

## Data Appendix

### CPIAUSCL-2.xls

This is the first of two datasets of financial data sourced from FRED St Louis Fed. It details Consumer Price Index in the US based on an index of all items for Urban Consumers. The data is represented as % change from the year before and is aggregated monthly from 1948-present.



<https://fred.stlouisfed.org/series/CPIAUSCL#0>

### UNRATE.xls

This is the second dataset sourced from FRED St Louis Fed. It details US Unemployment rate as a percentage of eligible workers, aggregated on a monthly basis from 1948-present.



<https://fred.stlouisfed.org/series/UNRATE#0>

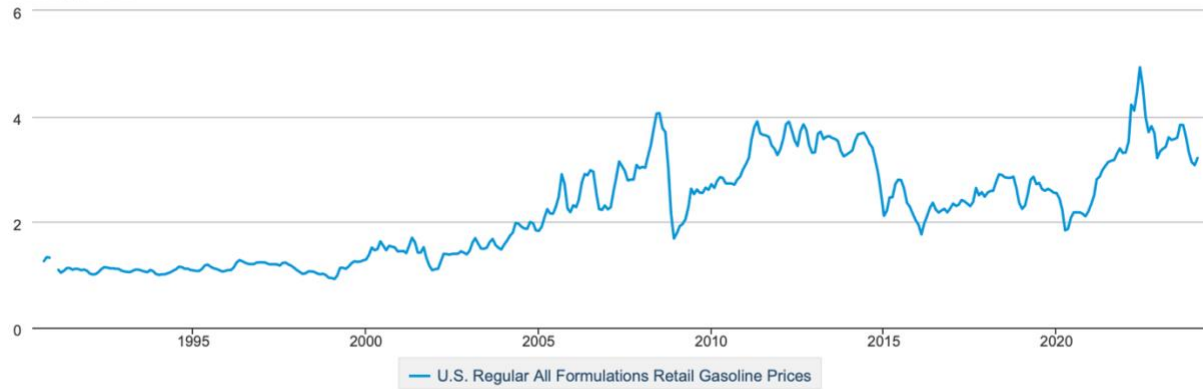
### EMM\_EPM0\_PTE\_NUS\_DPGm.xls

This dataset contains US average retail gas price for all formulations, aggregated on a monthly basis from 1990-present.

### U.S. Regular All Formulations Retail Gasoline Prices

 DOWNLOAD

Dollars per Gallon



Data source: U.S. Energy Information Administration

[https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm\\_epmr\\_pte\\_nus\\_dpg&f=m](https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmr_pte_nus_dpg&f=m)

## stuff.csv

This dataset compiles the three previous metrics into a single .csv. It is compiled using script 1.5. The relevant columns are listed below.

Variable Name	Variable Type	Description
Date	Character	Month of Observation (Apr 1993 – Dec 2023)
U.S. All Grades All Formulations Retail Gasoline Prices (Dollars per Gallon)	Number	Average US Gas price (USD) from <b>EMM_EPM0_PTE_NUS_DPGm.xls</b>
Unemployment Rate	Number	US Unemployment Rate (% of eligible population) from <b>UNRATE.xls</b>
Consumer Price Index	Number	CPI for all items, US City Average (% change from year ago), from <b>CPIAUSCL-2.xls</b>

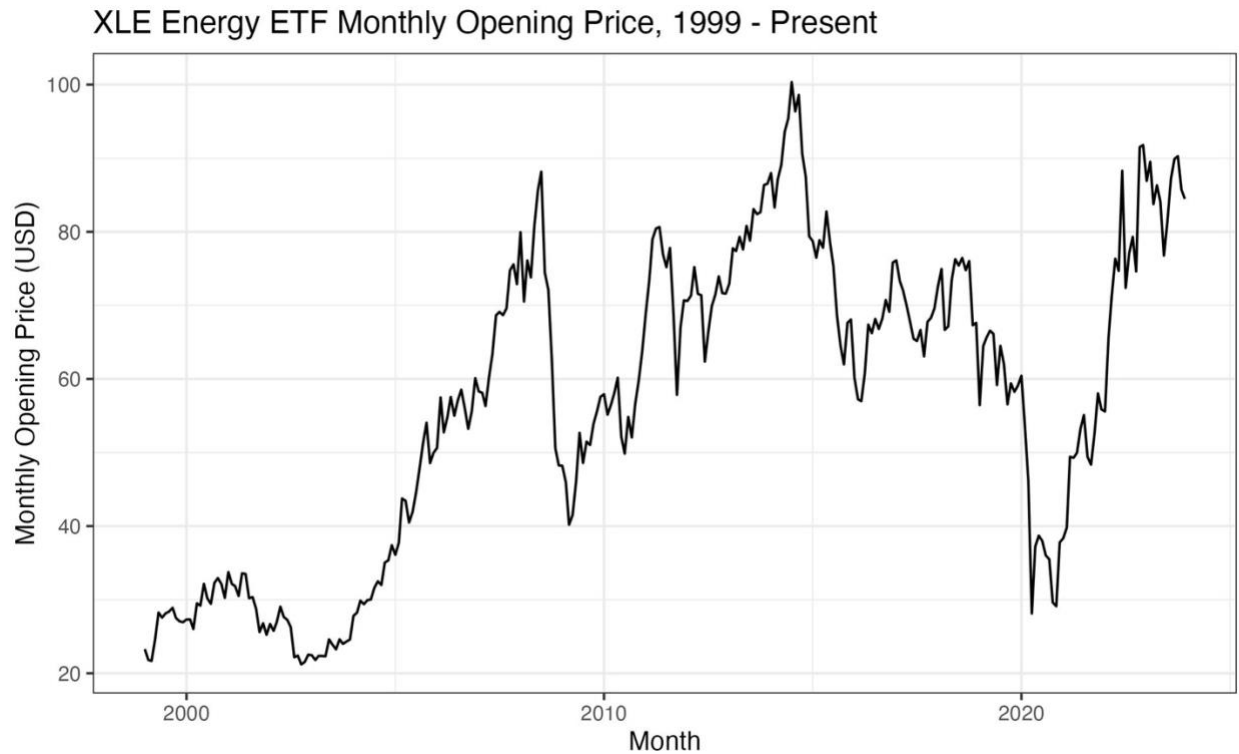
### crude\_oil\_monthly\_data\_1993\_2023\_Final.csv

This file contains Crude Oil prices data, aggregated from 2000-present on a monthly basis. This data was pulled from the Yahoo finance API in Script 1. It contains five variables for Crude Oil prices: monthly high, monthly low, month open, month close, adjusted month close, and monthly volume.



## energy\_etf\_1\_monthly\_data\_1993\_2023\_Final.csv

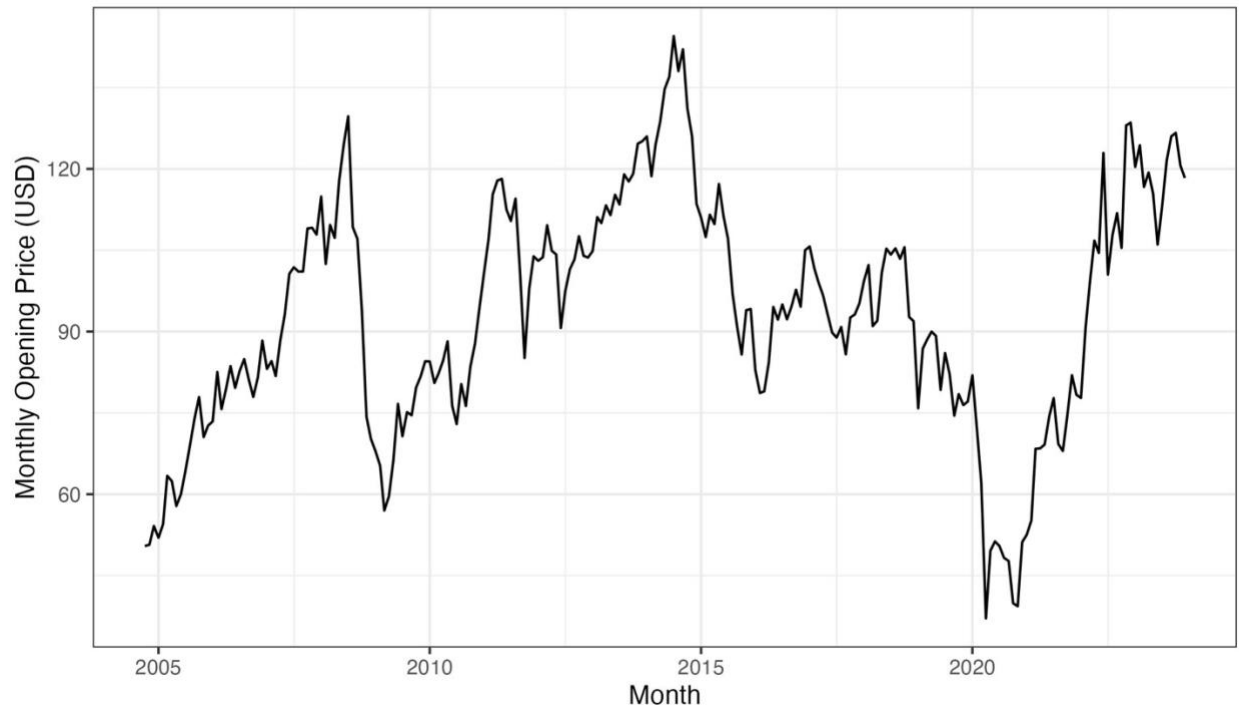
This file contains XLE Energy ETF prices data, aggregated from 1999-present on a monthly basis. This data was pulled from the Yahoo finance API in Script 1. It contains five variables for XLE performance: monthly high, monthly low, month open, month close, adjusted month close, and monthly volume.



## energy\_etf\_2\_monthly\_data\_1993\_2023\_Final.csv

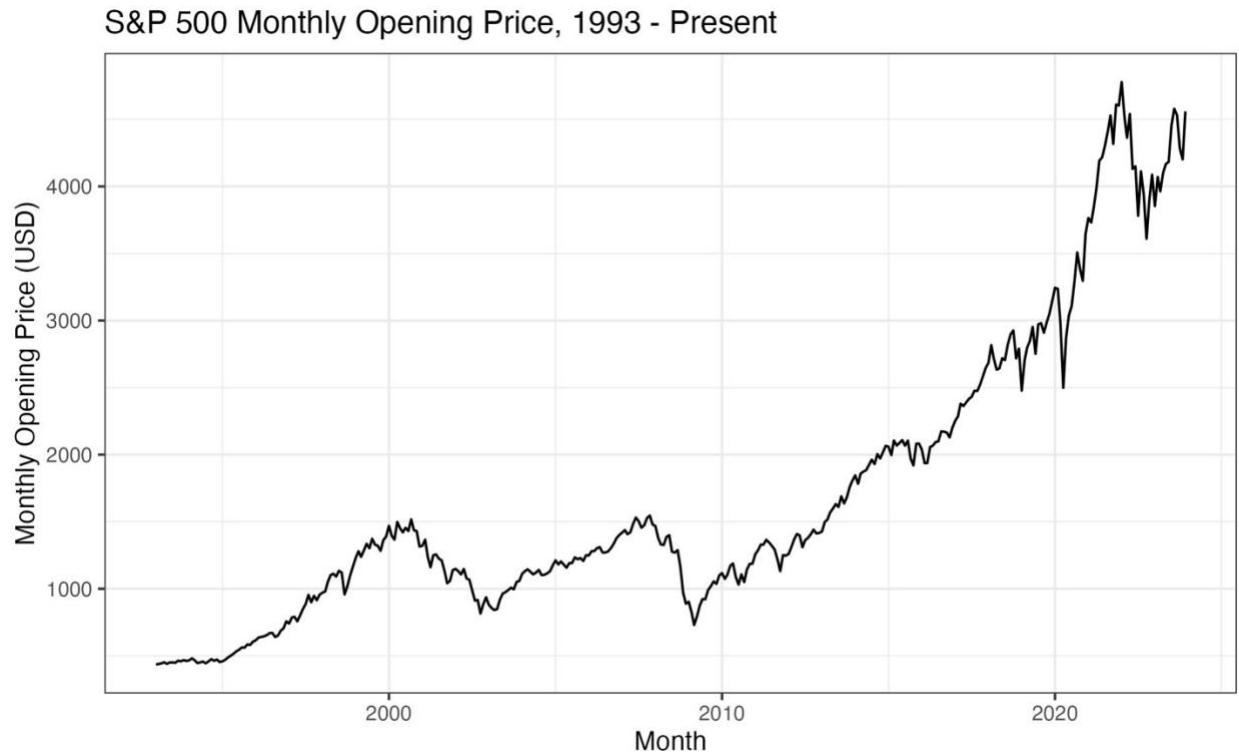
This file contains VDE Energy ETF prices data, aggregated from 2005-present on a monthly basis. This data was pulled from the Yahoo finance API in Script 1. It contains five variables for VDE performance: monthly high, monthly low, month open, month close, adjusted month close, and monthly volume.

VDE Energy ETF Monthly Opening Price, 2005 - Present



### s&p\_500\_monthly\_data\_1993\_2023\_Final.csv

This file contains S&P 500 historical price data, aggregated from 1993-present on a monthly basis. This data was pulled from the Yahoo finance API in Script 1. It contains five variables for S&P 500 performance: monthly high, monthly low, month open, month close, adjusted month close, and monthly volume.



## final\_data.csv

This data is the final set used for modelling. The data is compiled from the earlier csvs into a data frame using script 2, and contains the variables listed below.

Variable Name	Variable Type	Description
Date	Character	Month of Observation (Oct 2004 – Dec 2023)
Gas.Price	Number	Average US Gas price (USD), from <b>EMM_EPM0_PTE_NUS_DPGm.xls</b>
Unemployment.Rate	Number	US Unemployment Rate (% of eligible population), from <b>UNRATE.xls</b>
Consumer.Price.Index	Number	CPI for all items, US City Average (% change from year ago), from <b>CPIAUSCL-2.xls</b>
Etf1."X"	Number	Financial data for XLE Energy ETF (Monthly Open, Close, Adj. Close, High, Low, Volume), from <b>energy_etf_1_monthly_data_1993_2023_Final.csv</b>
Eft2."X"	Number	Financial data for VDE Vanguard Energy ETF (Monthly Open, Close, Adj. Close, High, Low, Volume), from <b>energy_etf_2_monthly_data_1993_2023_Final.csv</b>
Crude."X"	Number	Financial data for NYMEX Crude Oil prices (Monthly Open, Close, Adj. Close, High, Low, Volume), from <b>crude_oil_monthly_data_1993_2023_Final.csv</b>
SP."X"	Number	Financial data for S&P 500 (Monthly Open, Close, Adj. Close, High, Low, Volume), from <b>s&amp;p_500_monthly_data_1993_2023_Final.csv</b>