

# Q3

Quarterly Market Review

Third Quarter 2020

# Quarterly Market Review

Third Quarter 2020

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 Market Performance

Select Currency Performance vs. US Dollar

Real Estate Investment Trusts (REITs)

Commodities

Fixed Income







Global Fixed Income

Impact of Diversification

Quarterly Topic: When It's Value vs. Growth,  
History Is on Value's Side

# Quarterly 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>3Q 2020</b>	<b>STOCKS</b>					<b>BONDS</b>	
	<b>9.21%</b> 	<b>4.92%</b> 	<b>9.56%</b> 	<b>2.37%</b> 		<b>0.62%</b> 	<b>0.68%</b> 
<b>Since Jan. 2001</b>							
Avg. Quarterly Return	2.1%	1.4%	2.8%	2.3%		1.2%	1.1%
Best Quarter	22.0%	25.9%	34.7%	32.3%		4.6%	4.6%
	<b>2020 Q2</b>	<b>2009 Q2</b>	<b>2009 Q2</b>	<b>2009 Q3</b>		<b>2001 Q3</b>	<b>2008 Q4</b>
Worst Quarter	-22.8%	-23.3%	-27.6%	-36.1%		-3.0%	-2.7%
	<b>2008 Q4</b>	<b>2020 Q1</b>	<b>2008 Q4</b>	<b>2008 Q4</b>		<b>2016 Q4</b>	<b>2015 Q2</b>

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 © 2020 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 2020, all rights reserved. Bloomberg Barclays data provided by Bloomberg.

# Long-Term Market Summary

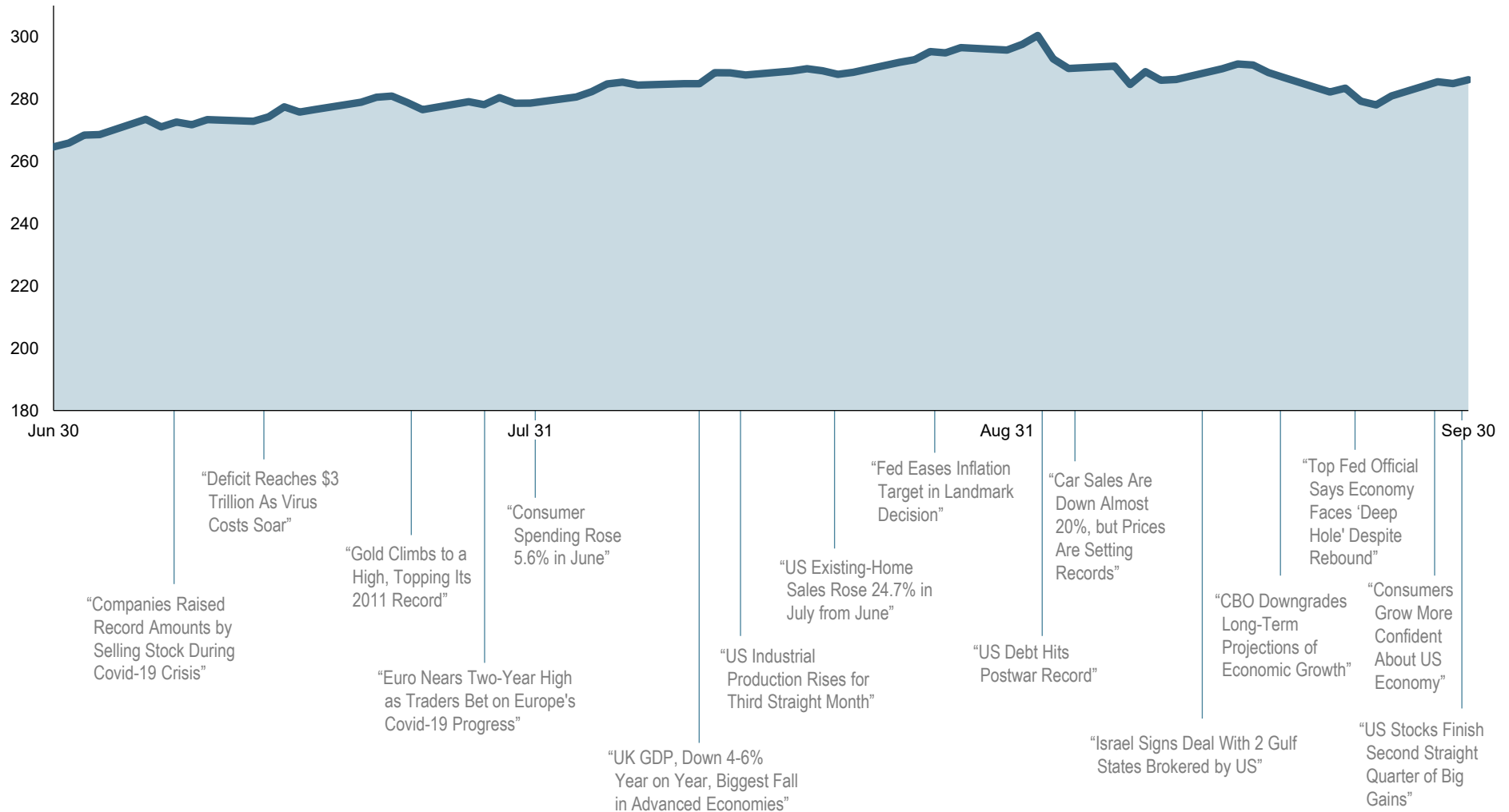
Index Returns as of September 30, 2020

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
1 Year	STOCKS				BONDS	
	15.00%	0.16%	10.54%	-18.58%	6.98%	1.82%
						
5 Years						
	13.69%	5.32%	8.97%	2.20%	4.18%	4.33%
						
10 Years						
	13.48%	4.37%	2.50%	5.58%	3.64%	4.06%
						

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 © 2020 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 2020, all rights reserved. Bloomberg Barclays data provided by Bloomberg.

# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q3 2020



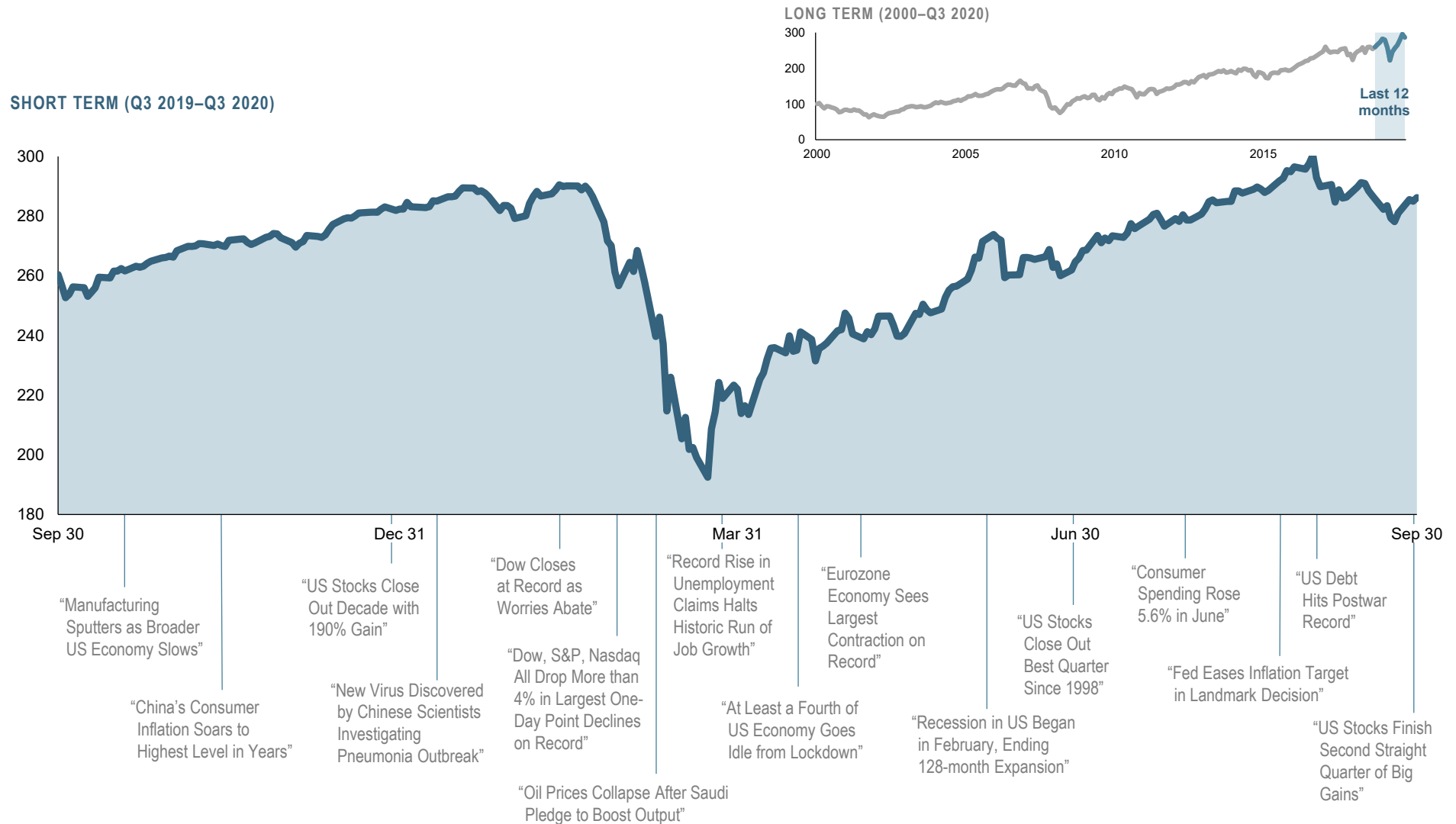
*These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.*

Graph Source: MSCI ACWI Index [net div.]. MSCI data © MSCI 2020, 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



*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 2020, 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.**

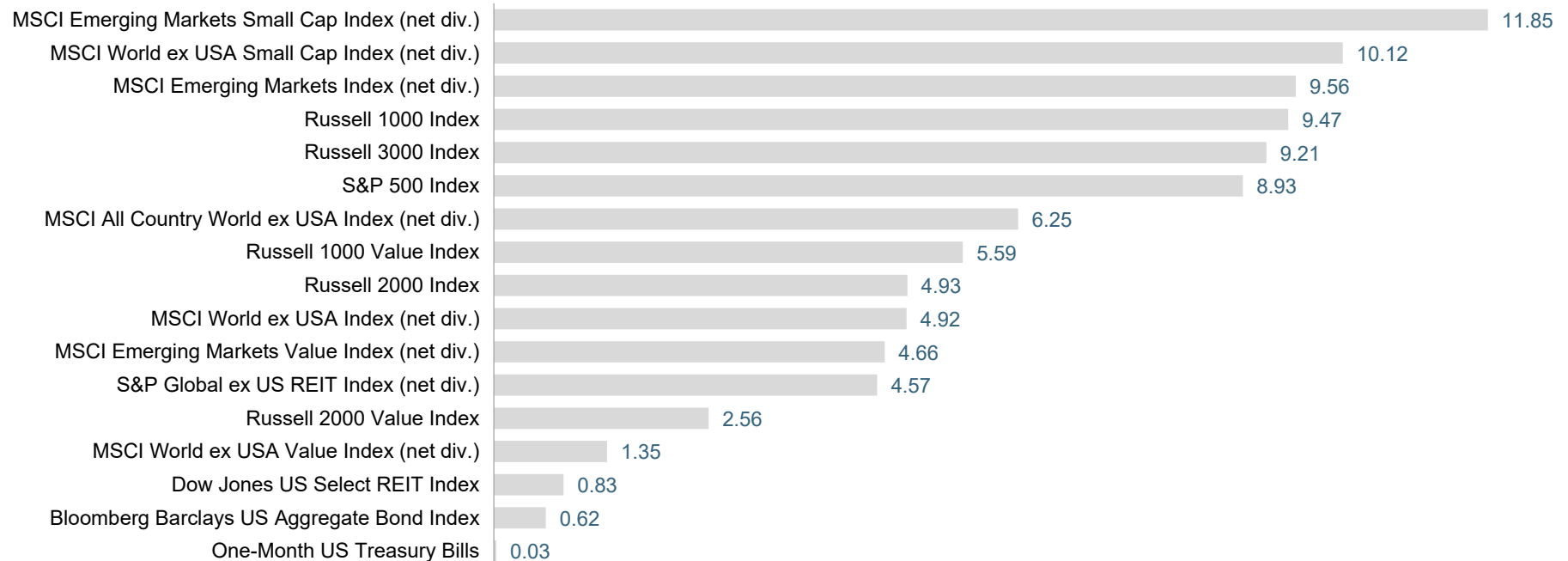
# World Asset Classes

## Third Quarter 2020 Index Returns (%)

Equity markets around the globe posted positive returns in the third quarter. Looking at broad market indices, emerging markets equities outperformed US and non-US developed markets for the quarter.

Value underperformed growth across regions. Small caps outperformed large caps in non-US developed and emerging markets but underperformed in the US.

REIT indices underperformed equity market indices in both the US and non-US developed 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 2020, all rights reserved. Dow Jones data © 2020 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. S&P data © 2020 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. 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

## Third Quarter 2020 Index Returns

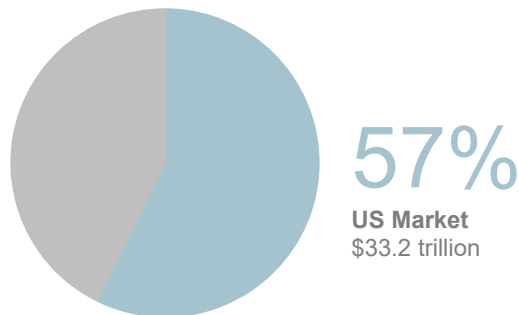
The US equity market posted positive returns for the quarter, outperforming non-US developed markets but underperforming emerging markets.

Value underperformed growth across large and small cap stocks.

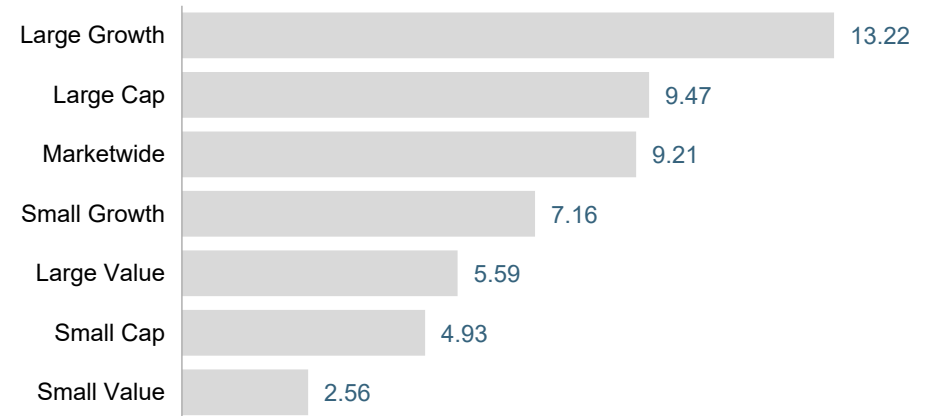
Small caps underperformed large caps.

REIT indices underperformed equity market indices.

### World Market Capitalization—US



### Ranked Returns (%)



### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Large Growth	24.33	37.53	21.67	20.10	17.25
Large Cap	6.40	16.01	12.38	14.09	13.76
Marketwide	5.41	15.00	11.65	13.69	13.48
Small Growth	3.88	15.71	8.18	11.42	12.34
Small Cap	-8.69	0.39	1.77	8.00	9.85
Large Value	-11.58	-5.03	2.63	7.66	9.95
Small Value	-21.54	-14.88	-5.13	4.11	7.09

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. Dow Jones US Select REIT Index used as proxy for the US REIT market. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. MSCI data © MSCI 2020, all rights reserved.



# International Developed Stocks

## Third Quarter 2020 Index Returns

Developed markets outside the US posted positive returns for the quarter but underperformed US and emerging markets equities.

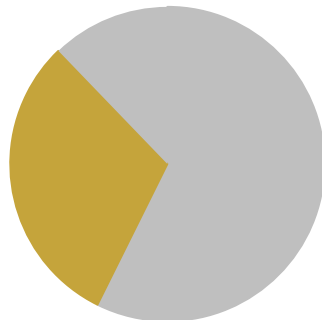
Value underperformed growth.

Small caps outperformed large caps.

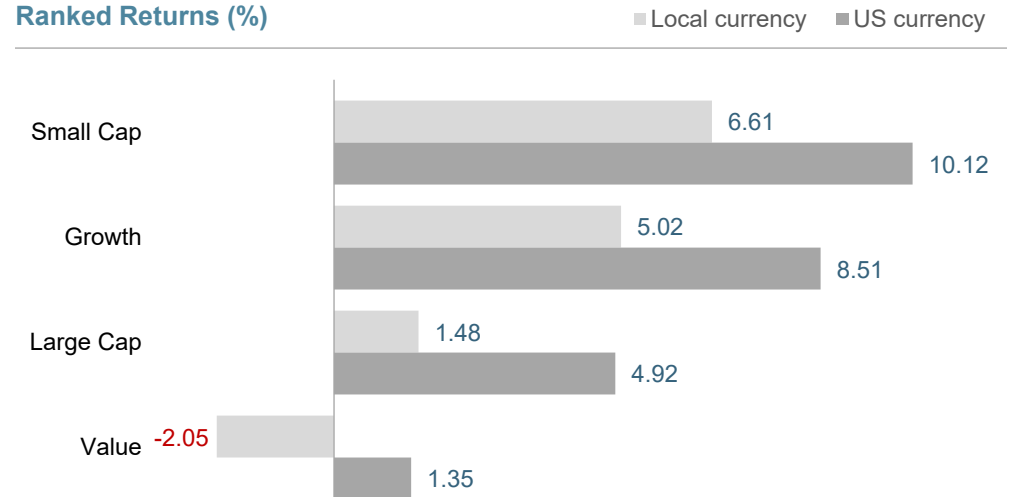
### World Market Capitalization—International Developed

**30%**

International  
Developed Market  
\$17.6 trillion



### Ranked Returns (%)



### Period Returns (%)

Asset Class	YTD	* Annualized			
		1 Year	3 Years*	5 Years*	10 Years*
Growth	5.13	13.64	7.06	9.09	6.61
Small Cap	-4.05	6.88	1.42	7.35	6.55
Large Cap	-7.13	0.16	0.62	5.32	4.37
Value	-18.88	-12.74	-5.88	1.38	1.99

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. MSCI data © MSCI 2020, 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

## Third Quarter 2020 Index Returns

Emerging markets posted positive returns for the quarter, outperforming the US and developed ex US equity markets.

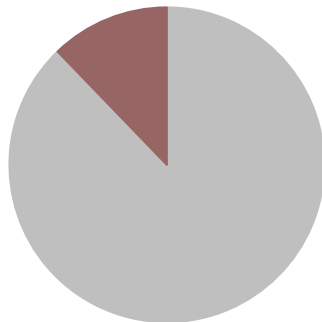
Value underperformed growth.

Small caps outperformed large caps.

### World Market Capitalization—Emerging Markets

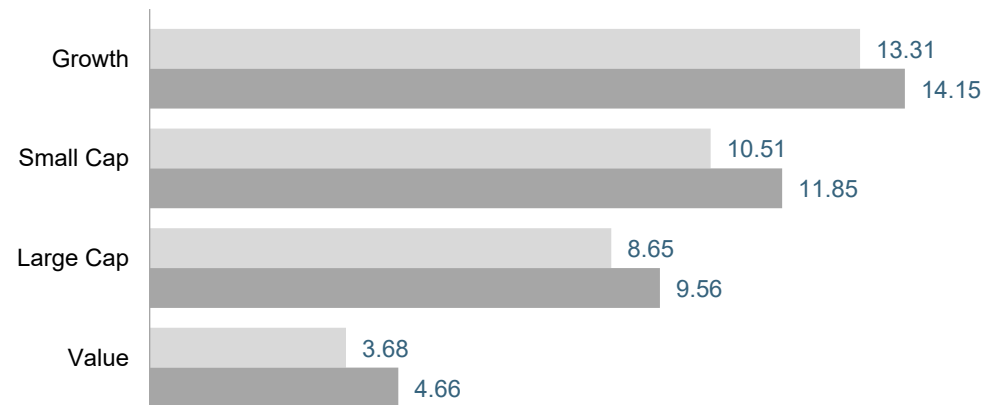
**12%**

Emerging Markets  
\$7.1 trillion



### Ranked Returns (%)

■ Local currency ■ US currency



### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Growth	12.41	27.80	7.45	13.26	5.29
Large Cap	-1.16	10.54	2.42	8.97	2.50
Small Cap	-2.40	6.89	-1.09	4.60	1.03
Value	-14.23	-5.70	-2.89	4.45	-0.44

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.

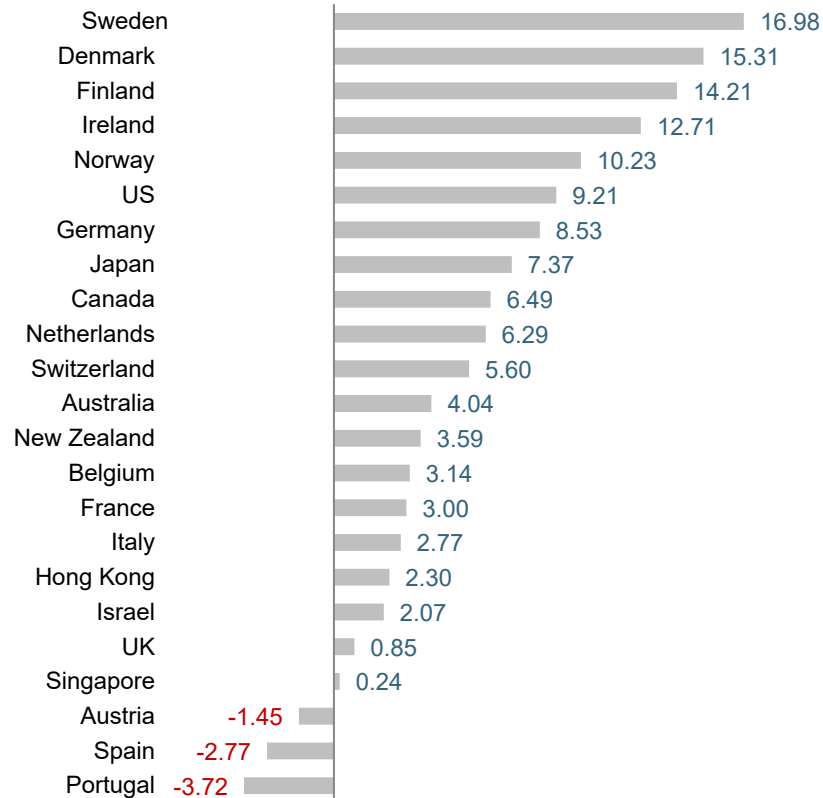
Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small Cap (MSCI Emerging Markets Small Cap Index), Value (MSCI Emerging Markets Value Index), and Growth (MSCI Emerging Markets Growth Index). All index returns are net of withholding tax on dividends. World Market 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 2020, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# Select Market Performance

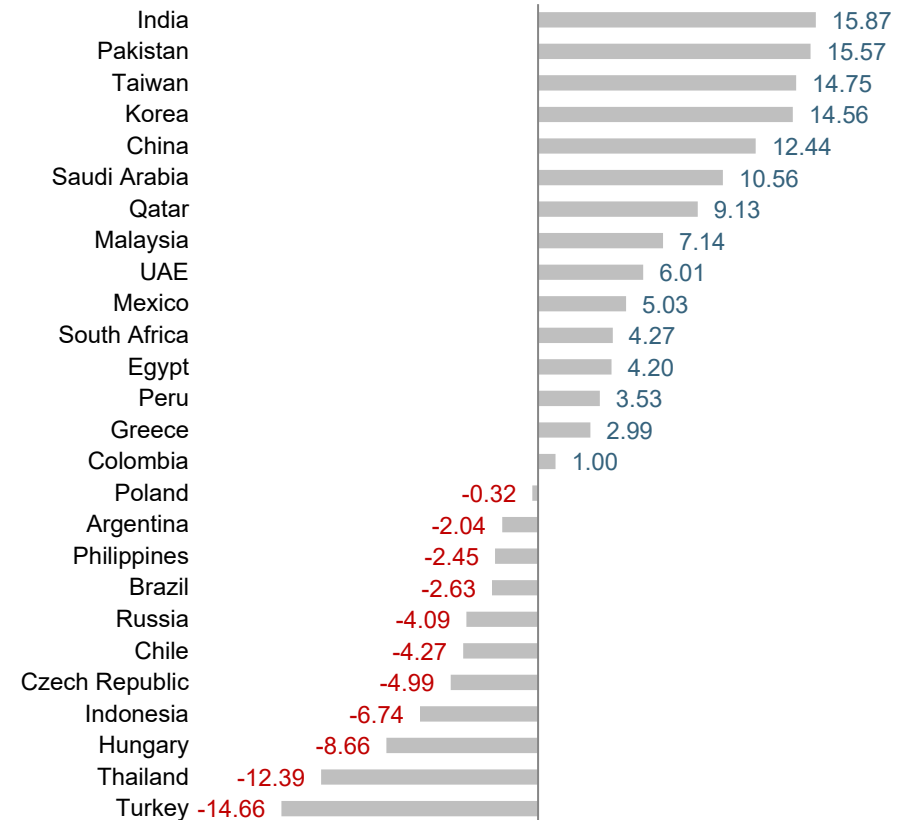
## Third Quarter 2020 Index Returns

In US dollar terms, Sweden and Denmark recorded the highest country performance in developed markets, while Portugal and Spain posted the lowest returns for the quarter. In emerging markets, India and Pakistan recorded the highest country performance, while Turkey and Thailand posted the lowest performance.

### Ranked Developed Markets Returns (%)



### Ranked Emerging Markets Returns (%)



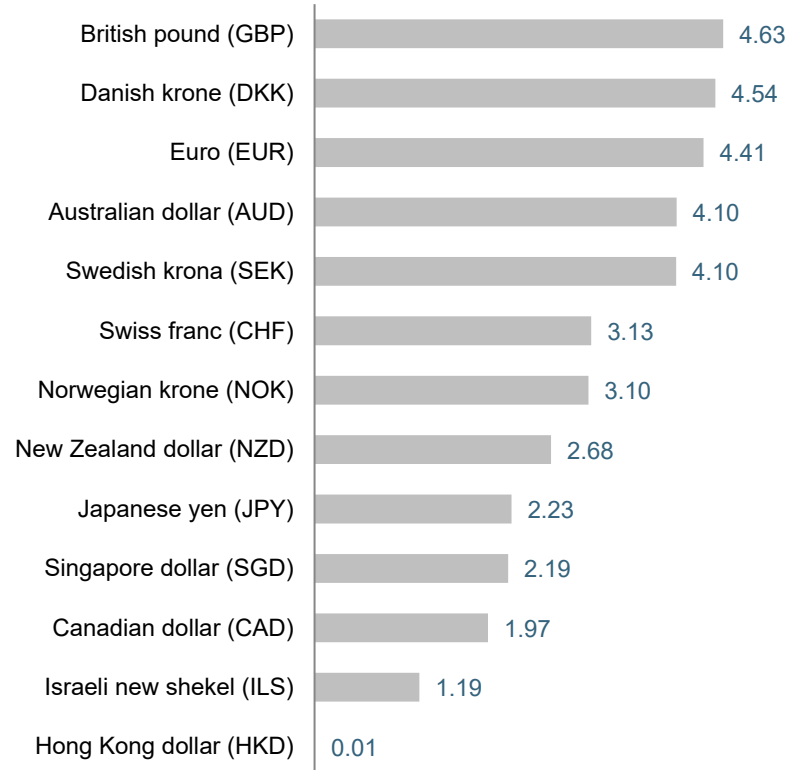
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. MSCI Index returns are in USD net of dividend withholding taxes. Country returns are the country component indices of the MSCI All Country World ex USA IMI for all countries except the United States, where the Russell 3000 index is used instead. Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. MSCI data © MSCI 2020, all rights reserved. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Past performance is not a guarantee of future results.

# Select Currency Performance vs. US Dollar

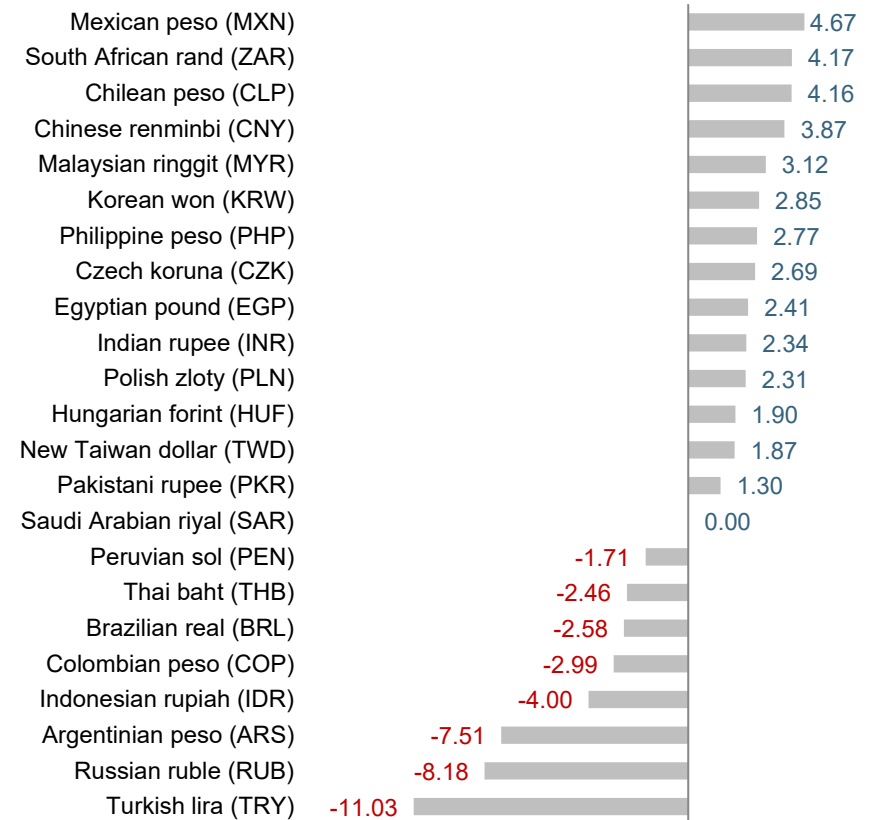
Third Quarter 2020

In developed markets, all currencies appreciated versus the US dollar. In emerging markets, currency performance versus the US dollar was mixed. Most currencies generally appreciated versus the US dollar, but some, notably the Turkish lira and Russian ruble, depreciated.

## Ranked Developed Markets (%)



## Ranked Emerging Markets (%)

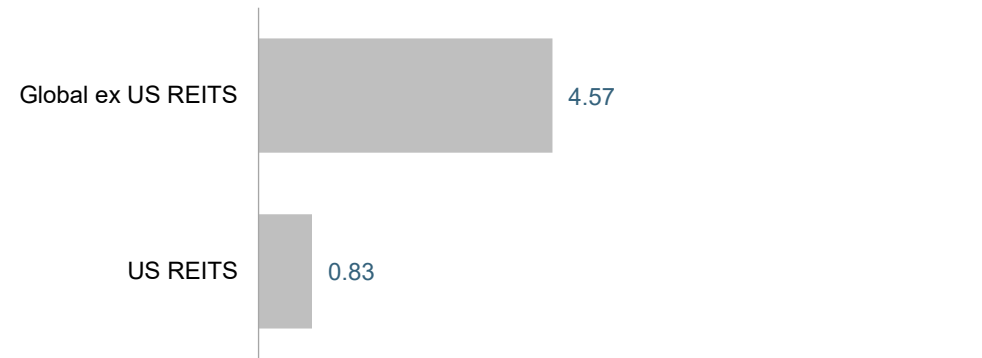


# Real Estate Investment Trusts (REITs)

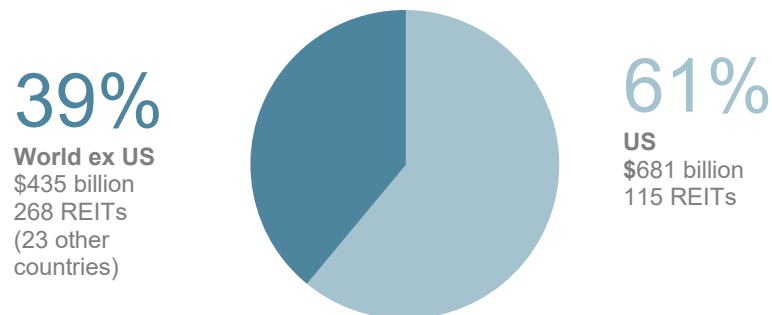
## Third Quarter 2020 Index Returns

US real estate investment trusts underperformed non-US REITs during the quarter.

### Ranked Returns (%)



### Total Value of REIT Stocks



### Period Returns (%)

Asset Class	* Annualized				
	YTD	1 Year	3 Years*	5 Years*	10 Years*
US REITS	-21.36	-22.33	-1.85	1.99	7.03
Global ex US REITS	-21.84	-18.37	-1.62	1.67	4.13

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 and S&P data © 2020 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Commodities

## Third Quarter 2020 Index Returns

The Bloomberg Commodity Index Total Return returned 9.07% for the third quarter of 2020.

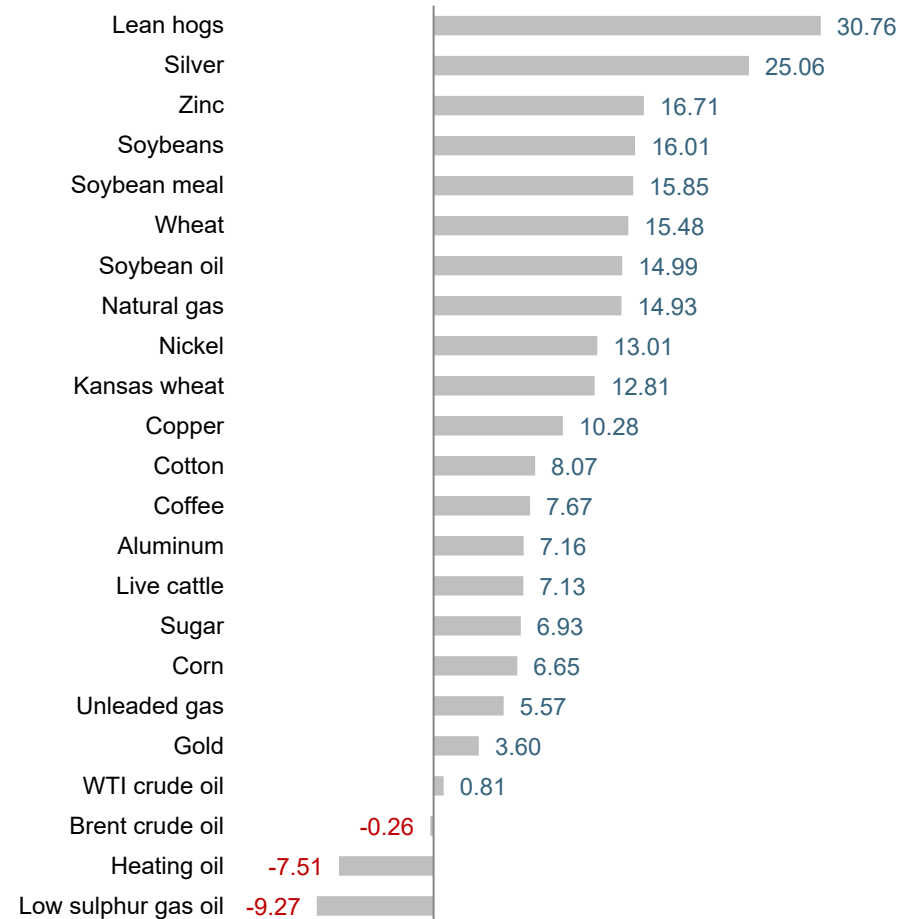
Lean hogs and Silver were the best performers, returning 30.76% and 25.06%, respectively.

Low sulfur gas and Heating oil were the worst performers, declining 9.27% and 7.51%, respectively.

### Period Returns (%) \* Annualized

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Commodities	9.07	-12.08	-8.20	-4.18	-3.09	-6.03

### Ranked Returns (%)



# Fixed Income

## Third Quarter 2020 Index Returns

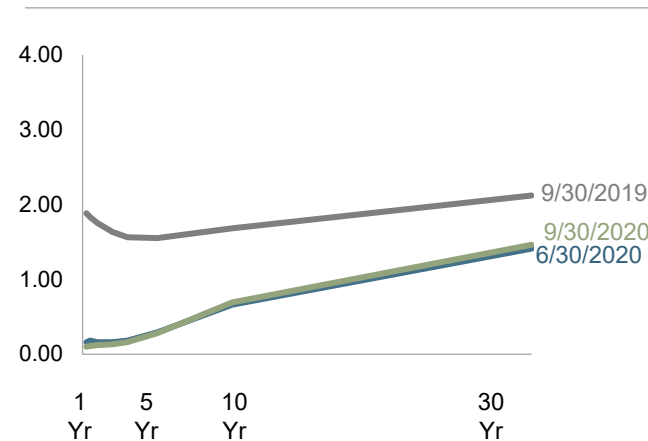
Interest rate changes were mixed in the US Treasury fixed income market during the third quarter. The yield on the 5-year US Treasury note decreased by 3 basis points (bps), ending at 0.31%. The yield on the 10-year US T-note rose by 3 bps to 0.64%. The 30-year US T-bond yield increased by 5 bps to 1.46%.

On the short end of the yield curve, the 1-month US Treasury bill yield decreased to 0.08%, while the 1-year T-bill yield decreased by 5 bps to 0.14%. The 2-year US T-note yield finished at 0.09% after a decrease of 2 basis points.

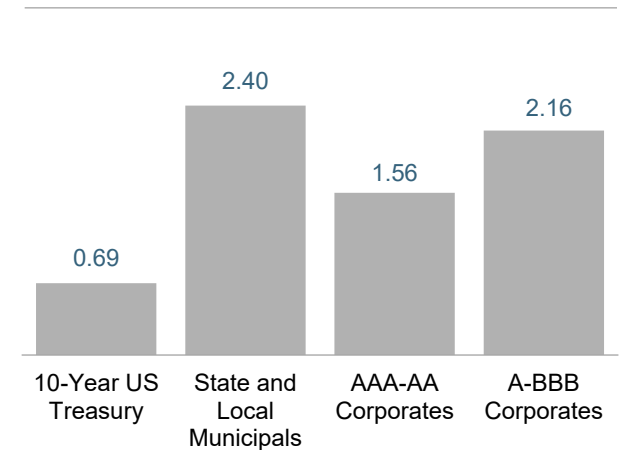
In terms of total returns, short-term corporate bonds returned 0.92% for the quarter. Intermediate-term corporates returned 1.33%.

The total return for short-term municipal bonds was 0.83%, while intermediate munis returned 1.40%. Revenue bonds outperformed general obligation bonds.

### US Treasury Yield Curve (%)



### Bond Yield across Issuers (%)



### Period Returns (%)

\*Annualized

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg Barclays US High Yield Corporate Bond Index	4.60	0.62	3.25	4.21	6.79	6.47
Bloomberg Barclays US TIPS Index	3.03	9.22	10.08	5.79	4.61	3.57
FTSE World Government Bond Index 1-5 Years	2.01	4.16	5.21	2.03	2.01	0.21
Bloomberg Barclays Municipal Bond Index	1.23	3.33	4.09	4.28	3.84	3.99
Bloomberg Barclays US Aggregate Bond Index	0.62	6.79	6.98	5.24	4.18	3.64
FTSE World Government Bond Index 1-5 Years (hedged to USD)	0.24	3.04	3.22	3.02	2.31	1.90
Bloomberg Barclays US Government Bond Index Long	0.13	21.13	16.21	11.79	8.18	7.18
ICE BofA 1-Year US Treasury Note Index	0.08	1.77	2.37	2.19	1.54	0.93
ICE BofA US 3-Month Treasury Bill Index	0.04	0.64	1.10	1.69	1.20	0.64

One basis point (bps) 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 ICE BofA 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. Sinquefeld). FTSE fixed income indices © 2020 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2020 ICE Data Indices, LLC. S&P data © 2020 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Global Fixed Income

## Third Quarter 2020 Yield Curves

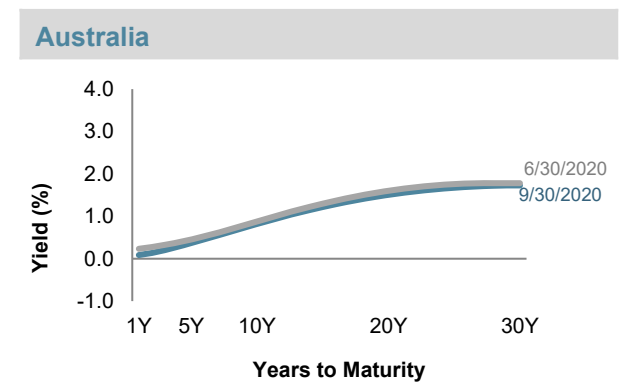
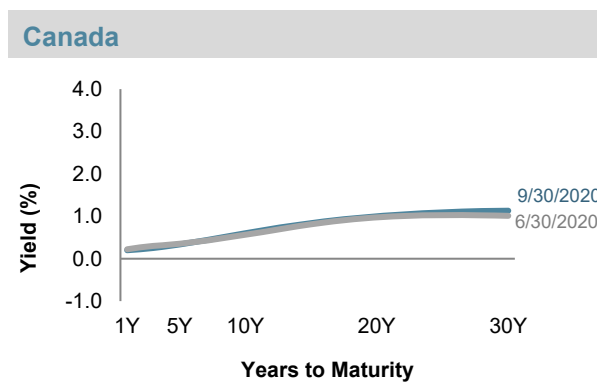
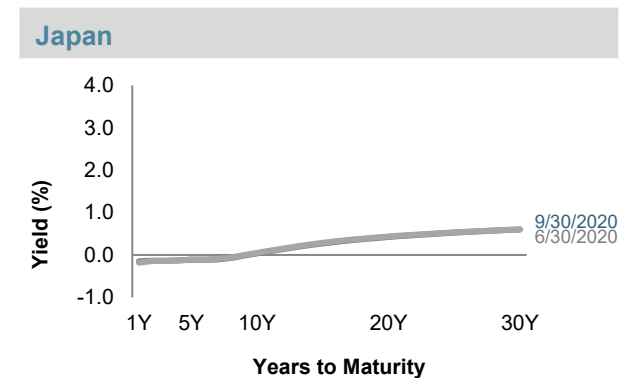
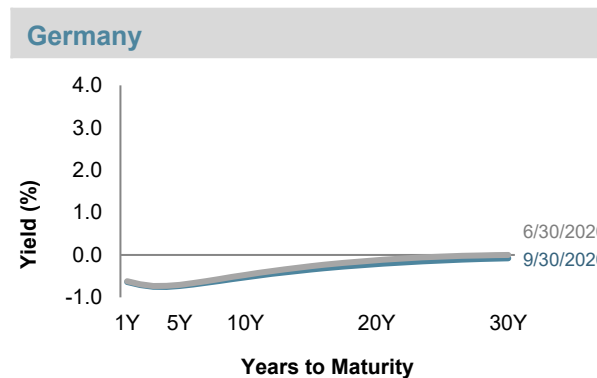
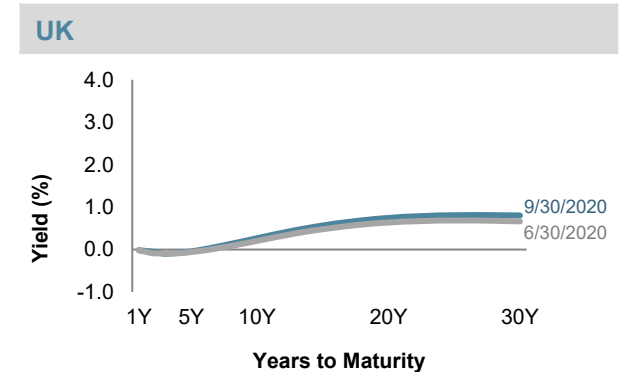
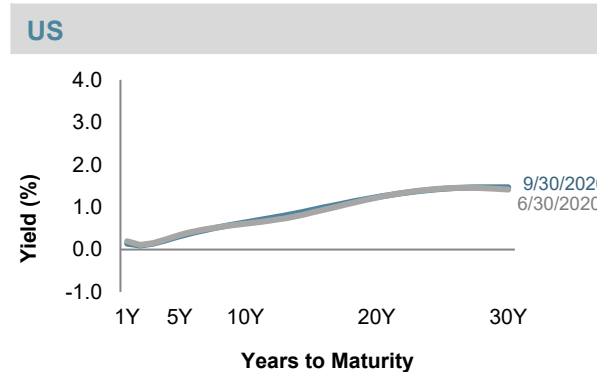
Changes in Government bond interest rates in the global developed markets were mixed for the quarter.

Longer-term bonds generally outperformed shorter-term bonds in global ex-US developed markets.

Short- and intermediate-term nominal interest rates were negative in Japan, while all maturities finished the quarter in negative territory in Germany.

Changes in Yields (bps) since 6/30/2020

	1Y	5Y	10Y	20Y	30Y
US	-5.4	-3.3	3.4	1.3	5.3
UK	0.0	1.8	6.1	10.7	13.9
Germany	-2.0	-2.8	-5.7	-9.2	-7.6
Japan	3.0	-1.1	-1.2	-1.2	0.2
Canada	-2.1	-1.9	3.9	2.6	12.2
Australia	-14.5	-8.3	-5.9	-9.6	-5.1





# Impact of Diversification

Third Quarter 2020

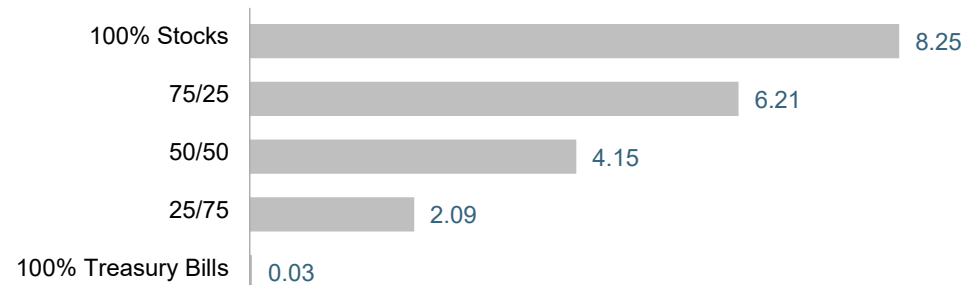
These portfolios illustrate the performance of different global stock/bond mixes and highlight the benefits of diversification. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

## Period Returns (%)

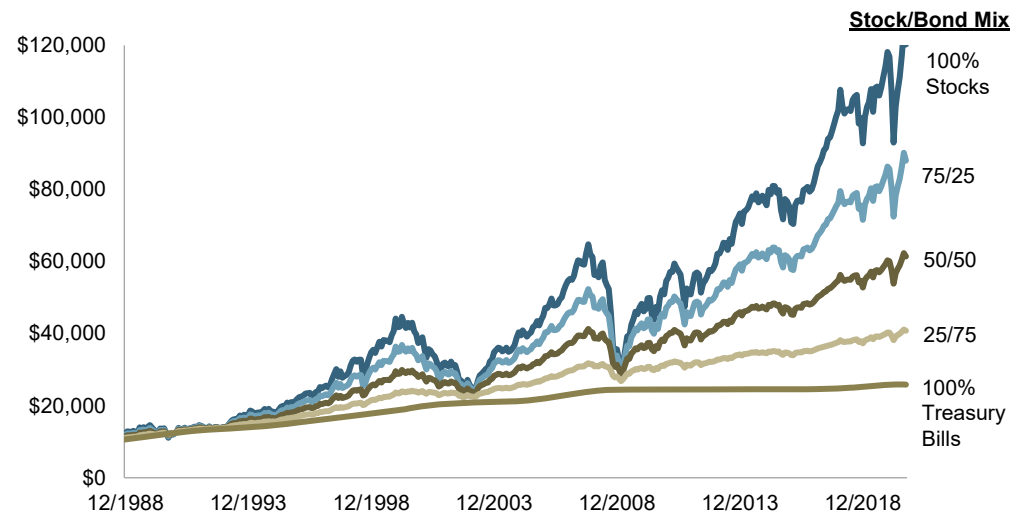
\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV*
75/25	1.90	8.89	6.40	8.58	7.12	10.28
100% Stocks	1.77	11.00	7.68	10.90	9.13	13.71
50/50	1.71	6.48	4.95	6.16	5.01	6.85
25/75	1.22	3.78	3.32	3.65	2.82	3.42
100% Treasury Bills	0.42	0.83	1.54	1.07	0.55	0.23

## 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 2020, 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 It's Value vs. Growth, History Is on Value's Side

Third Quarter 2020

Logic and data provide the basis for a positive expected value premium, offering a guide for investors targeting higher potential returns. There is pervasive historical evidence of value stocks outperforming growth stocks. Data covering nearly a century in the US, and nearly five decades of market data outside the US, support the notion that value stocks—those with lower relative prices—have higher expected returns.

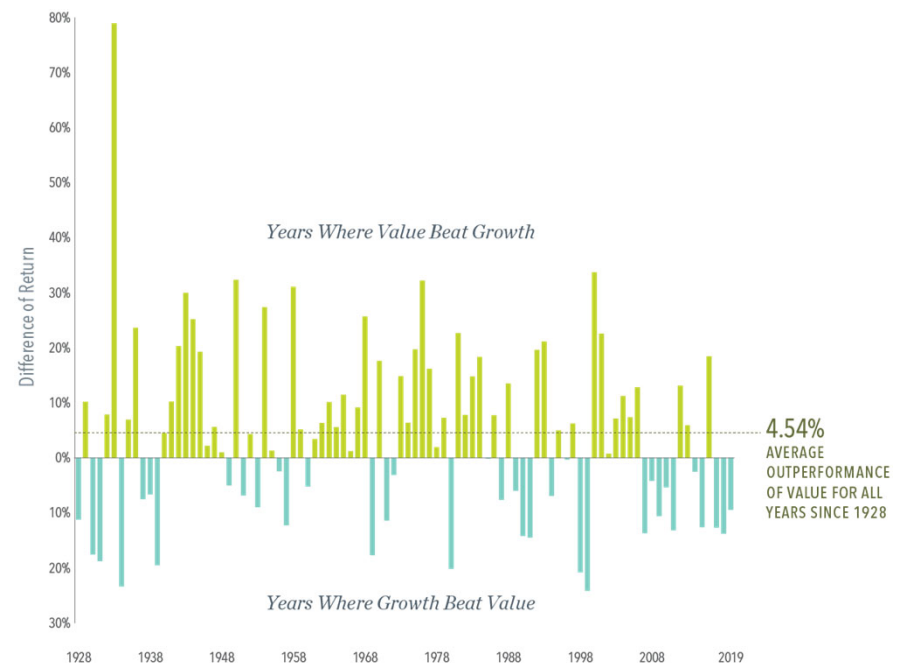
Recently, growth stocks have enjoyed a run of outperformance vs. their value counterparts. But while disappointing periods emerge from time to time, the principle that lower relative prices lead to higher expected returns remains the same. On average, value stocks have outperformed growth stocks by 4.54% annually in the US since 1928, as **Exhibit 1** shows.

Some historical context is helpful in providing perspective for growth stocks' recent outperformance. As **Exhibit 1** demonstrates, realized premiums are highly volatile. While periods of underperformance are disappointing, they are also within the range of possible outcomes.

We believe investors are best served by making decisions based on sound economic principles supported by a preponderance of evidence. Value investing is based on the premise that paying less for a set of future cash flows is associated with a higher expected return. That's one of the most fundamental tenets of investing. Combined with the long series of empirical data on the value premium, our research shows that value investing continues to be a reliable way for investors to increase expected returns going forward.

**Exhibit 1. Value Add**

*Yearly observations of premiums: value minus growth in US markets, 1928–2019*



**Past performance is no guarantee of future results. Investing risks include loss of principal and fluctuating value. There is no guarantee an investment strategy will be successful. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio.**

*In US dollars. Yearly premiums are calculated as the difference in one-year returns between the two indices described. Value minus growth: Fama/French US Value Research Index minus the Fama/French US Growth Research Index.*

*Fama/French US Value Research Index: Provided by Fama/French from CRSP securities data. Includes the lower 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).*

*Fama/French US Growth Research Index: Provided by Fama/French from CRSP securities data. Includes the higher 30% in price-to-book of NYSE securities (plus NYSE Amex equivalents since July 1962 and Nasdaq equivalents since 1973).*

# When It's Value vs. Growth, History Is on Value's Side

(continued from page 18)

## GLOSSARY

**Value Stock:** A stock trading at a low price relative to a measure of fundamental value such as book equity.

**Growth Stock:** A stock trading at a high price relative to a measure of fundamental value such as book equity.

**Value Premium:** The return difference between stocks with low relative prices (value) and stocks with high relative prices (growth).

## DISCLOSURES

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

The information in this document is provided in good faith without any warranty and is intended for the recipient's background information only. It does not constitute investment advice, recommendation, or an offer of any services or products for sale and is not intended to provide a sufficient basis on which to make an investment decision. It is the responsibility of any persons wishing to make a purchase to inform themselves of and observe all applicable laws and regulations. Unauthorized copying, reproducing, duplicating, or transmitting of this document are strictly prohibited. Dimensional accepts no responsibility for loss arising from the use of the information contained herein.

**UNITED STATES:** Dimensional Fund Advisors LP is an investment advisor registered with the Securities and Exchange Commission.

**CANADA:** These materials have been prepared by Dimensional Fund Advisors Canada ULC. Commissions, trailing commissions, management fees, and expenses all may be associated with mutual fund investments. Unless otherwise noted, any indicated total rates of return reflect the historical annual compounded total returns, including changes in share or unit value and reinvestment of all dividends or other distributions, and do not take into account sales, redemption, distribution, or optional charges or income taxes payable by any security holder that would have reduced returns. Please read the prospectus before investing. Mutual funds are not guaranteed, their values change frequently, and past performance may not be repeated.

## RISKS

**Investments involve risks. The investment return and principal value of an investment may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original value. Past performance is not a guarantee of future results. There is no guarantee strategies will be successful.**

---

The information in this document is provided in good faith without any warranty and is intended for the recipient's background information only. It does not constitute investment advice, recommendation, or an offer of any services or products for sale and is not intended to provide a sufficient basis on which to make an investment decision. It is the responsibility of any persons wishing to make a purchase to inform themselves of and observe all applicable laws and regulations. Unauthorized copying, reproducing, duplicating, or transmitting of this document are strictly prohibited. Dimensional accepts no responsibility for loss arising from the use of the information contained herein.

"Dimensional" refers to the Dimensional separate but affiliated entities generally, rather than to one particular entity. These entities are Dimensional Fund Advisors LP, Dimensional Fund Advisors Ltd., Dimensional Ireland Limited, DFA Australia Limited, Dimensional Fund Advisors Canada ULC, Dimensional Fund Advisors Pte. Ltd, Dimensional Japan Ltd., and Dimensional Hong Kong Limited. Dimensional Hong Kong Limited is licensed by the Securities and Futures Commission to conduct Type 1 (dealing in securities) regulated activities only and does not provide asset management services.