Economic Outlook:

The Fed's Ongoing Dilemma:
Taming Inflation vs. Ensuring Recession

March 2023

STIFEL

Lindsey M. Piegza, Ph.D.
Chief Economist

For Institutional Use Only

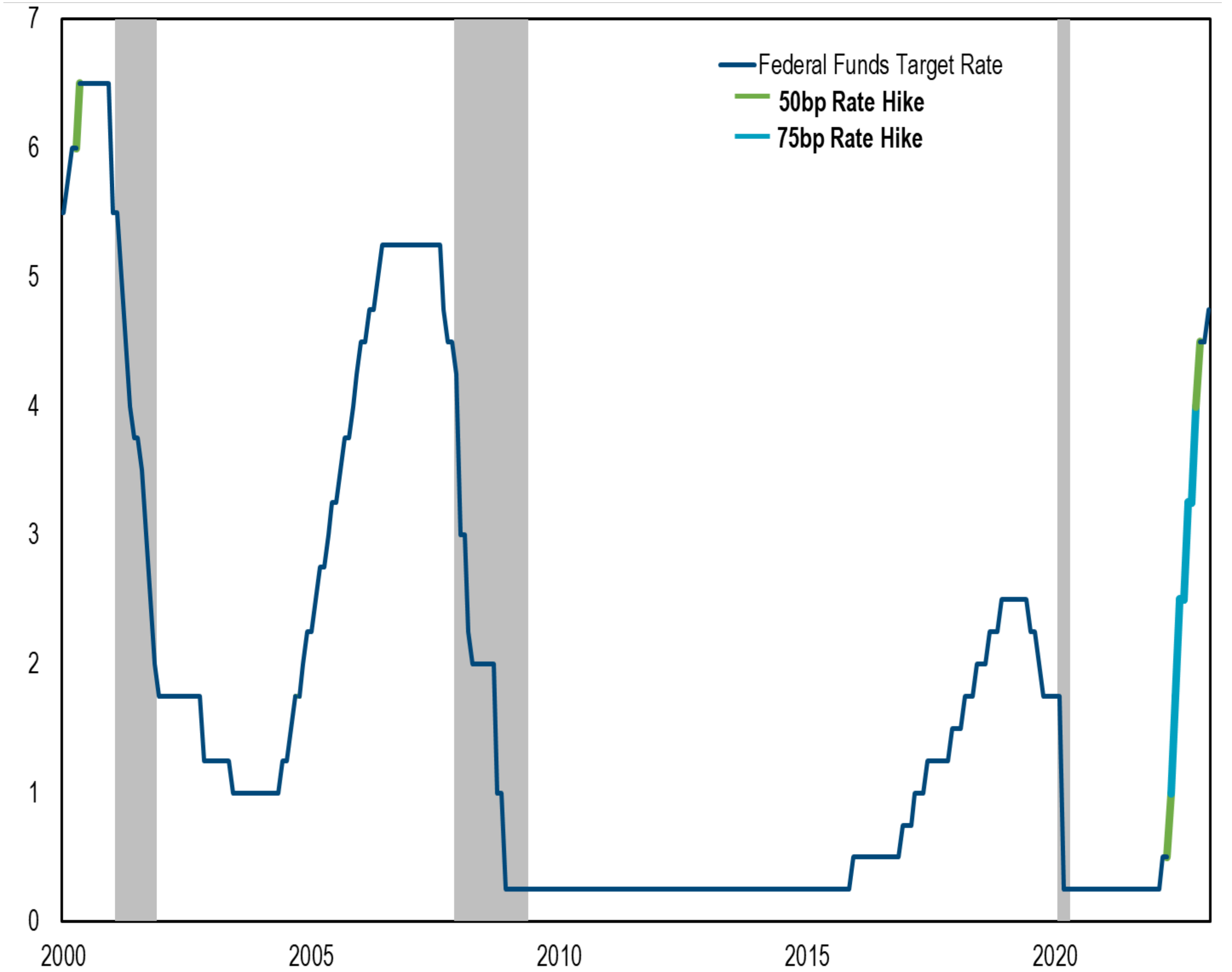
Rate Expectations Materially Increased

In March of last year the Fed took a decisively more hawkish position

The Fed raised rates 450bps since March: **25bps** in March, **50bps** in May, **75bps** in June, July, September & November, **50bps** in December, & 25bps in February 2023, reaching **4.50%-4.75%**

The Fed's expected rate pathway has markedly increased with inflation still *"too-high"*

In December, the SEP showed expectations for **5.1%** in 2023 with rates declining to **4.1%** in 2024



Source: Federal Reserve Board

STIFEL | Fixed Income Capital Markets

*“Recent indicators point to **modest growth in spending** and production. **Job gains have been robust** in recent months, and the unemployment rate has remained low. **Inflation has eased somewhat but remains elevated.**”*

*“The Committee anticipates that **ongoing increases in the target range will be appropriate** in order to attain a stance of monetary policy that is sufficiently restrictive to return inflation to 2 percent over time. In determining the extent of future increases in the target range, **the Committee will take into account the cumulative tightening of monetary policy, the lags** with which monetary policy affects economic activity and inflation, and economic and financial developments.”*

- February 2, 2023 FOMC Statement

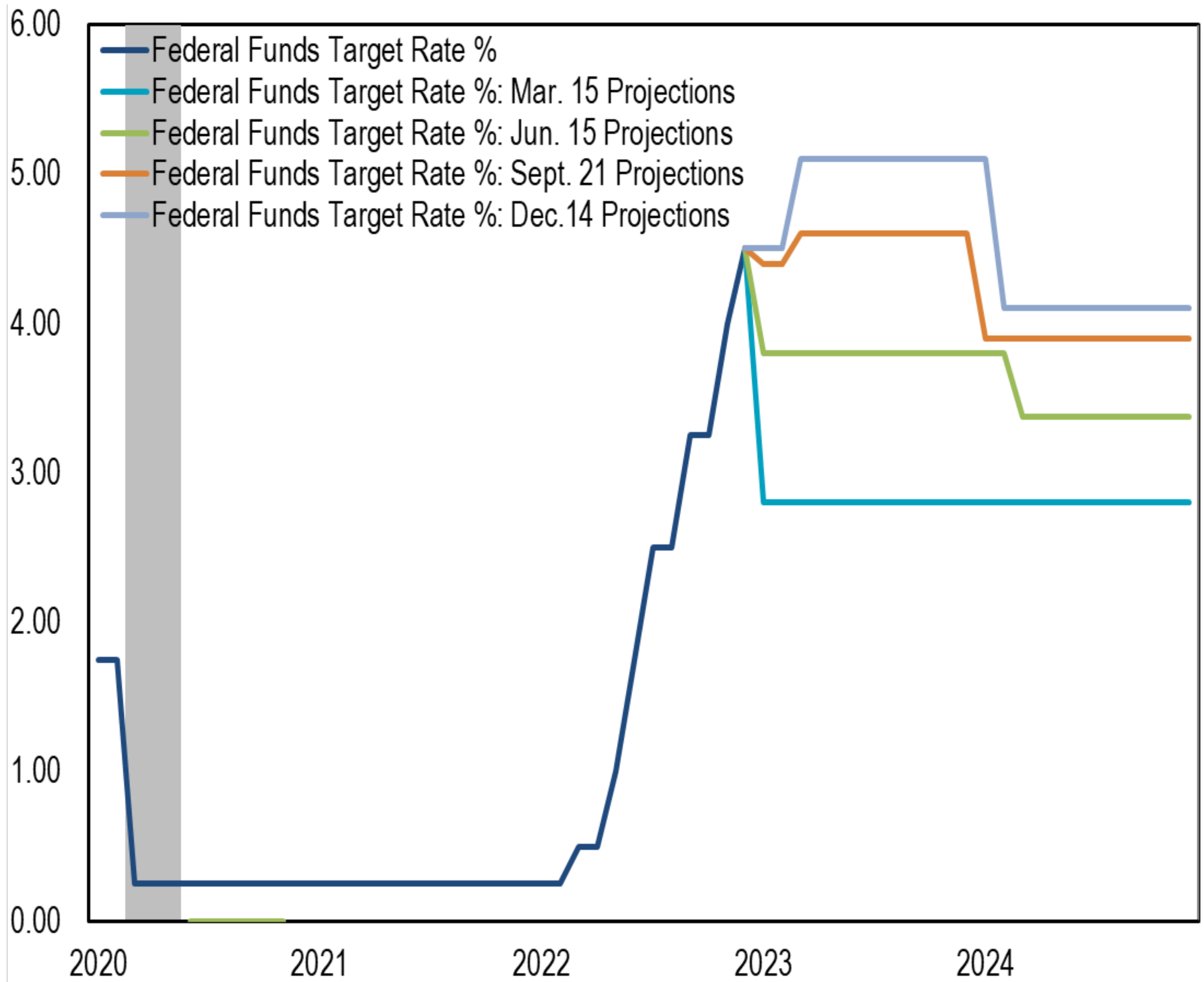
Consistently Higher Fed Forecast for Terminal Rate

At the February press conference, Chairman Powell was clear that the risk isn't that the Fed overtightens but that they do too little to control inflation

The Committee revised up its forecast for rates by 230bps since the initial March forecast

With inflation stubbornly elevated, the Fed revised expectations higher – for both rates and inflation – a fourth time in the final SEP release of 2022

SEP	Terminal FF Rate	PCE
Mar. 15	2.8%	4.3%
Jun. 15	3.8%	5.2%
Sep. 21	4.6%	5.4%
Dec. 14	5.1%	5.6%



Source: Federal Reserve Board/Bloomberg

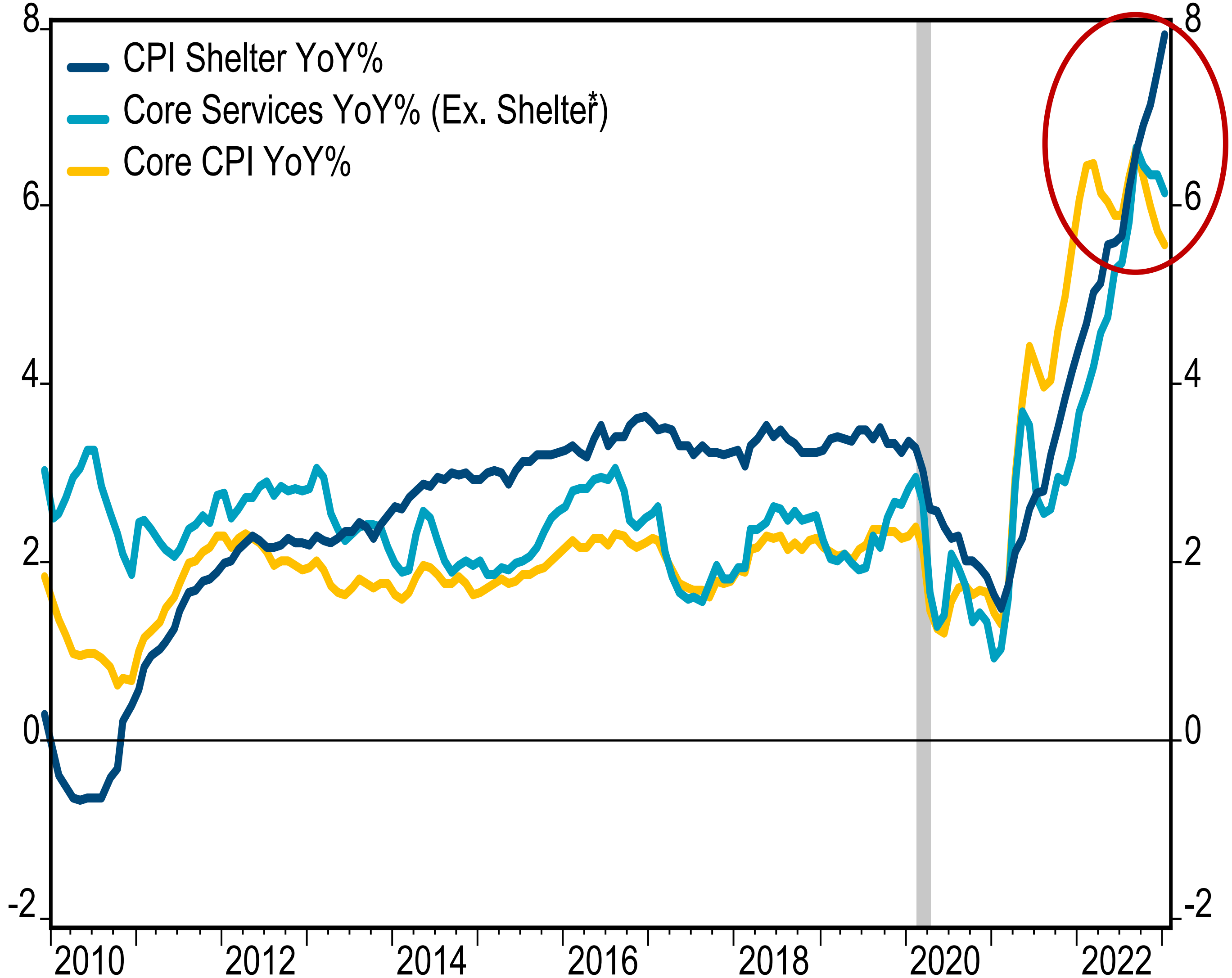
STIFEL | Fixed Income Capital Markets

Inflation Remains Elevated with Core Services Pushing Higher

The CPI rose 0.5% in January and rose **6.4%** over the past 12 months, down from the 6.5% annual increase reported in December

The core CPI rose 0.4% in January and **5.6%** year-over-year, down from the 5.7% annual gain in December

Core services excluding shelter, meanwhile, rose **6.1%** year-over-year in January, following a 6.3% annual increase in December



Source: Bureau of Labor Statistics/Haver Analytics

*Core services inflation tracks healthcare, insurance, education, repairs, personal services, etc.

STIFEL | Fixed Income Capital Markets

517k Payrolls Added in January

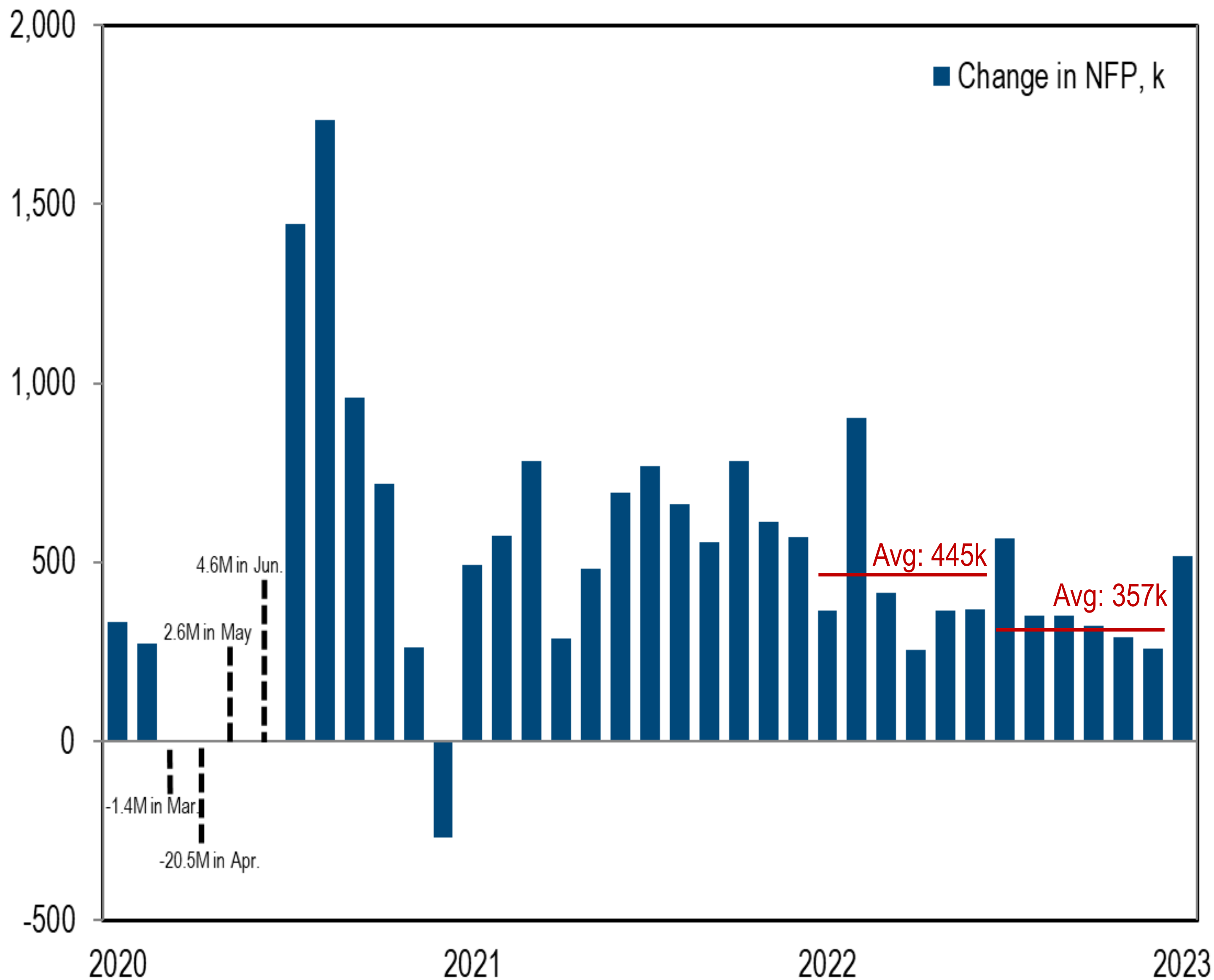
Other sectors of the economy are more clearly showing indications of waning momentum or slower growth, the labor market is not among them

Nonfarm payrolls jumped by **517k** in January, the strongest pace of job creation since July

With earlier revisions to previous months, the overall change (January data + net revisions) was 588k

Nonfarm payrolls fell 1.5M in March and 20.5M in April of 2020, the largest monthly decline on record

For the full year of 2022, U.S. employers added 4.8m jobs, the second-best year for job creation on record after 2021's 7.3m gain. Payrolls dropped 9.3m in 2020, the largest decline on record, and more than the combined decline in 2008 and 2009



Source: Bureau of Labor Statistics/Haver Analytics

STIFEL | Fixed Income Capital Markets

Average Hourly Earnings Remain Solid

As businesses search for workers, compensation is elevated, although the trend appears to be moderating as businesses struggle to absorb costs

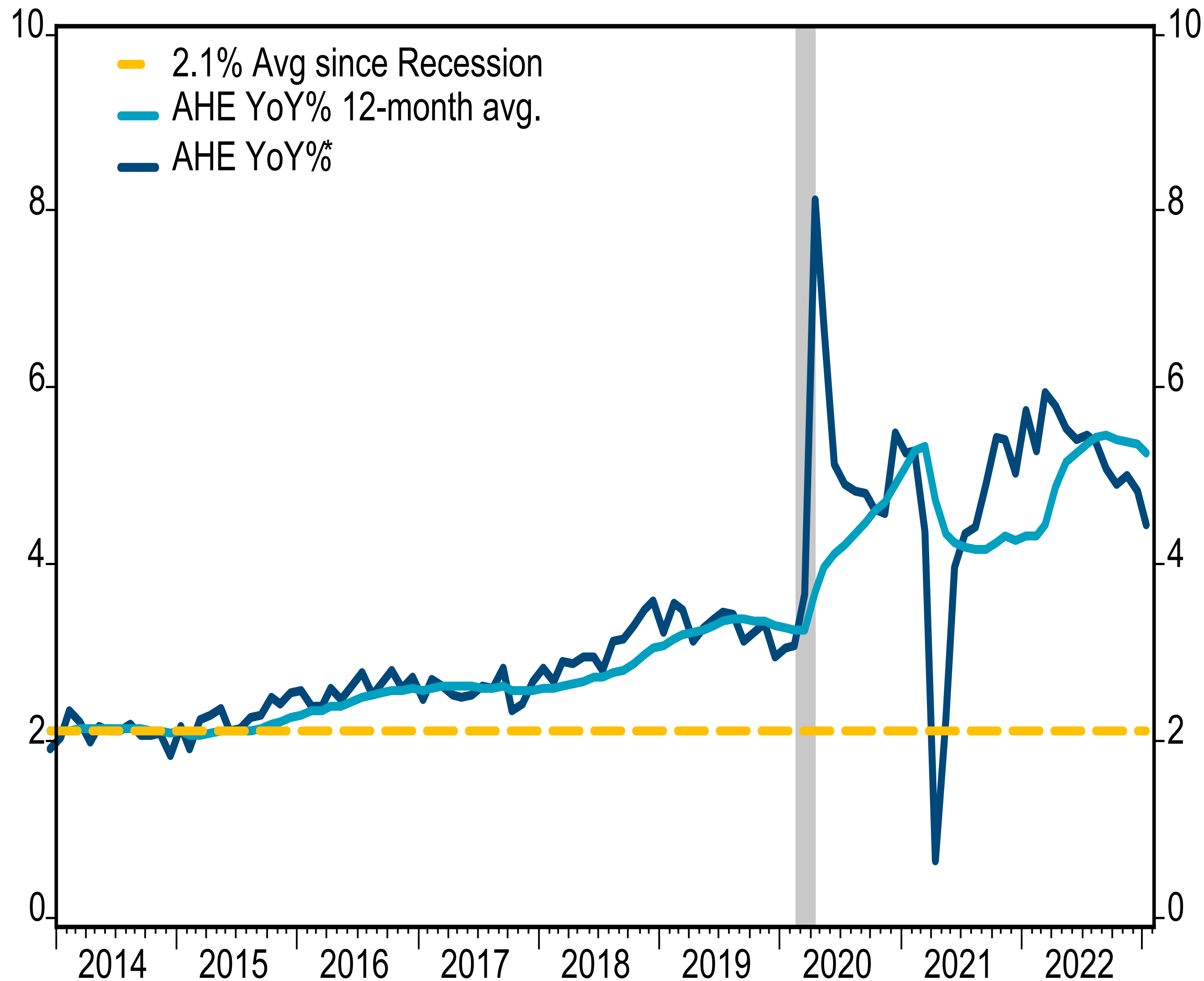
Average hourly earnings rose **0.3%** in January, following a 0.4% rise in December

Year-over-year, wages rose **4.4%** in January, down from the 4.8% increase in December and further below a recent peak of 8.2% in April 2020

Longer-term, businesses may turn to technology or close doors

For now, costs are likely to remain elevated as long as labor remains scarce

Average earnings increased early on during the pandemic as lower-wage workers dropped out of the workforce



Source: Bureau of Labor Statistics/Haver Analytics

*Does not include government assistance

STIFEL | Fixed Income Capital Markets

Retail Sales Trending Lower

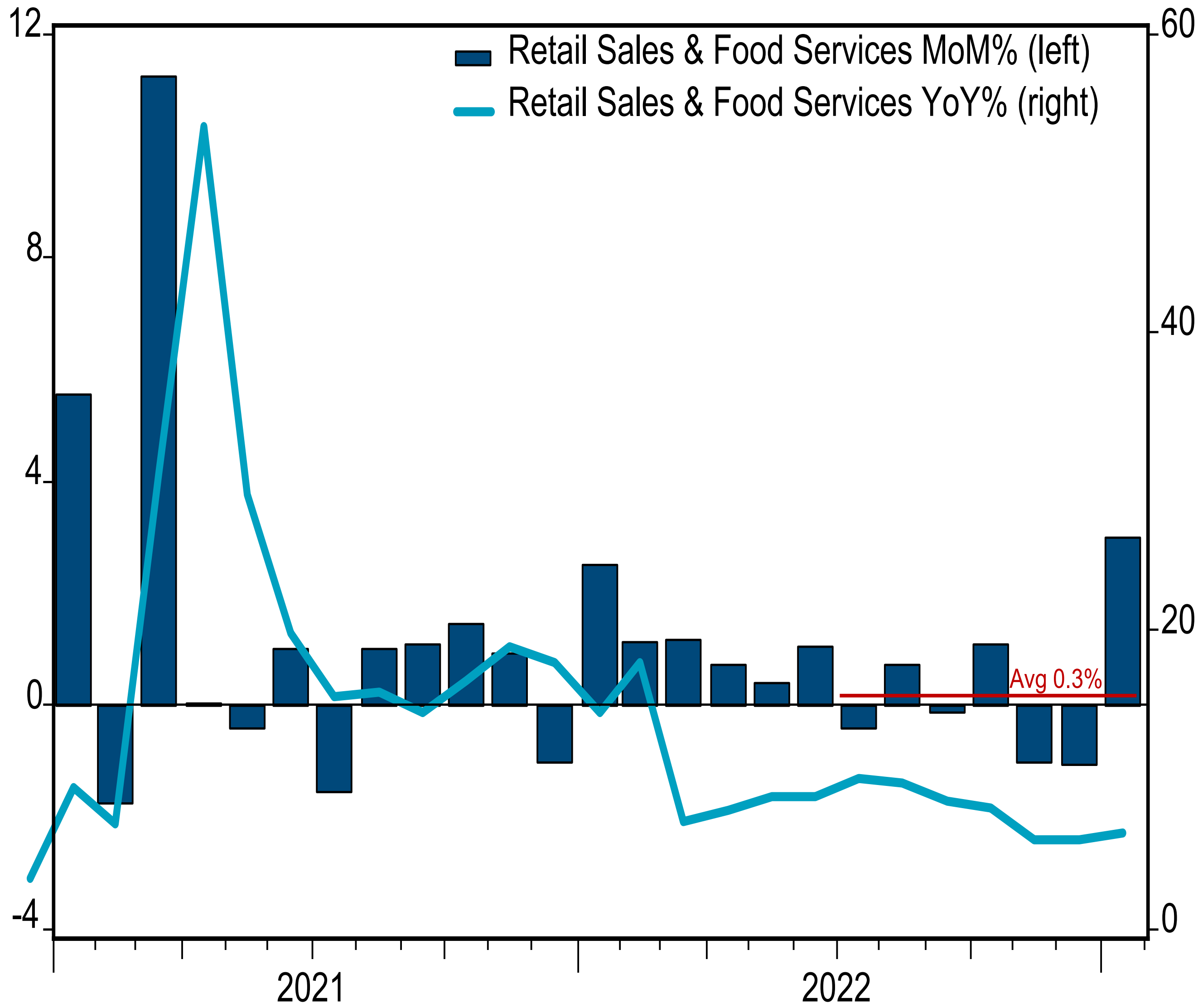
For some, the notion of a reduced or evaporated wealth cushion is causing an outright shift or reduction in spending habits

Trillions in savings and upward momentum in wages has helped consumers to weather different variants and to offset a loss of fiscal support, but inflation is complicating the picture

Large retailers report customers are cutting back as the balance sheet is becoming increasingly fragile amid rising costs and rates

Sales rose **3.0%** in January, following declines in November and December

Year-over-year, retail sales rose **6.4%** in January following a 5.9% gain in December



Source: Census Bureau/Haver Analytics

STIFEL | Fixed Income Capital Markets

U.S. Economy Showing Signs of Weakness

The Fed has vowed to raise rates enough to root out inflation but will it work?

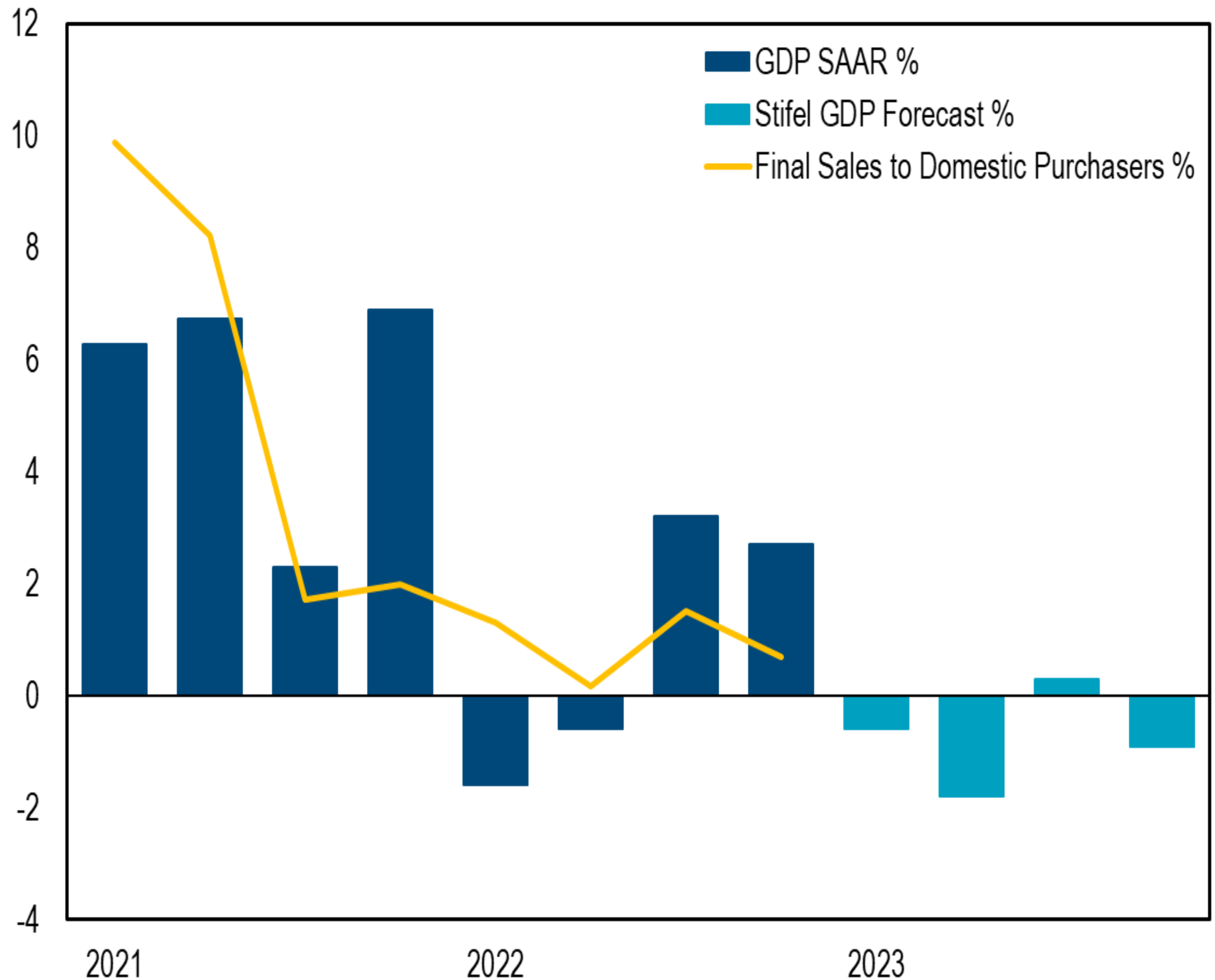
Typically, the Fed raises rates when the economy is overheating versus struggling to gain legs post-pandemic

The majority of price pressures stem from supply side constraints, limiting impact of Fed rate hikes

With an aggressive rate path, growth is likely to slow further into recession

GDP rose **2.7%** in Q4 2022, following a 3.2% rise in Q3

Excluding trade and inventories, final sales to domestic purchasers rose **0.7%**

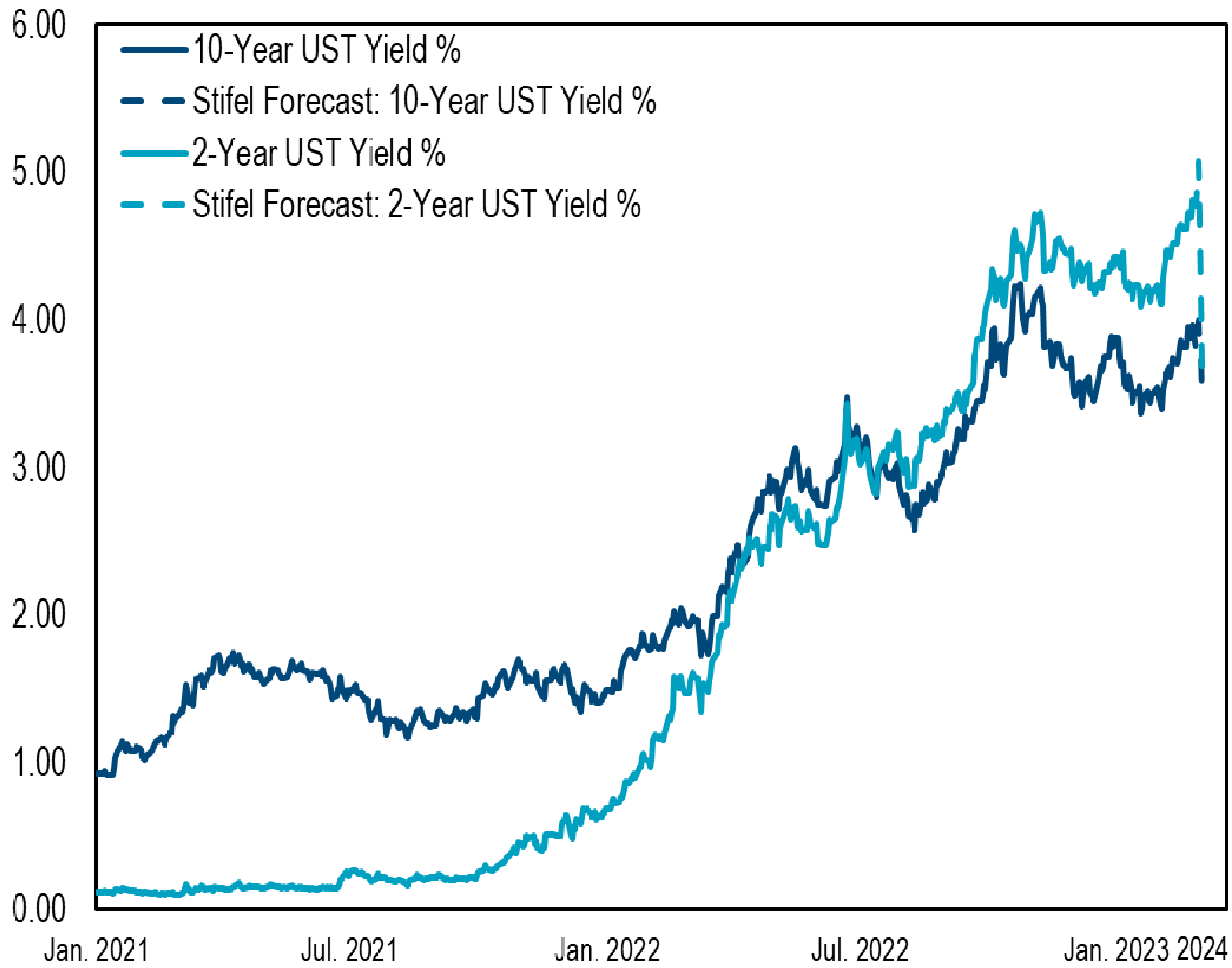


Source: Bloomberg/Stifel

STIFEL | Fixed Income Capital Markets

What Does This Mean for Rates?

The short end of the curve will continue to move higher along with the Fed, while the long end will struggle to keep up with the Fed as policy intentionally tightens us into or further into a recession



Source: Bloomberg/Stifel

Economic Forecast Grid

	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024		Annual Rate 2022	2023	2024
Growth indicators													
GDP, QoQ %	***-0.6%***	***3.2%***	***2.7%***	**-0.6%**	**-1.8%**	**0.3%**	**-0.9%**	1.4%	1.8%		***0.9%***	**-0.7%**	**1.6%**
Consumer Spending, %	*2.0%*	*2.3%*	*1.4%*	-0.8%	0.1%	1.5%	1.2%	1.5%	1.6%		*1.8%*	0.5%	1.6%
Fixed Investment, %	*-5.0%*	*-3.5%*	*-4.6%*	-2.5%	-1.3%	-0.8%	0.0%	0.5%	0.8%		*-2.1%*	-1.1%	0.7%
Housing Starts, k, end of quarter, yr end	*1,575*	*1,465*	*1,382*	1,350	1,300	1,475	1,525	1,585	1,630		*1,382*	1,525	1,630
Unemployment Rate, %, qrt avg, yr end	*4.8%*	*3.7%*	*3.8%*	3.9%	4.4%	5.0%	5.2%	5.5%	5.6%		*3.8%*	5.2%	5.6%
Nonfarm Payrolls, k, qrt avg, ann avg	***293***	***269***	***223***	**200**	**-100**	**-50**	**100**	**150**	**150**		***296***	**38**	**150**
Inflation indicators, YoY%, yr end													
PCE	*7.0%*	*6.3%*	*5.0%*	4.6%	3.8%	3.6%	3.2%	3.0%	2.8%		*5.0%*	3.2%	2.8%
Core PCE	*5.0%*	*5.2%*	*4.4%*	4.2%	4.0%	3.8%	3.5%	3.2%	3.2%		*4.4%*	3.5%	3.2%
PPI	*11.2%*	*8.5%*	*6.2%*	6.0%	5.0%	4.8%	4.2%	3.9%	3.2%		*6.2%*	4.2%	3.2%
Interest rate, %, end of quarter, yr end													
FF	***1.75***	***3.25***	***4.50***	**5.00**	**5.50**	**6.00**	**6.00**	**5.50**	**5.50**		***4.50***	**6.00**	**5.50**
3month UST bills	*1.67*	*3.27*	*4.37*	4.95	5.45	5.95	5.85	5.40	5.40		*4.37*	5.85	5.40
2yr UST notes	*2.96*	*4.28*	*4.43*	4.77	5.07	4.67	4.17	3.67	3.65		*4.43*	4.17	3.65
5yr UST notes	*3.04*	*4.09*	*4.01*	4.14	3.89	3.64	3.39	3.14	3.04		*4.01*	3.39	3.04
10yr UST notes	***3.02***	***3.83***	***3.88***	**3.80**	**4.00**	**3.80**	**3.75**	**3.50**	**3.50**		***3.88***	**3.75**	**3.50**
30yr UST bonds	*3.19*	*3.78*	*3.97*	3.90	4.05	3.85	3.70	3.65	3.40		*3.97*	3.70	3.40
3mon to 2s spread bps	***129***	***101***	***6***	**-18**	**-38**	**-128**	**-168**	**-173**	**-175**		***6***	**-168**	**-175**
3mon to 10s Spread bps	***135***	***56***	***-50***	**-115**	**-145**	**-215**	**-210**	**-190**	**-190**		***-50***	**-210**	**-190**
2s to 10s Spread bps	***6***	***-45***	***-55***	**-97**	**-107**	**-87**	**-42**	**-17**	**-15**		***-55***	**-42**	**-15**

Disclosures and Disclaimers

The Fixed Income Capital Markets trading area of Stifel, Nicolaus & Company, Incorporated may own debt securities of the borrower or borrowers mentioned in this report and may make a market in the aforementioned securities as of the date of issuance of this research report. Please visit the Research Page at www.stifel.com for the current research disclosures applicable to the companies mentioned in this publication that are within Stifel's coverage universe.

The information contained herein has been prepared from sources believed reliable but is not guaranteed by Stifel and is not a complete summary or statement of all available data, nor is it to be construed as an offer to buy or sell any securities referred to herein. Opinions expressed are subject to change without notice and do not take into account the particular investment objectives, financial situation or needs of investors. Employees of Stifel or its affiliates may, at times, release written or oral commentary, technical analysis or trading strategies that differ from the opinions expressed within. No investments or services mentioned are available to "private customers" in the European Economic Area or to anyone in Canada other than a "Designated Institution". The employees involved in the preparation or the issuance of this communication may have positions in the securities or options of the issuer/s discussed or recommended herein.

Stifel is a multi-disciplined financial services firm that regularly seeks investment banking assignments and compensation from issuers for services including, but not limited to, acting as an underwriter in an offering or financial advisor in a merger or acquisition, or serving as a placement agent in private transactions. Moreover, Stifel and its affiliates and their respective shareholders, directors, officers and/or employees, may from time to time have long or short positions in such securities or in options or other derivative instruments based thereon.

Stifel Fixed Income Capital Markets research and strategy analysts ("FICM Analysts") are not compensated directly or indirectly based on specific investment banking services transactions with the borrower or borrowers mentioned in this report or on FICM Analyst specific recommendations or views (whether or not contained in this or any other Stifel report), nor are FICM Analysts supervised by Stifel investment banking personnel; FICM Analysts receive compensation, however, based on the profitability of both Stifel (which includes investment banking) and Stifel FICM. The views, if any, expressed by FICM Analysts herein accurately reflect their personal professional views about subject securities and borrowers. For additional information on investment risks (including, but not limited to, market risks, credit ratings and specific securities provisions), contact your Stifel financial advisor or salesperson.

Our investment rating system is three-tiered, defined as follows:
Outperform - For credit specific recommendations we expect the identified credit to outperform its sector specific peers over the next six months.
Market perform - For credit specific recommendations we expect the identified credit to perform approximately in line with its sector specific peers over the next six months.
Underperform - For credit specific recommendations we expect the identified credit to underperform its sector specific peers over the next six months.

Additional Information Is Available Upon Request

I, Lindsey Piegza, certify that the views expressed in this research report accurately reflect my personal views about the subject securities or issuers; and I certify that no part of my compensation was, is, or will be directly or indirectly related to the specific recommendations or views contained in this research report.

STIFEL | Fixed Income Capital Markets

STIFEL | Fixed Income Capital Markets