

Q4

Quarterly Market Review

Fourth Quarter 2022

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This report features world capital market performance and a timeline of events for the past quarter. It begins with a global overview, then features the returns of stock and bond asset classes in the US and international markets.

Overview:

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Global Fixed Income

Quarterly Market Commentary

Fourth Quarter 2022 – January 17, 2023

Every January, it's typical to reflect on market data from the year past. You'll see the results in your own quarterly reports, as well as across the usual flurry of broad market analyses.

Even when the numbers aren't what we'd prefer—which has certainly been the case for 2022—we look at them anyway. It's good to keep an eye on your annual investment returns, as they are one consideration among many that guide your financial plans.

However, whether the numbers are up or down in any given year, we caution against letting them alter your mood, or as importantly, your portfolio mix. Because, when it comes to future expected returns, a year's performance is among the least significant determinants available.

To illustrate, consider what happened in 2022, and how global markets reacted.

In the thumbs-down category, U.S. stock market indexes turned in annual lows not seen since 2008, with most of the heaviest big tech stocks taking a bath. Bonds fared no better, as the U.S. Federal Reserve raised rates to tamp down inflation. The U.K.'s economic policies resulted in Liz Truss becoming its shortest-tenured prime minister ever, while Russia's invasion of Ukraine and China's continued COVID woes kept the global economy in a tailspin.

Cryptocurrency exchanges like [FTX](#) ... well, you know what happened there.

On the plus side, inflation has appeared to be easing slightly, and so far, a recession has yet to materialize. A globally diversified, [value-tilted strategy](#) has helped protect against some (certainly not all) of the worst returns. An 8.7% [Cost-of-Living Adjustment \(COLA\)](#) for Social Security recipients has helped ease some of the spending sting, as should some of the provisions within the newly enacted SECURE 2.0 Act of 2022.

Now, how much of this did you see coming last January? Given the unique blend of social, political, and economic news that defined the year, it's unlikely anything but blind luck could have led to accurate expectations at the outset.

In fact, even if you believe you knew we were in for trouble back then, it's entirely possible you are altering reality, thanks to recency and hindsight bias. The Wall Street Journal's Jason Zweig ran an experiment to demonstrate how our memories can deceive us like that. Last January, he asked readers to send in their market predictions for 2022. Then, toward year-end, he asked them to recall their predictions (without peeking). The conclusion: "[Respondents] remembered being much less bullish than they had been in real time."

In other words, just after most markets had experienced a banner year of high returns in 2021, many people were predicting more of the same. Then, the reality of a demoralizing year rewrote their

memories; they subconsciously overlaid their original optimism with today's pessimism.

Where does this leave us? Clearly, there are better ways to prepare for the future than being influenced by current market conditions, and how we're feeling about them today. Instead, everything we cannot yet know will shape near-term market returns, while everything we've learned from decades of disciplined investing should shape our long-range investment plans.

We wish you and yours a happy and healthy 2023, come what may in the markets. Please let us know of any new ways we can further your financial interests at this time. This, and every year, we remain grateful for your business.



Eric Hutchens

**President &
Chief Investment Officer
Allodium Investment Consultants**

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 |
|--------------------------|---|---|---|--|---|---|
| Q4 2022 | STOCKS | | | | BONDS | |
| | 7.18% | 16.18% | 9.70% | 6.88% | 1.87% | 0.18% |
| |  |  |  |  |  |  |
| Since Jan. 2001 | | | | | | |
| Average Quarterly Return | 2.1% | 1.5% | 2.5% | 2.2% | 0.9% | 0.9% |
| Best Quarter | 22.0% | 25.9% | 34.7% | 32.3% | 4.6% | 4.6% |
| | 2020 Q2 | 2009 Q2 | 2009 Q2 | 2009 Q3 | 2001 Q3 | 2008 Q4 |
| Worst Quarter | -22.8% | -23.3% | -27.6% | -36.1% | -5.9% | -4.1% |
| | 2008 Q4 | 2020 Q1 | 2008 Q4 | 2008 Q4 | 2022 Q1 | 2022 Q1 |

Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Market segment (index representation) as follows: US Stock Market (Russell 3000 Index), International Developed Stocks (MSCI World ex USA Index [net dividends]), Emerging Markets (MSCI Emerging Markets Index [net dividends]), Global Real Estate (S&P Global REIT Index [net dividends]), US Bond Market (Bloomberg US Aggregate Bond Index), and Global Bond Market ex US (Bloomberg Global Aggregate ex-USD Bond Index [hedged to USD]). S&P data © 2023 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 2023, all rights reserved. Bloomberg data provided by Bloomberg.

Long-Term Market Summary

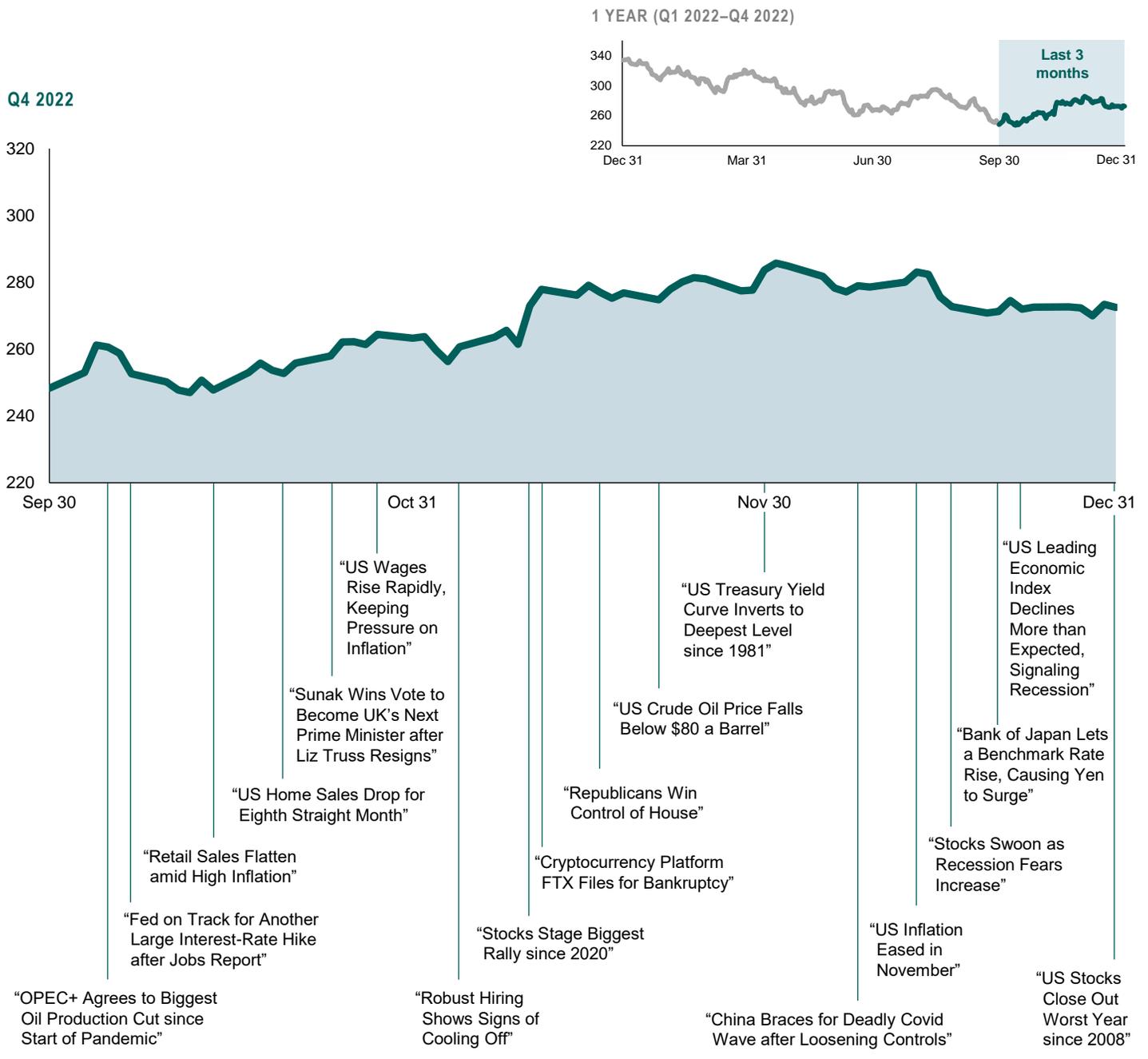
Index returns as of December 31, 2022

| | US Stock Market | International Developed Stocks | Emerging Markets Stocks | Global Real Estate | US Bond Market | Global Bond Market ex US |
|----------|---|---|---|--|---|---|
| 1 Year | STOCKS | | | | BONDS | |
| | -19.21% | -14.29% | -20.09% | -24.36% | -13.01% | -9.76% |
| |  |  |  |  |  |  |
| 5 Years | | | | | | |
| | 8.79% | 1.79% | -1.40% | 0.92% | 0.02% | 0.52% |
| |  |  |  |  |  |  |
| 10 Years | | | | | | |
| | 12.13% | 4.59% | 1.44% | 3.88% | 1.06% | 2.10% |
| |  |  |  |  |  |  |

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World Stock Market Performance

MSCI All Country World Index with selected headlines from Q4 2022

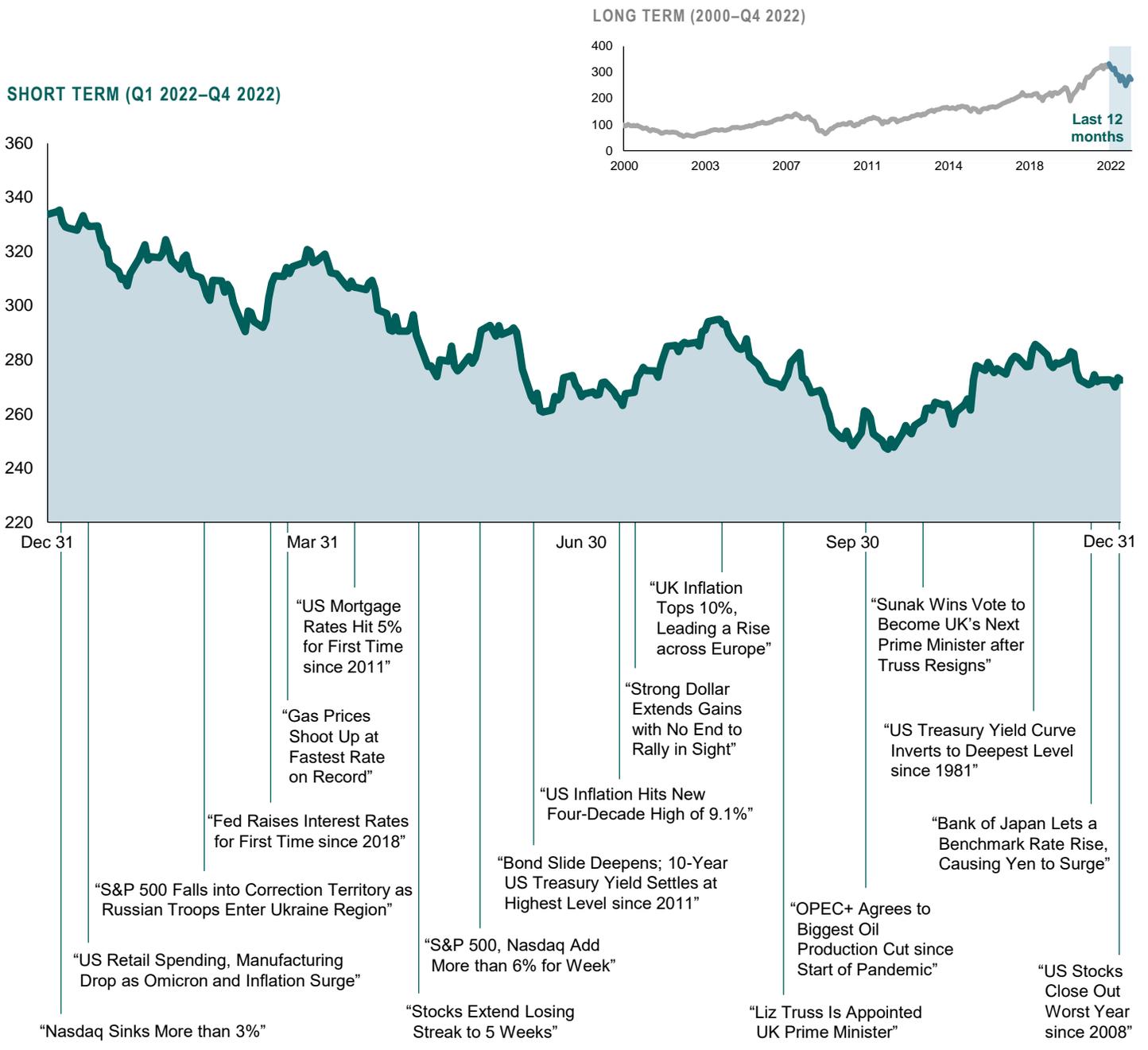


These headlines are not offered to explain market returns. Instead, they serve as a reminder that investors should view daily events from a long-term perspective and avoid making investment decisions based solely on the news.

Graph Source: MSCI ACWI Index (net dividends). MSCI data © MSCI 2023, all rights reserved. Index level based at 100 starting January 2001. 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 2023, all rights reserved. Index level based at 100 starting January 2001. 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

Fourth quarter 2022 index returns

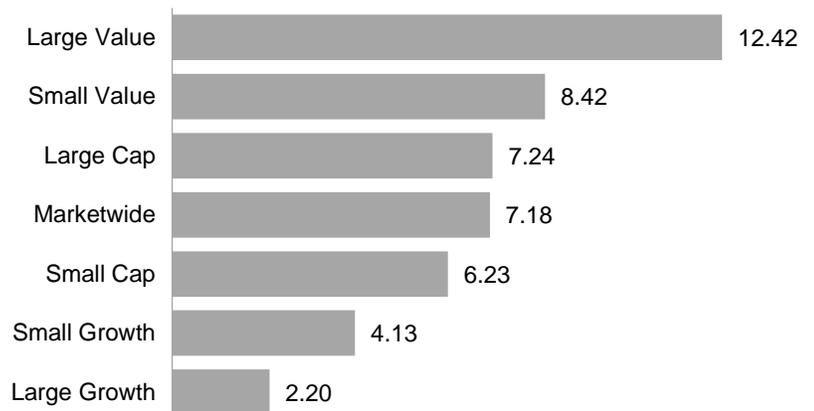
The US equity market posted positive returns for the quarter and underperformed both non-US developed and emerging markets.

Value outperformed growth.

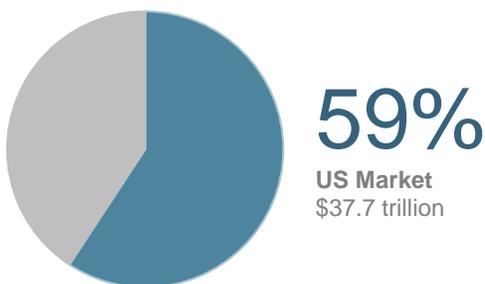
Small caps underperformed large caps.

REIT indices underperformed equity market indices.

Ranked Returns (%)



World Market Capitalization—US



Period Returns (%)

| Asset Class | QTR | 1 Year | Annualized | | |
|--------------|-------|--------|------------|---------|----------|
| | | | 3 Years | 5 Years | 10 Years |
| Large Value | 12.42 | -7.54 | 5.96 | 6.67 | 10.29 |
| Small Value | 8.42 | -14.48 | 4.70 | 4.13 | 8.48 |
| Large Cap | 7.24 | -19.13 | 7.35 | 9.13 | 12.37 |
| Marketwide | 7.18 | -19.21 | 7.07 | 8.79 | 12.13 |
| Small Cap | 6.23 | -20.44 | 3.10 | 4.13 | 9.01 |
| Small Growth | 4.13 | -26.36 | 0.65 | 3.51 | 9.20 |
| Large Growth | 2.20 | -29.14 | 7.79 | 10.96 | 14.10 |

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International Developed Stocks

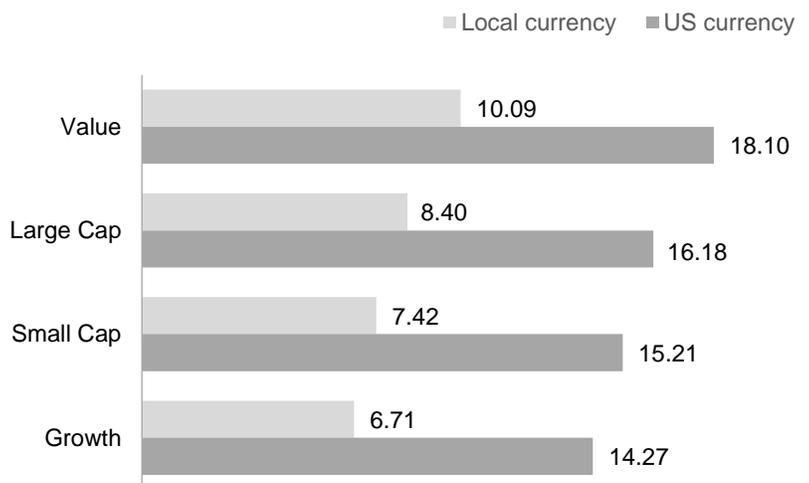
Fourth quarter 2022 index returns

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

Value outperformed growth.

Small caps underperformed large caps.

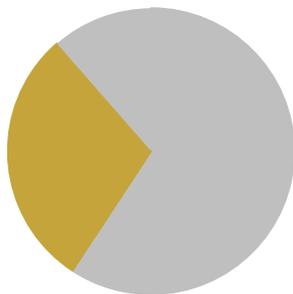
Ranked Returns (%)



World Market Capitalization— International Developed

29%

International
Developed Market
\$18.6 trillion



Period Returns (%)

| Asset Class | QTR | 1 Year | Annualized | | |
|-------------|-------|--------|------------|---------|----------|
| | | | 3 Years | 5 Years | 10 Years |
| Value | 18.10 | -5.64 | 1.13 | 0.56 | 3.55 |
| Large Cap | 16.18 | -14.29 | 1.27 | 1.79 | 4.59 |
| Small Cap | 15.21 | -20.59 | -0.15 | 0.45 | 5.77 |
| Growth | 14.27 | -22.68 | 0.71 | 2.56 | 5.35 |

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Emerging Markets Stocks

Fourth quarter 2022 index returns

Emerging markets posted positive returns for the quarter and outperformed the US market, but underperformed non-US developed markets.

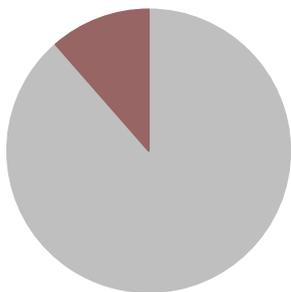
Value outperformed growth.

Small caps underperformed large caps.

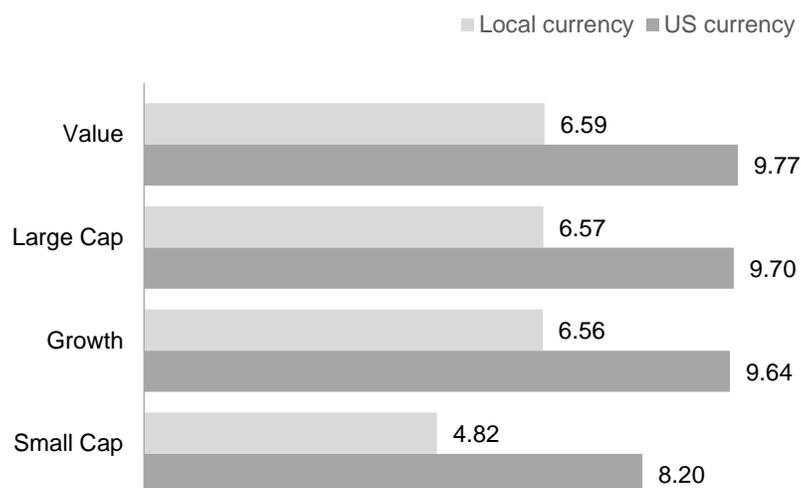
World Market Capitalization— Emerging Markets

11%

Emerging
Markets
\$7.3 trillion



Ranked Returns (%)



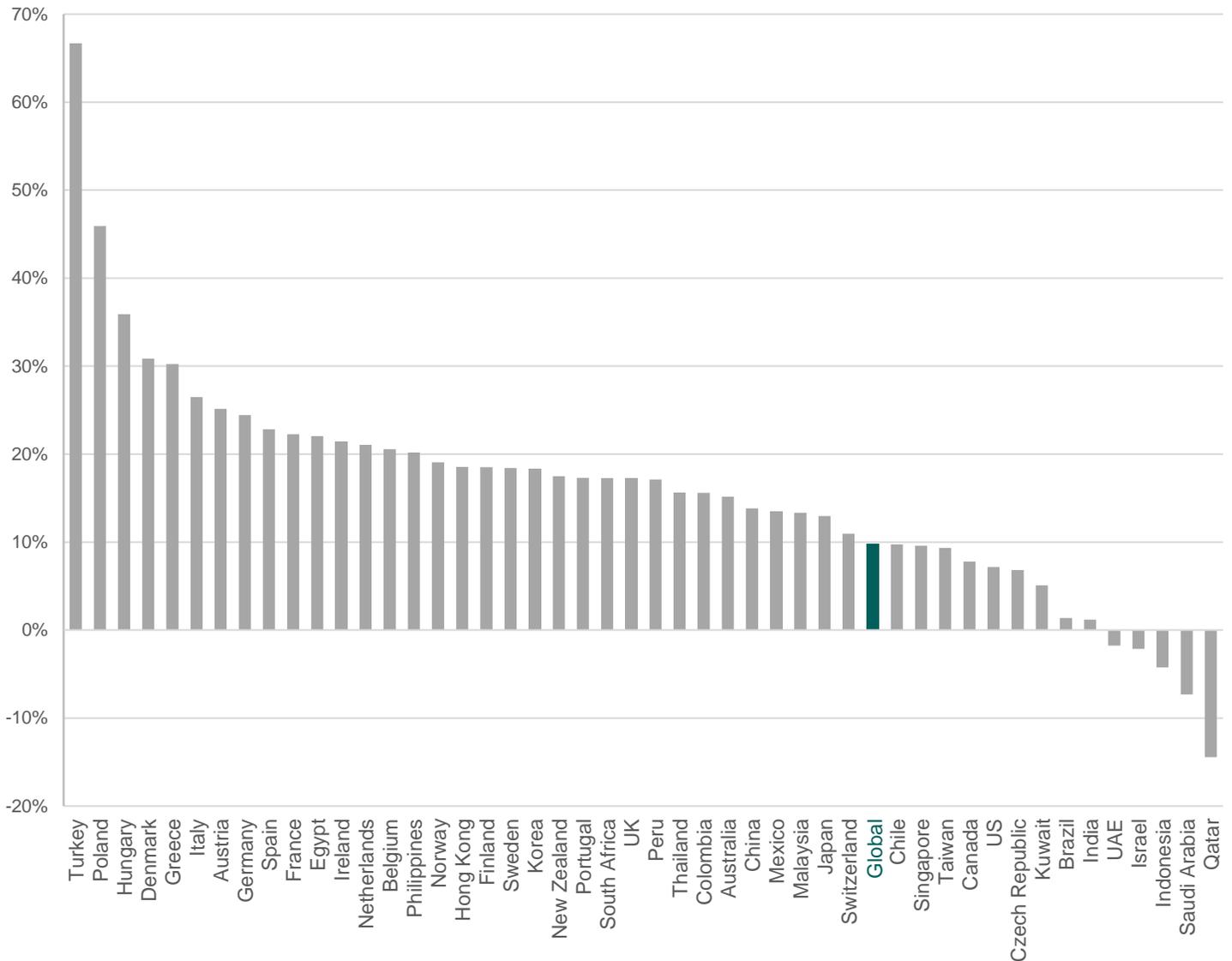
Period Returns (%)

| Asset Class | QTR | 1 Year | 3 Years | Annualized | |
|-------------|------|--------|---------|------------|----------|
| | | | | 5 Years | 10 Years |
| Value | 9.77 | -15.83 | -2.62 | -1.59 | 0.06 |
| Large Cap | 9.70 | -20.09 | -2.69 | -1.40 | 1.44 |
| Growth | 9.64 | -23.96 | -2.93 | -1.33 | 2.68 |
| Small Cap | 8.20 | -18.02 | 5.11 | 1.06 | 3.21 |

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Country Returns

Fourth quarter 2022 index returns



Past performance is no guarantee of future results.

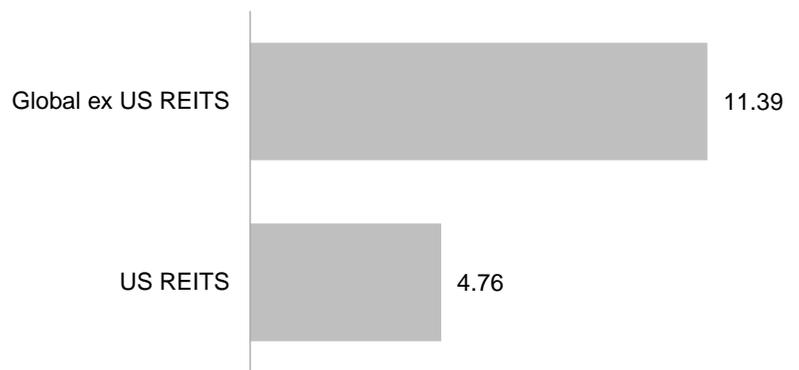
Country returns are the country component indices of the MSCI All Country World IMI Index for all countries except the United States, where the Russell 3000 Index is used instead. Global is the return of the MSCI All Country World IMI Index. MSCI index returns are net dividend. Indices are not available 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 2023, all rights reserved.

Real Estate Investment Trusts (REITs)

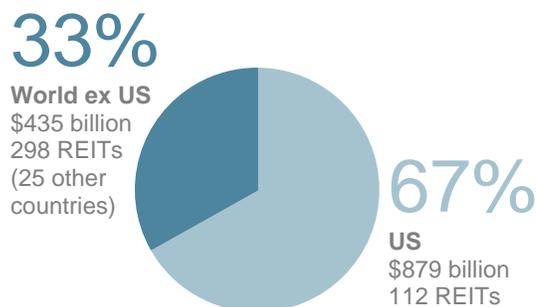
Fourth quarter 2022 index returns

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

Ranked Returns (%)



Total Value of REIT Stocks



Period Returns (%)

| Asset Class | QTR | 1 Year | Annualized | | |
|--------------------|-------|--------|------------|---------|----------|
| | | | 3 Years | 5 Years | 10 Years |
| Global ex US REITs | 11.39 | -22.56 | -7.77 | -2.13 | 1.61 |
| US REITs | 4.76 | -25.96 | -1.37 | 2.50 | 5.74 |

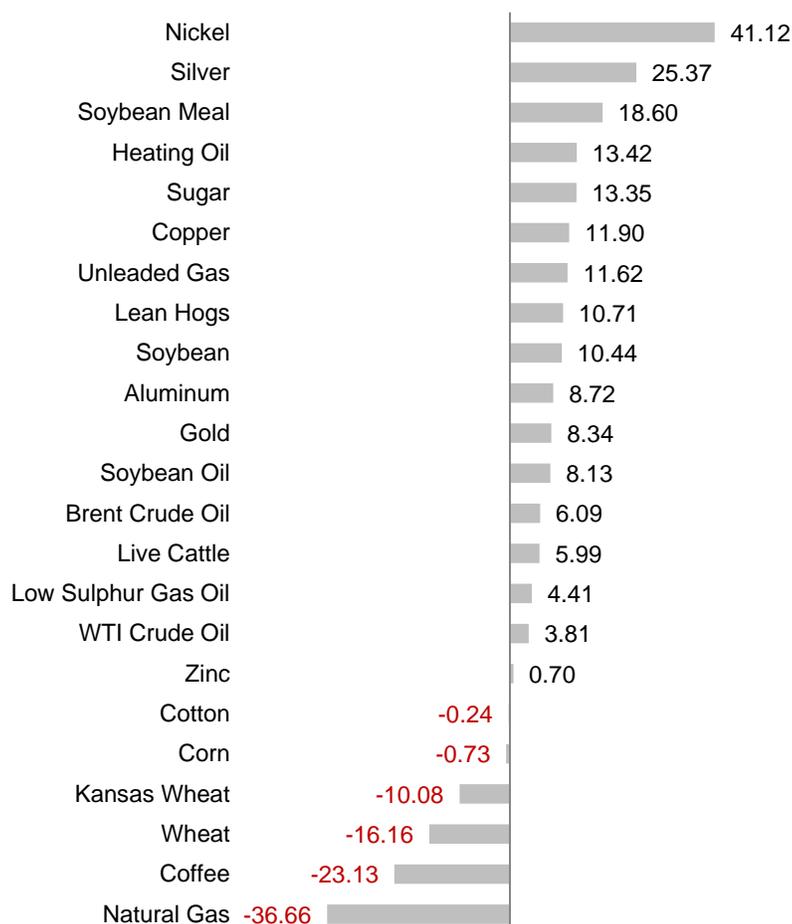
Commodities

Fourth quarter 2022 index returns

The Bloomberg Commodity Total Return Index returned +2.22% for the fourth quarter of 2022.

Nickel and Silver were the best performers, returning +41.12% and +25.37% during the quarter, respectively. Natural Gas and Coffee were the worst performers, returning -36.66% and -23.13% during the quarter, respectively.

Ranked Returns (%)



Period Returns (%)

| Asset Class | QTR | 1 Year | Annualized | | |
|-------------|------|--------|------------|---------|----------|
| | | | 3 Years | 5 Years | 10 Years |
| Commodities | 2.22 | 16.09 | 12.65 | 6.44 | -1.28 |

Fixed Income

Fourth quarter 2022 index returns

Interest rates changes were mixed in the US Treasury market for the quarter.

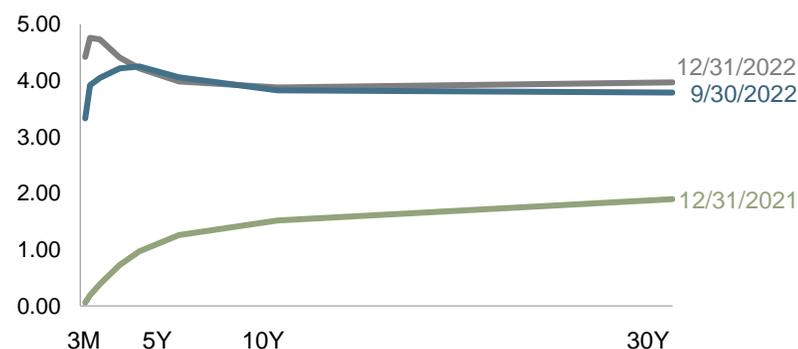
On the short end of the yield curve, the 1-Month US Treasury Bill yield increased 133 basis points (bps) to 4.12%, while the 1-Year US Treasury Bill yield increased 68 bps to 4.73%. The yield on the 2-Year US Treasury Note increased 19 bps to 4.41%.

The yield on the 5-Year US Treasury Note decreased 7 bps to 3.99%. The yield on the 10-Year US Treasury Note increased 5 bps to 3.88%. The yield on the 30-Year US Treasury Bond increased 18 bps to 3.97%.

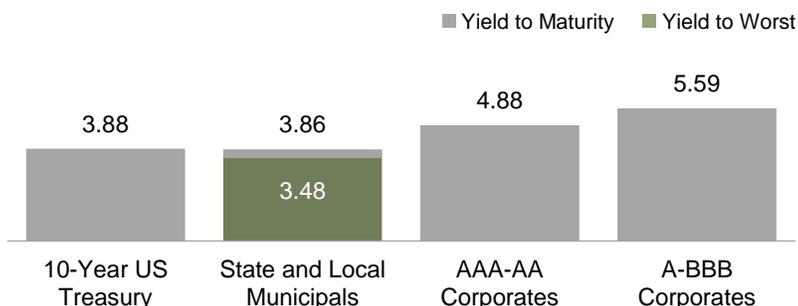
In terms of total returns, short-term US treasury bonds returned +0.94% while intermediate-term US treasury bonds returned +1.02%. Short-term corporate bonds returned +1.95% and intermediate-term corporate bonds returned +2.72%.¹

The total return for short-term municipal bonds was +2.00% and +3.81% for intermediate-term municipal bonds. Within the municipal fixed income market, general obligation performed in line with revenue bonds, returning +4.19% vs +4.21%, respectively.²

US Treasury Yield Curve (%)



Bond Yields Across Issuers (%)



Period Returns (%)

| Asset Class | QTR | 1 Year | Annualized | | |
|--|-------|--------|------------|---------|----------|
| | | | 3 Years | 5 Years | 10 Years |
| Bloomberg U.S. High Yield Corporate Bond Index | 4.17 | -11.19 | 0.05 | 2.31 | 4.03 |
| Bloomberg Municipal Bond Index | 4.10 | -8.53 | -0.77 | 1.25 | 2.13 |
| FTSE World Government Bond Index 1-5 Years | 3.83 | -8.73 | -2.44 | -1.15 | -1.20 |
| Bloomberg U.S. TIPS Index | 2.04 | -11.85 | 1.21 | 2.11 | 1.12 |
| Bloomberg U.S. Aggregate Bond Index | 1.87 | -13.01 | -2.71 | 0.02 | 1.06 |
| ICE BofA US 3-Month Treasury Bill Index | 0.84 | 1.46 | 0.72 | 1.26 | 0.76 |
| ICE BofA 1-Year US Treasury Note Index | 0.76 | -1.02 | 0.23 | 1.09 | 0.74 |
| FTSE World Government Bond Index 1-5 Years (hedged to USD) | 0.57 | -4.49 | -0.75 | 0.73 | 0.98 |
| Bloomberg U.S. Government Bond Index Long | -0.59 | -29.19 | -7.39 | -2.19 | 0.61 |

1. Bloomberg US Treasury and US Corporate Bond Indices

2. Bloomberg Municipal Bond Index

One basis point (bps) equals 0.01%. Past performance is not a guarantee of future results. Indices are not available for direct investment. Index performance does not reflect the expenses associated with the management of an actual portfolio. Yield curve data from Federal Reserve. State and local bonds, and the Yield to Worst are from the S&P National AMT-Free Municipal Bond Index. AAA-AA Corporates represent the ICE BofA US Corporates, AA-AAA rated. A-BBB Corporates represent the ICE BofA Corporates, BBB-A rated. Bloomberg data provided by Bloomberg. US long-term bonds, bills, inflation, and fixed income factor data © Stocks, Bonds, Bills, and Inflation (S&BI) Yearbook™, Ibbotson Associates, Chicago (annually updated work by Roger G. Ibbotson and Rex A. Sinquefeld). FTSE fixed income indices © 2023 FTSE Fixed Income LLC, all rights reserved. ICE BofA index data © 2023 ICE Data Indices, LLC. S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. Bloomberg data provided by Bloomberg.

Global Fixed Income

Fourth quarter 2022 yield curves

Interest rate changes were mixed within global developed markets for the quarter. Generally, interest rates increased the most along the ultra-short and longer-term segments.

Realized term premiums were mixed within global developed markets. Intermediate-term bonds were generally the best performers and long-term bonds were generally the worst performers.

In Japan, except for ultra-short term interest rates, interest rates were generally positive. In Canada, the short-term maturity segment of the yield curve remained inverted.

Changes in Yields (bps) since 9/30/2022

| | 1Y | 5Y | 10Y | 20Y | 30Y |
|-----------|-------|-------|-------|------|------|
| US | 41.0 | -10.2 | 4.8 | 3.6 | 19.4 |
| UK | -63.7 | -74.6 | -41.2 | -0.5 | 16.1 |
| Germany | 63.1 | 55.9 | 39.1 | 35.3 | 30.3 |
| Japan | 13.1 | 17.9 | 24.4 | 27.1 | 19.2 |
| Canada | 46.9 | 4.0 | 12.0 | 13.0 | 17.1 |
| Australia | 4.2 | 2.3 | 14.4 | 23.7 | 24.1 |

