

CLIENT COMMUNICATION

Madison Commentary Report - September 30, 2022

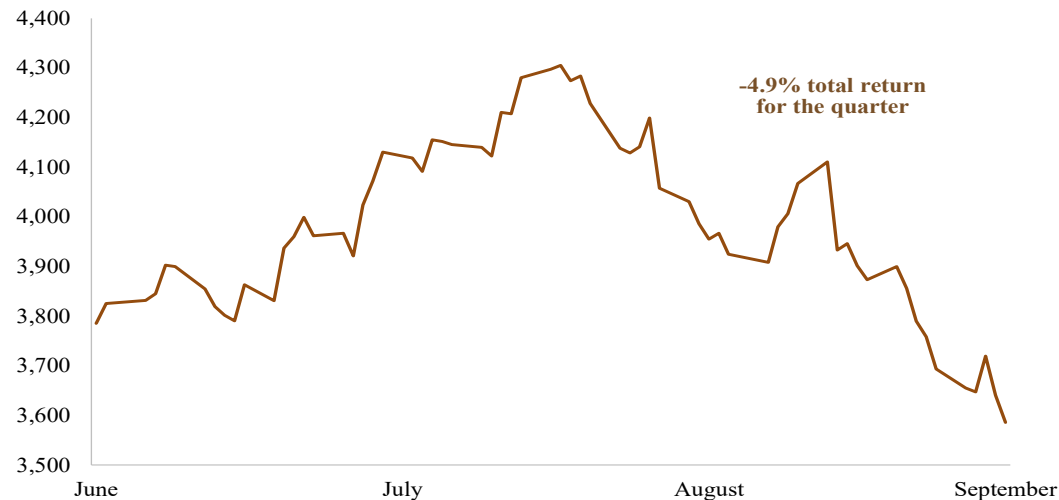
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EQUITY MARKETS REMAINED VOLATILE IN THE THIRD QUARTER

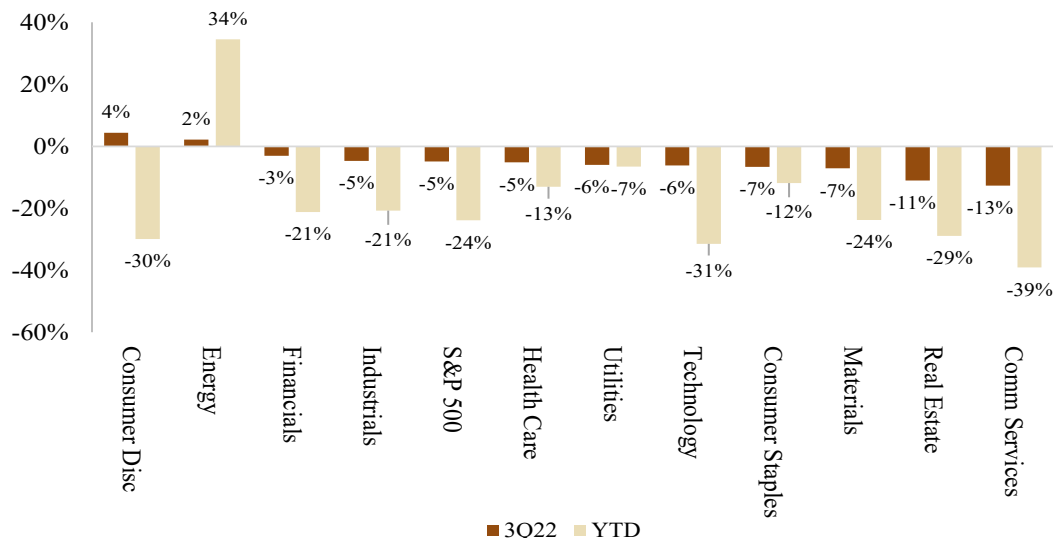
S&P 500® - Third Quarter



Third Quarter Highlights

- ▶ Equity markets continued to struggle during the third quarter, ending down -4.9% and bringing the full year to -23.9%.
- ▶ The Federal Reserve's aggressive monetary tightening to fight inflation has brought the Fed Funds effective rate to 3.08% and is now expected to reach 4.12% by year end. Inflation has been stubborn and remained at higher than expected levels resulting in more aggressive action by the Federal Reserve. The bond market, yield curve, and equity market have priced in much of these expected moves.
- ▶ Third quarter real GDP is expected to increase 1.4% after two modestly negative prints. We are seeing a slowdown in economic activity and with the continued Fed action, it could come in lower.

S&P 500® Sectors - Third Quarter Performance

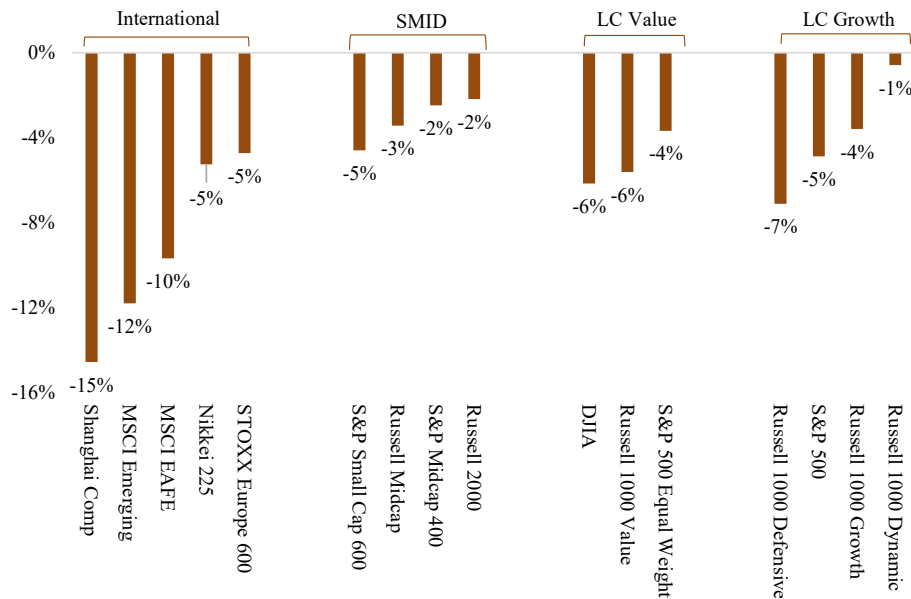


Sector Snapshot

- ▶ Most sectors experienced negative returns during the third quarter. Consumer Discretionary and Energy were up modestly. Year-to-date, Energy remains the only sector with a positive return.
- ▶ Higher interest rates, high inflation, the war in Ukraine, China lockdowns and supply chain issues have all acted as headwinds for the market.
- ▶ Consumer Staples, Materials, Real Estate and Communications Services were the worst performing sectors in the third quarter.
- ▶ Energy and Consumer Discretionary were both positive while Financials and Industrials were down modestly during the third quarter.

THIRD QUARTER 2022 - STOCKS AND BONDS IMPACTED BY HIGHER RATES

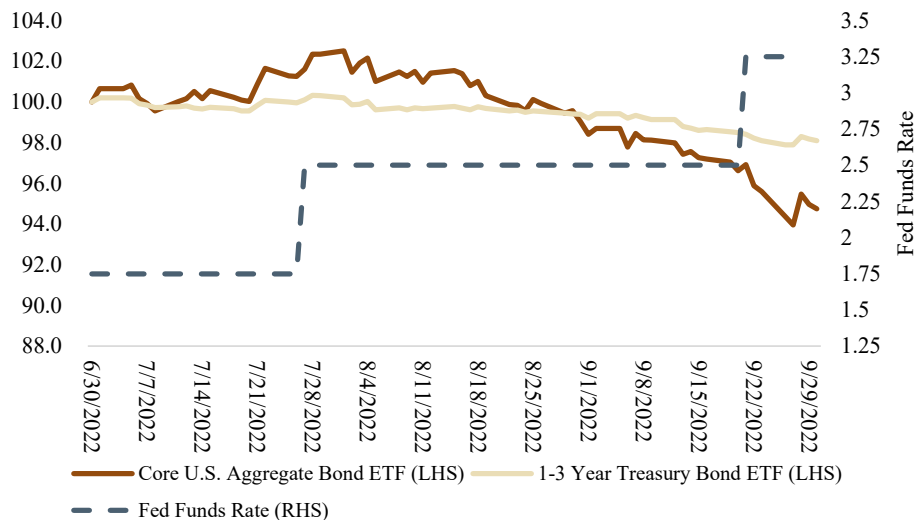
Various Equity Market Returns: Size & Geography



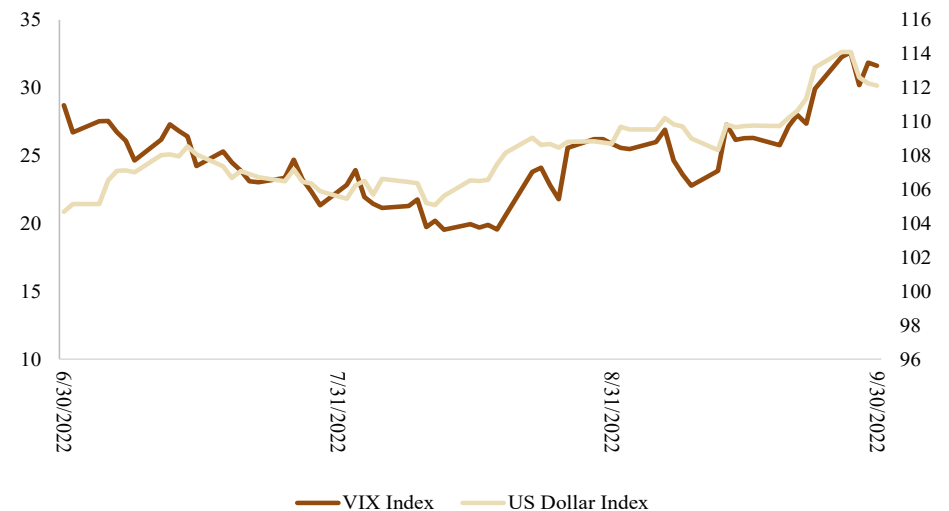
Note: Returns in USD

- ▶ **(Top Left)** Equity market returns continued to be weak across regions, style and size during the third quarter. Growth slightly outperformed Value while Emerging and International markets were weaker due to a strong US Dollar, a rapidly slowing economy in China, and accelerating inflation across the Eurozone from record high energy prices.
- ▶ **(Bottom Left)** The Federal Reserve raised rates by 0.75% twice during the quarter increasing the Fed Funds Target Rate from 1.75% to 3.25%. The market expects that the Fed will raise rates by another 100 basis points over the next two meetings bringing the Target Rate to 4.25% in order to combat inflation. The result of the Fed's tighter monetary policy has been another shift up in the yield curve during the quarter. Fixed income returns across most strategies have suffered with longer duration strategies such as the Core US Aggregate Bond ETF down 4.7% in the quarter.
- ▶ **(Bottom Right)** Volatility stayed elevated with the VIX Index close to its recent highs for the quarter as we exited September. The US Dollar has also remained strong as domestic monetary policy tightened more aggressively compared to other central banks. For example, the European Central Bank's main rate only recently moved from 0% in mid-July and stood at 1.25% at the end of the quarter. The appreciation of the U.S. Dollar will continue to be a headwind for domestic companies that have international operations as foreign currency will be an accelerating headwind on reported results. A recent example of this pressure comes from Nike which reported that foreign currencies will have an 800 basis point headwind to growth for the fiscal year, up from 400 basis points just three months ago.

Weak Bond Returns as Fed Increased Rates

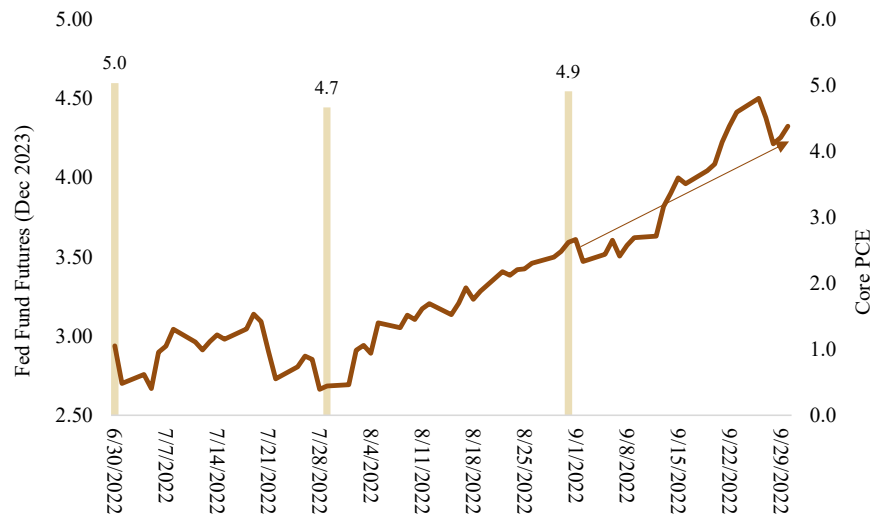


Volatility Stayed Elevated and the US Dollar Index Moved Higher (Again)

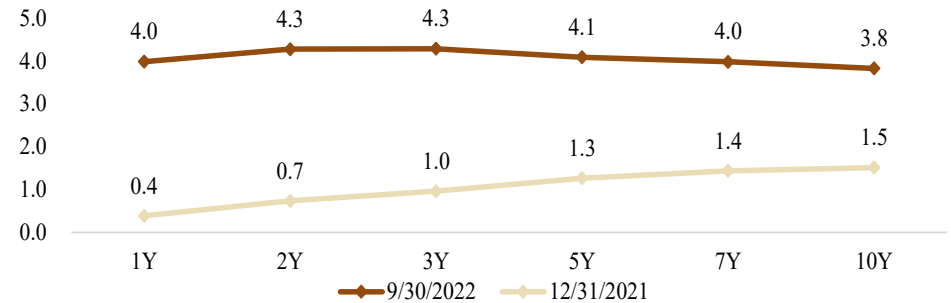


HIGHER INFLATION HAS LED TO TIGHTER MONETARY POLICY

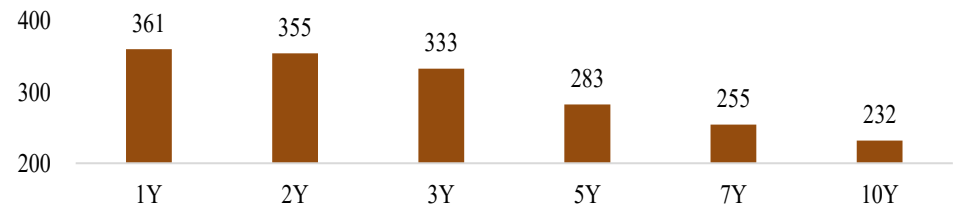
Higher Core Inflation = Higher Interest Rates thru 2023



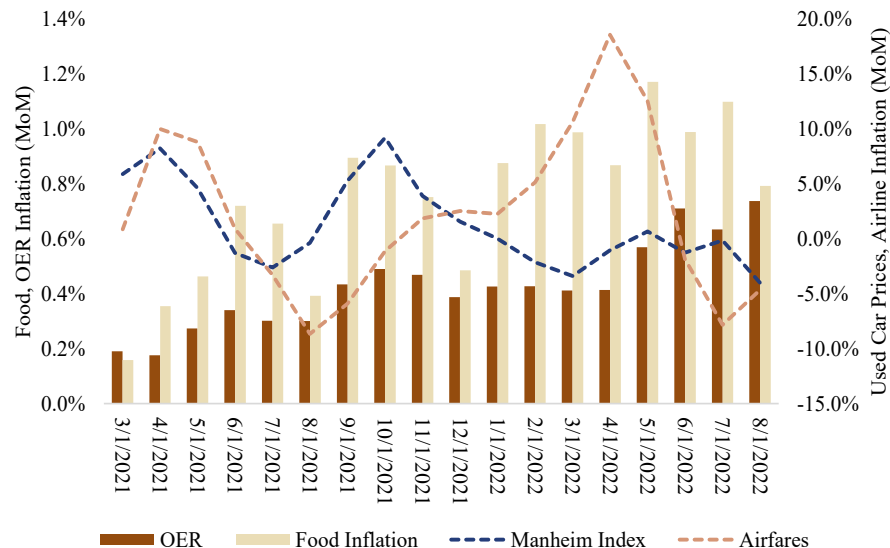
Yield Curve Has Shifted Higher and Inverted



YTM Change (in basis points)



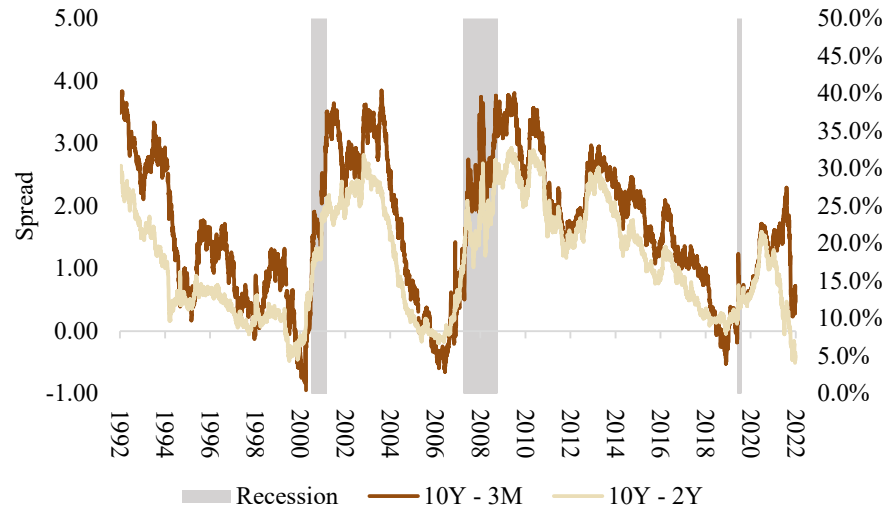
Sticky vs. Non-sticky Inflation



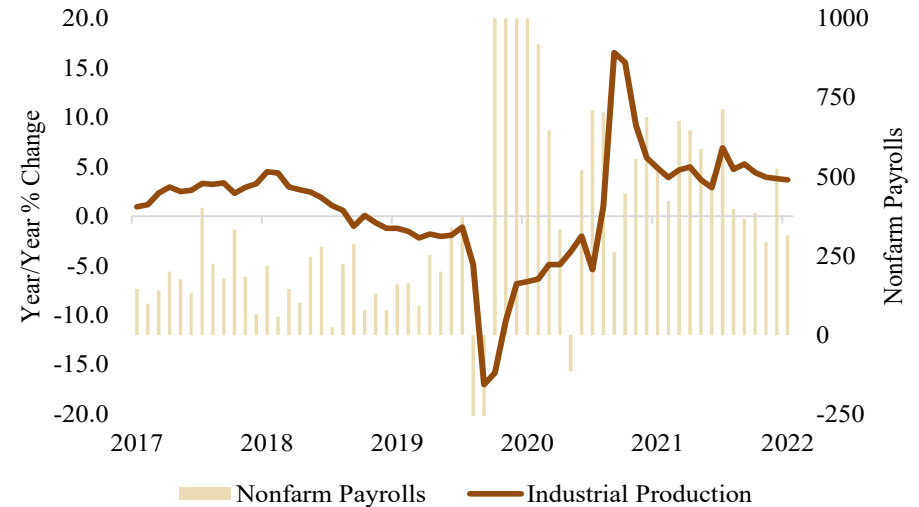
- ▶ **(Top Left)** Inflation data reaccelerated during the month of August with Core Personal Consumption Expenditures growth (Core PCE growth is the Federal Reserve's preferred inflation measure with a target of 2%) increasing 4.9% year-over-year, up from 4.7% during the prior month. The stronger inflation reading was a negative surprise and as a result expectations for additional rate hikes moved higher. The expected Fed Funds Rate for December 2023 moved up from 3.5% to nearly 4.5% in the month of September alone.
- ▶ **(Top Right)** The yield curve has shifted meaningfully higher since the beginning of the year due to much stronger inflation than expected. High inflation has been more durable due to multiple external factors such as protracted supply chain difficulties, the war in Ukraine, and China's restrictive Covid policies. As a result the Federal Reserve has raised rates a total of 300 basis points since mid-March when it started with its first 25 basis point hike. This has caused the yield curve to shift higher. The yield curve is also more inverted with short-term rates higher than long-term rates which signals concerns about growth of the economy.
- ▶ **(Bottom Left)** Inflation trends have started to diverge with Food and Owner's Equivalent Rent (OER) staying sticky with inflation rates continuing to move higher. The evidence is starting to show that other forms of inflation have started to turn negative on a month-over-month basis with used car prices and airfares dropping towards the end of the quarter. We expect inflationary trends to stay at elevated levels but to subside over the course of 2023.

A RECESSION IS POSSIBLE BUT NOT OBVIOUS

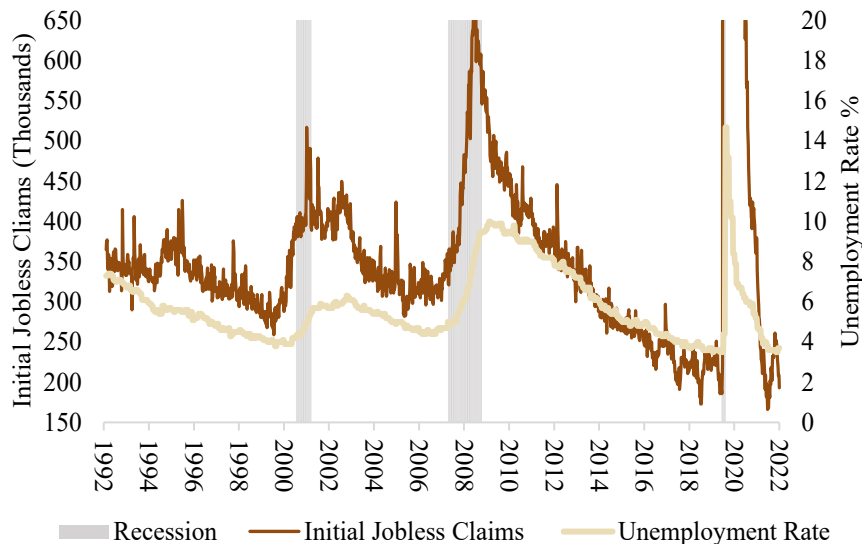
Yield Curve Inversions and Recessions



Industrial Production and Payrolls Grow



Labor Market Remains Resilient



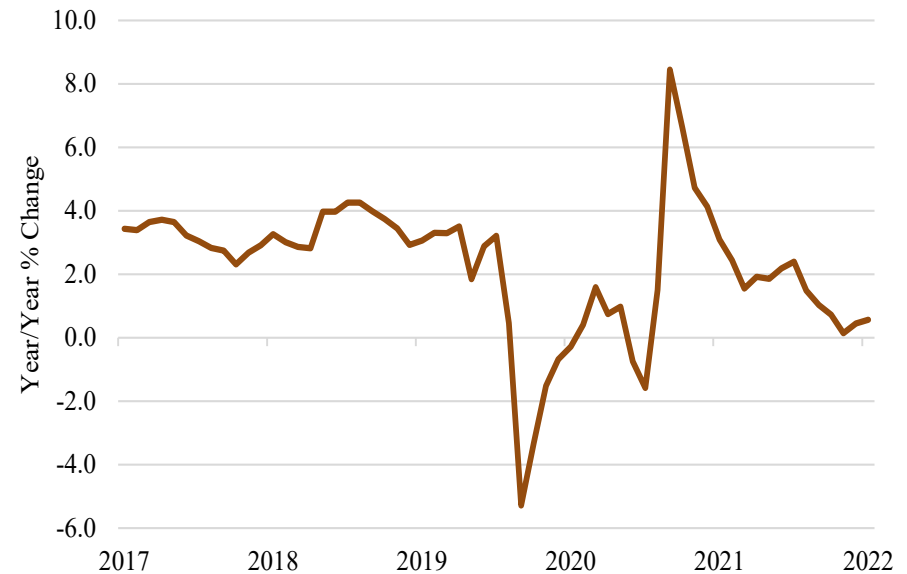
- ▶ **(Top Left)** Although we think a mild recession is possible in 2023, various indicators are not yet definitive on whether the US economy will go into a recession. While the 10-year less the 2-year Treasury yield spread has inverted, the historical "recession imminent indicator", the 10-year less the 3-month yield spread, has yet to invert. The measure registered as low as 23 basis points in mid-August but widened through the end of the quarter as the long end of the yield curve moved higher.
- ▶ **(Top Right)** The labor market remains resilient in the face of rapidly tightening monetary conditions. Unemployment remains low and the Initial Jobless Claims index is trending lower. Historically, Initial Jobless Claims trend higher ahead of and into a recession.
- ▶ **(Bottom Left)** Industrial production remains positive, and companies continue to add employees. We would expect to see both a slowdown in industrial production as well as new jobs slowing moving into a recessionary period.

THE CONSUMER REMAINS STRONG, HOW LONG CAN IT LAST?

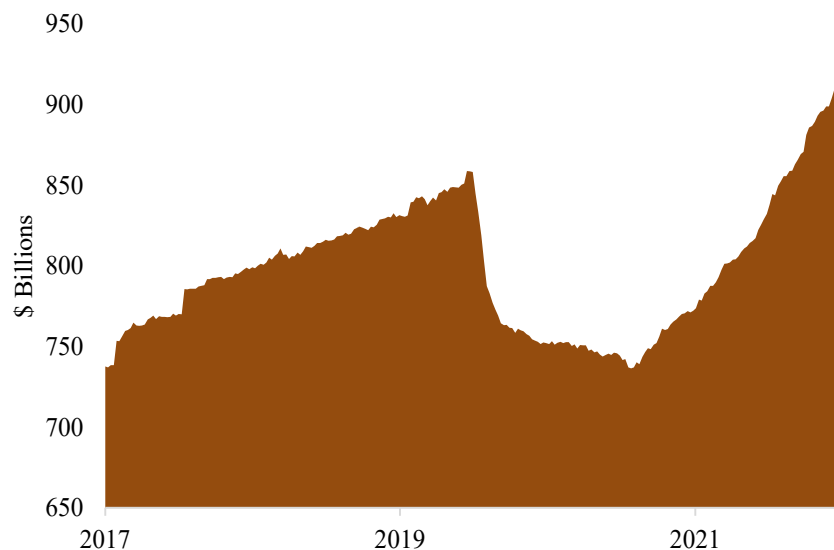
Personal Savings Rate



Real Personal Income ex Transfers



Outstanding Credit Card Debt

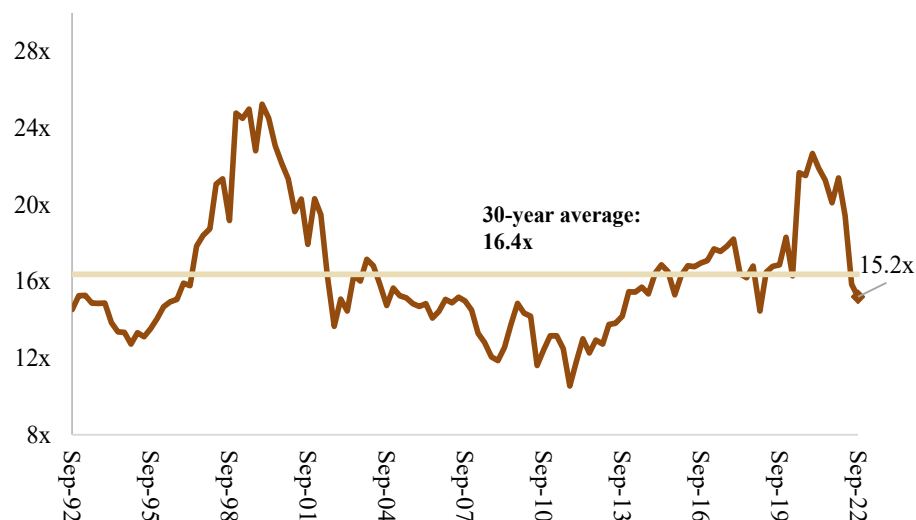


The consumer remains a very important driver of the US Economy. Consumer spending has continued to grow despite higher interest rates and the slowing economy but we wonder whether it is sustainable?

- ▶ **(Top Left)** After reaching historic levels during the pandemic, the Personal Savings Rate has been declining and is now below its long-term average as consumers adjust to living with higher prices and spend the funds accumulated during the pandemic.
- ▶ **(Top Right)** After volatile moves over the past few years, personal income after government transfers and inflation have remained positive in a tight labor market.
- ▶ **(Bottom Left)** Credit card debt has continued to climb. With measures of consumer confidence near their lows, the increase in credit card debt is more likely due to necessity rather than exuberance.

RESILIENT THUS FAR, WE EXPECT EARNINGS GROWTH TO MODERATE AS ECONOMIC GROWTH SLOWS

S&P 500 Index Forward P/E Multiple



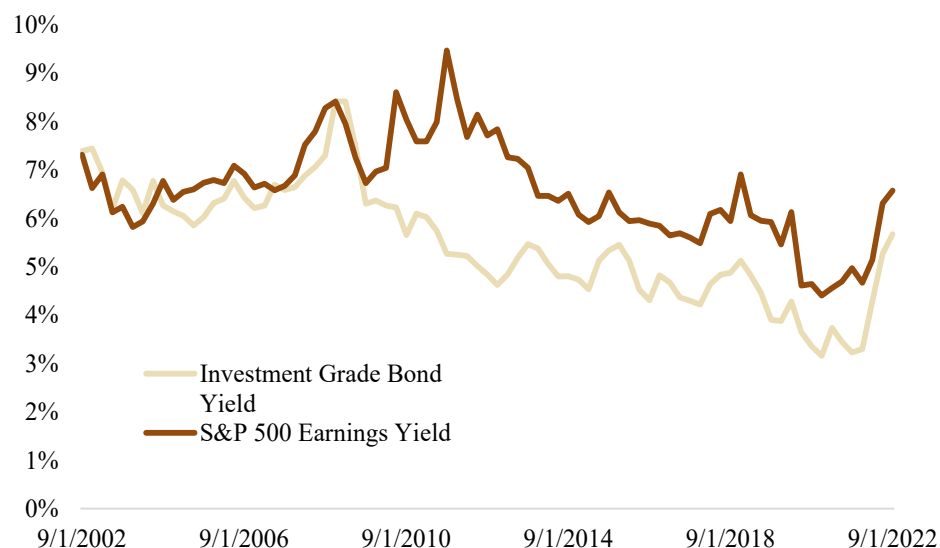
- ▶ **(Top Left)** With recent market action, equity valuations have fallen to more normal levels relative to historical averages. The S&P 500 P/E multiple has dropped to 16.0x, below the long-term average. Earnings estimates have started to decline but likely have further to go. Much of the bad news has been priced in but we will likely have more downside in the near term.
- ▶ **(Bottom Left)** Earnings estimates are still showing solid earnings growth for the S&P 500 at \$224 or 7% growth and \$241 for 2023 but have started to move lower. With higher interest rates, we have shifted our expected Price-Earnings multiple range to 14 times to 18 times. As earnings move lower, the economy continues to slow along with higher interest rates, we expect continued volatility in the equity markets. However, longer-term, stocks follow earnings and earnings growth so we remain constructive in the medium-term.
- ▶ **(Bottom Right)** Despite the recent volatility and higher interest rates, equities continue to look more attractive than bonds as represented by the chart below which compares the S&P 500 earnings yield to average investment grade corporate bond yields. Fixed Income yields have risen dramatically this year and have a much more important place in portfolios once again.

S&P 500 Level Implied by Price to Earnings Combinations

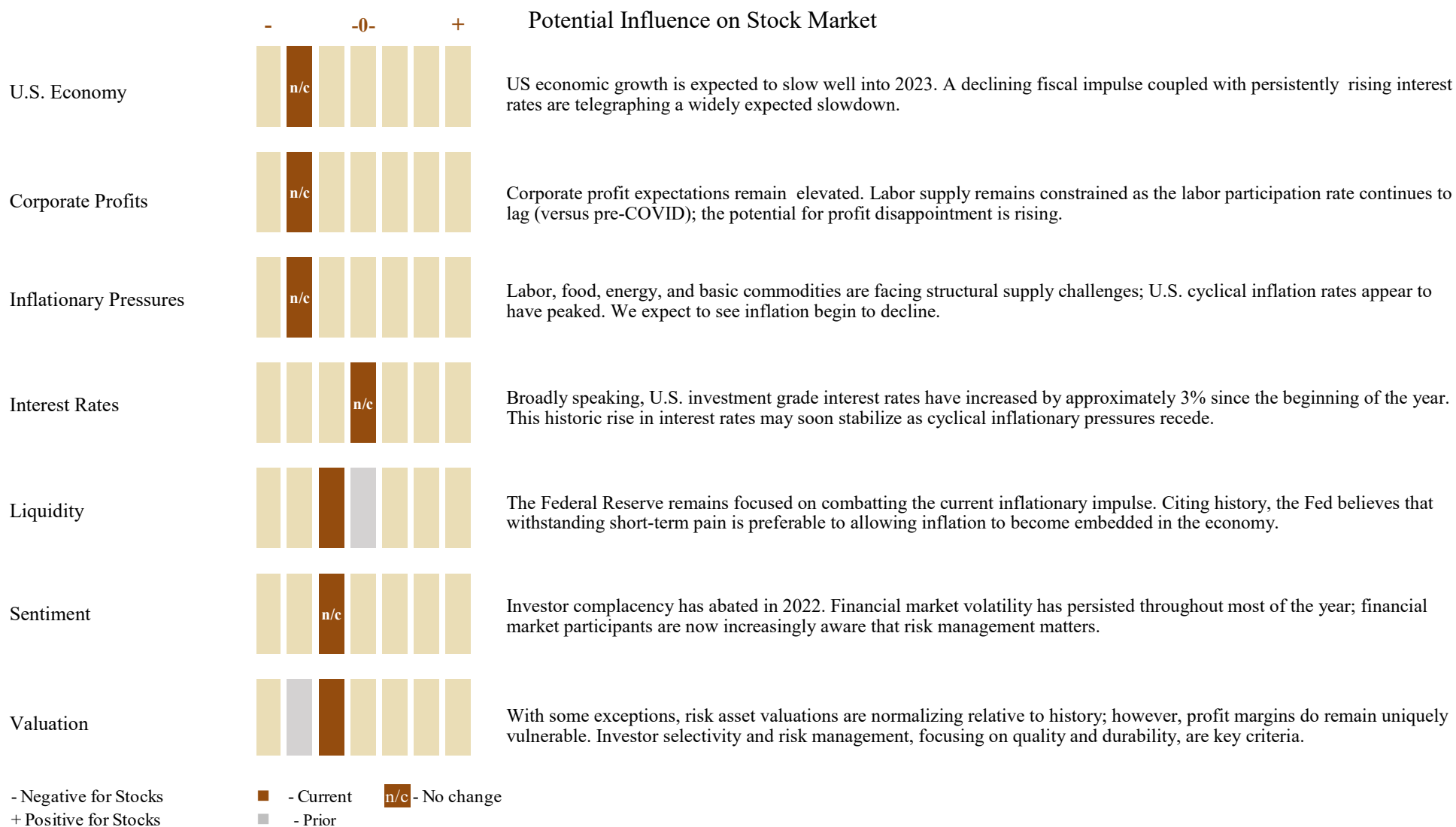
		Price/Earnings Multiple				
		14x	16x	18x	20x	22x
S&P 500 Earnings per Share	\$ 275	3,850	4,400	4,950	5,500	6,050
	\$ 270	3,780	4,320	4,860	5,400	5,940
	\$ 260	3,640	4,160	4,680	5,200	5,720
	\$ 250	3,500	4,000	4,500	5,000	5,500
	\$ 240	3,360	3,840	4,320	4,800	5,280
	\$ 230	3,220	3,680	4,140	4,600	5,060
	\$ 220	3,080	3,520	3,960	4,400	4,840

S&P 500 Top Down Estimates		
	Mean	Growth
2020A	\$ 140.45	-14%
2021A	\$ 208.49	48%
2022E	\$ 224.13	8%
2023E	\$ 241.30	8%
2024E	\$ 261.14	8%

Stocks Remain Attractive to Investment Grade Bonds



Rapidly rising global interest rates are producing a pronounced tightening in financial conditions. Outside of commodities, virtually all global asset classes are re-rating lower. Proactive, non-passive risk management remains increasingly important.



NEWS INFLUENCING MARKETS

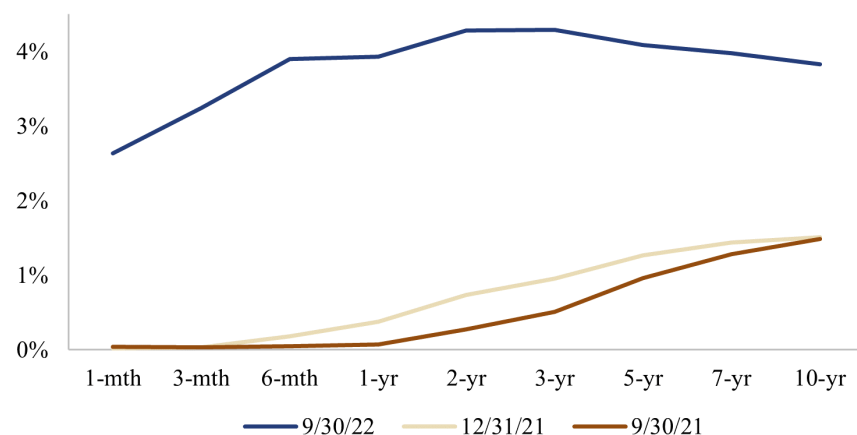
Potentially Positive for Bond Returns

- + A more dramatic inversion of the yield curve would signal economic contraction and increases the possibility of peak yields.
- + Higher yields may lead to further withdrawals of bank deposits for reinvestment into Treasuries, a transition supportive of yields.
- + Reduced Treasury market liquidity could cause the Fed to limit or suspend quantitative tightening plans, thereby diminishing upward pressure on yields.

Potentially Negative for Bond Returns

- The Federal Reserve may follow-through on its stated intention to raise rates until inflation falls to a level near 2%. If so, short-term rates may rise more than current forecasts.
- With winter approaching and no apparent resolution to the Russia/Ukraine war, energy prices are likely to remain elevated over the near-term, thereby exacerbating inflation concerns.
- A continuation of tight labor markets could extend Fed monetary tightening. Some analysts project the Fed will need to increase short-term rates to 5% in order to cool wage inflation.

Treasury Yield Curve Comparison



Source: Madison, Bloomberg

Fixed Income Scorecard

Potential Influence on Bond Returns

U.S. Macroeconomics

	-	-0-	+
Economic Growth			
Employment			
Inflationary Pressures			

U.S. Policy

	-	-0-	+
Monetary (Fed)			
Fiscal (Congress)			
Regulatory / Tax			

Global

	-	-0-	+
Foreign Macroeconomics			
Geopolitical tensions			
Central Bank Policies			

U.S. Corporates

	-	-0-	+
Credit Fundamentals			
Risk Premiums			
Liquidity			

U.S. Treasury Market

	-	-0-	+
Interest Rates			
Sentiment			

- Negative for Bonds
+ Positive for Bonds

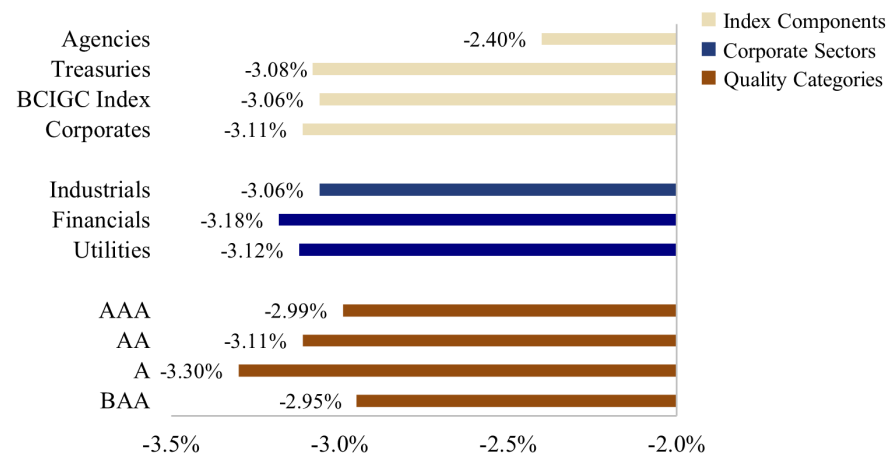
- Current
- Prior

PERFORMANCE UPDATE FOR THE THIRD QUARTER 2022

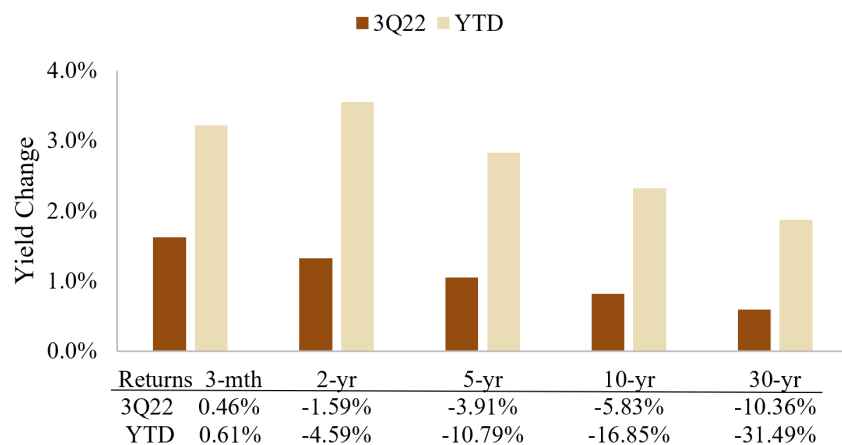
2022 Returns by Market Sector

Asset Class	Market Sector	3Q22	YTD
Money Market	3-month T-bill	0.5%	0.6%
Fixed Income	US High Yield	-0.6%	-14.7%
	Intermediate Gov/Credit	-3.1%	-9.6%
	Municipal Bonds (1-30 yr)	-3.5%	-12.1%
	TIPS (1-10 year)	-3.9%	-8.8%
	EM Aggregate	-4.1%	-20.5%
	US Aggregate (1-30 yr)	-4.8%	-14.6%
Equities	Russell 3000 Index	-4.5%	-24.6%
	S&P 500 Index	-4.9%	-23.9%
Int'l Equities	MSCI Europe, Asia, Far East	-9.3%	-26.7%
	MSCI Emerging Markets	-11.5%	-27.0%
Commodities	Commodities	-4.7%	12.4%
	Gold	-7.9%	-9.3%
	Crude Oil (Brent)	-15.9%	32.3%

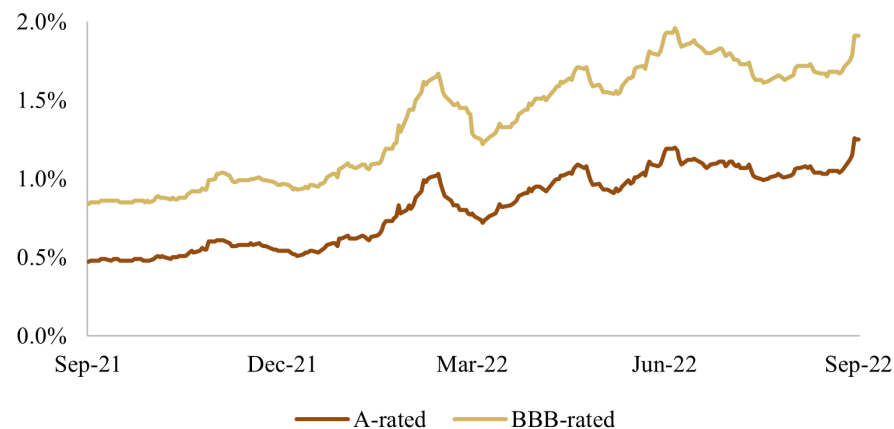
Total Rate of Return Comparison Third Quarter 2022



U.S. Treasury Curve Yield Change (bars) and Period Returns (bottom data table)

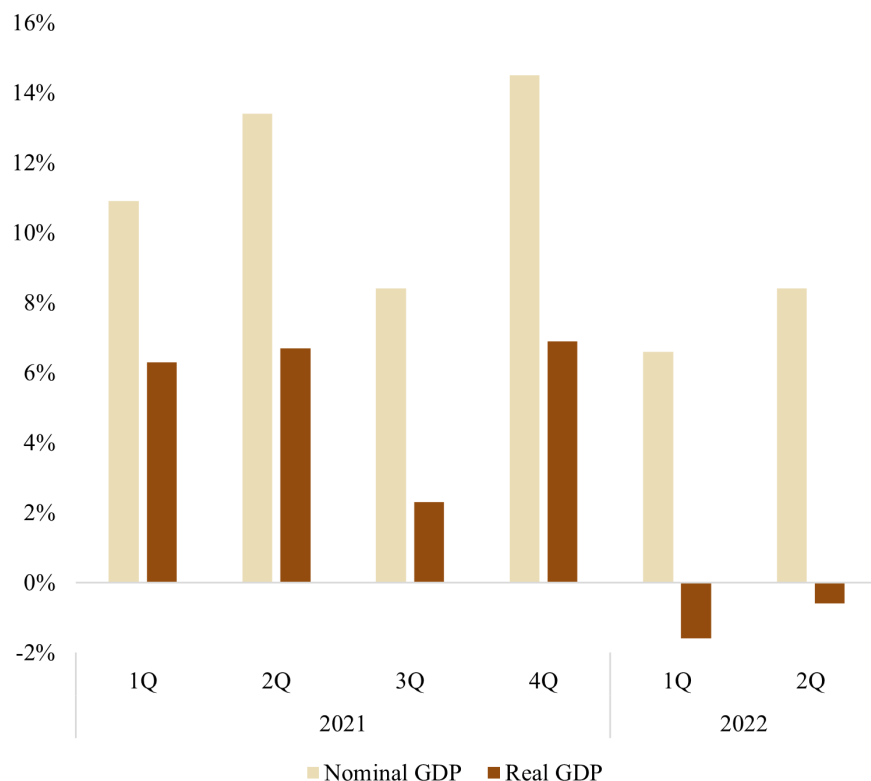


Comparison of Intermediate Corporate Spread by Credit Quality

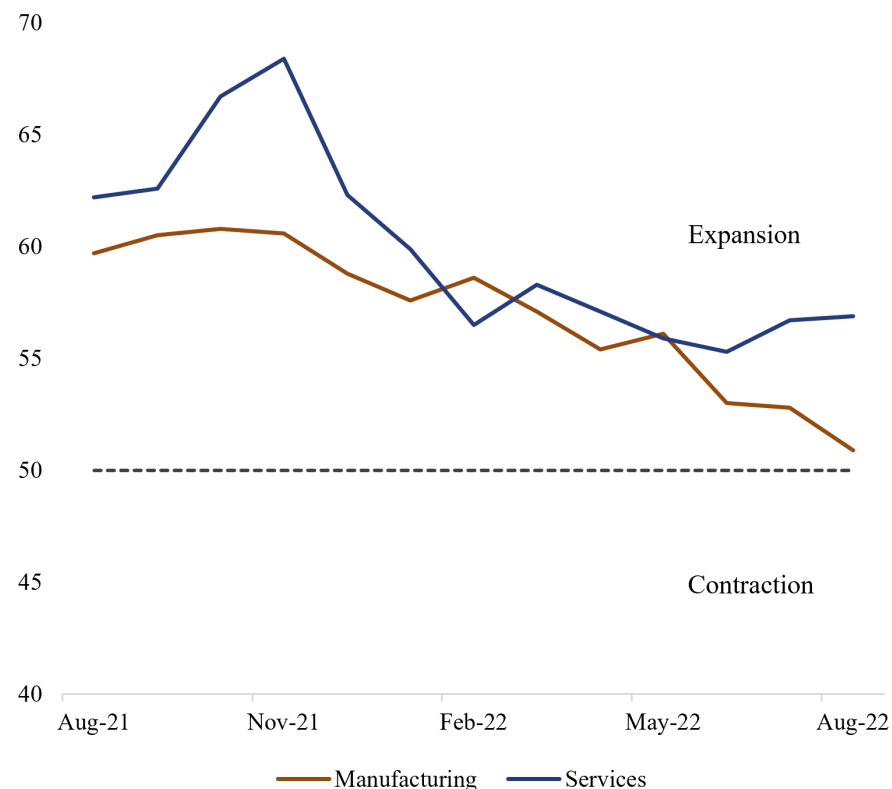


GDP HAS BEEN NEGATIVE FOR TWO CONSECUTIVE QUARTERS, ALTHOUGH PMIs INDICATED THE ECONOMIC EXPANSION CONTINUES

Gross Domestic Product



U.S. Economy
Purchasing Managers Index

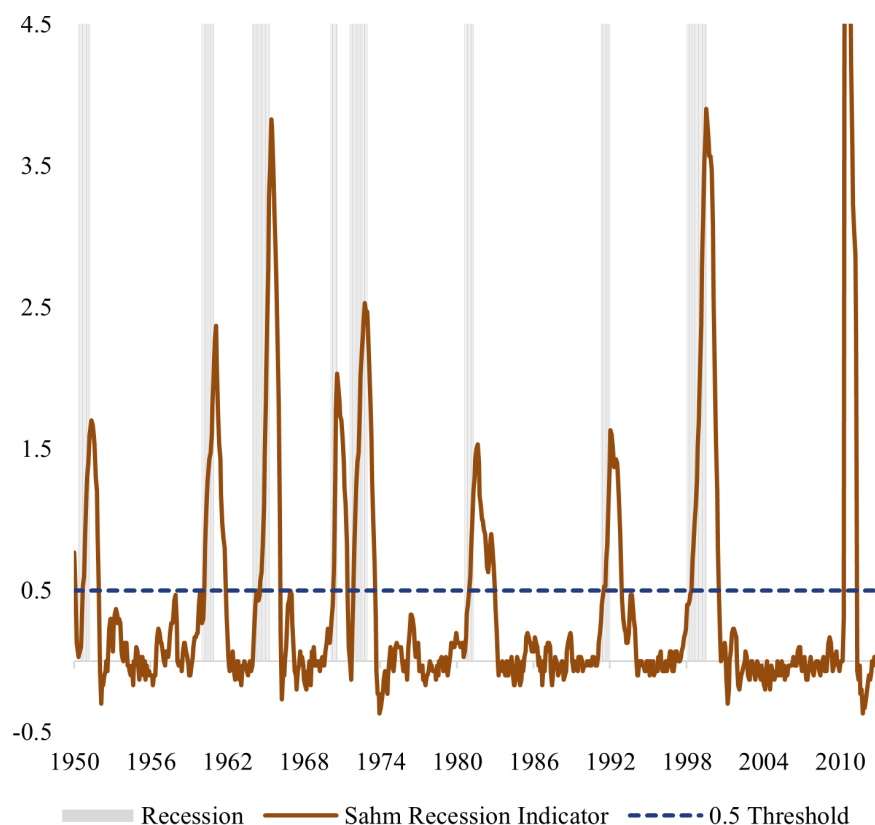


- ▶ Recent GDP reports show two quarters of negative growth which by some accounts indicates a recession.
- ▶ However, the National Bureau of Economic Research (which identifies the economy's official turning points) has not reached a similar conclusion given other considerations such as the level of employment, industrial production, manufacturing and trade industry sales as well as real personal income and expenditures.

- ▶ The Purchasing Managers' Index (PMI) is a leading indicator which currently indicates both the manufacturing and services sectors continue to expand. However, it's apparent the manufacturing sector has slowed since the beginning of the year.
- ▶ We believe U.S. economic growth will continue to slow in the coming quarters, especially should the Fed continue its restrictive policy stance to combat inflation.

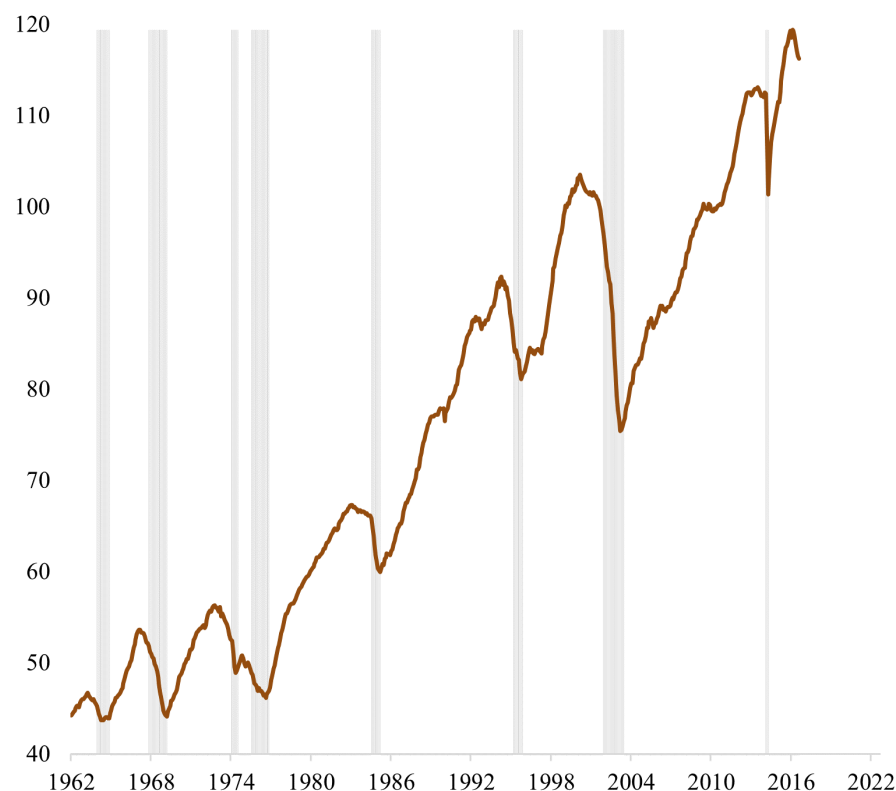
INDICATORS OFFER DIFFERENT VIEWS REGARDING THE POSSIBILITY OF A RECESSION

The Sahm Recession Indicator
(a reading above 0.5 signals the start of a recession)



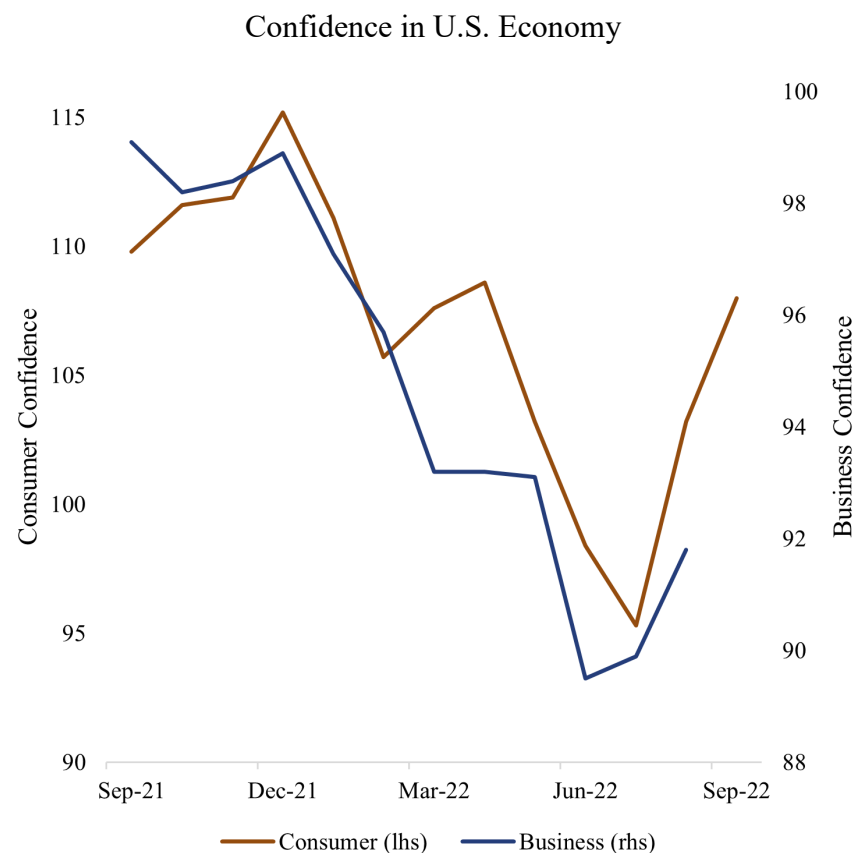
- ▶ It's difficult to predict the exact date a recession may begin, although higher unemployment typically precedes economic contraction.
- ▶ The Sahm recession indicator compares the three-month moving average of unemployment to the lowest level of unemployment reported during the past 12-months. A reading of 0.5 or higher signals the start of a recession.
- ▶ Given very tight labor conditions, it's unlikely this reading will jump into recession territory over the near-term.

U.S. Leading Index Ten Economic Indicators
(Conference Board)



- ▶ Since the 1960s, the Conference Board's Leading Economic Index (LEI) begins to fall 6 to 9 months prior to a recession.
- ▶ After peaking in February, the LEI has declined during the past 6 months. The downward trend has been due to the manufacturing slowdown, lower building permits for housing, and consumer pessimism about future business conditions.
- ▶ We anticipate the descent will continue as higher interest rates slow the economy and result in higher unemployment, lower stock prices, and tighter credit conditions.

CONFIDENCE IN THE U.S. ECONOMY HAS TRENDED LOWER, ALTHOUGH THE NUMBER OF HOUSEHOLDS CONTINUES TO INCREASE



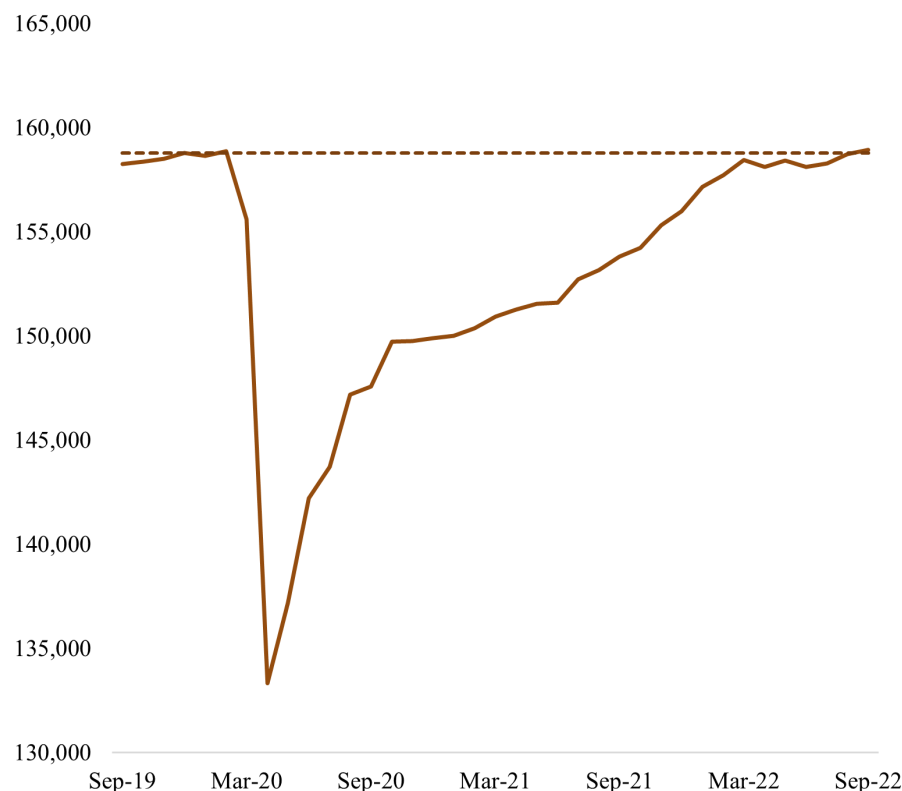
- ▶ Consumer and business confidence both reversed their downward trend with consumer sentiment bolstered by job availability, wage gains, and declining gas prices.
- ▶ Businesses meanwhile remain less optimistic than consumers citing high inflation, difficulty filling jobs, and lower sales estimates, all of which may contribute to lower earnings.



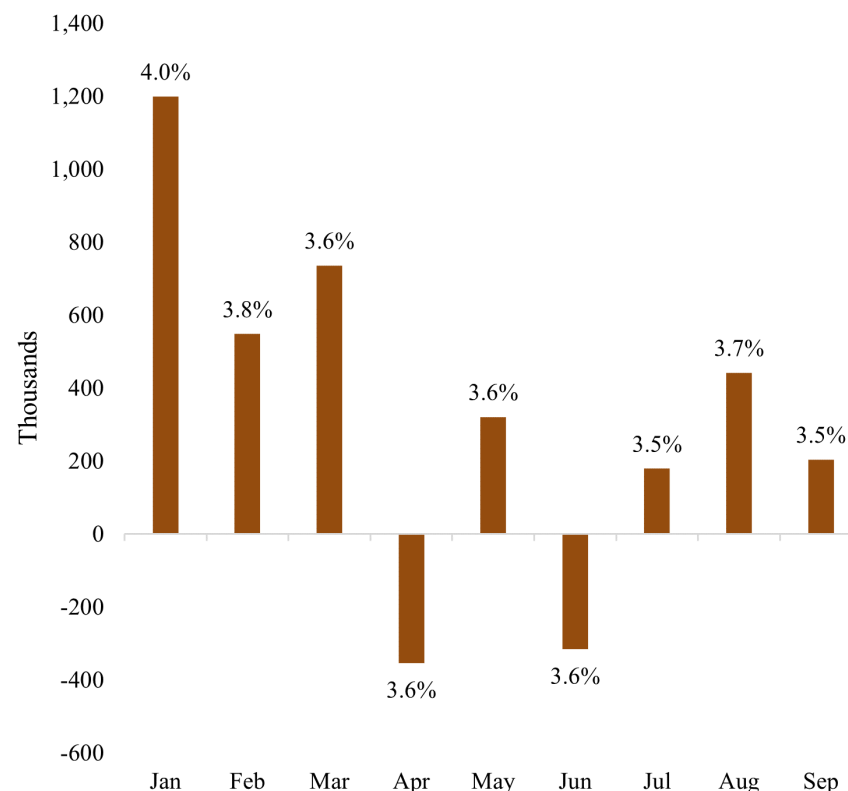
- ▶ Household formation continues to rise, thereby boosting demand for homes which in turn supports home prices as well as increasing the purchase of household furnishing and other items.
- ▶ The early 2020 surge in the number of occupied housing units followed by a notable drop was largely due to pandemic-related factors such as the need or desire for isolation.
- ▶ Economists suggest the demand for housing will remain robust for the next few years as demand from the millennial generation faces limited housing supply.

TOTAL EMPLOYMENT HAS REACHED PRE-PANDEMIC LEVELS AS THE LABOR MARKET REMAINS TIGHT

Total Labor Force Employment



U.S. Labor Force - Change in Total Employed
(percentages represent the unemployment rate)

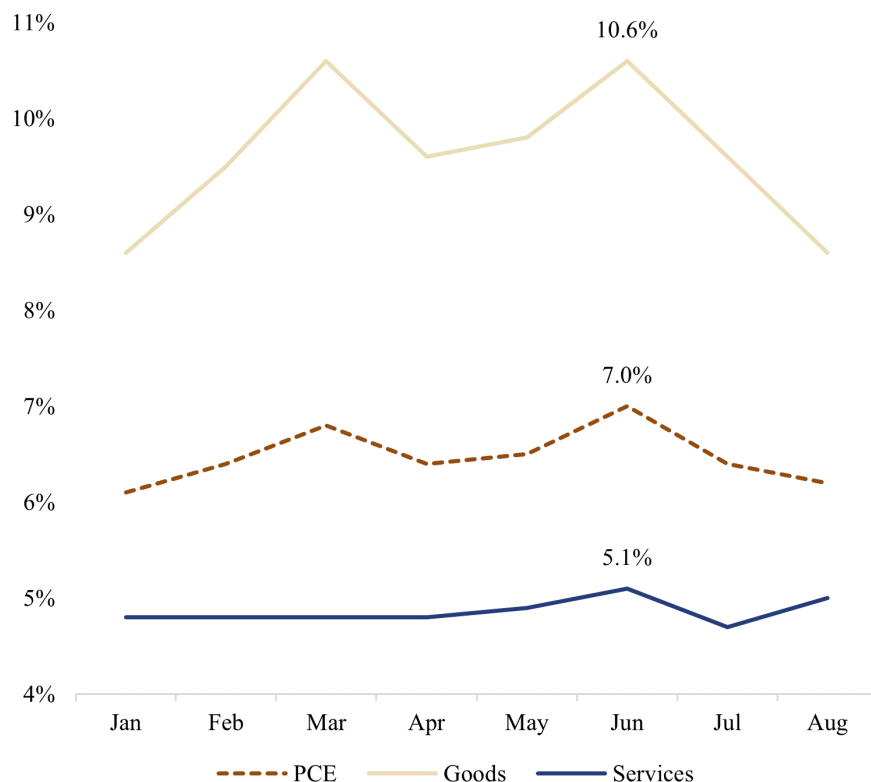


- ▶ The number of individuals employed within the U.S. labor force recently reached a level comparable to February 2020.
- ▶ Missing from the employed labor force are nearly 4 million individuals whom are included in the working age population.
- ▶ Until companies stop hiring, it's doubtful the current 3.5% unemployment rate will trend much higher in the coming months given 1.7 job openings exist for each unemployed person.

- ▶ Monthly job gains tend to slow prior to a recessionary period while the unemployment rate tends to rise.
- ▶ While monthly job gains appear to be slowing, total employment remains above the Fed's definition of full employment (e.g. the highest level of employment the economy can sustain without generating unwelcome inflation).
- ▶ We anticipate the Fed's recent rate hikes to calm inflation will hasten an economic slowdown and cause the total level of employment to fall in the coming quarters.

INFLATION REMAINS PERSISTENTLY HIGH, BUT IS PREDICTED TO FALL DURING THE NEXT YEAR

2022 Inflation—Goods versus Services



- ▶ In August, Personal Consumption Expenditures (PCE) inflation was reported at 6.2%.
- ▶ Goods inflation which accounts for about 35% of PCE has fallen towards 8% while Services inflation which accounts for the remaining 65% is near 5%.
- ▶ Higher interest rates are apt to slow economic growth and lead to lower inflation levels during the coming quarters.

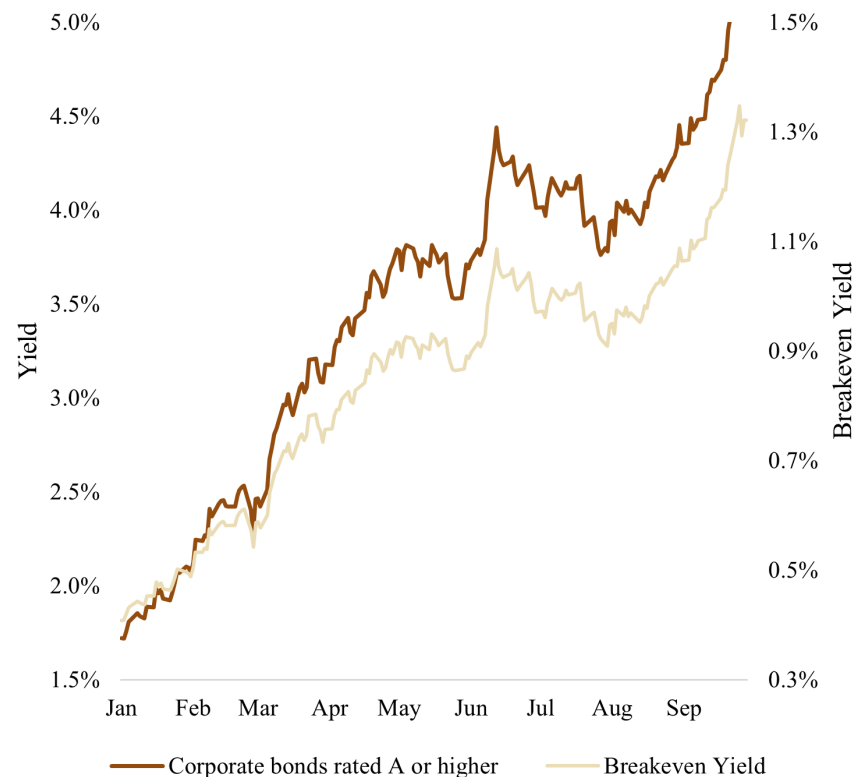
Personal Consumption Expenditures

PCE Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	1-year Change
Goods	0.9	1.2	1.8	-0.2	0.9	1.6	-0.4	-0.3	8.6
Durable goods	1.2	0.2	-0.2	0.2	0.4	0.7	-0.2	0.5	5.3
Nondurable goods	0.7	1.8	2.9	-0.4	1.2	2.1	-0.5	-0.8	10.6
Services	0.3	0.3	0.5	0.4	0.4	0.7	0.0	0.6	5.0
Housing and Utilities	0.7	0.4	0.6	0.5	0.8	1.0	0.6	0.8	7.6
Health Care	0.6	0.1	0.1	-0.2	0.3	0.5	0.1	0.1	2.5
Transportation Services	-1.6	1.1	4.6	2.1	0.8	2.6	-1.7	1.9	12.1
Recreation Services	0.7	0.8	0.4	0.0	0.6	0.6	0.5	-0.2	4.8
Food Service and Accommodations	0.1	0.7	0.7	0.7	0.7	0.2	0.2	0.6	7.2
Financial Services and Insurance	0.4	-0.8	0.0	-0.1	-0.1	-0.2	-1.3	0.8	-0.6
Other Services	0.1	0.7	0.3	0.4	0.1	0.9	0.4	0.2	4.0
PCE	0.5	0.6	1.0	0.2	0.6	1.0	-0.1	0.3	6.2
PCE - Excluding Food and Energy	0.5	0.4	0.4	0.3	0.4	0.6	0.0	0.6	4.9

- ▶ During the past 12 months, the primary contributors of higher prices within the Services category include housing, transportation services, and food services.
- ▶ We expect most prices will stabilize during the next 6 to 12 months as consumer demand subsides and supply chain bottlenecks improve.

CORPORATE BOND VALUATIONS HAVE ADJUSTED TO MORE FAVORABLE LEVELS DURING 2022

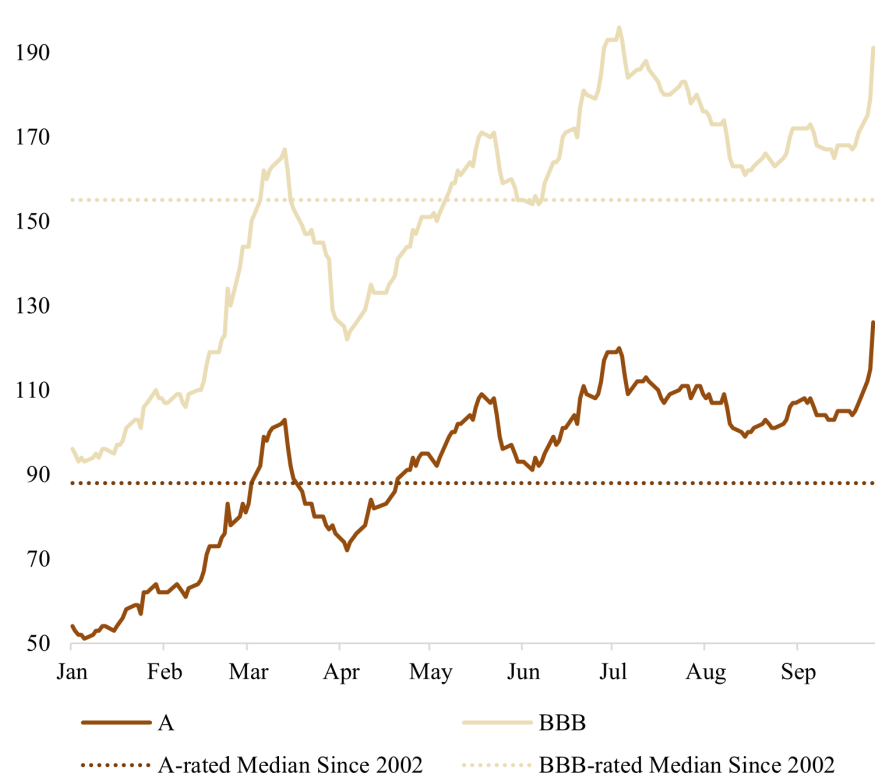
Corporate Bond Yields



- ▶ Year-to-date corporate bond yields have increased by more than 3.50%. As of September 30, yields on A-rated and BBB-rated intermediate corporate bonds were 5.31% and 5.94%, respectively.
- ▶ The price erosion accompanying the substantial yield increase has been painful for bond investors, although the uncomfortable sting has adjusted valuations to more favorable levels.
- ▶ This year the breakeven yield (e.g. compensation per unit of risk) for corporate bonds rated A or higher has increased from 0.41% to 1.32%.

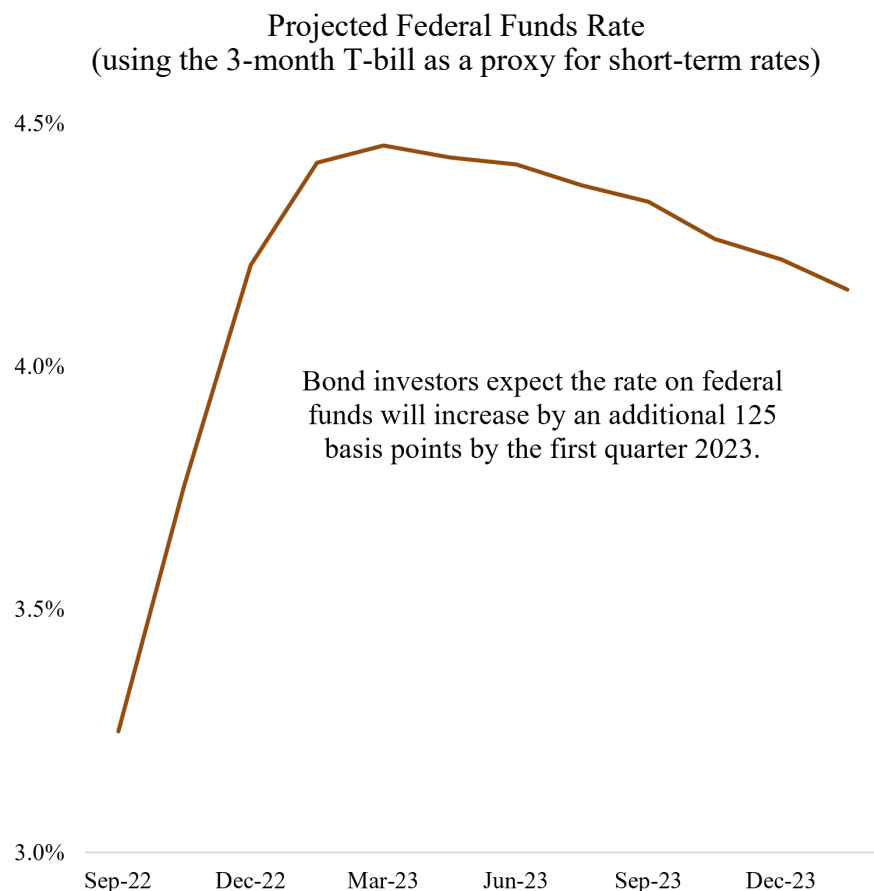
Source: Bloomberg, ICE Indices

Corporate Bond Spreads



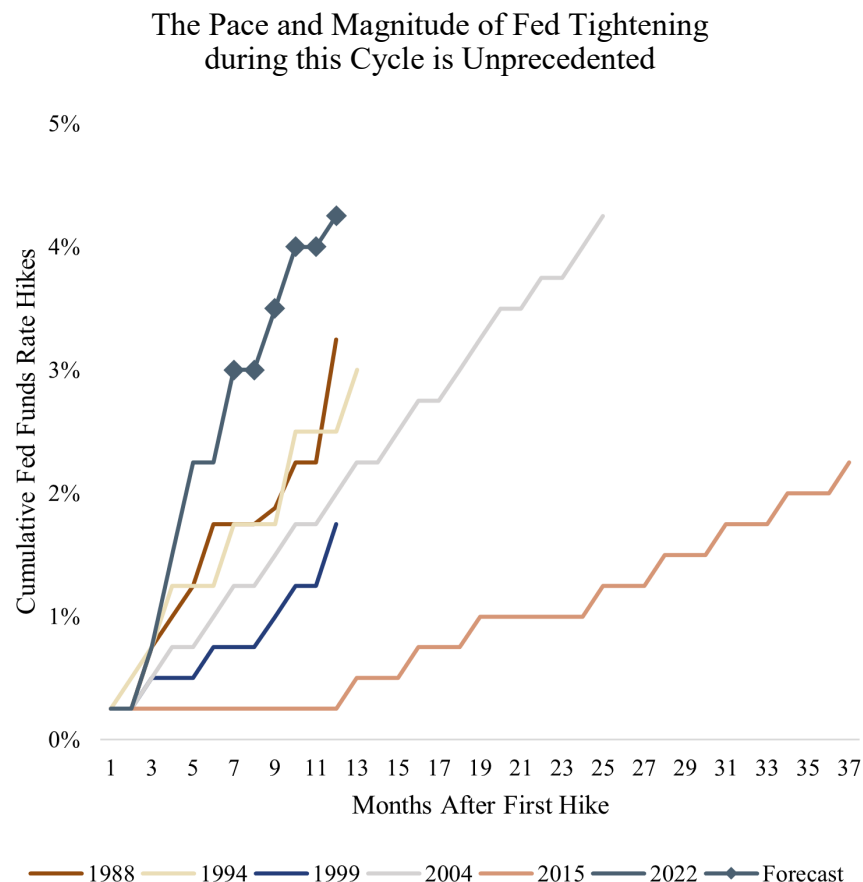
- ▶ In addition to higher interest rates, corporate bond yields have also been susceptible to spread widening with A-rated and BBB-rated risk premiums increasing by 71 and 94 basis point, respectively.
- ▶ It's common for risk premiums to move higher towards the end of the credit cycle, especially if recessionary conditions loom.
- ▶ We predict spreads are vulnerable until the Fed nears the end of its rate hikes. Until that time, we intend to maintain corporate exposure near current levels.

FIXED INCOME INVESTORS ANTICIPATE SHORT-TERM RATES WILL EXCEED 4%



- ▶ The fixed income market expects the Fed to increase rates an additional 125 basis points by the first quarter 2023.
- ▶ At that point, it's further anticipated the Fed will pivot its policy stance and begin to lower the federal funds rate sometime mid-to-late 2023.
- ▶ We believe the federal funds rate could move higher than 4% before the Fed's efforts to extinguish troublesome inflation is successful. Once the fed funds rate reaches a cyclical peak, we foresee the Fed holding rates steady for a few quarters.

Source: Bloomberg



- ▶ During the past 5 months, the Fed has rapidly increased short-term rates by 3% by shifting the upper bound for federal funds from 0.25% to 3.25%.
- ▶ The Fed also hastened the pace of policy tightening in 1988 and 1994, although in both instances it took about 12 months.
- ▶ We agree with economic forecasts that suggest the Fed will raise rates by the same magnitude as the 2004 to 2006 tightening cycle.
- ▶ From our perspective, bond investors should constrain interest rate exposure until there is evidence the Fed is nearing the conclusion of rate hikes.

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The Bloomberg Intermediate Govt/Credit Bond Unmanaged index that tracks the performance of intermediate term US government and corporate bonds.

The Bloomberg US Treasury Inflation-Linked Bond Index measures the performance of the US Treasury Inflation Protected Securities (TIPS) market.

DISCLOSURES

The Russell Midcap® Index measures the performance of the mid-cap segment of the U.S. equity universe. The Russell Midcap® Index is a subset of the Russell 1000® Index. It includes approximately 800 of the smallest securities based on a combination of their market cap and current index membership.

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The Shanghai Stock Exchange Composite Index is a capitalization-weighted index. The index tracks the daily price performance of all A-shares and B-shares listed on the Shanghai Stock Exchange.

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