

Homework 2

## DATA ANALYSIS REPORT

**Hypothesis:** A higher ratio of women in the national parliament lowers the maternal mortality rates of a state.

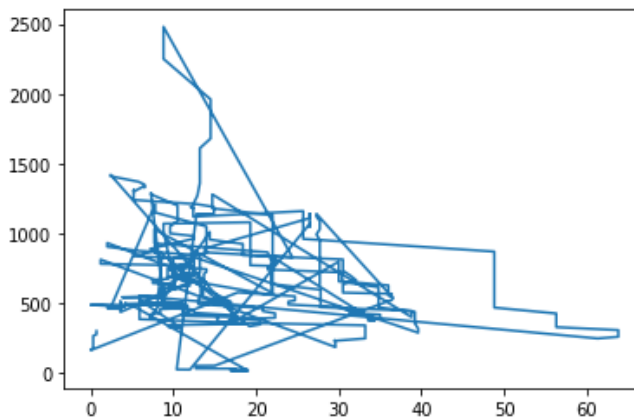
Maternal mortality rate, in large part, is a direct result of the state of healthcare in a country. Aside from technology, a state's healthcare policies help determine women's access to family planning, competent prenatal care, and protection from physical and emotional abuse. The talking point that the number of female representatives would ameliorate healthcare policies that affect women, has been widely considered in debates regarding abortion. A related problem, maternal mortality could also be considered through the same lens.

Taking lower-income countries, where maternal mortality is a pronounced problem, I have considered maternal mortality rate vis a vis the percentage of women in national parliaments. The comparison was made across several years in each country. In order to isolate the effects of policies, I have controlled for GDP which affects the quality of overall healthcare services and the differences of economic development levels across case countries. The available data from 1964 to 2019 contains maternal mortality ratio (per 100,000 live births), the percentage of women in each national parliament, and the GDP of 39 Low Income Countries as designated by the World Bank. The regression results are below:

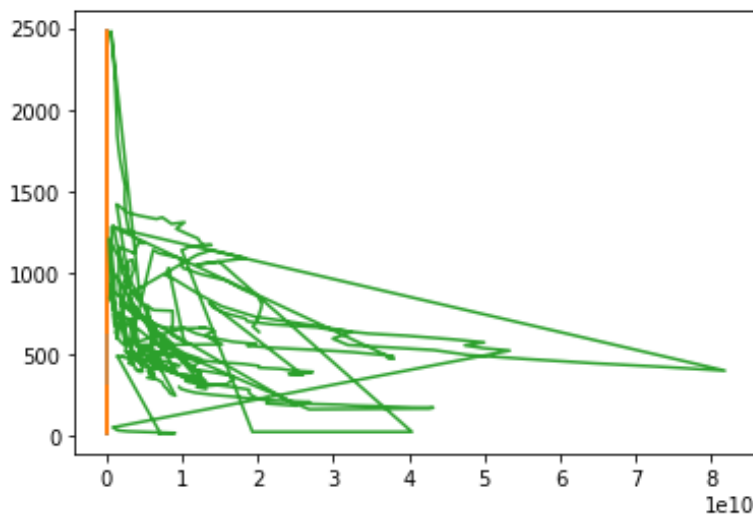
$\beta$ : [ 7.62355287e+02 -2.42348122e+01 -1.20329077e-08]  
[-2.42348122e+01 1.66967349e+00 -4.14536721e-10]  
[-1.20329077e-08 -4.14536721e-10 1.95546680e-18]

Standard Error: 7139.688422

Confidence Interval: [-14032.085011601384, 14028.490068325324]



The plot shows that there is a negative relationship between the ratio of female MPs in a national parliament and the maternal mortality rate of that nation. This supports my hypothesis. Controlling for GDP, we get similar results as well.



The concave shape in both plots suggests that the effect is stronger at first, rather than uniform.