



Q1

Quarterly Market Review
First Quarter 2022

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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:

Market Summary

World Stock Market Performance

US Stocks

International Developed Stocks

Emerging Markets Stocks

Country Returns

Real Estate Investment Trusts (REITs)

Commodities

Fixed Income

Global Fixed Income







Impact of Diversification

Quarterly Topic: Is It Time to Sell Stocks?

Appendix

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
Q1 2022	STOCKS				BONDS	
	-5.28%	-4.81%	-6.97%	-3.81%	-5.93%	-4.05%
						
Since Jan. 2001						
Average Quarterly Return	2.4%	1.6%	2.8%	2.6%	1.0%	1.0%
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%	-5.9%	-4.1%
	2008 Q4	2020 Q1	2008 Q4	2008 Q4	2022 Q1	2022 Q1

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 dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), US Bond Market (Bloomberg US Aggregate Bond Index), and Global Bond Market ex US (Bloomberg Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2022 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 2022, all rights reserved. Bloomberg data provided by Bloomberg.

Long-Term Market Summary

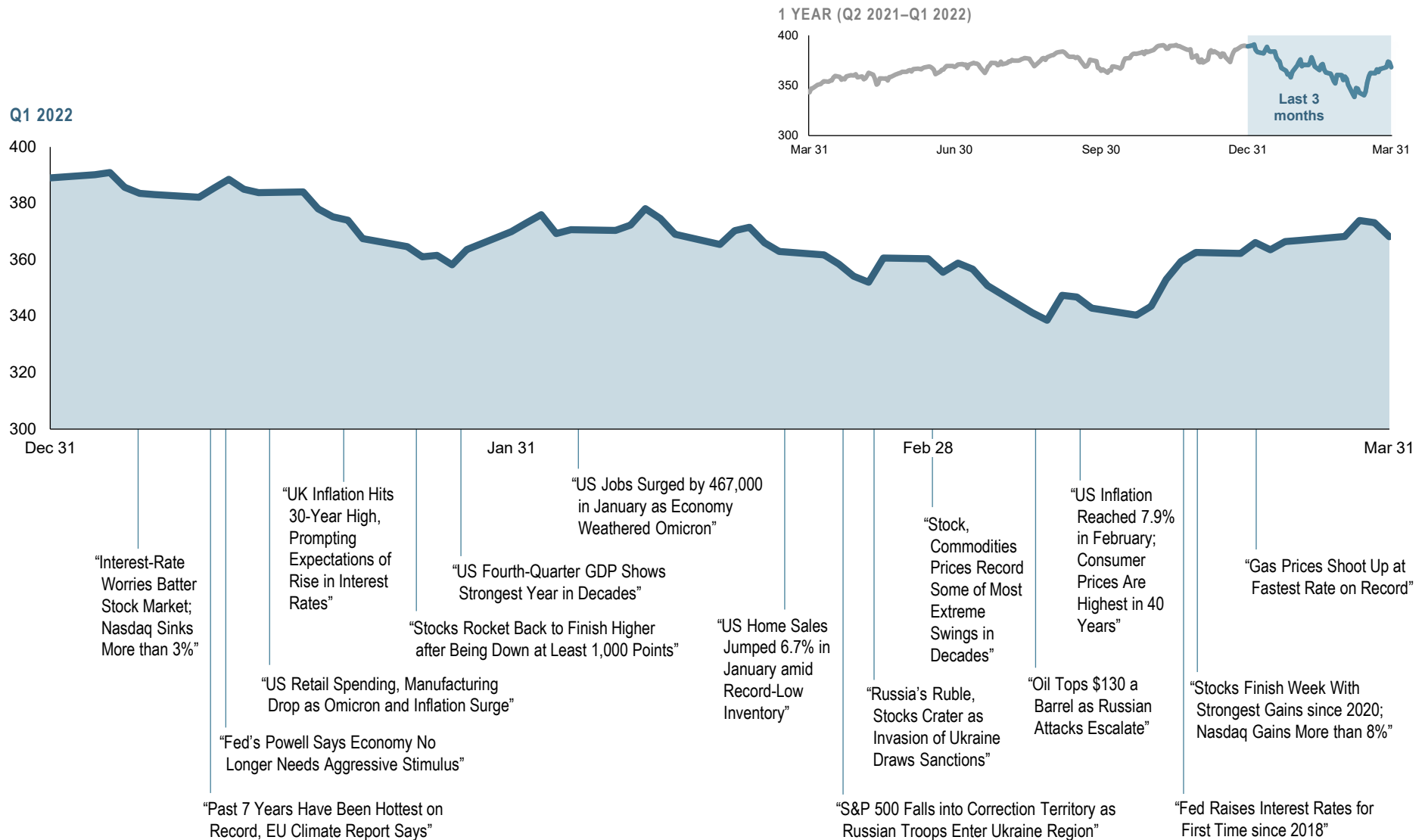
Index returns as of March 31, 2022

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
1 Year	STOCKS				BONDS	
	11.92%	3.04%	-11.37%	18.97%	-4.15%	-3.56%
						
5 Years						
	15.40%	7.14%	5.98%	7.10%	2.14%	2.25%
						
10 Years						
	14.28%	6.25%	3.36%	7.48%	2.24%	3.20%
						

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World Stock Market Performance

MSCI All Country World Index with selected headlines from Q1 2022



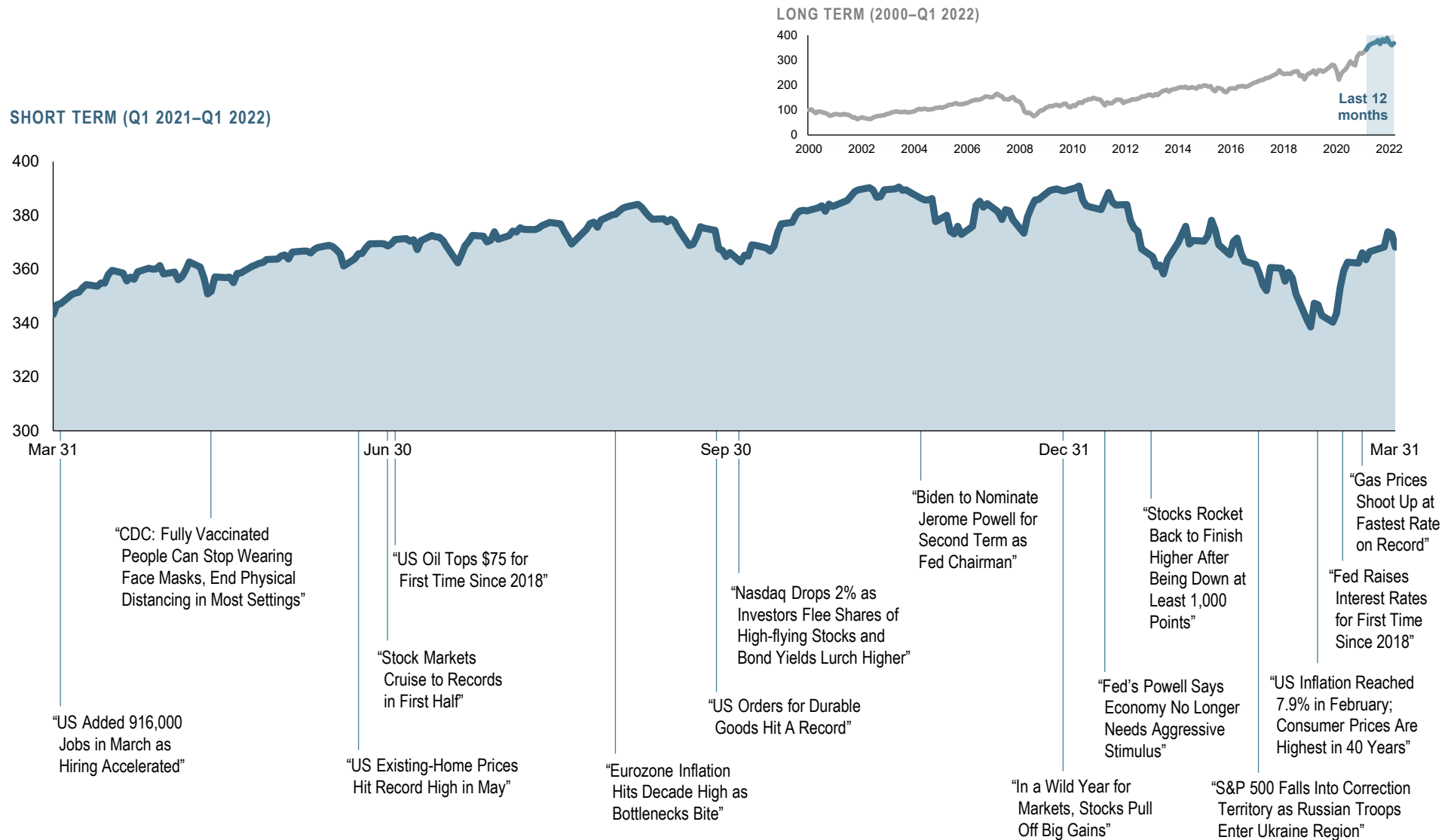
These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index [net dividends]. MSCI data © MSCI 2022, 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 dividends]. MSCI data © MSCI 2022, 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.**

US Stocks

First quarter 2022 index returns

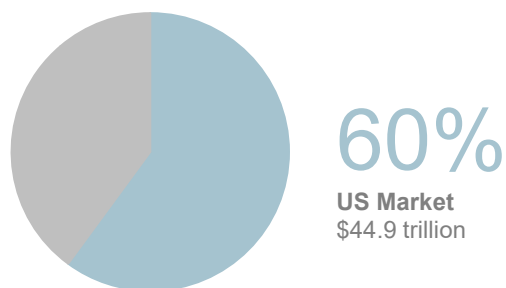
The US equity market posted negative returns for the quarter and underperformed non-US developed markets, but outperformed emerging markets.

Value outperformed growth.

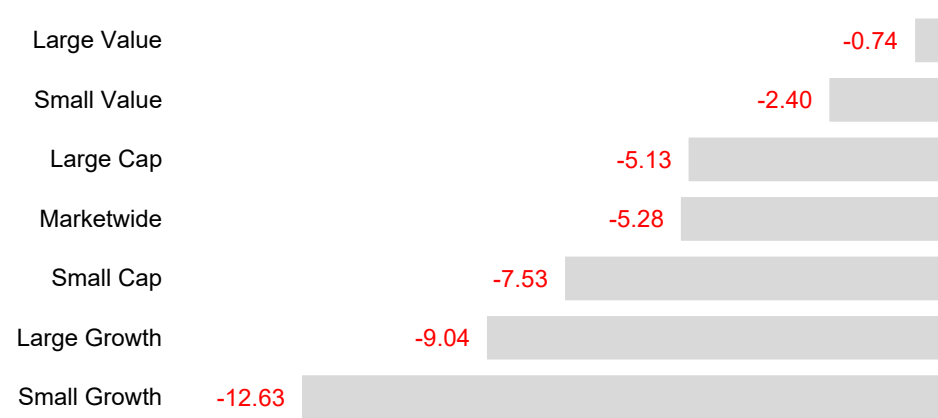
Small caps underperformed large caps.

REIT indices outperformed equity market indices.

World Market Capitalization—US



Ranked Returns (%)



Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Large Value	-0.74	11.67	13.02	10.29	11.70
Small Value	-2.40	3.32	12.73	8.57	10.54
Large Cap	-5.13	13.27	18.71	15.82	14.53
Marketwide	-5.28	11.92	18.24	15.40	14.28
Small Cap	-7.53	-5.79	11.74	9.74	11.04
Large Growth	-9.04	14.98	23.60	20.88	17.04
Small Growth	-12.63	-14.33	9.88	10.33	11.21

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 Value (Russell 1000 Value Index), Large Growth (Russell 1000 Growth Index), Small Cap (Russell 2000 Index), Small Value (Russell 2000 Value Index), and Small 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 2022, all rights reserved.

International Developed Stocks

First quarter 2022 index returns

Developed markets outside of the US posted negative returns for the quarter and outperformed both US equities and emerging markets.

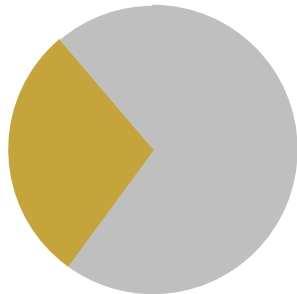
Value outperformed growth.

Small caps underperformed large caps.

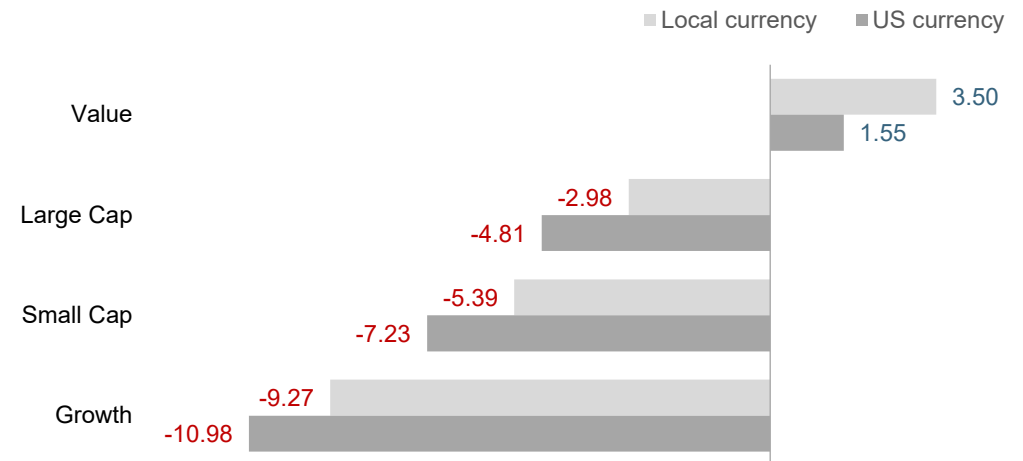
World Market Capitalization—International Developed

29%

International
Developed Market
\$21.5 trillion



Ranked Returns (%)



Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Value	1.55	6.18	6.29	4.86	5.02
Large Cap	-4.81	3.04	8.55	7.14	6.25
Small Cap	-7.23	-1.69	9.55	7.79	7.78
Growth	-10.98	-0.32	10.20	9.07	7.26

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Emerging Markets Stocks

First quarter 2022 index returns

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

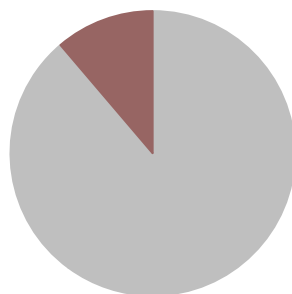
Value outperformed growth.

Small caps outperformed large caps.

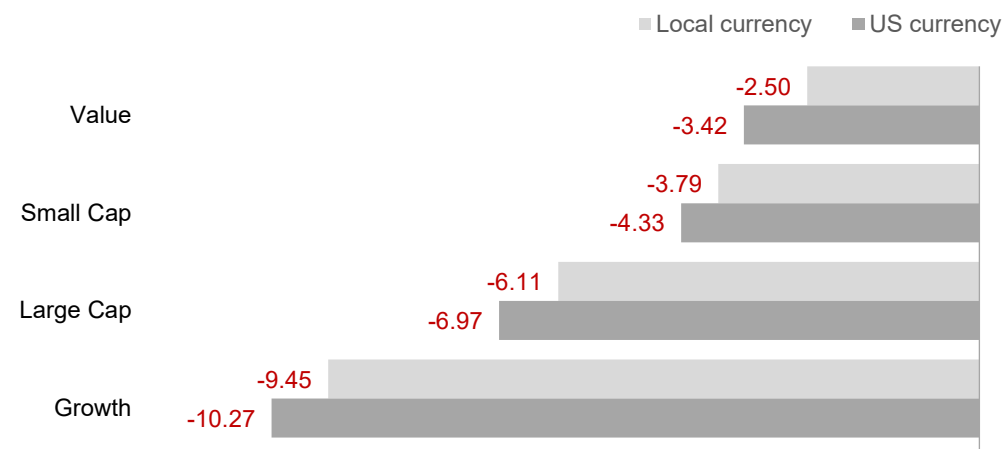
World Market Capitalization—Emerging Markets

11%

Emerging Markets
\$8.4 trillion



Ranked Returns (%)



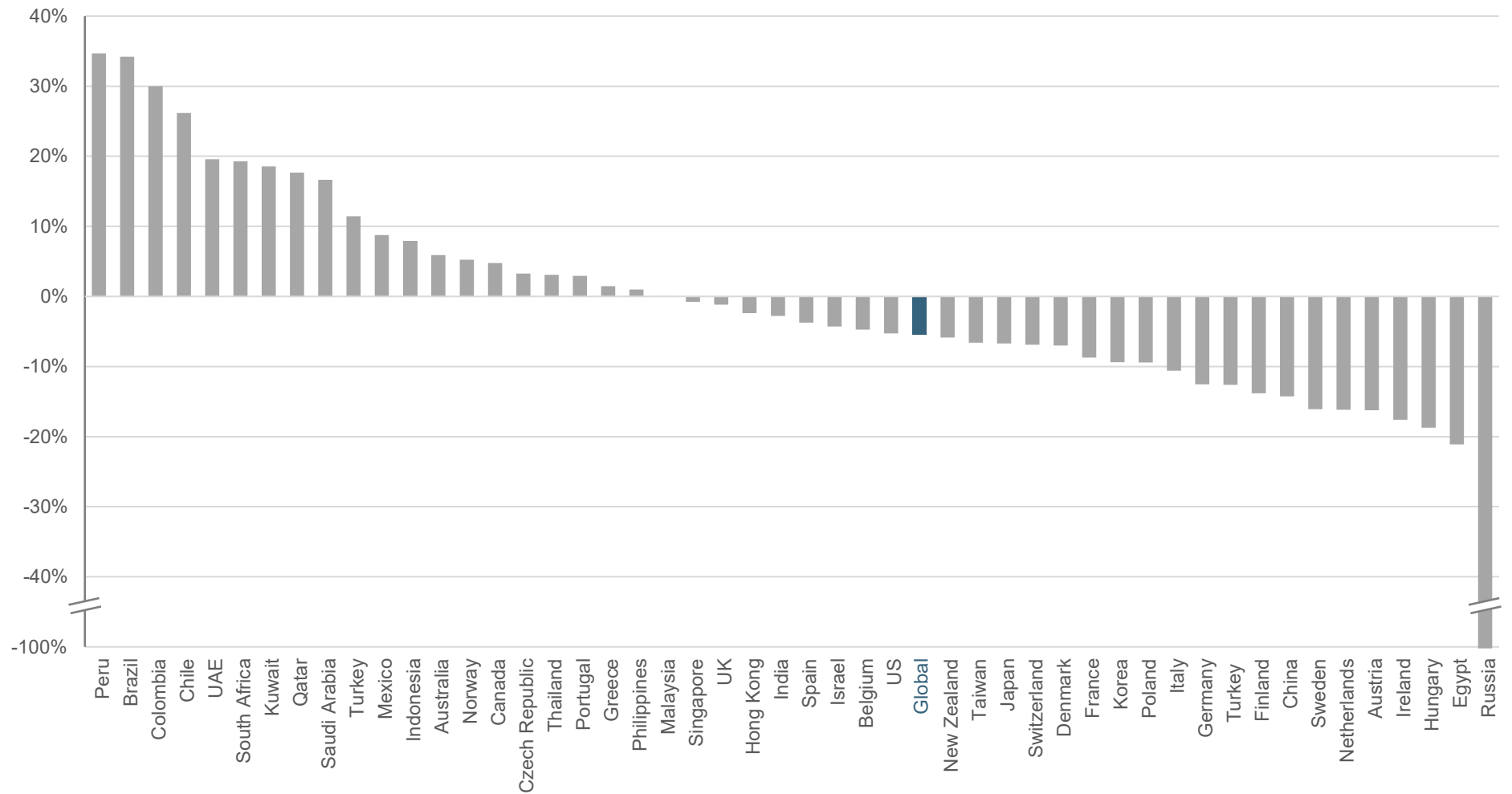
Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Value	-3.42	-3.53	3.22	4.24	1.58
Small Cap	-4.33	5.52	11.93	7.81	5.31
Large Cap	-6.97	-11.37	4.94	5.98	3.36
Growth	-10.27	-18.29	6.42	7.51	5.00

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Country Returns

First quarter 2022 index returns



Past performance is no guarantee of future results.

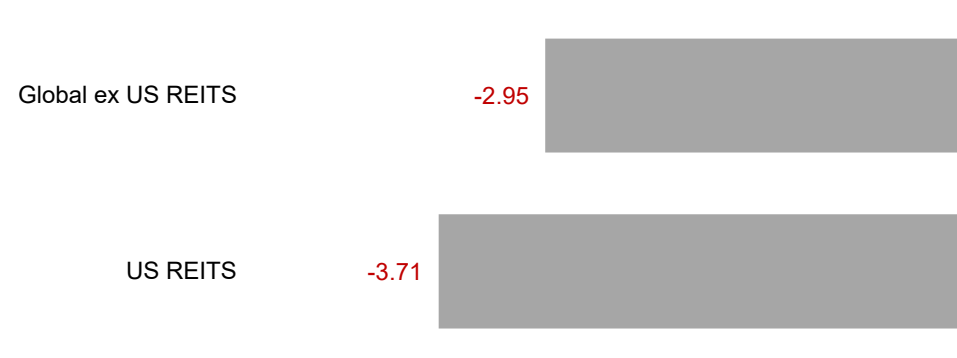
Country returns are the country component indices of the MSCI All Country World IMI Index for all countries except the United States, where the Russell 3000 Index is used instead. Global is the return of the MSCI All Country World IMI Index. MSCI index returns are net dividend. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. MSCI data © MSCI 2022, all rights reserved.

Real Estate Investment Trusts (REITs)

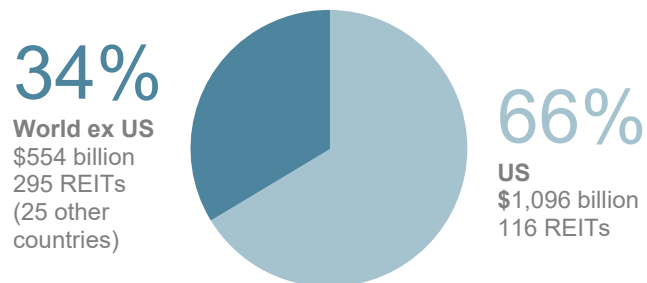
First quarter 2022 index returns

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

Ranked Returns (%)



Total Value of REIT Stocks



Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Global ex US REITS	-2.95	7.00	2.85	4.66	5.72
US REITS	-3.71	27.72	9.90	8.89	9.17

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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 © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

Commodities

First quarter 2022 index returns

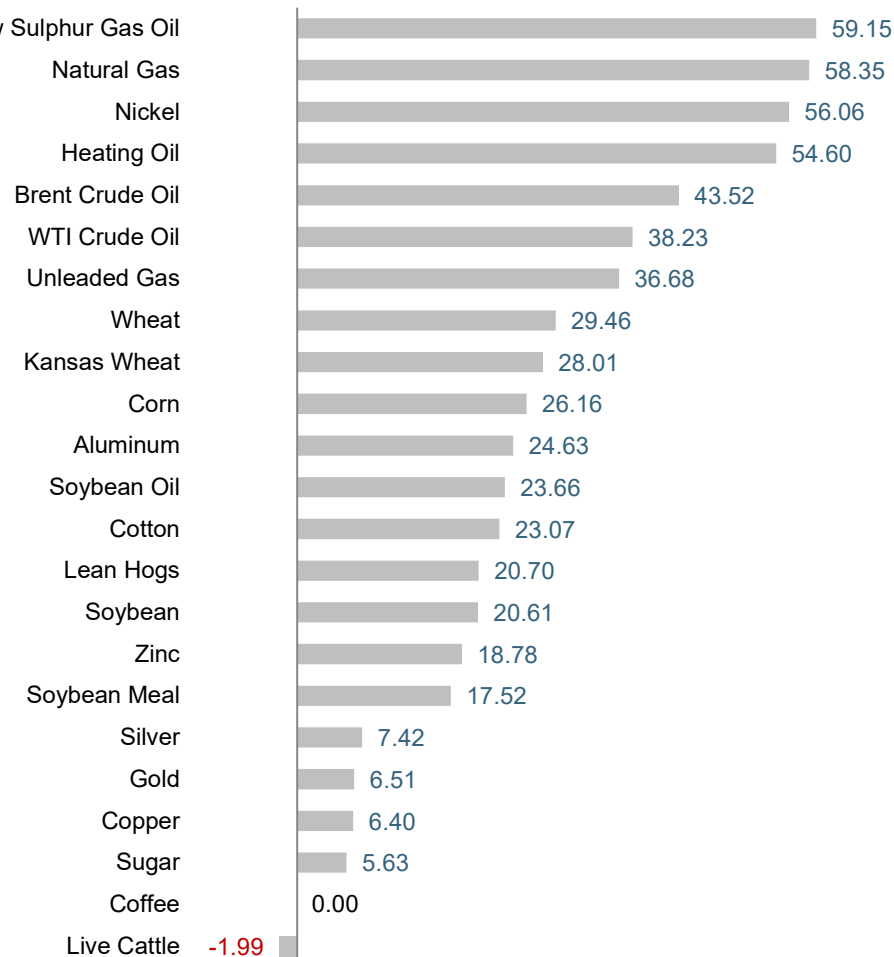
The Bloomberg Commodity Index Total Return returned +25.55% for the first quarter of 2022.

Low Sulphur Gas Oil and Natural Gas were the best performers, returning +59.15% and +58.35% during the quarter, respectively. Live Cattle and Coffee were the worst performers, returning -1.99% and 0.00% during the quarter, respectively.

Period Returns (%)

Asset Class	QTR	1 Year	3 Years*	* Annualized	
				5 Years*	10 Years*
Commodities	25.55	49.25	16.12	9.00	-0.70

Ranked Returns (%)



Fixed Income

First quarter 2022 index returns

Interest rates increased across all maturities in the US Treasury market for the quarter.

The yield on the 5-Year US Treasury Note increased 116 basis points (bps) to 2.42%. The yield on the 10-Year US Treasury Note increased 80 bps to 2.32%. The yield on the 30-Year US Treasury Bond increased 54 bps to 2.44%.

On the short end of the yield curve, the 1-Month US Treasury Bill yield increased 11 bps to 0.17%, while the 1-Year US Treasury Bill yield increased 124 bps to 1.63%. The yield on the 2-Year US Treasury Note increased 155 bps to 2.28%.

In terms of total returns, short-term corporate bonds returned -3.73% and intermediate-term corporate bonds returned -5.25%.¹

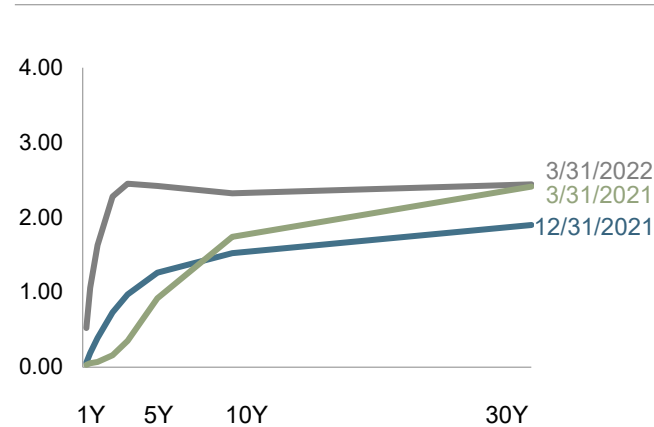
The total return for short-term municipal bonds was -3.33% and -5.77% for intermediate-term municipal bonds. Within the municipal fixed income market, general obligation bonds outperformed revenue bonds, returning -6.07% versus -6.54%, respectively.²

1. Bloomberg US Corporate Bond Index.

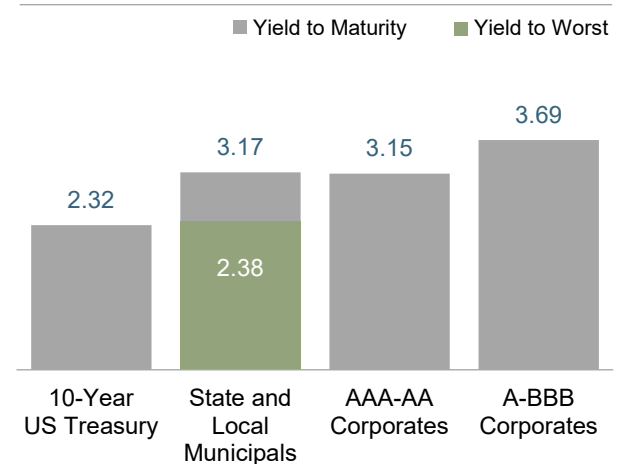
2. Bloomberg Municipal Bond Index.

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, and the Yield to Worst 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 Corporates, BBB-A rated. Bloomberg data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (S&BBI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2022 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2022 ICE Data Indices, LLC. S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

US Treasury Yield Curve (%)



Bond Yield Across Issuers (%)



Period Returns (%)

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
ICE BofA US 3-Month Treasury Bill Index	0.04	0.06	0.81	1.13	0.63
ICE BofA 1-Year US Treasury Note Index	-0.80	-0.94	1.01	1.22	0.78
FTSE World Government Bond Index 1-5 Years (hedged to USD)	-2.38	-2.81	0.86	1.34	1.36
Bloomberg U.S. TIPS Index	-3.02	4.29	6.22	4.43	2.69
FTSE World Government Bond Index 1-5 Years	-3.56	-5.58	0.05	0.74	-0.64
Bloomberg U.S. High Yield Corporate Bond Index	-4.84	-0.66	4.58	4.69	5.75
Bloomberg U.S. Aggregate Bond Index	-5.93	-4.15	1.69	2.14	2.24
Bloomberg Municipal Bond Index	-6.23	-4.47	1.53	2.52	2.88
Bloomberg U.S. Government Bond Index Long	-10.57	-1.46	3.23	3.88	3.96

*Annualized

Global Fixed Income

First quarter 2022 yield curves

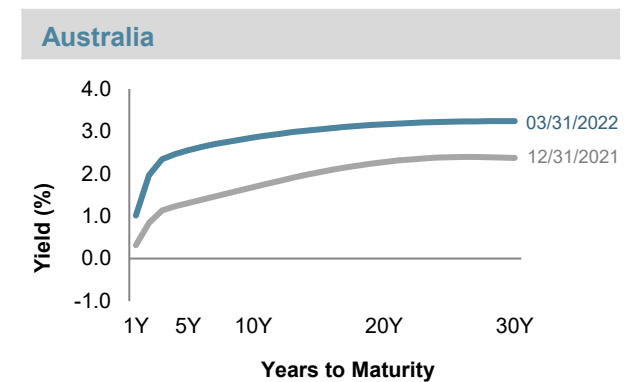
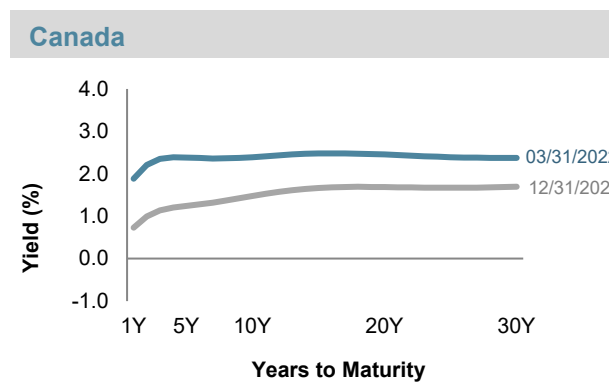
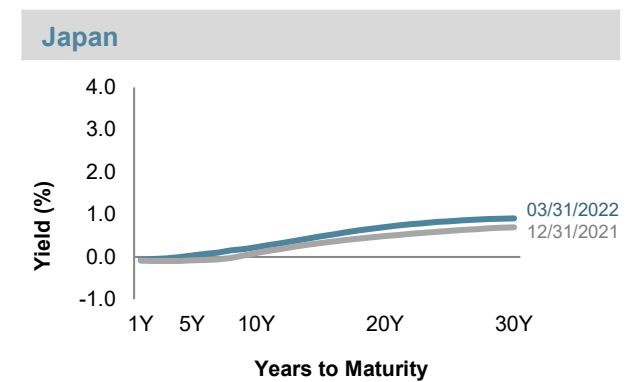
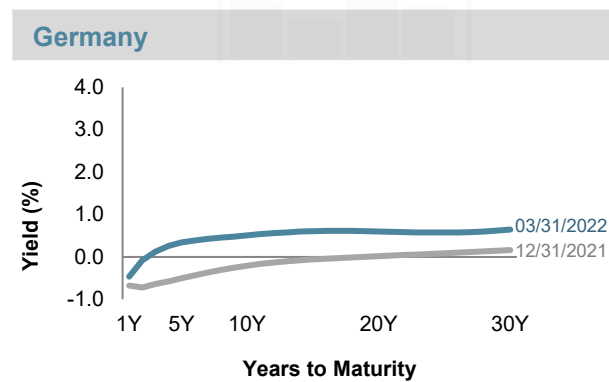
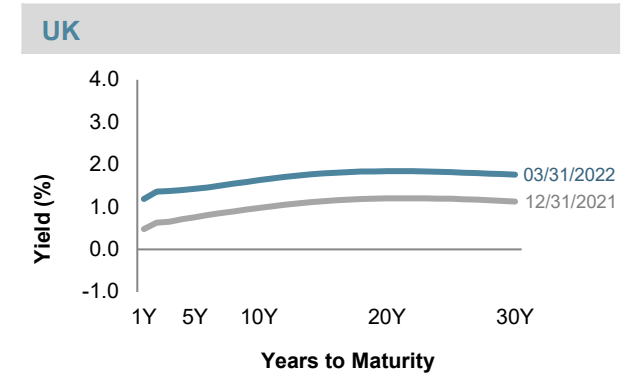
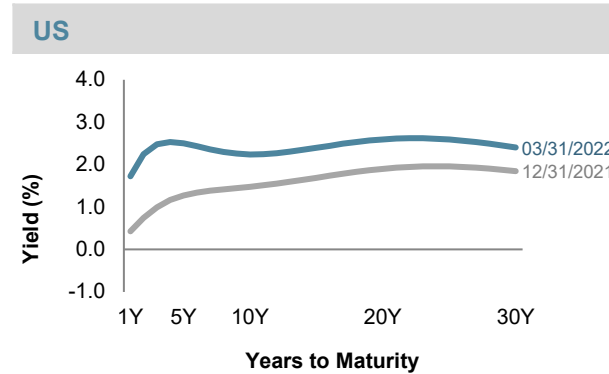
Interest rates increased across all maturities within the global developed markets for the quarter.

Realized term premiums were negative in the global developed markets.

In Japan and Germany, intermediate-term nominal interest rates became positive during the quarter. However, short-term nominal interest rates remained negative in these markets.

Changes in Yields (bps) since 12/31/2021

	1Y	5Y	10Y	20Y	30Y
US	130.0	123.0	76.4	69.5	55.5
UK	70.7	66.5	65.5	64.2	63.2
Germany	21.3	84.4	71.4	58.3	48.4
Japan	1.6	11.5	14.1	21.3	21.2
Canada	115.0	114.3	91.8	76.7	68.0
Australia	70.3	124.1	116.9	89.0	86.7



Impact of Diversification

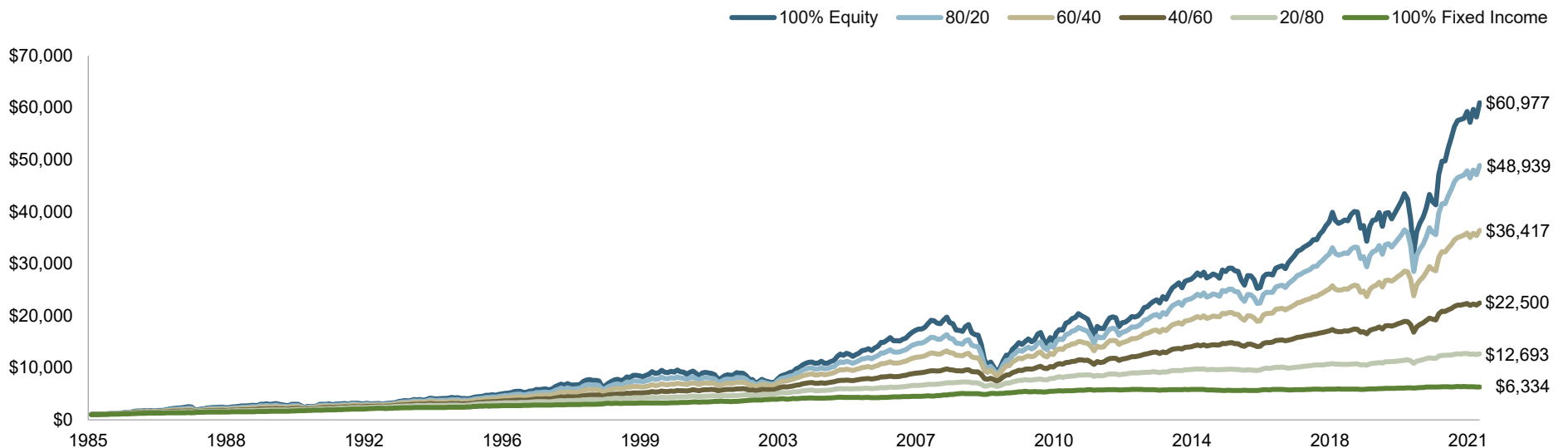
As of December 31, 2021

These indices 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 (%)

Dimensional Core Plus Wealth Index Model	* Annualized					10-Year STDEV ¹
	3 Month	1 Year	3 Years*	5 Years*	10 Years*	
100% Equity	6.61	22.63	21.12	14.57	13.24	14.11
80/20	5.30	17.70	18.49	12.90	11.94	11.76
60/40	3.86	12.63	15.37	10.82	9.99	9.07
40/60	2.22	7.79	10.82	7.75	7.28	6.13
20/80	0.55	2.10	6.40	4.89	4.05	3.71
100% Fixed Income	-0.51	-0.93	2.20	1.98	0.97	1.73

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. For illustrative purposes only. Past performance is no guarantee of future results. The performance reflects the growth of a hypothetical \$1,000. Assumes all models have been rebalanced monthly. See appendix for allocation information. All performance results are based on performance of indexes with model/back-tested asset allocations; the performance was achieved with the benefit of hindsight; it does not represent actual investment strategies. The index models are unmanaged and the model's performance does not reflect advisory fees or other expenses associated with the management of an actual portfolio. In particular, Model performance may not reflect the impact that economic and market factors may have had on the advisor's decision making if the advisor were actually managing client money. The models are not recommendations for an actual allocation. Indices are not available for direct investment. Backtested performance results assume the reinvestment of dividends and capital gains. Sources: Dimensional Fund Advisors LP for Dimensional Indices. Copyright 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved.

Is It Time to Sell Stocks?

First Quarter 2022

After touching record highs in early January, US stocks¹ have slumped, and investors have been confronted with worrisome headlines² in the financial press:

“Inflation Hits Fastest Clip Since ‘82”

—Gwynn Guilford, *Wall Street Journal*, January 13, 2022

“Economists Cut Back Growth Forecasts as Threats Pile Up”

—Harriett Torry and Anthony DeBarros, *Wall Street Journal*, January 18, 2022

“Giant Stock Swings Send Some Into Bear Territory”

—Gunjan Banerji and Peter Santilli, *Wall Street Journal*, January 18, 2022

“Markets Drop as Turbulent Trading Persists”

—Gunjan Banerji and Will Horner, *Wall Street Journal*, January 26, 2022

“Fed Set to Start Increasing Rates by Mid-March”

—Nick Timiraos, *Wall Street Journal*, January 27, 2022

Some stocks that attracted intense interest last year have fallen sharply from their previous highs, as **Exhibit 1** shows.³

Is rising inflation a negative for equity investors? Do large losses in a handful of popular stocks signal a downturn ahead for the broad market?

Invariably, the question behind the question is, “Should I be doing something different in my portfolio?” This is just another version of the market timing question dressed in different clothes. Should I sell stocks and wait for a more favorable outlook to buy them back? More precisely, can we find clear trading rules that will tell us when to buy or hold stocks, when to sell, when to admit our mistakes, and so on?

1. As of January 31, the S&P 500 was down 5.17% for the year.

2. Headlines are sourced from publicly available news outlets and are provided for context, not to explain the market’s behavior.

3. While these stocks were selected based on newsworthiness and the high level of attention they received in the media in 2021, their returns may not be reflective of all high-profile stocks over the period.

EXHIBIT 1

Stock Slump

Name	Ticker	Return through 12/31	Return through 1/31
Robinhood Markets Inc. Class A	HOOD	-79.1%	-83.4%
AMC Entertainment Holdings Inc. Class A	AMC	-62.5%	-77.9%
GameStop Corp. Class A	GME	-69.3%	-77.4%
Tesla Inc.	TSLA	-15.0%	-24.7%

Past performance is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source: Bloomberg.

Named securities may be held in accounts managed by Dimensional. This information should not be considered a recommendation to buy or sell a particular security.

The lure of successful trading strategies is seductive. If only we could find them, our portfolios would do so much better.

Consider Felicity Foresight. She is gifted with the ability to identify patterns in the champagne bubbles floating to the top of her glass on New Year’s Eve, enabling her to predict the best performer between S&P 500 stocks and US Treasury bills over the subsequent 12 months. How would her hypothetical portfolio have performed over the past 50 years following this simple annual readjustment strategy?

Is It Time to Sell Stocks?

(continued from page 16)

Rather well. Following a Perfect Timing strategy by investing in the best performer each year, she turned \$1,000 into \$1.8 million, nearly 10 times the wealth produced using a buy-and-hold strategy for the S&P 500 Index (see **Exhibit 2**).

EXHIBIT 2

Past Perfect?

Growth of \$1,000, January 1972–December 2021

Perfect Timing Strategy	\$1,811,565
S&P 500 Index	\$197,063
One-Month US Treasury Bills	\$8,727
Perfectly Awful Timing Strategy	\$949

Past performance is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source: One-Month US Treasury Bills is the IA SBBI US 30 Day TBill TR USD. S&P data © 2022 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Treasury bills data provided by Ibbotson Associates via Morningstar Direct.

In USD. Data presented in the Growth of \$1,000 exhibit is for illustrative purposes only and is not indicative of any investment. The examples assume that the hypothetical portfolio fully divested its holdings of stocks (or bonds) at the end of the last trading day of any year when a switch was indicated, held the other asset for the subsequent year, and performed the exercise again at year's end. The examples are hypothetical and assume reinvestment of income and no transaction costs or taxes. There is no guarantee strategies 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.

But also consider Hapless Harry. He was never a fan of New Year's and manages to get it wrong each and every year. His Perfectly Awful strategy winds up losing money over the same 50-year period.

Motivated by the substantial payoff associated with successful timing, researchers over the years have examined a wide range of strategies based on analysis of earnings, dividends, interest rates, economic growth, investor sentiment, stock price patterns, and so on.

One colorful example, known as the Hindenburg Omen, had a brief moment of fame in 2010. Developed by a blind mathematician and former physics teacher, this stock market indicator took its name from the German airship disaster of 1937. The Omen signaled a decline only when multiple measures of 52-week high/low prices and moving averages all turned negative. This indicator had correctly foreshadowed major downturns in 1987 and 2008. When it flashed a “sell” signal on Thursday, August 12, 2010, internet chat rooms and Wall Street trading desks were buzzing the next day, Friday the 13th, with talk of a looming crash, according to the *Wall Street Journal*.⁴ But no crash occurred, and the S&P 500 had its highest September return since 1939.⁵

The money management industry is highly competitive, with more stock mutual funds and ETFs available in the US than listed stocks.⁶ If someone could develop a profitable timing strategy, we would expect to see some funds employing it with successful results. But a recent Morningstar report suggests investors should be wary of those claiming to do so. The report examined the results of two types of funds⁷, each holding a mix of stocks and bonds:

- **Balanced:** Minimal change in allocation to stocks
- **Tactical Asset Allocation:** Periodic shifts in allocation to stocks

4. Steven Russolillo and Tomi Kilgore, “‘Hindenburg Omen’ Flashes,” *Wall Street Journal*, August 14, 2010.

5. Weston Wellington, “Hindenburg Omen Flames Out,” *Down to the Wire* (blog), Dimensional Fund Advisors, October 8, 2010.

6. The Russell 3000 Index contains the stocks of 3,000 US companies and represented about 97% of the investable US equity market as of Dec. 31, 2021. According to the Investment Company Institute, there were 2,997 domestic equity funds and 1,032 US equity exchange-traded funds at the end of 2020.

7. Morningstar described the risk profile of the Tactical Asset allocation as generally in line with that of Morningstar's 50%–70% equity category. The narrower “balanced” category used here was a subset of Morningstar's 50%–70% category that has a fairly static mix of about 60% stocks and 40% bonds.

Is It Time to Sell Stocks?

(continued from page 17)

As a group, funds that sought to enhance results by opportunistically shifting assets between stocks and fixed income underperformed funds that simply held a relatively static mix (see **Exhibit 3**). Morningstar further pointed out that if the performance of

EXHIBIT 3

Scare Tactics

% Annualized Return through August 31, 2021	3 Year	5 Year	10 Year
Tactical Asset Allocation	8.36	8.38	6.18
Balanced	10.49	9.89	8.93
Tactical Underperformance	-2.13	-1.51	-2.75

Past performance, including hypothetical performance, is no guarantee of future results. Performance may increase or decrease as a result of currency fluctuations.

Source Morningstar. Morningstar defines Tactical Allocation portfolios as those that “seek to provide capital appreciation and income by actively shifting allocations across investments. These portfolios have material shifts across equity regions and bond sectors on a frequent basis. To qualify for the tactical allocation category, the fund must have minimum exposures of 10% in bonds and 20% in equity. Next, the fund must historically demonstrate material shifts in sector or regional allocations either through a gradual shift over three years or through a series of material shifts on a quarterly basis. Within a three-year period, typically the average quarterly changes between equity regions and bond sectors exceeds 15% or the difference between the maximum and minimum exposure to a single equity region or bond sector exceeds 50%.”

non-surviving tactical funds were included, the numbers would be even worse. Its conclusion: “The failure of tactical asset allocation funds suggests investors should not only stay away from funds that follow tactical strategies, but they should also avoid making short-term shifts between asset classes in their own portfolios.”⁸

We should not be surprised by these results. Successful timing requires two correct decisions: when to pare back the allocation to stocks and when to increase it again. Watching a portfolio shrink in value during a market downturn can be discomfoting. But investors seeking to avoid the pain by temporarily shifting away from their long-term strategy may wind up trading one source of anguish for another. The initial upsurge in prices from their lows often takes many investors by surprise, and they find it extraordinarily difficult to buy stocks that were available at sharply lower prices a few weeks earlier. The opportunity cost can be substantial: Over the 25-year period ending in 2021, a hypothetical \$100,000 invested in the stocks that make up the Russell 3000 Index would have grown to \$1,036,694.⁹ But during this quarter-century, missing just the best consecutive 90-trading-day period (which ended June 22, 2020) shaved the ending wealth figure by an alarming 33%.¹⁰

Add to this the likelihood of increased transaction costs and the potential tax consequences of a short-term trading strategy, and the odds of adding value through market timing grow even slimmer.

As a thoughtful financial advisor once observed, “A portfolio is like a bar of soap. The more you handle it, the less you have.”

8. Amy C. Arnott, “Tactical Asset Allocation: Don’t Try This at Home,” Morningstar, September 20, 2021.

9. Data presented in 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. Investment products: • Not FDIC Insured • Not Bank Guaranteed • May Lose Value. Dimensional Fund Advisors does not have any bank affiliates.

10. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. The example of an investor missing the best consecutive 90 trading days assumes that the hypothetical portfolio fully divested its holdings at the end of the day before the 90-day period began, held cash for the period, then reinvested the entire portfolio in the Russell 3000 Index at the end of the period.

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