

Data Visualization Project -

Data - US Census Demographic Data

Build Data Dashboards -

Madhurya Divakara

1. Total Unemployment Rate Summarisation

- **Link** - Story Point # 1 (Tableau Public Link - [Analysis on Average Unemployment vs Average Poverty across the States in the USA | Tableau Public](#))
- **Summary** - This dashboard gives a summary for the top average unemployment rates across the USA. As seen from both of the above visualizations; the map and the horizontal bar graphs; it can be easily interpreted as they talk about the total average unemployment rates over the population in the US. It can be seen that Puerto Rico has the highest average unemployment rate (19.37) of the total population. The top 5 states of unemployment rates are ranked on the right visualization as we see; firstly, it is Puerto Rico followed by Mississippi followed by Arizona, South Carolina and Alabama and the bottom 5 states include Kansas, Iowa, Wyoming, Nebraska and North Dakota (2.68) being the least.
- **Design** - I chose to use a map graph due to the fact that it was provided with both Longitude and Latitude measure values and it's always better for data visualization if one is provided with demographic data based on either country/state/city/county levels. I chose to use a horizontal bar graph as it's always recommended for Univariate/Univariable analysis which is Unemployment rate in my case. It enables a clear visual representation and an easier understanding of the data rank and demarcation.
- **Resources** -
 - [United States Unemployment - History, Causes & Consequences \(debt.org\)](#)
 - [Reasons for unemployment \(bls.gov\)](#)
 - Udacity and DataCamp Lessons

2. Average Poverty across the states summarisation

- **Link** - Navigate to Story Point # 2 (Tableau Public Link - [Analysis on Average Unemployment vs Average Poverty across the States in the USA | Tableau Public](#))
- **Summary** - This section of the story corresponds to the average poverty of states across the US. As seen from both of the visualizations ; i.e. the map and the bar graphs beside show the Average Poverty across all the states in the US. The top 5 states where the average poverty is the highest includes the following: Puerto Rico (49.37) followed by Mississippi , Louisiana and Alabama and Arizona and the top 5 down states include Maryland, Rhode Island, New Hampshire, New Jersey and Connecticut (9.4) being the least. Attribute poverty was interpreted and determined based on its shape; the bigger the circle the higher is the average poverty for that state.
- **Design** - I chose to use a symbol map graph due to the fact that it was provided with both Longitude and Latitude measure values and it's always better for data visualization if one is provided with demographic data based on either country/state/city/county levels. I chose to use a horizontal bar graph as it is always recommended for Univariate/Univariable analysis which is Average Poverty in my case. It enables a clear visual representation and an easier understanding of the data rank and demarcation.
- **Resources**
 - [Poverty in the United States \(debt.org\)](#)
 - Udacity and Data Camp Lessons

3. Comparison between the Average Poverty vs % of Unemployment Rates across the states filtered by Occupation

- **Link** - Navigate to Story Point # 3 (Tableau Public Link - [Analysis on Average Unemployment vs Average Poverty across the States in the USA | Tableau Public](#))
- **Summary** - Here I have made an attempt to give an insight and a summarisation based on the average poverty vs average unemployment across the states based on the Occupation type which was taken into consideration for these fields - Employed, Family Work and Office Work and set up a parameter for the same called the Occupation Type. I wanted

to explore the area of those 2 attributes in order to understand if there exists a relation between the same.

- By selecting the Employed option some of the stats for the following states that I observed are as follows : California (with an Average Poverty of 16.67, Average Unemployment - 10.8 but had the highest number of people employed - 17 million), followed by Texas (with an Average Poverty of 17.16 , Average Unemployment - 6.74 and employed with around 12 million people); the next that comes under this group is New York- (with an Average Poverty of 14.48, Average Unemployment - 7.86 and no.of employed people were around 9 million) followed by Florida and Pennsylvania.
- By selecting the second option of occupation that is the Family Work; the stats derived are as follows : Texas - (with an Average Poverty of about 17.16, Average Unemployment of about 6.74 and people involved with Family Work of about - 78.4) followed by Montana (with an average poverty of about - 15.72 , average unemployment of about 5.55 and involvement in family work is around 78.5) followed by Nebraska (with an average poverty of 11.98, average unemployment - 3.35 and no. of people involved in family work is about 42.8).
- By selecting the Office Work option - Texas remains to have an average poverty and unemployment to be stable from above but with an involvement in office work is around 5581. Georgia with an average poverty of 22.2, average unemployment of about 9.97 and around 3684 involved in office work and Virginia with an average poverty of 14.97, average unemployment of 7.29 and involvement in office work is about 3087.
- Puerto Rico is an outlier for all the above 3 cases (Outlier detected).
- So from the above stats it can be concluded that California was the highest in terms of employed occupation. Texas was pretty much stable across all the 3 sectors of Occupation and remained the second highest in terms of no. of people Employed. A basic observation that can be noted is when the unemployment rate goes up; it correlates with a higher rate of poverty and vice versa. Poverty and Unemployment have an important nexus. There is a high degree of positive correlation that exists between poverty and unemployment.
- **Design** - I chose to use a Scatter plot for the Bivariate Analysis between 2 continuous variables i.e Poverty and Unemployment in my case for a better understanding and a good view and a trend. The trend line was

included across in order to understand the relationship between the 2 variables.

- **Resources**

- Udacity and Data Camp lessons
- [How is Poverty Measured in the U.S.? — ATD Fourth World USA \(atdfourthworld-usa.org\)](http://atdfourthworld-usa.org)