

TABLEAU DATA VISUALIZATION PROJECT

INSIGHT 1

- Link:

https://public.tableau.com/views/WORKCOMPARISONBYSTATEINCOMEANDGENDER/WCS?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/WORKCOMPARISONBYSTATEINCOMEANDGENDER/WCI?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/WORKCOMPARISONBYSTATEINCOMEANDGENDER/WCG?:language=en-US&:display_count=n&:origin=viz_share_link

- Summary

In this comprehensive analysis, I delved into the distribution of work across states for a group of 52 members. I examined the relationship between work and income, as well as work and gender, to gain valuable insights. However, I would like to bring to your attention some considerations regarding the aggregation of variables expressed in percentages in the census dataset.

When aggregating variables expressed in percentages, using the SUM () function may not yield accurate results. This is because the state with the greatest number of counties will naturally have the highest total, which can skew the insights. Therefore, it would be more appropriate to use the AVERAGE () or MEDIAN () functions for accurate insights instead of SUM () when aggregating all percentage-based variables. The sector with the highest average number of workers is the private sector and the sector

with the least average number of workers is the family sectors i.e. the babysitters etc. This tells us that some US citizens prefer to work in the private sector than the public sector because it is more accessible but less secure.

The Work by Income shows that Income is proportionate to the number of workers. If the Income is low the number of workers will drop drastically.

The work by gender informs us that on the average that the number of men compared to women population for a given State increases or decreases depending on the State.

- Design

Why I chose a bar chart for work comparison by state and why is better than other types of chart.

A bar chart allows for a clear and straightforward comparison of work categories across different states. Each work is represented by a separate bar, and the length of the bar corresponds to the value or quantity of the work category being compared. This makes it easy to visually compare the work distribution among states.

Why I chose a histogram for work comparison by income and why is better than other types of chart.

A histogram effectively displays the distribution of work across different income ranges. It allows you to group the income data into intervals or bins and visualize the frequency or count of individuals falling within each income range. This provides a clear understanding of how work is distributed across different income levels.

Why I chose a pie chart for work comparison by gender and why is better than other types of chart.

A pie chart effectively displays the proportionate distribution of work categories across different genders. Each slice of the pie represents a

specific gender category, and the size of the slice corresponds to the proportion of that category within the whole. This allows for a quick and intuitive understanding of the relative distribution of work among different genders.

What is the type of data used for that particular chart?

The type of data used for these plots is a continuous and discrete data.

- Dashboard:

https://public.tableau.com/views/WORKCOMPARISONBYSTATEINCOMEANDGENDER/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Resources:

US Census Demographic Data by MUONNEUTRINO via Kaggle

INSIGHT 2

- Link:

https://public.tableau.com/views/USEmploymentDashboardAnalyzingEmployedUnemployedandSelf-EmployedTrendsbyStateandIncome/EUSU?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/USEmploymentDashboardAnalyzingEmployedUnemployedandSelf-EmployedTrendsbyStateandIncome/UBS?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/USEmploymentDashboardAnalyzingEmployedUnemployedandSelf-EmployedTrendsbyStateandIncome/EBS?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/USEmploymentDashboardAnalyzingEmployedUnemployedandSelf-EmployedTrendsbyStateandIncome/SEBIS?:language=en-US&:display_count=n&:origin=viz_share_link

- Summary

In this analysis, the focus is on employed, unemployed, and self-employed individuals within the United States, with a specific examination of these categories by state and income levels. The goal is to gain insights into the employment landscape and understand the relationship between employment, income, and various demographic factors.

The dashboard provides valuable insights into the distribution of unemployment across states, allowing for a comparison of unemployment rates and the identification of states with higher or lower levels of unemployment. To accurately analyze variables represented as percentages, such as Poverty, Child Poverty, Unemployment, Hispanic, White, Black, Native, Asian, Pacific, Professional, Service, Office, Construction, Production, Drive, Carpool, Transit, Walk, OtherTransp, WorkAtHome, Private Work, Public Work, Self Employed, and Family Work, it is recommended to use the AVERAGE() and the MEDIAN() functions instead of SUM(). This ensures that the insights are not skewed by the state with the greatest number of counties.

Similarly, the employment by state analysis provides a comprehensive view of employment levels across different states, enabling comparisons and the

identification of trends or variations. By utilizing the appropriate aggregation functions, such as AVERAGE () and MEDIAN (), for percentage-based variables, accurate insights such as the State with the highest number of unemployment is Puerto Rico and the State with the highest employment is California, this signifies that the job security in California is higher than Puerto Rico. Also Puerto Rico is vulnerable to increased migration and criminality rate.

The self-employment analysis focuses on the relationship between income and self-employment, providing insights into the distribution of self-employed individuals across states and income brackets.

- Design:

Why I chose a map, a bar chart, a pie chart and a circle chart.

Map was chosen to visualize the geographic distribution of employment trends across states. It provides a visual representation of how employment varies across different regions, allowing for easy identification of high and low employment areas.

Bar Chart was used to compare unemployment data by state. It allows for a clear comparison of unemployment levels or rates between different states, making it easy to identify variations and trends. The length of the bars represents the magnitude of unemployment, providing a straightforward visual comparison.

Pie Chart was employed to showcase the proportion of self-employed individuals within each state. It helps to understand the relative contribution of self-employment to the overall employment landscape. The slices of the pie represent different states, and the size of each slice corresponds to the proportion of self-employed individuals in that state.

Circle Chart also known as a bubble chart was utilized to visualize the relationship between income and self-employment. The size of the circles represents the income level, while the position on the chart represents the

self-employment rate. This chart type allows for the simultaneous comparison of income and self-employment across different states, providing insights into potential correlations or patterns.

By employing these diverse visualizations, the US Employment Dashboard offers a comprehensive and multi-dimensional analysis of employed, unemployed, and self-employed trends, enabling a deeper understanding of the data from various perspectives.

What is the type of data used for that particular chart?

The type of data used for these plots is a continuous and geographical data.

- Dashboard:

https://public.tableau.com/views/USEmploymentDashboardAnalyzingEmployedUnemployedandSelf-EmployedTrendsbyStateandIncome/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Resources:

US Census Demographic Data by MUONNEUTRINO via Kaggle

INSIGHT 3

- Link:

https://public.tableau.com/views/USPovertyAnalysisDashboardExploringIncomeLevelsPovertyRatesandChildPovertybyState/IPS?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/USPovertyAnalysisDashboardExploringIncomeLevelsPovertyRatesandChildPovertybyState/CPS?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/USPovertyAnalysisDashboardExploringIncomeLevelsPovertyRatesandChildPovertybyState/CPPS?:language=en-US&:display_count=n&:origin=viz_share_link

- Summary:

The US Poverty Analysis Dashboard offers a comprehensive exploration of income levels, poverty rates, and child poverty across states, providing valuable insights into the economic landscape and the impact of poverty on vulnerable populations.

By analyzing income levels, poverty rates, and child poverty by state, the dashboard allows for a detailed examination of disparities and trends. It provides a holistic view of the poverty situation in different states, enabling comparisons and the identification of areas that require attention and intervention.

To accurately analyze variables represented as percentages, such as Poverty, Child Poverty, Unemployment, Hispanic, White, Black, Native, Asian, Pacific, Professional, Service, Office, Construction, Production, Drive, Carpool, Transit, Walk, OtherTransp, WorkAtHome, Private Work, Public Work, Self Employed, and Family Work, it is recommended to use the AVERAGE() or MEDIAN() functions instead of SUM(). This ensures that the insights are not skewed by the state with the greatest number of counties.

The dashboard incorporates visualizations such as maps, charts, and filters to present the data effectively, allowing users to easily understand and interpret the information. This facilitates insights into the distribution of poverty and its impact on children across the United States.

Overall, the US Poverty Analysis Dashboard serves as a powerful tool for policymakers, researchers, and organizations working towards poverty

alleviation. It provides a comprehensive understanding of income levels, poverty rates, and child poverty by state, facilitating informed decision-making and targeted interventions to address poverty-related challenges.

- Design:

Why I chose a circle chart, a pie chart and a map.

The circle chart was chosen to analyze the relationship between income levels and poverty rates. This chart type allows for a visual representation of the data, where the size of the circles represents the income level and the position on the chart represents the poverty rate. This helps identify any patterns or correlations between income and poverty, providing insights into the impact of income on poverty levels.

Pie Chart was utilized to showcase the proportion of child poverty within each state. By visually representing the data in a pie chart format, it becomes easier to understand the relative contribution of child poverty in different states. The slices of the pie represent different states, and the size of each slice corresponds to the proportion of child poverty in that state. This visualization helps highlight states with higher child poverty rates and emphasizes the need for targeted interventions.

The map visualization was employed to provide a geographic representation of poverty rates across states. It allows for a visual exploration of the distribution of poverty, enabling users to identify regions with higher or lower poverty rates. The map provides a comprehensive overview of poverty levels across the United States, facilitating a better understanding of the spatial patterns and disparities in poverty rates.

What is the type of data used for that particular chart?

The type of data used for these plots is a continuous and geographical data.

- Dashboard:

https://public.tableau.com/views/USPovertyAnalysisDashboardExploringIncomeLevelsPovertyRatesandChildPovertybyState/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Resources:

US Census Demographic Data by MUONNEUTRINO via Kaggle

INSIGHT 4

- Link:

https://public.tableau.com/views/IncomeInsightsDashboardExploringIncomeLevelsbyRaceGenderandProfessionintheUnitedStates/IRU?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/IncomeInsightsDashboardExploringIncomeLevelsbyRaceGenderandProfessionintheUnitedStates/IGU?:language=en-US&:display_count=n&:origin=viz_share_link

https://public.tableau.com/views/IncomeInsightsDashboardExploringIncomeLevelsbyRaceGenderandProfessionintheUnitedStates/AIPU?:language=en-US&:display_count=n&:origin=viz_share_link

- Summary:

The Income Insights Dashboard takes you on an extraordinary journey through the intricate web of income levels in the United States. With a laser focus on the dimensions of race, gender, and profession, this dashboard offers a treasure trove of valuable insights into the income landscape, exposing disparities and illuminating trends across diverse demographic groups.

Prepare to be captivated as the dashboard meticulously analyzes income levels by race, peeling back the layers to uncover the variations and inequalities that exist within our population. It provides a panoramic view of how income differs among racial groups, allowing for a profound understanding of the economic challenges faced by different communities.

But the revelations don't stop there. Brace yourself as the analysis of income levels by gender shines a spotlight on gender-based income disparities. The dashboard skillfully highlights the nuances and variations in income between men and women, empowering us to identify areas where gender equality in income may be lacking.

And there's more to discover. The dashboard delves into the average income levels of professionals, offering a captivating glimpse into the earning potential within various occupations. Prepare to be enthralled as this comprehensive analysis paints a vivid picture of income levels across different professions, enabling insightful comparisons and the identification of intriguing trends.

When interpreting the data, it is important to bear in mind that variables represented as percentages, such as Poverty, ChildPoverty, Unemployment, Hispanic, White, Black, Native, Asian, Pacific, Professional, Service, Office, Construction, Production, Drive, Carpool, Transit, Walk, OtherTransp, WorkAtHome, PrivateWork, PublicWork, SelfEmployed, and FamilyWork, should be analyzed using the AVERAGE() or MEDIAN() functions instead of SUM(). This ensures accurate insights that are not skewed by outliers or extreme values.

These adjustments ensure that the data is properly aggregated and provide a more accurate representation of the central tendencies.

Prepare to be astounded by the revelations of the Income Insights Dashboard as it uncovers the truth behind income disparities. These

invaluable insights can inform decision-making, policy development, and strategies aimed at fostering a more equitable income landscape.

- Design:

These charts were better suited for representing income data compared to other types of charts because it provide clear visual representations, facilitate easy comparisons, and allow for the identification of patterns and trends.

What is the type of data used for that particular chart?

The type of data used for the chart is both continuous and geographical.

- Dashboard:

https://public.tableau.com/views/IncomeInsightsDashboardExploringIncomeLevelsbyRaceGenderandProfessionintheUnitedStates/Dashboard1?:language=en-US&:display_count=n&:origin=viz_share_link

Resources:

US Census Demographic Data by MUONNEUTRINO via Kaggle