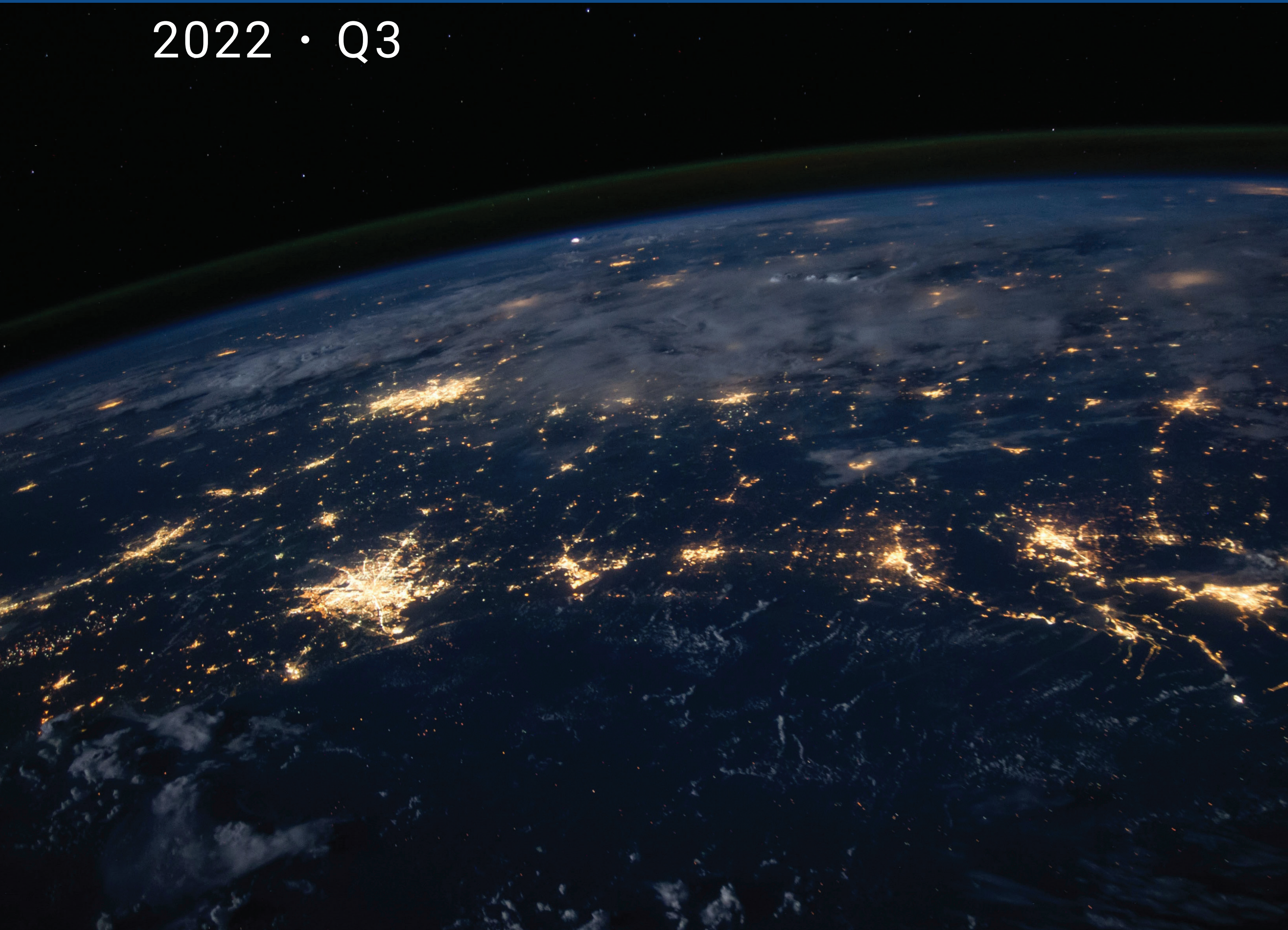
CREWCIAL® PARTNERS

GLOBAL MARKET SUMMARY

2022 · Q3



QUARTERLY HIGHLIGHTS:

UNITED STATES

The overall US economic picture remained mixed. ISM manufacturing and service sector PMIs remained in expansionary territory, showing resiliency in the face of climbing costs. In retail, US consumers continued to shop as wage gains and savings overcame rising costs. Early in the quarter, headline consumer and produce prices decelerated, suggesting "peak inflation" had been reached. However, by quarter end, some measures of inflation reappeared, including core inflation, which grew to 6.3% for the 22 months ending in August.

The Federal Open Market Committee (FOMC) met in July and September. It agreed to increase the federal-funds target rate corridor by 75 bps in both meetings; the corridor is currently 3.00-3.25%. At the September meeting, the Summary of Economic Projections (SEP) was updated; Fed officials increased projections for the target rate at the end of 2022 and 2023 from 3.4% to 4.4% and 3.8% to 4.6%, respectively—this action was presaged by Chairperson Powell's speech at the Jackson Hole Economic Symposium in August. The FOMC made no changes to its balance-sheet reduction plans; the monthly reduction, targeted at $95 billion, is expected to continue until the FOMC has determined an appropriate reserve level.

At the end of the quarter, the federal-funds futures market predicted a target rate of 4.25% by the end of 2022—equivalent to approximately 125 bps of future hikes expected to occur at the remaining FOMC meetings in 2022: November (+75 bps), and December (+50 bps). This market predicts a similar target rate by the end of 2023. The pace and quantity of the hikes predicted generally agree with those expected by Fed officials through 2023.

At the end of the quarter, mortgage rates were more than double relative to the beginning of the year. Despite the rapid rise in rates, US housing prices increased 13.5% year-over-year in August. No state has experienced an annual decline in prices, although monthly data indicates softening demand—the Case Shiller HPI (non-seasonally adjusted) declined 0.7% month-over-month in August. Housing price growth decelerated the most in West Coast, Mountain West, and second-home markets. Recent housing price gains and rapid mortgage-rate increases raise concerns on affordability and potential transaction-volume and/or price declines, although low inventory, low delinquencies, fixed-rate mortgages, and stricter post-Great Financial Crisis (GFC) underwriting standards continue to be supportive of the housing market.

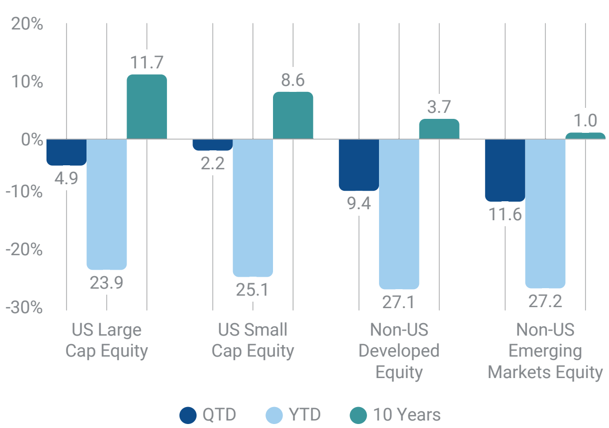
CHINA

Economic conditions in China remained challenging. Official data showed home prices, sales, and investments falling in August, as developers' financial strain continued to dampen confidence in the sector. Meanwhile, consumer spending and factory output were positive in August—gains of 5.4% and 3.8%, respectively—but fell short of expectations as the economy continued to trend below its growth targets.

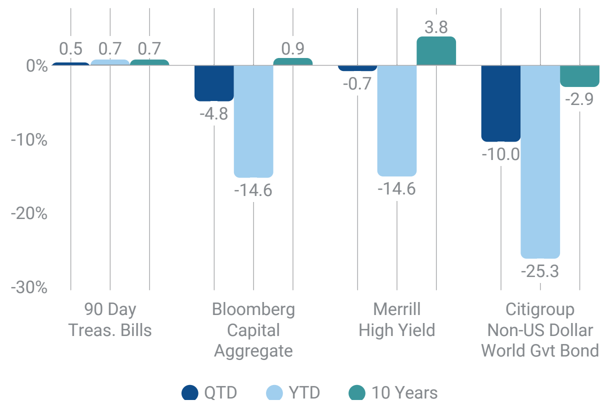
Chinese authorities have stepped up measures to support the economy. The People's Bank of China (PBOC) cut the five-year loan prime rate (LPR), a reference for mortgages, by 15 bps to 4.30% and trimmed the one-year LPR to 3.65%. The PBOC also lowered its seven-day reverse repo rate. President Xi's administration outlined a 19-point policy package adding ¥300 billion to policy banks' investments in infrastructure projects, on top of ¥300 billion announced in June.

The US and China reached a preliminary deal over the auditing of US-listed Chinese companies, heading off a potential delisting. The deal meets many of the Public Company Accounting Oversight Board's (PCAOB) demands, including full access to Chinese audit work papers, the right to take testimony from audit company staff in China, and sole discretion to select which companies it inspects. According to PCAOB, the deal is the most detailed agreement to date the regulator has reached with China.

EQUITY MARKET PERFORMANCE



CREDIT MARKET PERFORMANCE



EUROPE

The Eurozone experienced marginally positive GDP growth in Q2, although forward-looking indicators showed economic activity slowing in Q3. The S&P Eurozone Manufacturing PMI declined to 48.4, a 27-month low; reduced production volumes due to high energy prices and lighter demand slowed activity. Service sector PMIs also declined. The war in Ukraine continued to have an impact on both energy and raw materials prices. Inflation across the Eurozone accelerated. Consumer prices grew a record 10.1% in September, beating the previous record of 9.1% according to data from the Eurostat. Energy prices rose at an annual rate of 41% over the period. Non-energy industrial goods and services experienced price increases; core inflation rose 4.8% through September, up from 4.3% the month before. Inflation rates varied across the region; inflation in France, where government price controls limited energy-price hikes, was lower relative to that of Estonia, Lithuania, and Latvia, where inflation was over 20%. Germany announced subsidies worth €200 billion ($195 billion) for households and businesses, putting a cap on natural-gas prices.

The European Central Bank (ECB) raised interest rates for the first time in eleven years in July by 0.50%, and again in September by a record 0.75%. According to ECB policymakers, this front loads the transition from a highly accommodative interest-rate policy towards a neutral level. Policymakers made no mention of balance-sheet changes. After the meeting, ECB Chief Christine Lagarde stated, "We expect to raise interest rates further, because inflation remains far too high and is likely to stay above our target for an extended period."

In September, UK Prime Minister Liz Truss's new government announced a fiscal package including large new tax cuts and energy subsidies perceived to be highly inflationary and counter to the quantitative tightening implemented by the Bank of England (BOE). This caused a large-scale selloff across equity, debt, and currency markets, and a potential pension crisis, prompting the BOE to intervene to support the sovereign bond (gilts) market. While the fiscal plan was soon revised to include fewer tax cuts for the wealthy, rapidly rising rates in the UK rates continue to concern consumers, as most mortgages are floating rate.

JAPAN

Japan's cabinet office estimated Japan's GDP was expanding at an annualized rate of 2.2% in the second quarter. Japan's inflation rate remains relatively low, rising by 2.8% on a year-over-year basis through August, with modest gains outside of higher energy and food prices. While the auto sector contracted from supply-chain issues, overall industrial output grew. Japan's services sector ended the quarter on a high note; employment increased for the eighth straight month and the easing of tourism restrictions had a positive impact on demand.

At its September meeting, the Bank of Japan (BOJ) voted to maintain its current interest-rate policy; it is the only major central bank in the world with a negative interest-rate policy. The BOJ pledged to keep its ultra-accommodative monetary policy in place until inflation "stably achieves the [BOJ's] 2% target." Soon after its announcement, for the first time since the Asian Financial Crisis (AFC), the BOJ intervened in global currency markets, buying yen. While this temporality stabilized the yen's value, the overall trend over the quarter remained negative, with the yen ending the quarter at a multi-decade low relative to the dollar; the significant interest-rate differential weighed on investor demand for the currency.

During the quarter, Prime Minister Fumio Kishida's administration accelerated plans to restart seven nuclear reactors in Japan (four by the winter), which have been idled since the Fukushima power-plant disaster. The government will also look at the development of next-generation nuclear-power plants—this marks a significant shift in energy policy, as most of these plants have remained offline since Fukushima.

"CONSUMER SPENDING AND FACTORY OUTPUT WERE POSITIVE IN AUGUST— GAINS OF 5.4% AND 3.8%, RESPECTIVELY—BUT FELL SHORT OF EXPECTATIONS AS THE ECONOMY CONTINUED TO TREND BELOW ITS GROWTH TARGETS."

COMMODITIES

The S&P Goldman Sachs Commodity Index (SPGSCI) ended the quarter with a total return of 9.84%. All major commodity constituents fell during the quarter; a notable exception was agriculture, specifically wheat prices (rising ~10.9% for the period)—the largest contributor to performance in Q3. The world's wheat supply remains affected by the conflict between Russia and Ukraine. Energy (-14.90%, S&P GSCI Energy Index) underperformed all other SPGSCI sub-index constituents. Within the precious metals sub-index, both gold and silver prices decreased during the quarter. In industrial metals, copper, aluminum, and nickel prices shifted lower; lead achieved a small price gain. All futures prices are on pace to decline for four consecutive months—this would be the longest losing streak since 2017. Brent crude is on pace to decline for four consecutive months, which would also mark its longest monthly decline since 2017; in early 2022, energy prices had reached multi-year highs.

ECONOMIC INDICATORS

The US economy added 263,000 jobs in September. A total of 1,115,000 jobs were created in the third quarter. Thus far in 2022, monthly job growth has averaged 420,000 per month, lower than the 562,000 per month from 2021, but higher than the second-quarter average of 383,000. Gains continued in leisure and hospitality (+83,000) and healthcare (+60,000) in September.

The unemployment rate peaked in August at 3.7% and fell to 3.5% in July and September. In September, the number of unemployed persons lowered to 5.8 million; the labor force participation rate was 62.3%—1.1% below February 2020.

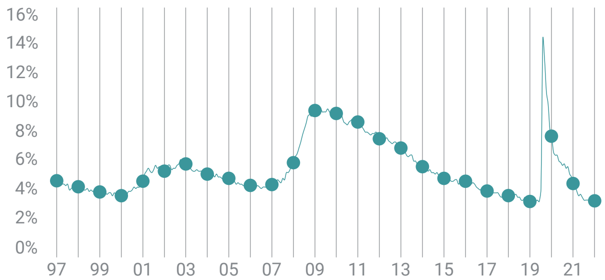
The Consumer Price Index for All Urban Consumers (CPI-U) rose 0.1% in August. The CPI-U increased by 1.0% and 1.3% in May and June, respectively. Over the twelve months ending August, the all-items index increased by 8.3% before seasonal adjustment, lower than the 8.6% from the period ending in May. Contributors included shelter, food, and medical care, largely offset by the gasoline index's 10.6% decline. Energy fell 5.0% in August; natural gas and electricity increased. The core index (CPI-U less food and energy) rose 6.3% over the last twelve months, led by increases in the energy and food indices. The 11.4% increase in the food index over the last year is the largest twelve-month increase since the period ending in May 1979.

Market volatility (VIX Index) had an average close in Q3 of 24.79, above its five-year average of 20.0, on rising inflation and pressure on equity valuations.

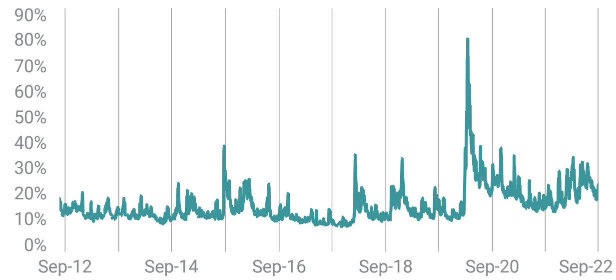
Following the 1.6% decrease in inflation-adjusted growth in US GDP in Q1, real GDP decreased 0.6% in Q2, reflecting the acceleration in consumer spending, a small decrease in federal government spending, and increased exports. This was partly offset from the downturn in private inventory and fluctuations in housing investments. Imports also decelerated.

Retail and food services sales increased in August 2022 (0.3%) from the previous month and were up (at 9.1%) from one year ago. Total sales for the three months of June, July, and August were up 9.3% from the same period one year ago. Quarterly profits for retailers also increased in Q2—up $8.9 billion from Q1. Motor-vehicle sales increased 10.4% for the twelve-month period of August 2021-2022; sales at gasoline stations increased 29.3% for the same period. A decrease in sales was experienced in furniture and home-furnishing stores for the same period (1.6%).

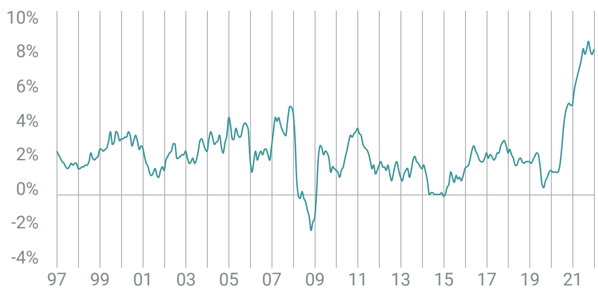
UNEMPLOYMENT RATE
25 YEARS THROUGH SEPTEMBER 2022



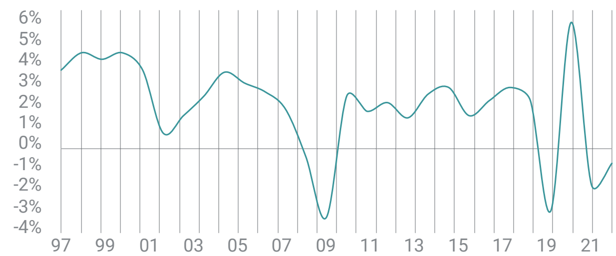
CBOE VIX DAILY CLOSING VALUES
LAST 10 YEARS



ROLLING 12 MONTH CONSUMER PRICE INDEX
25 YEARS THROUGH SEPTEMBER 2022



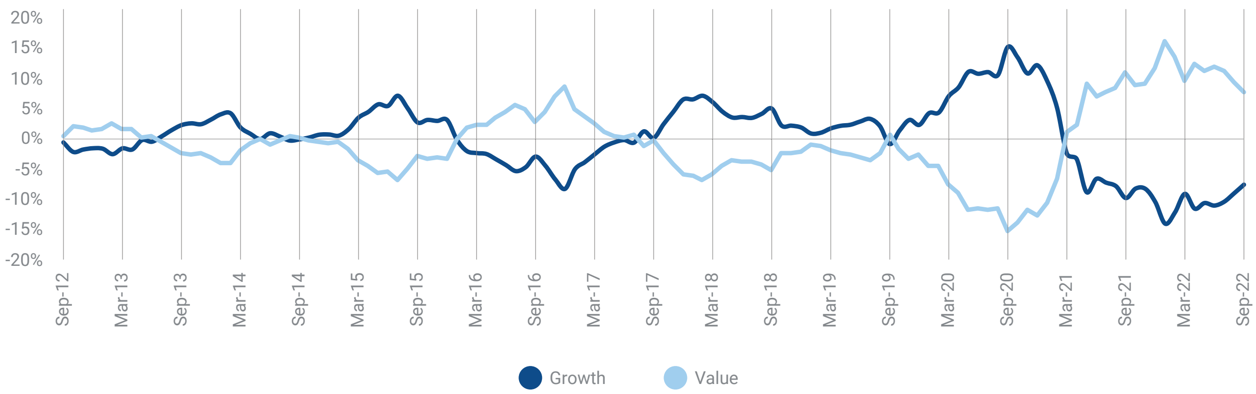
REAL GROSS DOMESTIC PRODUCT
25 YEARS THROUGH 2Q2022



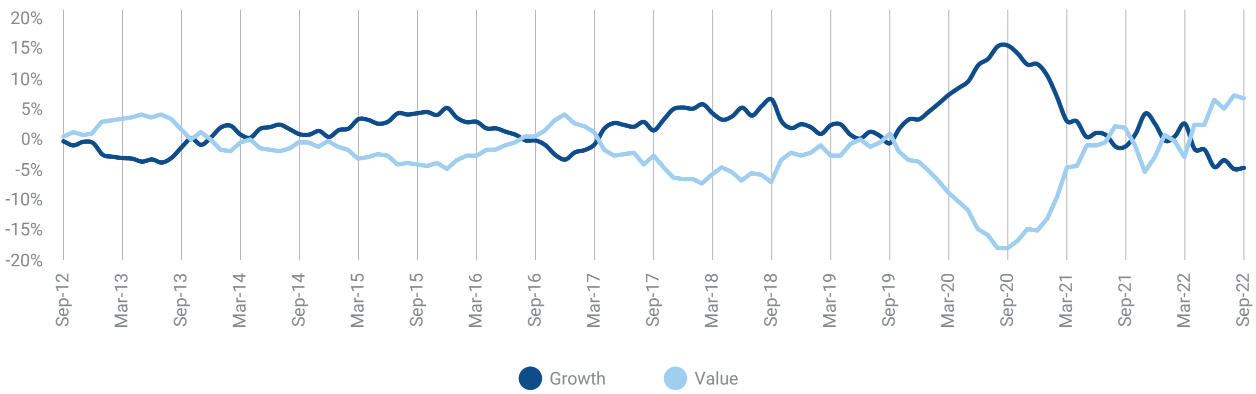
RETURNS BY STYLE

	Q3 2022	YTD		Q3 2022	YTD
Large Cap Value	-6.0%	-16.3%	Large Cap Growth	-4.2%	-30.5%
Mid Cap Value	-4.9%	-20.4%	Mid Cap Growth	-0.7%	-31.5%
Small Cap Value	-4.6%	-21.1%	Small Cap Growth	0.2%	-29.3%

SMALL CAP VALUE VS. GROWTH
ROLLING 1 YEAR PERFORMANCE VS. RUSSELL 2000
9/30.2012 TO 9/30/2022



LARGE CAP VALUE VS. GROWTH
ROLLING 1 YEAR PERFORMANCE VS. RUSSELL 2000
9/30.2012 TO 9/30/2022



SECTOR RETURNS BY CAPITALIZATION

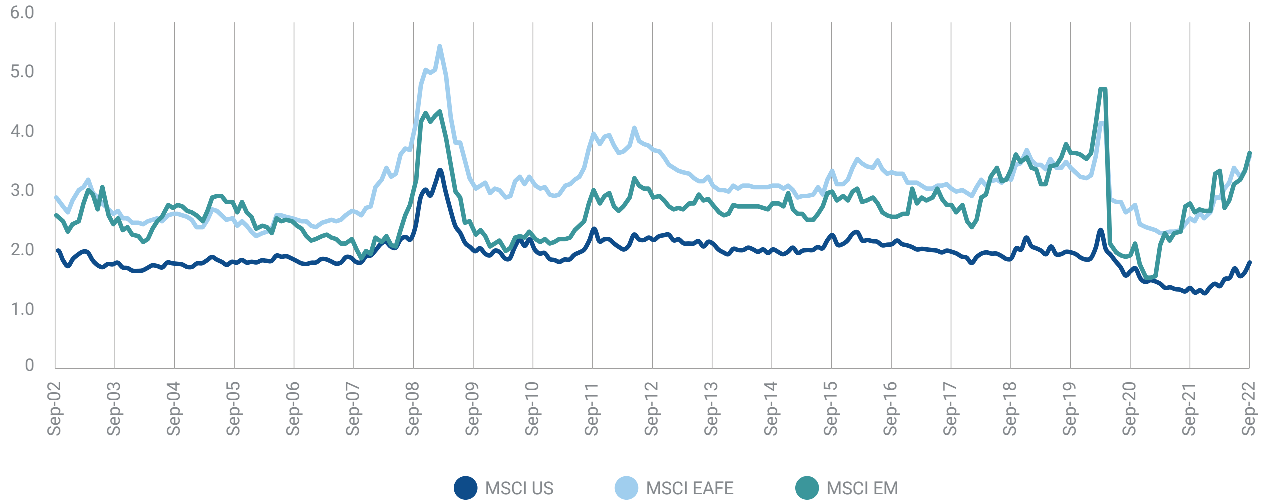
	U.S. Large Cap		U.S. Mid Cap		U.S. Small Cap	
	Q32022	YTD	Q32022	YTD	Q32022	YTD
Basic Materials	-9.2	-27.3	-5.7	-16.9	-3.0	-21.2
Consumer Goods	-7.3	-8.1	-5.5	-4.1	-8.4	-18.5
Consumer Services	5.8	-30.0	-2.4	-32.9	-4.7	-36.3
Financials	-3.5	-21.5	-1.8	-19.9	-1.6	-20.0
Health Care	-5.4	-10.8	-6.5	-30.3	6.8	-26.3
Industrials	-6.4	-24.3	-1.6	-26.3	-2.6	-23.2
Oil & Gas	4.0	36.8	5.3	32.7	6.8	25.3
Real Estate	-13.6	-30.8	-8.5	-27.1	-12.7	-33.1
Technology	-8.2	-34.9	-4.0	-36.1	-7.6	-38.5
Telecommunications	-19.1	-28.8	-8.4	-38.2	4.9	-22.0
Utilities	-4.7	-5.6	-4.6	-7.4	-7.5	-11.1

Source: Russell Investments & Industry Classification Benchmark

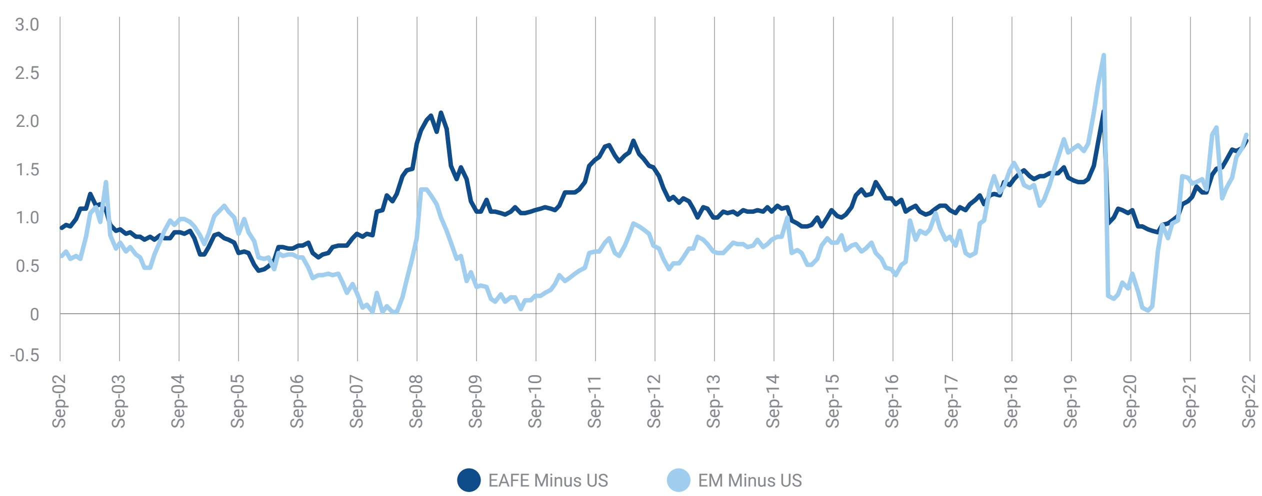
*Large Cap: Russell Top 200 Index Mid Cap: Russell Mid Cap Index Small Cap: Russell 2000 Index

GLOBAL EQUITY RATIOS (SOURCE: MSCI - DATA SOURCED 'AS IS')

DIVIDEND YIELDS

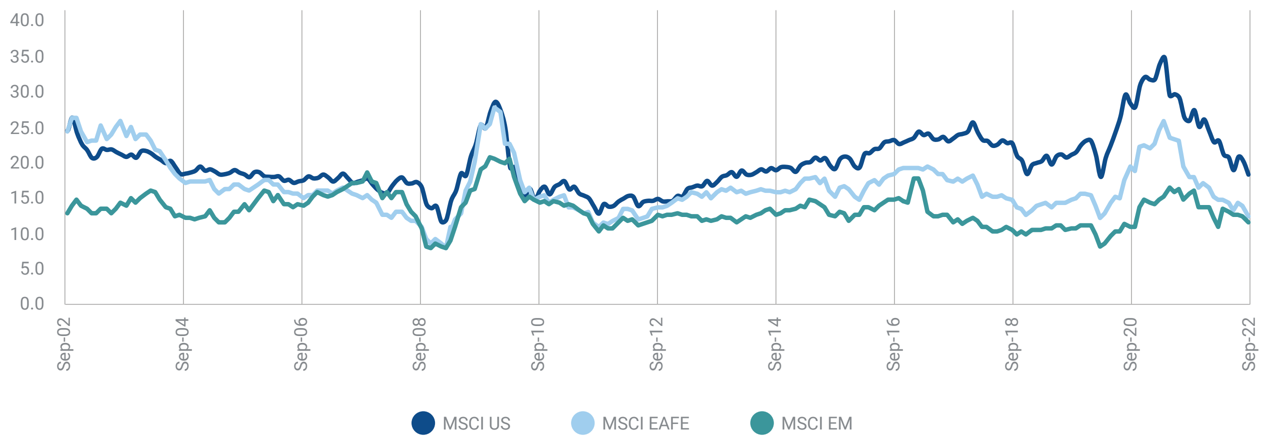


DIVIDEND YIELD DIFFERENTIALS

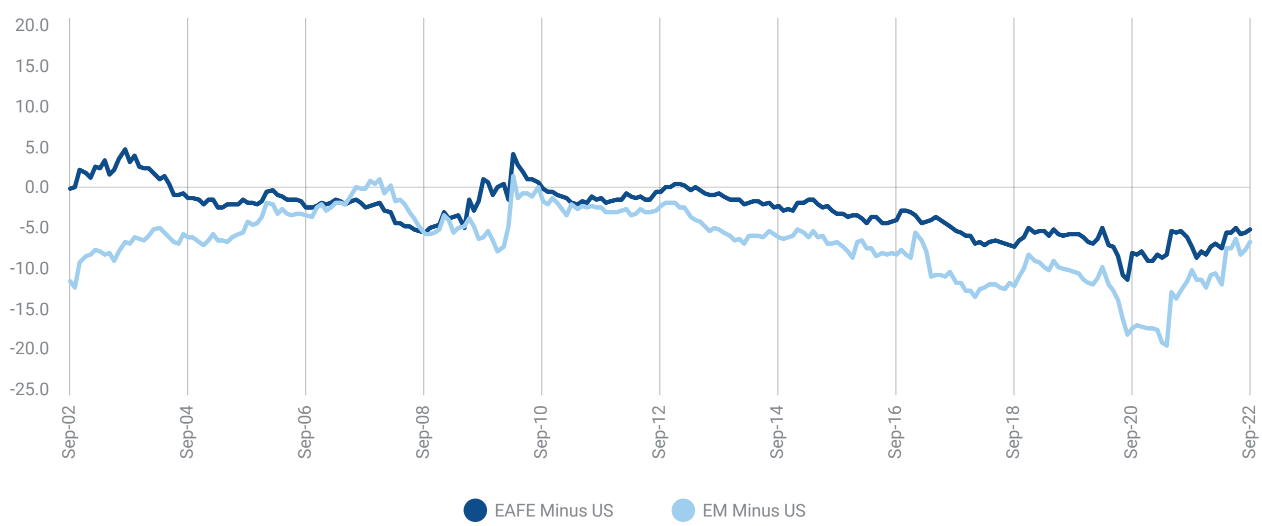


GLOBAL EQUITY RATIOS (SOURCE: MSCI - DATA SOURCED 'AS IS')

PRICE/EARNINGS RATIOS



PRICE/EARNINGS RATIO DIFFERENTIALS



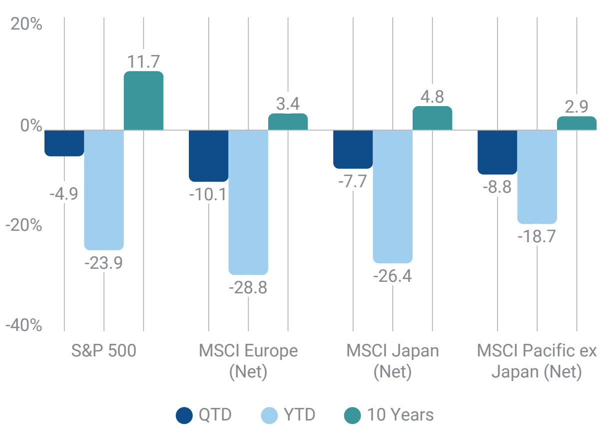
GLOBAL EQUITY PERFORMANCE

Global equities sold off during the second quarter with the S&P 500, MSCI EAFE, and MSCI Emerging indices posting declines of 4.9%, 9.3%, and 11.4% respectively. Inflation remained at the forefront of investors' concerns—central banks raised rates, seeking to correct supply/demand imbalances. A record amount of tightening has occurred since the start of the year: as of December 31st, an estimated $18 trillion in sovereign debt was trading with negative yields; as of quarter end, this number is $2 trillion.

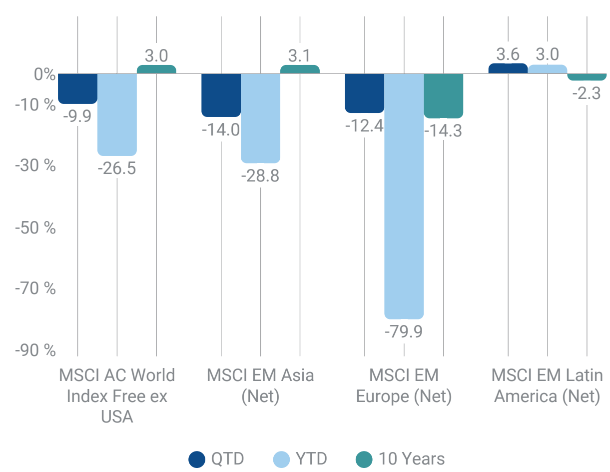
The MSCI All Country World Index (ACWI) finished the quarter 6.7% lower, taking the year's decline to 25.3% as of September 30th. Only Latin America and the Gulf Cooperation Council (GCC) were positive for the quarter. European markets and Japan remained under pressure; concerns remain that central banks' attempts to stamp out inflation and energy rationing might push their economies into a recession.

Chinese equities were the most significant detractor from the EM index; intermittent coronavirus lockdowns, weak economic indicators, and an ongoing property slump had a negative impact on the country's near-term outlook. Turkey was the best-performing EM market, as its central bank cut interest rates during the quarter and the economy continued to experience solid growth. India and Indonesia posted positive returns as their post-COVID-19 recoveries took hold. Benefiting from a downtrend in inflation and solid economic growth, Brazil was the top-performing market in Latin America.

DEVELOPED EQUITY MARKET PERFORMANCE



GLOBAL EQUITY MARKET PERFORMANCE



VALUATIONS

US VALUATIONS

Forward price multiples of US companies contracted in the third quarter across all size and style segments. The continued rise in interest rates negatively impacted valuation multiples for companies with long-duration growth profiles, while recessionary concerns caused sentiment to pull back across more economically sensitive (i.e., value) sectors. The re-rating in domestic equities was coupled with a more tepid near-term earnings outlook. Despite the pullback in valuations through 2022, domestic equity valuations remain elevated above historical averages. The S&P 500 is expected to report a year-over-year growth in earnings of 2.2% for the third quarter, a 680 bps downward revision from the Q3 earnings estimate as of 6/30. The number of companies issuing negative guidance for Q3 has declined from the levels observed in Q1 and Q2; it remains above average largely due to labor costs and shortages, supply-chain disruptions, and currency headwinds. Four of the eleven sectors are projected to grow earnings, while seven are projected to experience declines. The energy sector is the one significant positive outlier; it is expected to grow earnings by 118% over the year due to the surge in energy prices earlier this year. Excluding energy, the year-over-year earnings forecast for the S&P 500 falls to -4.0%.

INTERNATIONAL VALUATIONS

Multiples of non-US developed equities continued to compress across value and growth. The international equity markets have a much higher composition of cyclical sectors relative to the US, while heightened macro-economic pressures in the region have impacted near-term sentiment. Emerging-market valuations also trended lower in Q3; however, they retrenched at about half the rate of developed international equities. While 2022 earnings forecasts for emerging-market equities are similar to those of Europe and Japan, EM equities are estimated to grow earnings at a 30-50% premium to the developed international regions over the next two to three years.

US VALUATIONS

US Large Cap Equity	Quarter Ending 9/30/2022		Quarter Ending 6/30/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	15.4	25.0	15.8	26.4
IBES LT Growth (%):	9.8	16.5	10.6	17.1
1 Year Forward P/E Ratio:	12.2	20.8	13.1	22.0
Negative Earning (%):	7.0	4.3	6.5	4.0

US Mid Cap Equity	Quarter Ending 9/30/2022		Quarter Ending 6/30/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	15.4	35.8	16.1	35.5
IBES LT Growth (%):	9.6	17.0	10.6	17.2
1 Year Forward P/E Ratio:	11.7	18.1	12.7	19.1
Negative Earning (%):	9.2	17.0	8.4	15.8

US Small Cap Equity	Quarter Ending 9/30/2022		Quarter Ending 6/30/2022	
	Value	Growth	Value	Growth
Price/Earnings Ratio	17.5	12.6	18.8	66.3
IBES LT Growth (%):	9.1	14.5	9.6	15.0
1 Year Forward P/E Ratio:	9.3	13.4	10.6	14.3
Negative Earning (%):	24.0	32.2	23.9	34.2

INTERNATIONAL VALUATIONS

	Quarter Ending 9/30/2022		Quarter Ending 6/30/2022	
International Equity	Value	Growth	Value	Growth
Price/Earnings Ratio	9.8	22.1	11.0	21.2
IBES LT Growth (%):	7.6	12.1	9.1	13.0
1 Year Forward P/E Ratio:	7.9	17.7	8.8	19.1
Negative Earning (%):	6.2	6.4	6.3	5.5

	Quarter Ending 9/30/2022		Quarter Ending 6/30/2022	
Emerging Markets Equity	Value	Growth	Value	Growth
Price/Earnings Ratio	12.6	21.6	13.9	21.6
IBES LT Growth (%):	16.1	9.4	16.3	9.4
1 Year Forward P/E Ratio:	11.1	17.9	11.6	17.9
Negative Earning (%):	6.9	6.3	7.3	6.3

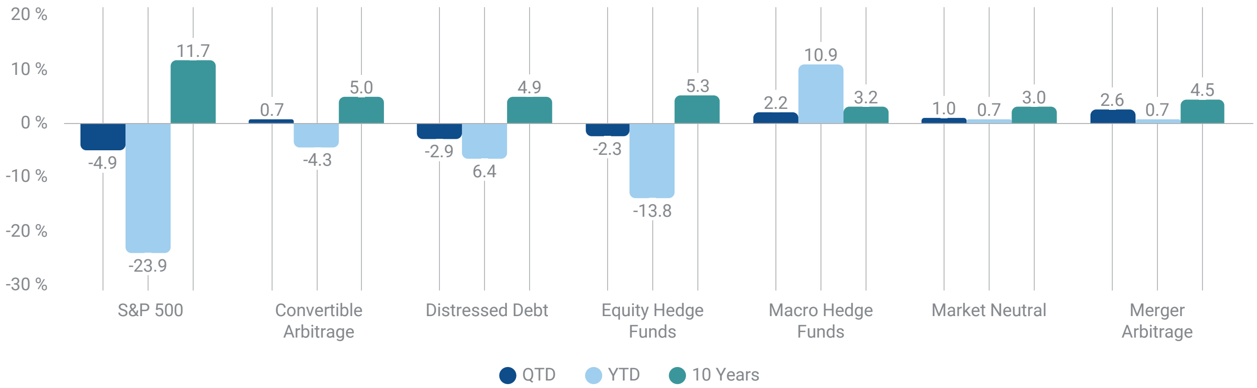
Source: Russell Investments Total Equity Profile

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

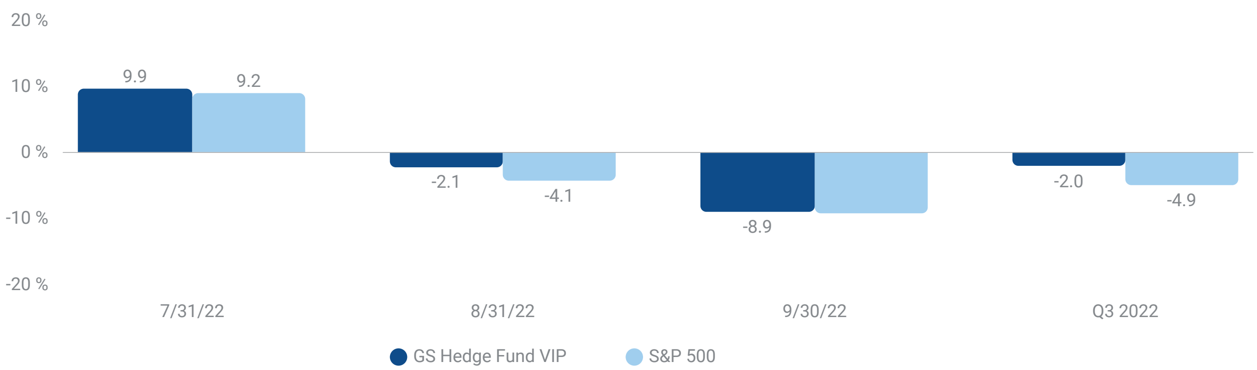
	Q3 2022	YTD		Q3 2022	YTD
Large Cap Value	-10.5%	-20.2%	Large Cap Growth	-9.4%	-31.4%
Mid Cap Value	-10.3%	-24.5%	Mid Cap Growth	-9.4%	-33.7%
Small Cap Value	-8.8%	-24.8%	Small Cap Growth	-8.0%	-33.9%

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

HFR HEDGE FUND STRATEGY RETURNS



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



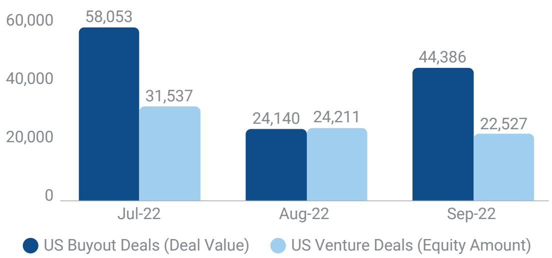
US SPREAD PRODUCTS

The investment-grade corporate bond market returned -5.1% for the quarter and -18.7% YTD, driven by sharp increases in US Treasury yields; investment-grade yields increased in sympathy. A less meaningful driver was an increase in this market's option-adjusted spread (OAS): +4 bps in Q3 (+67 bps YTD) to 159 bps (the OAS is slightly above its historical average of 140 bps). Despite a risk-off environment, lower-quality credits slightly outperformed: Aa-rated corporates, -4.9%; A-rated corporates, -5.2%; and Baa-rated corporates, -4.8%. This market's issuance totaled approximately $275 billion for the quarter, a decrease of approximately 17% from Q3 2021.

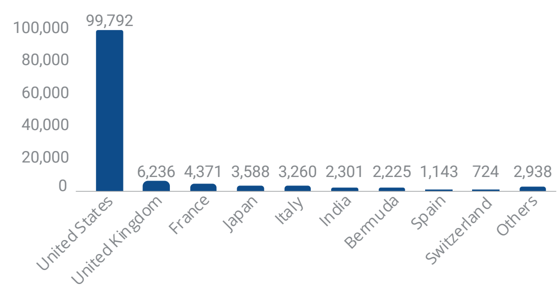
The high-yield corporate bond market returned -0.6% for the quarter and -14.7% YTD. For the quarter, the return was driven solely by sharp increases in US Treasury yields. This market's OAS decreased (-17 bps to 552 bps); the OAS is closer to its historical average (500 bps) than one standard deviation above its historical mean (734 bps). Despite a risk-off environment, lower-quality credits outperformed: Ba- and B-rated corporates, -0.7%; Caa-rated corporates, -0.4%. This market's issuance totaled approximately $21 billion for the quarter, a decrease of approximately 80% from Q3 2021.

PRIVATE EQUITY PERFORMANCE

Q3 2022 PRIVATE EQUITY DEALS
(USD MIL)



Q3 2022 PE DEALS BY VALUE (USD MIL)
SNAPSHOT AS OF 10/6/2022



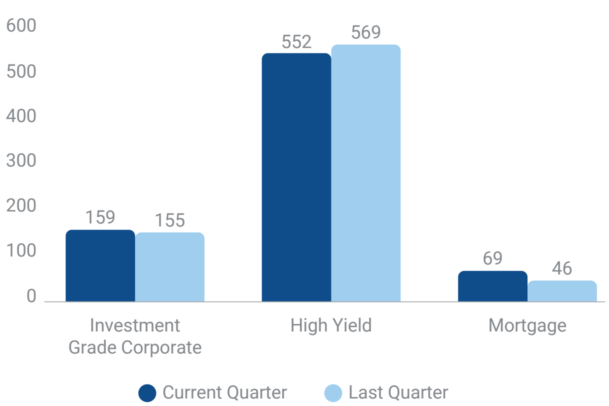
YIELD CURVE

The US Treasury yield curve shifted higher for the third consecutive quarter. Yields increased on the two-year note (+130 bps to 4.22%), five-year note (+105 bps to 4.06%), ten-year note (+85 bps to 3.83%), and 30-year bond (+65 bps to 3.79%). The two- to ten-year spread fell sharply into inversion (-45 bps to -39 bps); this spread is approximately one and a half standard deviations below its historical mean (92 bps).

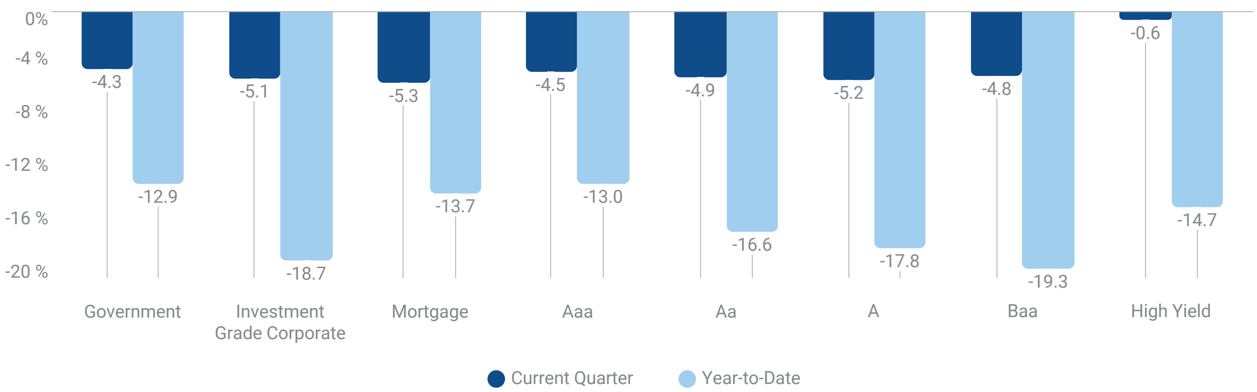
Similar to last quarter, bill yields increased the most, as the market priced in more-aggressive front-loaded rate hikes (e.g., the three-month bill increased by 161 bps to 3.33%); as a result, the three-month to ten-year spread flattened considerably (-76 bps to 50 bps).

The increase in interest rates across all points on the curve through the third quarter is mostly attributable to an acknowledgement by the bond market and Fed that inflation had not only reached levels not seen since the 1980s but seemed to be accelerating; despite a recent softening among some indicators, strong employment and wage growth signal a tight labor market, Russia's ongoing invasion of Ukraine is adding to an already tight energy-supply situation, and China's "Zero-COVID" policy is straining global supply chains. The flattening of the front-end of the curve is mostly attributable to the bond market's fear of "overtightening" by the Fed; secondary reasons include a yield advantage that favors the US relative to Europe and Japan, and mostly stable long-term inflation expectations anchored near the Fed's longer-term headline-PCE inflation target of approximately 2%.

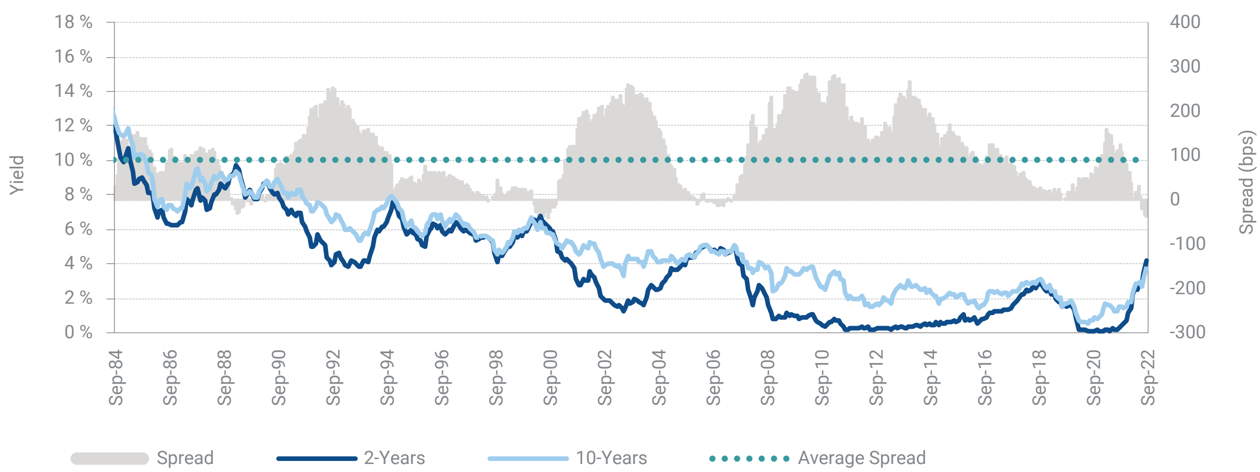
YIELD SPREADS
(BASIS POINTS)



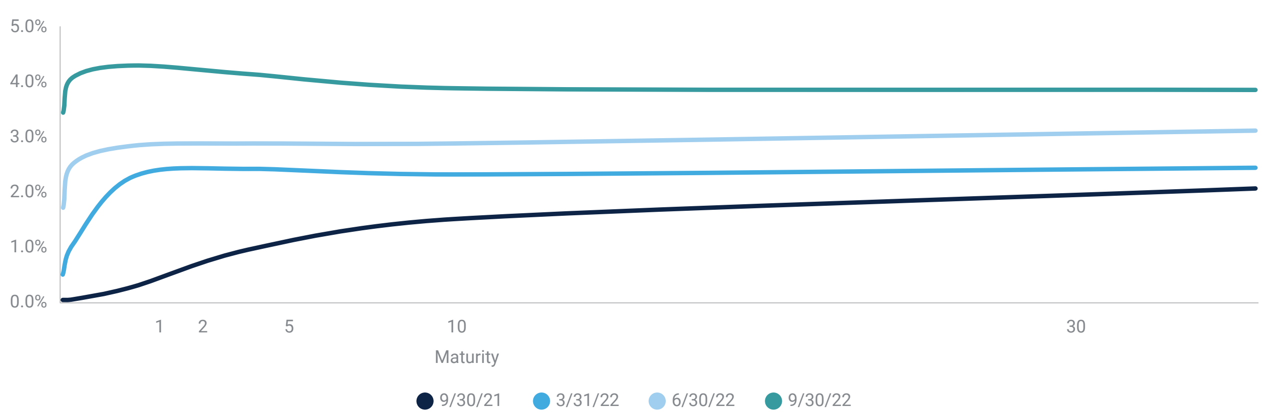
RETURNS BY SECTOR AND QUALITY (%)



2 YEAR VS. 10 YEAR TREASURY YIELDS



TREASURY YEILD CURVE



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