Jackson Haiz
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DS 4002

Using Data Science to Explain Fluctuations among the Minimum Wage and the Unemployment rate in the USA, among other factors

One of the longstanding debates in the realm of economics is the effect of changes in the minimum wage on the unemployment rate. Traditional economic intuition is that increases in the minimum wage will increase the unemployment rate, for firms will not be able to hire as many workers. However, the general consensus among the experts is divided, as there is no clear consensus on this issue. Studies run by the University of Pennsylvania conclude that increasing the minimum wage does increase unemployment (Marinescu), while other studies run by the Federal Reserve of Cleveland conclude the opposite.

The Deliverable:

Your goal is to find your own answer to this question. The Federal Reserve has contracted data scientists to help them solve this problem, and you are among the people being brought in. All data was sourced from the Federal Reserve of St Louis website and contains state-wide data. Some of the variables included are: Unemployment rate, Income per capita, Percent of the population of each state with a Bachelor's degree or higher, Patents granted in the state, and Percent of population that is below the poverty line. The task requires an initial analysis of the data to determine a level of significance for each of the aforementioned variables. Consequently, a linear regression analysis can then be used to develop a model that provides a numerical weight to each of these variables in determining the unemployment rate for a particular state. The results you provide can be used as ground for potential policy changes that can affect the daily lives of citizens and the economy as a whole. The deliverable you provide should highlight which economic metrics are most important to the unemployment rate, and additionally provide feedback regarding the question of whether changes in the minimum wage have reflective ripples in the rate of unemployment.

Github Link: https://github.com/jacksonshaiz/CS2-DS4001/tree/main