REVIEW OF MARKET PERFORMANCE

CALENDAR YEAR 2022

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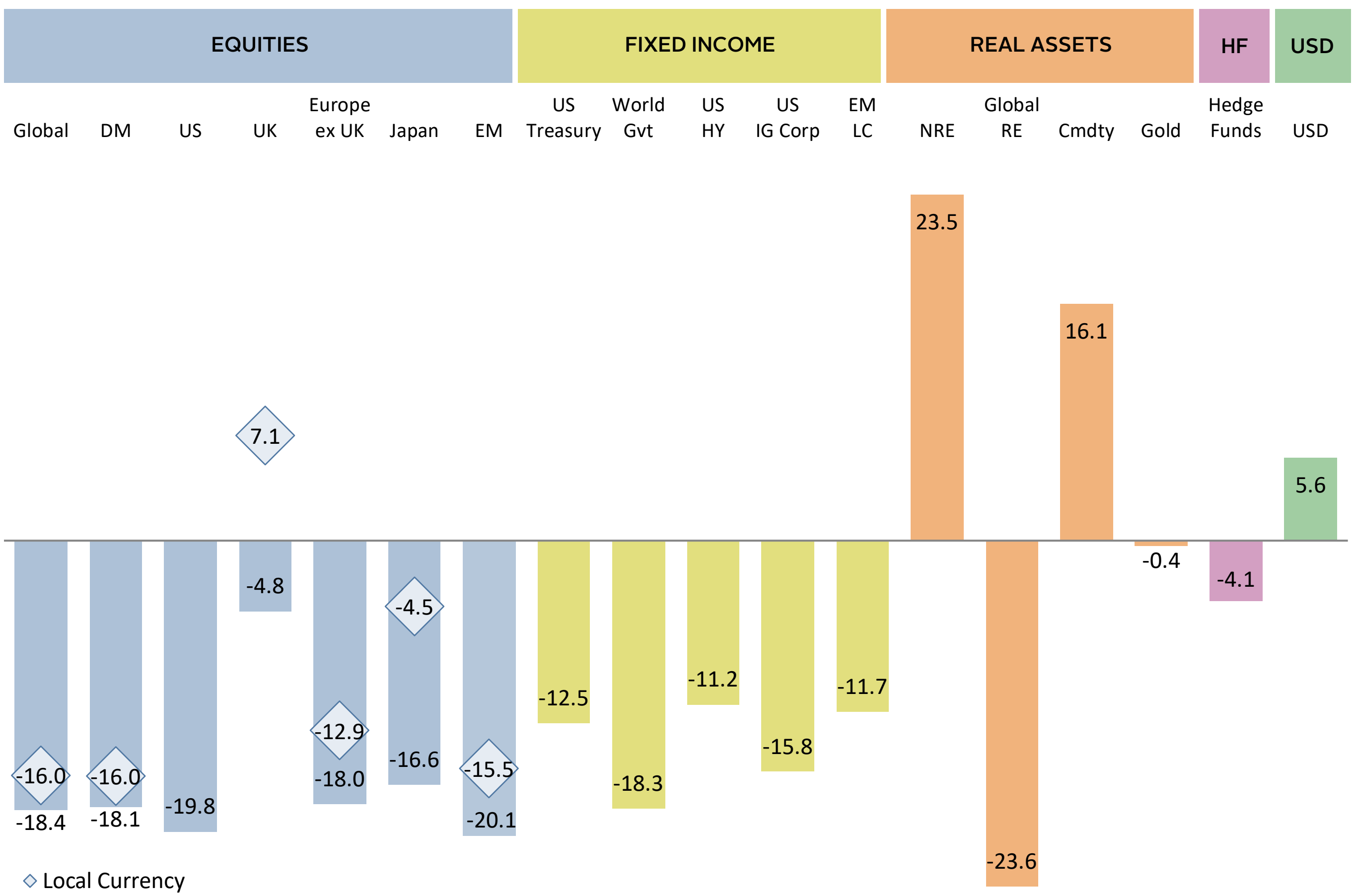
Key Points

- Calendar year 2022 was defined by widespread interest rate hikes as central banks grappled to rein in multi-decade record inflation. Inflationary pressures were made much worse by the onset of the war in Ukraine, which began early in the year and exposed the fragility of energy security in Europe.
- Performance was poor around the world and across most asset classes, as rising rates saw the correlation between bonds and equities turn positive. However, inflation-sensitive real assets benefited from supply constraints and outperformed.
- Higher interest rates and elevated economic risk saw funds flows diverted away from growth and momentum strategies in favor of lower volatility and value strategies. Additionally, yield curves flattened with the ten-year/two-year curve becoming inverted in most developed markets.
- The US dollar appreciated rapidly for most of 2022, before giving back some gains in the fourth quarter. Strength was driven by widening interest rate and growth differentials and the US dollar's safe-haven status in the face of geopolitical risks.

Correlated declines in equities and bonds left commodities as the one bright spot in CY 2022

GLOBAL ASSET CLASS PERFORMANCE: CY 2022

As of December 31, 2022 • Total Return (%) • US Dollar

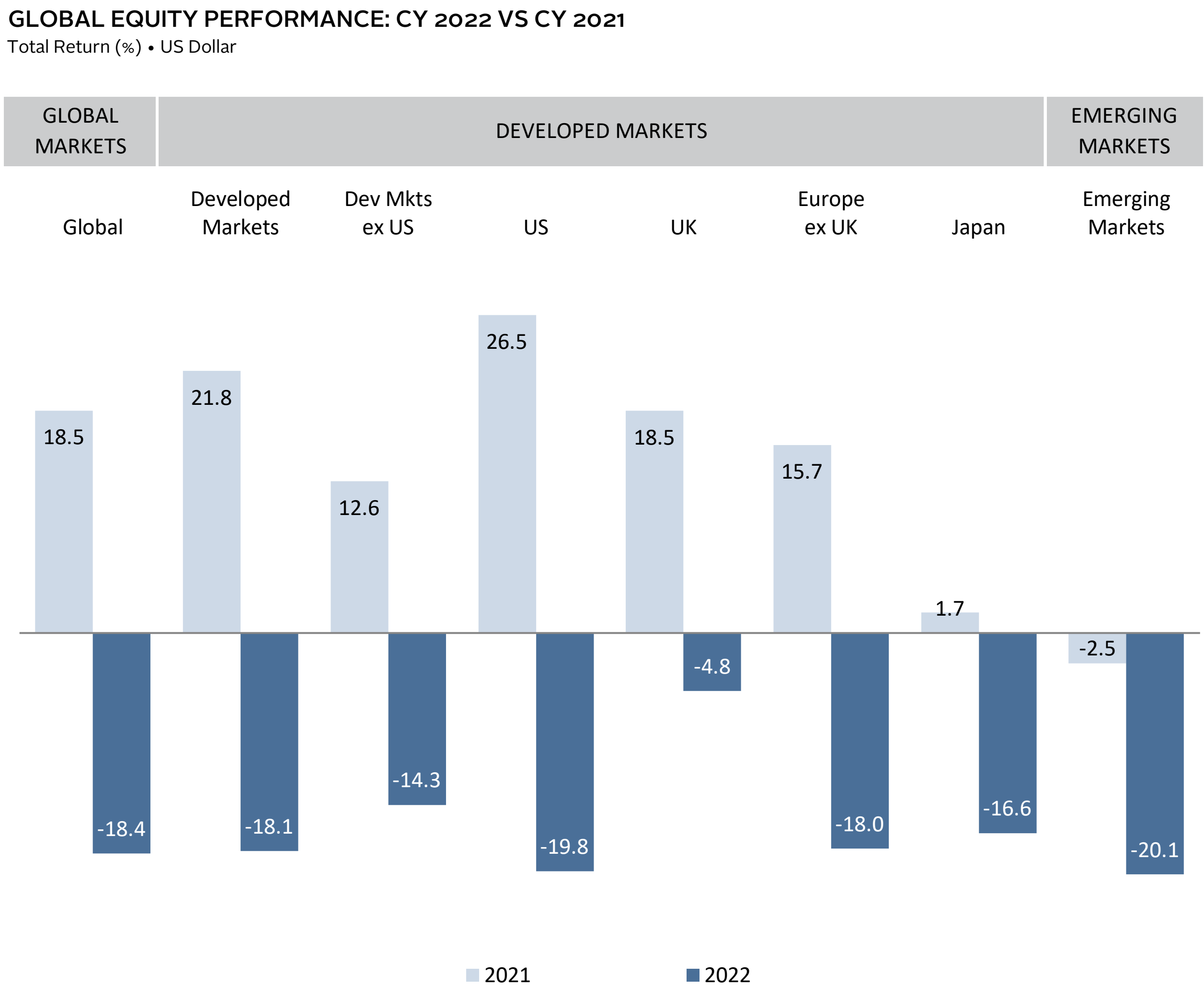


Sources: Bloomberg Index Services Limited, Bloomberg L.P., EPRA, Federal Reserve, FTSE Fixed Income LLC, FTSE International Limited, Hedge Fund Research, Inc., Intercontinental Exchange, Inc., J.P. Morgan Securities, Inc., MSCI Inc., National Association of Real Estate Investment Trusts, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Asset classes represented by: MSCI AC World Index ("Global"), MSCI World Index ("DM"), MSCI US Index ("US"), MSCI UK Index ("UK"), MSCI Europe ex UK Index ("Europe ex UK"), MSCI Japan Index ("Japan"), MSCI Emerging Markets Index ("EM"), Bloomberg US Treasury Index ("US Treasury"), FTSE World Government Bond Index ("World Gvt"), Bloomberg US High Yield Bond Index ("US HY"), Bloomberg US Corporate Investment Grade Bond Index ("US IG Corp"), J.P. Morgan GBI-EM Global Diversified Index ("EM LC"), market cap-weighted Datastream World Energy Index and Datastream World Basic Resources Index blend ("NRE"), FTSE® EPRA/NAREIT Global Real Estate Index ("Global RE"), Bloomberg Commodity TR Index ("Cmdty"), LBMA Gold Price ("Gold"), Hedge Fund Research Fund Weighted Composite Index ("Hedge Funds"), and Nominal Trade Weighted US Dollar Index: Broad ("USD"). Total return data for all MSCI indexes are net of dividend taxes. Hedge Fund Research data are preliminary for the preceding five months. Gold performance is based on spot price returns.

2022 was a challenging year for public market investments. Large drawdowns were witnessed on a cross asset basis, with only a handful of bright spots. The global surge in inflation was a primary driver behind this demanding investing environment. Central banks delivered a greater degree of monetary tightening than previously planned, contributing to large declines in bond prices. Correlations between stocks and bonds turned positive, as the higher cost of capital also drove equity losses via multiple contraction. Supply concerns and solid demand saw energy prices rise, helping commodities and natural resources equities outperform. Meanwhile, the dollar benefited from policy divergence and safe-haven flows.

Global equity markets reversed course in CY 2022



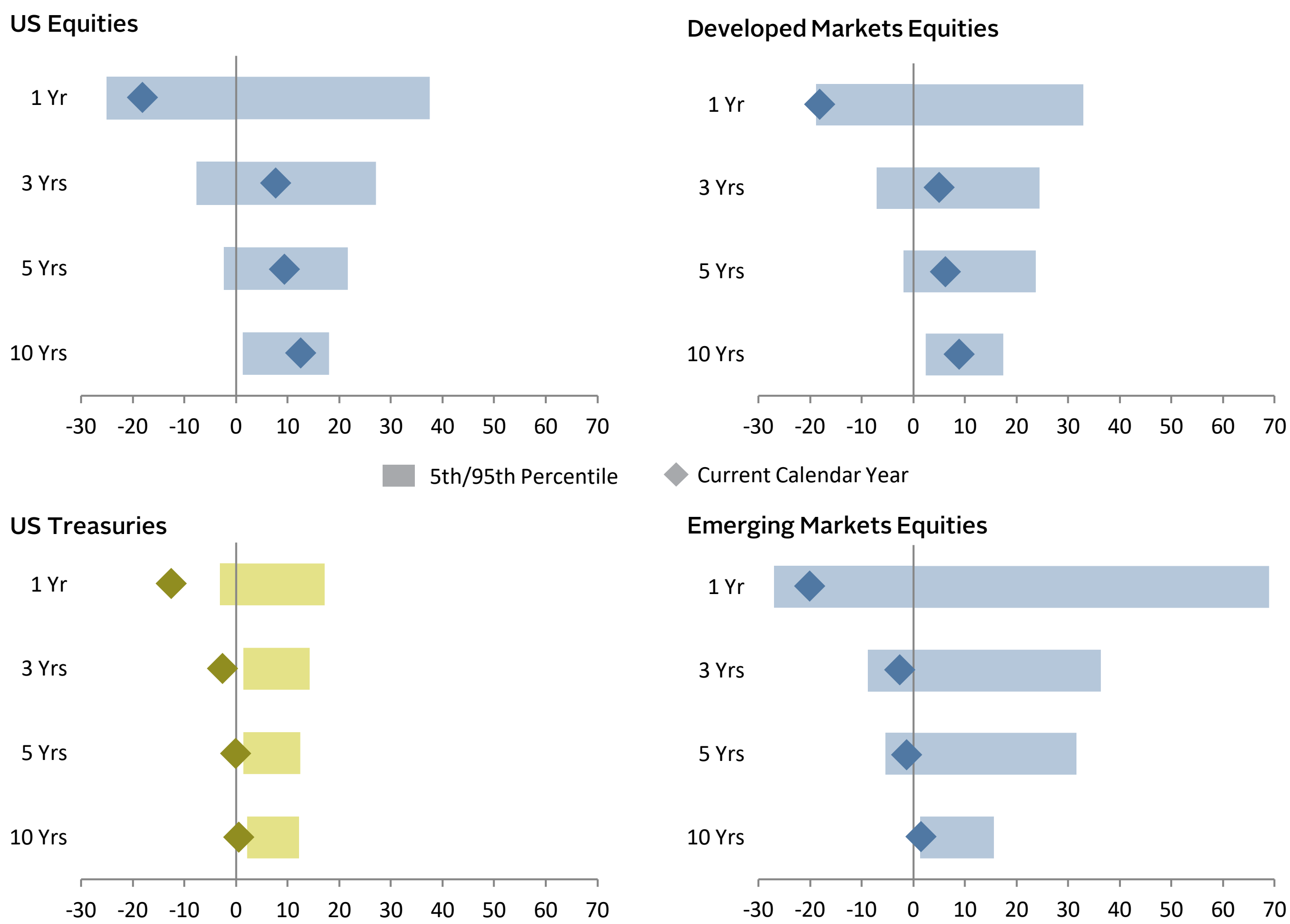
Global equities reversed course this calendar year, posting negative returns across the board. Inflation fears, followed more recently by recession fears, drove the negative sentiment in markets. Inflation concerns became markedly more pronounced once the war in Ukraine began in February 2022. The UK enjoyed the best performance despite enduring some of the highest inflationary pressures in developed markets, as it benefited from its large weighting to the energy sector and relatively low IT weight. The US, however, posted the worst returns in developed markets, reflecting one of the lowest growth rates among its peers. The impact from the war was felt hardest by Europe ex UK and emerging markets. Commensurately, those two regions also posted some of the worst returns.

Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Asset classes represented by the following: MSCI All Country World Index ("Global"), MSCI World Index ("Developed Markets"), MSCI World ex US Index ("Dev Mkts ex US"), MSCI US Index ("US"), MSCI UK Index ("UK"), MSCI Europe ex UK Index ("Europe ex UK"), MSCI Japan Index ("Japan"), and MSCI Emerging Markets Index ("Emerging Markets").
Total return data for all MSCI indexes are net of dividend taxes.

Performance swung from positive to negative extremes of historical ranges

AVERAGE ANNUAL COMPOUND RETURN RANGE FOR VARIOUS TIME PERIODS

Periods Ended December 31, 2022 • Total Return (%) • US Dollar



As central banks tightened policies to curb runaway inflation, market returns swung from extremely strong returns in CY 2021 to the bottom-end of historical ranges this year. The US and developed markets (DM) returns of -18% are a far cry from the +20% returns seen in CY 2021. When observing data starting in the 1970s, one-year returns have only been worse three times in both the US and developed markets. Emerging markets have also only had three other instances of poorer returns since the 1990s and are at the bottom-end of historical ranges across the one-, three-, five-, and ten-year ranges. US Treasuries (-12.5%) posted the worst returns since the start of the index in 1973.

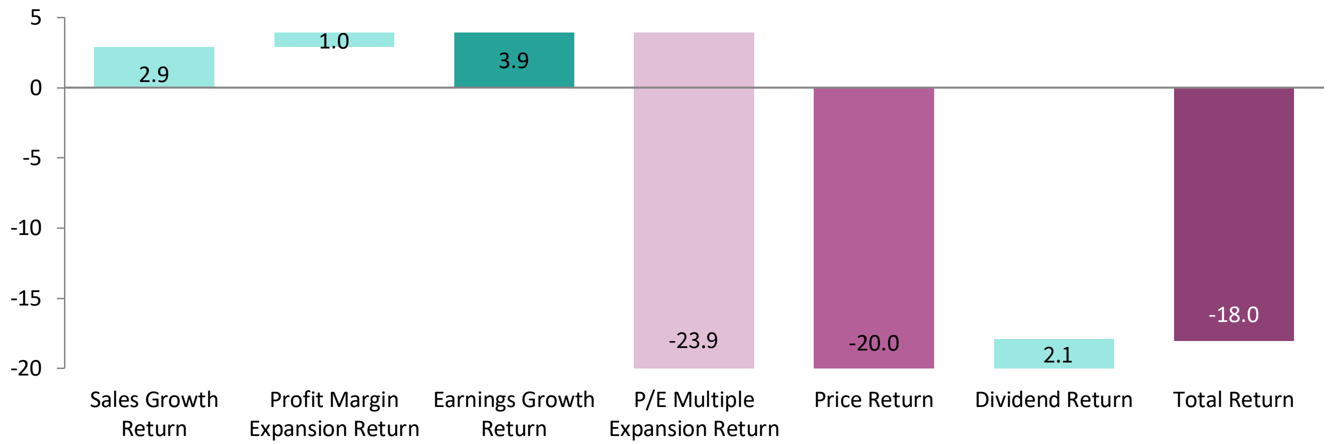
Sources: Bloomberg Index Services Limited, Global Financial Data, Inc., MSCI Inc., Standard & Poor's, and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.

Notes: Ranges reflect the 5th and 95th percentile of calendar year returns. Asset classes are represented by the following indexes: S&P 500 Index ("US Equities"), MSCI World Index ("Developed Markets Equities"), Bloomberg US Treasury Index ("US Treasuries"), and MSCI Emerging Markets Index ("Emerging Markets Equities"). Total returns for all MSCI indexes are net of dividend taxes. Total returns for the MSCI Emerging Markets Index are gross of dividend taxes prior to calendar year 2001. The first full calendar-year periods are 1901 for S&P 500, 1970 for MSCI World, 1973 for Bloomberg US Treasury, and 1988 for MSCI Emerging Markets. Data prior to 1968 for the S&P 500 Index are sourced from Global Financial Data, Inc.

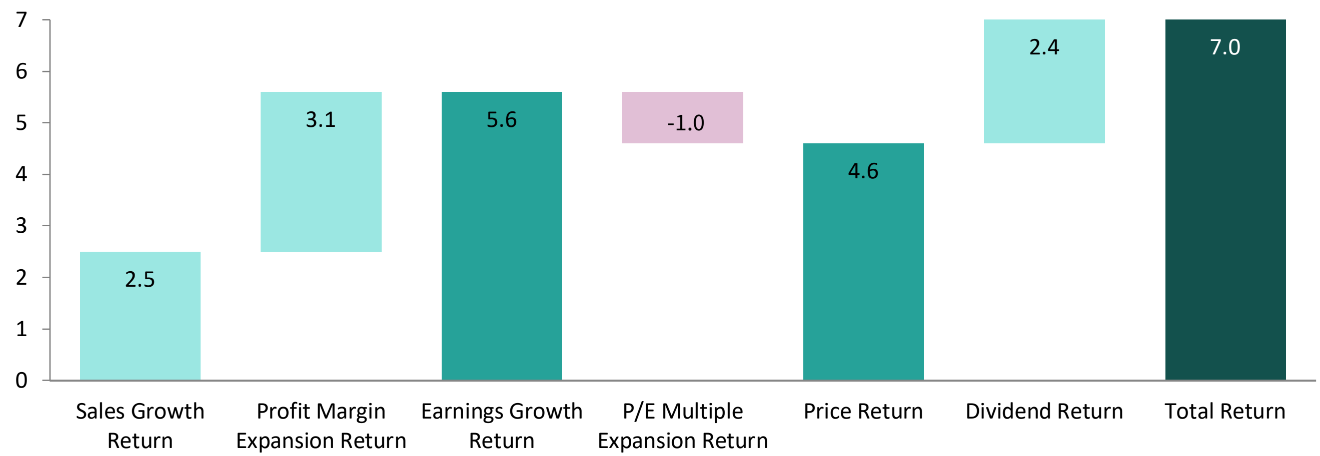
P/Es compressed in CY 2022, weighing on returns

GLOBAL EQUITY RETURN DECOMPOSITION
As of December 31, 2022 • Percent (%) • US Dollar

CY 2022



CY 1996 – CY 2022



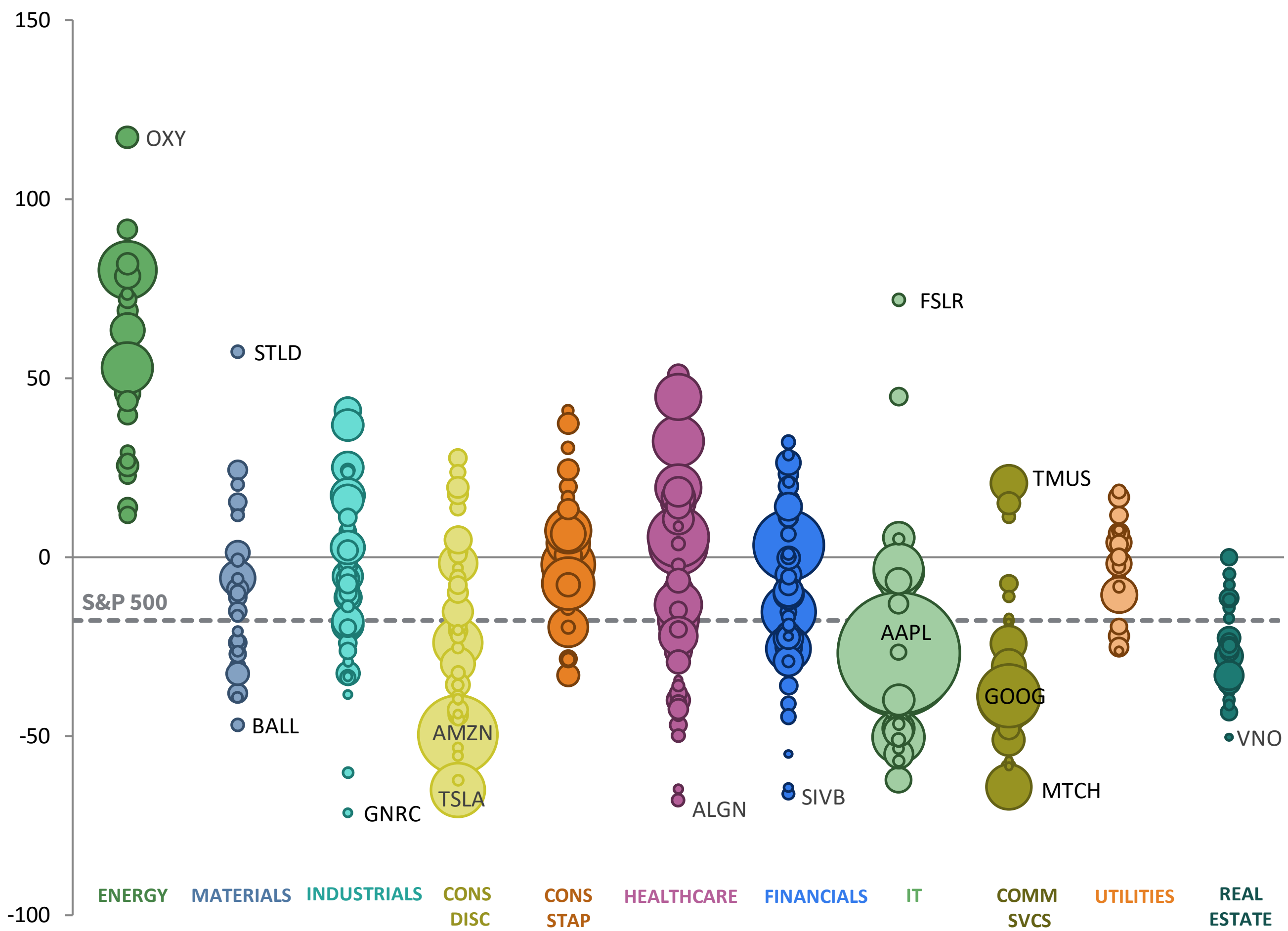
P/E multiples were significantly compressed in CY 2022, negating the modest positive contribution from earnings growth and resulting in negative double-digit price returns. Dividend returns remained in line with historic levels. Earnings growth was also compressed relative to prior years, mainly driven by margin compression as cost inflation made its way through business operations around the world. Sales growth rates were higher than long-term growth—in part due to higher prices charged to end users—to help combat cost pressures and were also helped by the reopening of many economies post-pandemic.

Sources: Bloomberg L.P., MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Note: Data are based on the MSCI All Country World Index and in annualized terms.

Energy eclipsed all other sectors in CY 2022

CY 2022 PERFORMANCE OF S&P 500 STOCKS

December 31, 2021 – December 31, 2022 • Percent (%) • US Dollar



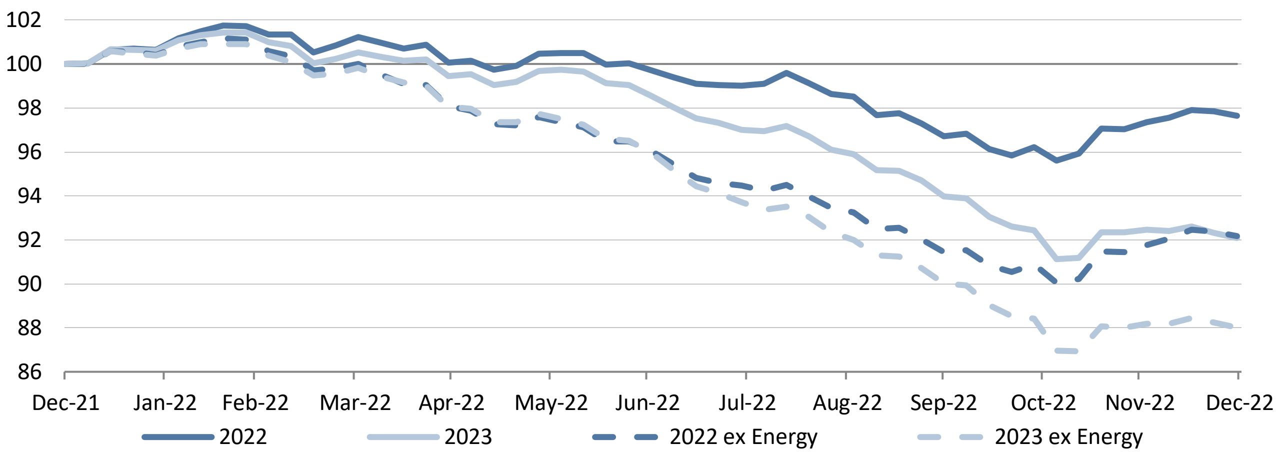
2022 saw a large level of dispersion among the returns of the various equity sectors. In a repeat of 2021, energy led the way; however, by a much wider margin in this instance. Indeed, energy was the only sector to deliver a positive return on a DM or global basis. The sector was supported by rising energy prices amid tight supply due to the war in Ukraine and a lack of investment in recent years. The worst-performing sectors were those exposed to rising interest rates. Communication services was the laggard, but this was closely followed by IT and consumer discretionary. Higher rates also weighed on property markets, with real estate negatively impacted.

Source: FactSet Research Systems.
Note: Size of bubbles reflect the market capitalization of each S&P 500 company.

Economic growth fears drove earnings expectations lower

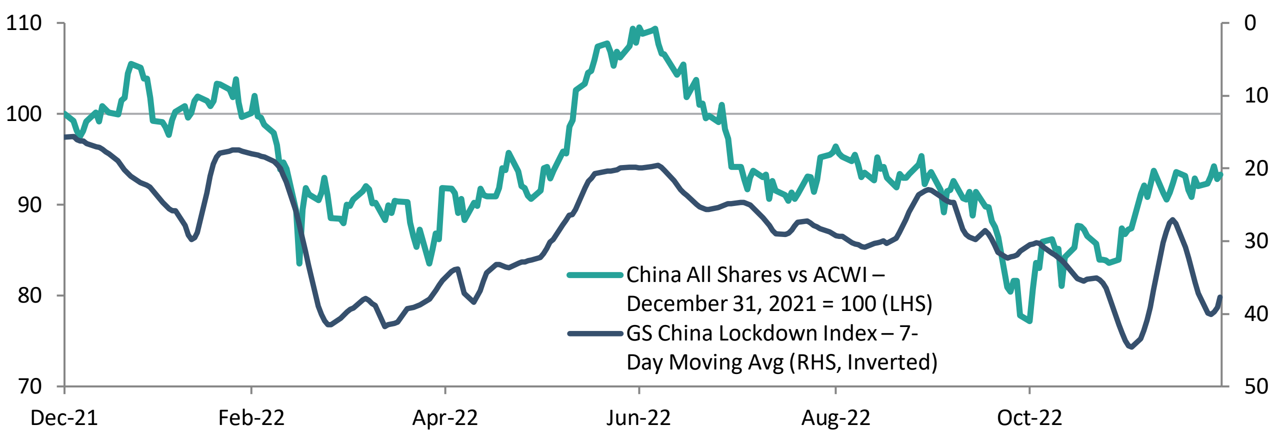
MSCI ACWI EARNINGS GROWTH EXPECTATIONS

December 31, 2021 – December 31, 2022 • December 31, 2021 = 100



CHINA ALL SHARES VS MSCI ACWI AND GS CHINA LOCKDOWN INDEX

December 31, 2021 – December 31, 2022

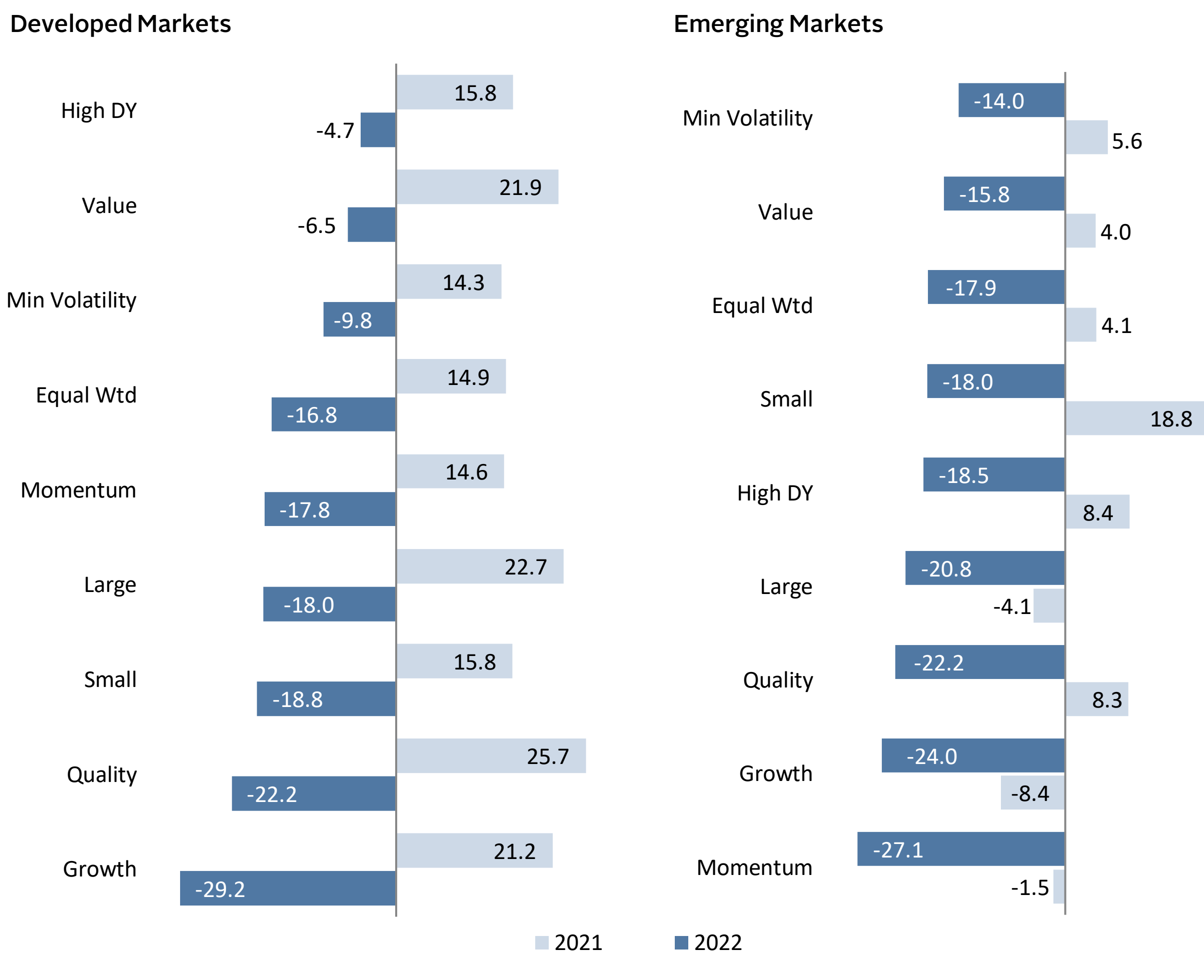


Full year earnings forecasts for both 2022 and 2023 declined as the year progressed. Expectations peaked in mid-February before the war in Ukraine's outbreak raised economic uncertainty. The decline then continued as the impact of inflation, and monetary policy tightening in response, raised concerns about growth. The strength of the energy sector helped mask the degree of broader earnings weakness. Growth in China was depressed during the year by the continued imposition of restrictions designed to stop the spread of COVID-19, resulting in equity underperformance. Relative performance during the year broadly tracked the stringency of the country's lockdowns. China began to outperform in November as markets anticipated the easing of domestic restrictions.

Sources: Goldman Sachs Global Investment Research, I/B/E/S, MSCI Inc., and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Top chart uses weekly data. Bottom chart uses daily data.

Markets ditched growth and momentum for more defensive strategies

EQUITY PERFORMANCE BY FACTOR AND STYLE: CY 2022 VS CY 2021
As of December 31, 2022 • US Dollar • Percent (%)

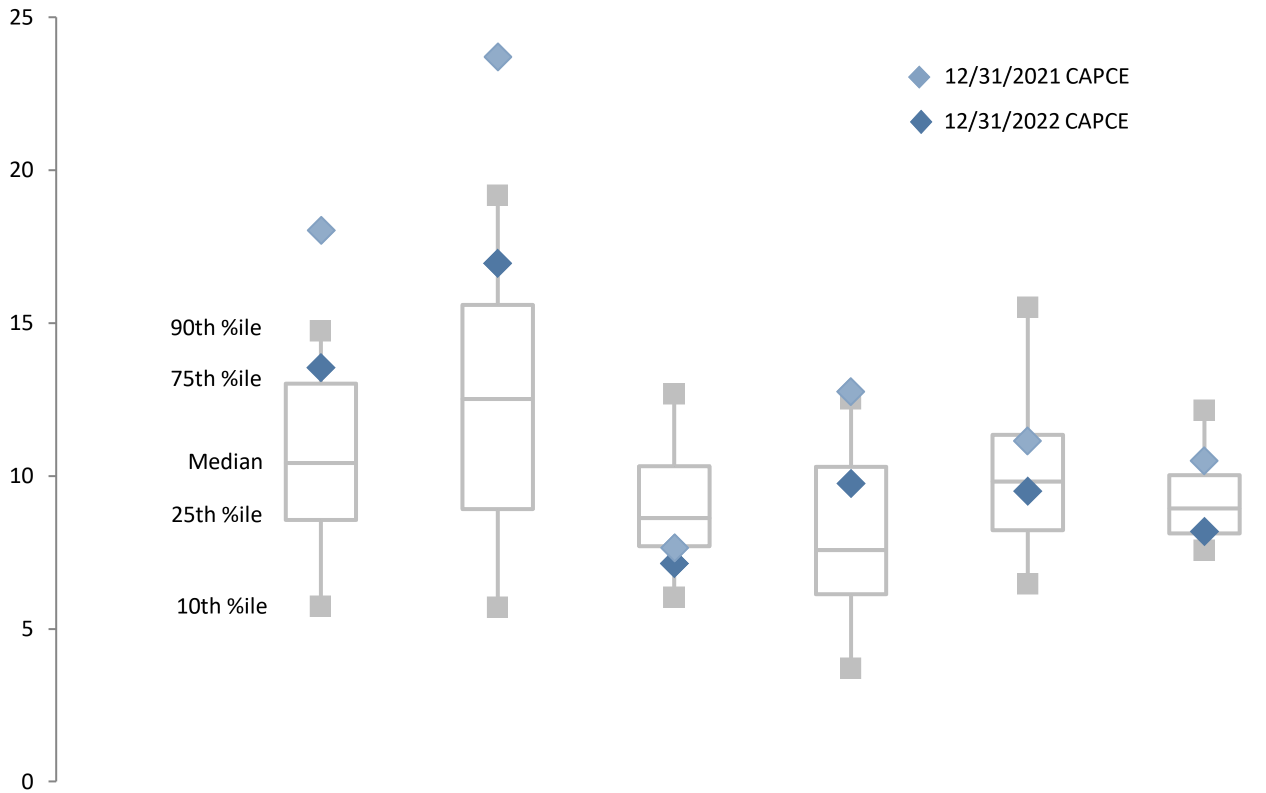


Growth, momentum, and quality factors were the largest detractors from performance this year. After years of being market darlings, growth stocks saw aggressive selling in CY 2022. Fear of higher interest rates and elevated valuations made these stocks easy targets for liquidation. Instead, the market favored a more defensive stance in CY 2022. In developed markets, high-dividend yielders, value stocks, and minimum volatility enjoyed the best performance. A similar tone was set in emerging markets, where minimum volatility stocks, value stocks, and equal-weighted strategies were the best performers.

Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: Factors are based on the MSCI World Index and MSCI Emerging Markets Index. Total return data for all MSCI indexes are net of dividend taxes.

US equity market valuations remained historically elevated

CYCLICALLY ADJUSTED PRICE-TO–CASH EARNINGS (CAPCE) RATIOS BY REGION
As of December 31, 2022



% Change	World	US	UK	Europe ex UK	Japan	EM
to 50th %ile	-23.1	-26.1	20.5	-22.2	3.4	9.4
to 25th %ile	-36.9	-47.4	7.8	-37.2	-13.3	-0.8
to 10th %ile	-57.7	-66.4	-15.8	-62.0	-31.8	-7.6

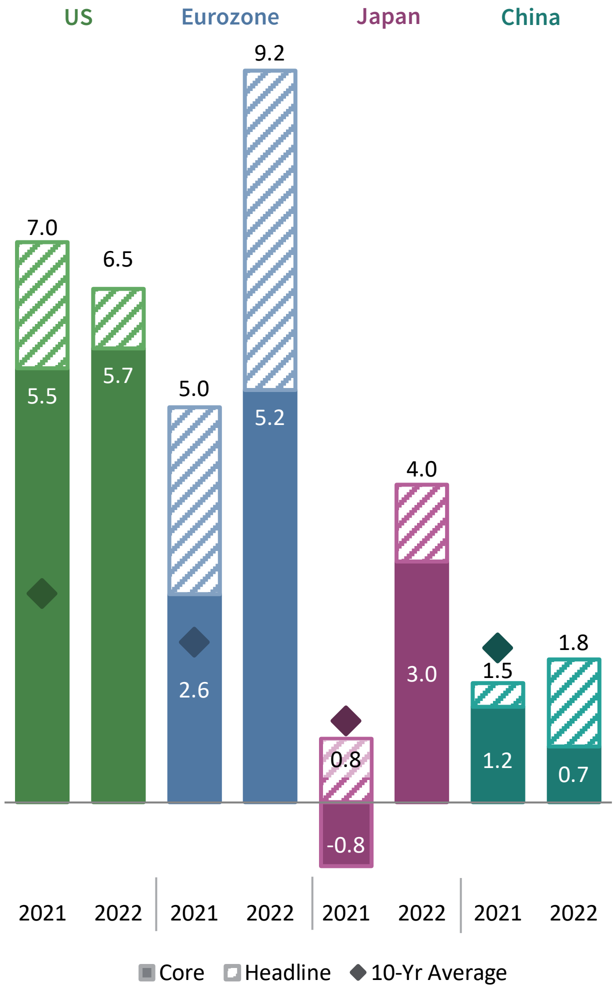
Cyclically adjusted price-to–cash earnings (CAPCE) in all regions compressed in CY 2022. Unlike CY 2021, all regions now have CAPCEs that are below the 90th percentile. Although the US experienced the largest drop in CAPCEs, the region's valuation remains elevated when compared to the rest of the world. The UK continues to have the lowest valuation relative to its historical range, in part attributed to having higher exposure to value stocks. Emerging markets (EM) valuations sit at the lowest percentile of all regions. This region has particularly struggled with rapid increases in inflation.

Sources: MSCI Inc. and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: The cyclically adjusted price-to–cash earnings (CAPCE) ratio is calculated by dividing the inflation-adjusted index price by trailing ten-year average inflation-adjusted cash earnings. Cash earnings are defined as net income from continuing operations plus depreciation and amortization expense. MSCI does not publish cash earnings for banks and insurance companies and therefore excludes these two industry groups from index-level cash earnings. EM is cyclically adjusted by trailing five-year data.

Inflation remained elevated in CY 2022 due to a mixture of factors

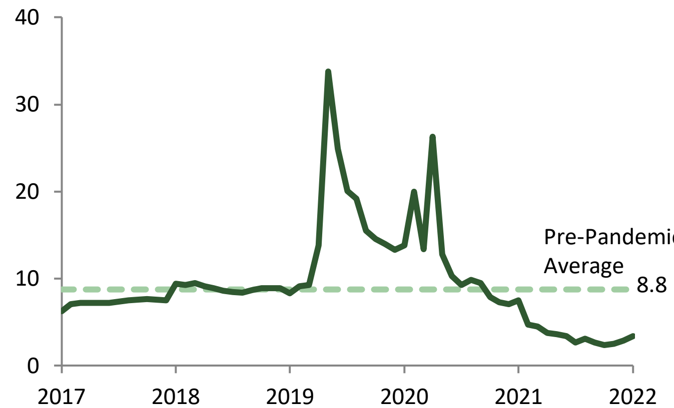
INFLATION

December 31, 2013 – December 31, 2022 • Percent (%)



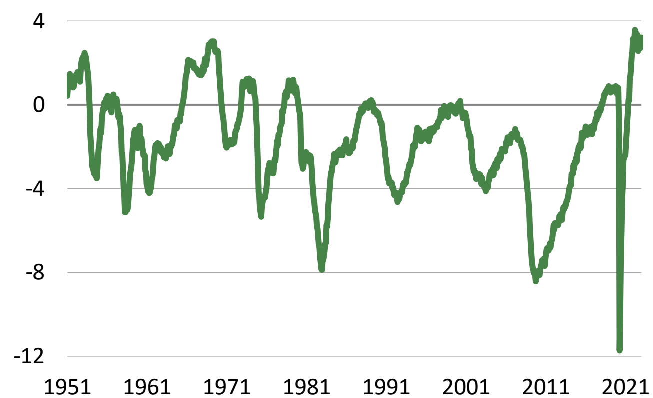
US PERSONAL SAVINGS RATE AS % OF DISPOSABLE INCOME

December 31, 2017 – December 31, 2022 • Percent (%)



US JOBS-WORKERS GAP

January 31, 1951 – December 31, 2022 • Percent (%)

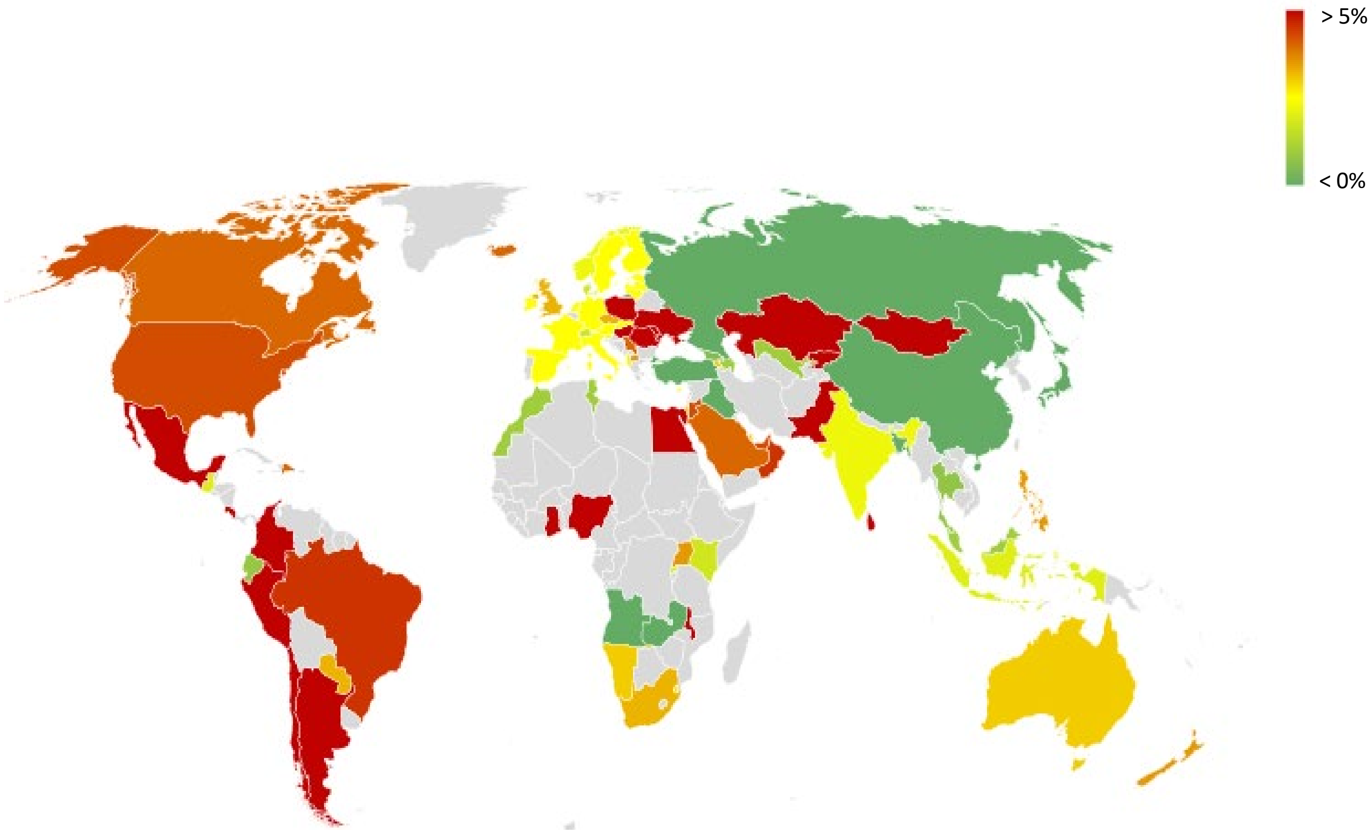


The rise of inflation was the dominant economic theme in 2022. The drivers of inflation included pandemic-related elements, in addition to underlying drivers. One factor in the former category was the spending of large savings accumulated during the pandemic, which added significantly to demand across the economy. Stressed supply chains also impacted the prices for many categories of goods. From an underlying perspective, labor markets tightened, putting significant upward pressure on wages. Rising energy prices also played a major role, particularly in Europe, which was especially exposed to rising natural gas prices. Price pressures remained muted in China as a result of domestic lockdowns.

Sources: National Sources, The Conference Board, and Thomson Reuters Datastream.
Notes: Ten-year average inflation reflects the annual calendar year (i.e., periods ending December 31) headline inflation from 2013 to 2022. Pre-pandemic US personal savings average rate is based on the average personal savings rate between January 1959 and February 2020. Jobs-workers gap is the difference between labor demand and labor supply as a percent of the labor supply. Labor demand is calculated as the sum of US total job openings and US total civilian employment, and labor supply reflects US 16 years and above civilian labor force. US job openings data begin December 2000 and historical data are proxied by The Conference Board's Help Wanted Index.

Interest rate hikes were widespread last year as central banks responded to inflation

CY 2022 RISE IN GLOBAL CENTRAL BANK POLICY RATES
December 31, 2021 – December 31, 2022 • Percent (%)

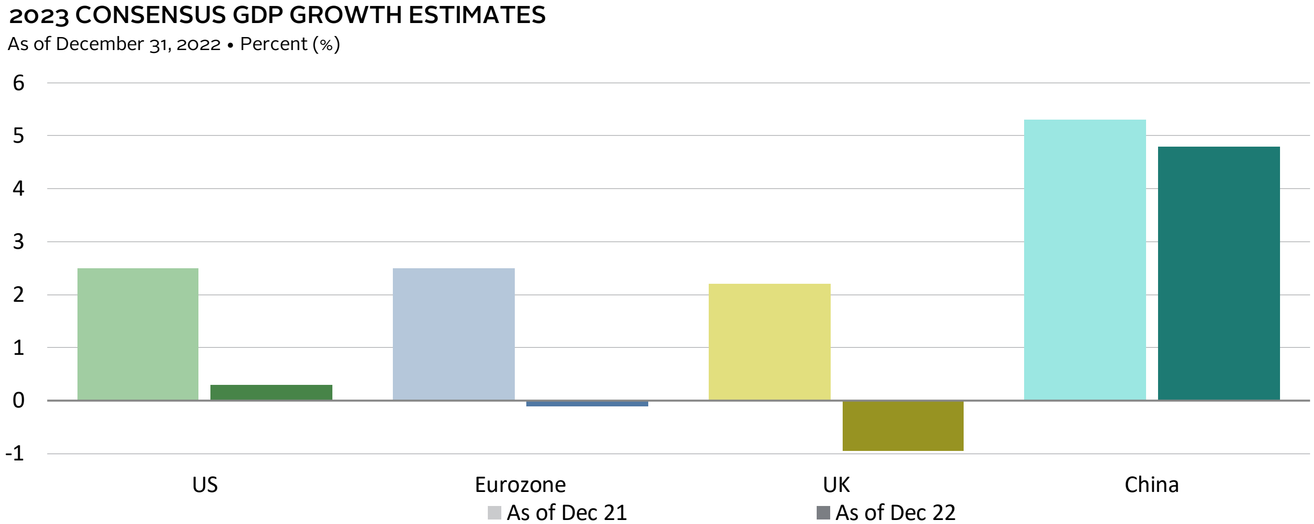


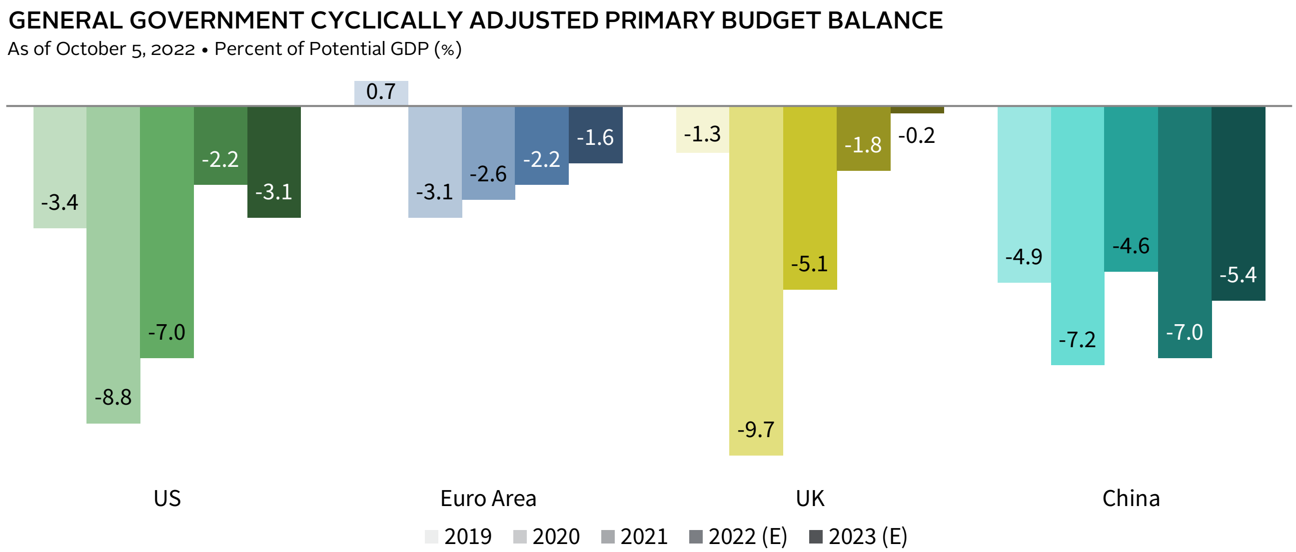
	Fed	ECB	BOE	BOJ	PBOC
Ending Policy Rate	4.50	2.50	3.50	-0.10	3.65
CY 2022 Change in Rate	4.25	2.50	3.25	0.00	-0.15

When prices first began to rise in a meaningful way post-pandemic, DM central banks' reactions were mild, as they anticipated these pressures would be transitory. As inflation continued to run at high rates for longer than expected, 2022 saw central banks forced to react more forcefully. Rate hikes were pervasive, with 33 of the 37 central banks tracked by the Bank for International Settlements raising their policy rate. Among the major developed markets, the Federal Reserve led the way, raising rates by 425 basis points (bps). The Bank of Japan refrained from raising rates, though they did widen the bands of their Yield Curve Control policy. EM central banks, who are more used to bouts of high inflation, reacted more forcefully. China, by contrast, eased rates slightly in response to subdued growth.

Sources: Australian Bureau of Statistics, Bing, GeoNames, Microsoft, National Sources, Navindo, OpenStreetMap, Thomson Reuters Datastream, and TomTom.
Notes: Gray regions reflect countries where policy rate data are unavailable. China policy rate reflects the one-year Loan Prime Rate.

Growth forecasts fell as energy prices spiked and policy support subsided





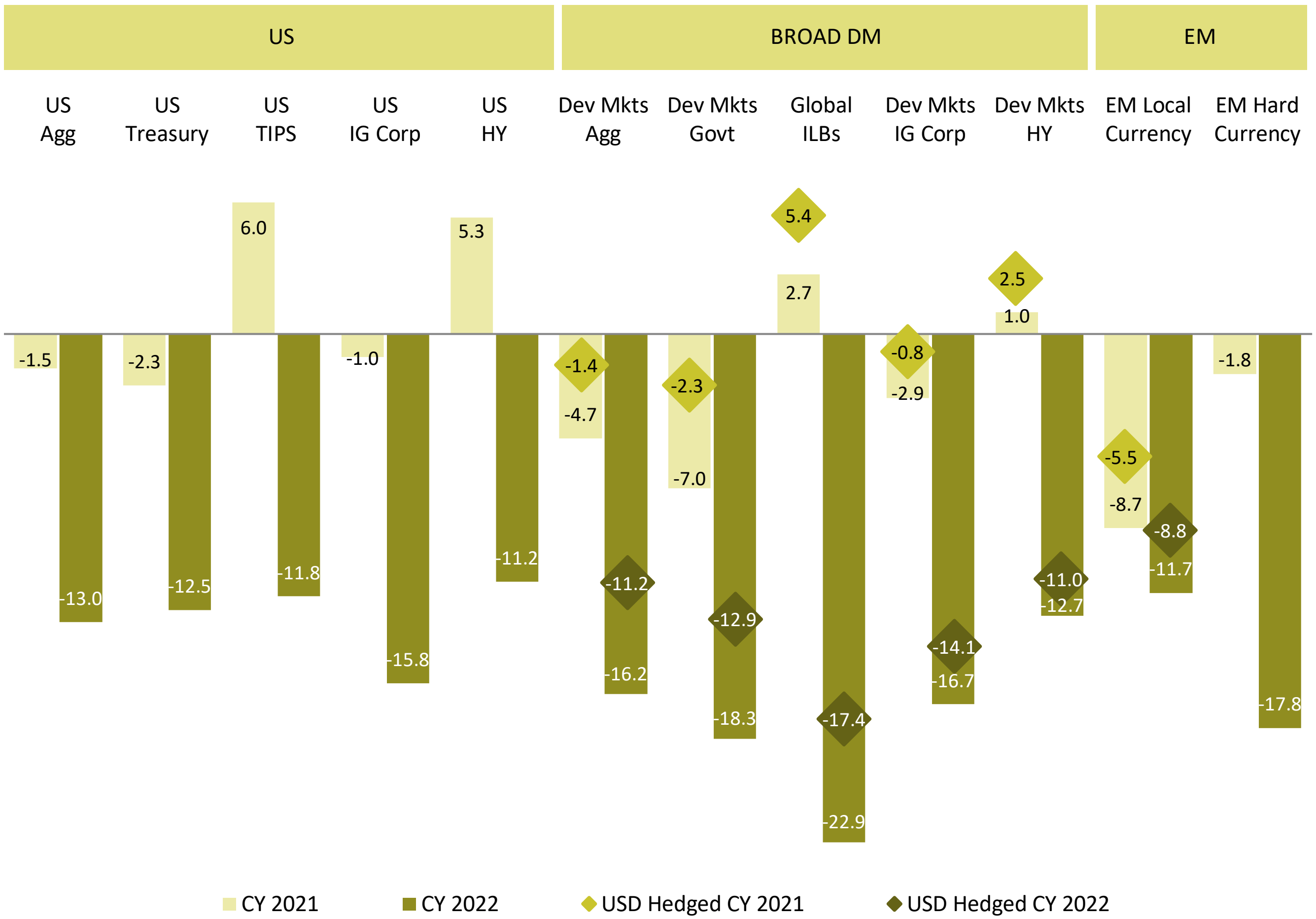
Estimates of economic growth were revised down throughout 2022. To start the year, consensus figures for global GDP growth in 2022 and 2023 were 4.4% and 3.6%, respectively. By year end, these stood at 3% and 2.1%, respectively. The continuation of China's zero-COVID policy was a large part of 2022's declining growth estimates.. However, growth expectations for developed markets also declined during the year as high inflation and tightening monetary policy were judged as likely headwinds. Fiscal support also generally retrenched as activity normalized and unemployment dropped. By year end, an economic contraction was expected in Europe, with the impacts of the war in Ukraine a major factor. While a mild contraction was anticipated in the euro area, UK GDP was expected to decline by nearly 1%.

Sources: Bloomberg L.P. and IMF Fiscal Monitor October 2022.
Notes: GDP growth estimates are based on median forecasts. Cyclically adjusted primary budget balance is defined as the cyclically adjusted balance plus net interest payable/paid (interest expense minus interest revenue). Data are based on the IMF's October 2022 Fiscal Monitor publication.

All categories of bonds suffered losses amid rising interest rates

GLOBAL BOND PERFORMANCE: CY 2022 VS CY 2021

Total Return (%) • US Dollar

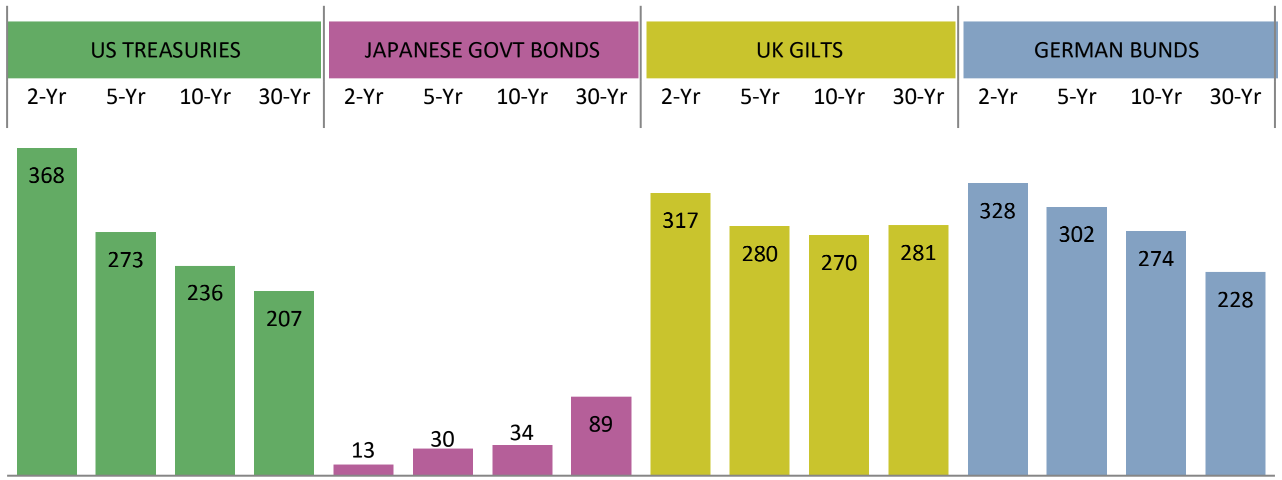


All major categories of bonds suffered large drawdowns in 2022. Indeed, losses extended to double digits for all categories in USD terms. Duration, or interest rate sensitivity, was the major driver of this performance. The unexpected persistence of high inflation was a headwind to bond prices. This was then compounded by the growing number of rate hikes delivered by central banks to quell these price pressures. The higher duration of the investment-grade (IG) index, combined with some spread widening, saw this asset class underperform. A strong US dollar was a challenge to both categories of EM bonds, while it also resulted in steeper losses in USD for global bond indexes.

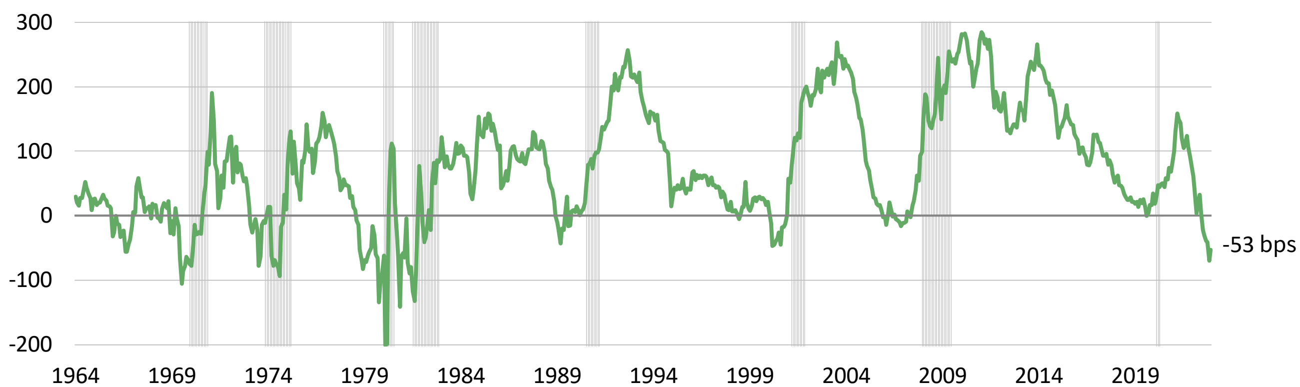
Sources: Bloomberg Index Services Limited, FTSE Fixed Income LLC, J.P. Morgan Securities, Inc., and Thomson Reuters Datastream.
Notes: Asset classes represented by Bloomberg US Aggregate Bond Index ("US Agg"), Bloomberg US Treasury Index ("US Treasury"), Bloomberg US TIPS Index ("US TIPS"), Bloomberg US Corporate Investment Grade Bond Index ("US IG Corp"), Bloomberg US High Yield Bond Index ("US HY"), Bloomberg Global Aggregate Bond Index ("Dev Mkts Agg"), FTSE World Government Bond Index ("Dev Mkts Govt"), Bloomberg Global Inflation Linked Index ("Global ILBs"), Bloomberg Global Aggregate Corporate Bond Index ("Dev Mkts IG Corp"), Bloomberg Global High Yield Bond Index ("Dev Mkts HY"), J.P. Morgan Government Bond Index - Emerging Markets Global Diversified Index ("EM Local Currency"), and J.P. Morgan Emerging Markets Bond Index - Global Diversified Index ("EM Hard Currency").

Yield curves flattened with the 10-yr/2-yr curve becoming deeply inverted

CHANGE IN YIELD VS DECEMBER 2021 FOR VARIOUS GOVERNMENT BOND MATURITIES
As of December 31, 2022 • Basis Points (bps)



10-YR/2-YR US TREASURY YIELD SPREAD
January 31, 1964 – December 31, 2022 • Basis Points (bps)



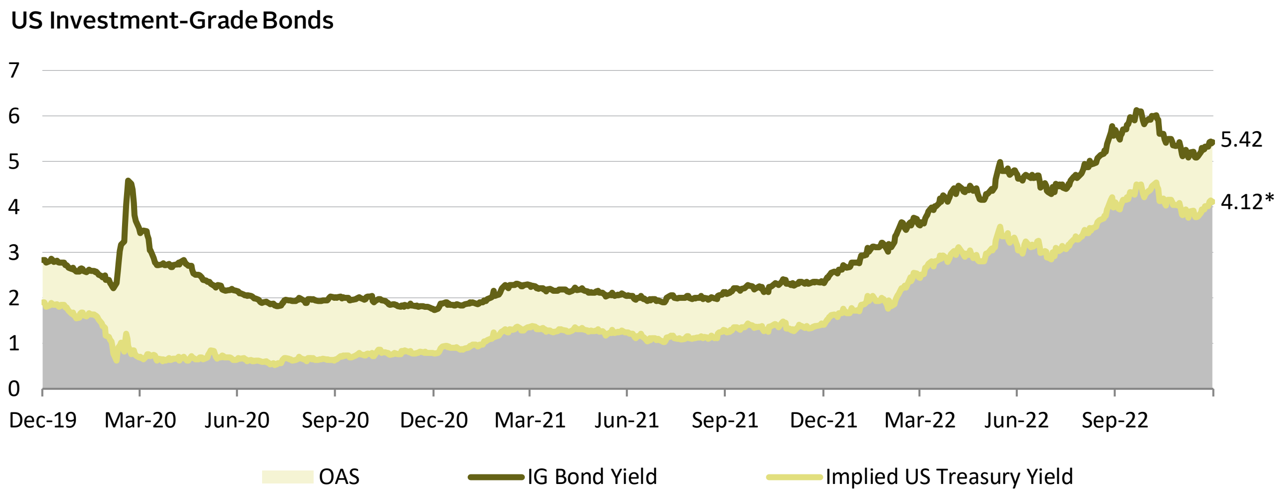
Even as inflation proved to be unexpectedly persistent, markets never believed it to be a chronic issue, and as a result, priced for it to moderate in relatively short order. In a similar fashion, even as a higher terminal interest rate was being discounted by markets, pricing also indicated a belief that interest rate cuts would follow soon after. Expectations of moderating inflation and increasing concerns about growth lay behind this positioning. Yield curves flattened substantially on this basis, particularly in the US, where an inverted yield curve has historically been a harbinger of recession. Japan's continued implementation of near-zero interest rates and yield curve control, even as inflation ticked higher, saw the country buck the flattening trend.

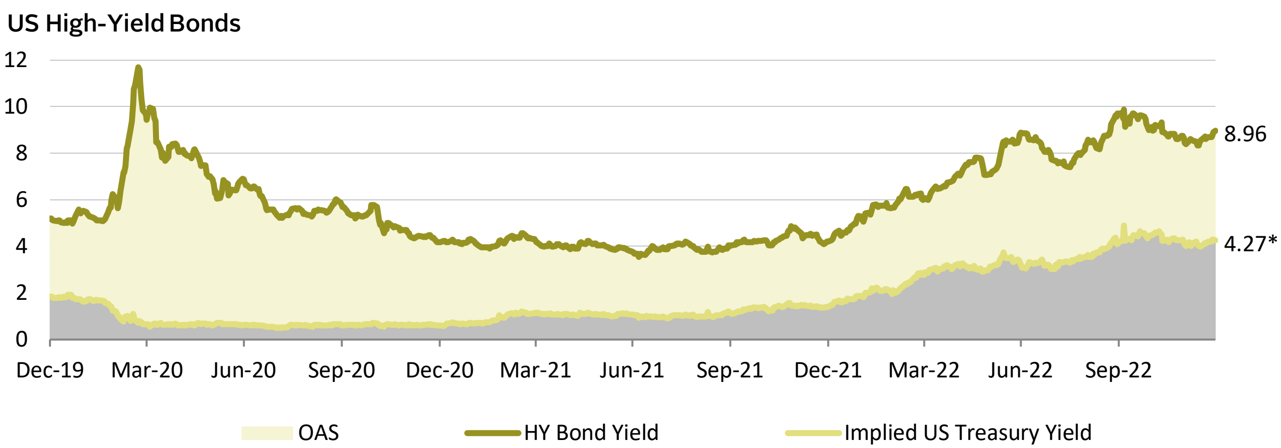
Sources: Federal Reserve, Global Financial Data, Inc., National Bureau of Economic Research (NBER), and Thomson Reuters Datastream.
Note: Shaded bars on the bottom chart reflect periods of US recession as defined by NBER.

Credit losses were driven primarily by duration, with some modest spread widening

OPTION-ADJUSTED SPREADS ON US INVESTMENT-GRADE AND HIGH-YIELD CORPORATE BONDS

December 31, 2019 – December 31, 2022 • Percent (%)



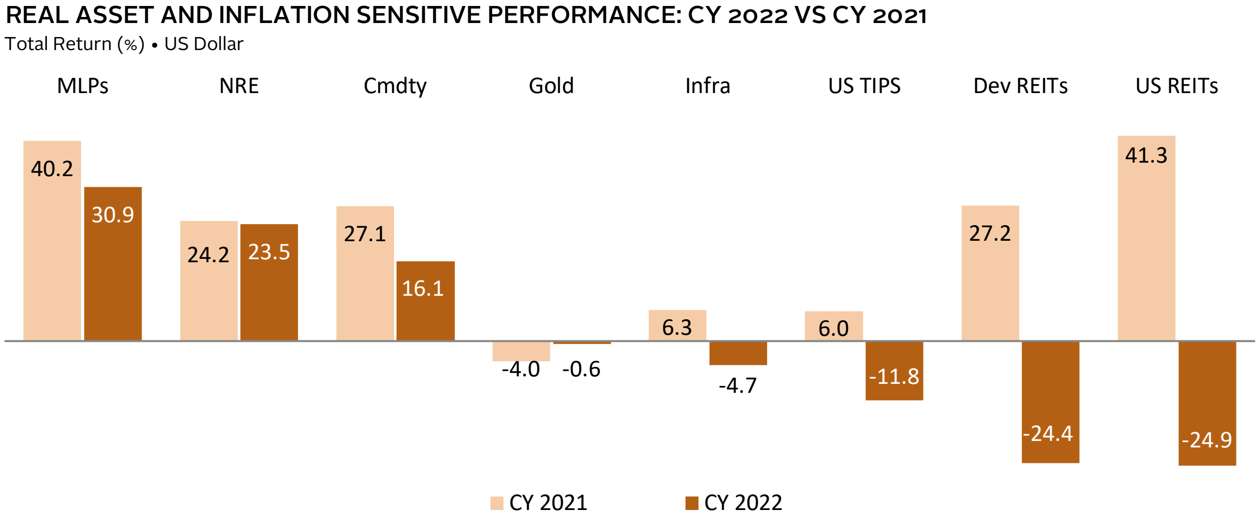


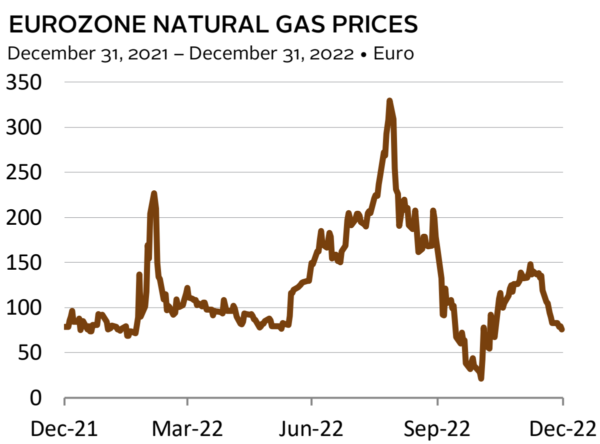
* US Treasury yields are calculated by subtracting the IG and HY OAS from the IG and HY bond yields.

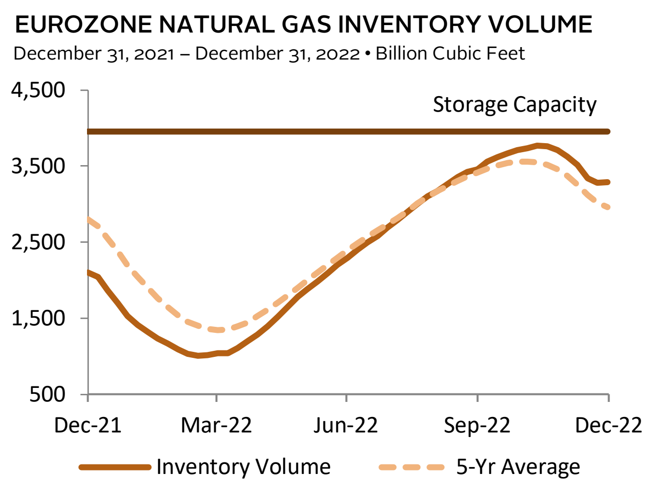
Like all other major categories within fixed income, corporate bonds delivered large negative returns in 2022. US IG bonds suffered a particularly steep decline, falling 15.8%. IG bonds have an especially long duration, or interest rate sensitivity, so were particularly impacted by the rise in discount rates. All-in yields on the asset class surpassed the peak witnessed during COVID-19, though spreads remain well below the level reached at that time. As high-yield bonds are more exposed to an economic slowdown, rising recession fears saw spreads widen by 186 bps. Again, however, spreads remain well below their COVID-era peak. Lower duration and a higher initial yield saw high-yield outperform investment grade, though still falling 11.2%.

Sources: Bloomberg Index Services Limited and Thomson Reuters Datastream.
Notes: Data for US investment-grade (IG) bonds are represented by the Bloomberg US Corporate Investment Grade Bond Index, and data for US high-yield (HY) bonds are represented by the Bloomberg US High Yield Bond Index. Data are daily.

Real assets performed strongly as demand rebounded and inflation rose







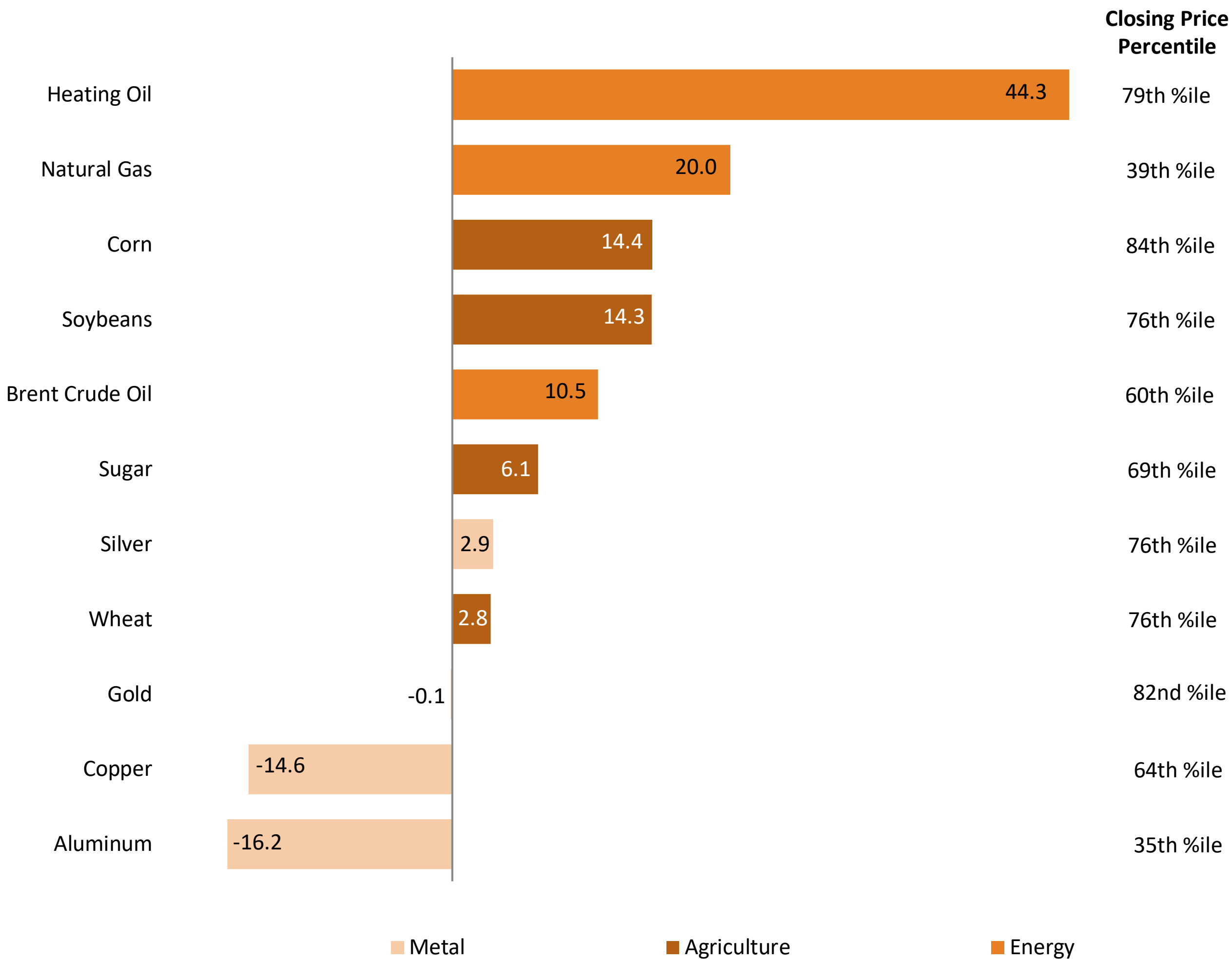
As inflation and interest rates rose, assets such as infrastructure, US TIPs, and REITs performed poorly in CY 2022. As mortgage rates increased rapidly—touching over 7% for the US 30-year fixed rate—REITs experienced the worst returns in 30 years, except for its performance in 2008. Supply constraints due to the war in Ukraine drove commodities up, resulting in strong returns for NREs and MLPs again this year. European natural gas hit record highs as the continent scrambled to find alternative sources to Russian gas. However, an energy crisis was averted, returning prices to pre-war levels, by filling up storage from alternative sources, reopening coal plants, curtailing demand, and ultimately enjoying a relatively warm winter.

Sources: Alerian, Bloomberg Index Services Limited, EPRA, FTSE International Limited, Gas Infrastructure Europe, Intercontinental Exchange, Inc., MSCI Inc., National Association of Real Estate Investment Trusts, Refinitiv and Thomson Reuters Datastream. MSCI data provided "as is" without any express or implied warranties.
Notes: All returns are total returns, except those for gold, which are based on spot price returns. Asset classes represented by the following: Alerian MLP Total Return Index ("MLPs"), market cap-weighted Datastream World Energy Index and Datastream World Basic Resources Index blend ("NRE"), Bloomberg Commodity TR Index ("Cmdty"), LBMA Gold Price ("Gold"), MSCI World Infrastructure Index ("Infra"), Bloomberg US TIPS Index ("US TIPS"), FTSE® EPRA/NAREIT Developed Real Estate Index ("Dev REITs"), and FTSE® NAREIT All Equity REITs Index ("US REITs"). Total return data for all MSCI indexes are net of dividend taxes. Eurozone natural gas prices are daily data and Eurozone natural gas inventory volume are weekly data.

Most commodity prices surged in CY 2022

SELECT COMMODITY SPOT PERFORMANCE: CY 2022

As of December 31, 2022 • Percent (%) • US Dollar



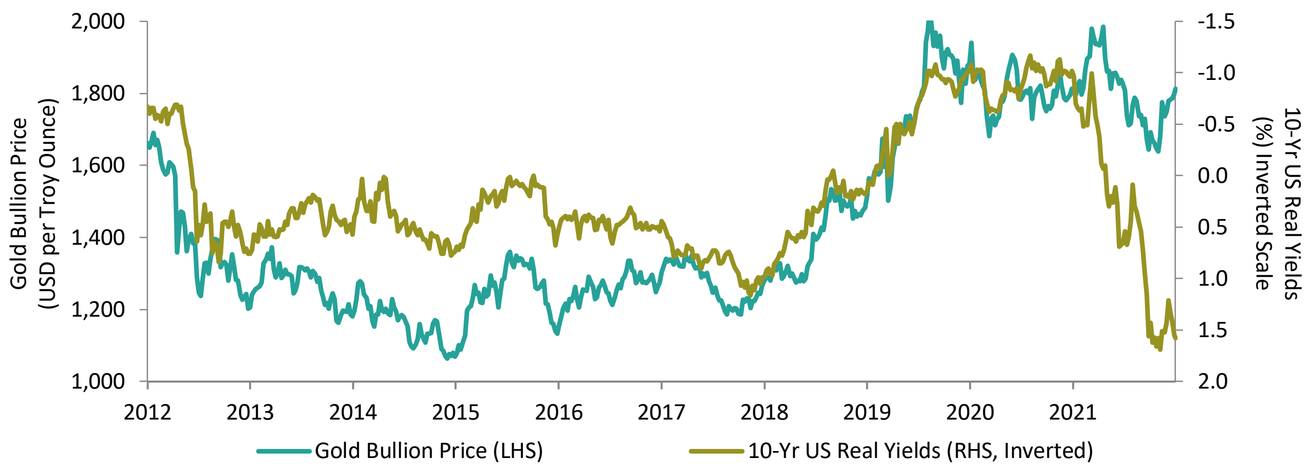
Sanctions against Russia, as a result of the war in Ukraine, caused a supply shock in energy commodities, resulting in meaningful price increases. The oil market was already running strong because of increasing demand, exacerbated by low capital expenditures and supply curtailment by OPEC+. Similarly, Russia and Ukraine are important production hubs for food and fertilizer, and the war led to price increases of agricultural commodities. This increase has stressed economies around the world, particularly emerging markets and Europe. Weakness in metals was a result of fears of an economic slowdown, curtailing future industrial demand.

Source: Bloomberg L.P.
Notes: Spot returns reflect changes in near-month futures contracts, as reported by Bloomberg L.P. Closing price percentile is calculated based on real prices using historical data from July 31, 1997, to December 31, 2022.

Flat gold prices were at odds with the change in real yields

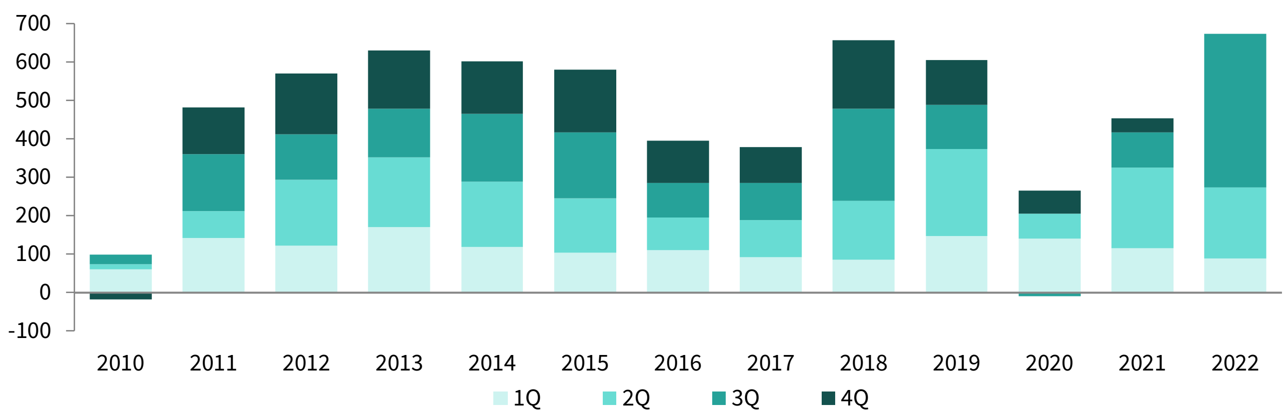
GOLD BULLION PRICE VS 10-YR US REAL YIELDS

December 31, 2012 – December 31, 2022



GLOBAL CENTRAL BANKS GOLD DEMAND

First Quarter 2010 – Third Quarter 2022 • Tonnes



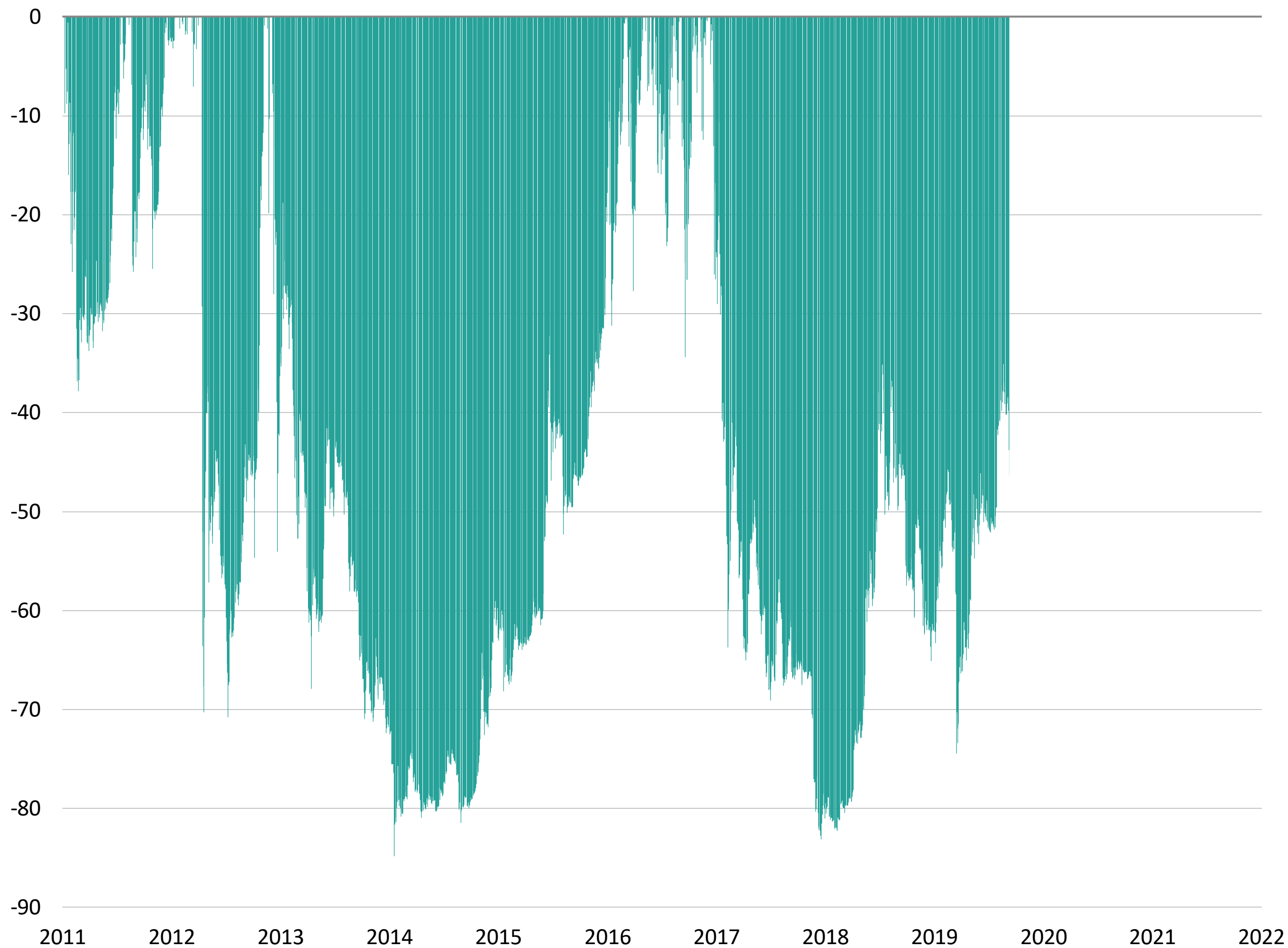
Historically, gold trades in line with long-dated real yields, particularly those of the US. This relationship broke down in CY 2022, as gold held its value in USD terms, while interest rates rose rapidly (the US ten-year real yield rose 2.6 percentage points). Moreover, 3Q 2022 saw unusually high demand for gold from central banks, purchasing over 300% more tons than the prior-year period. At the end of 3Q 2022, YTD net purchases surpassed all annual totals since 1967. Interestingly, the biggest reported buyers came from emerging markets, namely Turkey, Uzbekistan, and Qatar. Periods of higher economic and geopolitical uncertainty tend to be marked by higher demand for gold.

Sources: Federal Reserve, Intercontinental Exchange, Inc., Thomson Reuters Datastream, and World Gold Council.
Notes: Real yields reflect the US ten-year TIPS yield. Top chart uses weekly data.

Bitcoin suffered a steep drawdown as policy tightening stung cryptocurrencies

BITCOIN PRICE DRAWDOWN FROM PREVIOUS ALL-TIME HIGH

December 31, 2011 – December 31, 2022 • US Dollar • Percent (%)



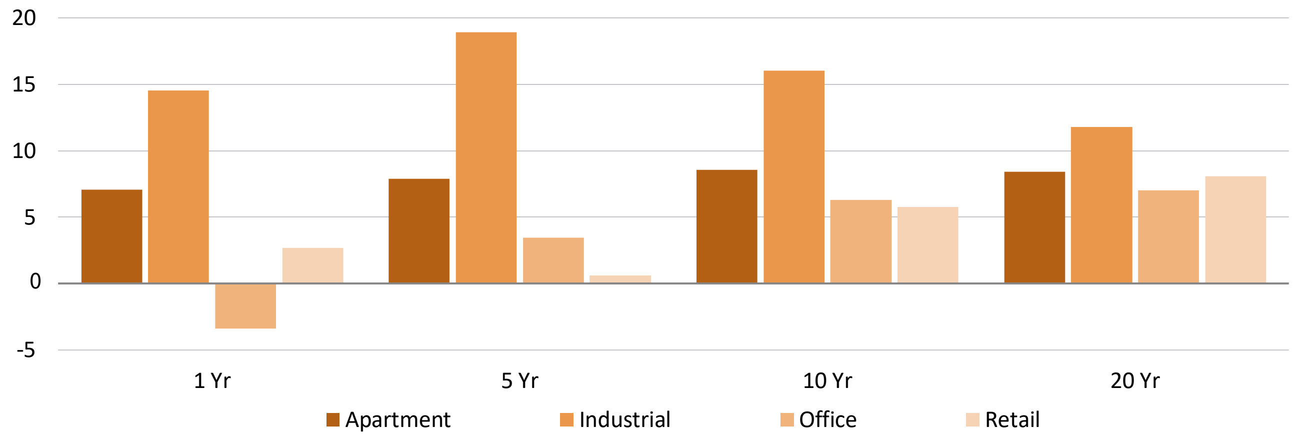
Central banks began to tighten monetary policies in CY 2022 to tame inflation. The rise in interest rates impacted valuations of all investments; however, it was those at the highest end of the risk spectrum that bore the most pain. Bitcoin declined by 64% during the period, closing the year at levels not seen since November 2020 and 75% below its November 2021 peak. This represented bitcoin's fifth decline of more than 70% in the past decade—not entirely unexpected for a relatively immature asset class. The experience of bitcoin was not atypical for the sector, with many cryptocurrencies experiencing steep drawdowns. The asset class was also mired by bankruptcies and fraud in CY 2022.

Source: Thomson Reuters Datastream.
Note: Data are daily.

Industrial property continued to deliver strong returns as secular trends remained supportive

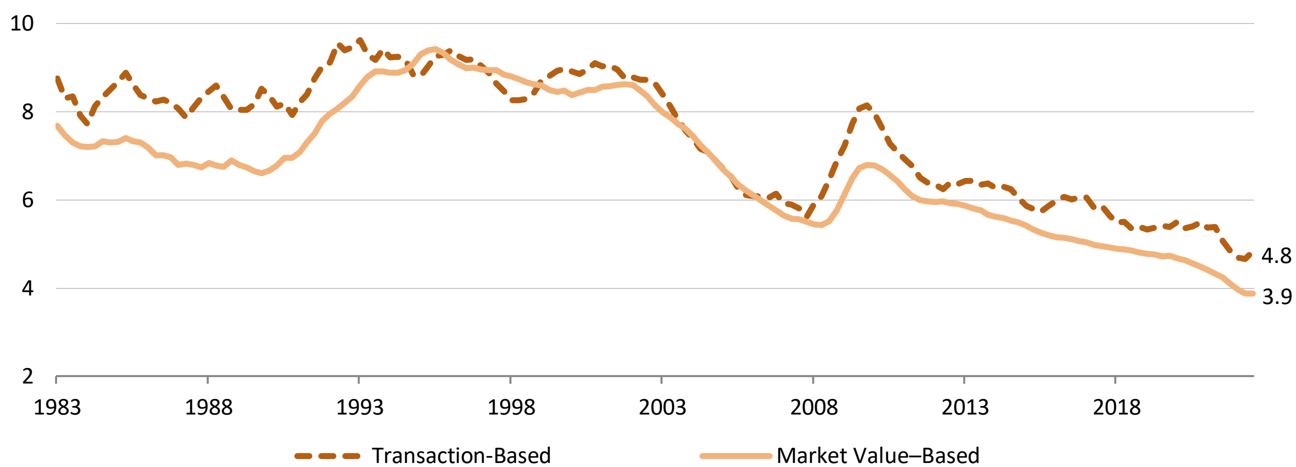
RETURNS BY PROPERTY TYPE

As of Fourth Quarter 2022 • AACR (%) • US Dollar



ALL PROPERTY CAP RATES

Second Quarter 1983 – Fourth Quarter 2022 • Percent (%)



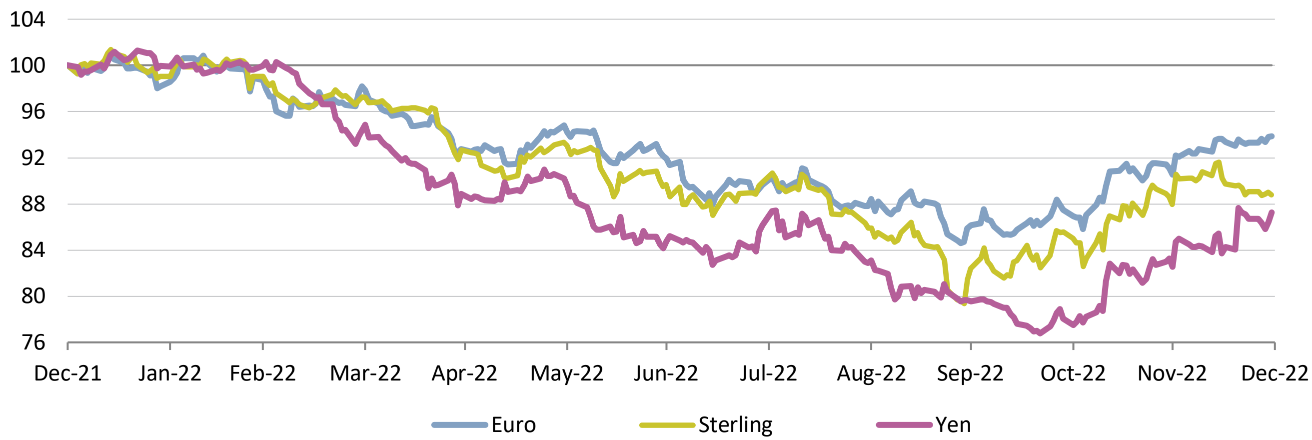
US commercial property prices increased in CY 2022, although as interest rates rose, growth reversed across all four property categories in 4Q 2022. Concerns of an economic slowdown were weighing on the asset class. Industrials continued to be the stand-out category, rising by 15% in the trailing one-year period. The sector continued to profit from secular trends that have benefited its subsectors, such as distribution facilities, telecom towers, and data centers. Apartments also performed strongly, as the property type remained relatively more affordable and had somewhat limited supply. The retail sector has recovered from the losses experienced during the pandemic.

Source: National Council of Real Estate Investment Fiduciaries.
Notes: AACR represents total returns. Cap-rate data represent a four-quarter moving average. All data are quarterly.

The dollar strengthened rapidly before giving back some gains in Q4

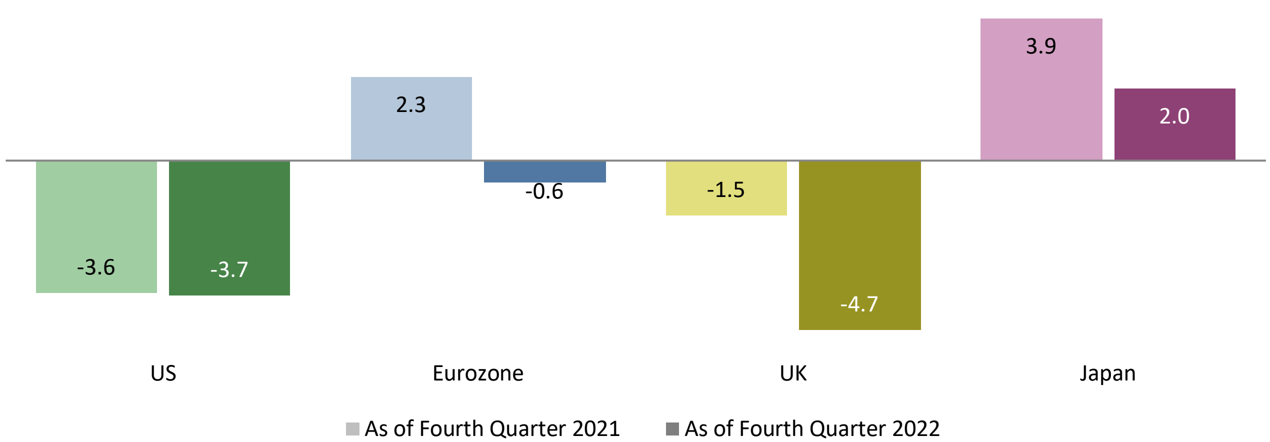
SELECT NOMINAL CURRENCY MOVEMENTS VS THE US DOLLAR

December 31, 2021 – December 31, 2022 • December 31, 2021 = 100



CURRENT ACCOUNT BALANCE AS % OF GDP

As of Fourth Quarter 2022



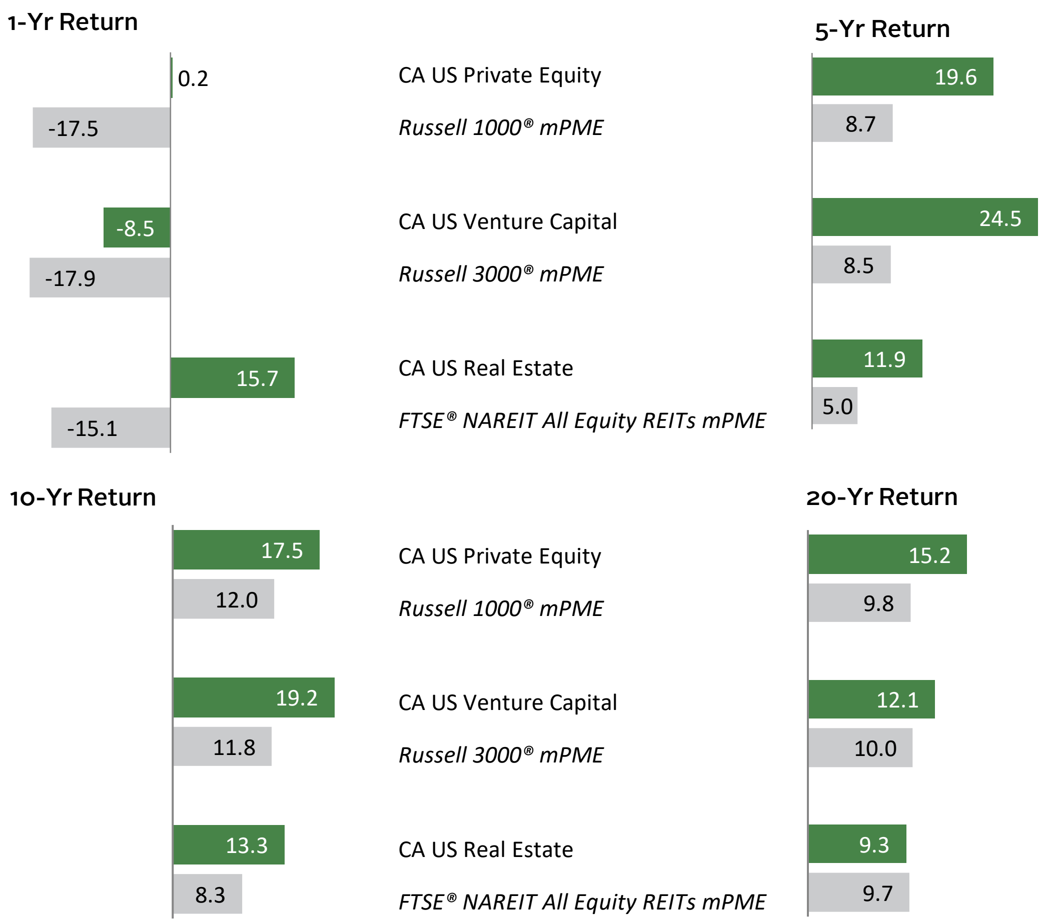
The US dollar picked up where it left off in late 2021 by continuing to appreciate rapidly in 2022. In the early part of the year, a widening interest rate differential was the catalyst, as the Fed looked likely to hike quicker and higher than its peers. When war erupted in Ukraine, the dollar also benefited from a flight-to-safety flow as uncertainty reigned. Thereafter, the emerging realization of the potential growth impact of the conflict on Europe helped to push the greenback still higher. Higher energy costs also drove deterioration in the current accounts of energy importers. Something of a pivot occurred in 4Q. The worst-case scenario for growth was not playing out in Europe, while rising inflation in Japan saw some modifications made to their monetary policy regime. Nonetheless, the dollar finished 5.6% higher in 2022.

Sources: National Sources, Oxford Economics, Refinitiv, and Thomson Reuters Datastream.

Notes: Top chart uses daily data. Bottom chart data is calculated as the rolling four-quarter current account balance divided by the corresponding rolling four-quarter GDP. Current account balances for 4Q 2022 are forecasts.

Private markets extended their outperformance of public markets

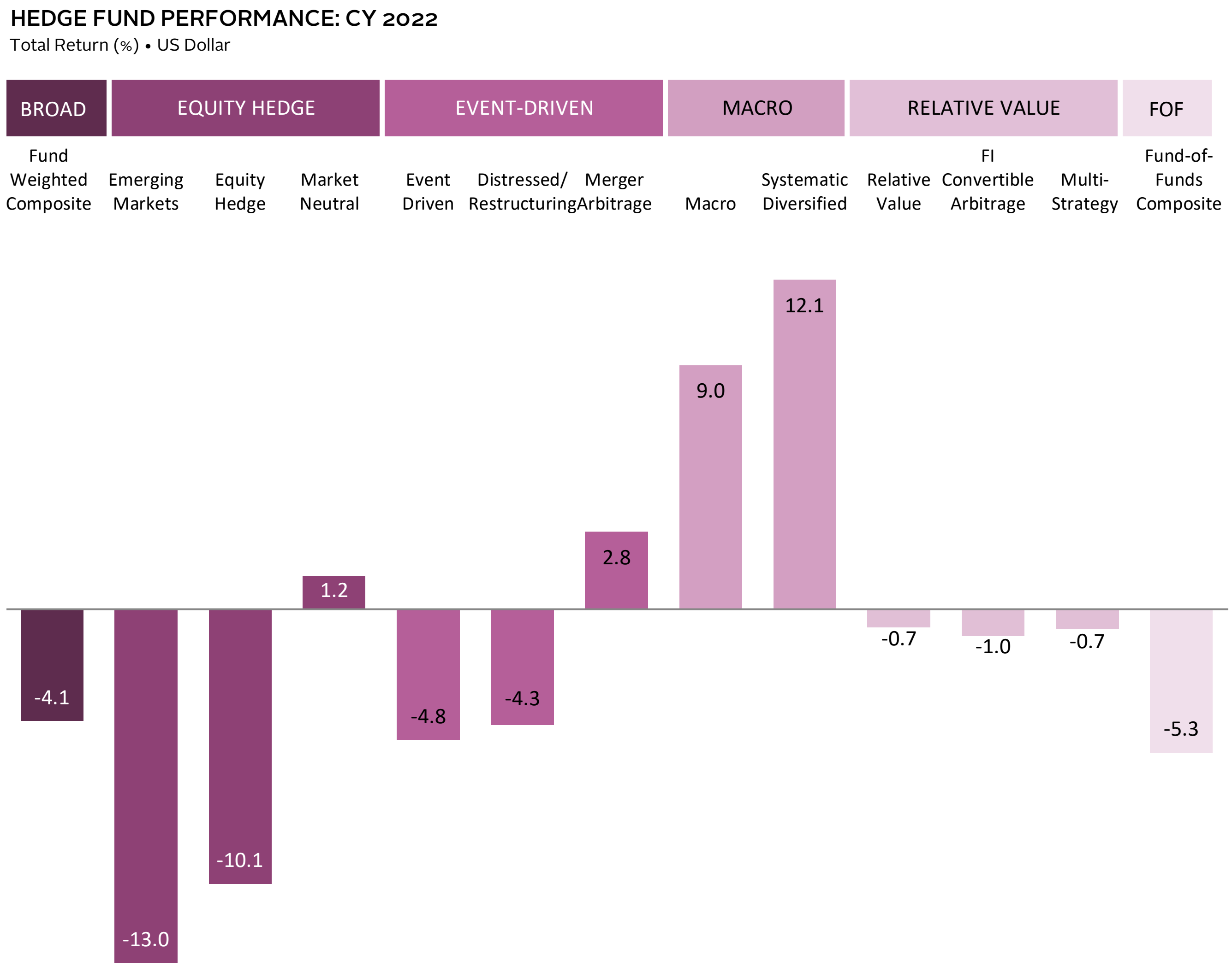
PERFORMANCE OF SELECT CAMBRIDGE ASSOCIATES PRIVATE INVESTMENT INDEXES VS PUBLIC EQUIVALENTS
As of Third Quarter 2022 • Percent (%)



Private markets continued to outperform their public counterparts over the latest trailing one-year period, with the largest outperformance posted in real estate. However, macro headwinds arising from higher interest rates and slowing growth are now feeding through to private market returns, particularly for venture capital. Nonetheless, the latest trailing one-year period still captures much of the strong expansion that followed the trough of the pandemic, which extended the outperformance of private markets over public markets on both a five- and ten-year horizon. Real estate was the only area where private markets did not outperform public markets in the 20-year time horizon, although the underperformance was small.

Sources: Cambridge Associates LLC, Frank Russell Company, FTSE International Limited, National Association of Real Estate Investment Trusts, and Thomson Reuters Datastream.
Notes: Private index returns are pooled horizon IRRs, net of fees, expenses, and carried interest. The CA Modified Public Market Equivalent (mPME) replicates private investment performance under public market conditions. The public index's shares are purchased and sold according to the private fund cash flow schedule, with distributions calculated in the same proportion as the private fund, and mPME net asset value is a function of mPME cash flows and public index returns.

Macro funds were the bright spot among hedge funds during CY 2022



Based on preliminary data from Hedge Fund Research Inc., hedge fund sector performance was weak in 2022. Perhaps unsurprisingly in a year in which equities suffered large losses, categories that tend toward having net long equity exposure experienced meaningful declines. These losses also pulled down the performance of the various composites, including fund-weighted and fund-of-funds. The bright spot for the sector was macro funds. Years with large economic and political dislocations, as well as regime shifts in economic variables and policies, tend to be fertile for discretionary macro funds, and 2022 was no exception. Durable return trends seen in equities and fixed income drove strong performance in systematic macro strategies.

Source: Hedge Fund Research, Inc.
Note: Hedge Fund Research data are preliminary for the preceding five months.

Ilona Vdovina also contributed to this publication.