

Q4

Quarterly Market Review

Fourth Quarter 2021



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Quarterly Market Review

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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:

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Market Review 2021: A Recovery Amid Challenges

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KEY TAKEAWAYS

- Stock markets continued to climb higher in 2021, with the S&P 500 hitting a series of all-time closing highs and ending the year near a record.
- While COVID-19 continued to dominate headlines, concerns also focused on inflation and its potential impact.
- Investors saw volatility in areas ranging from cryptocurrencies to so-called meme stocks, highlighting the importance of long-term planning and flexibility in a fast-moving market.

It was a year of uncertainty and anticipation, of hopes for a return to a degree of normalcy following the onset of the COVID-19 pandemic in 2020. And it was a year that showed, again, the difficulty of making investment decisions based on predictions of where markets will go—as well as the enduring benefits of diversification and flexibility.

Coming out of a volatile 2020, investors sought signals as to which way the global economy was headed. The distribution of vaccines and the easing of lockdowns were followed by an economic rebound, but the emergence of new variants would be a setback for the recovery. Despite these challenges, global gross domestic product grew, completing the transition from recovery to expansion and eventually surpassing its pre-pandemic peak.

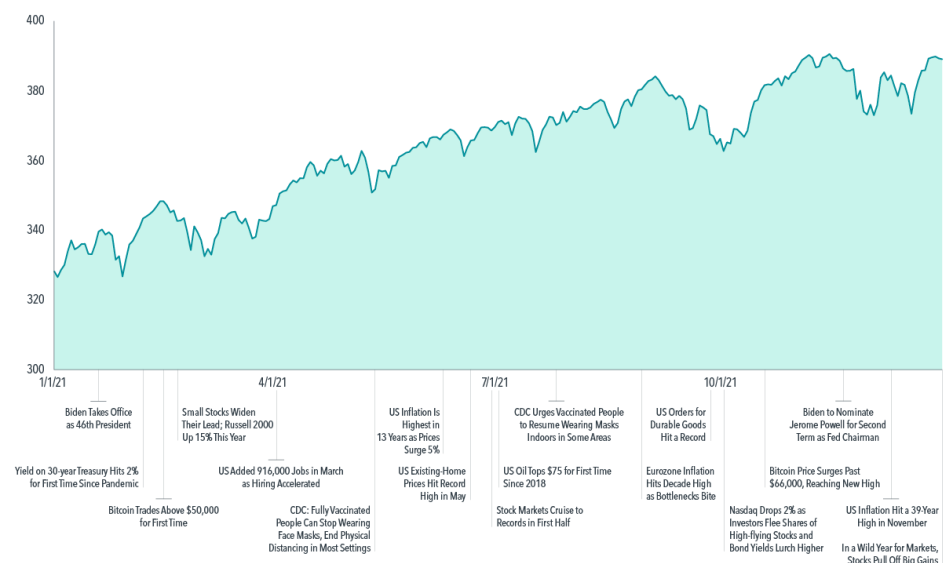
Still, the recovery would be accompanied by labor shortages, supply chain issues, and rising inflation. Prices increased especially rapidly in areas such as food and energy, and the US consumer price index jumped 6.81% from year-earlier levels in November, a rise unseen in nearly four decades. The media was filled with debates about where inflation would go, what was causing it, how long it might last, and what could, or should, be done in response. (An investor pondering those questions might take comfort knowing that many assets in the past have outpaced even above-average inflation.)

Throughout the year, the market continued a relatively steady rise, with large cap stocks in the US ending 2021 near a record high. The S&P 500 Index¹ generated returns of 28.71%. In addition to the effective vaccines, markets were buoyed by a number of other positive developments, including strong corporate earnings and increased consumer demand. In the third quarter, US

corporations pulled in record profits—both in dollar terms and as a share of GDP (11%)². That came as consumer spending generally trended higher throughout the year, rebounding from pandemic lows.

Likewise, global markets continued to rise alongside those in the US, despite some setbacks, as **Exhibit 1** shows. Markets that started the year strong were up and down in the year's second half but still near all-time highs. Global equities, as measured by the MSCI All Country World Index³, increased 18.54%. Developed international stocks, as represented by the MSCI World ex USA Index, rose 12.62%, notably stronger than emerging markets, which saw the MSCI Emerging Markets Index fall -2.54%.

EXHIBIT 1: (Largely) Steady Amid the Storms



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²Data is based on after-tax corporate profits from current production and is according to estimates from the US Bureau of Economic Analysis.

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Value stocks, or those with lower relative prices, began the year strong as the economy reopened and interest rates were rising. But growth stocks rallied later in the year. That shift came as the Delta variant and the resurgent pandemic brought back concerns that dominated in the first half of 2020. Over the long term, value stocks have generally outperformed growth stocks—by 2.66% based on average annualized returns since July 1926 in the US—but premiums are subject to disappointing periods. Still, data covering nearly a century backs up the notion that value stocks have higher expected returns. And value premiums have often shown up quickly and in large magnitudes, as they did in late 2020 and early 2021.

Fixed income markets experienced more tepid returns than the equity markets, with the Bloomberg Global Aggregate Bond Index returning -1.39% . After widening in 2020, credit spreads ended 2021 at levels narrower than pre-pandemic levels. For the year, corporate bonds generally outperformed their government counterparts. The dispersion between the two asset classes was much less pronounced than during the previous year, with global corporate bonds outperforming global Treasury and government-related bonds by 0.82% ⁴.

However, return deviations were still pronounced between inflation-protected and nominal bonds, as realized inflation was higher than expected inflation. The five-year break-even inflation rate increased from 1.95% to as high as 3.17% late in the year, before ending the period at 2.87% ⁵. For the year, nominal US Treasuries returned -2.32% , while US Treasury Inflation Protected Securities (TIPS) returned 5.96% ⁶.

Global yield curves finished the year generally higher and steeper than at the start. US Treasury yields, for example, rose across the board, with larger increases along the intermediate portions of the curve. Longer-dated bonds generally underperformed short-term bonds, with intermediate-term US Treasuries returning -1.72% and short-term US Treasuries returning 0.04% ⁷.

⁴Global corporate bonds represented by the Bloomberg Global Aggregate Corporate Index. Global Treasuries represented by the Bloomberg Global Aggregate Treasuries Index. Government-related bonds represented by respective Bloomberg government-related indices. Data provided by Bloomberg. Indices are not available for direct investment.

⁵Five-year break-even inflation rate data from Federal Reserve Bank of St. Louis as of December 31, 2021.

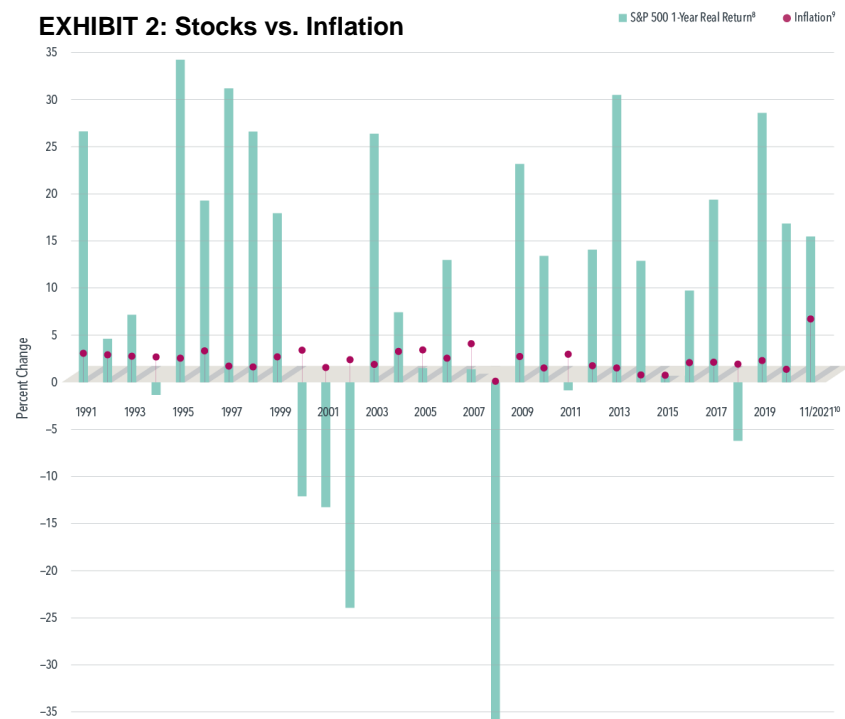
⁶US Treasuries represented by the Bloomberg US Treasury Bond Index. US TIPS represented by Bloomberg US Treasury Inflation-Linked Bond Index. Data provided by Bloomberg. Indices are not available for direct investment.

⁷Intermediate-term US Treasuries represented by Bloomberg US Intermediate Treasury Index and short-term US Treasuries represented by Bloomberg US Short Treasury Index. Data provided by Bloomberg. Indices are not available for direct investment.

A Focus on Inflation and Debt

For investors worried about the impact of inflation on their portfolios, it is important to remember that US stocks since 1991 have generally provided returns that outpaced inflation^{8,9,10}. This is a valuable reminder for those concerned that today's rising prices will make it harder to reach long-term financial goals. As seen in **Exhibit 2**, equity performance in the past three decades does not show any reliable connection between periods of high (or low) inflation and US large cap stock returns. The weakest returns can occur when inflation is low, and 23 of the past 30 full years saw positive returns even after adjusting for the impact of inflation.

EXHIBIT 2: Stocks vs. Inflation



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Like in equities, when it comes to fixed income there is no reason to assume inflation will bring dire effects. From 1927 through 2020, median inflation was 2.68%, and in the 47 years when inflation exceeded that rate, it averaged 5.49%. Many types of bonds beat inflation over those 47 years, which included double-digit inflation in the 1940s and 1970s. For investors particularly sensitive to the potential for rising prices, inflation-hedging assets such as TIPS can help protect investors, as can strategies that focus on real (inflation-adjusted) returns. Bond investments should always be matched to an investor’s goals—they aren’t one-size-fits-all. But inflation concerns needn’t scare one away from fixed income.

Rising government debt levels may also lead some investors to worry about an adverse impact on stock returns. The US debt held by the public topped \$22 trillion¹¹, up more than \$5 trillion from the end of 2019 and 123% of GDP. In a more extreme example, China’s overall debt was 263% of its GDP late in 2021, driven by massive government sponsored infrastructure and property investment, as evidenced by China’s beleaguered Evergrande Group, which defaulted on its debt in December. However, the relation between country debt and stock markets is complex, in part because sovereign solvency is dependent upon many factors besides just debt levels. In addition, debt is generally a slow-moving variable whose expected value should be incorporated in market prices. Consistent with this belief, the evidence suggests there has not been a strong relation between country debt and equity market returns.

Remaining Flexible in a Fast-Moving Market

Spiking inflation and the ups and downs tied to the COVID-19 pandemic weren’t the only types of volatility drawing attention in 2021. Bitcoin and many other cryptocurrencies continued rising, prompting many investors to wonder whether this new form of electronic money deserves a place in their portfolios. But in its relatively short existence, bitcoin has proved prone to extraordinary swings, sometimes gaining or losing more than 40% in price in a month or two. Any asset subject to such sharp volatility may be catnip for traders but of

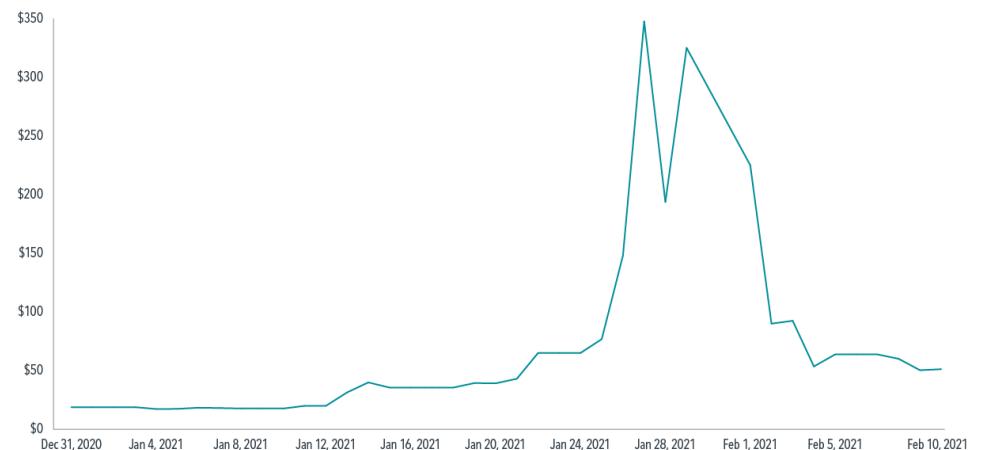
limited value as a reliable medium of exchange (to replace cash), as a risk-reducing or inflation-hedging asset (to replace bonds), or as a replacement for other assets in a diversified portfolio. Thus, while cryptocurrencies may hold some appeal for adventurous investors, it’s hard to make a case for a significant allocation of one’s overall assets to them in the current moment.

Another market curiosity arose in early 2021, when individual investors and others helped bid up shares of videogame retailer GameStop, as **Exhibit 3** shows. GameStop shares and other so-called “meme stocks” benefited from these investors’ enthusiasm. But as the price of GameStop climbed, along with its market cap, the small cap value stock quickly stopped being either.

EXHIBIT 3: Game Show

Closing price of GameStop (GME) from December 31, 2020–February 10, 2021

At its closing peak on January 27, 2021, GameStop had a market capitalization of \$24.2 billion, making it larger than over 200 of the constituents of the S&P 500 Index and as large as Whirlpool and American Airlines combined¹².



⁸Real returns illustrate the effect of inflation on an investment return and are calculated using the following method: $[(1 + \text{nominal return of index over time period}) / (1 + \text{inflation rate})] - 1$.

⁹Based on non-seasonally adjusted 12-month percentage change in Consumer Price Index for All Urban Consumers (CPI-U). Source: US Bureau of Labor Statistics.

¹⁰Year-to-date data for 2021 through November 30.

¹¹As of September 30, 2021, according to the US Treasury Department.

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The case of GameStop highlights the importance of having a systematic process in place to respond to new information about securities and their expected returns on a daily basis. In contrast, an index-tracking approach does not have the same flexibility to respond to price changes; by design, an index will wait to respond until its next periodic reconstitution date—potentially resulting in style drift. Some small cap indices holding GameStop quickly saw it become the largest index holding as the stock price increased, and those indices generally continued to hold it as the price fell. Daily portfolio management can spare investors from such style drift by rebalancing portfolios incrementally over time, keeping them focused on the targeted asset allocation and putting investors in a better position to capture higher returns.

Concentrating your portfolio in a few hot stocks or cryptocurrencies—like focusing on any small number of holdings—can expose investors to substantial risk. Even if you manage to find a few winners, research argues that good luck is unlikely to repeat throughout a lifetime of investing. For every individual who got into and out of a hot stock or cryptocurrency at the right time, there's likely another who bought or sold at the wrong time.

When Breaking Records Sounds Like a Broken Record







In a similar way, there may be a tendency to think markets reaching a new high is a signal stocks are overvalued or have approached a ceiling. Such concerns may be especially potent now, with the S&P 500 having notched 75 closing records in 2021 on a total-return basis. However, investors may be surprised to find that the average returns one, three, and five years after a new month-end market high are similar to the average returns over any one-, three-, or five-year period. For instance, in looking at monthly returns between 1926 and 2021 for the S&P 500 Index, 30% of the monthly observations were new highs. After those highs, the average annualized compound returns ranged from over 14% one year later to more than 10% over the next five years. Those results were close to the average returns over any given period of the same length. Put another way, reaching a new high doesn't mean the market will retreat. Stocks, at any time, are priced to deliver a positive expected return for

investors, so reaching record highs regularly is the outcome one would expect.

This is a good reminder of the power of markets. Investors can't predict the nature or timing of the next crisis, or the end of any existing ones. But markets are forward-looking and reflect optimism. New challenges will await, but rather than guessing at what will happen, investors can choose to trust markets and their long-term prospects. The year 2021 was one that emphasized the benefits of discipline and diversification, of planning and perseverance, in a market that was uncertain (like markets in all the years before it). As we enter 2022, looking backward can help as investors look to the future.

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
4Q 2021	STOCKS				BONDS	
	9.28%	3.14%	-1.31%	12.35%	0.01%	0.07%
						
Since Jan. 2001						
Average Quarterly Return	2.5%	1.7%	2.9%	2.7%	1.1%	1.1%
Best Quarter	22.0%	25.9%	34.7%	32.3%	4.6%	4.6%
	2020 Q2	2009 Q2	2009 Q2	2009 Q3	2001 Q3	2008 Q4
Worst Quarter	-22.8%	-23.3%	-27.6%	-36.1%	-3.4%	-2.7%
	2008 Q4	2020 Q1	2008 Q4	2008 Q4	2021 Q1	2015 Q2

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net 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

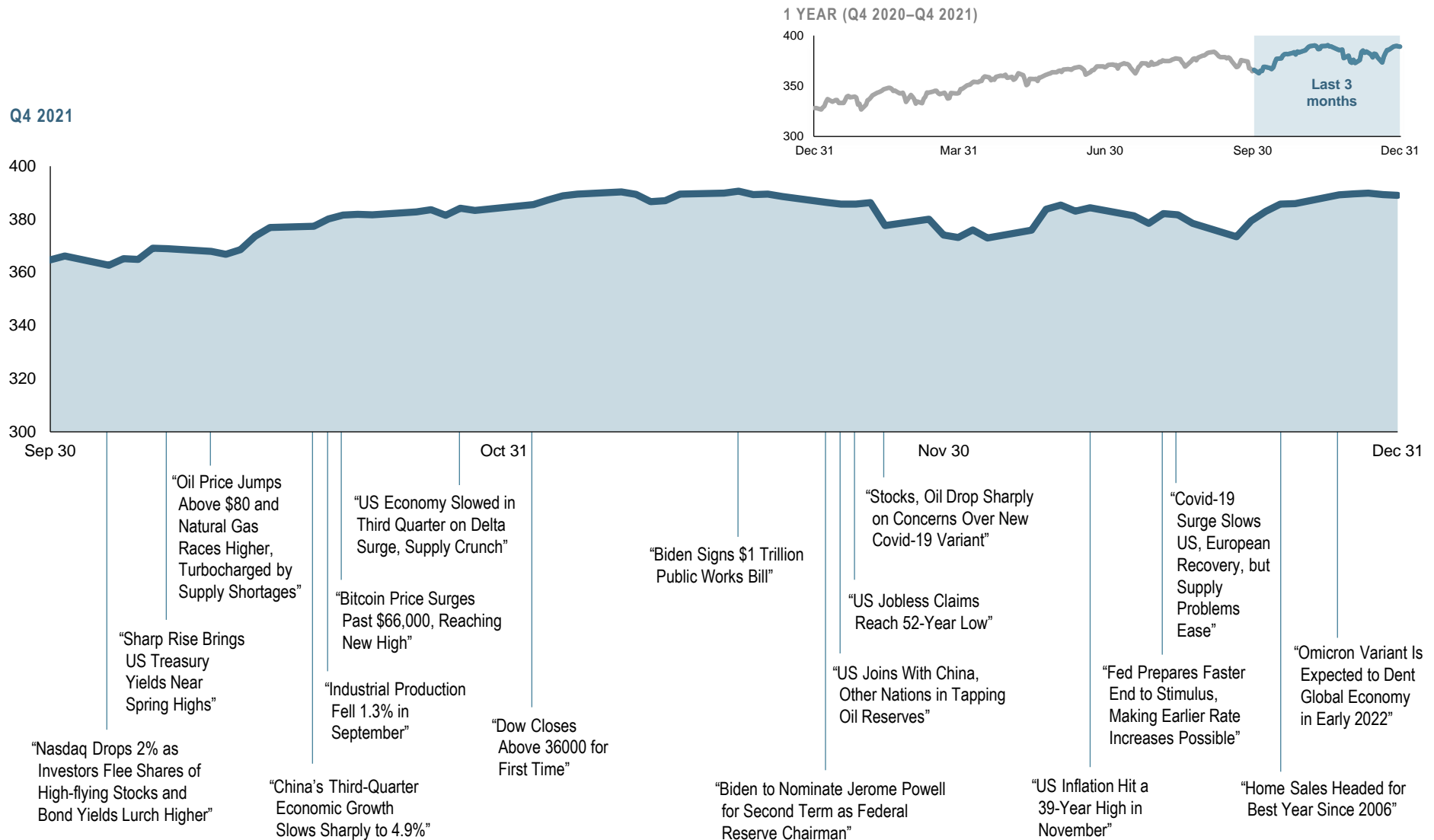
Index Returns as of December 31, 2021

	US Stock Market	International Developed Stocks	Emerging Markets Stocks	Global Real Estate	US Bond Market	Global Bond Market ex US
1 Year	STOCKS				BONDS	
	25.66% 	12.62% 	-2.54% 	31.38% 	-1.54% 	-1.40% 
5 Years	17.97% 	9.63% 	9.87% 	8.25% 	3.57% 	3.11% 
10 Years	16.30% 	7.84% 	5.49% 	9.01% 	2.90% 	3.80% 

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World Stock Market Performance

MSCI All Country World Index with selected headlines from Q4 2021



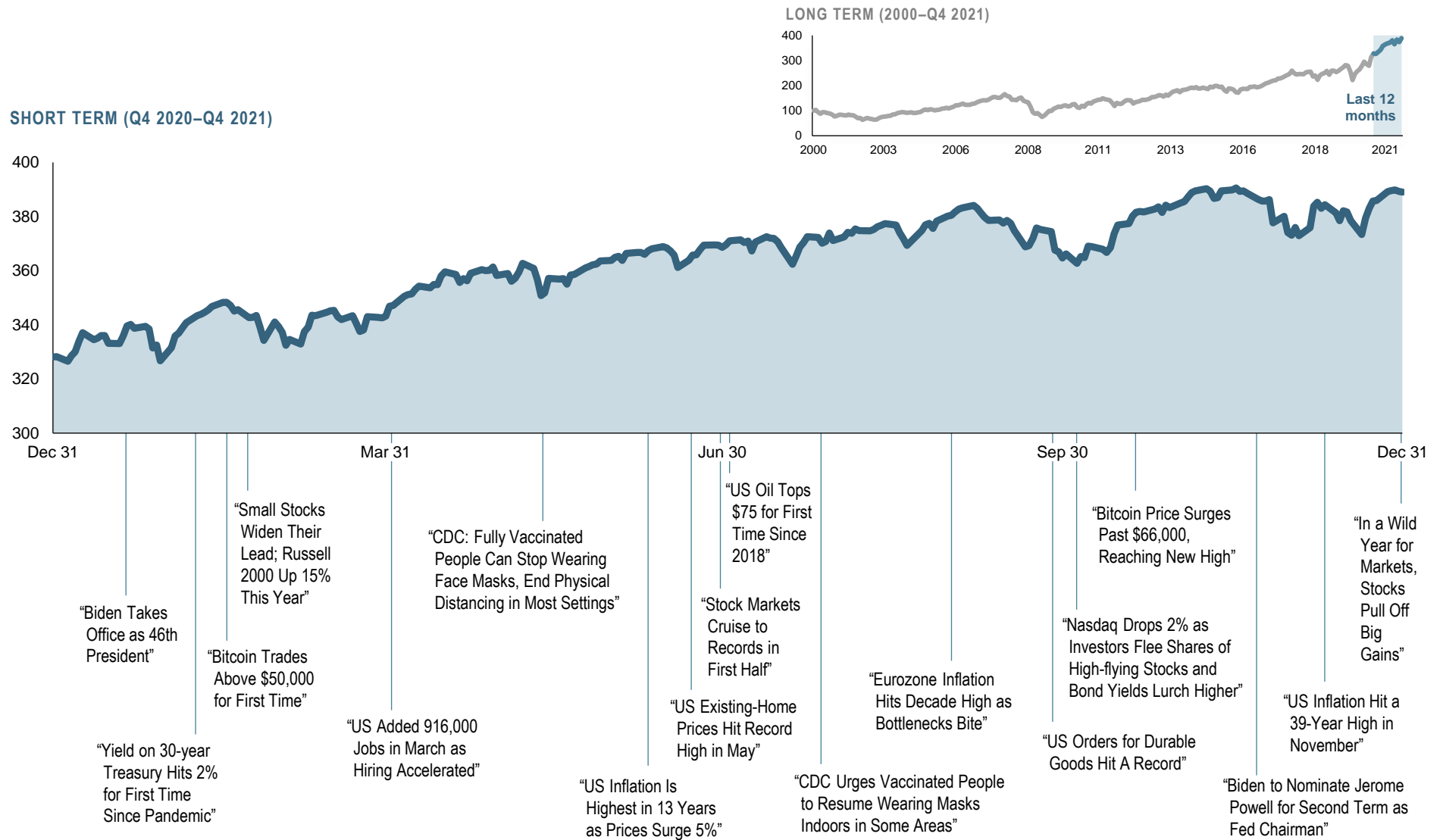
These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index [net 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.

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US Stocks

Fourth Quarter 2021 Index Returns

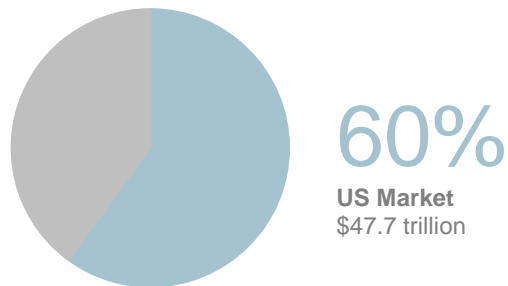
The US equity market posted positive returns for the year and outperformed non-US developed and emerging markets.

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

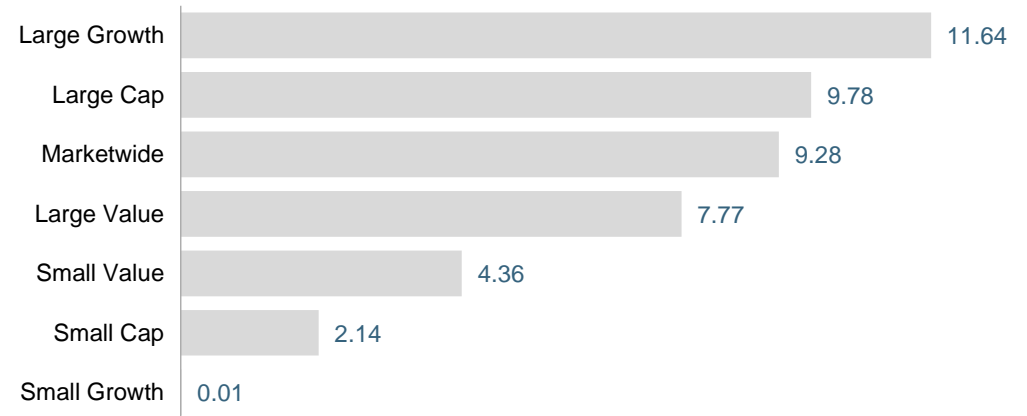
Small caps underperformed large caps.

REIT indices outperformed equity market indices.

World Market Capitalization—US



Ranked Returns (%)



Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Large Growth	11.64	27.60	34.08	25.32	19.79
Large Cap	9.78	26.45	26.21	18.43	16.54
Marketwide	9.28	25.66	25.79	17.97	16.30
Large Value	7.77	25.16	17.64	11.16	12.97
Small Value	4.36	28.27	17.99	9.07	12.03
Small Cap	2.14	14.82	20.02	12.02	13.23
Small Growth	0.01	2.83	21.17	14.53	14.14

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International Developed Stocks

Fourth Quarter 2021 Index Returns

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

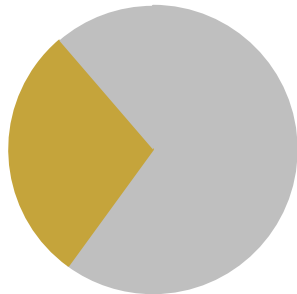
Value outperformed growth.

Small caps underperformed large caps.

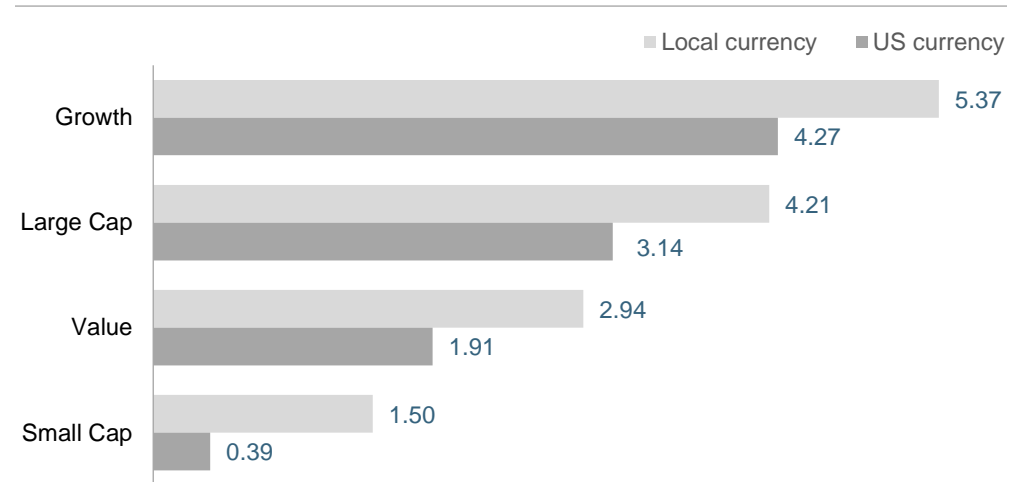
World Market Capitalization—International Developed

29%

International
Developed Market
\$22.8 trillion



Ranked Returns (%)



Period Returns (%)

Asset Class	QTR	1 Year	* Annualized		
			3 Years*	5 Years*	10 Years*
Growth	4.27	11.57	19.11	13.37	9.66
Large Cap	3.14	12.62	14.07	9.63	7.84
Value	1.91	13.26	8.66	5.69	5.83
Small Cap	0.39	11.14	16.27	11.03	9.99

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Emerging Markets Stocks

Fourth Quarter 2021 Index Returns

Emerging markets fell 2.5% for the year, underperforming both US and non-US developed equity markets.

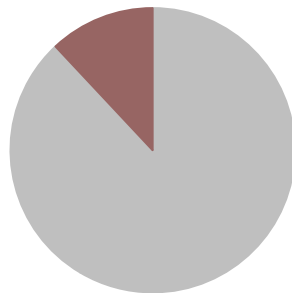
Value outperformed growth.

Small caps outperformed large caps.

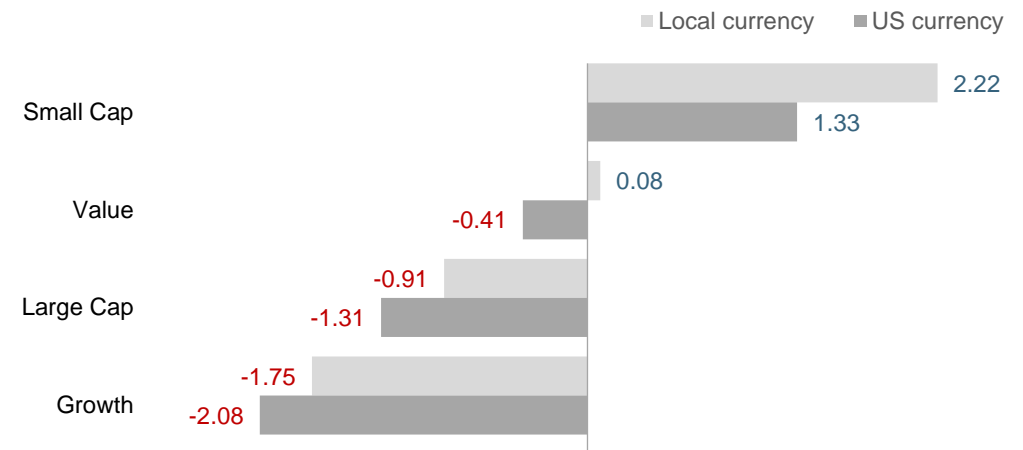
World Market Capitalization—Emerging Markets

11%

Emerging Markets
\$9.0 trillion



Ranked Returns (%)



Period Returns (%)

* Annualized

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Small Cap	1.33	18.75	16.46	11.47	7.42
Value	-0.41	4.00	7.08	7.02	3.31
Large Cap	-1.31	-2.54	10.94	9.87	5.49
Growth	-2.08	-8.41	14.60	12.55	7.52

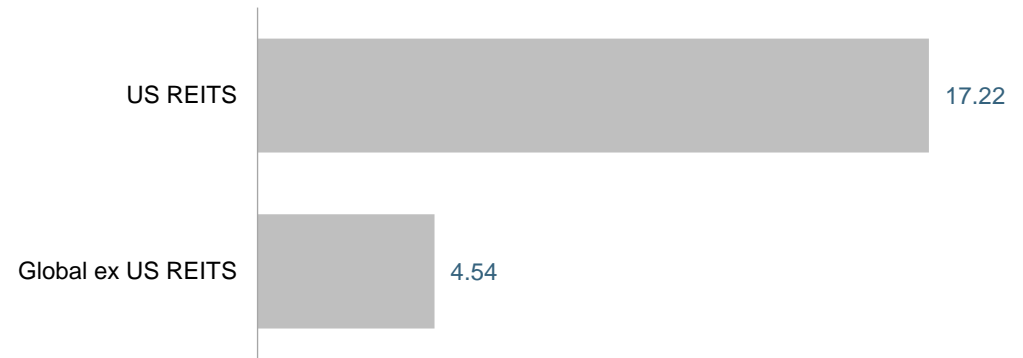
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Real Estate Investment Trusts (REITs)

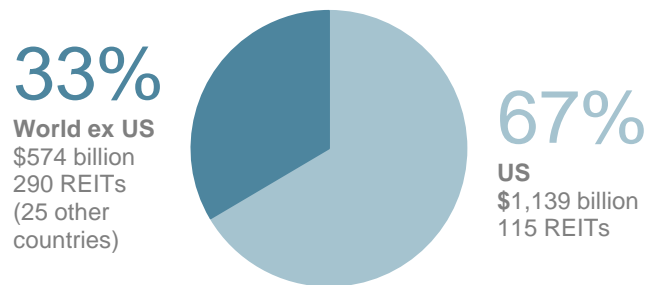
Fourth Quarter 2021 Index Returns

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

Ranked Returns (%)



Total Value of REIT Stocks



Period Returns (%)

Asset Class	* Annualized				
	QTR	1 Year	3 Years*	5 Years*	10 Years*
US REITS	17.22	45.91	16.84	9.65	10.70
Global ex US REITS	4.54	12.70	7.79	6.04	7.17

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

Fixed Income

Fourth Quarter 2021 Index Returns

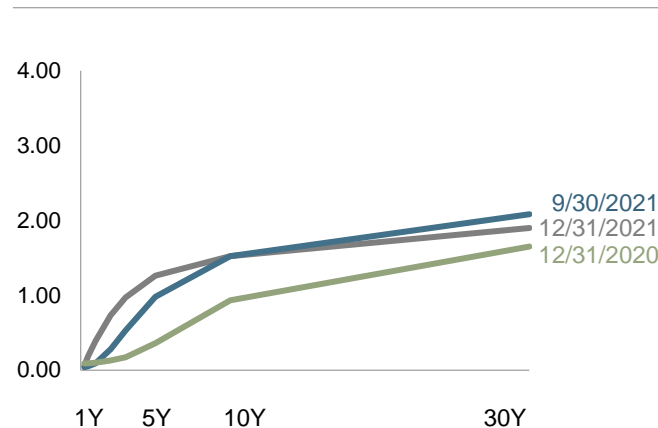
Interest rate movements in the US Treasury fixed income market were mixed during the fourth quarter. The yield on the 5-year US Treasury note increased 28 basis points (bps) to 1.26%. The yield on the 10-year US Treasury note remained unchanged at 1.52%. The 30-year US Treasury bond yield decreased 18 bps to 1.90%.

On the short end of the yield curve, the 1-month US Treasury bill yield decreased 1 basis point, ending at 0.06%, while the 1-year US Treasury bill yield increased 30 bps to 0.39%. The 2-year US Treasury note yield increased 45 bps to 0.73%.

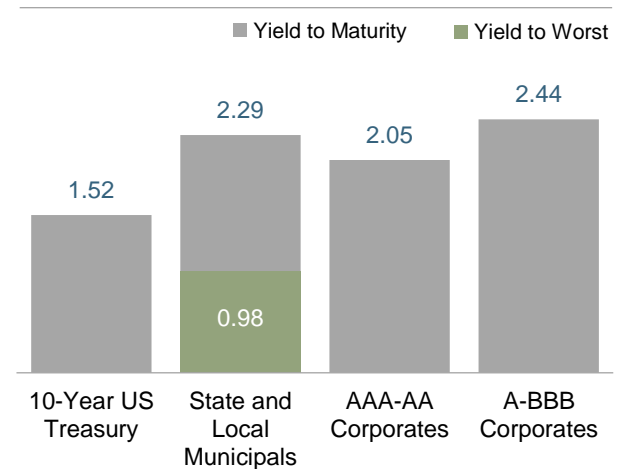
In terms of total returns, short-term corporate bonds lost 0.68%. Intermediate-term corporate bonds declined 0.56%.

The total return for short-term municipal bonds was -0.05%, while intermediate-term municipal bonds gained 0.27%. Revenue bonds performed in line with general obligation bonds.

US Treasury Yield Curve (%)



Bond Yield Across Issuers (%)



Period Returns (%)

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Bloomberg US Government Bond Index Long	3.05	-4.57	8.78	6.53	4.53
Bloomberg US TIPS Index	2.36	5.96	8.44	5.34	3.09
Bloomberg Municipal Bond Index	0.72	1.52	4.73	4.17	3.72
Bloomberg US High Yield Corporate Bond Index	0.71	5.28	8.83	6.30	6.83
Bloomberg US Aggregate Bond Index	0.01	-1.54	4.79	3.57	2.90
ICE BofA US 3-Month Treasury Bill Index	0.01	0.05	0.99	1.14	0.63
ICE BofA 1-Year US Treasury Note Index	-0.18	-0.07	1.55	1.42	0.86
FTSE World Government Bond Index 1-5 Years (hedged to USD)	-0.52	-0.80	2.07	1.89	1.66
FTSE World Government Bond Index 1-5 Years	-1.41	-4.43	1.38	1.79	-0.33

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.

Global Fixed Income

Fourth Quarter 2021 Yield Curves

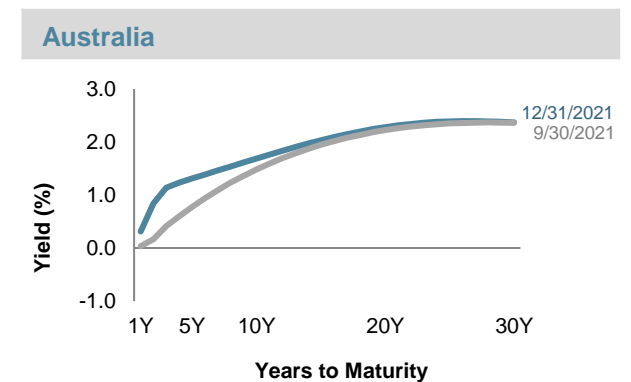
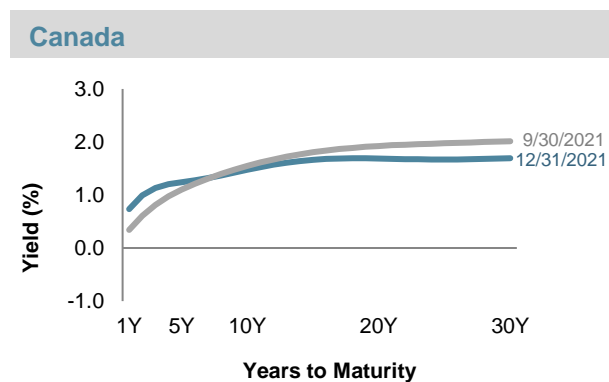
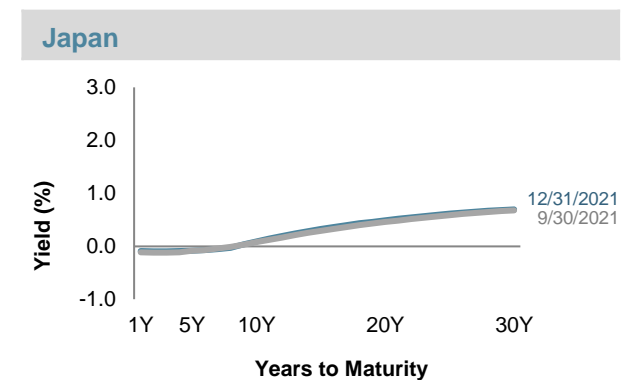
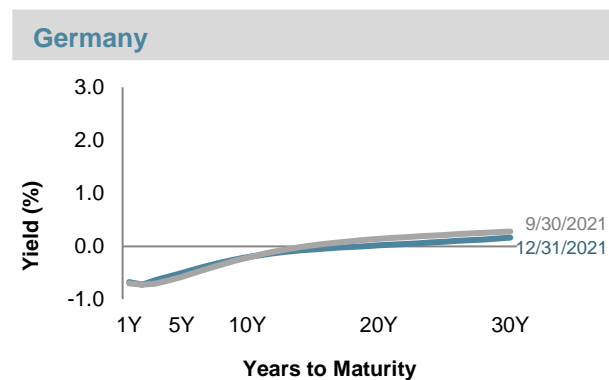
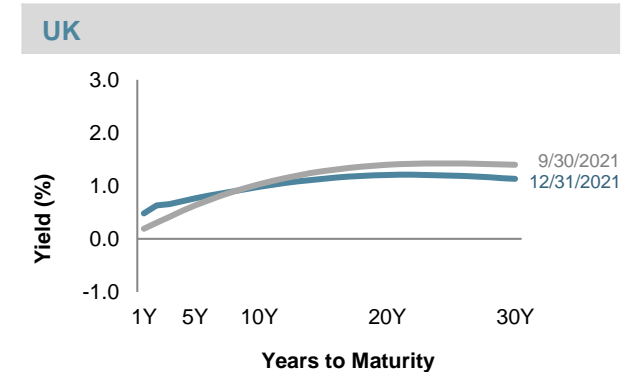
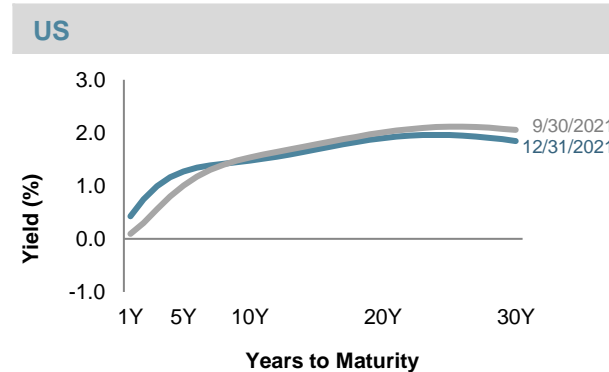
Government bond yield movements in the global developed markets were mixed for the quarter. Interest rates in many global developed markets increased along the shorter end but decreased along the longer end of their respective curves.

Term premiums were mixed in developed markets. Long-term bonds were generally the best performers, and intermediate-term bonds were generally the worst performers.

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

Changes in Yields (bps) since 9/30/2021

	1Y	5Y	10Y	20Y	30Y
US	33.3	26.5	-6.0	-10.8	-20.8
UK	28.9	13.3	-5.1	-19.2	-26.4
Germany	2.2	7.3	0.8	-12.1	-12.0
Japan	2.1	0.1	1.2	3.3	1.8
Canada	39.3	14.0	-7.4	-23.6	-32.0
Australia	28.3	53.6	20.6	5.7	1.0



Commodities

Fourth Quarter 2021 Index Returns

The Bloomberg Commodity Index Total Return returned -1.56% for the fourth quarter of 2021.

Soybean Meal and Zinc were the best performers, advancing 20.86% and 19.57%, respectively.

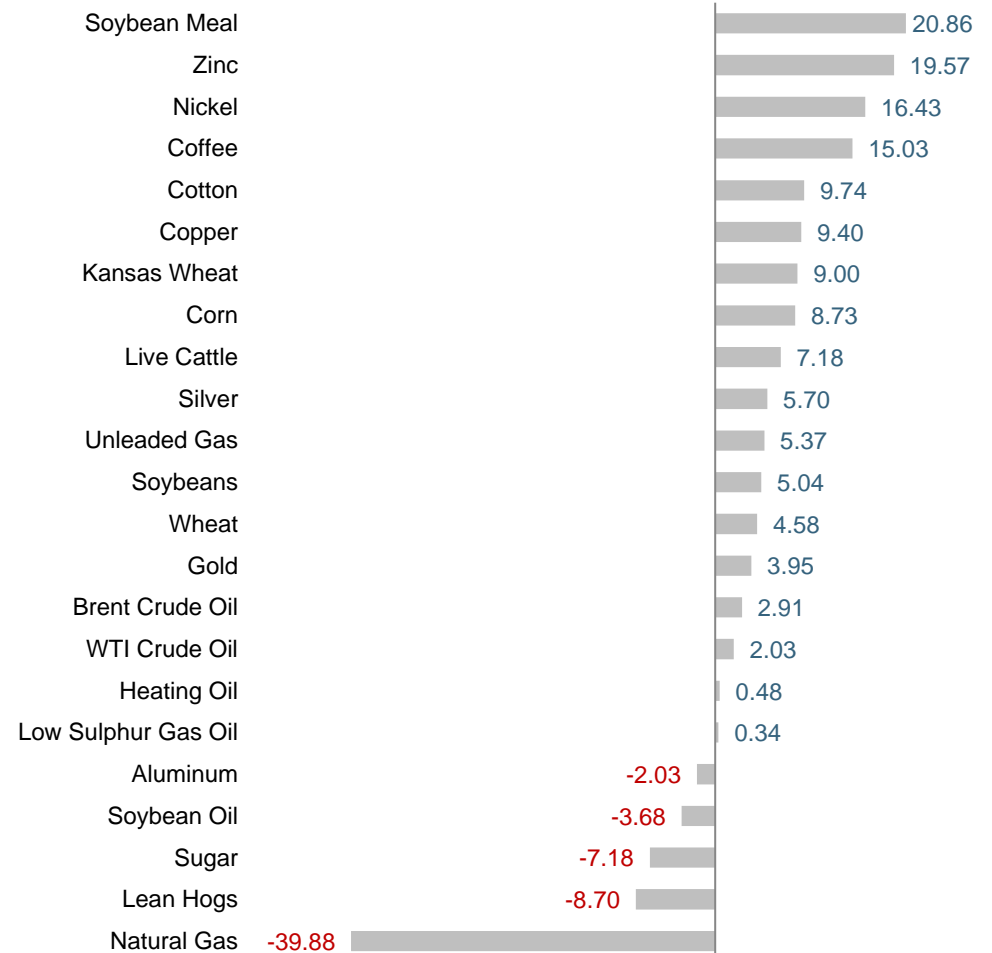
Natural Gas and Lean Hogs were the worst performers, declining 39.88% and 8.70%, respectively.

Period Returns (%)

* Annualized

Asset Class	QTR	1 Year	3 Years*	5 Years*	10 Years*
Commodities	-1.56	27.11	9.86	3.66	-2.85

Ranked Returns (%)



Impact of Diversification

As of November 30, 2021

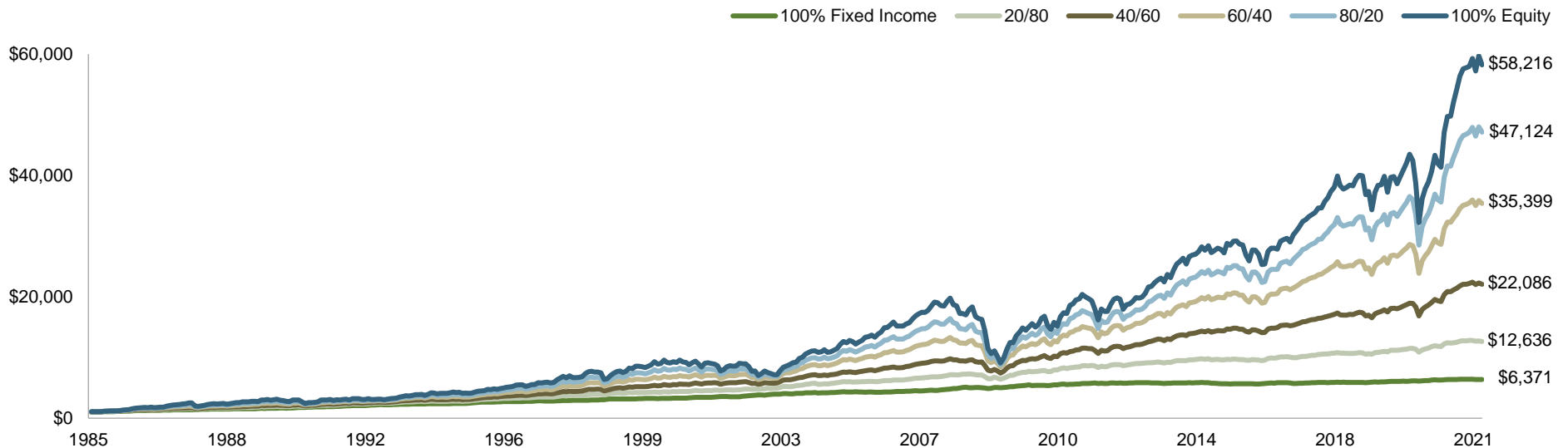
These indices illustrate the performance of different global stock/bond mixes and highlight the benefits of diversification. Mixes with larger allocations to stocks are considered riskier but have higher expected returns over time.

Period Returns (%)

* Annualized

Dimensional Core Plus Wealth Index Model	3 Month	1 Year	3 Years*	5 Years*	10 Years*	10-Year STDEV ¹
100% Equity	-1.78	23.54	15.92	14.01	12.71	14.06
80/20	-1.65	18.55	14.51	12.50	11.57	11.73
60/40	-1.54	13.35	12.61	10.53	9.76	9.04
40/60	-1.43	8.37	9.15	7.57	7.17	6.12
20/80	-1.67	3.23	5.98	4.87	4.05	3.71
100% Fixed Income	-1.02	0.33	2.65	2.08	1.04	1.72

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.

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