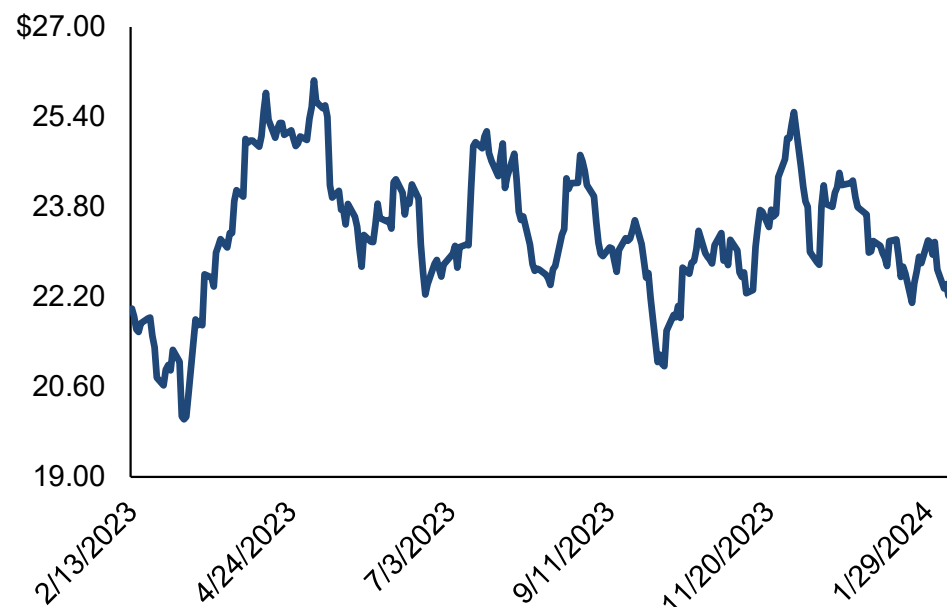




### Silver | One-Year Price Chart



### Position Details

- Silver Futures | SIU4
- Underlying Price: \$22.71
- Bull Call Spread
- Expiration Date: September 24, 2024

### Metals Sector

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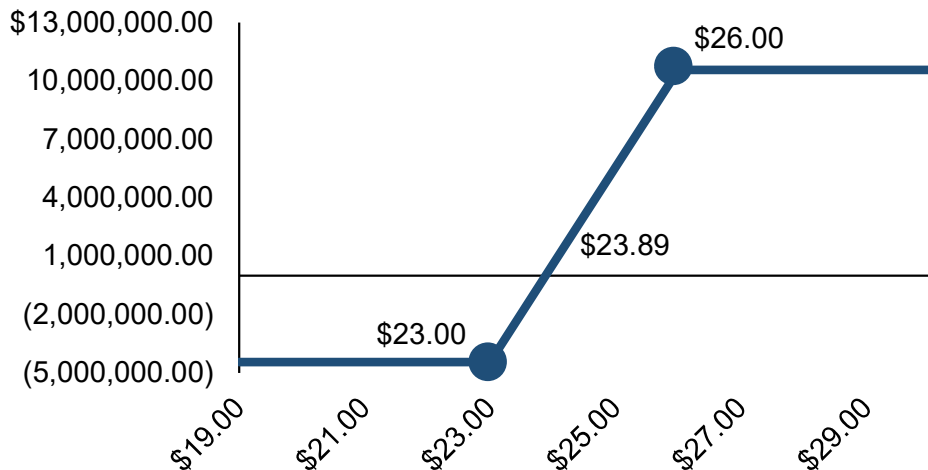
## I. Product & Position Overview

### Product & Position Overview

#### Product Description

- **Silver**
  - Silver is a raw material that is refined until it reaches its purest form. It is a precious metal with industrial applications in electronics, optics, and jewelry
    - Silver prices are primarily influenced by the level of economic stability and global industrial demand
- **Major Countries Involved**
- Producers:
  - Mexico | 24.02%
  - China | 14.22%
  - Peru | 12.90%
- Consumers:
  - U.S. | 21.60%
  - China | 14.50%
  - Japan | 11.60%

#### Payoff Diagram



#### Trade Breakdown

- **Strategy Name**
  - Bull Call Spread – This strategy benefits from moderately bullish price movement in the underlying asset
- **Setup**
  - We Buy – 5000 OTM \$23.00 Calls | SIU4C
  - We Sell – 5000 OTM \$26.00 Calls | SIU4C
  - Max Profit – \$10,565,000.00
  - Max Loss – (\$4,435,000.00)
- **Expiration**
  - Date: September 24, 2024

#### Exit Strategy & Potential Hedge Strategy

- **Bull Base & Bear Case**
  - \$26.50 / \$24.00 / \$22.00
  - Breakeven – \$23.89
- **Methodology**
  - The Sector expects a ~12.65% increase in the price of the underlying before the expiration date
- **Hedge Strategy**
  - In the event the underlying does not increase as anticipated, the Sector will look to reverse trade



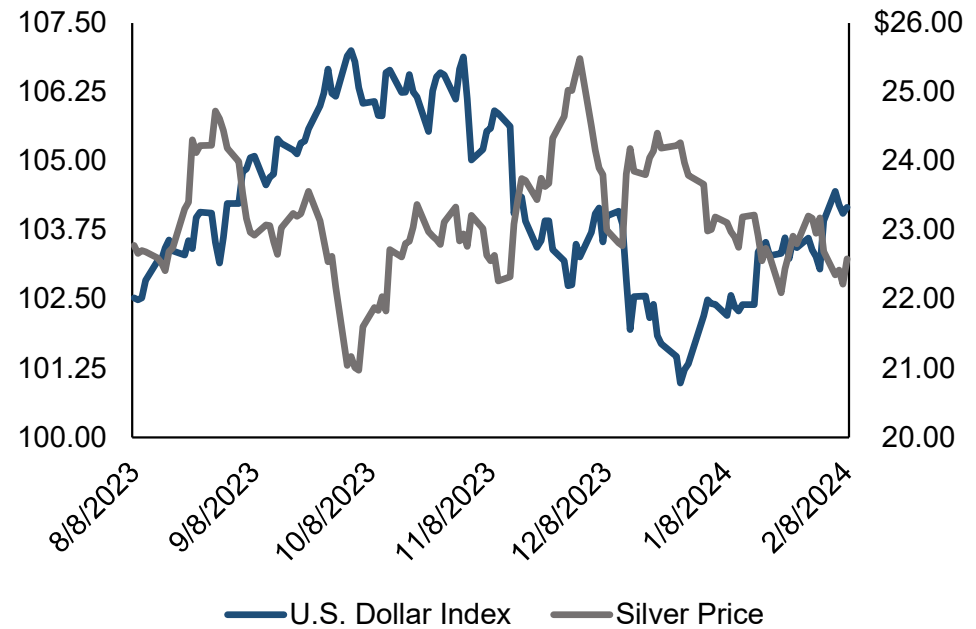
## II. Macroeconomic Thesis

### Macroeconomic Thesis

#### Macroeconomic Summary

- **Forecasted Cuts to the Federal Funds Rate**
  - Many Fed officials have forecasted three rate cuts in 2024. Additionally, Chairman Jerome Powell has said the intended Fed Funds rate by EOY 2024 is 4.60%
  - Historically, precious metals have an inverse relationship with interest rates and the strength of the USD
    - As interest rates fall and the dollar weakens, consumers invest in Gold and Silver as a store of value and to capitalize on the lower opportunity cost of holding non-yielding assets
  
- **Supply Deficit Coupled with Increasing Demand**
  - After FY2023 saw a Silver supply deficit of 141.00 mm ounces, the Silver Institute is forecasting an even more significant deficit of 198.00 mm ounces for FY2024
    - Mexico, the world's largest Silver producer, experienced a 12.00% decrease in supply, putting upward pressure on prices for the metal
    - The Silver Institute is predicting a 9.00% demand increase for Silver. Coupled with lagging global supply, this demand increase can be a contributor to upward price movements for Silver
  
- **Geopolitical and Political Tensions Raise Safe-Haven Appeal**
  - The Russia-Ukraine War, Israel-Hamas war, and conflicts in the Suez Canal have all contributed to the attractiveness of precious metals used as safe-haven assets
    - After Russia invaded of Ukraine in February 2022 and Hamas' attack of Israel in October 2023, Silver prices rose 3.04% and 5.25% w/w, respectively
  - The upcoming 2024 U.S. Presidential Election is a tight race, with a tie of 44.00% voter confidence in both Donald Trump and President Biden. Market volatility is expected to increase as the election moves closer

U.S. Dollar Index vs. Silver Price| Six-Month Chart



#### Market Pros & Cons

- Government continues support for solar energy production in 2024
- Consumer sentiment rallies, pushed by AI developments
- Current stockpile of solar energy panels in the U.S. persists
- Excitement surrounding the electric vehicle industry diminishes



## III. Risk Analysis

## Risk Analysis

### Directional & Magnitude Risk

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- **Delta Analysis**

- The Delta value for this trade is 0.1515
- For every \$1.00 change in the value of the underlying asset, the value of this trade will gain or lose \$0.1515
- The Delta is low at the start of this trade due to both long and short positions having deltas that are similar in value, which offset and create a value of ~0.01. As the underlying value of Silver approaches the strike price, the Delta will decrease due to a more minor change in the option price

- **Gamma Analysis**

- The Gamma value for this trade is 0.0018, indicating that as there is a \$1.00 change in the value of the underlying asset, the Delta value will change by 0.0018

### Implied Volatility Risk

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- **Vega Analysis**

- The Vega of this trade is 0.0025
- The implied volatility for this trade is 35.00%, as this trade is long volatility with a projected volatility of only 27.00%. The uncertainty surrounding interest rates is a large part of what makes this implied volatility high
- The Vega of this trade is positive, meaning that the value of the option's position increases as volatility increases
- The Vega is positive and at its highest point between the two strikes; therefore, a rise in volatility is best for the trade when the underlying is between \$23.00 and \$26.00

### Time Risk

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- **Theta Analysis**

- The Theta value for this trade is (0.0001)
- The Theta value indicates that for every day that passes, this trade will lose \$0.0001 in value, ceteris paribus
- The Theta is low due to the stable nature of this contract and its distance from the expiration date
- The Theta will increase as the contract approaches expiration, causing a higher loss of value

### Interest Rate Risk

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- **Rho Analysis**

- The Rho of this trade is 0.0000
- The risk-free interest rate has minimal impact on our trade due to the long and short positions offsetting each other

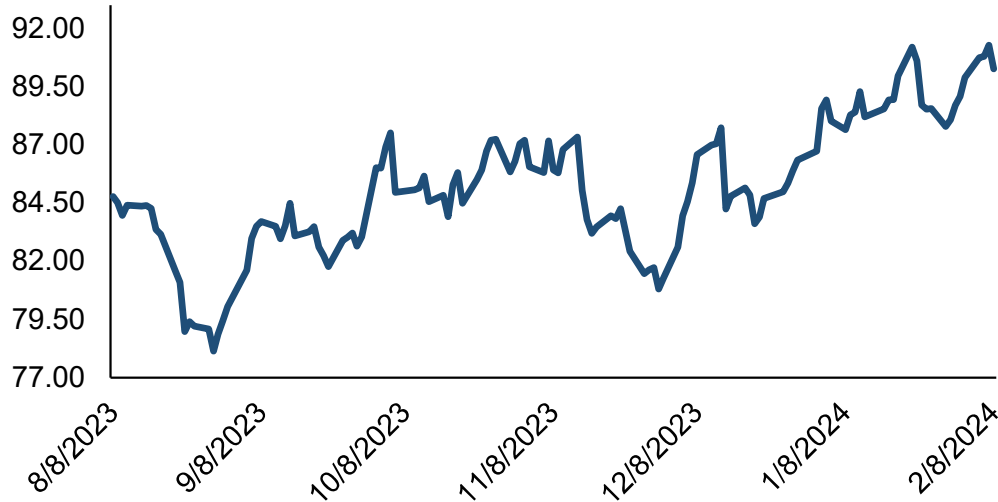




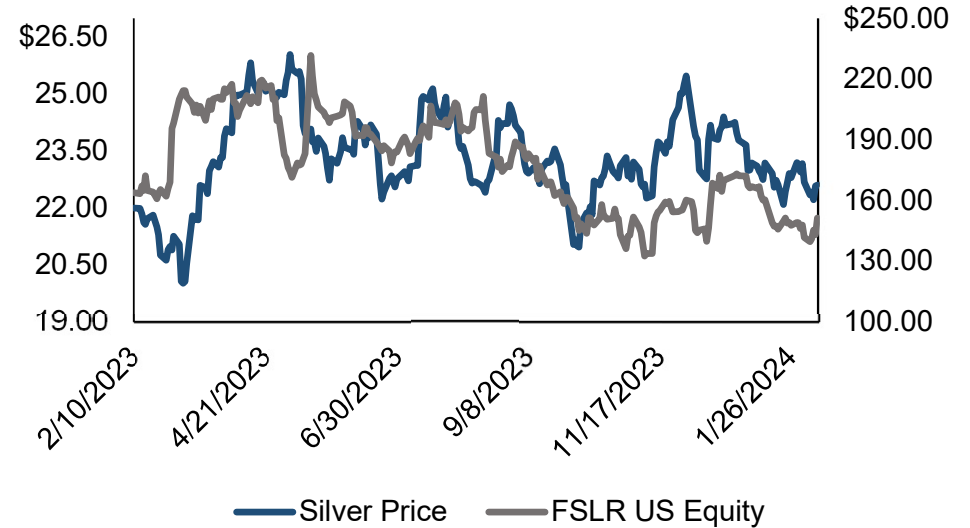
## IV. Technical Bias & Fair Value

### Technical Bias & Fair Value

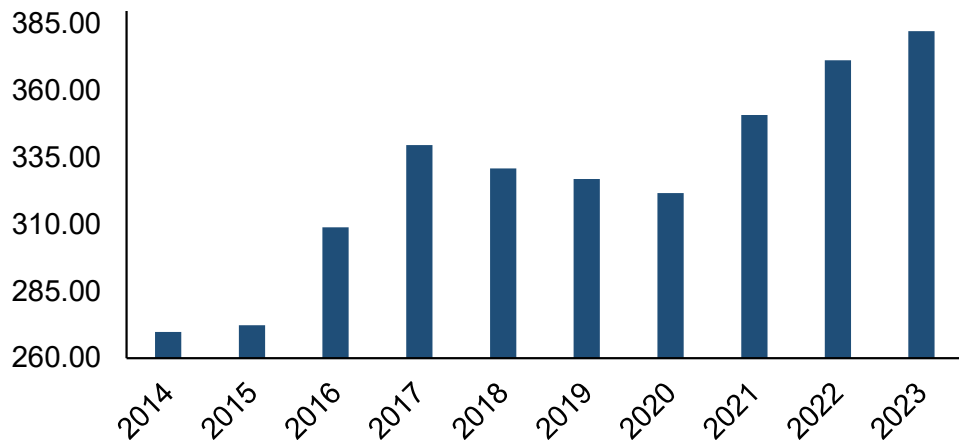
Silver/Gold Price Ratio | Six-Month Chart



Silver vs. Solar Energy Equity | One-Year Chart



Global Silver Electronic Demand (mm. oz.) | Ten-Year Chart



#### Synopsis

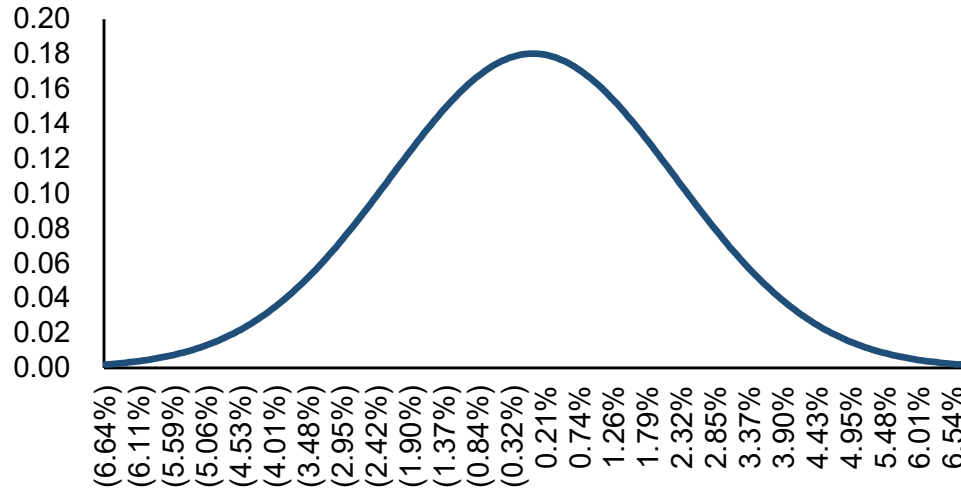
- The current Silver/Gold ratio supports the Sector's thesis, suggesting that Silver is currently undervalued and points to an investment opportunity. Silver is considered undervalued when the ratio is above 50.00, and it now stands at 90.00
- The connection between Silver and solar energy has led to correlated price movements with FSLR, a major U.S.-based solar panel manufacturer. The Sector's bullish outlook on Silver aligns with a projected increase in global photovoltaic usage
- The past ten years have seen nearly a 150.00% increase in demand for Silver for electrical and electronic purposes. This surge is mainly due to the rise in clean energy, electric vehicles, and government legislation pushing the green energy initiative



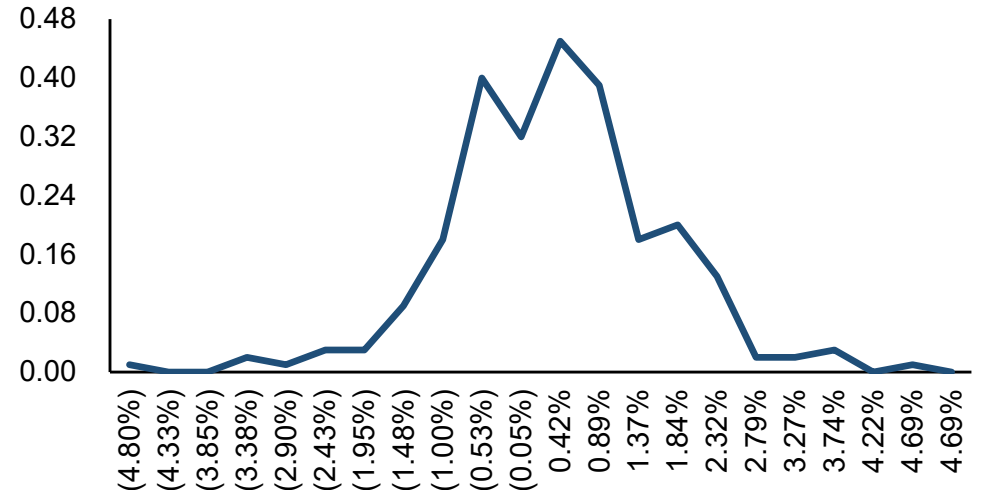
## V. Volatility Analysis

### Volatility Analysis

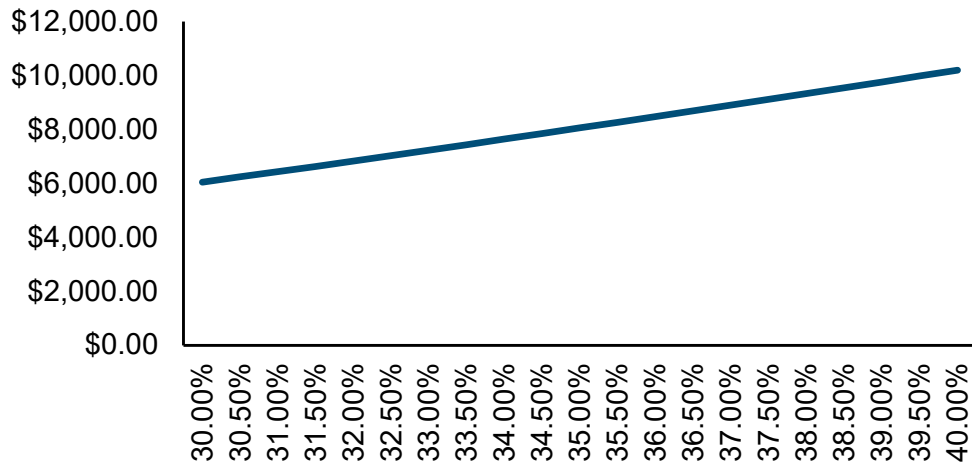
Expected Theoretical Daily Return Distribution



Historical Daily Return Distribution



Position Volatility Sensitivity



Theoretical Edge Analysis

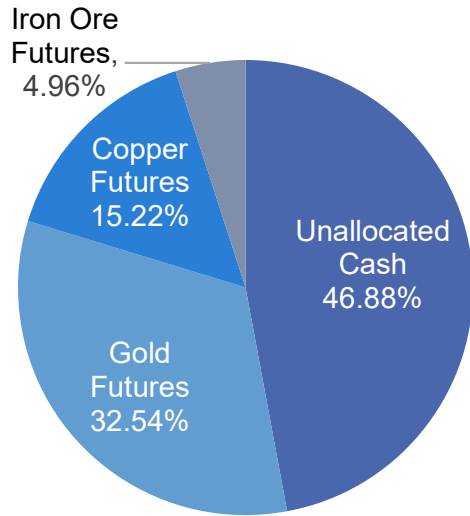
Asset Description	Option Premium
Theoretical Long Call	\$2.58
<b>Actual Long Call</b>	\$0.72
Theoretical Short Call	\$1.57
<b>Actual Short Call</b>	\$1.61
Theoretical Long Call Adj. for DV1	\$258.00
<b>Actual Long Call Adj. for DV1</b>	\$72.00
Theoretical Short Call Adj. for DV1	\$157.00
<b>Actual Short Call Adj. for DV1</b>	\$161.00
<b>Theoretical Edge (LC) Assuming 5.00 k Contracts</b>	\$930,000.00
<b>Theoretical Edge (SC) Assuming 5.00 k Contracts</b>	\$20,000.00
<b>Total Theoretical Edge</b>	\$950,000.00



## VI. Capital Allocation

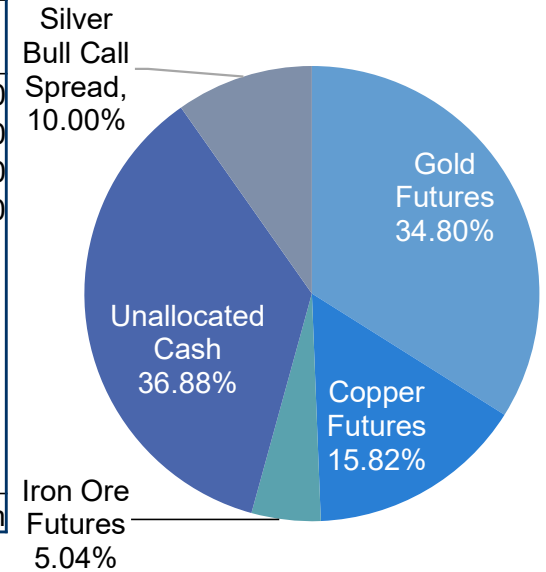
### Capital Allocation

**Current Portfolio Allocation**

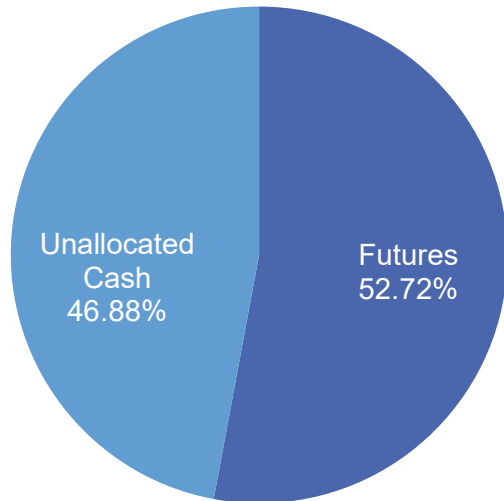


Transaction Summary		
Ticker	Position Change	
	Contracts	Allocation
Gold Futures		\$0.00
Copper Futures		\$0.00
Iron Ore Futures		\$0.00
Silver Bull Call Spread	+ 5000	\$4,435,000.00
Allocation Change		4.44 mm

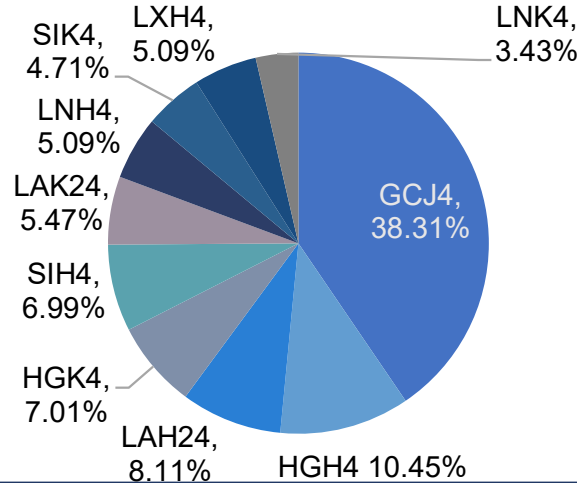
**Proposed Portfolio Allocation**



**Current Position Allocation**



**Benchmark Allocation**



**Proposed Position Allocation**

