

Quarterly Market Review

[First Quarter 2021]



Quarterly Market Review

First Quarter 2021

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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:

Quarterly Topic: YOLO, Meme, and EMH

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

YOLO, Meme, and EMH: What's Your Investment Style?

First Quarter 2021

Marlena Lee, PhD

Global Head of Investment Solutions

You only live once! Social media investors have banded together on unconventional platforms to drive up the prices of a handful of “meme stocks,” seemingly without traditional evaluation of investing risks and rewards. They made headlines with their “short squeeze” of GameStop (GME), and, as they garner media attention, their tactics continue. While it's not the intended victim of the YOLO traders, will the efficient market hypothesis be a casualty of these events? The answer depends a lot on your definition of efficient markets. Perhaps long-term investors would be better served questioning the potential impact on their investment philosophy.

Fama (1970) defines the efficient market hypothesis (EMH) to be the simple statement that prices reflect all available information. The rub is that it doesn't say how investors should use this information. EMH is silent on the “correct” ways investors should use information and prices should be set. To be testable, EMH needs a companion model: a hypothesis for how markets and investors should behave. This leaves a lot of room for interpretation. Should asset prices be set by rational investors whose only concerns are systematic risk¹ and expected returns? It seems implausible to link recent meme-stock price movements to economic risks. Rather, they seem fueled by investor demand to be

part of a social movement, hopes to strike it rich with a lucky stock pick, or plain old schadenfreude.

There is a vast ecosystem of investors, from individuals investing in their own accounts to governments and corporations who invest on behalf of thousands. Ask investors why they invest the way they do, and you'll likely get a range of goals and approaches just as diverse. It's this complex system that generates the demand for stocks. Another complex system fuels the supply of stocks. Supply and demand meet at the market price. People may contend that the market is not always efficient, or rational, but the stock market is always in equilibrium. Every trade has two sides, with a seller for every buyer and a profit for every loss.

There are plenty of well-studied examples that show supply and demand at work. The huge increase in demand for stocks added to a well-tracked index often creates a run-up in the stock price. Some of this price increase can be temporary and reversed once the tremendous liquidity demands at index reconstitution² are met. Index reconstitution is just one example; instances of liquidity-driven price movements happen all the time. It is well documented that liquidity demands can produce temporary price movements.³ Investors may wonder if

1. Systematic risk is the possibility of an investor experiencing losses due to factors that affect the overall performance of the financial markets in which he or she is involved.

2. Reconstitution involves the re-evaluation of a market index. The process involves sorting, adding, and removing stocks to ensure that the index reflects up-to-date market capitalization and style.

3. For example, see "Tesla's Charge Reveals Weak Points of Indexing" (Dimensional, 2021)

YOLO, Meme, and EMH

(continued from page 2)

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temporary price dislocations motivated by users of r/WallStreetBets differ from those caused by changes to an index. Lots of buying puts temporary upward pressure on prices, which later fall back to “fundamental value” – it sounds familiar. The more relevant observation may be that markets are complex systems well adapted to facilitate the supply and demand of numerous market participants.

There are numerous reasons people may be willing to hold different stocks at different expected returns. Can all those differences be explained by risks? Doubtful. To quote Professor Fama, “The point is not that markets are efficient. They’re not. It’s just a model.”⁴ EMH can be a very useful model to inform how investors should behave. We believe investing as if markets are efficient is a good philosophy for building long-term wealth. Trying to outguess markets might be a quick way to destroy wealth.

It’s true, you only live once. The good news is that investors can look to market prices, not internet fads, to pursue higher expected returns. Theoretical and empirical research indicate higher expected returns come from lower relative prices and higher future cash flows to investors. Long-run investors can be better served by using markets, rather than chatrooms, for information on expected returns.

4. "Are markets efficient?" – Interview between Eugene Fama and Richard Thaler (June 30, 2016)

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Eugene Fama is a member of the Board of Directors of the general partner of, and provides consulting services to Dimensional Fund Advisors LP.

Quarterly Market Summary

Index Returns

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	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate		US Bond Market	Global Bond Market ex US
1Q 2021	STOCKS					BONDS	
	6.35%	4.04%	2.29%	6.22%		-3.37%	-1.90%
							
Since Jan. 2001							
Avg. Quarterly Return	2.4%	1.6%	3.0%	2.5%		1.1%	1.1%
Best Quarter	22.0%	25.9%	34.7%	32.3%		4.6%	4.6%
	2020 Q2	2009 Q2	2009 Q2	2009 Q3		2001 Q3	2008 Q4
Worst Quarter	-22.8%	-23.3%	-27.6%	-36.1%		-3.4%	-2.7%
	2008 Q4	2020 Q1	2008 Q4	2008 Q4		2021 Q1	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 March 31, 2021

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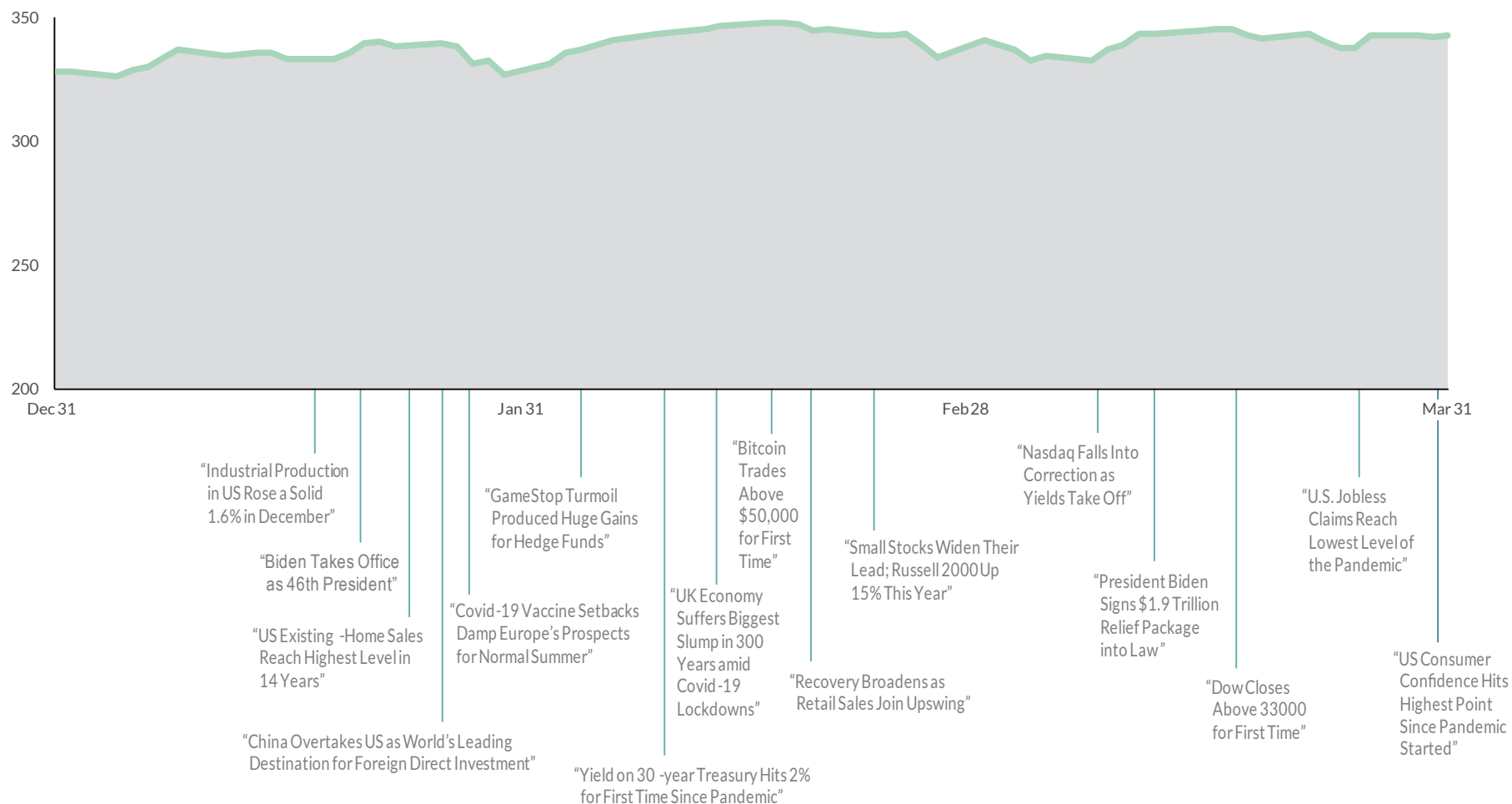
	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate		US Bond Market	Global Bond Market ex US
1 Year	STOCKS					BONDS	
	62.53%	45.86%	58.39%	36.05%		0.71%	1.45%
							
5 Years							
	16.64%	8.92%	12.07%	3.52%		3.10%	3.28%
							
10 Years							
	13.79%	5.21%	3.65%	6.23%		3.44%	4.22%
							

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World Stock Market Performance



MSCI All Country World Index with selected headlines from Q1 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

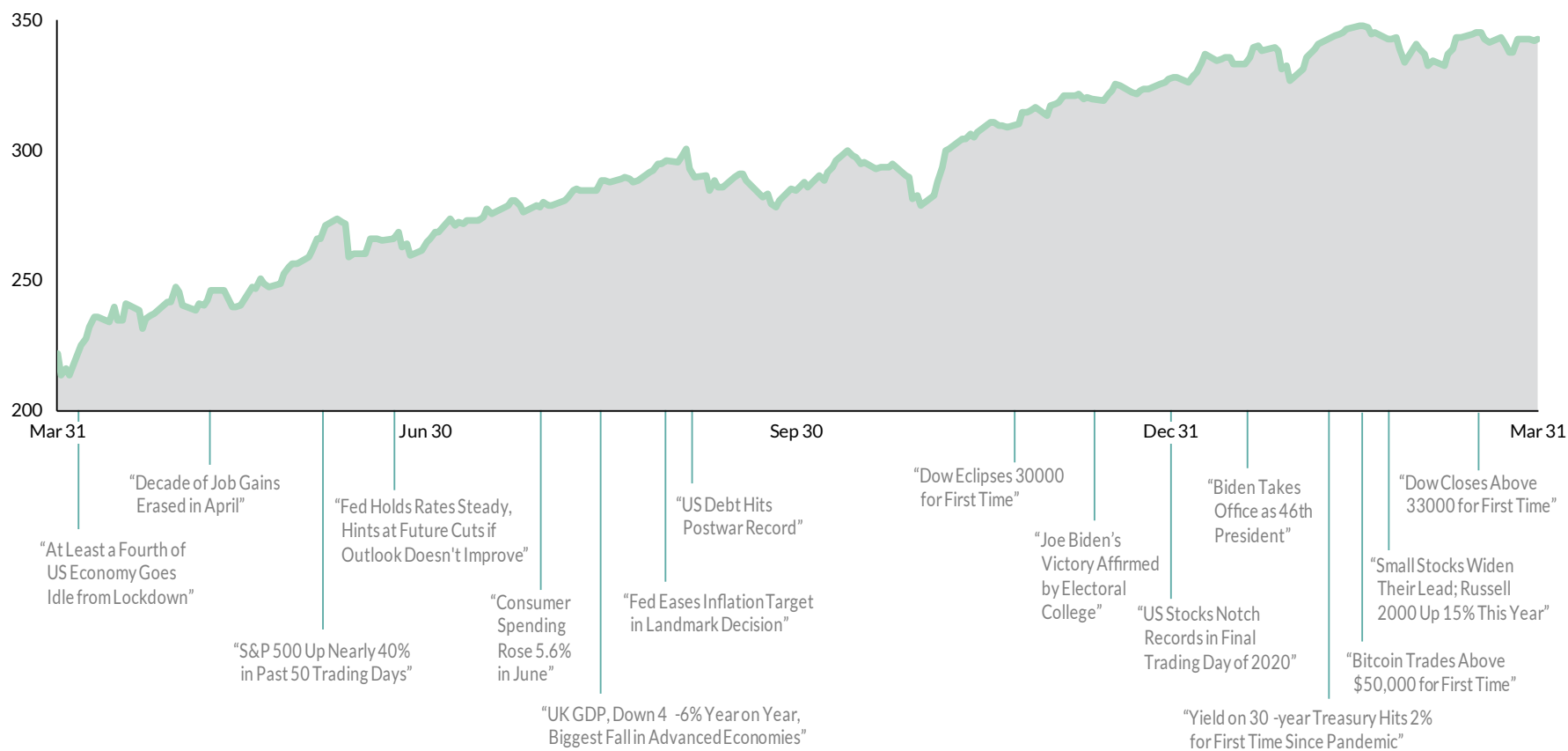
MSCI All Country World Index with selected headlines from Q1 2021



LONG TERM (2000 - Q1 2021)



SHORT TERM (Q1 2020 - Q1 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.**

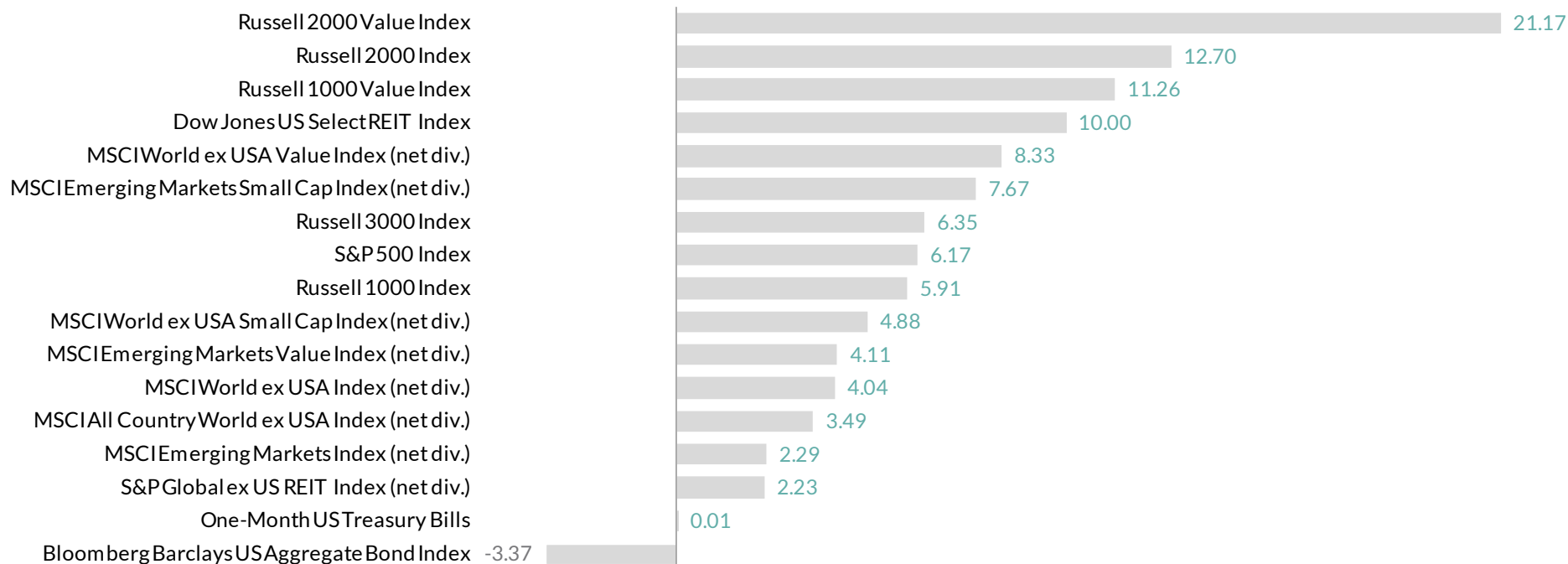
World Asset Classes

First Quarter 2021 Index Returns (%)

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

Value outperformed growth across regions. Small caps outperformed large caps across regions as well.

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



US Stocks

First Quarter 2021 Index Returns



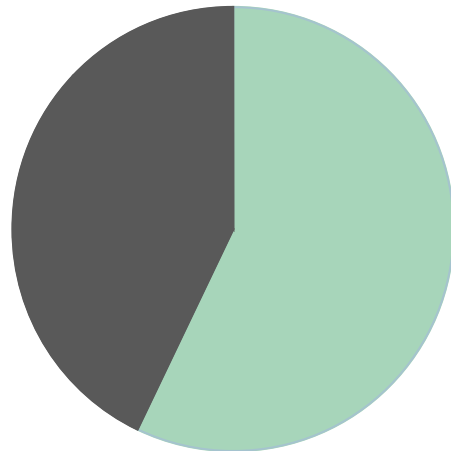
The US equity market posted positive returns for the quarter and outperformed non-US developed markets and emerging markets.

Value outperformed growth across large and small cap stocks.

Small caps outperformed large caps.

REIT indices outperformed equity market indices.

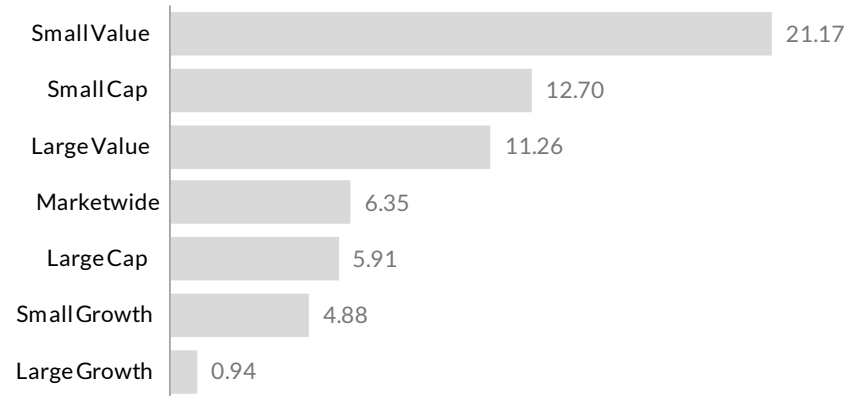
World Market Capitalization—US



57%

US Market
\$40.3 trillion

Ranked Returns (%)



Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Small Value	21.17	97.05	11.57	13.56	10.06
Small Cap	12.70	94.85	14.76	16.35	11.68
Large Value	11.26	56.09	10.96	11.74	10.99
Marketwide	6.35	62.53	17.12	16.64	13.79
Large Cap	5.91	60.59	17.31	16.66	13.97
Small Growth	4.88	90.20	17.16	18.61	13.02
Large Growth	0.94	62.74	22.80	21.05	16.63

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International Developed Stocks

First Quarter 2021 Index Returns

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

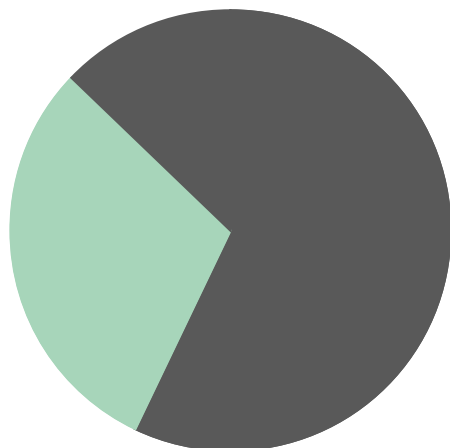
Value outperformed growth.

Small caps outperformed large caps.

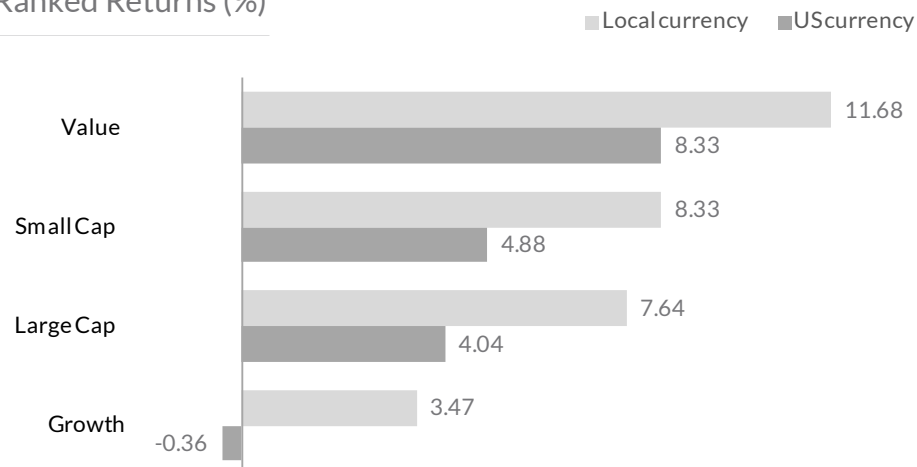
World Market Capitalization—International Developed

30%

International
Developed Market
\$21.2 trillion



Ranked Returns (%)



Period Returns (%)

	YTD	1 Year	3 Years*	5 Years*	10 Years*
Value	8.33	47.17	2.25	6.81	3.54
Small Cap	4.88	65.17	6.89	10.55	7.14
Large Cap	4.04	45.86	6.34	8.92	5.21
Growth	-0.36	43.55	10.02	10.72	6.69

* Annualized

Emerging Markets Stocks

First Quarter 2021 Index Returns

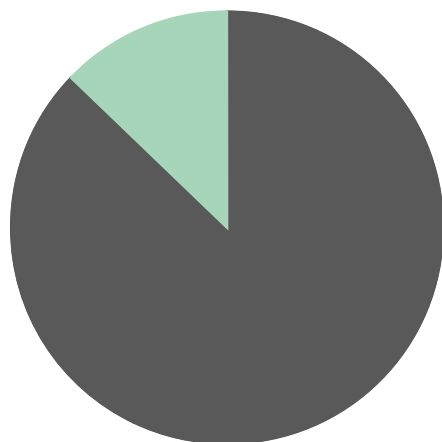
Emerging markets posted positive returns for the quarter, underperforming the US and developed ex US equity markets.

Value outperformed growth.

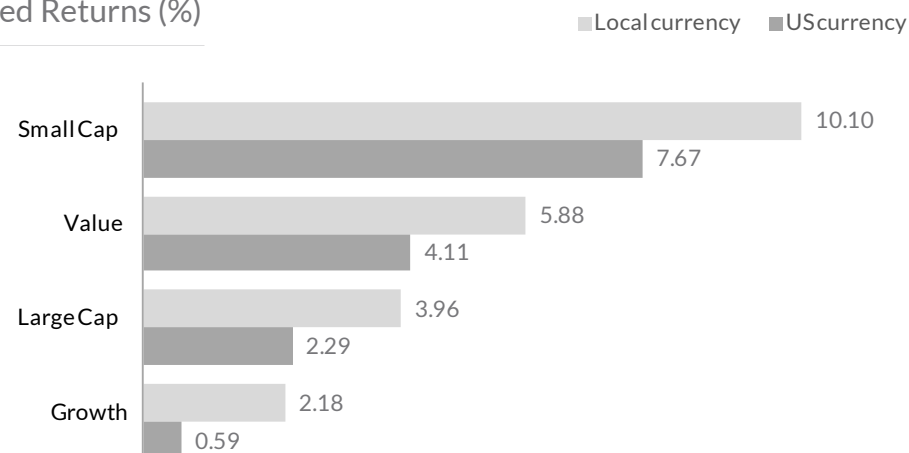
Small caps outperformed large caps.

World Market Capitalization—Emerging Markets

13%
Emerging Markets
\$9.0 trillion



Ranked Returns (%)



Period Returns (%)

Asset Class	YTD	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Small Cap	7.67	87.13	5.19	9.59	3.33
Value	4.11	52.53	2.60	8.42	1.03
Large Cap	2.29	58.39	6.48	12.07	3.65
Growth	0.59	63.78	10.10	15.53	6.15

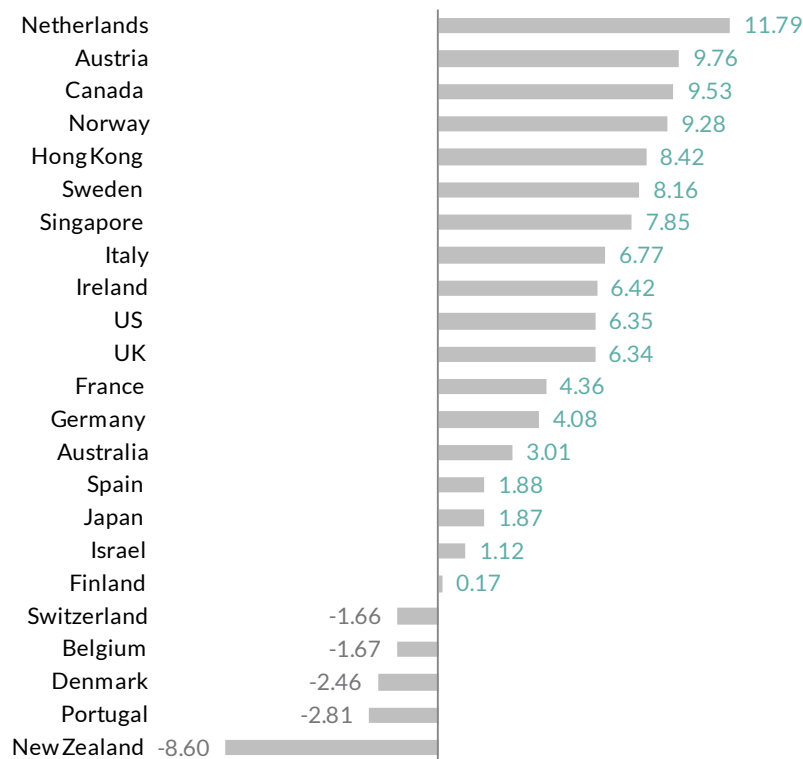
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Select Market Performance

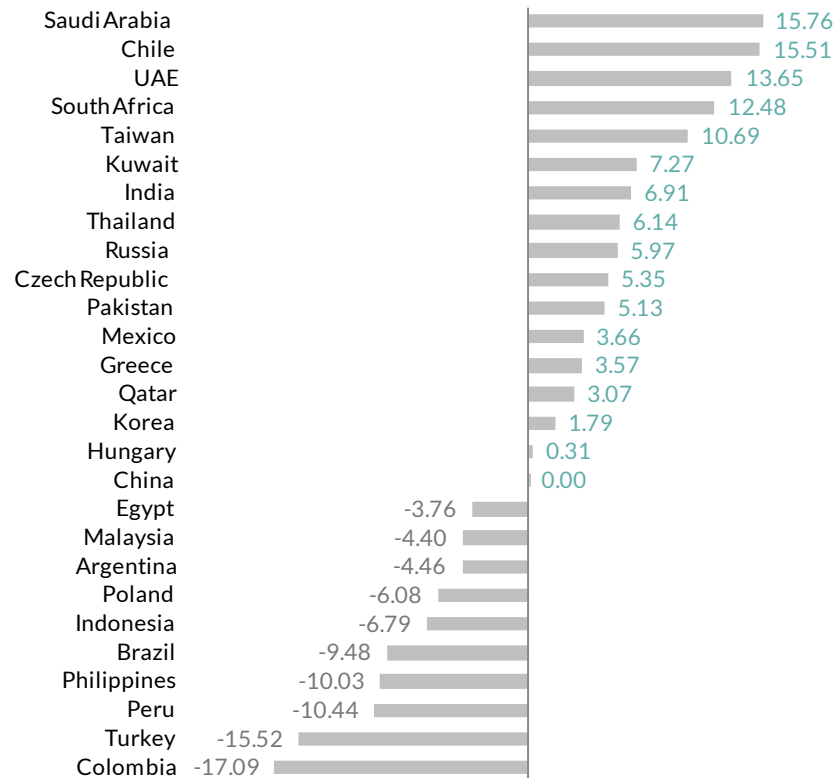
First Quarter 2021 Index Returns

In US dollar terms, the Netherlands and Austria recorded the highest country performance in developed markets, while New Zealand and Portugal posted the lowest returns for the quarter. In emerging markets, Saudi Arabia and Chile recorded the highest country performance, while Colombia and Turkey posted the lowest performance.

Ranked Developed Markets Returns (%)



Ranked Emerging Markets Returns (%)



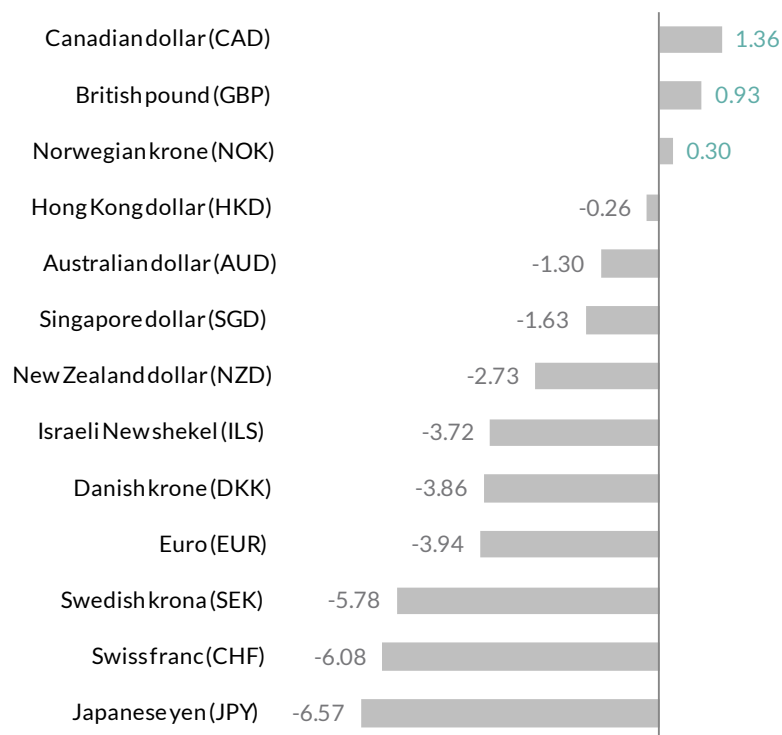
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Select Currency Performance vs. US Dollar

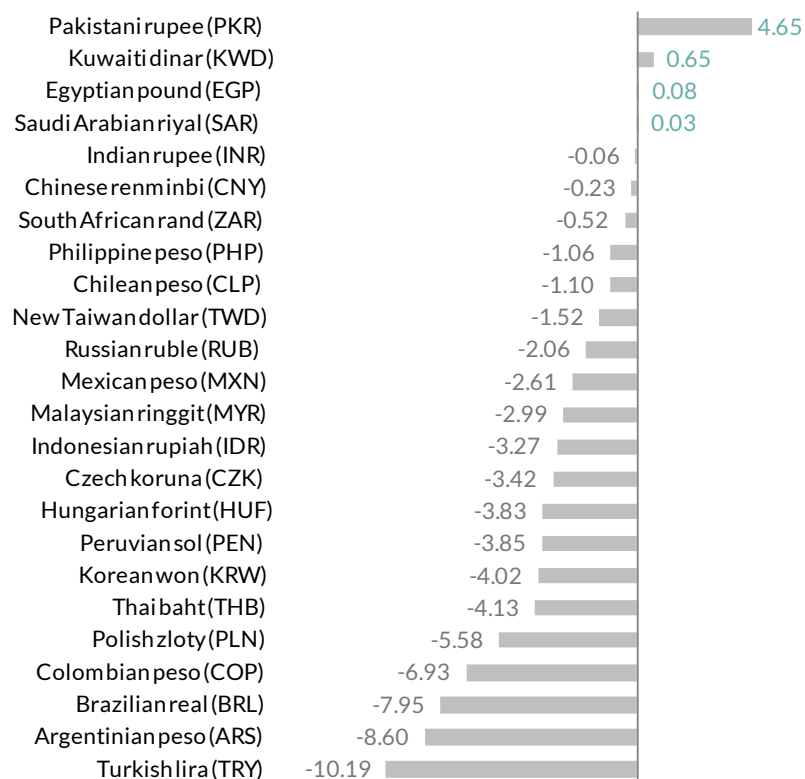
First Quarter 2021

In developed markets, most currencies depreciated versus the US dollar, except the Canadian dollar, British pound, and Norwegian krone. In emerging markets, most currencies depreciated versus the US dollar, but some, notably the Pakistani rupee, appreciated.

Ranked Developed Markets (%)



Ranked Emerging Markets (%)



Real Estate Investment Trusts (REITs)

First Quarter 2021 Index Returns

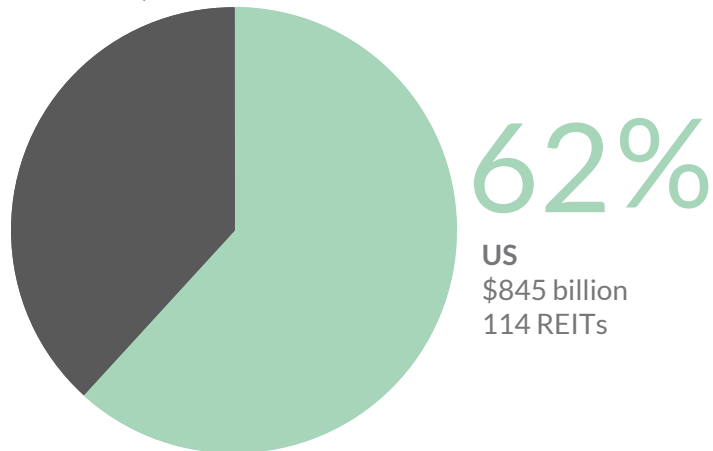


US real estate investment trusts outperformed non-US REITs during the quarter.

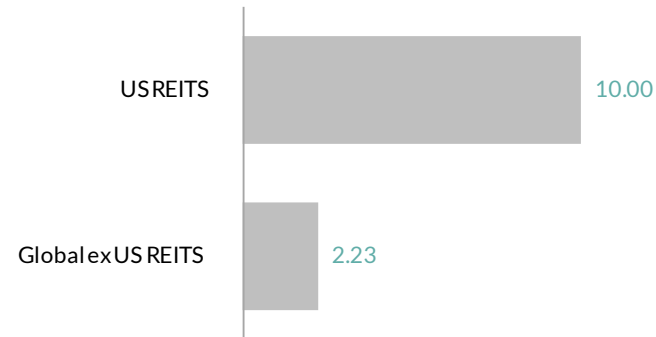
Total Value of REIT Stocks

38%

World ex US
\$523 billion
278 REITs
(25 other countries)



Ranked Returns (%)



Period Returns (%)

Asset Class	YTD	1 Year	3 Years*	5 Years*	* Annualized
					10 Years*
US REITS	10.00	36.66	7.55	3.94	7.89
Global ex US REITS	2.23	36.18	2.12	2.92	4.74

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

First Quarter 2021 Index Returns

The Bloomberg Commodity Index Total Return returned 6.92% for the first quarter of 2021.

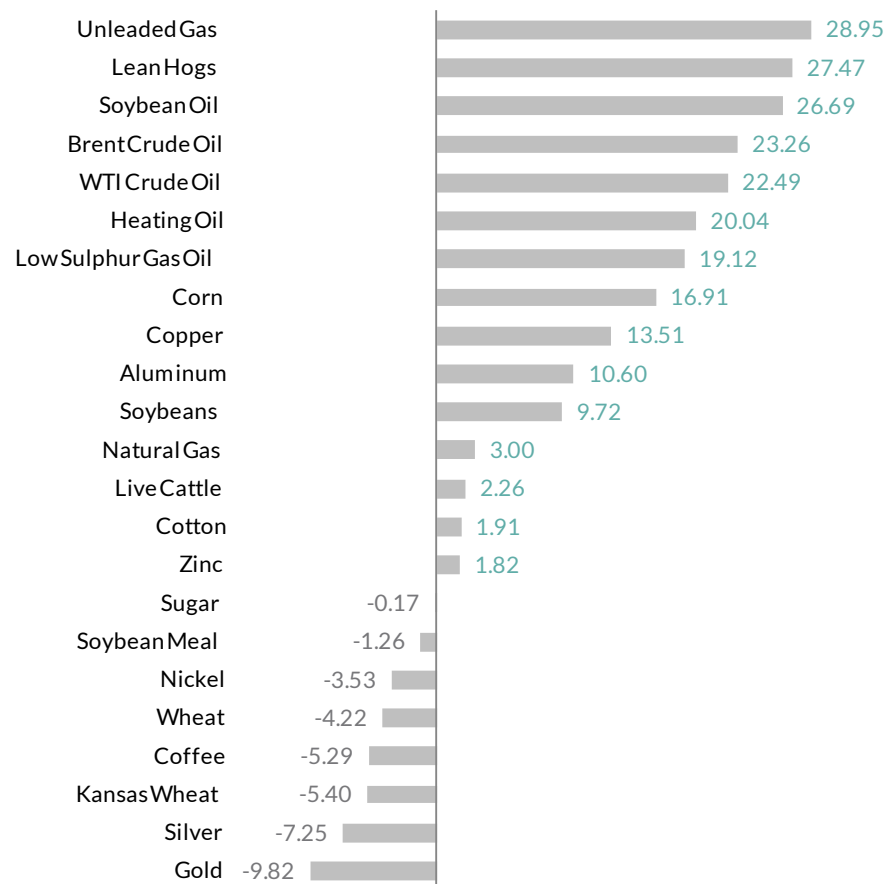
Unleaded Gas and Lean Hogs were the best performers, returning 28.95% and 27.47%, respectively.

Gold and Silver were the worst performers, declining 9.82% and 7.25%, respectively.

Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Commodities	6.92	35.04	-0.20	2.31	-6.28

Ranked Returns (%)



Fixed Income

First Quarter 2021 Index Returns

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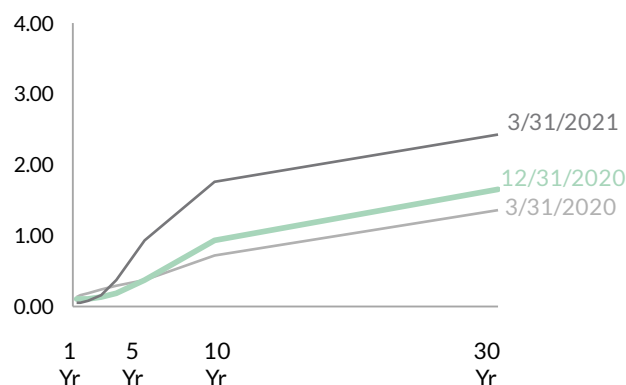
Interest rates generally increased in the US Treasury fixed income market during the first quarter. The yield on the 5-Year US Treasury note rose 56 basis points (bps), ending at 0.95%. The yield on the 10-Year T-note increased 81 bps to 1.74%. The 30-Year Treasury bond yield increased 75 bps to 2.39%.

On the short end of the curve, the 1-Month US Treasury bill yield decreased 3 bps to 0.05%, and the 1-Year T-bill yield fell 5 bps to 0.08%. The yield on the 2-Year US Treasury note climbed 6 bps to end at 0.15%.

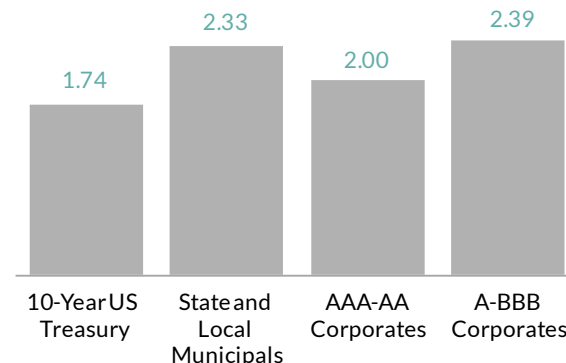
In terms of total returns, short-term corporate bonds declined 0.59%. Intermediate-term corporate bonds returned 2.19%.

The total return for short-term municipal bonds was flat, while intermediate-term municipal bonds lost 0.52%. Revenue bonds outperformed general obligation bonds.

Ranked Returns (%)



Bond Yield across Issuers (%)



Period Returns (%)

Asset Class	QTR	1 Year	*Annualized		
			3 Years*	5 Years*	10 Years*
Bloomberg Barclays US High Yield Corporate Bond Index	0.85	23.72	6.84	8.06	6.48
ICE BofA 1-Year US Treasury Note Index	0.07	0.17	2.14	1.52	0.92
ICE BofA US 3-Month Treasury Bill Index	0.03	0.12	1.49	1.19	0.63
Bloomberg Barclays Municipal Bond Index	-0.35	5.51	4.91	3.49	4.54
FTSE World Government Bond Index 1-5 Years (hedged to USD)	-0.36	0.57	2.88	2.05	1.96
Bloomberg Barclays US TIPS Index	-1.47	7.54	5.68	3.86	3.44
FTSE World Government Bond Index 1-5 Years	-2.39	3.20	1.29	1.43	0.09
Bloomberg Barclays US Aggregate Bond Index	-3.37	0.71	4.65	3.10	3.44
Bloomberg Barclays US Government Bond Index Long	-13.39	-15.60	5.84	3.17	6.30

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 © 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

First Quarter 2021 Yield Curves

Government bond yields generally increased in the global developed markets for the quarter.

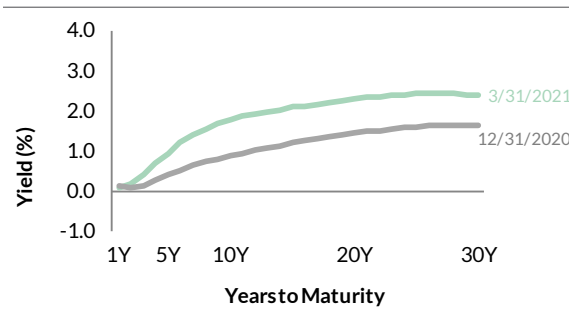
Longer-term bonds generally underperformed shorter-term bonds in developed markets.

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

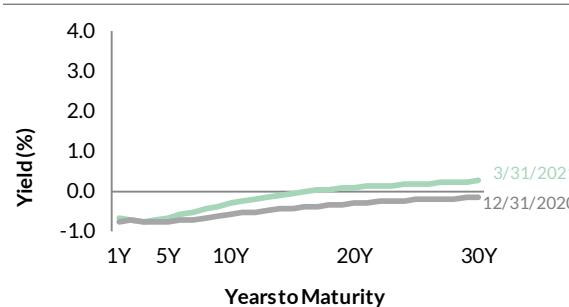
Changes in Yields (bps) since 12/31/2020

	1Y	5Y	10Y	20Y	30Y
US	-4.7	56.1	89.6	86.0	74.9
UK	13.9	46.2	67.6	66.5	62.2
Germany	10.6	10.6	27.5	39.7	40.4
Japan	-1.0	2.5	7.6	7.8	2.7
Canada	1.7	57.8	88.3	82.3	74.7
Australia	2.9	43.2	76.9	79.5	73.2

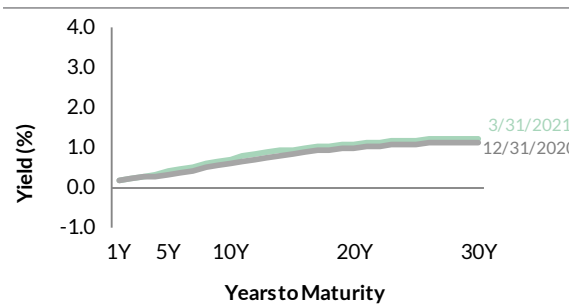
US



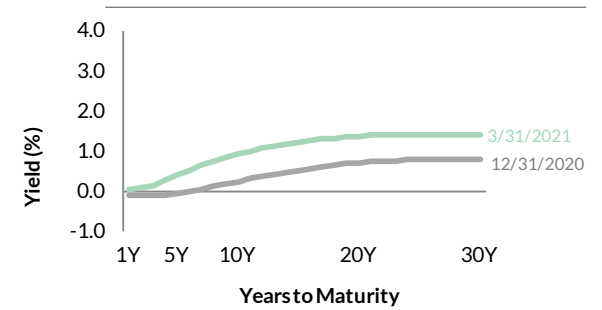
Germany



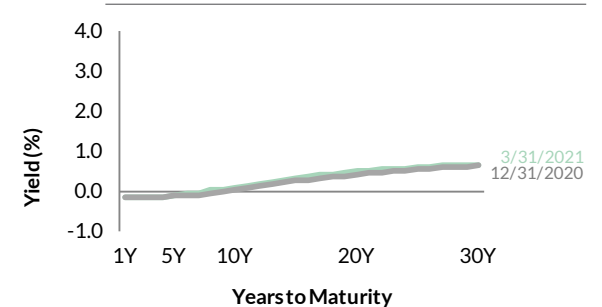
Canada



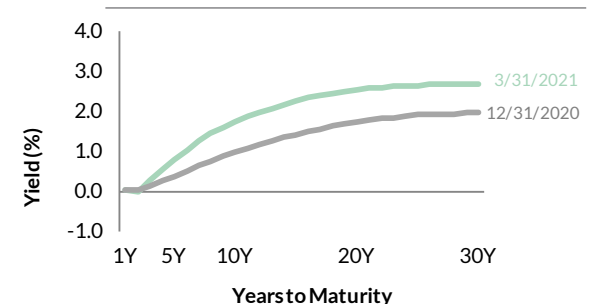
UK



Japan



Australia

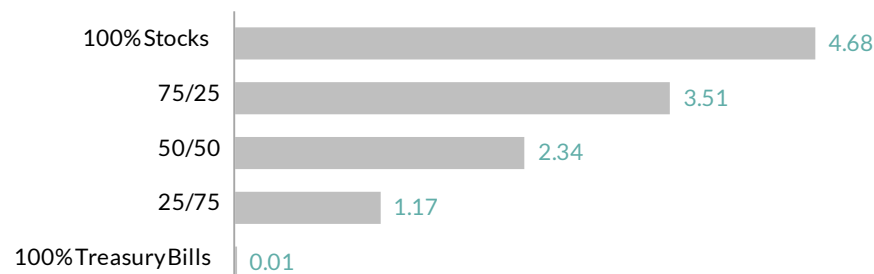


Impact of Diversification

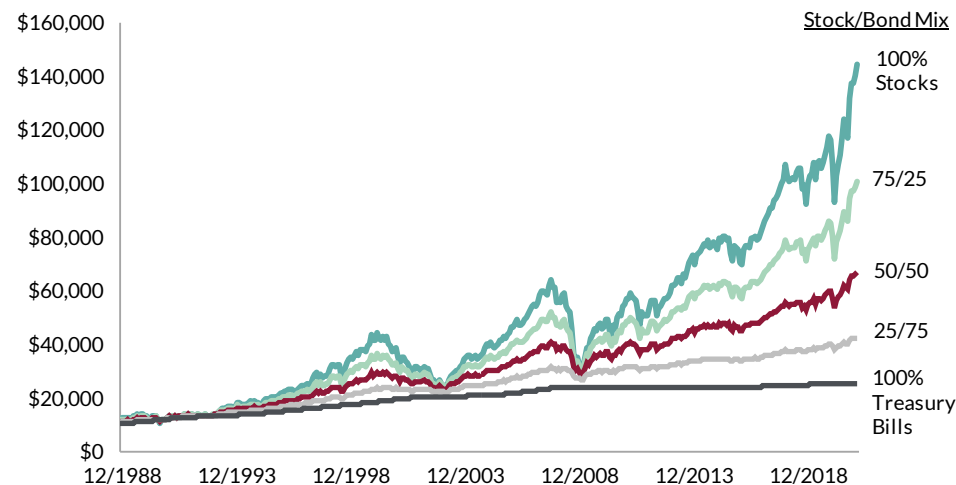
First Quarter 2021

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 (%)



Growth of Wealth: The Relationship between Risk and Return



Asset Class	YTD	1 Year	* Annualized			10-Year STDEV ¹
			3 Years*	5 Years*	10 Years*	
100% Stocks	4.68	55.31	12.66	13.81	9.73	14.07
75/25	3.51	39.64	10.05	10.71	7.57	10.55
50/50	2.34	25.27	7.29	7.55	5.31	7.03
25/75	1.17	12.11	4.38	4.33	2.97	3.51
100% Treasury Bills	0.01	0.08	1.35	1.07	0.55	0.23

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).