**Team members:**

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**Title:**

Average American income level

**Abstract:**

We are interested in finding out how income levels in counties and states in the US are different from each other, and their relationship with population, number of big companies and political factors in each county and state. In our project, we will focus on:

* How does the average income level differ from state to state and county to county? Moreover, we can also analyze the average income level for different industries in each state and county.
* How the average income level in each state and county changes over time, and which part of this change in the income level came from inflation and which from the changes of productivity over time?
* How the variables like population, number of huge companies and political factors affect the income level in counties and states?
* How does the income level relates to the regional variations? We can plot the income level across all states and counties in the US on a map to visualize it.

**Type of visualization:**

* Bar chart to visualize the different income levels across states and counties. (ggplot2)
* Line charts to depict the change of average income level over time for each state and county.(ggplot2)
* Scatter plots to depict the relationships between independent variables like population, the number of huge companies and political factors and our dependent variable income level.(ggplot2)(Time series analysis)
* Map plots to visualize regional variations of income level in the US. By using the depths of color, we can represent the average income level in one place. (ggmap)

Techniques:

ggplot2, ggmap, regression models

Data:

* The main source for data about income level is U.S. Bureau of Labor Statistics:

Average income level by counties and states:

<https://data.bls.gov/cew/apps/table_maker/v4/table_maker.htm#type=1&year=2021&qtr=2&own=5&ind=10&supp=0>

Average income level by industry for each county:

<https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables>

* Population for each county:

<https://www2.census.gov/programs-surveys/popest/datasets/2010-2020/counties/totals/>

* Political party strength in U.S. states and counties::

<https://en.wikipedia.org/wiki/Political_party_strength_in_U.S._states#Current_party_strength>