

# Industry Returns throughout the Russia-Ukraine War

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# Preface: Russia–Ukraine War

On February 24, 2022, Russia invaded Ukraine in a major escalation of the Russo-Ukrainian War, which began in 2014.

The invasion has resulted in the deaths of tens of thousands on both sides, and has led to Europe's largest refugee crisis since World War II.

This war has left a historic shock to markets worldwide, and according to the OECD in Nov. 2022, "the shock of the war was one of the main factors that slowed economic growth in 2022 to just 3.1%."

# Introduction

Determine the extent to which reported key event dates in the Russia-Ukrainian war affected the returns for major firms in the Energy, Food, Transport, Semiconductors, and Metal industries from the start of the conflict until today.

# The Significance of Our Industries

**Metals Industry:** Russia and Ukraine are significant players in the global metals market, with both countries contributing to the production of nickel, aluminum, titanium, iron, steel, and critical minerals. The Russia-Ukraine conflict disrupts the supply chain and impacts Europe's efforts to reduce reliance on Russian energy.

**Semiconductor industry:** Ukraine is a major supplier of neon, xenon, and krypton gases, essential for semiconductor fabrication. The conflict threatens global chip production, as Ukraine provides up to 90% of the U.S.'s semiconductor neon and 70% of the worldwide supply.

**Energy Industry:** The Russia-Ukraine war has severe implications on the global energy sector, disrupting supplies, increasing energy prices, and has called for a transition to newer energy technologies and away from highly polluting fuels.

**Transportation Industry:** The war has led to export restrictions from Russia and reduced Ukraine's export capabilities, forcing the logistics sector to focus on war-related priorities and disrupting global trade.

**Food industry:** Ukraine and Russia together contribute significantly to global vegetable oil and wheat exports. The conflict, combined with sanctions, has resulted in a massive decline in staple food supplies, leading to a global surge in food prices.

# Our Data

## **Key event dates of the Russia-Ukraine war:**

- *Collected from CNN's interactive Russo-Ukrainian war archive*

## **List of firms in the largest traded exchange-traded funds (ETF) for each industry and Adjusted close stock prices:**

- *Energy: (VDE), Food: (FTXG), Transport: (XTN), Semiconductor: (XSD), Metal: (17 firms traded in US)*
- *Adjusted close price from Yahoo Finance*

## **S&P 500 adjusted close prices for the specific time period:**

- *Collected from Yahoo Finance*

# Methodology

## General Steps

- Calculate Daily Returns for firm in each Industry
- Calculate Daily Returns for S&P 500
- Calculate Excess Returns
- Calculate Cumulative returns
  - Our final dataset
- Calculate Return Differences
- Create our Dashboard

# The Final Dataset

	Date	Cum_ret	Event	EventDate	Industry
0	2022-02-04	-0.019062	Invasion Announcement	2022-02-24	Food
1	2022-02-07	-0.003971	Invasion Announcement	2022-02-24	Food
2	2022-02-08	-0.002236	Invasion Announcement	2022-02-24	Food
3	2022-02-09	-0.013325	Invasion Announcement	2022-02-24	Food
4	2022-02-10	-0.006935	Invasion Announcement	2022-02-24	Food
5	2022-02-11	0.019084	Invasion Announcement	2022-02-24	Food
6	2022-02-14	0.024064	Invasion Announcement	2022-02-24	Food
7	2022-02-15	0.013449	Invasion Announcement	2022-02-24	Food
8	2022-02-16	0.013016	Invasion Announcement	2022-02-24	Food
9	2022-02-17	0.036416	Invasion Announcement	2022-02-24	Food

# Our Dashboard

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# Key Findings

## We Observed:

- The **Metal** and **Energy** sectors were significantly impacted in the early days of the Russia-Ukraine conflict due to the nations' substantial contributions to the production of these goods.
- As major events unfolded, we did not notice any considerable changes in the other industry returns.

## Further Consideration

- Other factors affecting the stock market, such as the Federal Reserve raising interest rates, may be necessary to have more accurate findings

Thank You

Any Questions?

