CSJ | WEALTH MANAGEMENT

Q1

Quarterly Market Review

First Quarter 2022

The Psychology of Financial Windfalls

How do people treat windfalls? Do they spend it on themselves and splurge, or do they sock it away in their bank or investment account for the future? Governments, employers, and companies provide financial windfalls to individuals with some regularity. Recent evidence suggests that how these windfalls are framed or described can dramatically influence how the money is used or spent.

In order to answer this question, let's look at some research that has been conducted. Almost 30 years ago, Hal Arkes, a psychology professor at Ohio State University, and his colleagues conducted some very interesting experiments. They found that people are more likely to spend income when it is both unexpected and unearned, and therefore less likely to be incorporated into their overall wealth state. In one particular ingenious experiment (Experiment 5, Arkes et al., 1994) a group of research participants either anticipated receiving $5 for their participation, or were surprised to receive $5 once they arrived at the lab. These participants were then sent off to a college basketball game. When asked afterward how much of their $5 they had spent at the game, the folks who had received the money by surprise (e.g. those for whom the money was a windfall) spent about twice as much of it compared to those who tagged the money as planned earnings. Other similar studies have also shown to have similar effects. To some extent, such patterns may be due to the simple fact that windfalls feel like *unearned* money. The money we work and get a paycheck for is valuable (after all we've worked hard to earn it) and it feels, psychologically speaking, like a loss if we mindlessly spend it. A windfall, by contrast, is unearned and unexpected. In that way, even though $10 earned has the same spending power as $10 unearned, we may see money from a windfall as less valuable. It's similar to people who are more likely to accept a risky gamble, for example, after they have just won money in a gamble than after they have just lost money, a finding known as the "house-money effect" (Thaler and Johnson, 1990).

This suggests that windfalls may be spent more readily when it is framed as a gain from one's current wealth state (e.g. as a bonus) that when it is framed as a return to a previous wealth state (e.g. as a rebate or returned loss). To test this "framing" hypothesis in a series of recent experiments, Nick Epley, a professor of behavioral

science at the University of Chicago's Booth School of Business, tackled this explanation head-on. He and his colleagues sent undergraduate research participants $50 checks that presumably came from a faculty member's research budget. The researchers described the money as a "tuition rebate" for half of the participants and "bonus income" for the other half. When later asked how much of their $50 they had spent, participants reported spending significantly more of the $50 windfall when it was described as a bonus than when it was described as a rebate. In fact, 73% of participants in the rebate group reported spending none of their $50 check, compared to only 36% in the bonus group (Epley et al). This also has implications in regard to how governments distribute money to its constituents. In order to test this Epley, et al also investigated how "windfall framing" influenced people's memory for spending of their 2001 tax rebates by recruiting a sample of Boston-area residents in public train stations several months after disbursement of the rebates. All participants who received a tax rebate check (e.g. $300, $500, or $600) were read one of two descriptions of the 2001 Tax Relief Act on top of a questionnaire; one that described the checks as an additional income resulting from a budget surplus that should be returned as *bonus income,* or another that described it as a tax surplus that should be returned as *withheld income* (e.g. as returned income). All participants were then asked to indicate the rebate amount that they received and what percentage of this money they recalled spending and what percentage they recalled saving. As predicted, participants in the bonus condition recalled spending, on average, a whopping 87% of their tax rebate whereas participants in the returned income condition recalled spending, on average, only 25%. This study certainly suggests that the way government rebates are framed has some hope of influencing spending rates.

As Epley wrote in an op-ed, rebates "send us on trips to the bank. Bonuses sends us on trips to the Bahamas" (Nicholas Epley, "Rebate Psychology", New York Times, January 31, 2008. The takeaway is that money is money. If you're short on a budget for some expense category (e.g. such as a vacation) and happen to come into a small windfall, then use it for the trip! But if you are possibly coming up short for necessary expenses, it may be wise to consider using the windfall in more pragmatic ways. Don't get caught in the "house-money effect".

We at CSJ have a passion to help our clients to meet their long term objectives. If you have questions regarding your financial situation and want an advisor that will work with you to review your total financial situation and objectives please feel free to give us a call at 858-350-1365 or via email at brian@csjwealth.com or sal@csjwealth.com and we'd be happy to arrange to discuss your situation with you – completely complimentary. Let's start the conversation today so you can have greater peace of mind

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Quarterly Market Review

First Quarter 2022

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 Market Summary

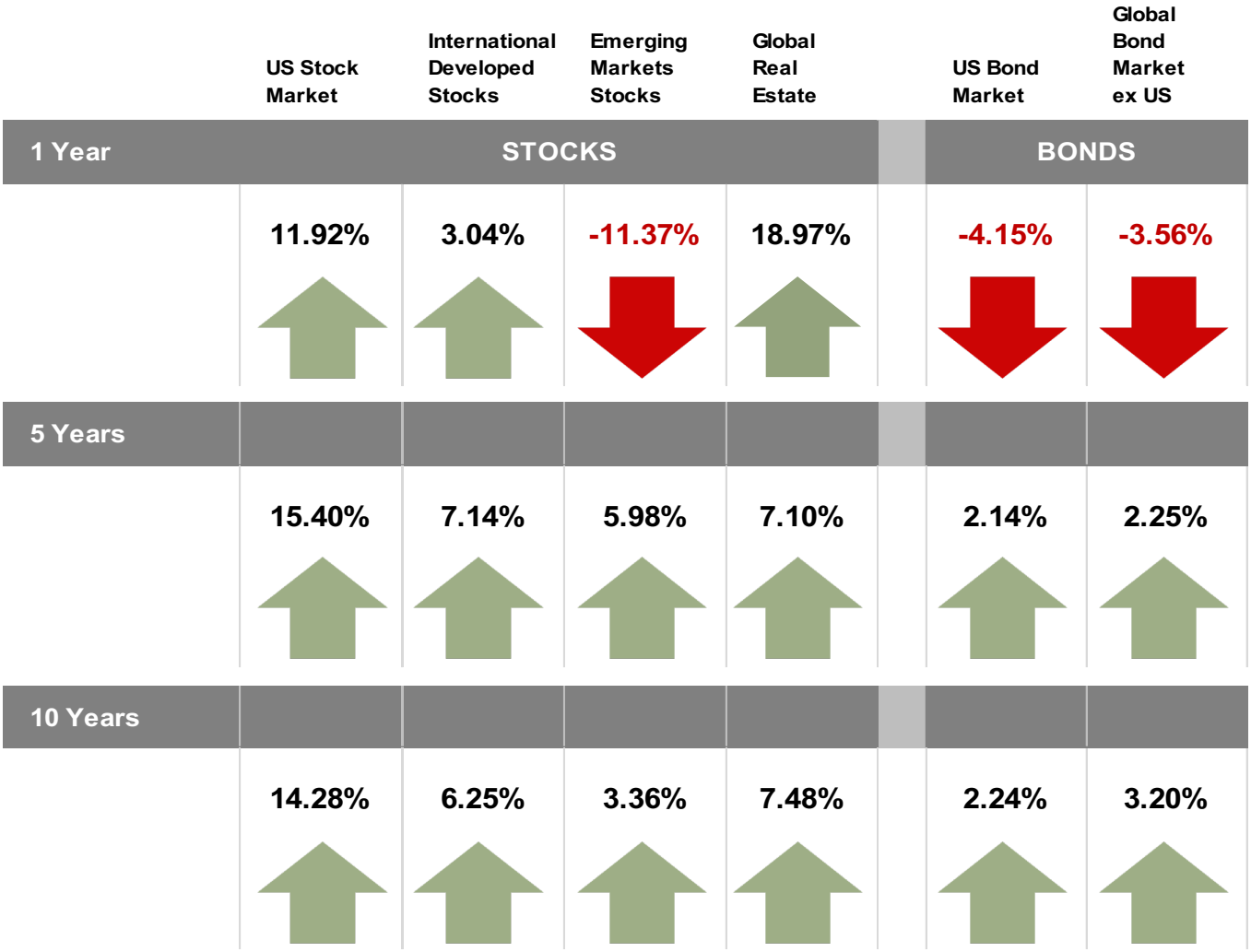
Index Returns

	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% **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**	-5.9% **2022 Q1**	-4.1% **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]).

Long-Term Market Summary

Index Returns as of March 31, 2022



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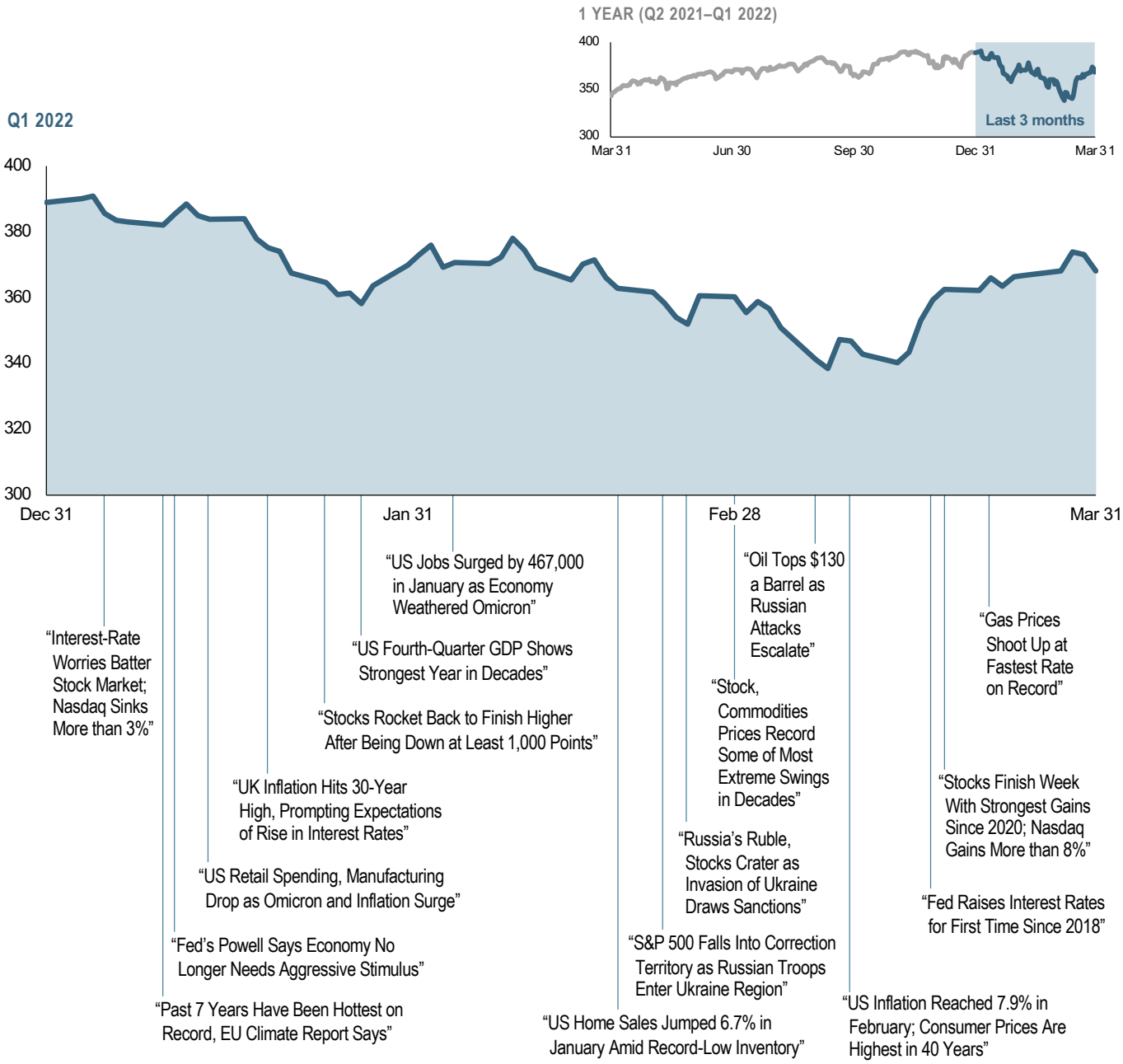
World Stock Market Performance

MSCI All Country World Index with selected headlines from Q1 2022

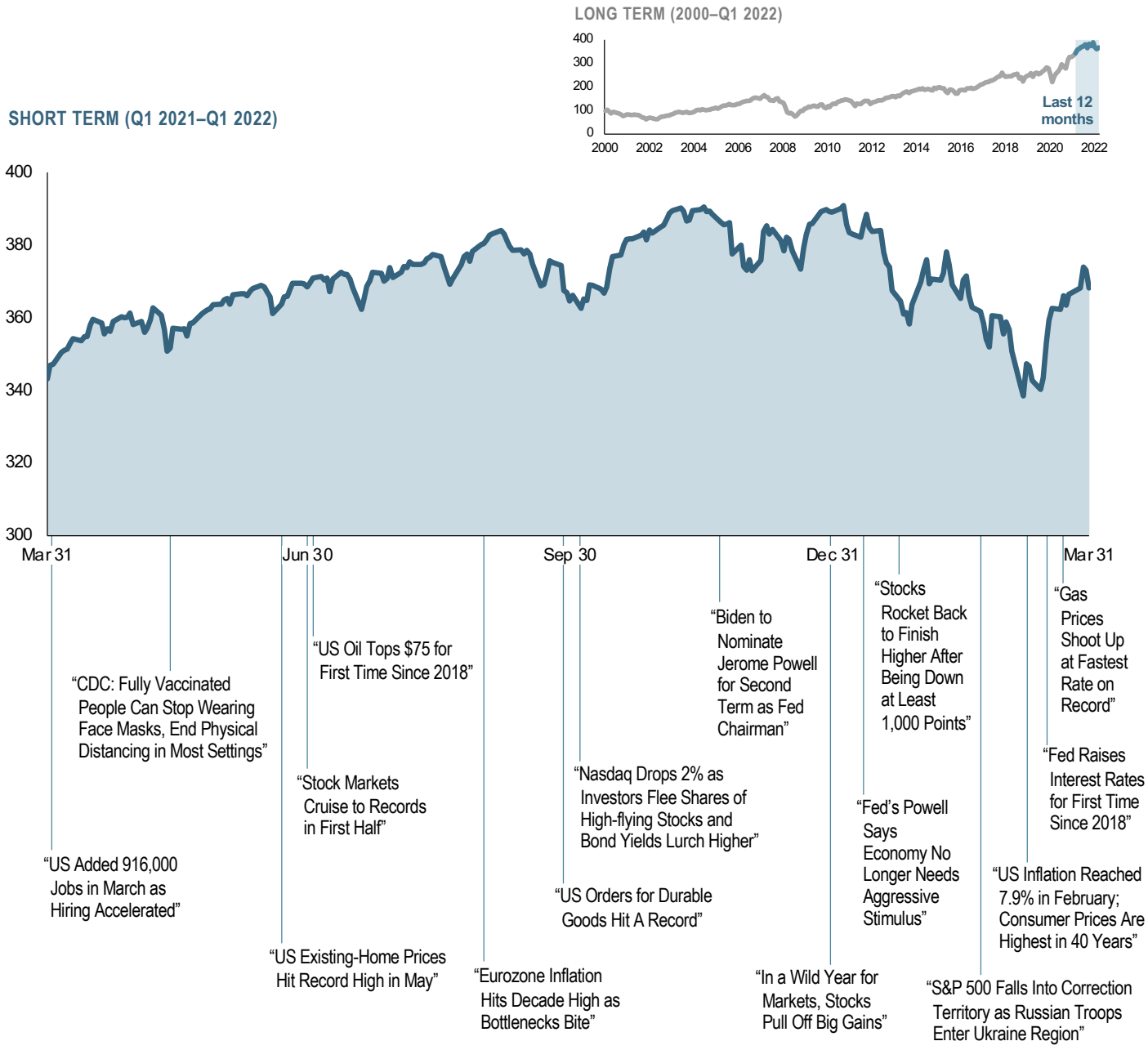


These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index (net div.). 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 div.). 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

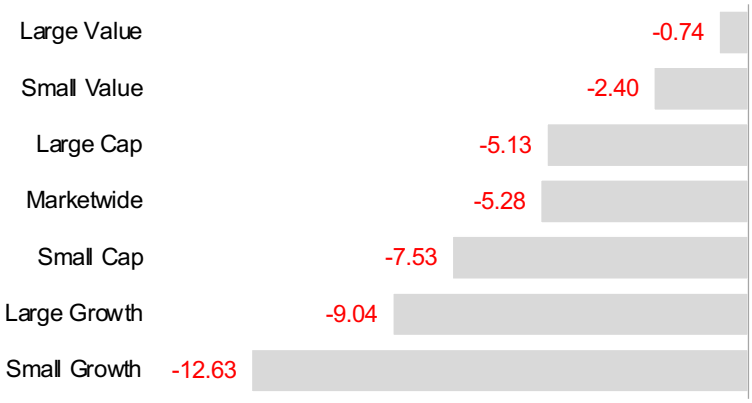
The US equity market posted negative returns for the quarter and underperformed non-US developed markets, but outperformed emerging markets.

Value outperformed growth.

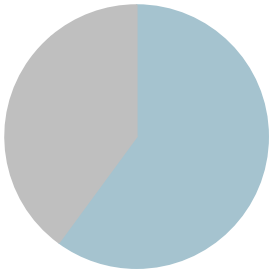
Small caps underperformed large caps.

REIT indices outperformed equity market indices.

Ranked Returns (%)



World Market Capitalization—US



60%

US Market
$44.9 trillion

Period Returns (%)

** Annualized*

Asset Class	QTR	1 Year	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

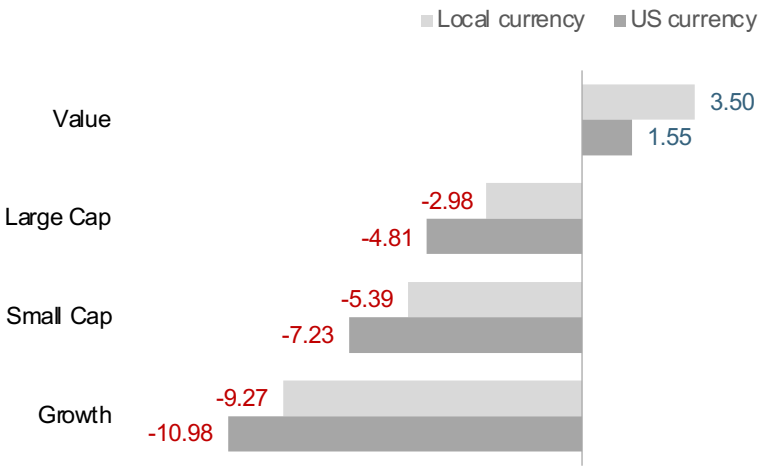
First quarter 2022 index returns

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.

Ranked Returns (%)

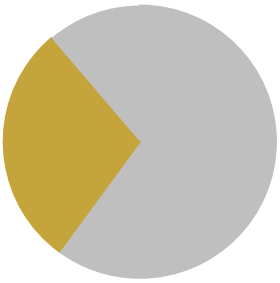


World Market Capitalization—International Developed

29%

International Developed Market

$21.5 trillion



Period Returns (%)

** Annualized*

Asset Class	QTR	1 Year	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
Grow th	-10.98	-0.32	10.20	9.07	7.26

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Emerging Markets Stocks

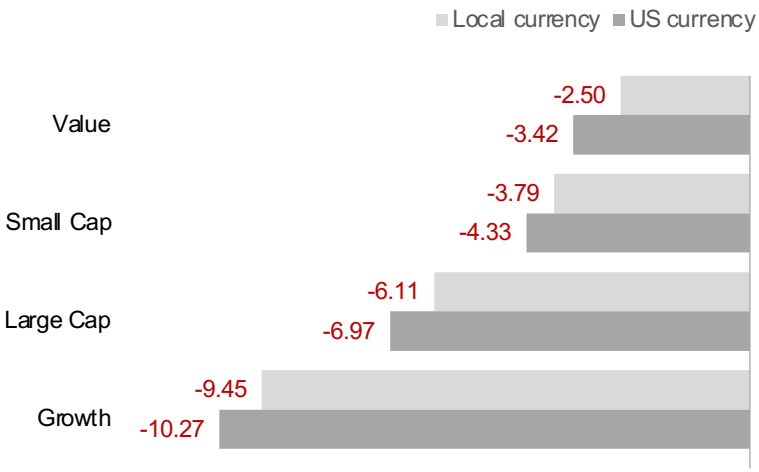
First quarter 2022 index returns

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

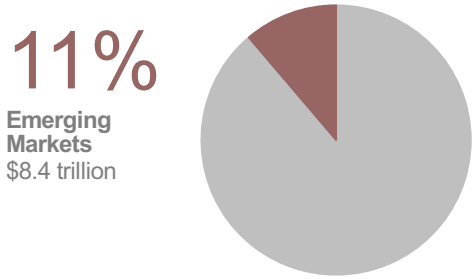
Value outperformed growth.

Small caps outperformed large caps.

Ranked Returns (%)



World Market Capitalization—Emerging Markets



Period Returns (%)

** Annualized*

Asset Class	QTR	1 Year	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
Grow th	-10.27	-18.29	6.42	7.51	5.00

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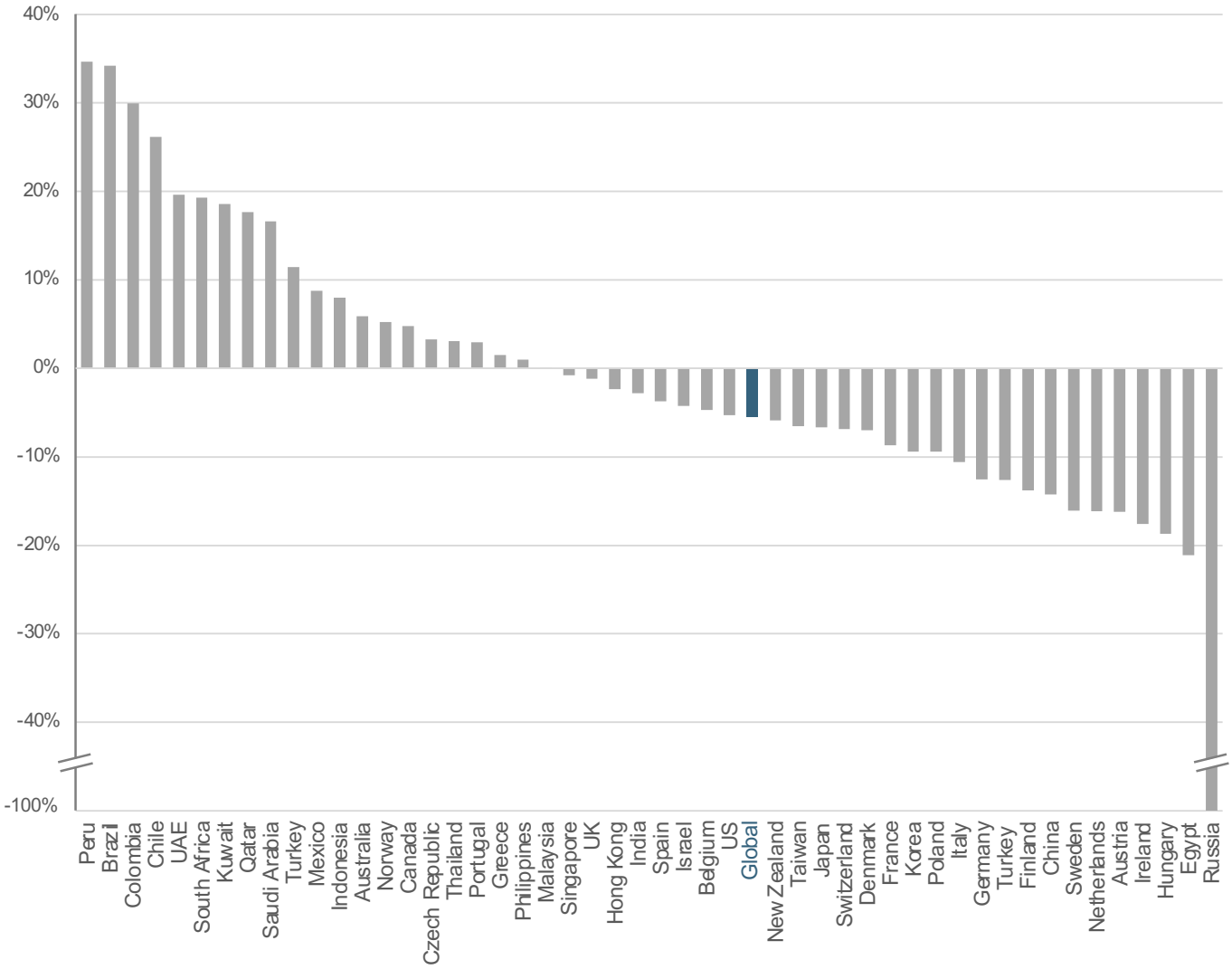
Country Returns

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.

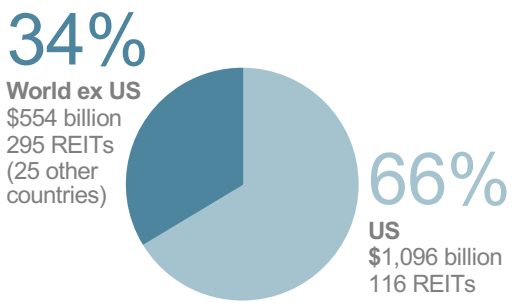
Real Estate Investment Trusts (REITs)

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 (%)

** Annualized*

Asset Class	QTR	1 Year	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

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.

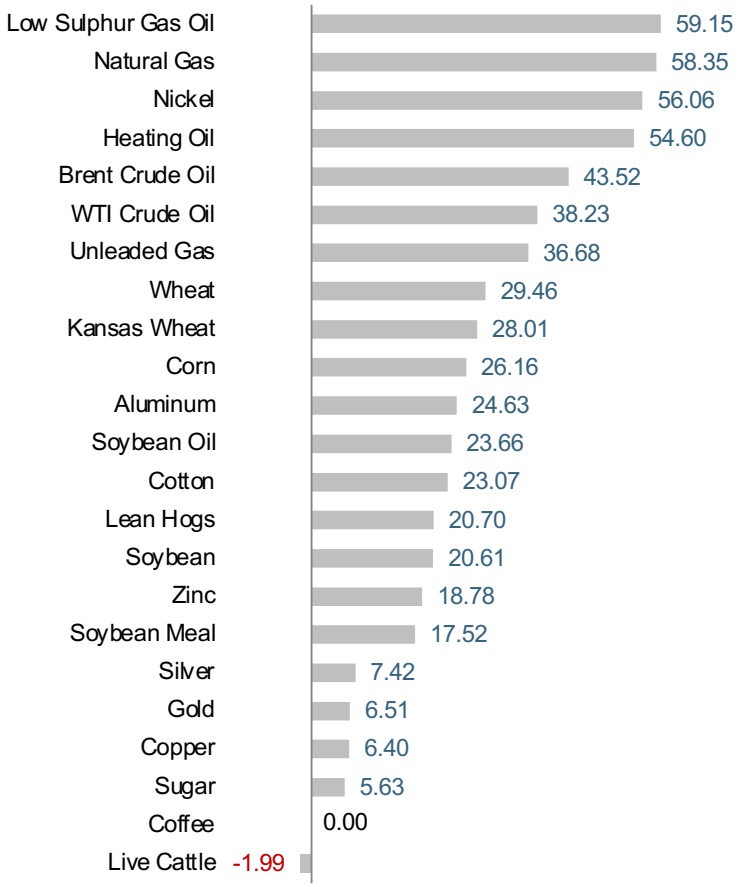
Commodities

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.

Ranked Returns (%)



Period Returns (%)

** Annualized*

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

Past performance is not a guarantee of future results. Index is not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Commodities returns represent the return of the Bloomberg Commodity Total Return Index. Individual commodities are sub-index values of the Bloomberg Commodity Total Return Index. Data provided by Bloomberg.

Fixed Income

First quarter 2022 index returns

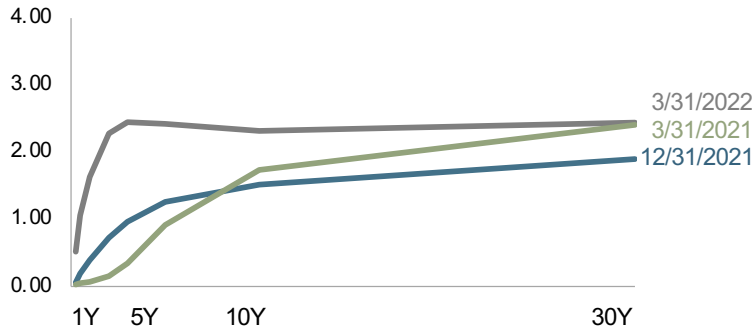
Interest rates increased across all maturities in the US Treasury market for the quarter.

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%.

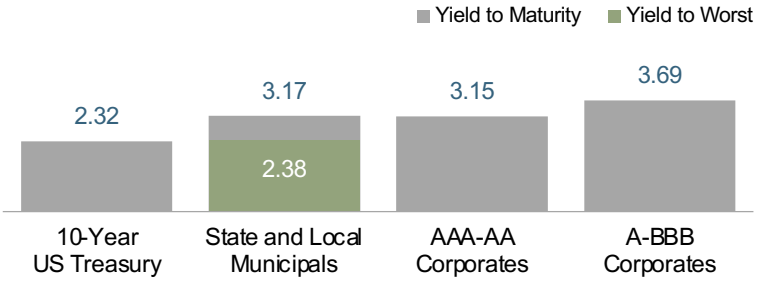
In terms of total returns, short-term corporate bonds returned -3.73% and intermediate-term corporate bonds returned -5.25%.[1]

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]

US Treasury Yield Curve (%)



Bond Yields Across Issuers (%)



Period Returns (%)

**Annualized*

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

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 (SBBI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefield). 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.

Global Fixed Income

First quarter 2022 yield curves

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

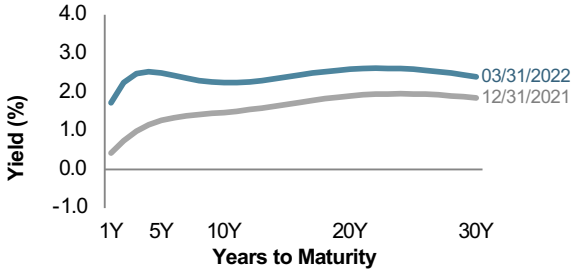
Realized term premiums were negative in the global developed markets.

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.

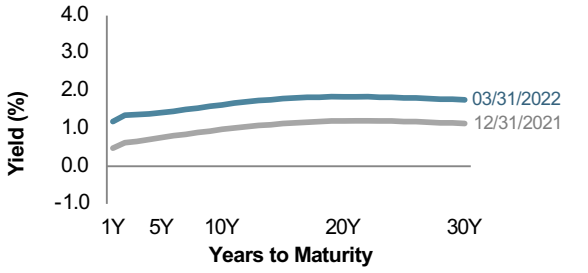
Changes in Yields (bps) since 12/31/2021

	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

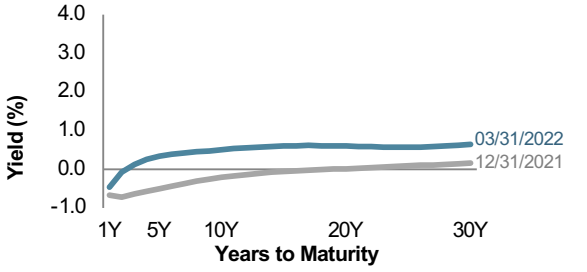
US



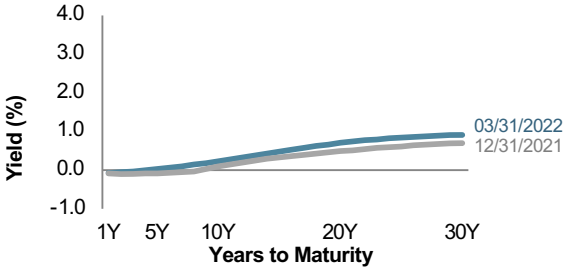
UK



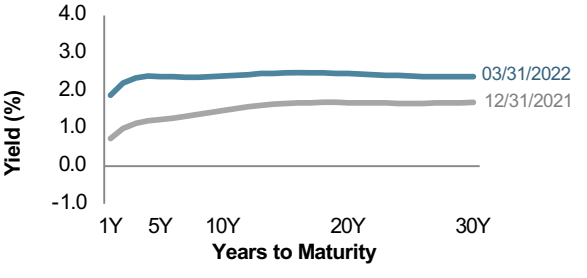
Germany



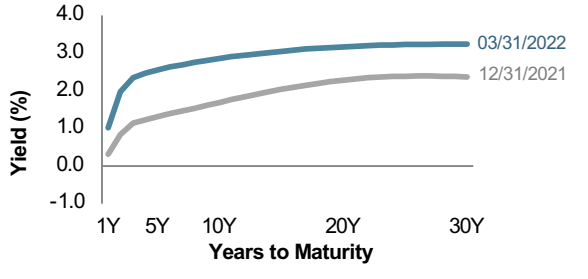
Japan



Canada



Australia



One basis point (bps) equals 0.01%. Source: ICE BofA government yield. ICE BofA index data © 2022 ICE Data Indices, LLC.

Impact of Diversification

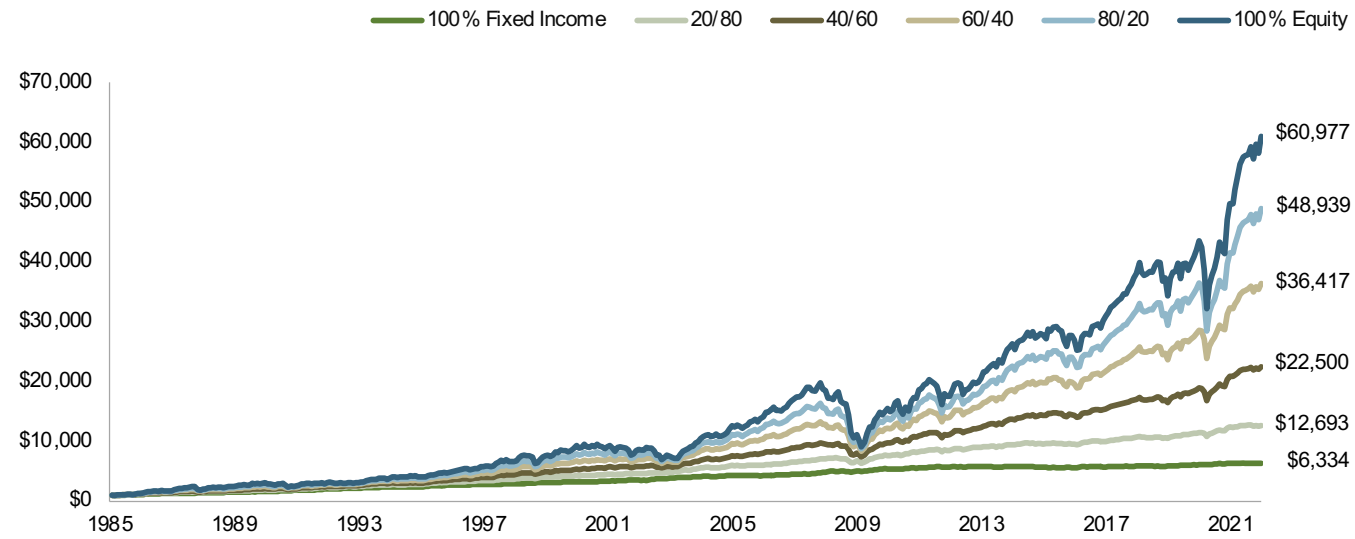
As of December 31, 2021

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.

Period Returns (%) ** Annualized*

Dimensional Core Plus Wealth Index Model	3 Months	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV[1]
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 $10,000. 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.

Is It Time to Sell Stocks?

First Quarter 2022

Weston Wellington
Vice President

After touching record highs in early January, US stocks[1] have slumped, and investors have been confronted with worrisome headlines[2] 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?

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?

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.

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**).

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.

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.

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 funds[7], 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 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]

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%."

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 discomforting. 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 Growth of $100,000 example is hypothetical and assumes reinvestment of income and no transaction costs or taxes. The exhibit is presented for illustrative purposes only and is not indicative of any investment.
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.

Appendix

Dimensional Core Plus Wealth Index Models

Weights (%)

Equity Total	0%	20%	40%	60%	80%	100%
Dimensional US Adjusted Market 2 Index	0	9	18	27	36	45
Dimensional US Large Cap High Profitability Index	0	2	5	7	9	11
Dimensional US Adjusted Market Value Index	0	2	5	7	9	11
Dimensional International Adjusted Market Index	0	3	5	8	10	13
Dimensional International Large Cap High Profitability Index	0	1	2	3	3	4
Dimensional International Vector Index	0	1	2	3	3	4
Dimensional Emerging Markets Adjusted Market Index	0	1	2	3	4	5
Dimensional Emerging Markets Value Index	0	1	2	3	4	5
S&P Global REIT Index	0	0	1	1	2	2

Fixed Income Total	100%	80%	60%	40%	20%	0%
Dimensional Short-Duration Real Return Index	20	0	0	0	0	0
Dimensional US Adjusted Investment Grade Index	0	20	20	20	0	0
Dimensional Global Short-Term Government Index (Hedged to USD)	20	0	0	0	0	0
Dimensional Global Short-Term Government Variable Maturity Index (Hedged to USD)	20	20	20	0	0	0
Dimensional Global Government/Credit 1-3 Year Unhedged Index	40	30	0	0	0	0
Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD)	0	0	0	20	20	0
Dimensional Targeted Credit Index (Hedged to USD)	0	10	20	0	0	0

Weights may not equal 100 due to rounding. Weights as of December 31, 2021. Rebalanced monthly. For illustrative purposes only. The index models are unmanaged and are not subject to fees and expenses typically associated with managed accounts or investment funds. Indices are not available for direct investment. Please see "Sources and Descriptions of Data" in the appendix for descriptions of the Dimensional index data.

Dimensional Core Plus Wealth Index Models

Period Returns as of December 31, 2021 (%)

	1 Year	3 Years	5 Years	10 Years
Equity				
Dimensional US Adjusted Market 2 Index	26.86	24.55	16.64	15.93
Dimensional US Large Cap High Profitability Index	26.17	30.94	22.18	18.03
Dimensional US Adjusted Market Value Index	29.62	20.90	12.42	14.23
Dimensional International Adjusted Market Index	14.05	14.97	10.39	9.22
Dimensional International Large Cap High Profitability Index	13.71	17.05	11.99	9.00
Dimensional International Vector Index	14.74	14.55	9.93	9.43
Dimensional Emerging Markets Adjusted Market Index	5.36	12.07	10.52	6.82
Dimensional Emerging Markets Value Index	12.84	8.42	8.77	5.38
S&P Global REIT Index (gross dividends)	32.50	14.87	9.41	10.17
Fixed Income				
Dimensional Short-Duration Real Return Index	6.26	5.75	3.75	2.53
Dimensional US Adjusted Investment Grade Index	-1.92	5.06	3.71	3.24
Dimensional Global Short-Term Government Index (Hedged to USD)	-0.07	1.57	1.57	1.21
Dimensional Global Short-Term Government Variable Maturity Index (Hedged to USD)	-1.94	1.36	1.30	1.63
Dimensional Global Government/Credit 1-3 Year Unhedged Index	-4.29	1.17	1.61	-0.28
Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD)	-0.67	7.38	5.59	6.17
Dimensional Targeted Credit Index (Hedged to USD)	-0.19	4.69	3.66	4.35

Past performance is no guarantee of future results. Actual returns may be lower.
Indices are not available for direct investment. Index returns are not representative of actual portfolios and do not reflect costs and fees associated with an actual investment. See "Sources and Descriptions of Data" in the appendix for descriptions of Dimensional index data.

Sources and Descriptions of Data

DIMENSIONAL CORE PLUS 100/0 WEALTH INDEX MODEL
January 1985–present Dimensional Wealth Index Model data compiled by Dimensional. The Dimensional Core Plus 100/0 Wealth Index Model combines the following indices: Dimensional US Adjusted Market 2 Index, Dimensional US Adjusted Market Value Index, Dimensional US Large Cap High Profitability Index, Dimensional International Adjusted Market Index, Dimensional International Vector Index, Dimensional International Large Cap High Profitability Index, Dimensional Emerging Markets Adjusted Market Index, Dimensional Emerging Markets Value Index, and the S&P Global REIT Index (gross dividends). The weight of the REIT index is based on the market capitalization weight of equity REITs within the global universe of eligible stocks and equity REITs, rounded to the nearest 1%. Within the remaining non-REIT allocation, US equities are overweight relative to their market capitalization weight. The weights of the US, developed ex US, and emerging markets equities are then rescaled to sum to the total non-REIT weight of the Wealth Index Model and are all rounded to the nearest 1%. Regional weights are rebalanced quarterly. Within the US equity allocation, each month the weights of the Dimensional US Adjusted Market 2 Index, Dimensional US Adjusted Market Value Index, and Dimensional US Large Cap High Profitability Index are 66.67%, 16.67%, and 16.67%, respectively. Within the developed ex US equity allocation, each month the weights of the Dimensional International Adjusted Market Index, Dimensional International Vector Index, and Dimensional International Large Cap High Profitability Index are 60%, 20%, and 20%, respectively. Within the emerging market equity allocation, each month the weights of the Dimensional Emerging Markets Adjusted Market Index and Dimensional Emerging Markets Value Index are equal. The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Core Plus 100/0 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 80/20 WEALTH INDEX MODEL
January 1985–present Dimensional Wealth Index Model data compiled by Dimensional. 80% of the weight is allocated to the Dimensional Core Plus 100/0 Wealth Index Model and 20% of the weight is allocated to the Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD). The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD) is represented by Bloomberg US Aggregate Bond Index from January 1985 to December 1989 and the Bloomberg Global Aggregate Bond Index (Hedged to USD) from January 1990 to January 1999. The Dimensional Core Plus 80/20 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 60/40 WEALTH INDEX MODEL
January 1985–present Dimensional Wealth Index Model data compiled by Dimensional. 60% of the weight is allocated to the Dimensional Core Plus 100/0 Wealth Index Model and 40% of the weight is allocated to the following fixed income indices: Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD) (20%) and Dimensional US Adjusted Investment Grade Index (20%). The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Global Adjusted Fixed Income Market Index (Hedged to USD) is represented by Bloomberg US Aggregate Bond Index from January 1985 to December 1989 and the Bloomberg Global Aggregate Bond Index (Hedged to USD) from January 1990 to January 1999. The Dimensional Core Plus 60/40 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 40/60 WEALTH INDEX MODEL
January 1985–present Dimensional Wealth Index Model data compiled by Dimensional. 40% of the weight is allocated to the Dimensional Core Plus 100/0 Wealth Index Model and 60% of the weight is allocated to the following fixed income indices: Dimensional Targeted Credit Index (Hedged to USD) (20%), Dimensional Global Short-Term Government Variable Maturity Index (Hedged to USD) (20%), and Dimensional US Adjusted Investment Grade Index (20%). The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Targeted Credit Index is represented by the Bloomberg US Credit 1–3 Year Bond Index from January 1985 to January 1999. The Dimensional US Adjusted Investment Grade Index is represented by Bloomberg US Aggregate Bond Index from January 1985 to January 1989. The Dimensional Core Plus 40/60 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 20/80 WEALTH INDEX MODEL
Dimensional Wealth Index Model data compiled by Dimensional. 20% of the weight is allocated to the Dimensional Core Plus 100/0 Wealth Index Model, and 80% of the weight is allocated to the following fixed income indices: Dimensional Global Government/Credit 1–3 Year Unhedged Index (30%), Dimensional Targeted Credit Index (Hedged to USD) (10%), Dimensional Global Short-Term Government Variable Maturity Index (Hedged to USD) (20%), and Dimensional US Adjusted Investment Grade Index (20%). The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Global Government/Credit 1–3 Year Unhedged Index is represented by the Bloomberg US Government/Credit 1–3 Year Bond Index from January 1985 to January 1999. The Dimensional Targeted Credit Index is represented by the Bloomberg US Credit 1–3 Year Bond Index from January 1985 to January 1999. The Dimensional US Adjusted Investment Grade Index is represented by Bloomberg US Aggregate Bond Index from January 1985 to January 1989. The Dimensional Core Plus 20/80 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

DIMENSIONAL CORE PLUS 0/100 WEALTH INDEX MODEL
Dimensional Wealth Index Model data compiled by Dimensional. The Dimensional Core Plus 0/100 Wealth Index Model combines the following indices: Dimensional Global Short-Term Government Index (Hedged to USD) (20%), Dimensional Global Government/Credit 1–3 Year Unhedged Index (40%), Dimensional Short-Duration Real Return Index (20%), and Dimensional Global Short-Term Government Variable Maturity Index (Hedged to USD) (20%). The Wealth Index Model returns are calculated monthly as a weighted average of the returns of the underlying indices. The Dimensional Global Short-Term Government Index (Hedged to USD) is represented by the Bloomberg US Government 1–3 Year Bond Index at 75% weight and the ICE BofA US 3-Month Treasury Bill Index at 25% weight from January 1985 to October 1992 and the Bloomberg US Government 1–2 Year Bond Index from November 1992 to January 1999. The Dimensional Global Government/Credit 1–3 Year Unhedged Index is represented by the Bloomberg US Government/Credit 1–3 Year Bond Index from January 1985 to January 1999. The Dimensional Short-Duration Real Return Index is not available back to 1985. The Dimensional Short-Duration Real Return Index is represented by Bloomberg US TIPS Index 1–5 Years from August 1997 to October 2006. Prior to August 1997, its weight is redistributed pro rata to the other fixed income indices. The Dimensional Core Plus 0/100 Wealth Index Model has been retrospectively calculated by Dimensional and did not exist prior to March 2020.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical returns presented. Hypothetical backtested returns have many inherent limitations. Unlike actual performance, it does not represent actual trading. Since trades have not actually been executed, results may have under- or overcompensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Hypothetical backtested performance also is developed with the benefit of hindsight. Other periods selected may have different results, including losses. There can be no assurance that Dimensional Fund Advisors will achieve profits or avoid incurring substantial losses.

Sources and Descriptions of Data

DIMENSIONAL US ADJUSTED MARKET 2 INDEX
January 1975–present Compiled by Dimensional from CRSP and Compustat data. Targets all securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index overweights securities of companies with smaller capitalization and lower relative price to a greater degree than the Dimensional US Adjusted Market 1 Index. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to March 2007. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index. Prior to January 1975 Targets all securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market with an emphasis on companies with smaller capitalization and lower relative price.

DIMENSIONAL US LARGE CAP HIGH PROFITABILITY INDEX
Compiled by Dimensional from CRSP and Compustat data. Targets securities of US companies with market capitalizations above the 1,000th largest company whose profitability is in the top 35% of all large cap companies after the exclusion of utilities, companies lacking financial data, and companies with negative relative price. The index emphasizes companies with lower relative price, higher profitability, and lower market capitalization. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to December 2016.

DIMENSIONAL US ADJUSTED MARKET VALUE INDEX
January 1975–present Compiled by Dimensional from CRSP and Compustat data. Targets all securities of US companies traded on the NYSE, NYSE MKT (formerly AMEX), and Nasdaq Global Market with an emphasis on companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within the small cap universe. The index also excludes those companies with the highest asset growth within the small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index overweights securities of companies with smaller capitalization and lower relative price to a greater degree than the Dimensional US Adjusted Market 2 Index. Exclusions: non-US companies, REITs, UITs, and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to March 2007. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in December 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL INTERNATIONAL ADJUSTED MARKET INDEX
Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller market capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL INTERNATIONAL LARGE CAP HIGH PROFITABILITY INDEX
Compiled by Dimensional from Bloomberg securities data. Targets large cap securities in the eligible markets whose profitability is in the top 35% of their country's large cap securities, after the exclusion of utilities and companies with either negative or missing relative price data. The index emphasizes companies with lower relative price, higher profitability, and lower market capitalization. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to December 2016.

DIMENSIONAL INTERNATIONAL VECTOR INDEX
Compiled by Dimensional from Bloomberg securities data. Targets all the securities in the eligible markets with an emphasis on companies with smaller market capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. The index overweights securities of companies with smaller capitalization and lower relative price to a greater degree than the Dimensional International Adjusted Market Index. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. The returns of indices presented herein reflect hypothetical performance and do not represent returns that any investor actually attained. Changes in the assumptions upon which such performance is based may have a material impact on the hypothetical returns presented. Hypothetical backtested returns have many inherent limitations. Unlike actual performance, it does not represent actual trading. Since trades have not actually been executed, results may have under- or overcompensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Hypothetical backtested performance also is developed with the benefit of hindsight. Other periods selected may have different results, including losses. There can be no assurance that Dimensional Fund Advisors will achieve profits or avoid incurring substantial losses.

Sources and Descriptions of Data

DIMENSIONAL EMERGING MARKETS ADJUSTED MARKET INDEX
Compiled by Dimensional from Bloomberg securities data. Targets all securities in the eligible markets with an emphasis on companies with smaller market capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability and highest relative price within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

DIMENSIONAL EMERGING MARKETS VALUE INDEX
January 1990–present Compiled by Dimensional from Bloomberg securities data. Targets securities of companies whose relative price is in the bottom 33% of their country's companies, after the exclusion of utilities and companies with either negative or missing relative price data. The index emphasizes companies with smaller capitalization, lower relative price, and higher profitability, excluding those with the lowest profitability within their country's small cap universe. The index also excludes those companies with the highest asset growth within their country's small cap universe. Profitability is defined as operating income before depreciation and amortization minus interest expense divided by book equity. Asset growth is defined as change in total assets from the prior fiscal year to current fiscal year. Exclusions: REITs and investment companies. The index has been retroactively calculated by Dimensional and did not exist prior to April 2008. The calculation methodology was amended in January 2014 to include profitability as a factor in selecting securities for inclusion in the index. The calculation methodology was amended in November 2019 to include asset growth as a factor in selecting securities for inclusion in the index.

S&P GLOBAL REIT INDEX
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DIMENSIONAL SHORT-DURATION REAL RETURN INDEX
Compiled by Dimensional using data provided by Bloomberg. Includes securities in Bloomberg US 3–5 Year Government, Credit Aaa, Aa, A, Baa indices; Bloomberg US 1–3 Year Government, Credit Aaa, Aa, A, Baa indices; Bloomberg Inflation Swap USD 2YR Zero Coupon Index (Excess Return); and Bloomberg Inflation Swap USD 5YR Zero Coupon Index (Excess Return). For the fixed income component of the index, we do the following: (1) Securities can be over- or underweighted based on government/credit spreads. When the difference in yields between credit and government bonds is narrow, government bonds may be overweighted. When the difference in yields between credit and government bonds is wide, government bonds may be underweighted. (2) Securities can be over- or underweighted with respect to their market cap weight based on credit spreads. When the difference in yields between AAA+AA and A+BBB is narrow, AAA+AA bonds may be held above market cap weight. When the difference in yields between AAA+AA and A+BBB is wide, AAA+AA bonds may be held below market cap weight. When the difference in yields between AAA+AA and BBB is narrow, BBB bonds may be held below market cap weight. When the difference in yields between AAA+AA and BBB is wide, BBB bonds may be held above market cap weight. (3) The duration of the index is based on the term spread (of real yields) between the real yields of the 3–5 year and 1–3 year credit bonds. Real yield is defined as nominal yield minus inflation swap rate. When the term spread is wide, the duration of the index can be longer than the duration of Bloomberg US Credit 1–5 Year Index. When the term spread is narrow, the duration of the index can be shorter than the duration of Bloomberg US Credit 1–5 Year Index. (4) The duration of the government component is based on the term spread (of real yields) between 3–5 year government bonds and 1–3 year government bonds. When the term spread is wide, the duration of the government component can be longer than the duration of Bloomberg US Government 1–5 Year Index. When the term spread is narrow, the duration of the index can be shorter than the duration of Bloomberg US Government 1–5 Year Index. We use the 2-year and 5-year inflation swap indices to construct an index to match the duration of the fixed income component. The Dimensional index return is the sum of the fixed income component and the inflation swap index return component. Rebalanced monthly. The index has been retroactively calculated by Dimensional and did not exist prior to January 2020.

DIMENSIONAL US ADJUSTED INVESTMENT GRADE INDEX
Compiled by Dimensional using data provided by Bloomberg. Includes securities in Bloomberg US 3–10 Year Government, Credit Aaa, Aa, A, Baa indices; and Bloomberg US 1–3 Year Government, Credit Aaa, Aa, A, Baa indices. Securities can be over- or underweighted based on government/credit spreads. When the difference in yields between credit and government bonds is narrow, government bonds may be held above 50%. When the difference in yields between credit and government bonds is wide, government bonds may be held below 50%. Securities can be over or underweighted with respect to their market cap weight based on credit spreads. When the difference in yields between AAA+AA and A+BBB is narrow, AAA+AA bonds may be held above market cap weight. When the difference in yields between AAA+AA and A+BBB is wide, AAA+AA bonds may be held below market cap weight. When the difference in yields between AAA+AA and BBB is narrow, BBB bonds may be held below market cap weight. When the difference in yields between AAA+AA and BBB is wide, BBB bonds may be held above market cap weight. The duration of the index is based on the term spread between 5–10 year government/credit bonds and 1–3 year government/credit bonds. When the term spread is wide, the duration of the index can be longer than the duration of Bloomberg US Aggregate Index. When the term spread is narrow, the duration of the index can be shorter than the duration of Bloomberg US Aggregate Index. The duration of the government component is based on the term spread between 5–10 year government bonds and 1–3 year government bonds. When the term spread is wide, the duration of the government component can be longer than the duration of Bloomberg US Government Index. When the term spread is narrow, the duration of the index can be shorter than the duration of Bloomberg US Government Index. The index has been retroactively calculated by Dimensional and did not exist prior to January 2017.

Sources and Descriptions of Data

DIMENSIONAL GLOBAL SHORT-TERM GOVERNMENT INDEX (HEDGED TO USD)
Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of Bloomberg Global Aggregate 1–2 Year Index; includes global government bonds only. Within the eligible universe, we apply market weights to construct the index. Currency exposure is hedged to USD. Rebalanced monthly. The index has been retroactively calculated by Dimensional and did not exist prior to January 2020.

DIMENSIONAL GLOBAL SHORT-TERM GOVERNMENT VARIABLE MATURITY INDEX (HEDGED TO USD)
Compiled by Dimensional using FTSE data © 2022. Includes securities in the FTSE World Government Bond 1–3 Years and 3–5 Years indices. Countries: Austria, Australia, Belgium, Canada, France, Germany, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the UK, and the US. Countries with the steepest yield curves are overweight with respect to their market cap weight. For countries included, duration corresponds to the steepest segment of that country's yield curve. Currency exposure is hedged to USD. Rebalanced monthly. The index has been retroactively calculated by Dimensional and did not exist prior to January 2019.

DIMENSIONAL GLOBAL GOVERNMENT/CREDIT 1–3 YEAR UNHEDGED INDEX
February 1999–present Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of Bloomberg Global Aggregate Index, includes global government bonds and global investment grade corporate bonds. Within the universe, the index identifies the yield curves that offer higher expected returns, and the duration ranges on those yield curves offering higher expected returns, and assesses the increased expected returns associated with allocation to bonds with different credit qualities. It then overweights (with respect to their market cap weight) bonds of yield curves, duration ranges, and credit qualities that offer higher expected returns. It also employs credit quality, currency, and duration requirements relative to the eligible market. Returns are in USD, unhedged. Rebalanced monthly. Prior to February 1999 Compiled by Dimensional using data © 2022 by FTSE. Includes securities in the FTSE World Government Bond 1–3 Years Index. Countries: Austria, Australia, Belgium, Canada, France, Germany, Japan, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, UK, and the US as data becomes available. Rebalanced monthly based on market weights. The index has been retroactively calculated by Dimensional and did not exist prior to January 2020.

DIMENSIONAL GLOBAL ADJUSTED FIXED INCOME MARKET INDEX (HEDGED TO USD)
Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of the Bloomberg Global Aggregate Index and Global High Yield Index. Includes global government bonds, global investment grade corporate bonds, and global BB corporates. Eligible currencies: AUD, CAD, CHF, EUR, GBP, JPY, USD. Currency exposure is hedged to USD. Within the universe, the index identifies the yield curves that offer higher expected returns, the duration ranges on those yield curves offering higher expected returns, and assesses the increased expected returns associated with allocation to bonds with different credit qualities. It then overweights (with respect to their market cap weight) bonds of yield curves, duration ranges, and credit qualities that offer higher expected returns. It also employs credit quality, currency, and duration requirements relative to the eligible market. The index has been retroactively calculated by Dimensional and did not exist prior to January 2018.

DIMENSIONAL TARGETED CREDIT INDEX (HEDGED TO USD)
Compiled by Dimensional using data provided by Bloomberg. Based on securities in the universe of Bloomberg Global Aggregate Index and Global High Yield Index, includes global investment grade corporate bonds and global BB corporates only. Within the universe, the index identifies the yield curves that offer higher expected returns, and the duration ranges on those yield curves offering higher expected returns, and assesses the increased expected returns associated with allocation to bonds with different credit qualities. It then overweights (with respect to their market cap weight) bonds of yield curves, duration ranges, and credit qualities that offer higher expected returns. It also employs credit quality, currency, and duration requirements relative to the eligible market. Currency exposure is hedged to USD. Rebalanced monthly. The index has been retroactively calculated by Dimensional and did not exist prior to January 2020.