Income and Urban VS Rural For Each County in USA. Exploratory Data Analysis

By: Fernando García Catalán. 01-April-2025

We are about to analyse a dataset from kaggle, as data from US Census Bureau (2023)

https://www.kaggle.com/datasets/ahmedmohamed2003/income-urban-vs-rural-for-each-county

This dataset provides insights into the population distribution and income levels across counties in the United States, with a classification of counties as either "Urban" or "Rural." The data was sourced from the U.S. Census Bureau's 2023 American Community Survey (ACS).

DATA FIELDS

County: County name.

State: State name.
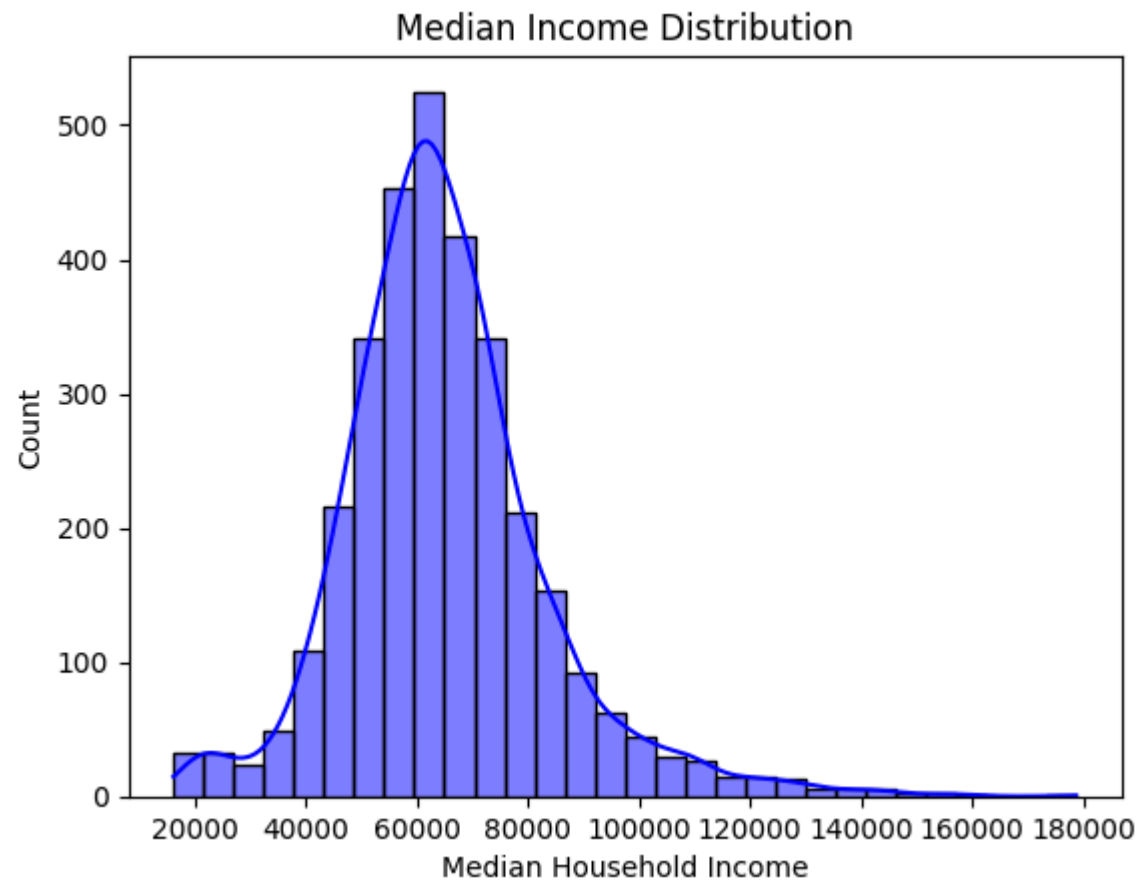
FIPS: Combined state and county FIPS code.

State FIPS Code: State's Federal Information Processing Standard code.
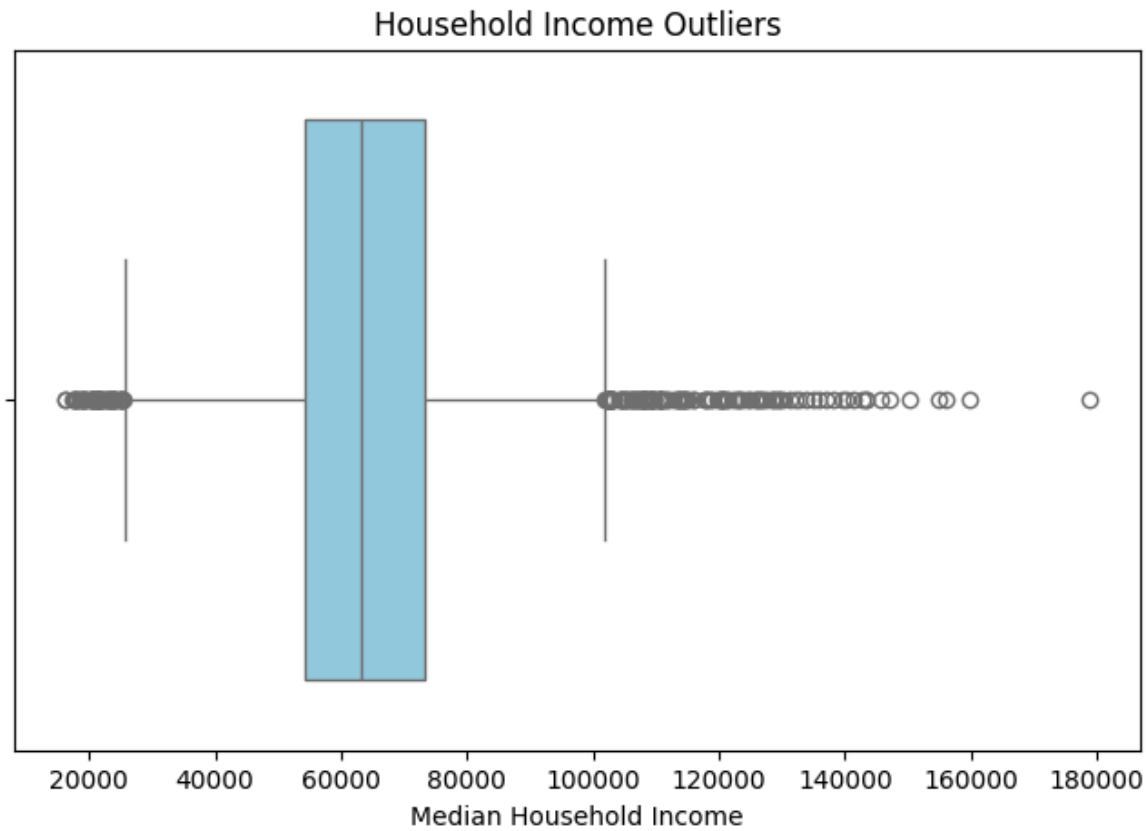
County FIPS Code: County's FIPS code.

Total Population: Total population of the county.

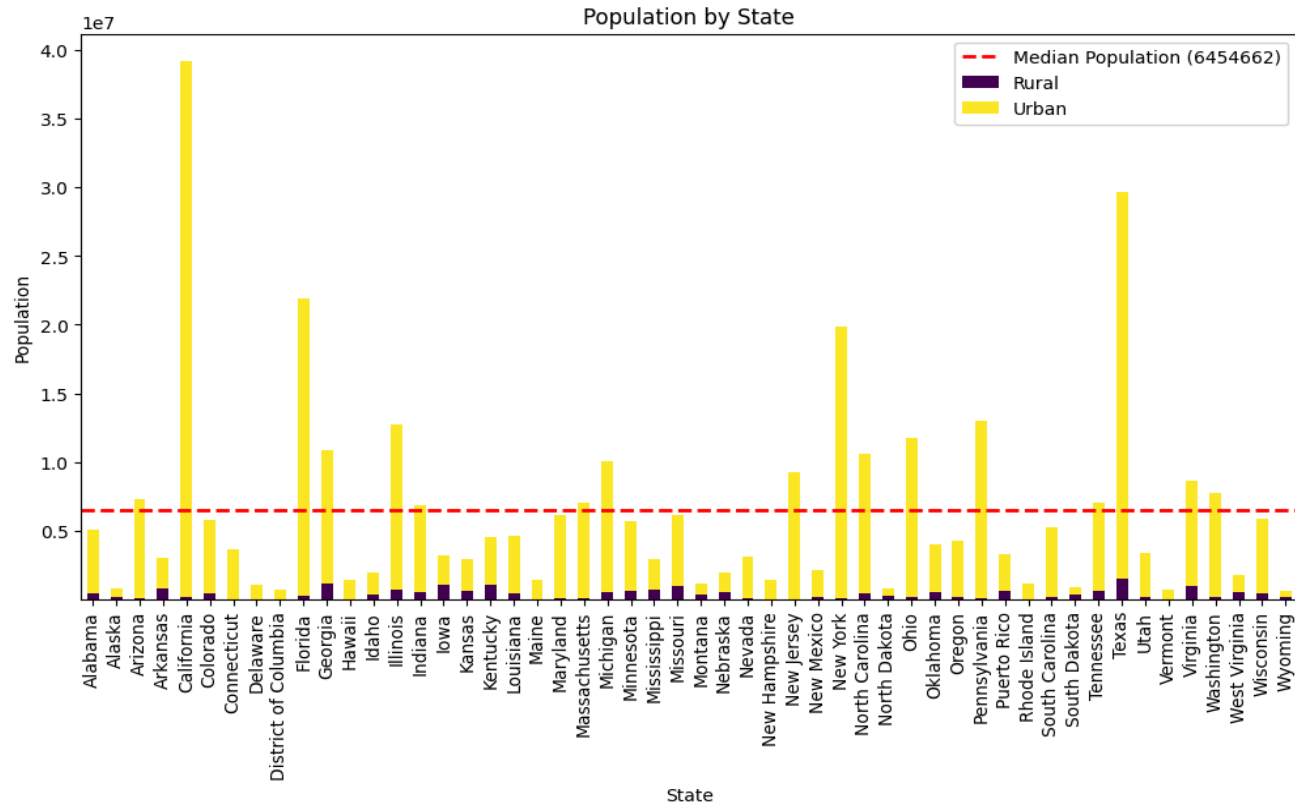**Median Household Income**: Median household income for the county.

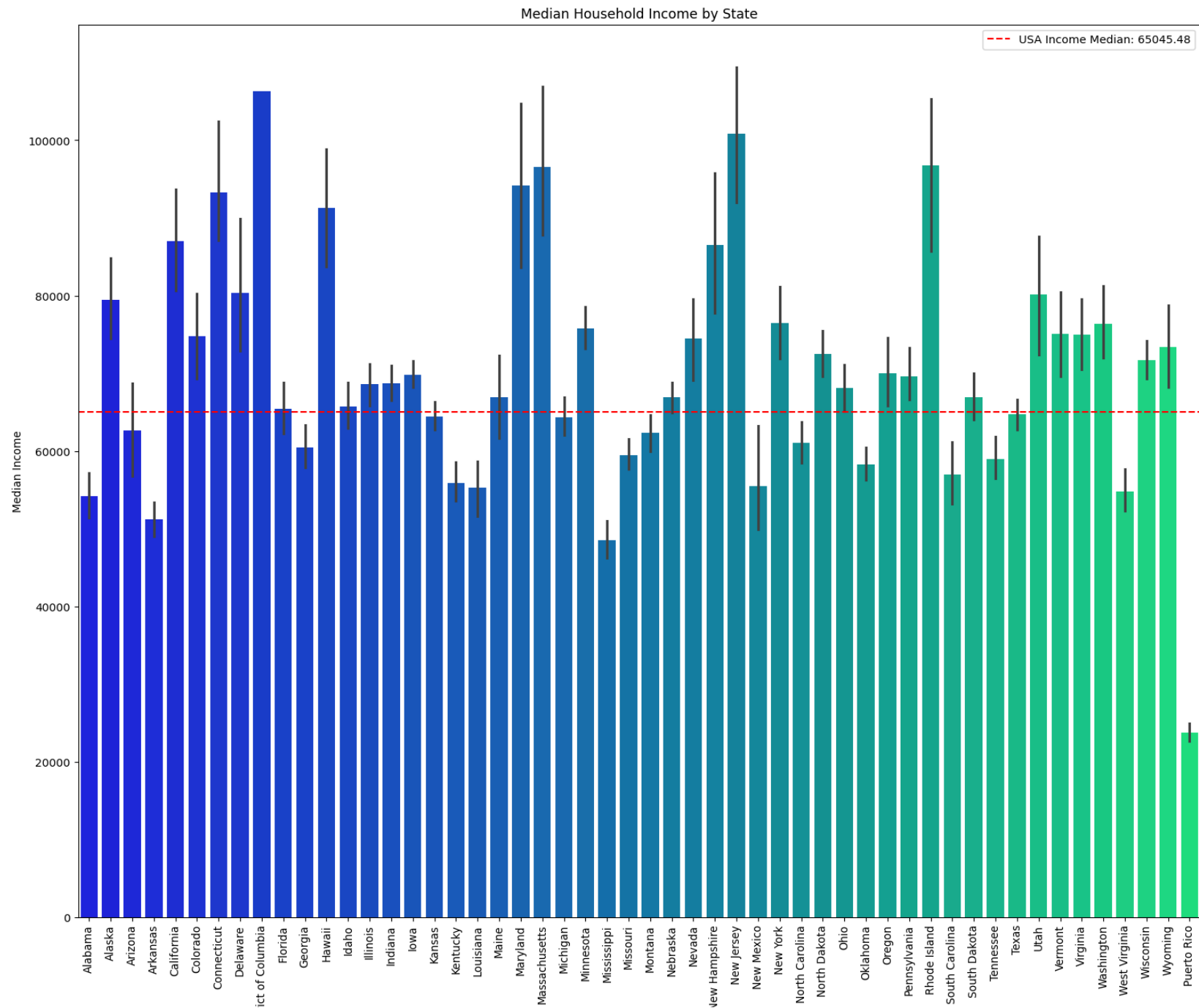**Urban-Rural**: Classification based on population (Urban or Rural).

Median Income Distribution

The distribution of the income frequency kurtosis shows a slight tail to the right
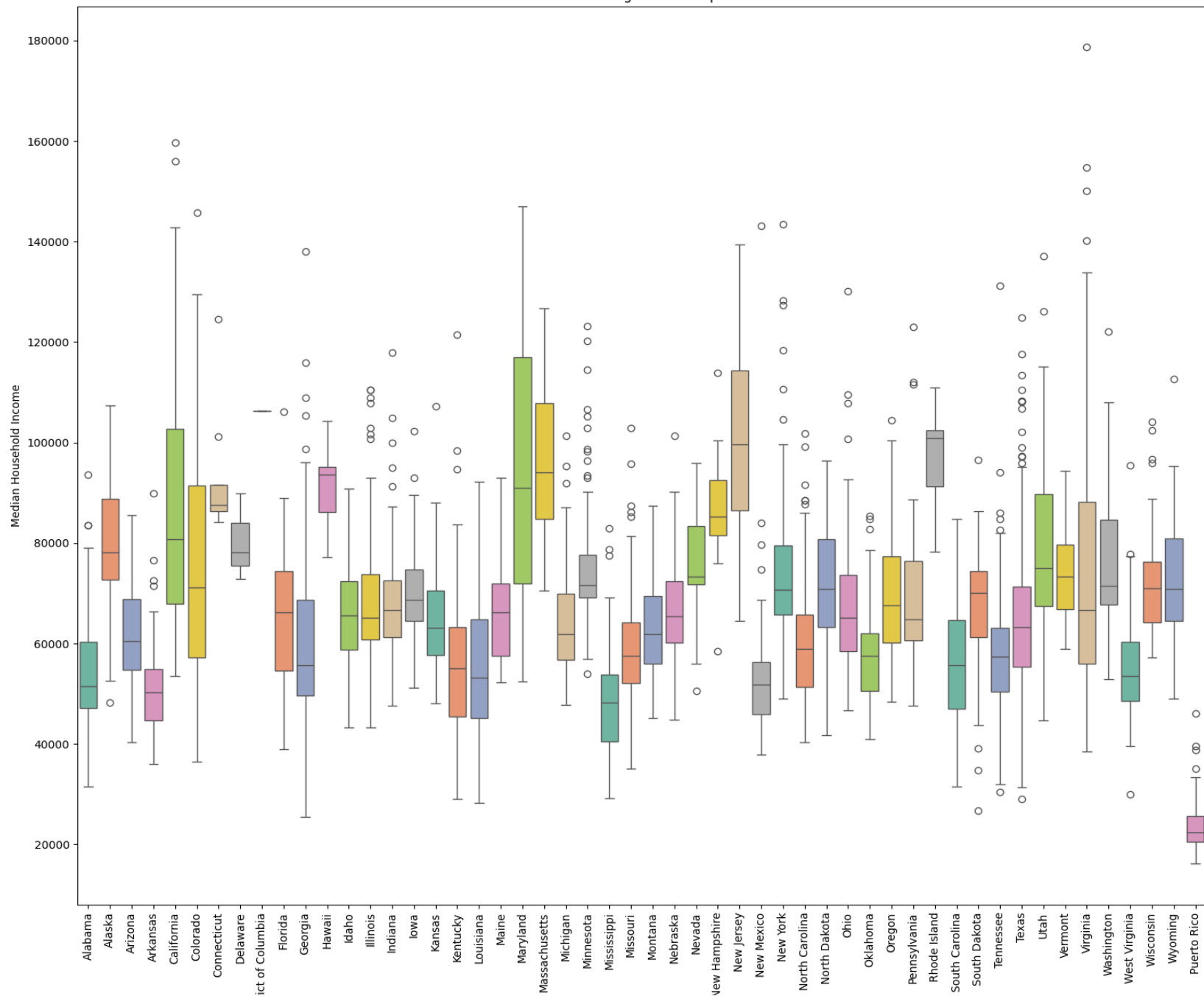
Household Income Outliers

Here we can see the outliers of the income. Just about 50% the data is within the middle range, so we have quite a lot values out of the box that we have to take in account.
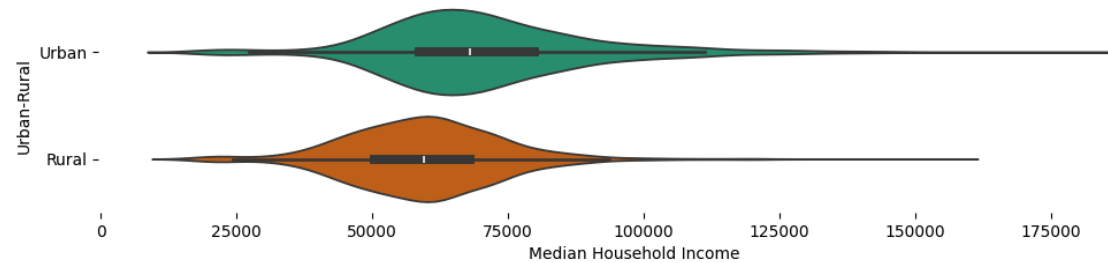
Population by State

Median value for population is not a representative data, since there are huge difference between states

Median Household Income by State

Distribución del Ingreso Medio por Estado

Median income is shared by most of the state, but a few of them shows higher levels, like District of Columbia and Texas, happening that both of them also has a population level above average.

In general terms, those states with higher average income also has higher population, but not the opposite.

At last, must be pointed out that urban areas have a higher median income distribution