



**M U R R A Y**  
**FINANCIAL SERVICES**

# Q2

Quarterly Market Review  
Second Quarter 2021

All performance data reflects past performance and does not guarantee or predict future results.

# Quarterly Market Review

Second Quarter 2021

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

Inflation: An Exchange Between  
Eugene Fama and David Booth

# 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
2Q 2021	STOCKS					BONDS	
	8.24%	5.65%	5.05%	10.17%		1.83%	0.35%
							
Since Jan. 2001							
Avg. Quarterly Return	2.4%	1.7%	3.1%	2.6%		1.2%	1.1%
Best Quarter	22.0% 2020 Q2	25.9% 2009 Q2	34.7% 2009 Q2	32.3% 2009 Q3		4.6% 2001 Q3	4.6% 2008 Q4
Worst Quarter	-22.8% 2008 Q4	-23.3% 2020 Q1	-27.6% 2008 Q4	-36.1% 2008 Q4		-3.4% 2021 Q1	-2.7% 2015 Q2

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net div.]), Emerging Markets (MSCI Emerging Markets Index [net div.]), Global Real Estate (S&P Global REIT Index [net div.]), US Bond Market (Bloomberg Barclays US Aggregate Bond Index), and Global Bond Market ex US (Bloomberg Barclays Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2021 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 2021, all rights reserved. Bloomberg Barclays data provided by Bloomberg.

# Long-Term Market Summary

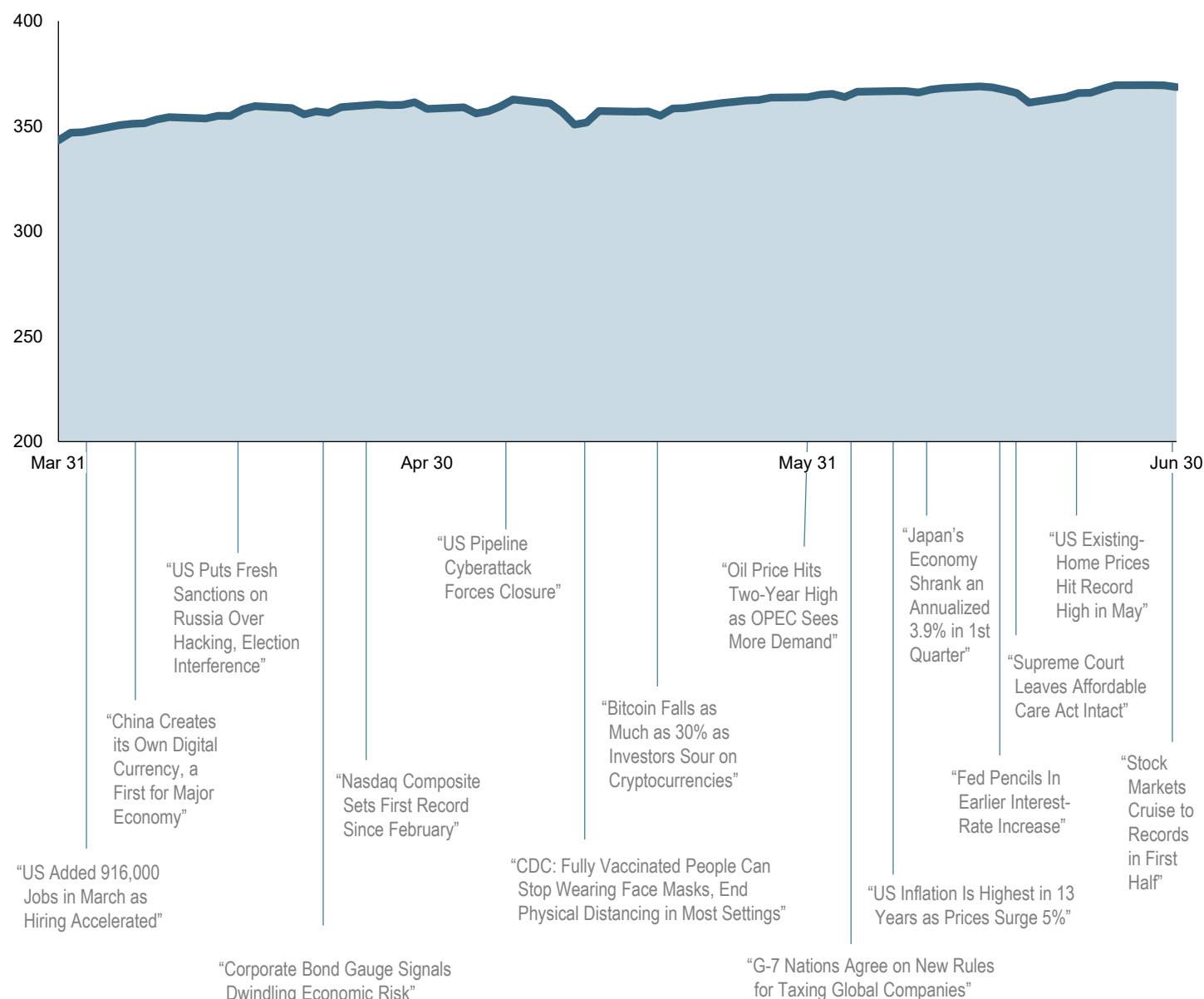
Index Returns as of June 30, 2021

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
1 Year	STOCKS				BONDS	
	44.16% 	33.60% 	40.90% 	34.83% 	-0.33% 	0.05% 
5 Years						
	17.89% 	10.36% 	13.03% 	4.62% 	3.03% 	2.80% 
10 Years						
	14.70% 	5.70% 	4.28% 	6.85% 	3.39% 	4.12% 

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 © 2021 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 2021, all rights reserved. Bloomberg Barclays data provided by Bloomberg.

# World Stock Market Performance

MSCI All Country World Index with selected headlines from Q2 2021



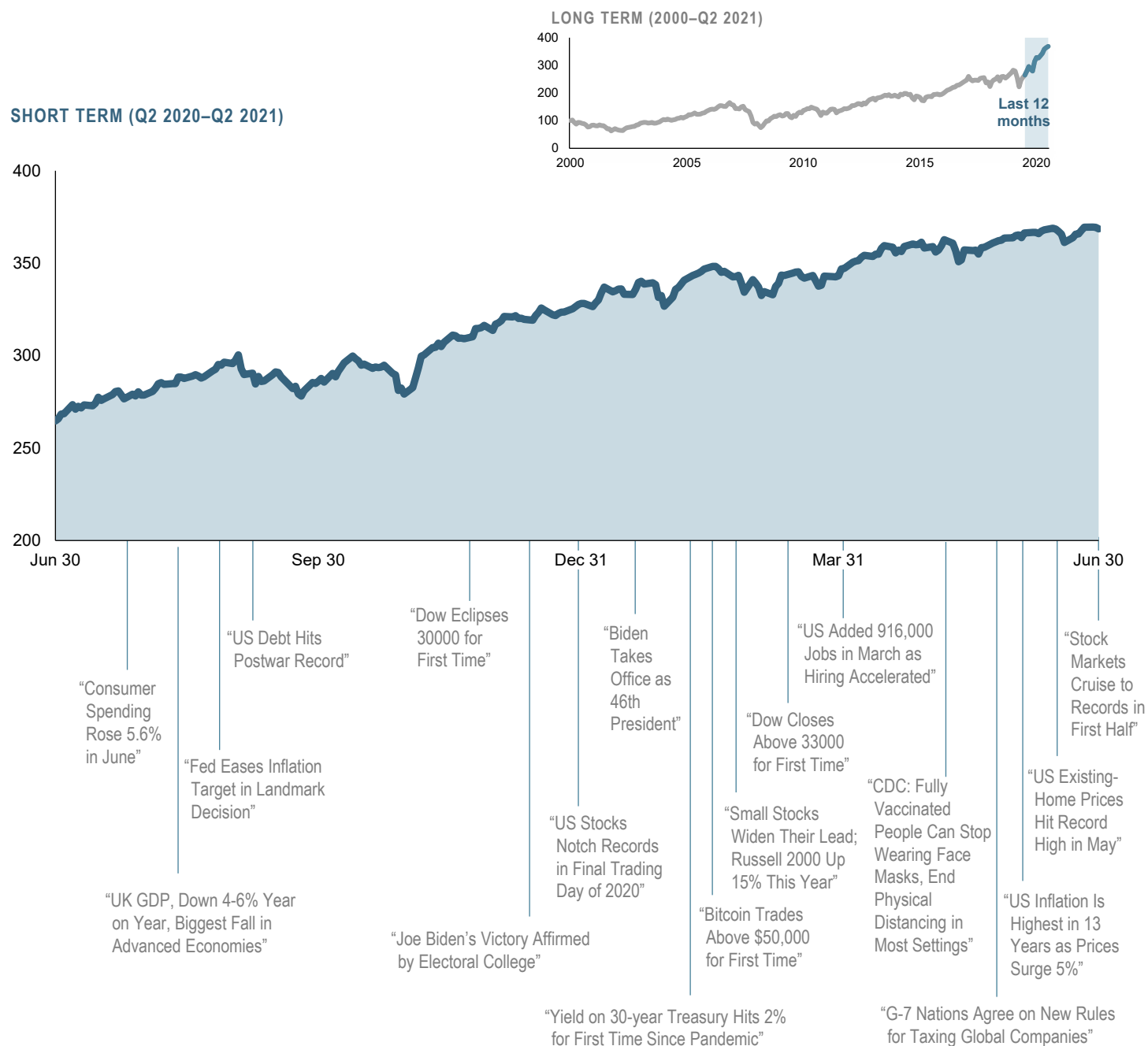
*These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.*

Graph Source: MSCI ACWI Index [net div.]. MSCI data © MSCI 2021, 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 2021, all rights reserved.

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

# World Asset Classes

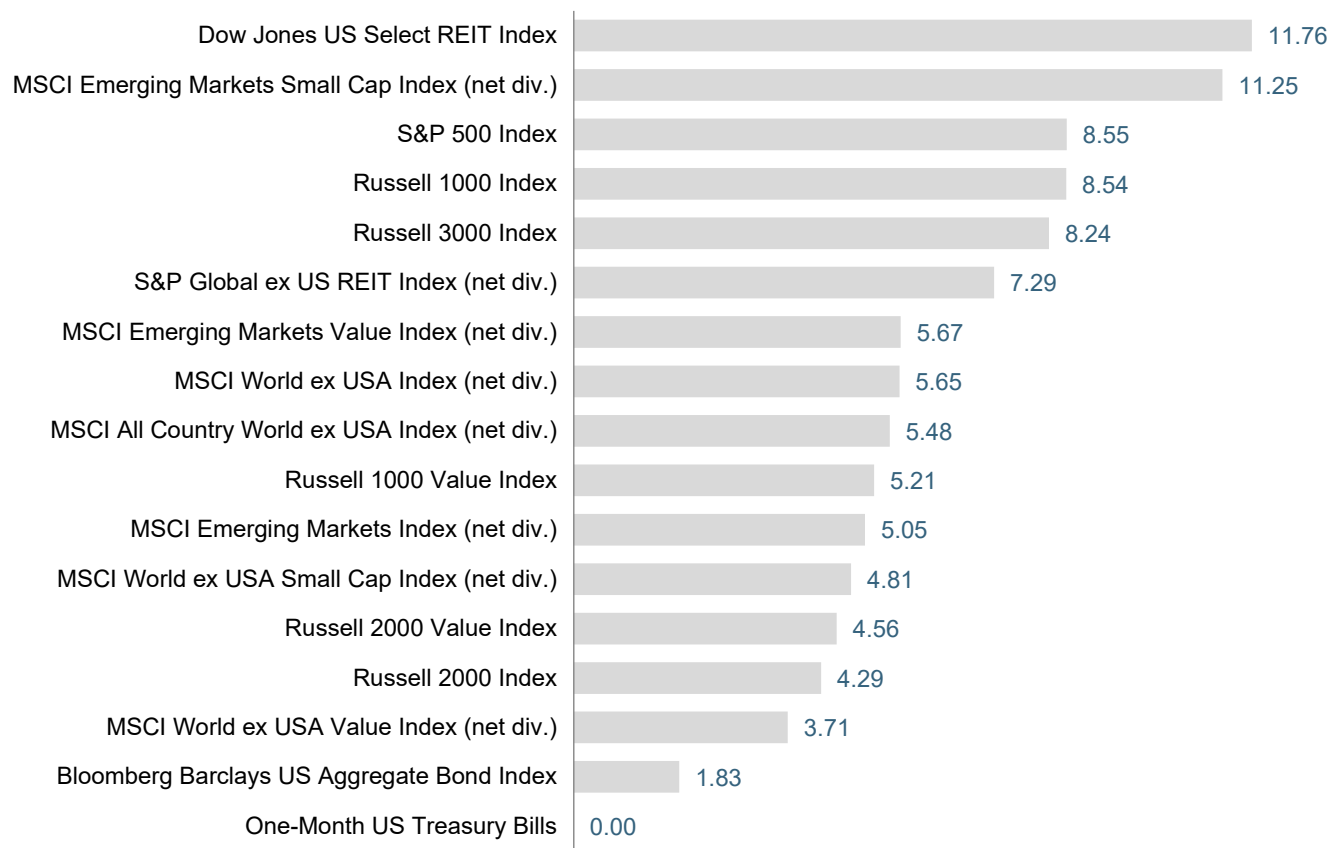
## Second Quarter 2021 Index Returns (%)

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

Value performance was mixed in the US, with small value outperforming small growth but large value underperforming large growth. Value underperformed growth in non-US developed markets and outperformed in emerging markets.

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

REIT indices outperformed equity market indices in 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 2021, all rights reserved. Dow Jones data © 2021 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. S&P data © 2021 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

## Second Quarter 2021 Index Returns

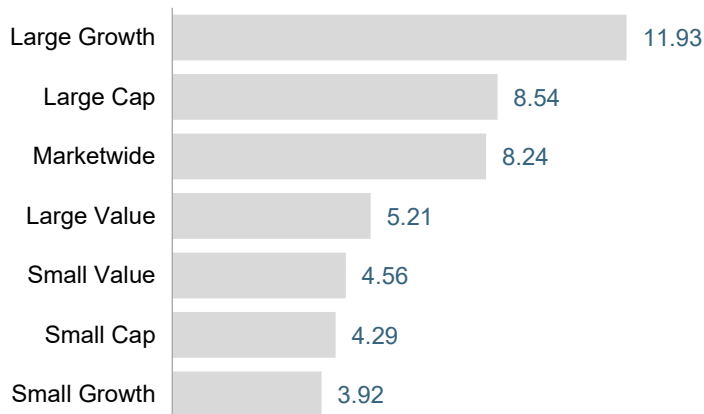
The US equity market posted positive returns for the quarter and outperformed non-US developed markets and emerging markets.

Value underperformed growth in large cap stocks but outperformed growth in small cap stocks.

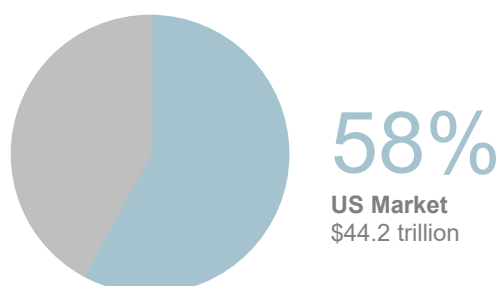
Small caps underperformed large caps.

REIT indices outperformed equity market indices.

### Ranked Returns (%)



### World Market Capitalization—US



### Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	* Annualized	
				5 Years*	10 Years*
Large Growth	12.99	42.50	25.14	23.66	17.87
Large Cap	14.95	43.07	19.16	17.99	14.90
Marketwide	15.11	44.16	18.73	17.89	14.70
Large Value	17.05	43.68	12.42	11.87	11.61
Small Value	26.69	73.28	10.27	13.62	10.85
Small Cap	17.54	62.03	13.52	16.47	12.34
Small Growth	8.98	51.36	15.94	18.76	13.52

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 source and owner of trademarks, service marks, and copyrights related to Russell Indexes. MSCI data © MSCI 2021, all rights reserved.



# International Developed Stocks

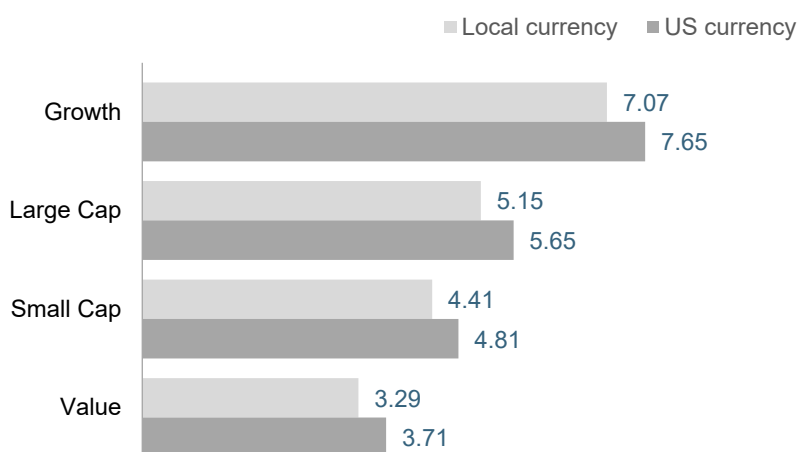
## Second Quarter 2021 Index Returns

Developed markets outside the US posted positive returns for the quarter, underperforming US equities but outperforming emerging markets.

Value underperformed growth.

Small caps underperformed large caps.

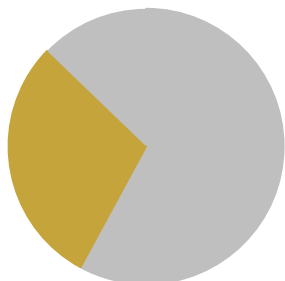
### Ranked Returns (%)



### World Market Capitalization— International Developed

29%

International  
Developed Market  
\$22.3 trillion



### Period Returns (%)

Asset Class	* Annualized				
	YTD	1 Year	3 Years*	5 Years*	10 Years*
Value	12.35	35.85	4.22	8.07	3.87
Large Cap	9.92	33.60	8.57	10.36	5.70
Small Cap	9.92	42.28	8.92	11.88	7.66
Growth	7.26	31.08	12.56	12.35	7.35

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 2021, all rights reserved. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

# Emerging Markets Stocks

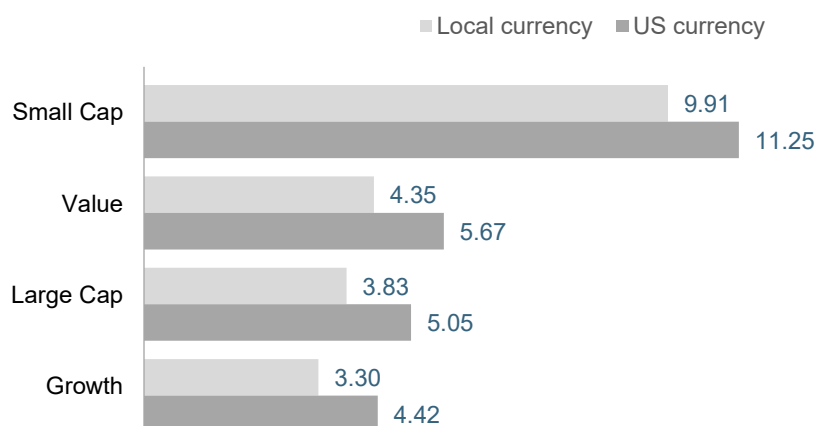
## Second Quarter 2021 Index Returns

Emerging markets posted positive returns for the quarter, underperforming the US and non-US developed equity markets.

Value outperformed growth.

Small caps outperformed large caps.

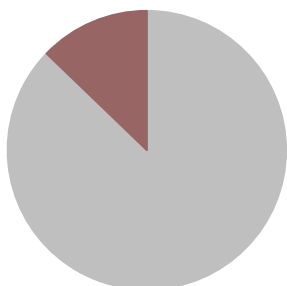
### Ranked Returns (%)



### World Market Capitalization— Emerging Markets

13%

Emerging  
Markets  
\$9.8 trillion



### Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
Small Cap	19.78	63.75	12.31	11.86	4.55
Value	10.01	41.59	7.81	9.70	1.80
Large Cap	7.45	40.90	11.27	13.03	4.28
Growth	5.04	40.08	14.44	16.14	6.63

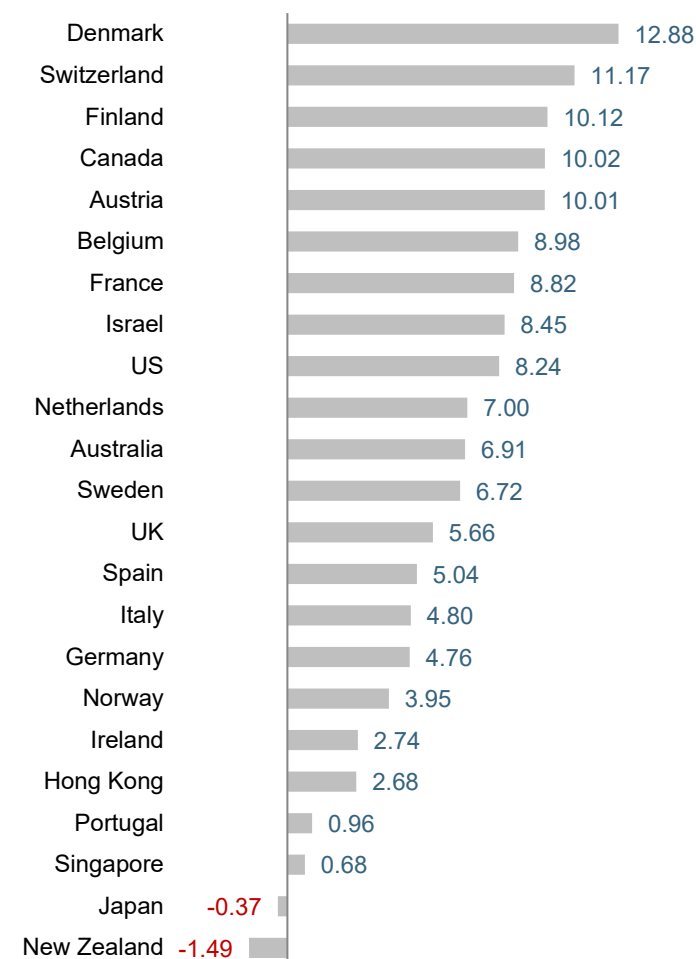
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: Large Cap (MSCI Emerging Markets Index), Small 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 2021, 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

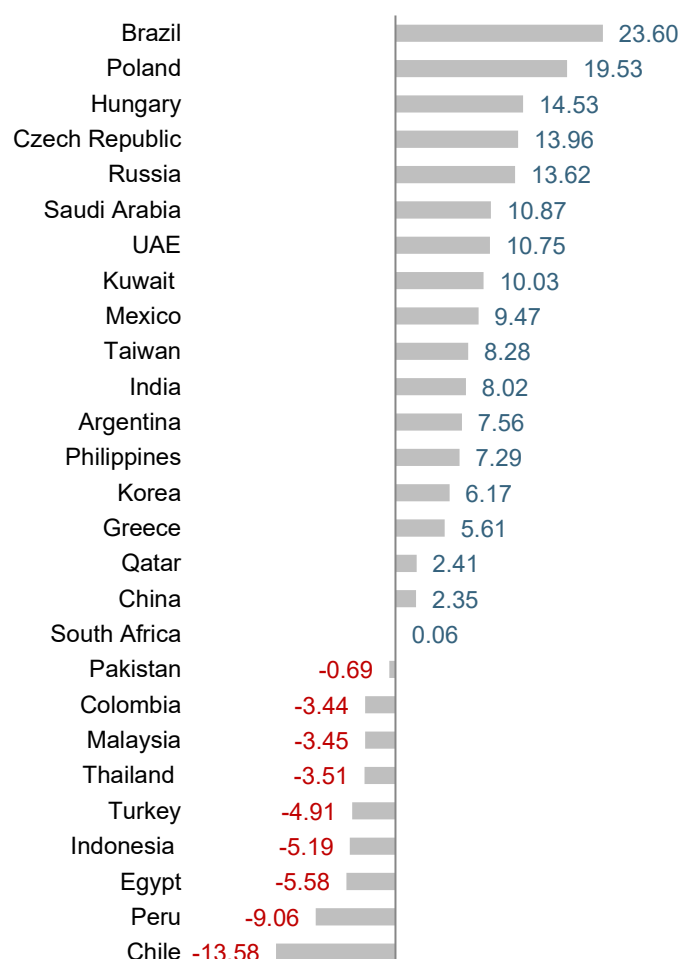
## Second Quarter 2021 Index Returns

In US dollar terms, Denmark and Switzerland recorded the highest country performance in developed markets, while New Zealand and Japan posted the lowest returns for the quarter. In emerging markets, Brazil and Poland recorded the highest country performance, while Chile and Peru posted the lowest performance.

### Ranked Developed Markets Returns (%)



### Ranked Emerging Markets Returns (%)



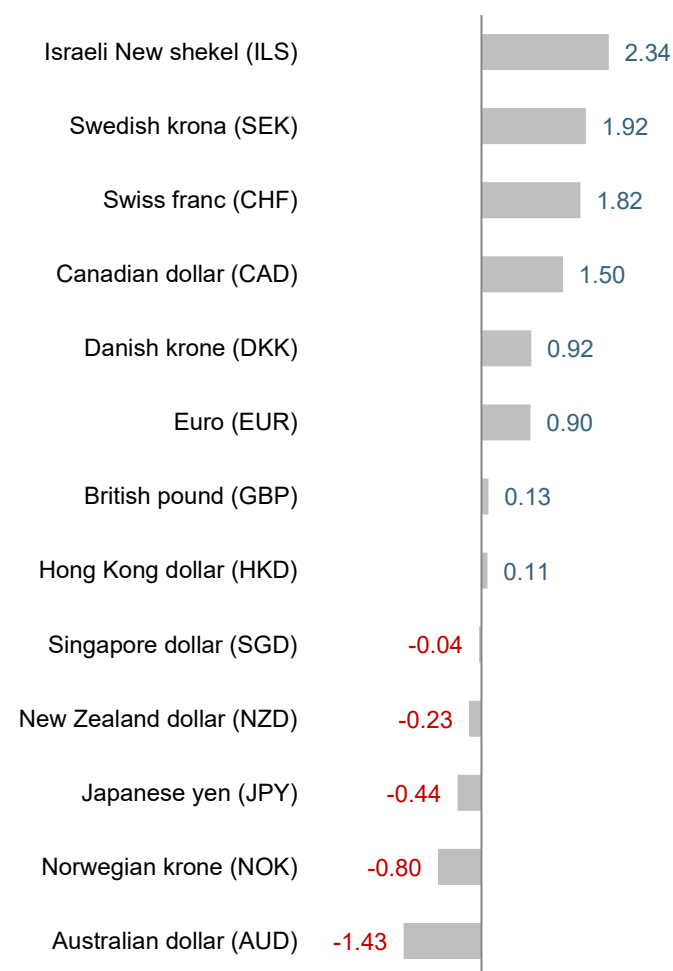
Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. MSCI Index returns are in USD net of dividend withholding taxes. Country returns are the country 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 2021, 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

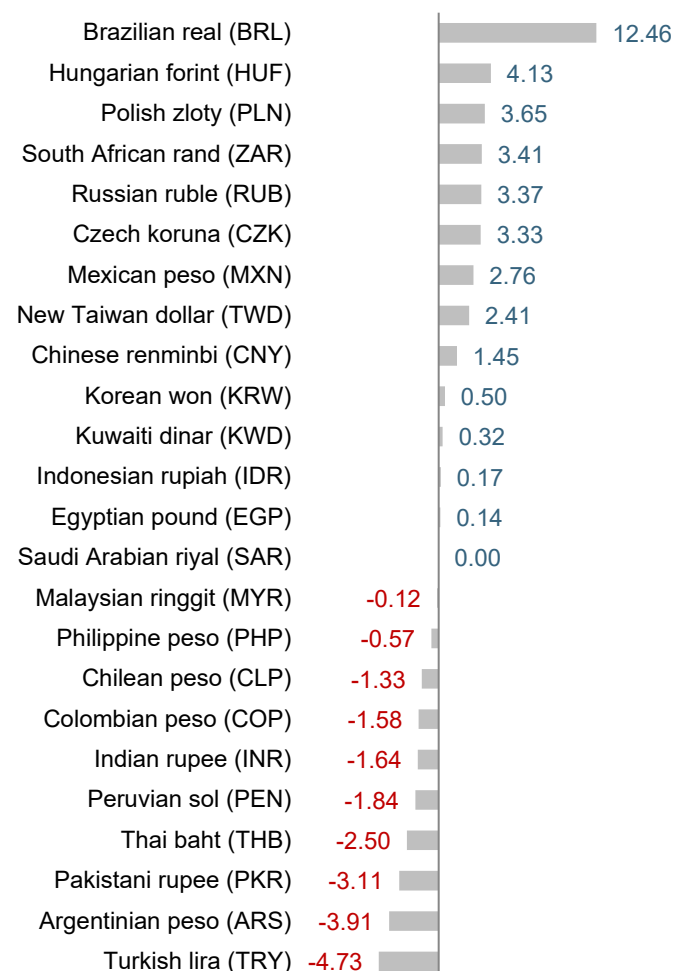
Second Quarter 2021

In developed markets, several currencies appreciated vs. the US dollar, but some, notably the Australian dollar, depreciated. In emerging markets, most currencies appreciated vs. the US dollar, but some, notably the Turkish lira, depreciated.

## 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 data © MSCI 2021, all rights reserved.

# Real Estate Investment Trusts (REITs)

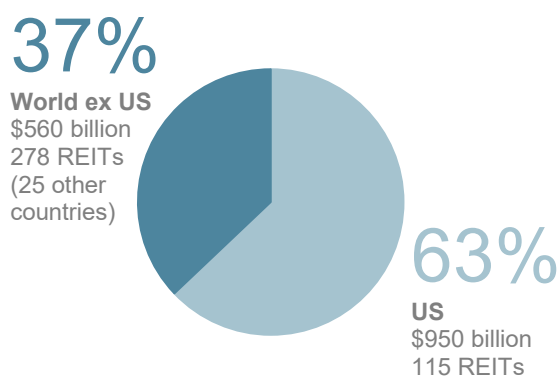
## Second Quarter 2021 Index Returns

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

### Ranked Returns (%)



### Total Value of REIT Stocks



### Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*
US REITS	22.94	39.98	8.13	5.16	8.67
Global ex US REITS	9.68	31.93	4.63	4.11	5.00

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 © 2021 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Commodities

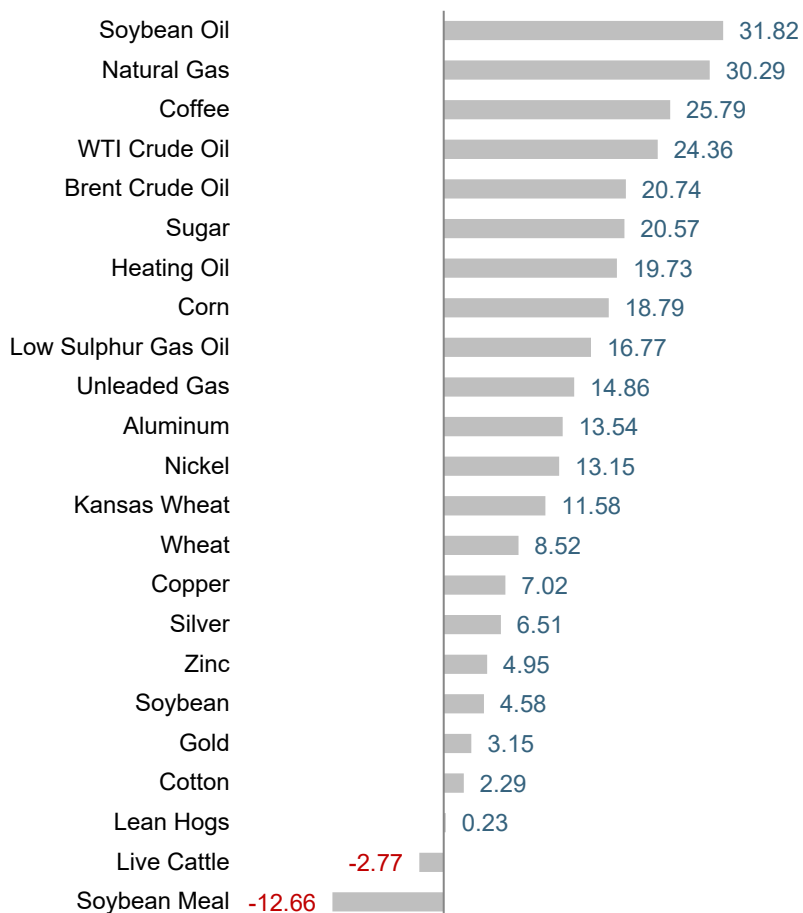
## Second Quarter 2021 Index Returns

The Bloomberg Commodity Index Total Return returned 13.3% for the second quarter of 2021.

Soybean Oil and Natural Gas were the best performers, returning 31.82% and 30.29%, respectively.

Soybean Meal and Live Cattle were the worst performers, declining 12.66% and 2.77%, respectively.

### Ranked Returns (%)



### Period Returns (%)

\* Annualized

Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Commodities	13.30	21.15	45.61	3.90	2.40	-4.44

# Fixed Income

## Second Quarter 2021 Index Returns

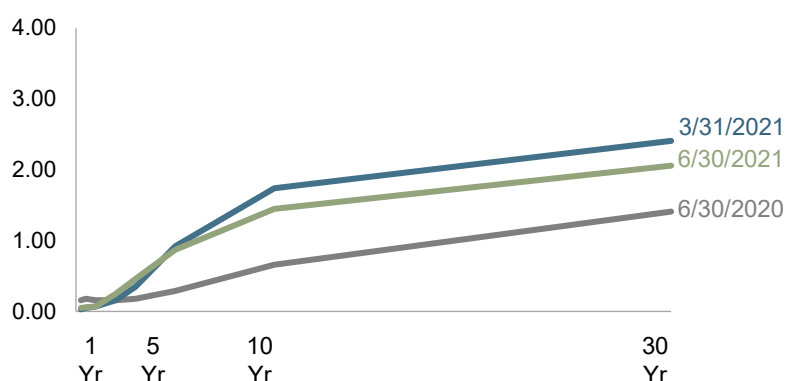
Changes in interest rates in the US Treasury fixed income market were generally mixed during the second quarter of 2021. The yield on the 5-Year Treasury note decreased 7 basis points (bps) to 0.88%. The yield on the 10-Year T-note decreased 28 bps to 1.46%. The 30-Year Treasury bond yield declined 35 bps to 2.04%.

On the short end of the yield curve, the 1-Month US Treasury bill yield remained unchanged at 0.05%, and the 1-Year T-bill yield increased 2 basis point to 0.10%. The 2-Year Treasury note increased 10 bps to 0.25%.

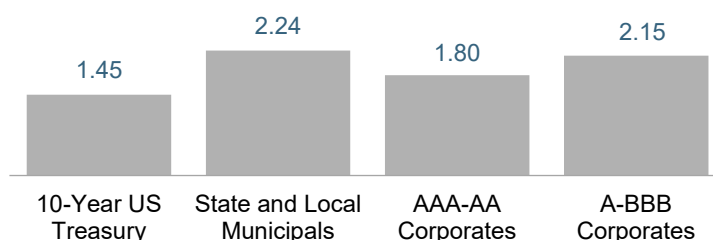
In terms of total returns, short-term corporate bonds gained 0.70%. Intermediate-term corporate bonds returned 1.70%.

The total return for short-term municipal bonds was 0.30%, while intermediate-term munis returned 0.80%. Revenue bonds outperformed general obligation bonds.

### US Treasury Yield Curve (%)



### Bond Yields across Issuers (%)



### Period Returns (%)

Period Returns (%)						*Annualized
Asset Class	QTR	YTD	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg Barclays US Government Bond Index Long	6.43	-7.82	-10.42	7.97	3.18	6.62
Bloomberg Barclays US TIPS Index	3.25	1.73	6.51	6.53	4.17	3.40
Bloomberg Barclays US High Yield Corporate Bond Index	2.74	3.62	15.37	7.45	7.48	6.66
Bloomberg Barclays US Aggregate Bond Index	1.83	-1.60	-0.33	5.34	3.03	3.39
Bloomberg Barclays Municipal Bond Index	1.42	1.06	4.17	5.10	3.25	4.28
FTSE World Government Bond Index 1-5 Years	0.31	-2.08	2.08	2.31	1.27	-0.13
FTSE World Government Bond Index 1-5 Years (hedged to USD)	0.07	-0.30	0.11	2.82	1.92	1.88
ICE BofA 1-Year US Treasury Note Index	0.02	0.09	0.22	2.01	1.47	0.90
ICE BofA US 3-Month Treasury Bill Index	0.00	0.02	0.09	1.34	1.17	0.63

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 ICE BofA US Corporates, AA-AAA rated. A-BBB Corporates represent the ICE BofA US Corporates, BBB-A rated. Bloomberg Barclays data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (SBBBI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2021 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2021 ICE Data Indices, LLC. S&P data © 2021 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

# Global Fixed Income

## Second Quarter 2021 Yield Curves

Changes in government bond yields in the global developed markets were mixed for the quarter.

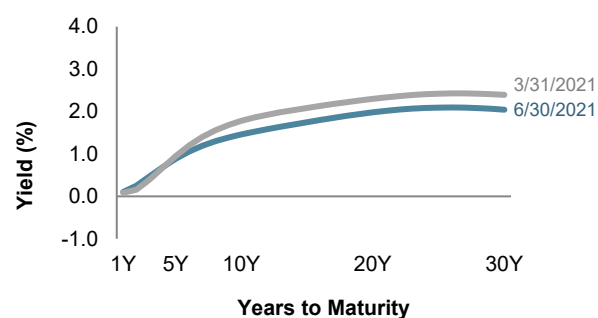
Term premiums were mixed in developed markets.

Short- and intermediate-term nominal interest rates were negative in Japan and Germany.

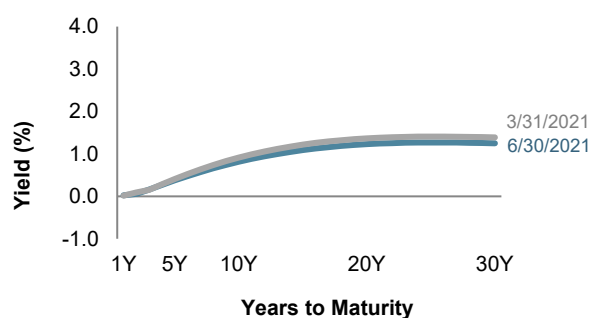
Changes in Yields (bps) since 3/31/2021

	1Y	5Y	10Y	20Y	30Y
US	1.8	-6.5	-31.9	-31.8	-35.0
UK	0.8	-3.1	-9.9	-13.8	-13.8
Germany	-2.2	5.4	5.1	4.4	1.5
Japan	1.9	-1.5	-4.4	-3.7	2.2
Canada	11.1	1.8	-16.0	-16.1	-12.8
Australia	-11.0	-3.2	-24.7	-37.3	-40.5

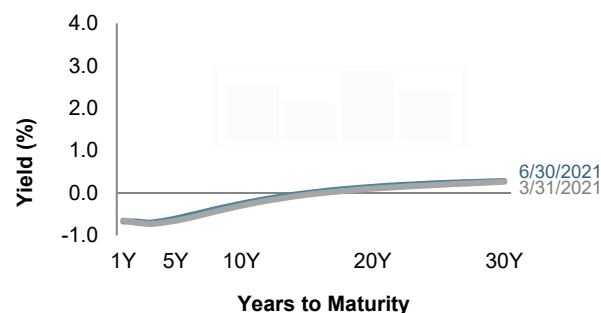
### US



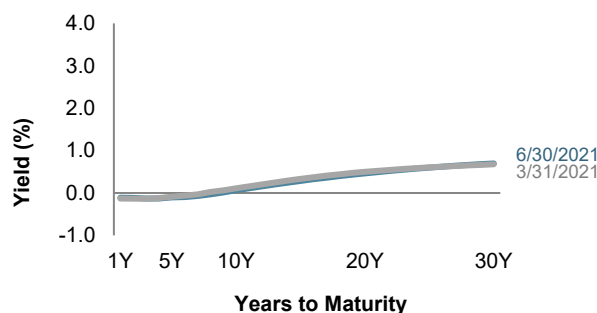
### UK



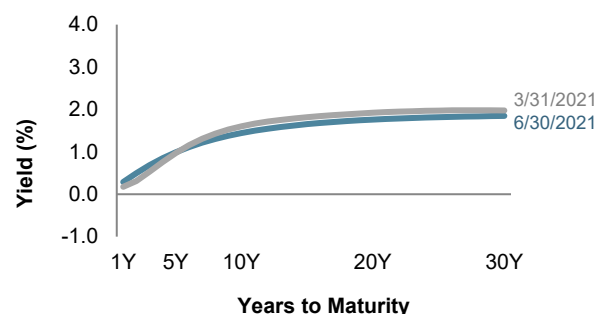
### Germany



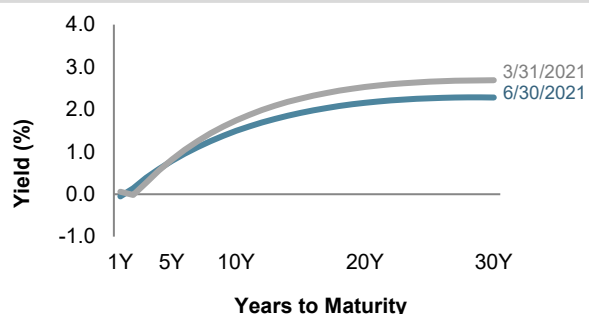
### Japan



### Canada



### Australia





# Impact of Diversification

Second Quarter 2021

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.

## Ranked Returns (%)

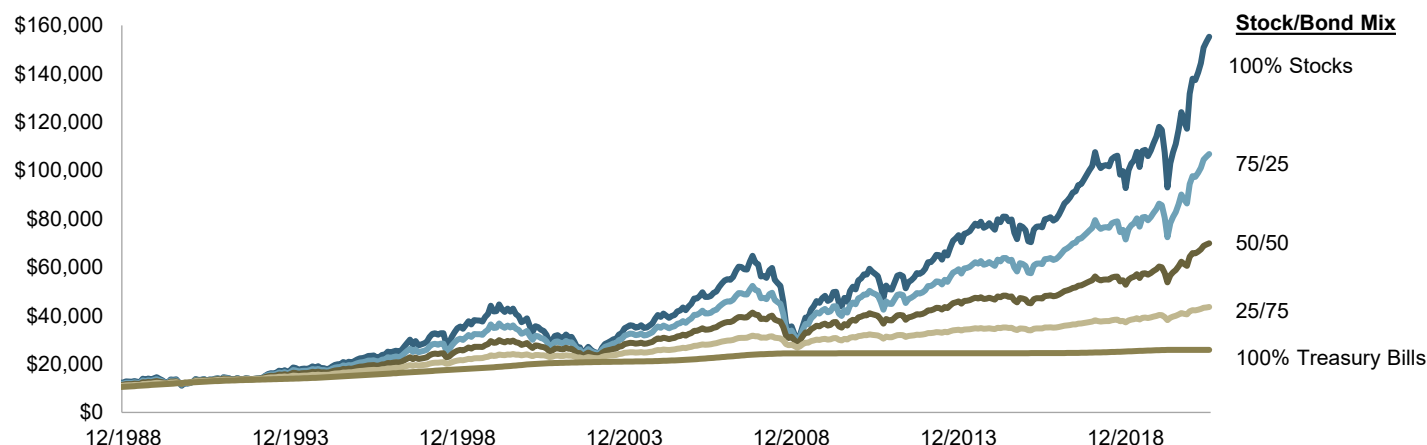
100% Stocks	7.53
75/25	5.62
50/50	3.73
25/75	1.85
100% Treasury Bills	0.00

## Period Returns (%)

\* Annualized

Asset Class	YTD	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV <sup>1</sup>
100% Stocks	12.56	39.87	15.14	15.20	10.48	14.03
75/25	9.32	28.96	11.84	11.73	8.12	10.52
50/50	6.15	18.71	8.40	8.20	5.67	7.00
25/75	3.05	9.08	4.85	4.64	3.14	3.49
100% Treasury Bills	0.01	0.06	1.21	1.06	0.55	0.23

## 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 2021, 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).

# Inflation: An Exchange Between Eugene Fama and David Booth

Second Quarter 2021

David Booth, Executive Chairman and Founder

Eugene Fama, PhD, Nobel laureate, Director, and Consultant

With the economy starting to recover from the COVID-19 pandemic and investor concerns turning increasingly toward inflation, Dimensional Founder David Booth talked with Nobel laureate Eugene Fama about inflation and how investors should think about it in their portfolios. Excerpts from their conversation have been edited for clarity.

## ON PREDICTING INFLATION

**David Booth:** Gene, you are a founding Director of Dimensional and have been involved in our research and corporate governance for more than 40 years. People may not know that you've also done a lot of research on inflation and interest rates.

We always tell people, "We don't try to forecast. We try to be prepared for various outcomes." Inflation is one of those things you want to be prepared for. There's a pickup in inflation risk that wasn't there, say, 10 years ago. Does that cause you to worry?

**Eugene Fama:** Historically what's happened is, when there's a spike, the spike persists for a long time. Inflation tends to be highly persistent once you get it. Once it goes down, it tends to be highly persistent on the downside. You've got to be prepared for that. Predicting next month's inflation may not be very hard because this month's inflation can be a pretty good predictor of next month's inflation, or next quarter's inflation, or even the next six months' inflation. Persistence is a characteristic of inflation.

We haven't been in a period of high inflation, or even moderate inflation, for at least 10 years, so I'm not particularly concerned that inflation will be high soon.

## ON HOW INVESTORS SHOULD THINK ABOUT INFLATION AND THEIR FINANCIAL GOALS

**Booth:** Conditions change, so is there anything about the current environment and the risk of inflation heating up that would cause you to change your portfolio?

**Fama:** I don't think anybody predicts the market very well. Market timing is risky in the sense that you've always emphasized: You may be out of the stock market at precisely the time when it generates its biggest returns. The nature of the stock market is you get a lot of the return in very short periods of time. So, you basically don't want to be out for short periods of time, where you may actually be missing a good part of the return.

I think you take a long-term perspective. You decide how much risk you're willing to take, and then you choose a mix of bonds, stocks, Treasury Inflation-Protected Securities, and whatever else satisfies your long-term goals. And you forget about the short term. Maybe you rebalance occasionally because the weights can get out of whack, but you don't try to time the market in any way, shape, or form. It's a losing proposition.

**Booth:** As you get to the point in life where you actually need to use your portfolio, does that change the kinds of allocations you'd want?

**Fama:** The classic answer to that was, yes, you'd shift more toward short-term hedges, short-term bonds. Once you had enough accumulated wealth that you thought you could make it through retirement, you'd want to hedge away any uncertainty that might disturb that. That's a matter of taste and your willingness to take risk and your plans for the

# Inflation: An Exchange Between Eugene Fama and David Booth

(continued from page 18)

---

people you will leave behind, like your charities or your kids. All of that will influence how you make that decision. But the typical person who thinks they'll spend all their money before they die probably wants to move into less risky stuff as they approach retirement.

**Booth:** The notion of risk is pretty fuzzy. For example, if I decide that I want to hold Treasury bills or CDs when I retire, and you did that 40 years ago, when we started the firm, and you've got that 15% coupon, that's pretty exciting. With \$1 million at 15%, you're getting \$150,000 a year. Today you might get less than 1%.

**Fama:** Right, but I remember when inflation was running at about 15%, so not much better off!

**Booth:** Those are different kinds of risks.

**Fama:** When you approach retirement, you're basically concerned about what your real wealth will look like over the period of your retirement, and you have some incentives to hedge against that. You face the possibility, for example, that if you invest in stocks, you have a higher expected return, but you may lose 30% in a year and that might be devastating for your long-term consumption.

**Booth:** I think part of planning is not only your investment portfolio, but what to do if you experience unexpected events of any kind. We're kind of back to where we start our usual conversation: "Control what you can control." You can't control markets. What you can do is prepare yourself for what you'll do in case bad events happen. Inflation is just one of many risk factors long-term investors need to be prepared for.

---

Eugene Fama is a member of the Board of Directors of the general partner of, and provides 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.

"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.

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