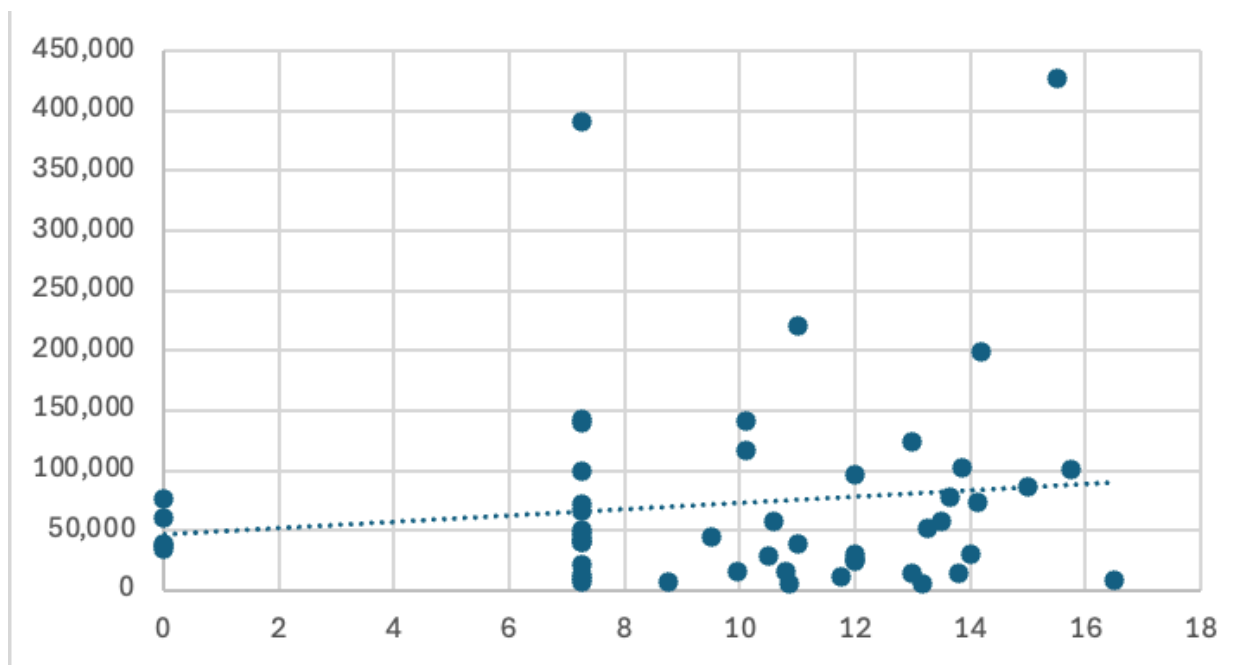


Alyssa Bisram, David Hargraves

### Written Report

For our final project, we wanted to learn about the relationship between higher wages and the fast food industry, asking if “higher state min wages reduce employment in the fast food industry.” We were able to answer this question using data from FRED and the US Bureau of Labor statistics. Since both of these sources are parts of the government, we weren’t concerned about the accuracy of the data. We obtained from FRED data telling us the minimum wage for every US state. From the US Bureau of Labor statistics we got a data set outlining the employment levels for every major field in every state, including the fast food industry. A lot of cleaning was needed for the employment data due to the quantity of states and job fields represented, so we went through state-by-state and added the fast food industry employment number to an Excel file alongside the minimum wages of each corresponding state. Using this data, we constructed the following scatterplot with a regression line, where employment levels are on the y axis and minimum wage is on the x axis.



Our statistical model was  $\text{Employment} = B_0 + B_1 * \text{MinimumWage} + E$ , where Employment represents the number of fast food employees in a given state,  $B_1$  represents the relationship between wage laws and employment,  $B_0$  represents the base predicted employment when minimum wage is zero, and MinimumWage represents a given state's minimum wage.

Due to the slightly positive regression line featured in the scatterplot above, we can see that there is a slight correlation between minimum wage and employment in the fast food industry, but it isn't very much. Due to this we can conclude that, while minimum wage may have an impact on employment, it is likely not the only determinant of employment levels in the fast food industry and is probably only one of many factors that determine unemployment.

Sources:

<https://fred.stlouisfed.org/release/tables?eid=243906&rid=387>

[https://www.bls.gov/oes/2023/may/oes353023.htm#\(1\)](https://www.bls.gov/oes/2023/may/oes353023.htm#(1))