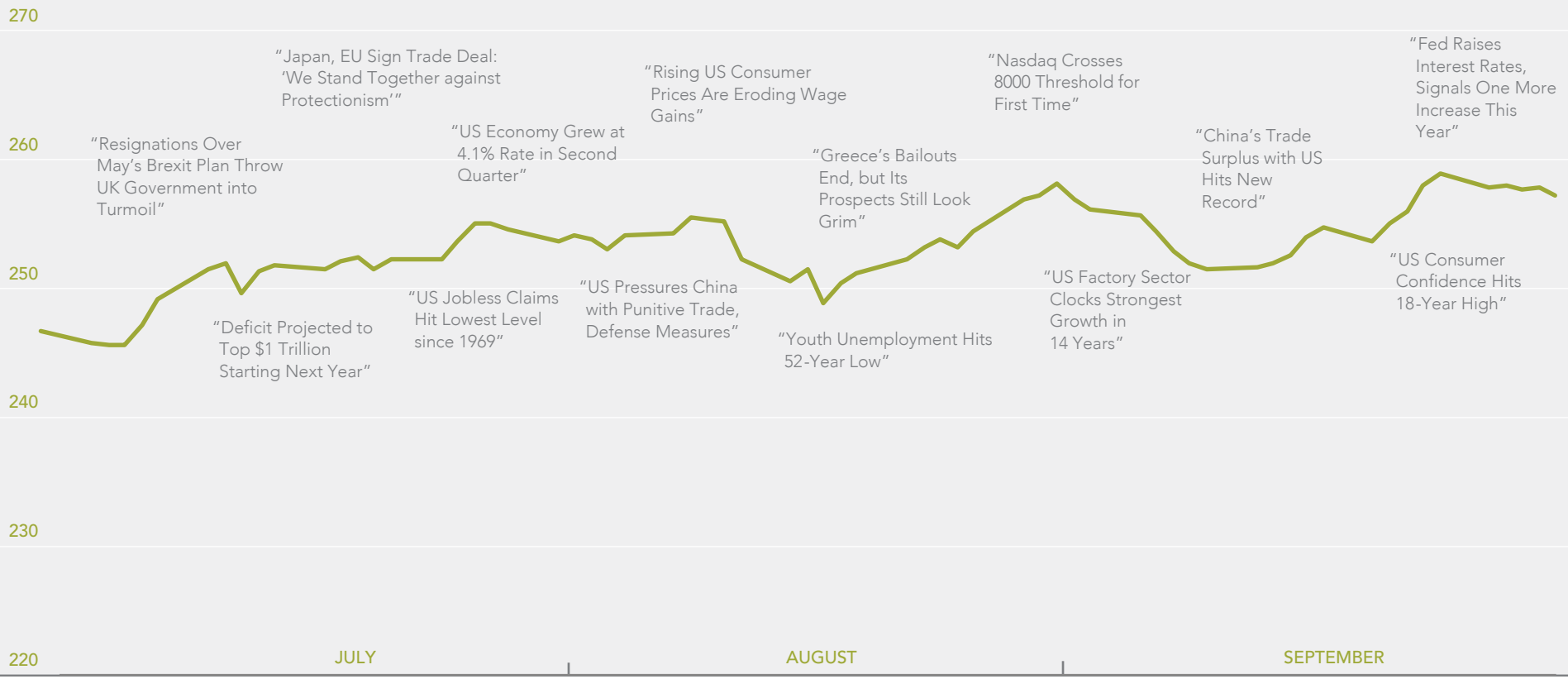
Growth of Wealth: The Relationship Between Risk and Return

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. Treasury bills © Stocks, Bonds, Bills, and Inflation Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefield).

World Stock Market Performance: Selected Headlines

THIRD QUARTER 2018

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: Selected Headlines

Short Term (Q4 2017–Q3 2018)
MSCI All Country World Index with Selected Headlines From Past 12 months

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.

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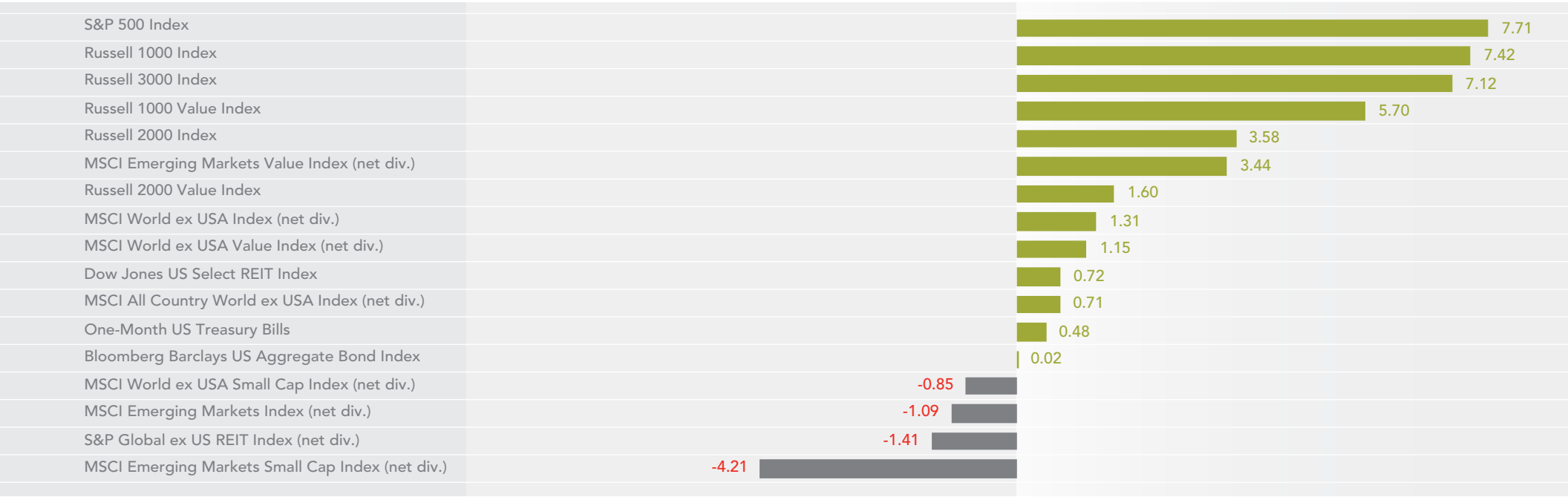
World Asset Classes: Index Returns (%)

THIRD QUARTER 2018

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.



US Stocks: Index Returns

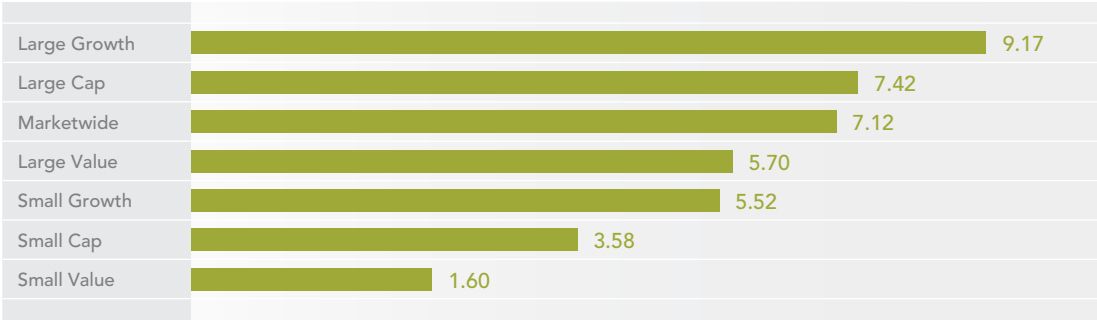
THIRD QUARTER 2018

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.

Ranked Returns for the Quarter (%)



World Market Capitalization—US

55%

US Market
$29.7 trillion

Period Returns (%)

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

• 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: 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: Index Returns

THIRD QUARTER 2018

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.

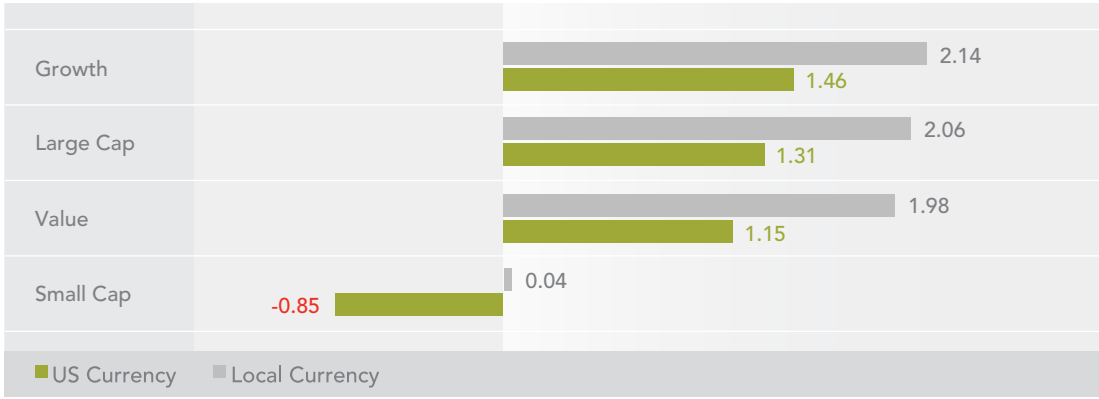
Small caps underperformed large caps in non-US developed markets.

World Market Capitalization—International Developed

34%

International Developed Market
$18.6 trillion

Ranked Returns for the Quarter (%)



Period Returns (%)

Asset Class	YTD	1 Year	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

• 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 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 World ex USA IMI Index is used as the proxy for the International Developed market.

Emerging Markets Stocks: Index Returns

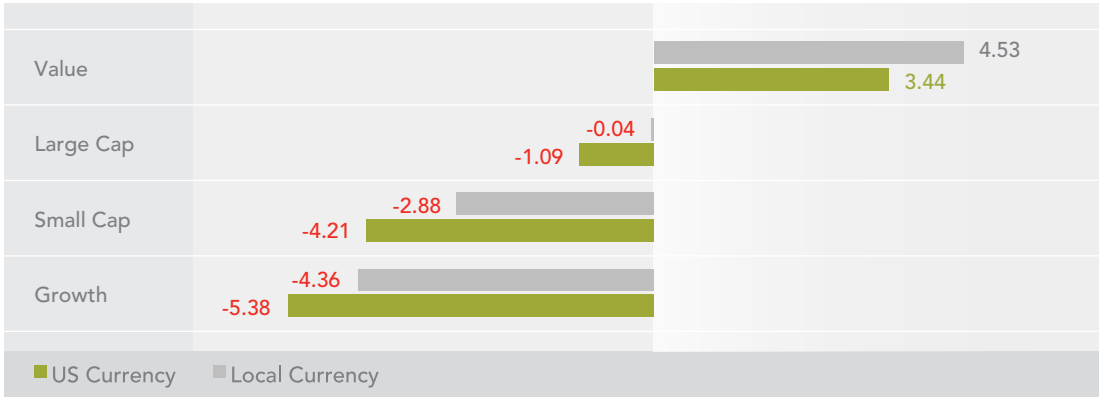
THIRD QUARTER 2018

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.

Ranked Returns for the Quarter (%)



World Market Capitalization—Emerging Markets

11%

Emerging Markets $5.8 trillion

Period Returns (%)

Asset Class	YTD	1 Year	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

• Annualized

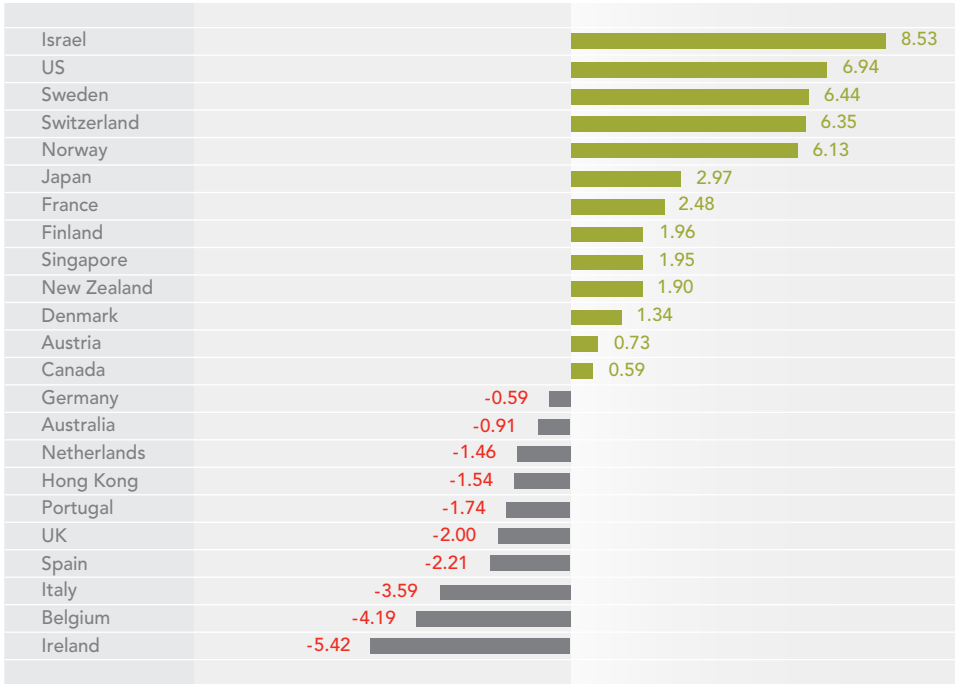
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small 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. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

Select Country Performance: Index Returns

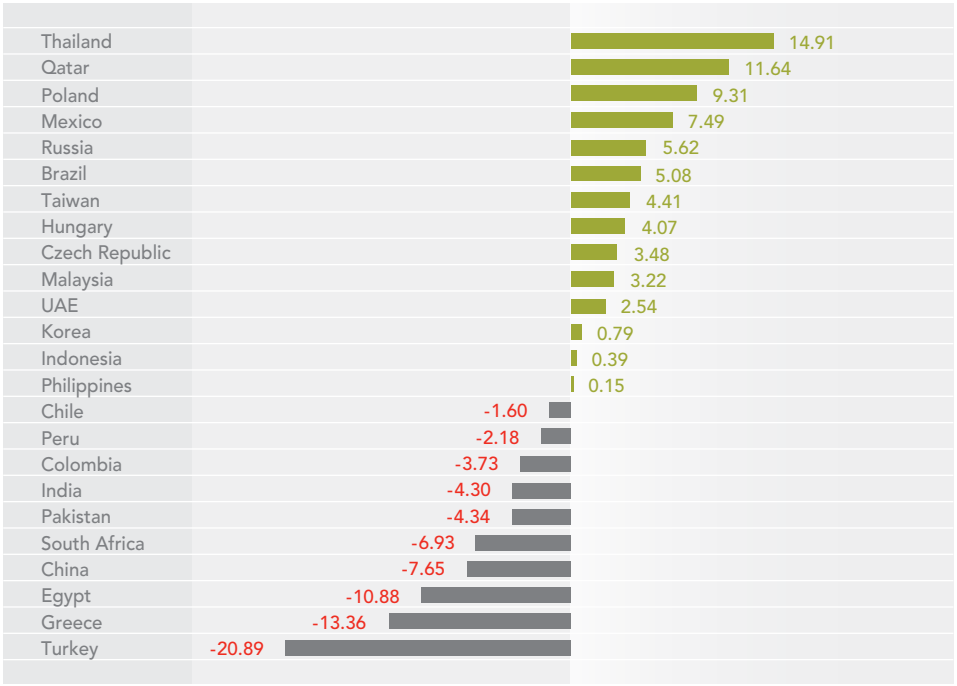
THIRD QUARTER 2018

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)

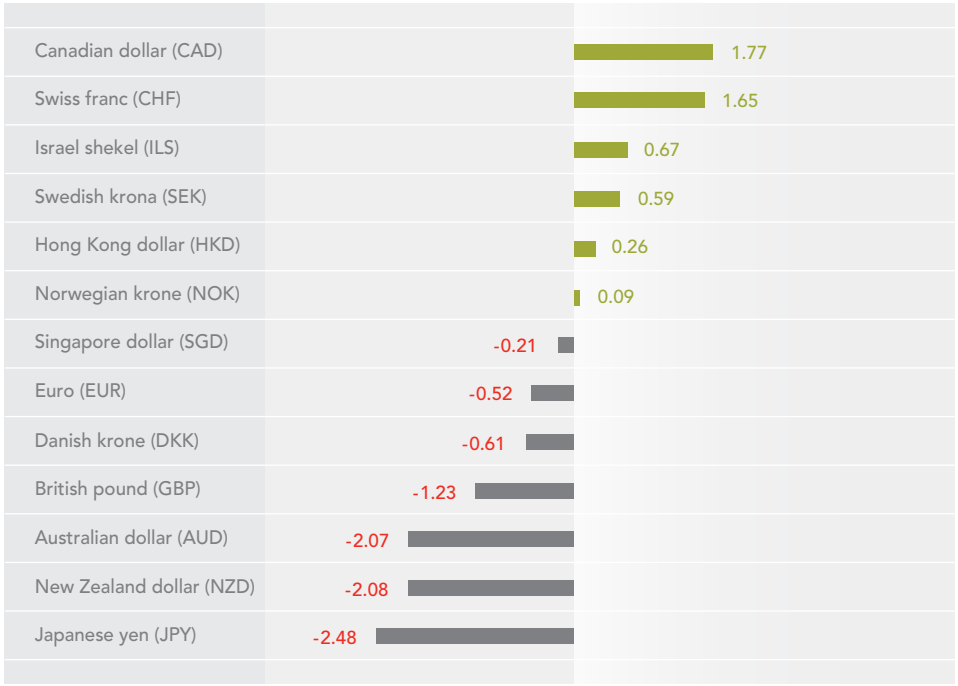


Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Country performance based on respective indices in the MSCI World ex US IMI Index (for developed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

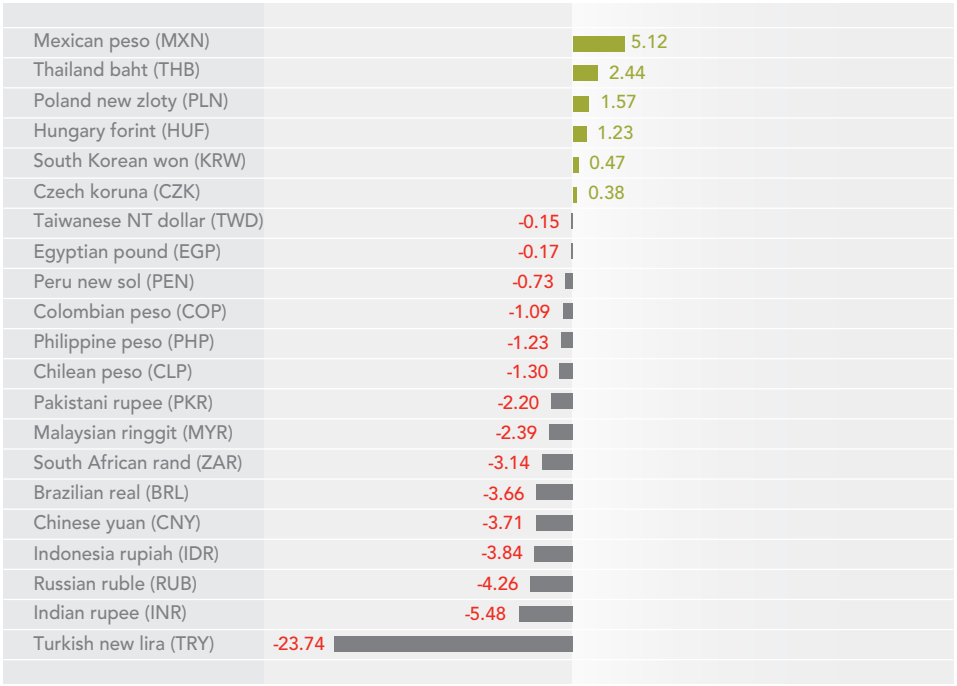
Select Currency Performance vs. US Dollar

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 (%)



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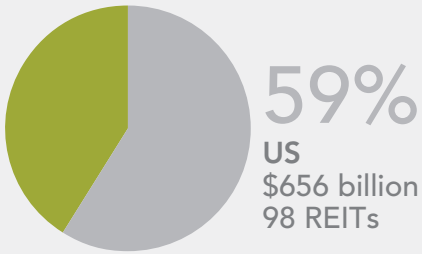
Real Estate Investment Trusts (REITs): Index Returns

THIRD QUARTER 2018

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

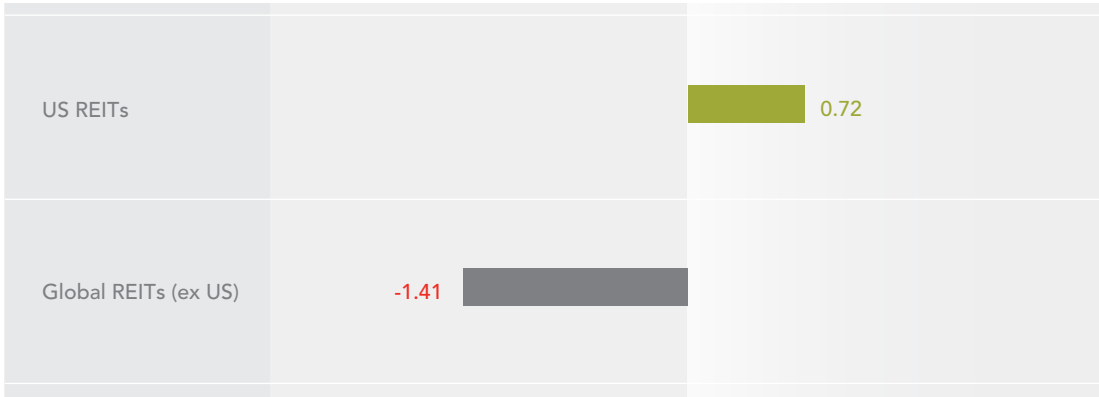
Total Value of REIT Stocks



41%
World ex US
$459 billion
240 REITs
(21 other countries)

59%
US
$656 billion
98 REITs

Ranked Returns for the Quarter (%)



Period Returns (%)

Asset Class	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

• 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. 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.

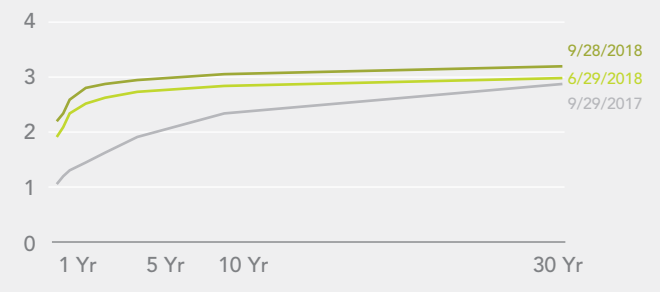
Fixed Income: Index Returns

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

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About Hemington Wealth Management

Hemington Wealth Management provides high net worth individuals and families with a broad range of wealth management services including portfolio management. We are collaborative, accessible and responsive, making it easy for clients to work with our team.

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