

Changes in Gas Prices over a 30 Year Period

Sierra Strickland

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Abstract

This project takes the data of gas prices from over the past 30 years and examines it to determine a general trend. Gas prices have tended to increase; however, some other factors have caused them to either increase or decrease drastically. In this project, COVID-19, the Great Recession, and the Russian-Ukraine War are estimated to be the sources of some of the steep rises and falls in the gas prices.

1 Introduction

Gas prices have steadily increased over the past few decades. The steady increase is partly due to inflation; however, there are other factors that can cause gas prices to fluctuate greatly. For example, access to a large supplier of oil can cause the supply of oil drop. Since the demand for oil generally remains the same, the prices must increase to account for this shift in supply and demand. Wars between nations, other various governmental actions, and the state of the economy have a direct effect on the price of gas.

2 The Data

The data gathered to be analyzed is sourced from the U.S. Energy Information Association. This is a government agency that archives information about petroleum and other liquids. It has stored the weekly retail price of gas since 1993 (DOE). The data can be accessed weekly, monthly, or yearly. The data gathered can be analyzed to be predict whether or not a certain factor will cause gas prices to increase or decrease.

3 The Visualization and Analysis

The data depicted in Figure 1 demonstrates the extreme fluctuations mentioned earlier. Based on the timing of the massive drop in oil prices in 2008, it can be reasonably concluded that the Great Recession caused the prices to decrease. It is known that the gas prices notably dropped as it was widely reported in the

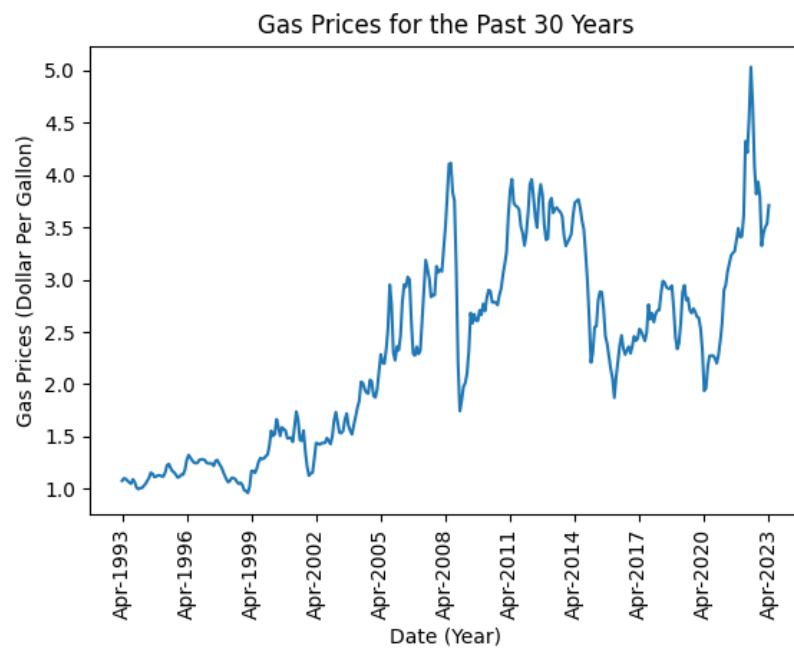


Figure 1: Trend of Gas Prices Since 1993

news. The oil companies suffered during this time.

As for the increase in Figure 1 between 2020 and 2023, it is a reasonable assumption that COVID-19 had an impact on the gas prices. As more people worked remotely, the demand for oil decreased while the supply remained the same; therefore, the prices had to increase to still supply the oil companies with enough money to maintain their business. While this is one theory, it is also possible that there was an increase in deliveries. Once again, people were avoiding public spaces, which meant that there was an increase in food, grocery, and anything else that could possibly be delivered. These delivery drivers could have caused the prices to also increase.

The Russian-Ukraine War also began in 2022. Russia was a very large supplier of oil for many nations. When Russia invaded Ukraine, many companies decided to cut ties with Russia, which included oil. This meant that most nations suffered in respect to oil supply. In turn, gas prices rose greatly in those nations.

4 The Results

Overall, gas prices generally increase due to inflation; however, numerous factors cause the price of gas to increase or decrease abruptly. Notably, wars containing large oil suppliers cause drops in supply that will cause the oil prices to skyrocket. In contrast, recessions can cause gas prices to drop drastically. Factors such as pandemics are also proven to have an effect on these prices. The basic principle of supply and demand dictate the price of gas, and since both supply and demand are influenced by these factors, it is correct to assume that these same factors determine the rise and fall of gas prices.

5 Bibliography

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