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The realms of business, economics, and politics continuously discuss and modify policies regarding income. A person's income directly affects every other part of his or her life. Additionally, the perception of income by others can affect the way people are offered goods and services. The importance of creating an accurate picture of household income in relation to quality of life is often understated. Media, politicians, and economists will cherry-pick income information that best suits the narrative they desire to construct. What must be discussed and understood is that the dollar amount of a person's income does not tell the entire story of that person's financial situation. A \$50,000 a year income means something different in New York City than it does in rural Kansas. Therefore, the problem statement I chose to explore was: "How do different variables affect average household income across different states?".

I decided to explore data regarding household income information across three different states between 2014 and 2018. This data was collected from the United States Census Bureau using the American Community Survey (Bureau, 2020). I used the variables of household income, household size, and occupation distribution to see if there were any connections between household size and occupation with the average household income. Ideally, I would have been able to also compare cost of living rates to household income as that does directly affect income. However, I could not locate a suitable dataset for use in this project. I chose to compare the states of Florida, New York, and Washington. Florida and New York have similar population sizes but dramatically different (colloquially recognized) cost of living. Washington and New York have similar cost of living but dramatically different population sizes. I also have personal experience living in both Florida and Washington. Using this variation, I hoped to be able to identify the broad affect of cost of living without having specific data available.

Median income was chosen for analysis rather than mean income. This is based off the advisement of the ACS due to the fact that outlier incomes can dramatically change the mean income variable. Unsurprisingly, Florida's mean income is significantly lower than either Washington or New York. Of interest here is the rate of change in income over this time period. All states saw an increase in income but Florida's rate of increase is lower than the others. New York and Washington have similar rates of increase, although New York had a slower rate between 2014 and 2015, and Washington had a slower rate between 2017 and 2018. The difference in average household size between each state is so small ( $< 0.1$ ) that it could not be statistically significant. However, the number of households in each state is different enough to take into consideration. Of interest is that the number of households in Florida has always been larger than New York and Washington, despite New York's overall population being higher during this time period. The dominant occupations vary in each state. Washington predominantly employs people in "Sales and office" occupations. New York predominantly employs "Production, transportation, and material moving" occupations. Florida has changed from predominantly "Production, transportation, and material moving" to "Natural resources, construction, and maintenance". That shift happened in 2016 with an extreme drop-off of the production category in 2018.

Although we can clearly see a difference between the occupation distributions between the states, determining the correlation between occupations and income would require more resources. The Census data does provide a more detailed breakdown of what each of these occupation categories entails. I would need to compare that more detailed information along with specific occupational income data to find out which occupations influence the median income the most. The Bureau of Labor Statistics has some of this information as well. Additionally, I would want to compare similar occupations across the states to see if there was a variation in income for the same job. Presumably, this would be true as cost of living most likely affects the base income for different positions.

From this data, I can begin to see a suggested relationship between occupations and income. It is also clear that cost of living affects the average income, as Florida consistently has the lowest income over time. Investigating the relationship between cost of living and occupation base income would be the next step. It would also be prudent to investigate why the rate of income increase is lower in Florida than in the other two states. I was surprised to see that Washington had the highest median income. Washington's population is less than half of New York's, so this suggests that New York likely has a higher percentage of people making less money overall despite the fact that Washington and New York most likely have a similar average cost of living. It is also interesting that Florida saw a dramatic change in occupation distribution in 2016. That would be another avenue to investigate if one was interested in finding out what factors contributed to that change. This is a complex situation and a true study of the causes and effects of income distribution between states would require a much greater commitment, more resources, and broader knowledge base for more effective analyzation.

#### Resources

Bureau, U. S. C. (2020, July 21). *American Community Survey (ACS)*. <https://www.census.gov/programs-surveys/acs/>.