Q1 2023 Global Market Summary

QUARTERLY HIGHLIGHTS

CONTAINED

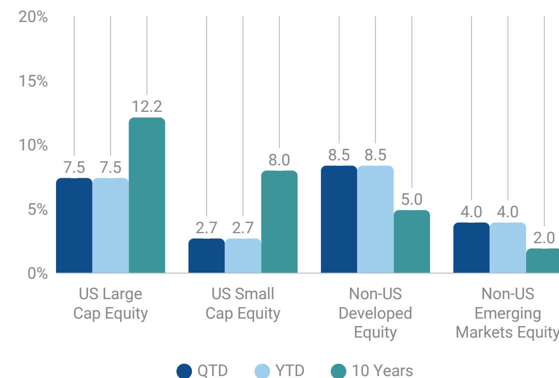
US

On March 10, 2023, Silicon Valley Bank (SVB) was closed by the California Department of Financial Protection and Innovation, and the Federal Deposit Insurance Corporation was named receiver. This was quickly followed by the closure of New York-based Signature Bank and a fast-moving run on deposits swept across the regional banking sector as depositors moved their assets to higher-earning alternatives over concerns about the impact higher rates are having on the asset side of banks' balance sheets.

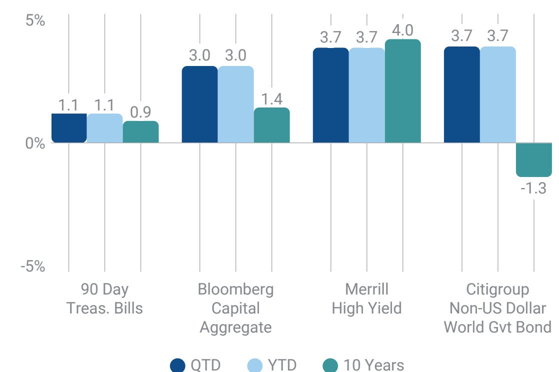
Banks scaled up bond purchases during the pandemic, when government stimulus and pandemic-aid programs boosted new deposits. These portfolios are mostly filled with high-quality fixed-rate debt at a low risk of default, When interest rates started rising last year, prices of existing bonds fell, leaving banks with paper losses. Bank deposits peaked in April 2022 and began to decline shortly thereafter. This reached a crescendo in March; an estimated $312 billion in deposits left the banking system between March 1st and March 29th according to Federal Reserve (Fed) data. To address financial-stability concerns in the wake of the SVB and Signature Bank failures, the Fed launched a new asset-purchase facility and reminded banks that its primary credit facility is always open.

The Federal Open Market Committee (FOMC) met in February and March. It agreed to increase the federal-funds target rate corridor by 50 bps in total (25 bps in February and 25 bps in March); the corridor is currently 4.75-5.00%. At the March meeting, the Summary of Economic Projections (SEP) was updated: Fed officials maintained their projections for the federal-funds target rate at the end of 2023 at 5.1%; however, they reduced their projections for real GDP growth in 2023 (-10 bps to 0.4%) and in 2024 (-40 bps to 1.2%). The FOMC made no changes to its balance-sheet reduction plans ($95 billion per month), but its new asset-purchase programs have had the opposite impact and the Fed's balance sheet increased by

EQUITY MARKET PERFORMANCE



CREDIT MARKET PERFORMANCE



$155 billion to $8.8 trillion. At the end of the quarter, the federal-funds futures market predicted a target rate of 4.4% by the end of 2023, approximately 70 bps below that expected by Fed officials.

After rising 43% during the pandemic, national housing prices declined 5.1% from June 2022 through January 2023. The slowdown can largely be attributed to the rise in mortgage rates, which bottomed out at 2.65% in January 2021, topped out at 7.08% in late 2022, and ended the first quarter of 2023 at 6.32%. That being said, a divergence has appeared between geographic locations, as West Coast markets have experienced a relatively greater decline than others. For example, since peaking, housing prices in San Francisco have declined 13.3%, whereas housing prices in Miami have declined just 2.5%.

The swift rise in interest rates has also affected the commercial real-estate market. Transaction volume has slowed since mid-2022, with the market entering a period of price discovery. Recent stress in the banking sector could potentially have consequences for the commercial real-estate markets as well. Regional banks serve as a significant source of financing for commercial real-estate properties. Notably, the FDIC-brokered acquisition of Signature Bank (by New York Community Bank) excluded the bank's sizable commercial real-estate loan portfolio. Signature Bank was the tenth largest commercial real-estate lender in the country during 2021 and the third largest commercial real-estate lender in New York City between 2018 and 2023.

EUROPE

Employment grew more than expected, reaching a new high of 165 million workers across the EU according to data from Eurostat. A mild winter and falling energy prices led the region to grow slightly at 0.1% on a quarter-over-quarter basis. Overall sentiment was positive as well; the S&P Global Eurozone Composite PMI Index bounced back from contractionary territory last quarter (<50) to reach a ten-month high of 54.1 in March. However, expectations bifurcated across industries, with headline services PMI jumping to 55.6 (above expectations) and manufacturing PMI declining to 47.1 (below expectations). This matched the experiences of the zone's two largest economies, Germany and France, where recent growth has primarily been a result of expansion in the services sector.

According to data from Eurostat, inflation across the EU declined to 6.9% in March, its lowest level in a year. Energy costs, which make up about 10% of the index, declined during the first three months of the year, as European natural-gas prices have fallen to their lowest levels since Russian's invasion of the Ukraine. However, core inflation, which excludes energy, food, alcohol, and tobacco, rose slightly, reaching an all-time high of 5.7% in March. Furthermore, several strikes and protests broke out as workers sought to negotiate higher wages to help offset rising living costs, indicating that inflation pressures may persist across the region.

The European Central Bank (ECB) raised interest rates by 50 basis points at both its February and March meetings, taking deposit rates to 3%, the highest level since 2008. Policymakers followed through on their guidance, looking past turmoil in the US banking sector and Credit Swiss, and continued to raise rates to help bring inflation down to target levels. Following its most recent meeting, ECB President Christine Lagarde stressed "the banking sector is currently in a much, much stronger position than where it was back in 2008...We are determined to return inflation back to 2% in the medium term." While taking a hawkish tone, Ms. Lagarde kept future ECB's policy options open and set out what she called a "brand new" framing of the ECB's decision-making process that will incorporate both economic and financial data, indicating that future rate decisions from the bank will be highly data dependent.

CHINA

After an abrupt reopening from its zero-COVID policy and a consequent winter of disorder, China eventually showed signs of a post-pandemic recovery with a rebound in consumer spending, industrial output, and investments. Retail sales rose 3.5% in January and February, industrial output rose 2.4%, and fixed-asset investments grew 5.5%. The export engine which used to drive China's economic growth initially sputtered, starting the year with a 6.8% decline during the first two months relative to a year earlier, but it unexpectedly surged in March (with a 14.8% increase from a year ago); however, analysts warned this improvement was largely driven by suppliers catching up with an unfulfilled backlog of orders disrupted by the pandemic over the past months, and the global demand outlook remains subdued. Imports fell more steeply than expected and contracted to a deeper degree, indicating weakness in domestic demand.

Chinese leaders set the GDP growth target this year at around 5%—a conservative goal relative to past targets reflecting the government's concerns about external demand. Therefore, the People's Bank of China (PBOC) decided to keep its benchmark lending rates unchanged after assessing the economy's need for further stimulus. The property sector is showing some early signs of stabilization this year; the government increased support for high-quality developers (with healthy balance sheets) and loosened home-purchase restrictions.

Following an 18-month lull in overseas listings, Chinese companies are finally returning to the US IPO market this year after the China Securities Regulatory Commission announced new rules requiring compliance with national security measures and personal data protection laws prior to going public overseas. Even though the new rules can potentially make for a lengthy approval process, they provide greater clarity to investors and significantly reduce the risk of delisting. In spite of some initial hopes of cooling political tensions between the US and China and a lessening of friction over trade and access to key cutting-edge technologies, the situation appeared to take a step in the opposite direction after a suspicious balloon from China was shot down within US territory.

JAPAN

Japan's economy grew at an 0.6% annualized rate during the previous quarter. The increase was smaller than initially expected as business investment slowed, while private consumption and export growth remained stable. Tourism spending helped offset higher costs and boosted overall private consumption numbers. In yet another indication of underlying economic turbulence, Japan reported its largest account deficit in eight years in January as a slowdown in global demand limited trade opportunities. The Bank of Japan's (BOJ)

forward-looking Tankan painted a split picture: results declined among large manufactures, with many firms worried about the impact of rising raw materials and slowing overseas demand; meanwhile, non-manufacturers' sentiment remained significantly positive from hopes of a rebound in tourism and demand for services.

IN YET ANOTHER INDICATION OF UNDERLYING ECONOMIC TURBULENCE, JAPAN REPORTED ITS LARGEST ACCOUNT DEFICIT IN EIGHT YEARS IN JANUARY AS A SLOWDOWN IN GLOBAL DEMAND LIMITED TRADE OPPORTUNITIES.

After the BOJ unexpectedly announced a shift in its yield-control policy in late December, many forecasters expected the BOJ to raise rates in the new year. However, the bank defied expectations and left its rate policy unchanged at both its January and March meetings, citing various uncertainties around the economy. In his post-meeting press conference, retiring governor Kuroda defended his decade-long stimulus program, noting the benefits have exceeded the disadvantages and that the bank has been taking various steps to mitigate negative effects. Mr. Kazuo Ueda, an economist, is scheduled to replace Mr. Kuroda in early April; he is expected to continue the bank's current policies for the time being.

Prime Minister Fumio Kishida's administration continued to look for ways to mitigate the impact of rising inflationary pressures. Early in the quarter, Mr. Kishida called on business leaders to raise wages; later in the quarter, during their annual "shunto" wage negotiations, a number of major Japanese companies (including Toyota, Sapporo, Nissan, and Hitachi) announced their largest pay raises in 40 years. Kishida's administration also announced plans to use an additional $15 billion in reserve funds from the state budget to help low-income families, including reducing their energy bills.

COMMODITIES

The S&P Goldman Sachs Commodity Index (SPGSCI) ended the quarter with a total return of -4.94%, as a majority of all commodity constituents fell during the quarter. The index's performance can be attributed to weaker prices across energy and agriculture. Precious metals (7.36%, S&P GSCI Precious Metals—SPGSPM) outperformed all other SPGSCI sub-index constituents; gold experienced a robust price gain while silver had a relatively more modest uplift. Within the industrials metals sub-index the prices of nickel and lead were lower, while the latter eclipsed the former in performance. The US dollar weakened during Q4 2022 as peak inflation became more evident. Through the early part of 2023, the US dollar remained weaker relative to the majority of its G-10 peers (G-10 currencies comprise the ten major currencies used in international markets), driven by changes in rate-hike expectations.

ECONOMIC INDICATORS

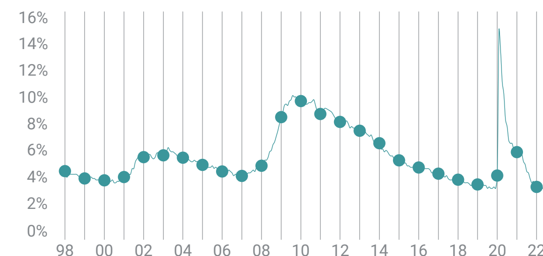
UNEMPLOYMENT

A total of 1,034,000 jobs were created in the first quarter of 2023, outpacing the previous quarter's gains by 287,000. The US economy added 236,000 jobs in March, which falls below the average monthly gains for Q1 (+345,000) and the average over the last six months (+334,000). March's more notable job gains occurred within the following industries: leisure and hospitality (+72,000), government (+47,000), professional and business services (+39,000), and healthcare (+34,000).

The unemployment rate remains largely unchanged; the rate dropped by 0.1% from the previous quarter's average to 3.5% during the first quarter of 2023. Since March 2022, the unemployment rate has remained within the 3.5% to 3.7% range. The number of unemployed persons (5.8 million) is experiencing minimal net movement as well. Upward trends in the labor-force participation rate continued in March, increasing by 0.4% over the past two quarters to reach 62.6%.

UNEMPLOYMENT RATE

25 YEARS THROUGH MARCH 2023

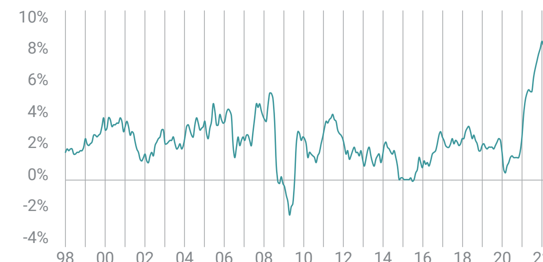


CPI

The Consumer Price Index for All Urban Consumers (CPI-U) increased by 0.1% in March following increases of 0.5% in January and 0.4% in February. Over the twelve months ending in March, the all-items index increased by 5.0% before seasonal adjustment, which remains lower than the all-items index's quarterly increases through 2022. The main contributor to the monthly all-items increase was the shelter index (+0.6% in March). This index, accounting for over 60% of the total increase in all items less food and energy, rose by 8.2% through 2022. Declines in the food-at-home (-0.3%) and energy (-3.5%) indices were more than offset by the shelter-index increases. The all-items less food and energy index increased by 0.4% in March driven by the new vehicles, airline fares, household furnishings and operations, motor vehicle insurance, and shelter indices.

ROLLING 12 MONTH CONSUMER PRICE INDEX

25 YEARS THROUGH MARCH 2023



VIX

Market volatility, as measured by the VIX Index, had an average close in Q1 2023 of 20.68, trending down from the quarterly closes of 2022—24.79 in Q3 and 25.00 in Q4. While remaining slightly above its five-year average of 20.00, the significant drop reflects a shift in the investing environment as investors respond with alternative hedging strategies initiated by economic-development pressures (interest rates and inflation) and continued investor anxiety.

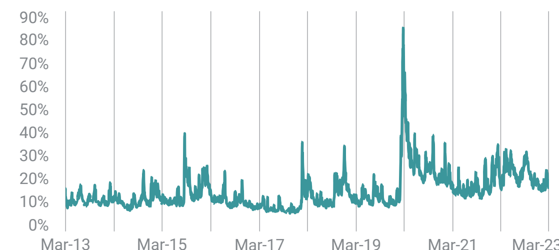
GDP

During Q4 2022, real GDP rose at an annual rate of 2.6% followed by the 3.2% increase in Q3 2022. The increase has been driven by consumer spending, private inventory investments, federal/state/local government spending, and non-residential fixed investment (partially offset by decreases in exports and residential fixed investment). Between the last two quarters of 2022, the driving factors remain mostly unchanged, with declining exports in Q4 being an exception. Additionally, imports declined less in the fourth quarter than in the third.

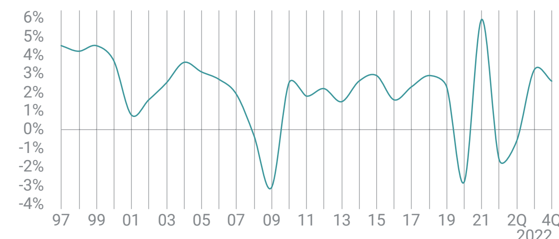
RETAIL SALES

Total retail and food sales decreased to -0.4% in February 2023, down from the previous month but up 5.4% compared to February 2022. The total sales spanning December 2022 through February 2023 were up 6.4% compared to the same period one year ago; the percentage change over the same period was +3.2%. Significant contributors included food services and drinking places (up roughly 15.3% from February 2022), as well as general-merchandise stores (up roughly 10.5% from last year).

CBOE VIX DAILY CLOSING VALUES
LAST 10 YEARS



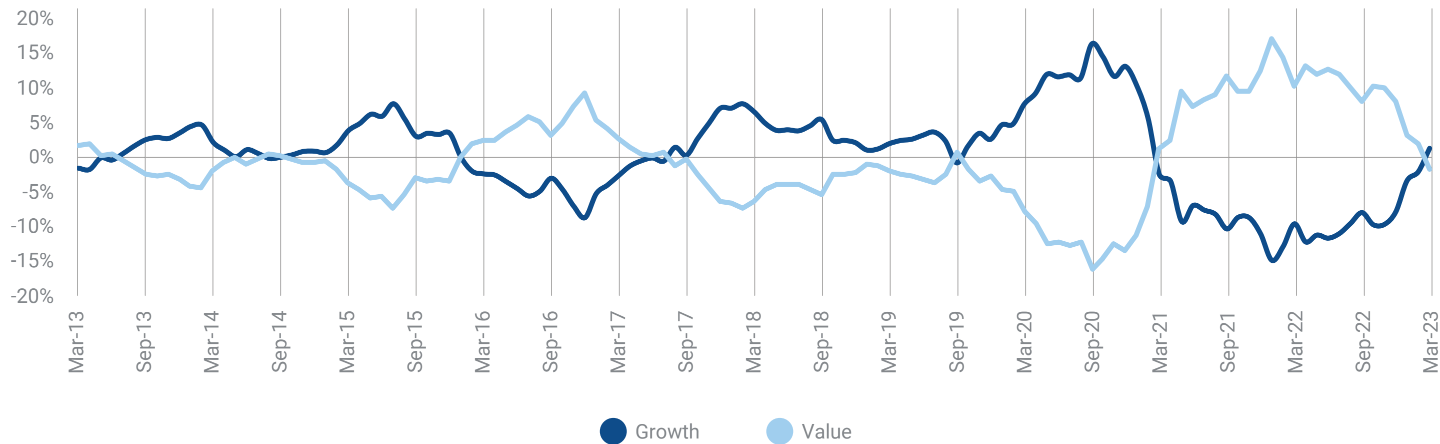
REAL GROSS DOMESTIC PRODUCT
25 YEARS THROUGH 4Q2022



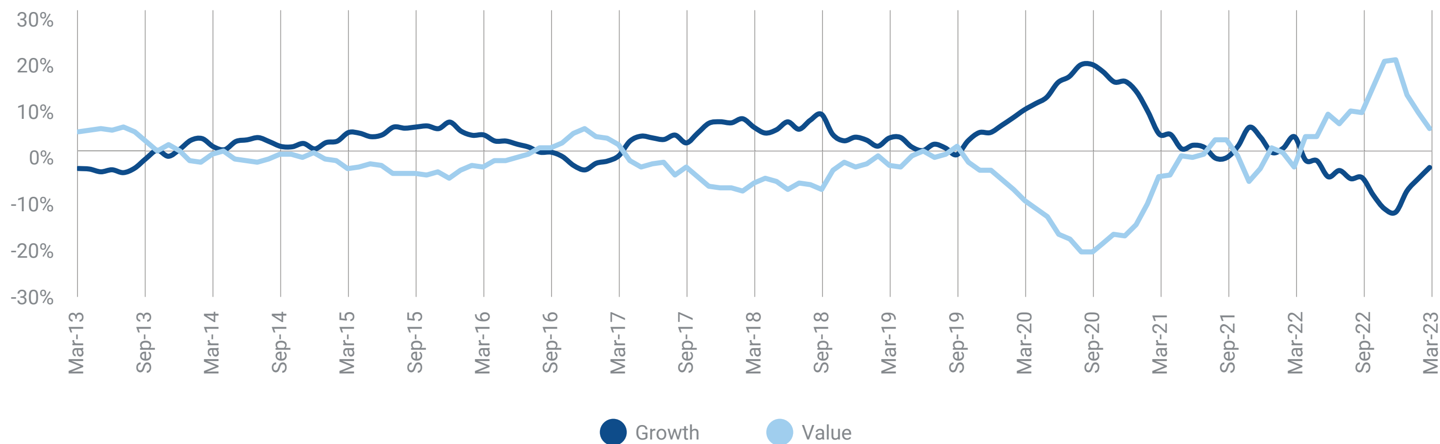
RETURNS BY STYLE

	Q1 2023	YTD		Q1 2023	YTD
Large Cap Value	0.9%	0.9%	Large Cap Growth	15.6%	15.6%
Mid Cap Value	1.3%	1.3%	Mid Cap Growth	9.1%	9.1%
Small Cap Value	-0.7%	-0.7%	Small Cap Growth	6.1%	6.1%

SMALL CAP VALUE VS. GROWTH
ROLLING 1 YEAR PERFORMANCE VS. RUSSELL 2000
3/31/2013 TO 3/31/2023



LARGE CAP VALUE VS. GROWTH
ROLLING 1 YEAR PERFORMANCE VS. RUSSELL TOP 2000
3/31/2013 TO 3/31/2023



SECTOR RETURNS BY CAPITALIZATION

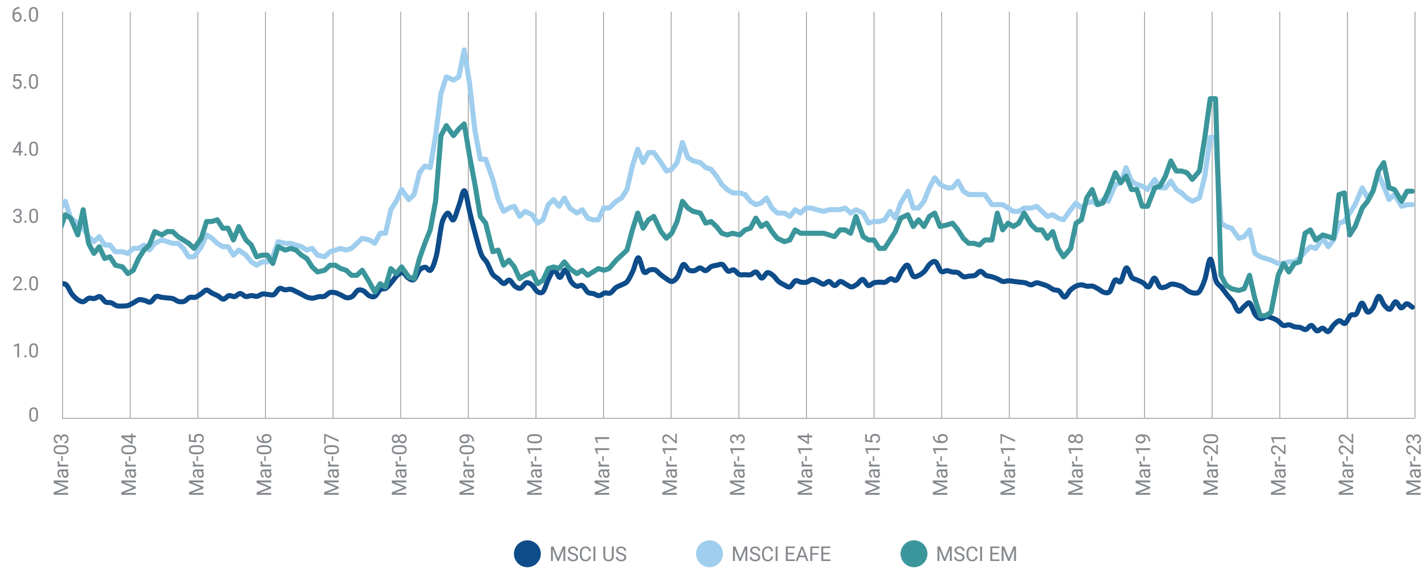
	U.S. Large Cap		U.S. Mid Cap		U.S. Small Cap	
	Q12023	YTD	Q12023	YTD	Q12023	YTD
Basic Materials	6.8	6.8	6.6	6.6	7.3	7.3
Consumer Goods	-2.3	-2.3	2.5	2.5	2.9	2.9
Consumer Services	16.6	16.6	10.1	10.1	11.8	11.8
Financials	-4.5	-4.5	-6.7	-6.7	-8.7	-8.7
Health Care	-5.0	-5.0	3.8	3.8	-1.8	-1.8
Industrials	2.7	2.7	6.8	6.8	8.2	8.2
Oil & Gas	-4.1	-4.1	-7.1	-7.1	-4.8	-4.8
Real Estate	4.7	4.7	-0.1	-0.1	0.4	0.4
Technology	26.9	26.9	14.6	14.6	13.5	13.5
Telecommunications	6.3	6.3	12.6	12.6	3.0	3.0
Utilities	-3.8	-3.8	-1.4	-1.4	2.6	2.6

Source: Russell Investments & Industry Classification Benchmark

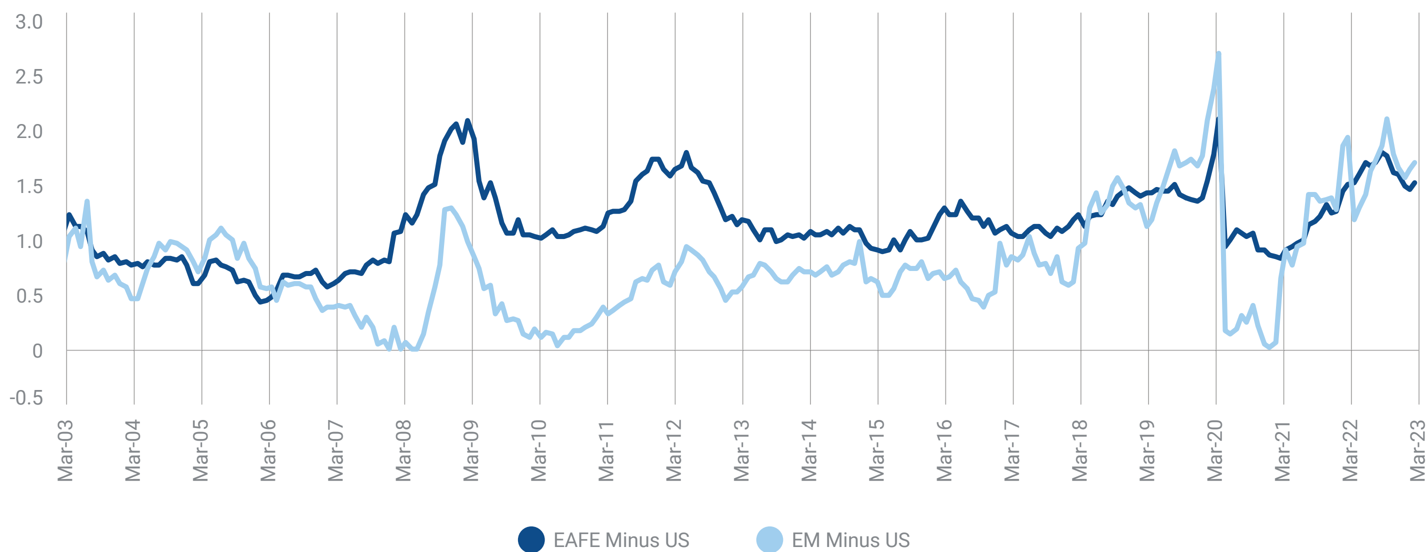
*Large Cap: Russell Top 200 Index Mid Cap: Russell Mid Cap Index Small Cap: Russell 2000 Index

GLOBAL EQUITY RATIOS

DIVIDEND YIELDS

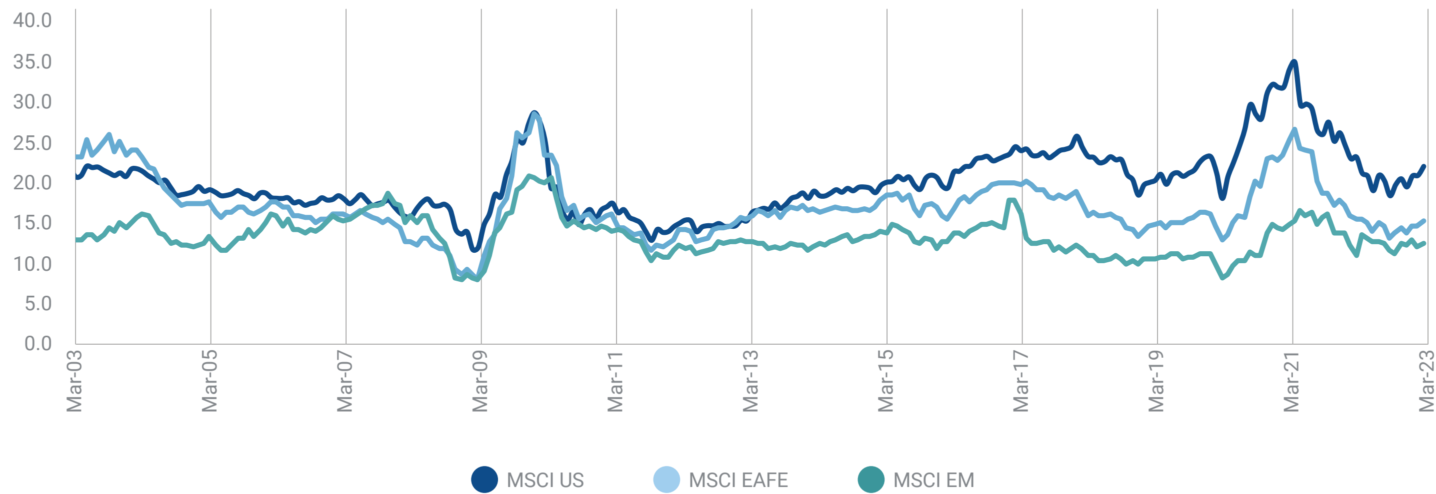


DIVIDEND YIELD DIFFERENTIALS

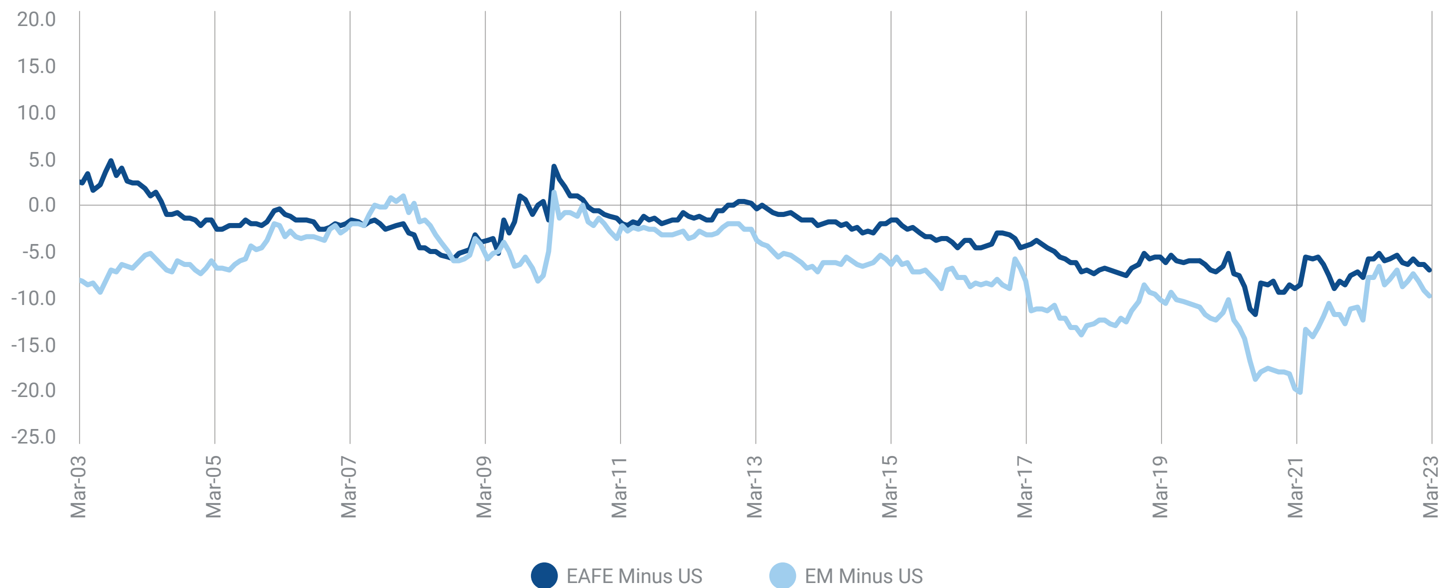


GLOBAL EQUITY RATIOS

PRICE/EARNINGS RATIOS



PRICE/EARNINGS RATIO DIFFERENTIALS

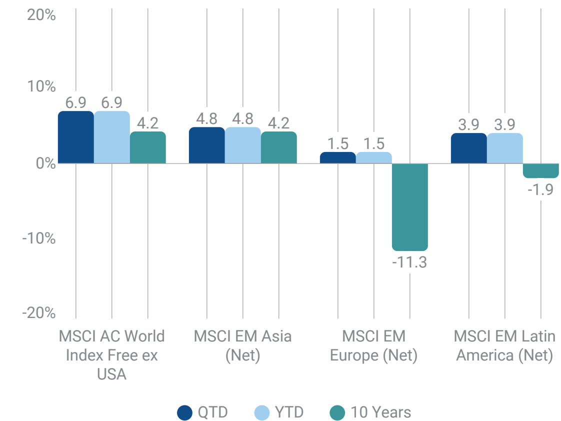


GLOBAL EQUITY PERFORMANCE

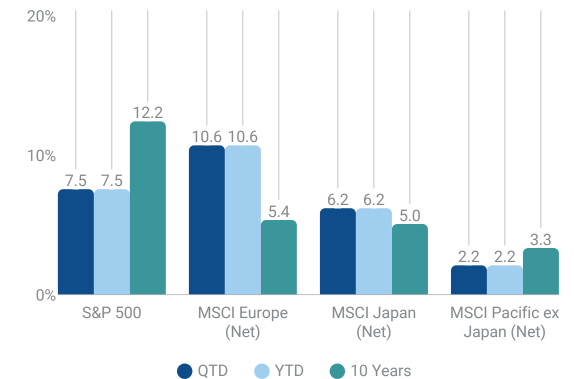
Global equity markets got off to a strong start with the S&P 500, MSCI EAFE, and MSCI Emerging indices posting gains of 7.5%, 8.5%, and 4%, respectively. These markets proved to be highly resilient and posted gains despite a US banking crisis. A widely anticipated recession that has yet to appear, continued strength in the labor market, and declining yields all buoyed investor enthusiasm for risk assets. The MSCI All Country World Index (ACWI) finished the quarter 6.9% higher with no major market posting declines. Europe, Japan, and the emerging markets all benefited from falling energy prices, China reopening, and a weakening of the US dollar.

European equities had a particularly good start to the year with Germany, France, the Netherlands, and Ireland all posting double-digit gains as fears of a European energy crisis abated. The Czech Republic was the best-performing EM market, notably benefiting from the performance of a state-owned power utility. Chinese equities were also positive for the quarter, as optimism about the reopening and an easing of regulatory pressures overcame ongoing political tensions with the US. India had a difficult quarter, as a number of companies across its market were impacted by the sell-off in shares of the Adani Group. Other laggards included markets across the Gulf Cooperation Council (GCC), which were impacted by declining energy prices.

GLOBAL EQUITY MARKET PERFORMANCE



DEVELOPED EQUITY MARKET PERFORMANCE



US VALUATIONS

Price increases coupled with a decrease in forward earnings estimates caused forward price multiples to expand across all US size and style segments. On a normalized basis, the S&P 500 Index remains expensively priced, trading at a cyclically adjusted P/E ("CAPE") more than 1.5 standard deviations above its long-term average.

The near-term earnings outlook for US equities continued to weaken during the quarter, with the S&P 500 expected to report a year-over-year earnings decline of -6.8% for the first quarter, a 650 bps downward revision from the Q1 earnings estimate as of 12/31/22. Additionally, approximately half (252) of the companies in the index have issued earnings estimates for CY 2023; of these, 54% have issued negative guidance. Overall, five of the eleven sectors are projected to grow earnings, while six are projected to experience earnings declines; the consumer discretionary (+34%), industrials (+12%), and energy (+9%) sectors are expected to post the largest gains, while materials (-36%), healthcare (-21%), and information technology (-15%) are expected to post the steepest declines.

INTERNATIONAL VALUATIONS

Multiples of non-US developed equities widened across both value and growth in Q1 as the international equity market enjoyed share-price gains. On both an absolute and relative basis (as compared to US equities), international equities continue to trade at a discount relative to historical averages. Emerging-market valuations also trended higher in Q1, although they remain cheap on both an absolute and relative basis. Looking out to forward earnings expectations, Europe ex-UK is expected to grow earnings by 3% in 2023 and 9% in 2024; however, the UK is expected to experience a 4% decline in earnings this year before returning to 6% growth in 2024. The broader emerging markets are expected to see earnings contract by 2% in 2023; however, China is estimated to grow its earnings by 13% this year, as demand is expected to increase following the country's lifting of COVID restrictions.

US VALUATIONS

US Large Cap Equity	Quarter Ending 03/31/2023		Quarter Ending 12/31/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	18.6	32.2	17.9	26.9
IBES LT Growth (%)	8.0	12.0	8.4	13.1
1 Year Forward P/E Ratio	14.7	24.0	14.1	21.1
Negative Earnings (%)	6.7	8.6	5.2	4.1

US Mid Cap Equity	Quarter Ending 03/31/2023		Quarter Ending 12/31/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	19.0	38.1	17.2	37.4
IBES LT Growth (%)	9.2	15.7	8.9	16.3
1 Year Forward P/E Ratio	14.3	21.3	13.6	19.7
Negative Earnings (%)	12.1	15.8	10.1	15.8

US Small Cap Equity	Quarter Ending 03/31/2023		Quarter Ending 12/31/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	20.1	13.7	18.8	42.2
IBES LT Growth (%)	9.2	14.2	9.0	14.1
1 Year Forward P/E Ratio	11.0	16.8	10.5	15.2
Negative Earnings (%)	24.9	29.7	22.7	30.5

INTERNATIONAL VALUATIONS

	Quarter Ending 03/31/2023		Quarter Ending 12/31/2022	
International Equity	Value	Growth	Value	Growth
Price/Earnings Ratio	10.7	26.4	10.2	23.9
IBES LT Growth (%)	5.4	13.0	5.9	12.9
1 Year Forward P/E Ratio	9.3	20.6	8.7	19.4
Negative Earnings (%)	6.4	3.8	5.7	3.9

	Quarter Ending 03/31/2023	Quarter Ending 12/31/2022
Emerging Markets Equity	Value	Value
Price/Earnings Ratio	13.7	13.3
IBES LT Growth (%)	11.9	14.1
1 Year Forward P/E Ratio	13.1	12.2
Negative Earning (%)	5.3	5.9

Source: Russell Investments Total Equity Profile

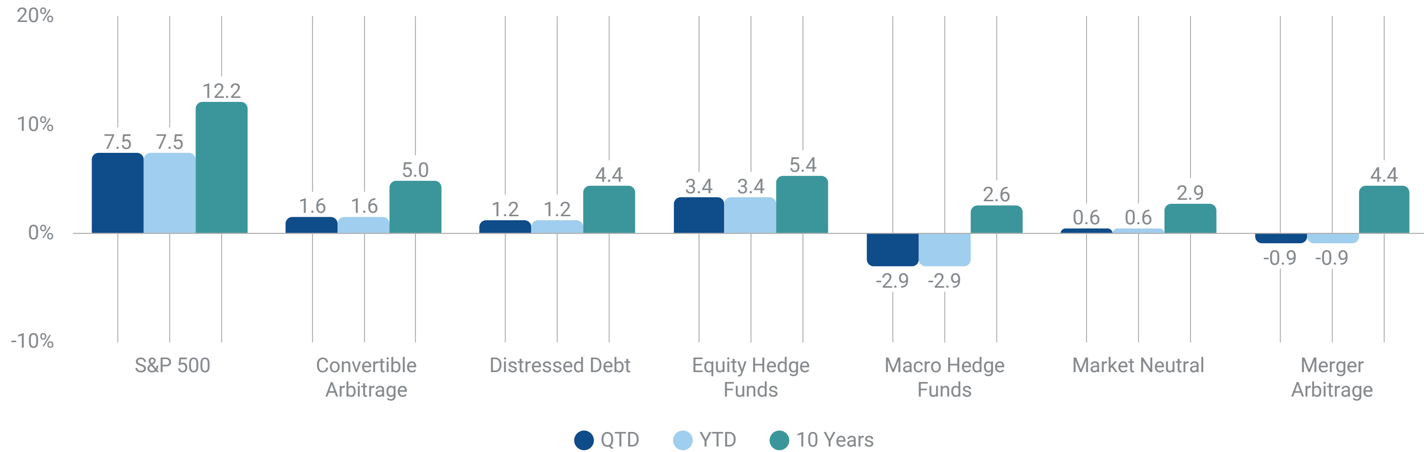
NON-US DEVELOPED/EMERGING CAP & STYLE: MSCI AC WORLD EX - US INDICES (SOURCE: MSCI - DATA SOURCED 'AS IS')

	Q1 2023	YTD		Q1 2023	YTD
Large Cap Value	5.1%	5.1%	Large Cap Growth	8.8%	8.8%
Mid Cap Value	5.3%	5.3%	Mid Cap Growth	7.6%	7.6%
Small Cap Value	3.8%	3.8%	Small Cap Growth	5.6%	5.6%

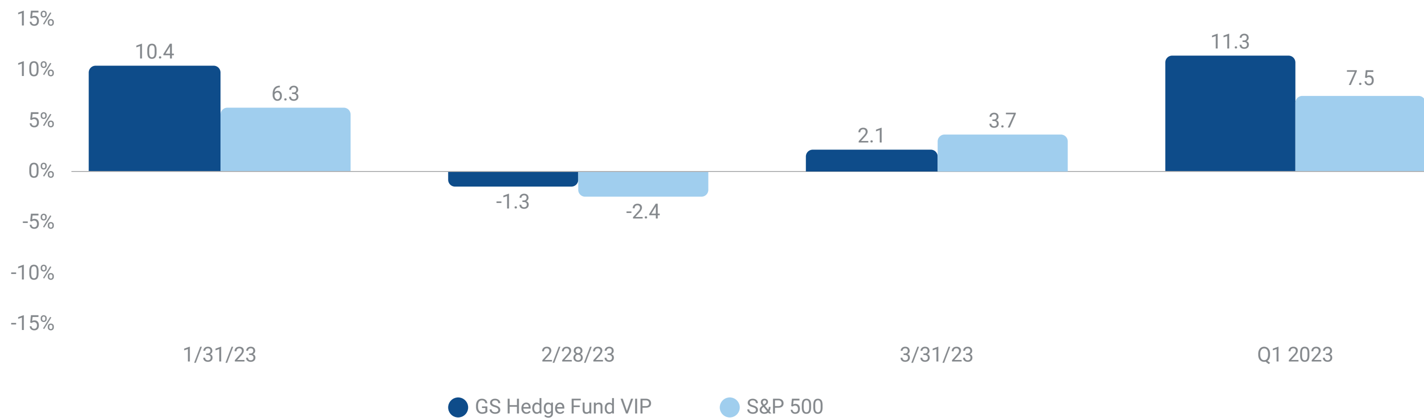
Country	Best Performing Style
Australia	Growth
Brazil	Value
Canada	Growth
China	Value
France	Growth
Germany	Growth
Hong Kong	Growth
Indonesia	Value
Italy	Value
Japan	Growth
Mexico	Value
Singapore	Growth
Spain	Growth
Thailand	Growth
United Kingdom	Growth

HEDGE FUND PERFORMANCE

HFR HEDGE FUND STRATEGY RETURNS

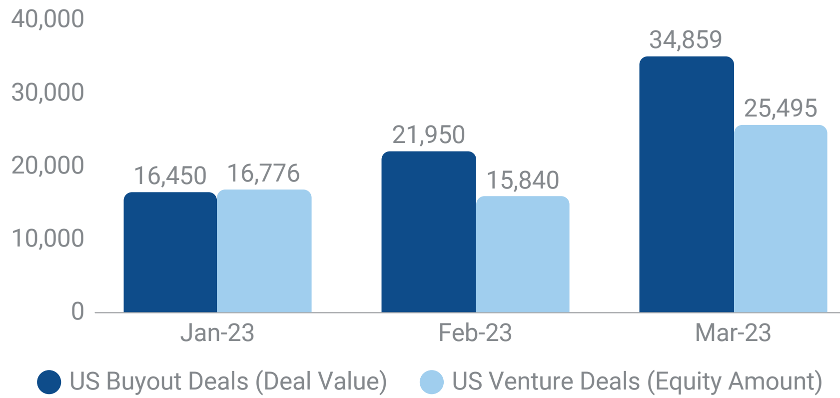


GS HEDGE FUND VIP INDEX
(THE 50 STOCKS MOST WIDELY HELD BY HEDGE FUNDS)

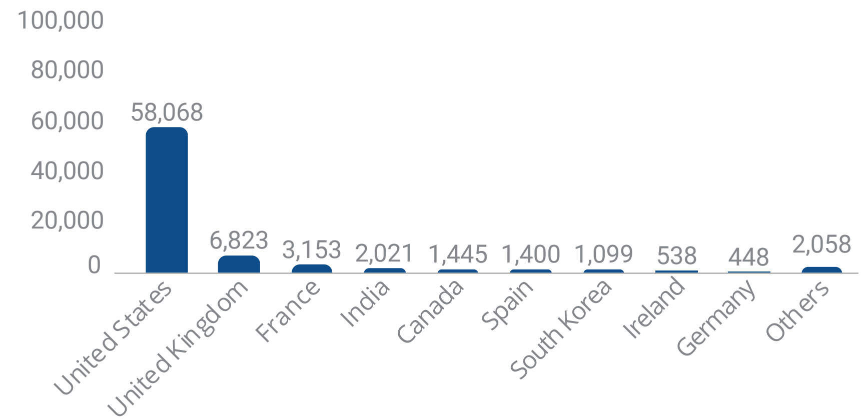


PRIVATE EQUITY PERFORMANCE

Q1 2023 PRIVATE EQUITY DEALS
(USD MIL)



Q1 2023 PE DEALS BY VALUE
(USD MIL)
SNAPSHOT AS OF 4/11/2023

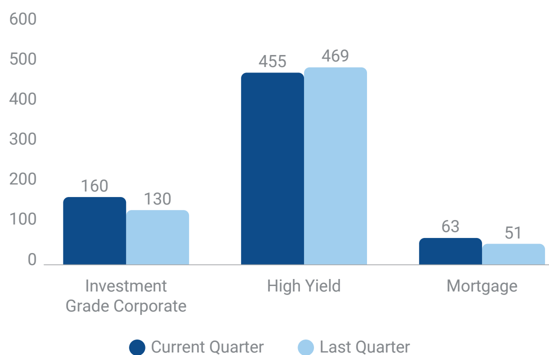


US SPREAD PRODUCTS

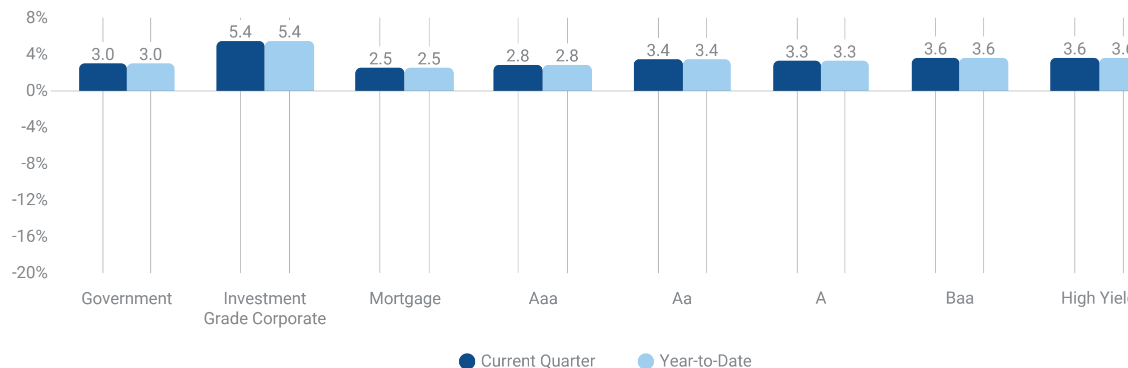
The investment-grade corporate bond market returned 3.5% for the quarter. The return was driven by the coupon return and a decline in US Treasury yields. This market's option-adjusted spread (OAS) widened by a modest 8 bps to end the quarter at 138 bps; the OAS is modestly above its ten-year median of 120 bps. Given the more favorable risk environment, lower-quality credits generally outperformed for the quarter: Baa-rated corporates, 3.6%; A-rated corporates, 3.3%; and Aa-rated corporates, 3.4%. This market's issuance totaled approximately $400 billion for the quarter, a decrease of approximately 15% from the corresponding period in 2022.

The high-yield corporate-bond and leveraged-loan markets returned 3.6% and 3.2%, respectively, for the quarter. The high-yield bond market's return was driven by the fixed-coupon return, a decline in US Treasury yields, and spread tightening; the leveraged-loan market's return was driven by the floating coupon return, an increase in US overnight interest rates, and spread tightening. The high-yield bond market's OAS narrowed by 14 bps to end the quarter at 455 bps; the OAS is modestly above its ten-year median of 400 bps. The leveraged-loan market's three-year discount margin narrowed by 55 bps to end the quarter at 590 bps; the discount margin is above its ten-year median of 485 bps. Given the more favorable risk environment, lower-quality high-yield bond and leveraged-loan credits outperformed for the quarter: Caa-rated corporates, 5.0% bond/3.9% loan; B-rated corporates, 3.5%/3.8%; and Ba-rated corporates 3.4%/2.1%. The bond and loan markets' issuances totaled approximately $40 billion and $50 billion for the quarter, respectively—decreases of approximately 20% and 55%, respectively, from the corresponding period in 2022. In addition, for both markets, more than 70% of issuances were refinancings; net supply was negative.

YIELD SPREADS
(BASIS POINTS)



RETURNS BY SECTOR AND QUALITY (%)



YIELD CURVE

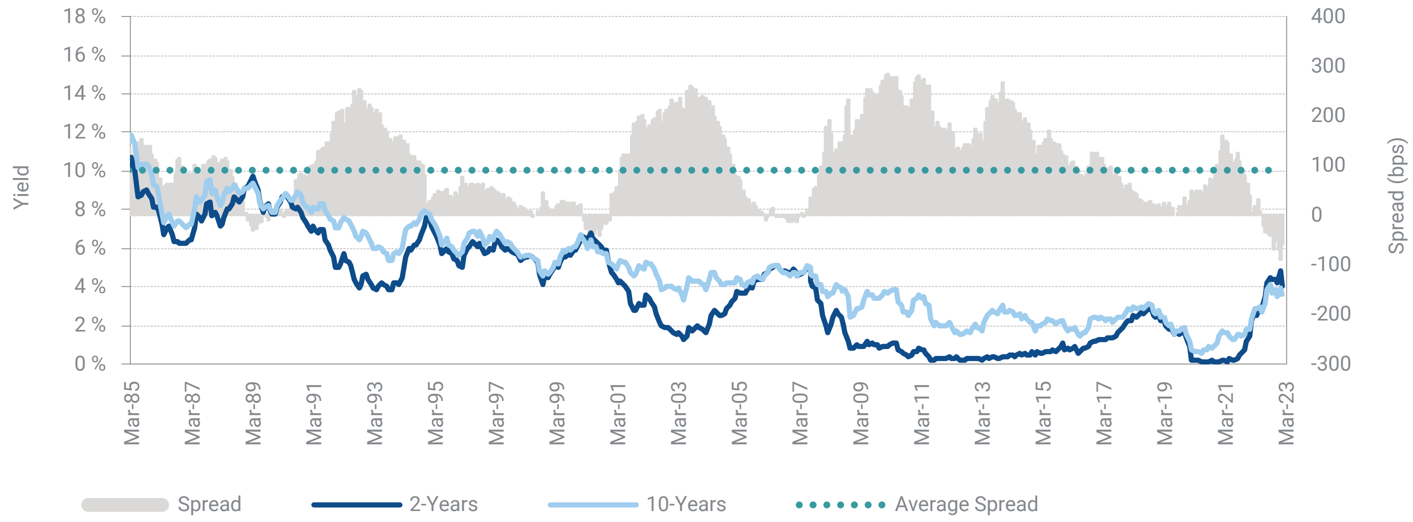
US Treasury yields decreased for each point along the curve except for those at the extreme front end. Yields decreased on the two-year note (-35 bps to 4.06%), ten-year note (-40 bps to 3.48%), and 30-year bond (-30 bps to 3.67%); yields increased on the three-month bill (+43 bps to 4.85%) and six-month bill (+18 bps to 4.94%). The two- to ten-year spread, which breached -100 bps in early March to reach its deepest inversion since the early 1980s, ended the quarter slightly lower (-5 bps to -58 bps); the spread is currently more than one and a half standard deviations below its historical mean (91 bps). The less-quoted three-month to ten-year spread fell deeper into inversion (-83 bps to -137 bps).

The increase in ultra-short yields can mostly be explained by the Fed's continued increases in overnight rates and its commitment to keep rates "higher for longer" in pursuit of its 2% inflation target. Although in late 2022 the inflation rate seemed to be on a path of rapid decline, in early 2023 it appears to be declining at a less rapid pace, while services inflation appears to be stubbornly stuck at a higher-than-desired rate.

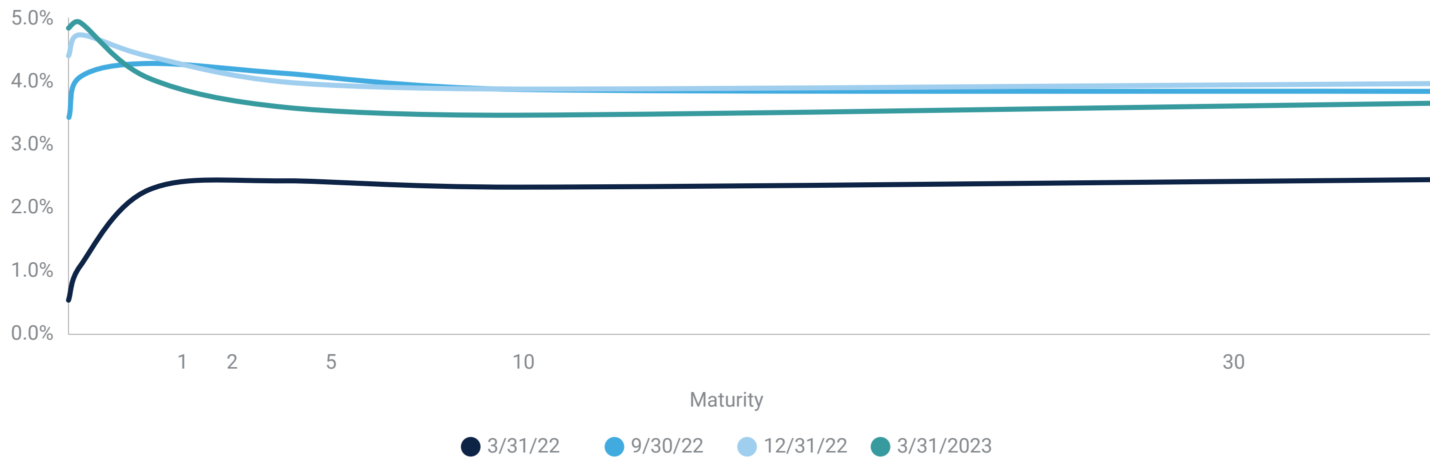
The decrease in yields across all but the ultra-short tenors can largely be attributed to the bond market's anticipation of slower growth and inflation in the future; mixed-to-softer economic data and a minor banking crisis led to worries about systemic banking issues, an economic hard landing, and suspicions that the Fed had made a policy mistake.

ALTHOUGH IN LATE 2022 THE INFLATION RATE SEEMED TO BE ON A PATH OF RAPID DECLINE, IN EARLY 2023 IT APPEARS TO BE DECLINING AT A LESS RAPID PACE.

2 YEAR VS. 10 YEAR TREASURY YIELDS



TREASURY YIELD CURVE



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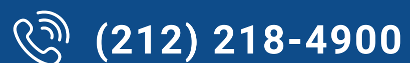
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