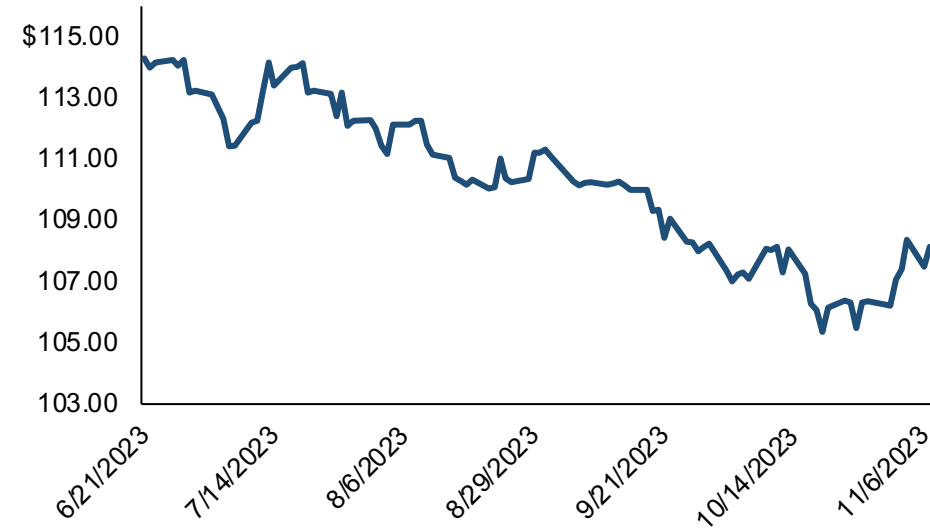


TYH4 | Five-Month Price Chart



Position Details

- 10-Year U.S. Treasury Note Futures | TYH4
- Underlying Price: \$108.30
- Bull Call Spread
- Expiration Date: February 23, 2024

Interest Rate Products Sector

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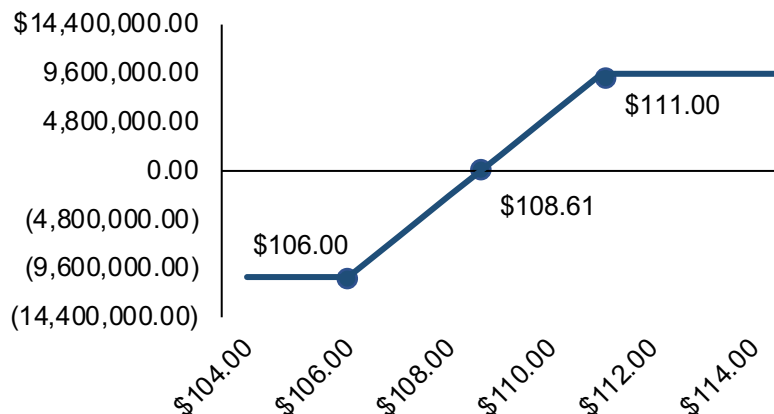
I. Product & Position Overview

Product & Position Overview

Product Description

- **10-Year US Treasury Note Futures**
 - 10-Year U.S. Treasury Note Futures are standardized contracts on 10.00-Year U.S. Treasury bonds. They are the most actively traded Treasury product acting as an ideal product for hedging and overall risk management
 - The respective month for this contract is March 2024, which reflects investors' expectations for the 10.00-Year Treasury for March and beyond
 - This product is driven mostly by future expectations interest rates, supply and demand, and macroeconomic data such as unemployment, inflation, and consumer spending

Payoff Diagram



Trade Breakdown

- **Bull Call Spread**
 - This trade benefits from increases in the 10-Year U.S. Treasury Note Futures price
- **Setup**
 - We Buy – 40.00 ITM \$106.00 Calls (\$3.47) | TYH4
 - We Sell – 40.00 OTM \$111.00 Calls (\$0.86) | TYH4
 - Max Profit: \$9,557,500.00
 - Max Loss: (\$10,442,500.00)
- **Expiration**
 - Date: February 23, 2024

Exit Strategy & Potential Hedge Strategy

- **Bull Base & Bear Case**
 - **\$109.50 / \$109.00 / \$106.50**
 - Breakeven – \$108.61
- **Methodology**
 - The Sector believes that the underlying futures contract will trade up as the Fed shifts to a more dovish sentiment because of large restraints on U.S. Consumers
- **Hedge Strategy**
 - Should the Fed turn hawkish with its monetary policy action, the Sector will exit the position by reverse trading



II. Macroeconomic Thesis

Macroeconomic Thesis

Macroeconomic Summary

- **Decrease in Supply of 10.00-Year Treasuries**
 - U.S. government cut their borrowing estimate for October – December to \$776.00 bn, a \$76.00 bn reduction
 - U.S. Treasury decreased issuance of 10.00-Year Treasuries by \$1.00 bn and increased issuance of 2.00-Year Treasuries by \$3.00 bn and is set to continue till January 2024FY

- **Constraint on Consumers Continuing to Increase**
 - High borrowing costs continue to hurt consumers as mortgage rates remain elevated at ~8.00%. In addition, housing prices are expected to increase by 2.00% in 2024FY. Rent prices have risen from \$1,445.05 to \$1,462.00
 - Total household debt rose 1.30% reaching \$17.29 T in Q32023FY. This shows a growth in debt in which consumers will have to repay at high borrowing costs. This debt is built up of mortgage balances reaching \$12.14 T, Credit card balances reaching \$1.08 T, and student loan balances reaching \$1.60 T all continuing to increase

- **Tighter Lending Standards**
 - The senior officer option survey indicated that the strength in recent household spending has been funded by excess personal savings due to Covid which have largely been depleted
 - The survey also found that banks were less likely to approve loan applications from borrowers with FICO scores of 620.00-680.00. Which is around 30.00% of consumers
 - Demand for loans fell broadly, with 60.00% of banks citing moderately or substantially weaker demand for loans in the third quarter, up significantly from 43.00% in 2Q2023

YY Change in Credit Card Delinquencies | 30.00-Year Chart



Market Pros & Cons

- Global supply chain pressure continues to decrease
- Israel and Hamas reach a cease-fire agreement
- Holiday season spending causes uptick in inflation
- Excess savings are higher than forecasted



III. Risk Analysis

Risk Analysis

Directional & Magnitude Risk

- **Delta Analysis**
 - The trade has a Delta value of 0.3264
 - The trade benefits from bullish movements in the underlying futures contract, which indicates that as the price of the underlying increases the trade gains value
- **Gamma Analysis**
 - The trade has a Gamma value of 0.0001
 - The Gamma value for this trade is minimal as the underlying trades in extremely small values
 - If the trade goes deep ITM or OTM, Gamma will decrease

Implied Volatility Risk

- **Vega Analysis**
 - The trade has a Vega value of 0.0004
 - The trade is long volatility, as the sector expects volatility to increase with a rapid decrease in consumer spending
 - The implied volatility for each leg of the trade is 7.43%, but a projected volatility of 10.00% was used

Time Risk

- **Theta Analysis**
 - The trade has a theta value of 0.0010
 - Theta is positive for this trade as the underlying is already in the money, as with every passing day the option has a higher chance of staying in the money

Interest Rate Risk

- **Rho Analysis**
 - The trade has a Rho value of (0.0068)
 - Rho is somewhat significant for this trade as an increase in the risk-free rate would cause an increase in yields of the underlying, decreasing the price of the futures contract

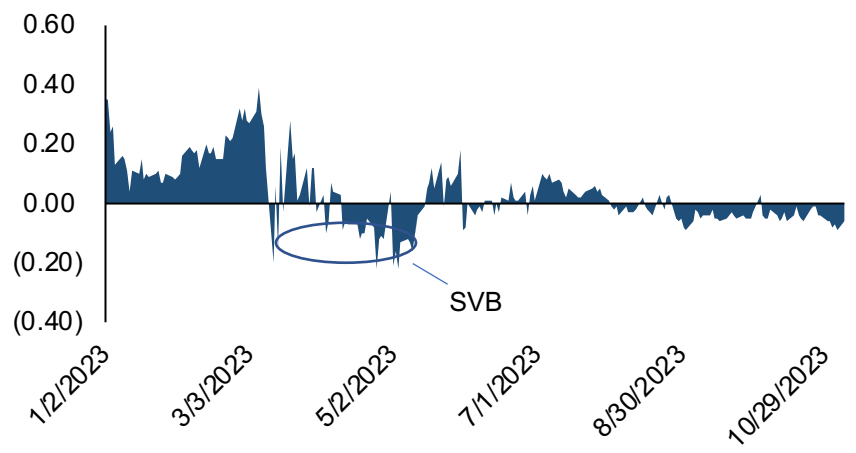


IV. Technical Bias & Fair Value

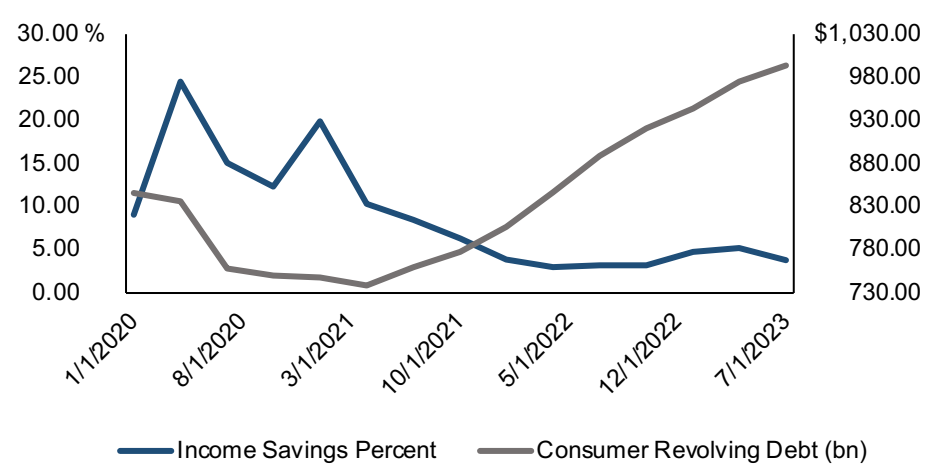


Technical Bias & Fair Value

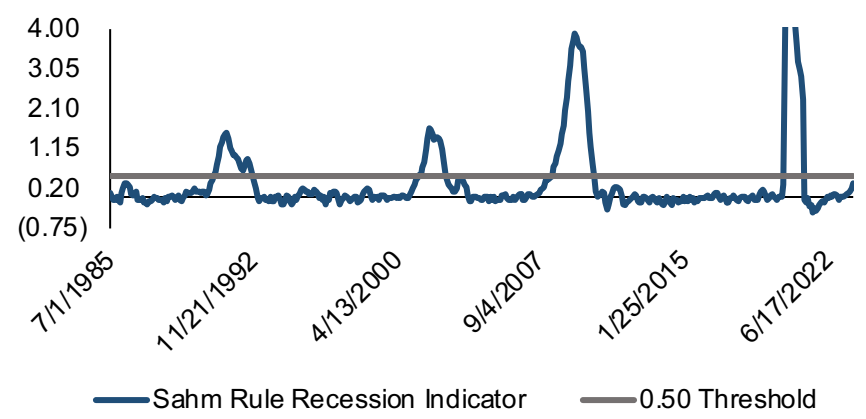
Six-Month and Three-Month Bills Spread | YTD-Chart



Consumer Revolving Debt v. Consumer Savings | Three-Year Chart



Sahm Rule Recession Indicator v. 0.50 Threshold | 38.00-Year Chart



Synopsis

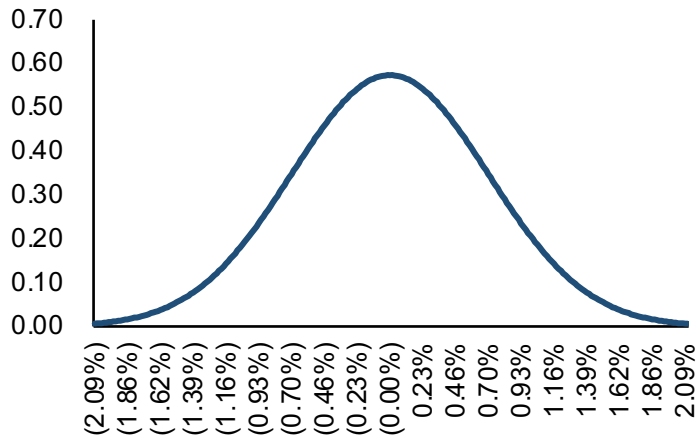
- The six-month and three-month bills spread dropped to its lowest level since the collapse of SVB. Historically a negative spread has been indicative of negative short-term economic growth
- The comparison between consumer debt and consumer savings show that as consumer debt increases, we see a decrease in consumer savings as they avoid that high borrowing cost
- The metric is currently sitting at 0.34 and it examines the current 3.00-month average of the unemployment rate compared to the low unemployment rate of the previous 12.00 months



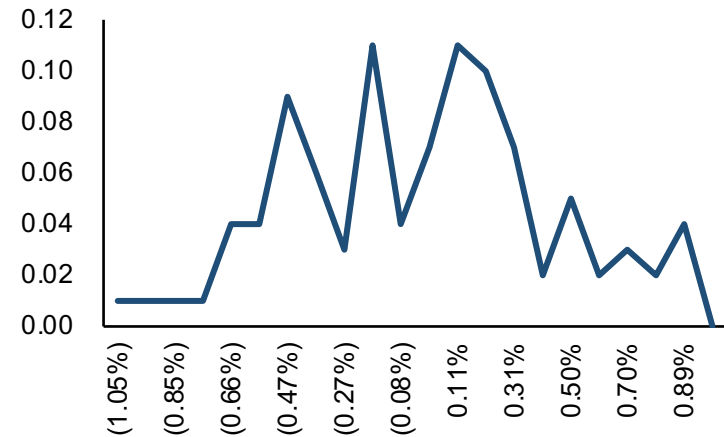
V. Volatility Analysis

Volatility Analysis

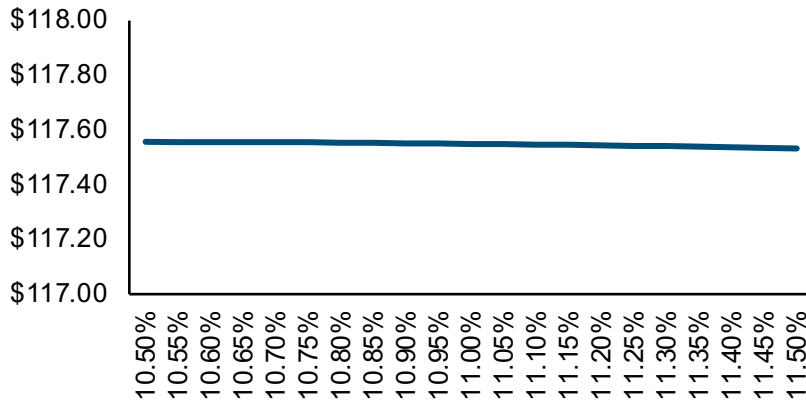
Expected Theoretical Daily Return Distribution



Historical Daily Return Distribution



Position Volatility Sensitivity



Theoretical Edge Analysis

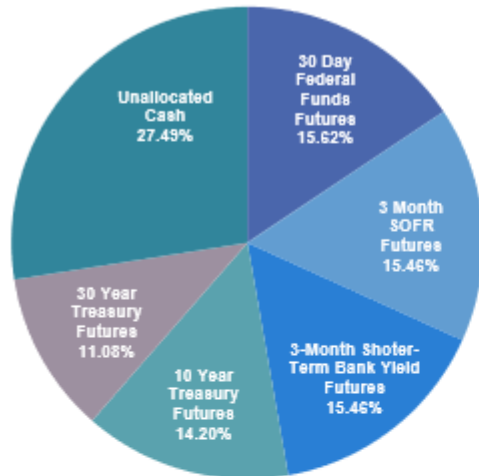
Asset Description	Option Premium
Theoretical Long Call	\$3,7900
Actual Long Call	\$3,7400
Theoretical Short Call	\$1,1400
Actual Short Call	\$1,1700
Theoretical Long Call Adj. for DV1	\$379,0000
Actual Long Call Adj. for DV1	\$374,0000
Theoretical Short Call Adj. for DV1	\$114,0000
Actual Short Call Adj. for DV1	\$117,0000
Theoretical Edge (LP) Assuming 100.00 k Contracts	\$31,250,0000
Theoretical Edge (SP) Assuming 100.00 k Contracts	\$18,750,0000
Total Theoretical Edge	\$50,000,0000



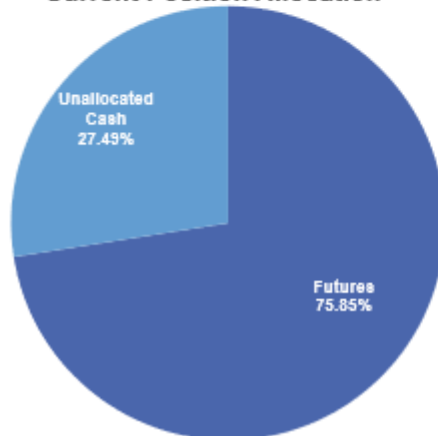
VI. Capital Allocation

Capital Allocation

Current Portfolio Allocation

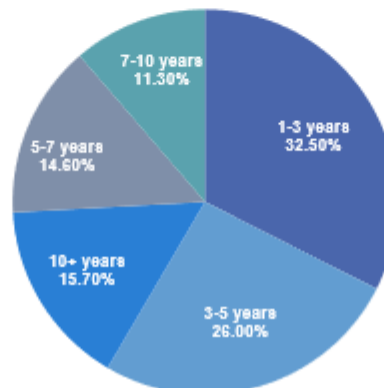


Current Position Allocation

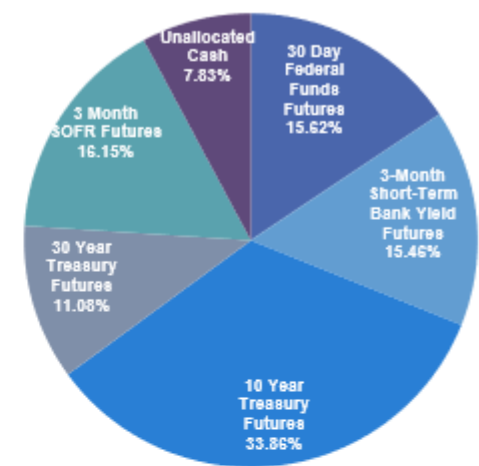


Transaction Summary		
Ticker	Position Change	
	Contracts	Allocation
10 Year Treasury Futures	0	\$0.00
3 Month SOFR Futures	0	\$0.00
30 Day Federal Funds Futures	0	\$0.00
30 Year Treasury Futures	0	\$0.00
3-Month Short-Term Bank Yield Futures	0	\$0.00
10-Year Treasury Note Futures	+ 40	\$10,442,500.00
Allocation Change		\$10,442,500.00

Benchmark Allocation



Proposed Portfolio Allocation



Proposed Position Allocation

