Links:

https://public.tableau.com/views/PovertyinUS2015/Story?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

Summary:

Dashboard 1:

This dashboard gives an overview on how poverty looks like in the US. Looking at the distribution of poverty rates across counties (right visual), we can see that it is skewed to the right. Half of US counties have poverty rates below 16.15%, but there are other counties where poverty rates can be as high as 64% namely in Puerto Rico territories.

If we categorized poverty rate into 4 levels, we could see from looking at the map that counties with 21% or higher poverty rate are mainly clustered in parts of Southeastern US or in Alaska.

Dashboard 2:

In this dashboard I tried to look into the share of total employment of each industry across all states. I also tried to check whether there is an association between sectors and poverty rate. Basically, are higher percentage of employees in a county employed in a given industry associated with higher/ lower poverty rates?

(Top Visual) We can see that on average, professional jobs have the highest share in total employment, and construction jobs have the lowest. District of Columbia is the biggest outlier with a 60.9% share in total employment for professional jobs, but apart from that, the shares are fairly normally distributed across states.

(Bottom Visual) We can see that there is a positive relationship between all industries (bar Professional) and poverty rate. However, R-squared values tell us that such relationship is very weak (in case of Office, Production and Construction) or moderate at best (in case of Professional and Service)

I personally found the categorization of industries a bit confusing but could not find more details about it.

Dashboard 3:

I then looked to see if there is a relationship between percentage of employment in public/ private sectors/ self-employment and poverty rates.

(Top Visual) As expected, the highest average share of total employment is in the private sector and the lowest is self-employment. There are some outliers here, for example Alaska has a relatively high average public sector employment (32.6%). North and South Dakota and Montana have a relatively high average self-employment (14-15%).

(Bottom Visual) There is a positive relationship between percentage of public sector employment and poverty rate, and a negative relationship between percentage of private sector and self-employment, and poverty rate. However, these relationships are also very weak to moderate at best.

Dashboard 4:

For this dashboard I highlight the poorest 10 states in the US. Puerto Rico territories is an obvious outlier here with an average poverty rate of 49.37%. (Top Visual)

We then look to see common features among these states. All of these states have a relatively higher average unemployment rate, and a relatively lower average household income for those who are employed. (Bottom Visual)

Design:

Dashboard 1:

I used histogram to show the distribution of poverty rate (continuous variable), and the map with a sequential color palette to show how severe is the poverty rate in each county.

Dashboard 2:

I used a stacked bar chart to compare proportions across different categories and used a color-blind friendly palette for better accessibility. I also used this chart as a filter if users wanted to investigate the relationship between variables in a certain state.

I used a scatter plot to show the relationship between 2 continuous variables. I added a trendline so that it is easy to see the direction and magnitude of the correlation. I added a state filter so that readers can investigate the relationship between these variables in a specific state to see whether it differs from the national trend.

Dashboard 3:

I used a stacked bar chart to compare proportions across different categories and used a color-blind friendly palette for better accessibility.

Then I used a scatter plot to show the relationship between 2 continuous variables. I added a trendline so that it is easy to see the direction and magnitude of the correlation. I added a state filter so that readers can investigate the relationship between these variables in a specific state to see whether it differs from the national trend.

Dashboard 4:

I used a bar chart to compare average poverty rates across states, and scatter plots to show the relationship between 2 continuous variables. I added a trendline so that it is easy to see the direction and magnitude of the correlation. I also used color to differentiate the poorest 10 states from the other states.