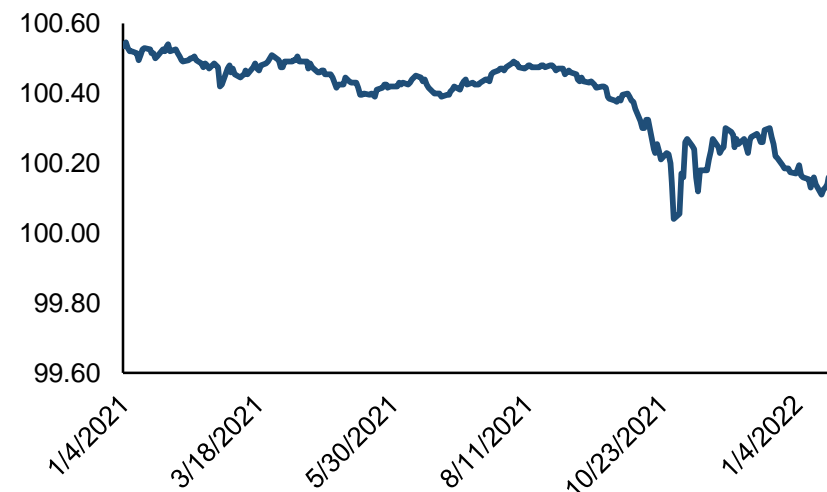


## 3-Month Euribor Futures | 12-Month Price Chart



### Position Details

- Euribor Futures | ERH3
- Underlying Price: 100.15
- Bear Put Spread
- Expiration Date: March 1, 2023

### Interest Rate Product Sector

#### Associate

Julia Petrova  
Julia.petrova6100@gmail.com

#### Analyst

Luke Chenault  
Lukechenault2020@gmail.com

#### Analyst

Nick Salameh  
nicksalameh2@gmail.com

#### President

Luke Palma  
lukepalma25@gmail.com

#### Vice President

Nico Mahramas  
nicomahramas@gmail.com

#### Chief Investment Officer

Joseph Palermo  
joseph.palermo12@gmail.com

## Table of Contents

- I. Product & Position Overview
- II. Macroeconomic Thesis
- III. Risk Analysis
- IV. Technical Bias & Fair Value
- V. Capital Allocation



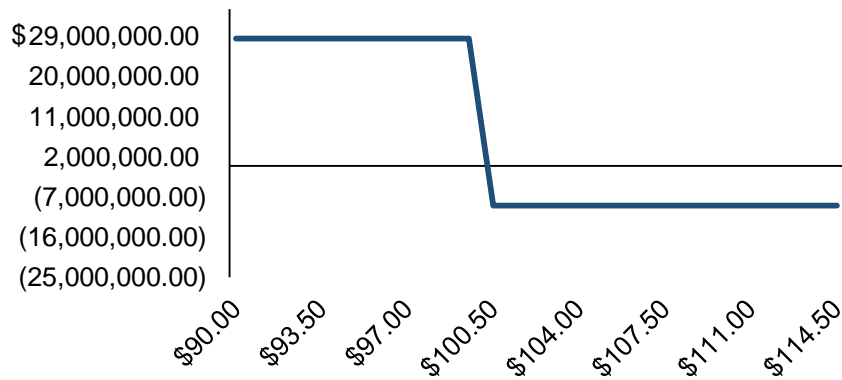
## I. Product & Position Overview

## Product & Position Overview

### Product Description

- **The European Central Bank**
  - The ECB focuses on keeping prices stable in the E.A. and protect the European banking system
    - The ECB is responsible for keeping inflation low and providing safety to financial institutions
  - The governing council is the main decision-making body of the ECB
    - Consists of six executive board members with governors of the 19-euro area countries' central banks
    - Executive board members serve eight-year terms
- **Euribor**
  - A reference rate that is derived from the average interest rate at which eurozone banks lend to one another

### Payoff Diagram



### Trade Breakdown

- **Bear Put Spread**
  - The trade benefits from bearish price movements in the underlying
- **Setup**
  - We Buy – 15.00 k OTM 100.125 Puts | ERH3
  - We Sell – 15.00 k OTM 99.88 Puts | ERH3
- **Expiration**
  - Date: March 1, 2023

### Exit Strategy & Potential Hedge Strategy

- **Bull Base & Bear Case**
  - **99.85 / 100.05 / 100.15**
  - Breakeven – 100.03
- **Methodology**
  - We predict two to three 10.00 bps rate hikes in 2022, which will decrease the price of the futures contract
- **Hedge Strategy**
  - The trade can be hedged by shorting an increased number of puts at a higher strike price to collect more premium



## I. Macroeconomic Thesis

# Macroeconomic Thesis

## Macroeconomic Summary

### Inflationary Pressures

- Inflation in the Eurozone has consistently increased throughout 2021, hitting 5.00% in January 2022, the highest rate since 1997
  - Disrupted supply chains continue to persist and soaring energy prices all contribute to the record-high inflation
  - Inflation is set to remain well above the ECB's target for the first six months of 2022
- German PPI jumped to 24.20% YoY in December 2021; the highest increase ever recorded since 1949

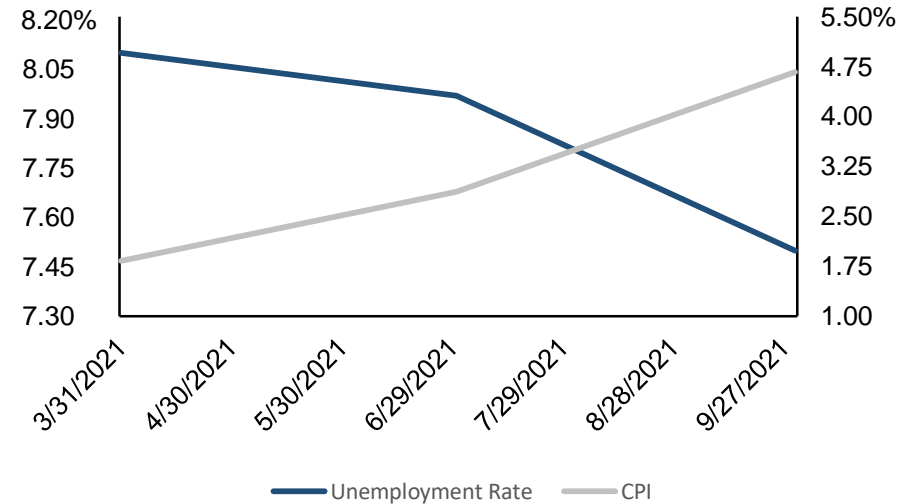
### Strong Job Recovery

- The job market is recovering substantially with an estimated 3.40 mm jobs created and economic activity projected to expand by 4.30% in 2022
  - The unemployment rate has steadily decreased from a high of 8.60% in August 2021 to 7.20% in November 2021
  - The GDP growth rate YoY in the eurozone by the end of 3Q2021 was 3.70%, beating expectations of 3.50%, showing recovery from COVID-19

### Depreciation of the Euro

- The Euro is currently trading at \$1.13 and has steadily depreciated since its high of \$1.23 in May 2021
  - This depreciation is related to the divergence in ECB policy with other central banks

## Eurozone Unemployment Rate vs CPI | 6-Month Chart



## Market Pros & Cons

- Persistent supply-chain issues
- Lowering unemployment rate
- Subsiding inflation
- Increased spread of COVID-19

## I. Risk Analysis

## Risk Analysis

### Directional & Magnitude Risk

---

- **Delta Analysis**
  - Delta has a value of (0.41)
    - The trade is negative Delta because the value of the trade increases due to bearish movements in the underlying
- **Gamma Analysis**
  - Gamma has a value of 0.01
    - The trade is small, long Gamma because the position is not as sensitive to price changes because of the longer expiration

### Implied Volatility Risk

---

- **Vega Analysis**
  - Vega has a value of 0.41
    - This trade is long Vega as high volatility increases the probability of a downward price movement in the underlying rate
    - The underlying naturally has a low volatility since the ECB has kept rates constant

### Time Risk

---

- **Theta Analysis**
  - Theta has a value of (0.08)
    - The trade is negative Theta which increases time decay closer to expiration
    - A small Theta allows for less of the long put's premium to be eaten away

### Interest Rate Risk

---

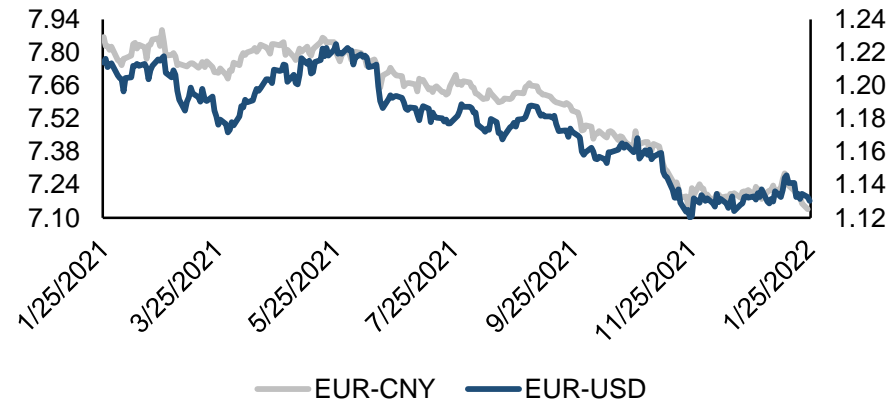
- **Rho Analysis**
  - Rho has a value of (0.20)
    - The trade is short Rho because increases in the Euribor interest rate will allow the value of the trade to increase by decreasing the underlying



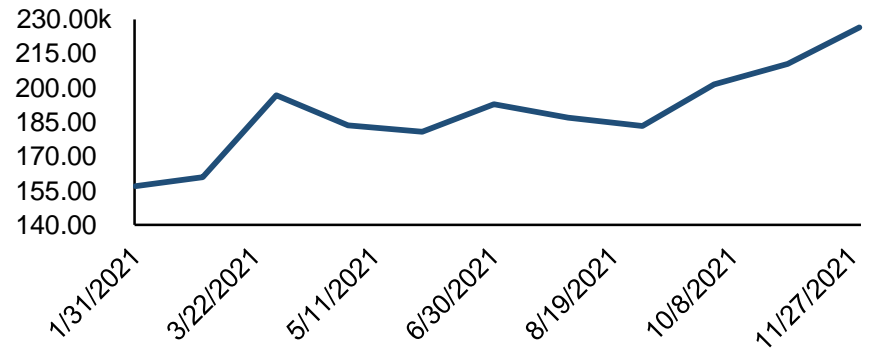
## I. Technical Bias & Fair Value

## Technical Bias & Fair Value

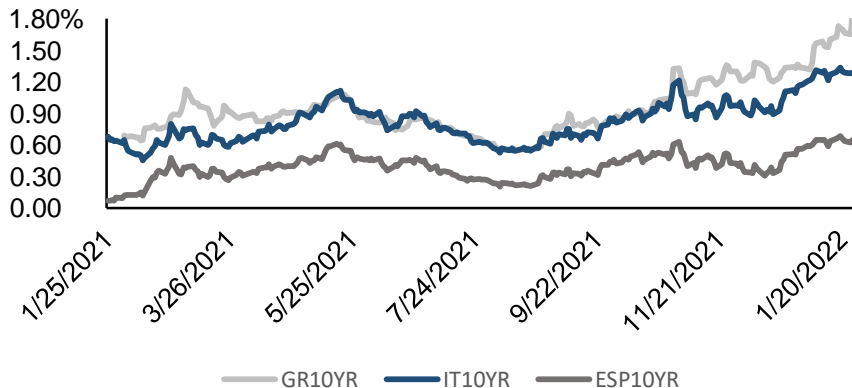
EUR-CNY | EUR-USD | 12-Month Chart



Eurozone Imports | 12-Month Chart



Government Bonds 10-Year Yield | 12-Month Chart



### Synopsis

- Depreciation of the Euro adds to inflationary pressures and further pushes the ECB to tighten policy
  - The Eurozone has leading imports from China at 383.50 mm and from the United States at 202.00 mm
  - As the Euro is depreciating against other currencies, it opens up the ECB to excess inflation because the price of their expanding imports increases
- 10-Year yields for multiple countries have been rallying, with the 10-Year German Bund reaching a high since May 2019, showing the market is sharing the sentiment of a rate hike within the year



## I. Capital Allocation

## Capital Allocation

### Allocation Breakdown

Interest Rate Sector Portfolio	
Capital Allocated:	\$7,203,750.00
Cash Available:	\$22,796,250.00
P/L:	N/A
Percent Return	N/A

### Total Return Calculator

Contract Specifications	Value	Future Value
Original Long Put Premium	\$0.17	-
Adjusted for DV01	\$17,000.00	-
Original Short Put Premium	\$0.12	-
Adjusted for DV01	\$12,000.00	-
Original Spot Price	\$100.15	-
Max Profit	\$28,500,000.00	-
Max Lost	-\$9,000,000.00	-
Adjusted for DV01	-	-
-	-	-
Adjusted for DV01	-	-
Difference in Long Put Premiums	-	-
Difference in Short Put Premiums	-	-
Total Position	-	-
Trade P/L	-	-
Total Return (%)	-	-

Net Premium Paid	Total Short Put Premium	Total Long Put Premium
-\$2,118,750.000	\$5,085,000.00	-\$7,203,750.000

### Options Book

Options Book							
Type	Underlying Price	Strike Price	ITM/ATM/OTM	Expiration	Selling Date	Final P/L	Total Return (%)
Long Put	\$100.15	\$100.13	OTM	3/1/2023	3/1/2023	-	-
Short Put	\$100.15	\$99.88	OTM	3/1/2023	3/1/2023	-	-