

# ANALYSIS OF OIL PRICES

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## 01 DATASET

Presented By Karolin Buchholz

## 02 OBJECTIVES

Presented By Zixuan Wu

## 03 METHODOLOGY

Presented By Maria De La Oliva

## 04 RESULTS ANALYSIS

Presented By All

## 05 CONCLUSIONS

Presented By Maria De La Oliva

## I. DATASET

### 01 OIL DATASET

<https://finance.yahoo.com/>

Variables include: *Date, Symbol, Open, High, Low, Close, Volume, Currency*

### 02 INFLATION RATE

Variables include: Date, Inflation rates

### 03 CONSUMER PRODUCTS

<https://fred.stlouisfed.org/series/FPCPITOTLZGUSA#>

Variables Include: *Energy, Energy Commodities, NonDurables, Other Services.*

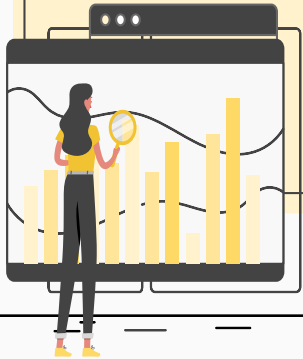
## 2. OBJECTIVE



Are historical events and oil stock price changes correlated?



How similar the oil stock price trend is to the inflation rate change and consumer products index change?



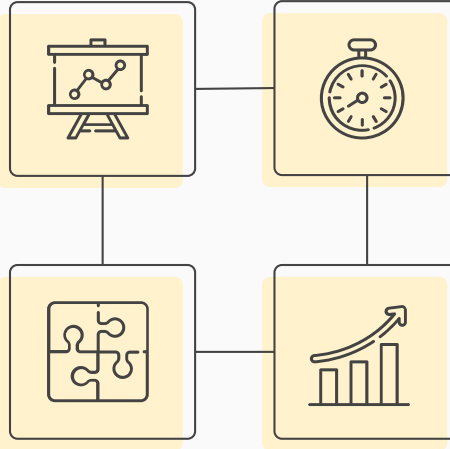
### 3. METHODOLOGY

#### TIME SERIES ANALYSIS

Using different plots in python

#### DATA MERGING AND CLEANING

Combining Datasets



#### PERIOD ANALYSIS

Converting our data frames into different periods.

#### SHIFTING DATA

Using rolling and shifting functions to see the projected vs actual result.

## 4 . RESULTS ANALYSIS

01

### PRESIDENTIAL ELECTIONS

Presented By Amelia Mokal

02

### 2008 RECESSION & UKRAINE WAR 2022

Presented By Karolin Buchholz

03

### INFLATION RATE

Presented By Zixuan Wu

03

### CONSUMER PRODUCTS COMPARISON 2020 - 2022

Presented By Maria De La Oliva

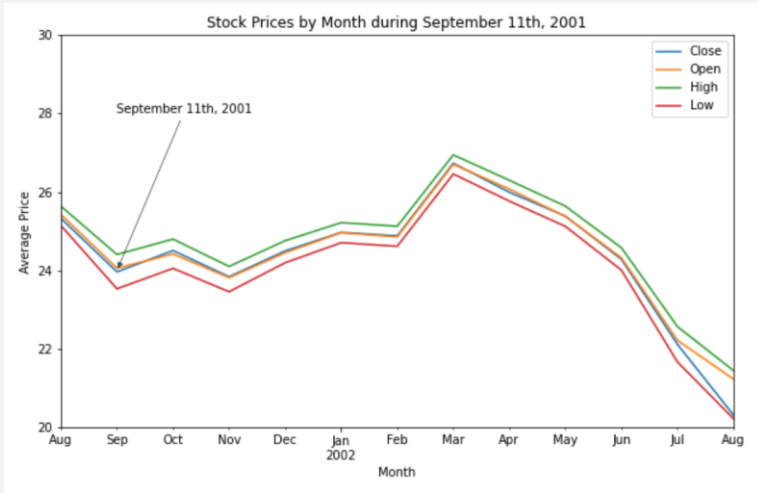


## Key Dates & Facts

9/11 resulted in sharp plunge in stock market /w 1.4 trillion \$ loss.

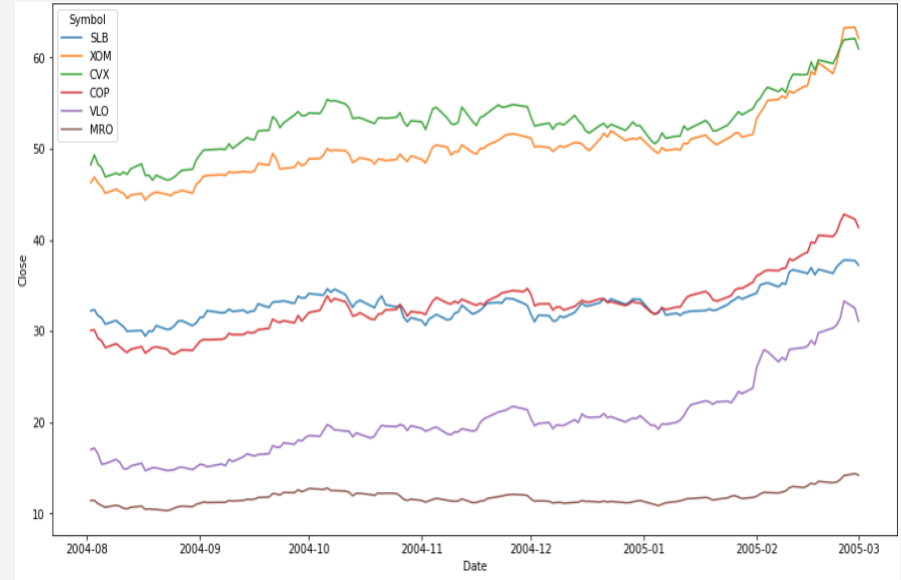
Iran, Syria & Sudan labeled as 'sponsors of terrorism'.

Re-election of Bush was predicted to make a positive impact on oil stock.



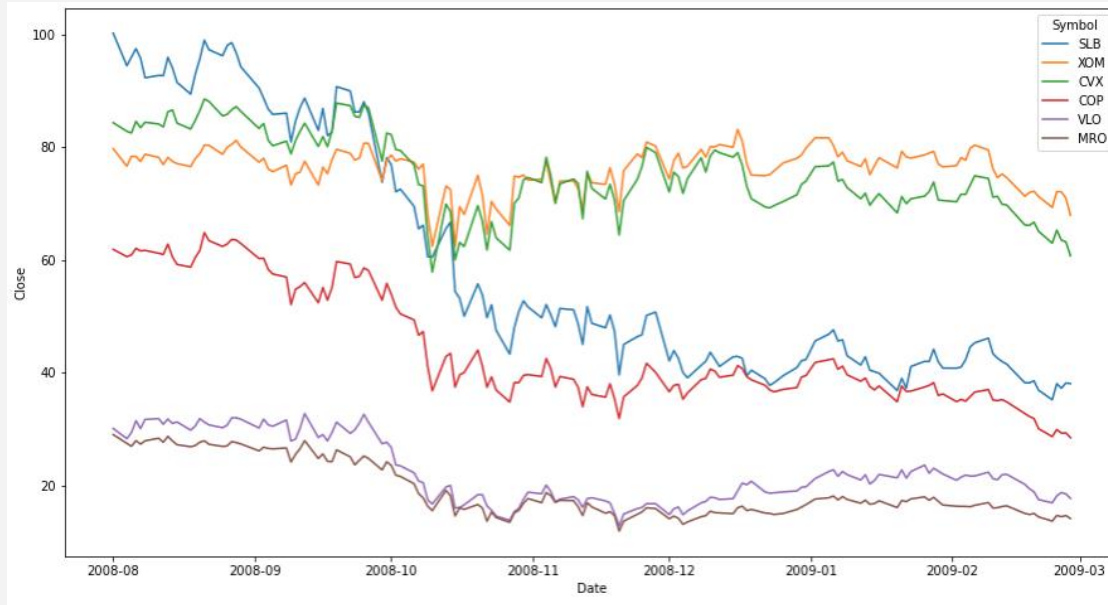
## 2004 PRESIDENTIAL ELECTION & 9/11/2001

### PRESIDENT BUSH ELECTED 43RD PRESIDENT



## 2008 PRESIDENTIAL ELECTION

### BARACK OBAMA ELECTED 44TH PRESIDENT OF THE UNITED STATES



#### 2008 Stock Prices

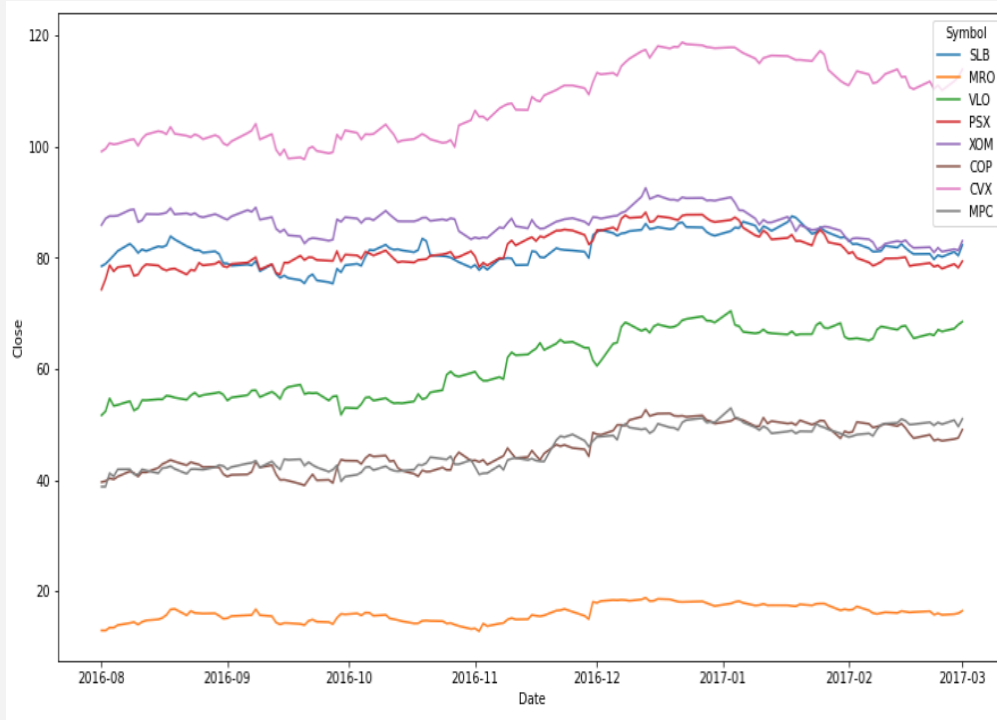


After election: Stock markets fell

Graph depicts drop in confidence in Obama to address the financial crisis as stocks continued to fall.



## 2016 PRESIDENTIAL ELECTION



### DONALD TRUMP ELECTED 45TH PRESIDENT OF THE US

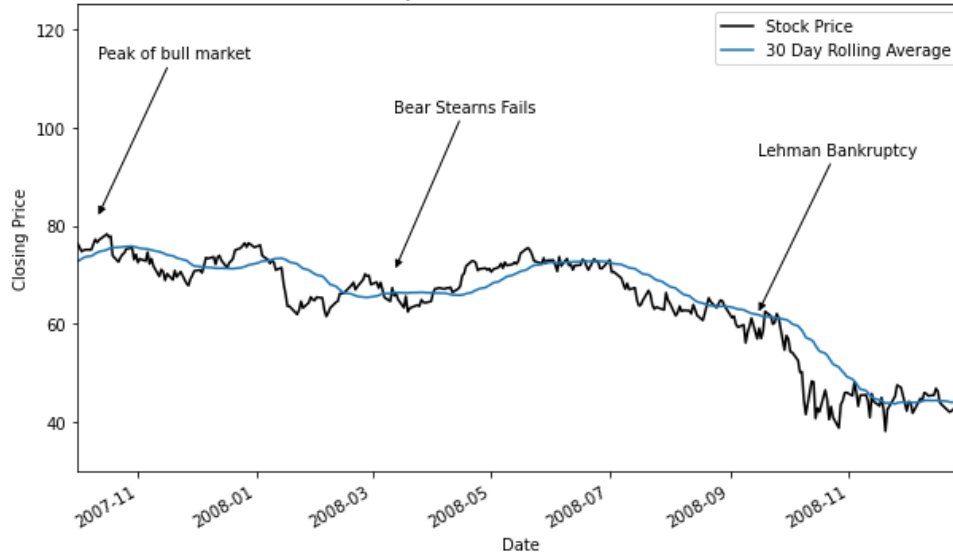
Oil stock prices rose 29 cent.

Election promises favoring energy independence.

New oil import strategy.

## THE 2008 RECESSION

Impact of the 2008 recession



December 2007-June 2009

Recovery time took many years after the initial financial markets crashed.

3/14/2008 Bear Stearns liquidity crisis, shortly thereafter the company was sold to JPMorgan Chase.

Lehman Brothers declared bankruptcy during the weekend of September 13th - 14th.



3/1/2008-7/31/2008

69.19



8/1/2008-12/31/2008

51.48

## UKRAINE WAR

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6/17/2021-12/31/2021

**60.34**

$\mu$

12/31/2021-06/17/2022

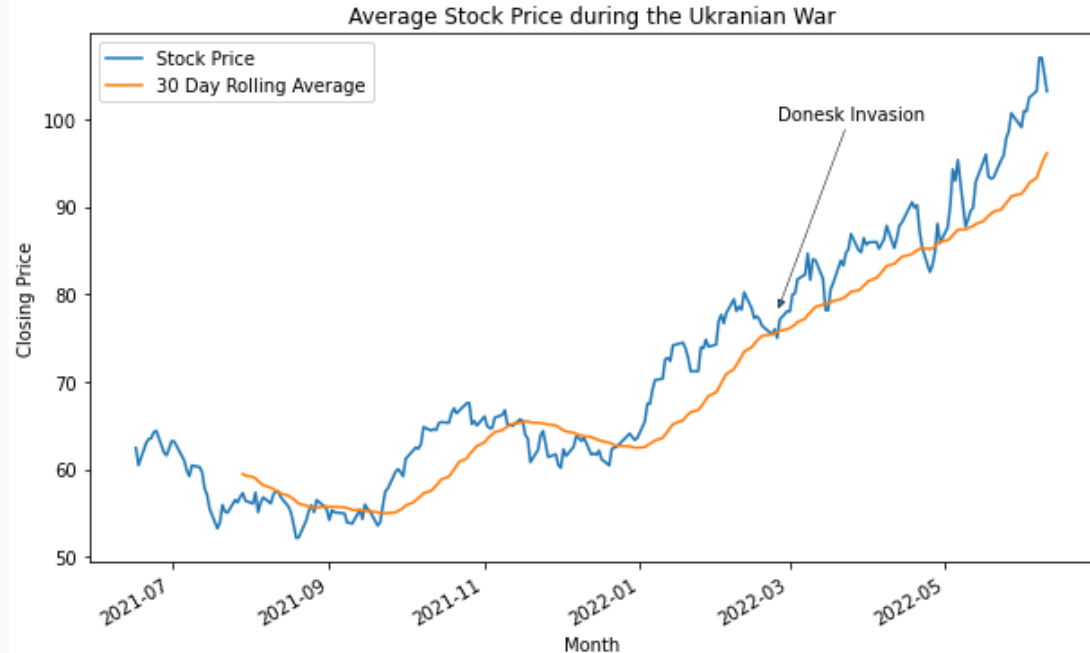
**83.95**

### Key Dates & Facts

Start: 2/24/2022, missiles hit Kyiv and across the county.

European Union is planning to ban all imports of oil brought in by sea from Russia by end of 2022.

US only imports 8% of petroleum from Russia<sup>1</sup>



1. <https://www.eia.gov/tools/faqs/faq.php?id=727&t=6&:::text=Crude%20oil%20imports%20of%20about,countries%20and%204%20U.S.%20territories.>

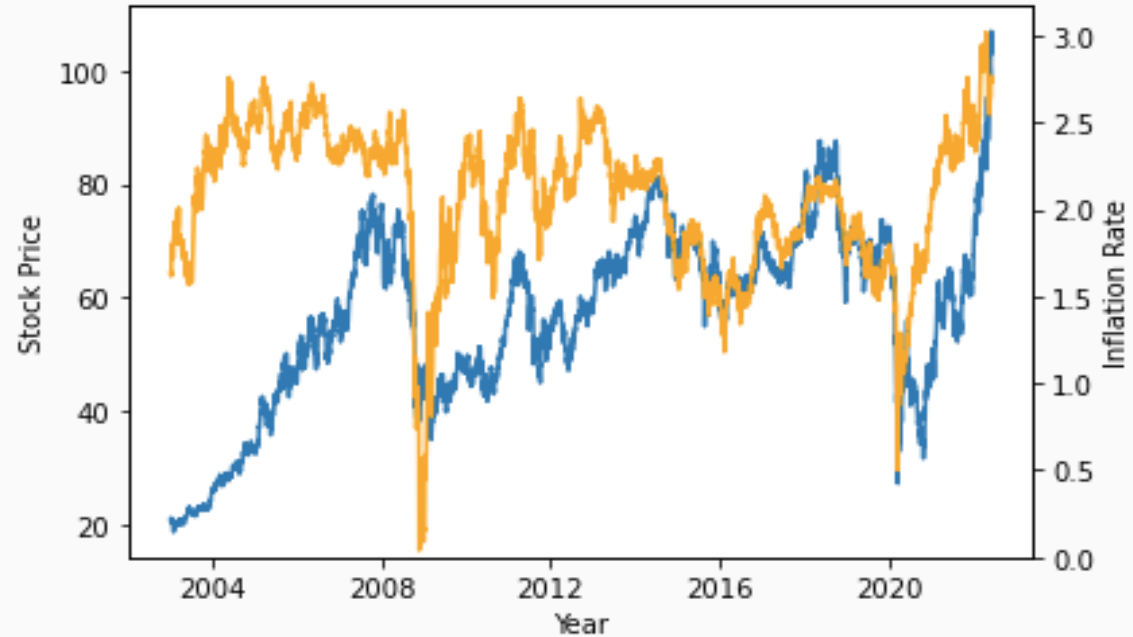
## INFLATION RATE I



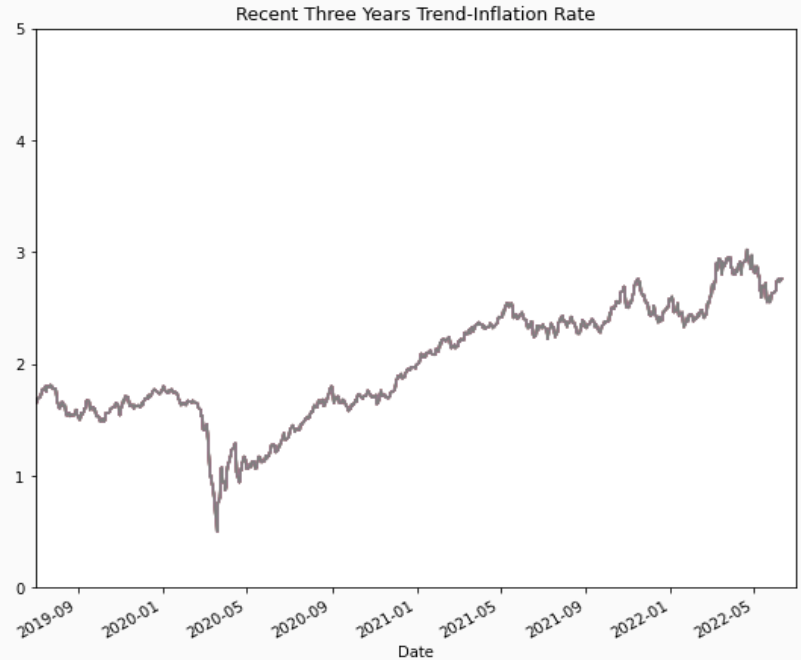
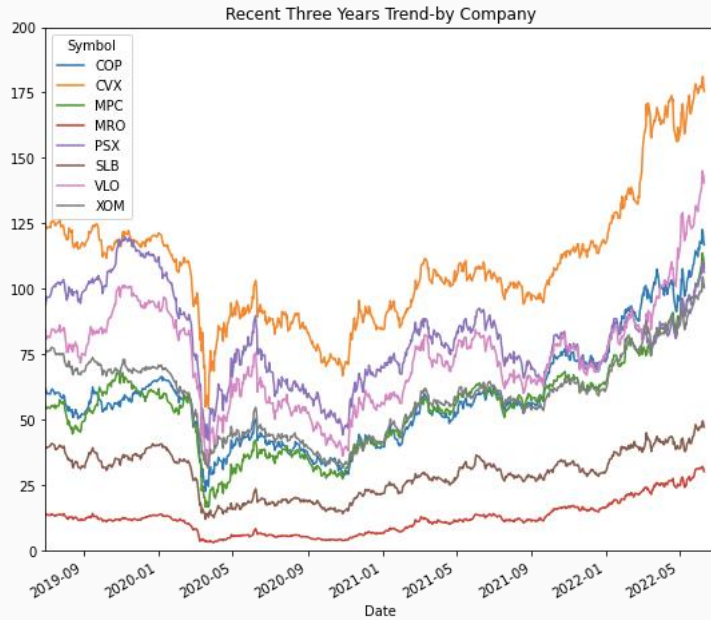
20 years of data

Major jumps in 2008, 2016, 2020

--> 2008 Recession  
2016 Declining energy crisis - Election  
2020 Pandemic



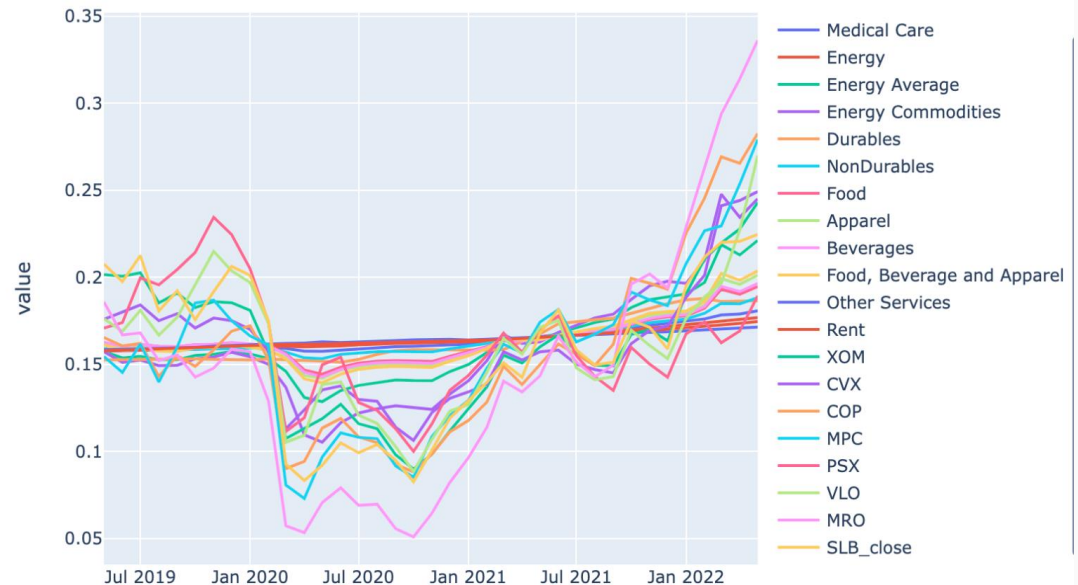
### 3 YEAR LOOKBACK & COVID 19 PANDEMIC



With the inflation rate and current history events. The team wanted to look at consumer products and how they were affected.

Here will focus on Exxon and see there is a similar trend

## CONSUMER PRODUCTS COMPARISON



## Variables

Food , Apparel and Beverages

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.1636

Energy Commodities : crude oil, heating oil, natural gas, and gasoline

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.1607

Durables : Consumer goods that have a long life span

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.1639

Non-Durables : Consumed in less than three years and have short lifespans

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.1641

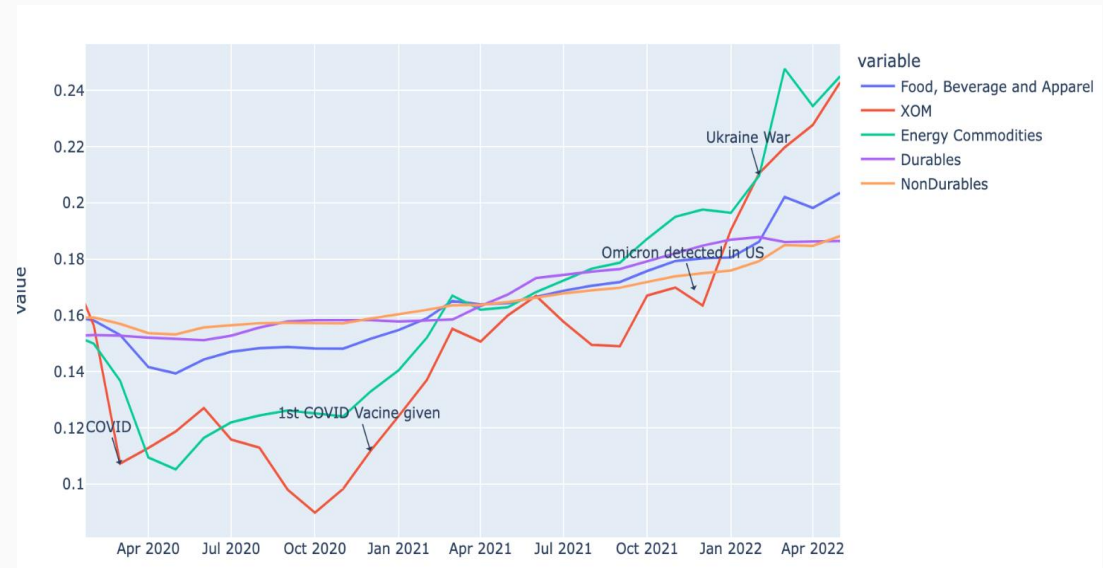
XOM

$\mu$

.1597

## CONSUMER PRODUCTS COMPARISON

### VARIABLES IN COMPARISON WITH EXXON MOBILE STOCK



## BEGINNING OF THE PANDEMIC



## UKRAINE WAR

## WHERE IS EXXON NOW?

## 2 YEARS AFTER COVID



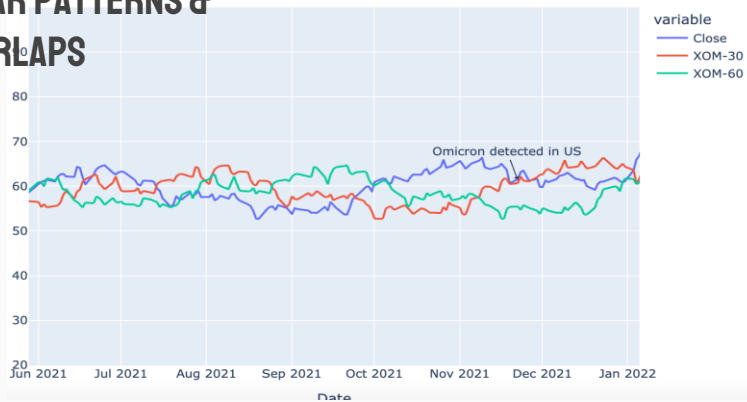


## EXXON SHIFTING ANALYSIS

### POTENTIAL PATTERN IST VACCINE - OMICRON



### NO SIMILAR PATTERNS & FEW OVERLAPS



### 30 & 60 DAY SHIFT PANDEMIC - UKRAINE WAR



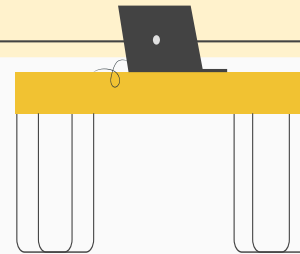


## 5. CONCLUSION

Consumer analysis : Find data on a daily basis, and compare to other previous historical events such as 9/11

When to buy the stock prices on its lowest peak by historical events.

Other events to consider and drilling down into more concise timeframes.



# THANKS

Does anyone have any questions?

