

US Census Data Analysis



Report Summary

This report analyses the US Census data, focusing on the factors of Age Group, State, and Gender. The data was obtained from the official US Census website and underwent cleaning. Visualisations were created to enhance the understanding and interpretation of the data. The report consists of two primary analyses:

Analysis 1: Change in Population from 2010 to 2020

Analysis 2: Change in Population by Age Group, Year, and Gender

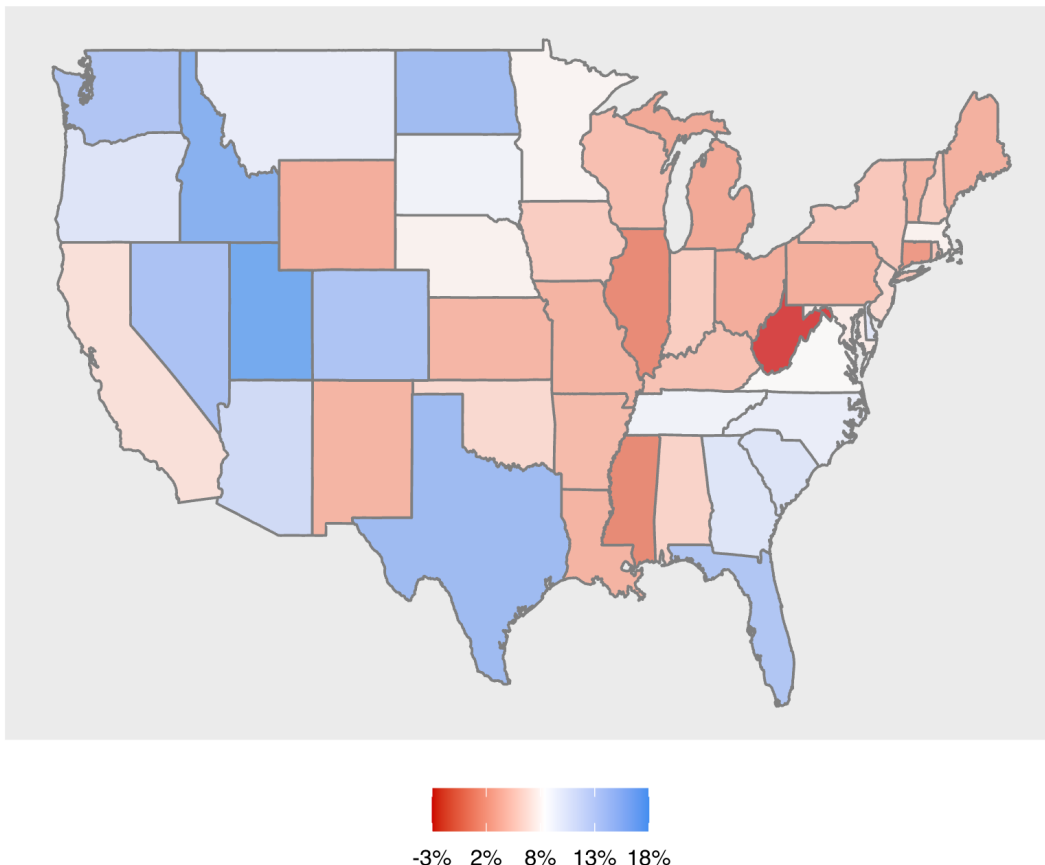
The report highlights key findings and inferences drawn from the data, providing insights into the population trends across different regions, age groups, and genders. Additionally, it suggests areas for further exploration and validation of hypotheses using underlying data and analysis.

Data Source: <https://data.census.gov/>

Analysis 1: Population Change from 2010 to 2020

The analysis focuses on the population changes in different states between 2010 and 2020, categorising them into four regions: Northeast, Midwest, West, and South. The report presents the percentage difference in population during this period and colour codes the states based on their population change.

Population Change by State & Region (2010-2020)



Key Inferences:

1. Northeast and Midwest regions: These regions experienced a population growth of less than 2% or even negative growth. Possible reasons include an ageing population with a higher proportion of people over 65, outward migration, slower economic growth, and fewer job opportunities.
2. West and South regions: These regions observed population growth of over 8%. Factors contributing to this growth include job opportunities, lower cost of living, the phenomenon of 'Sunbelt migration,' and higher birth rates.
3. Future Scope: The report suggests conducting deeper analysis and validating hypotheses using underlying data to explore the reasons behind the observed population trends.

Analysis 2: Population Change by Age Group, Year, and Gender

This analysis examines the population changes across different age groups, years (2010 and 2020), genders (male and female), and states. The report presents a grouped stacked bar chart with colour coding based on gender (blue for male, red for female).

The Age Groups are divided into six classes as follows:

--> Children: <9 years

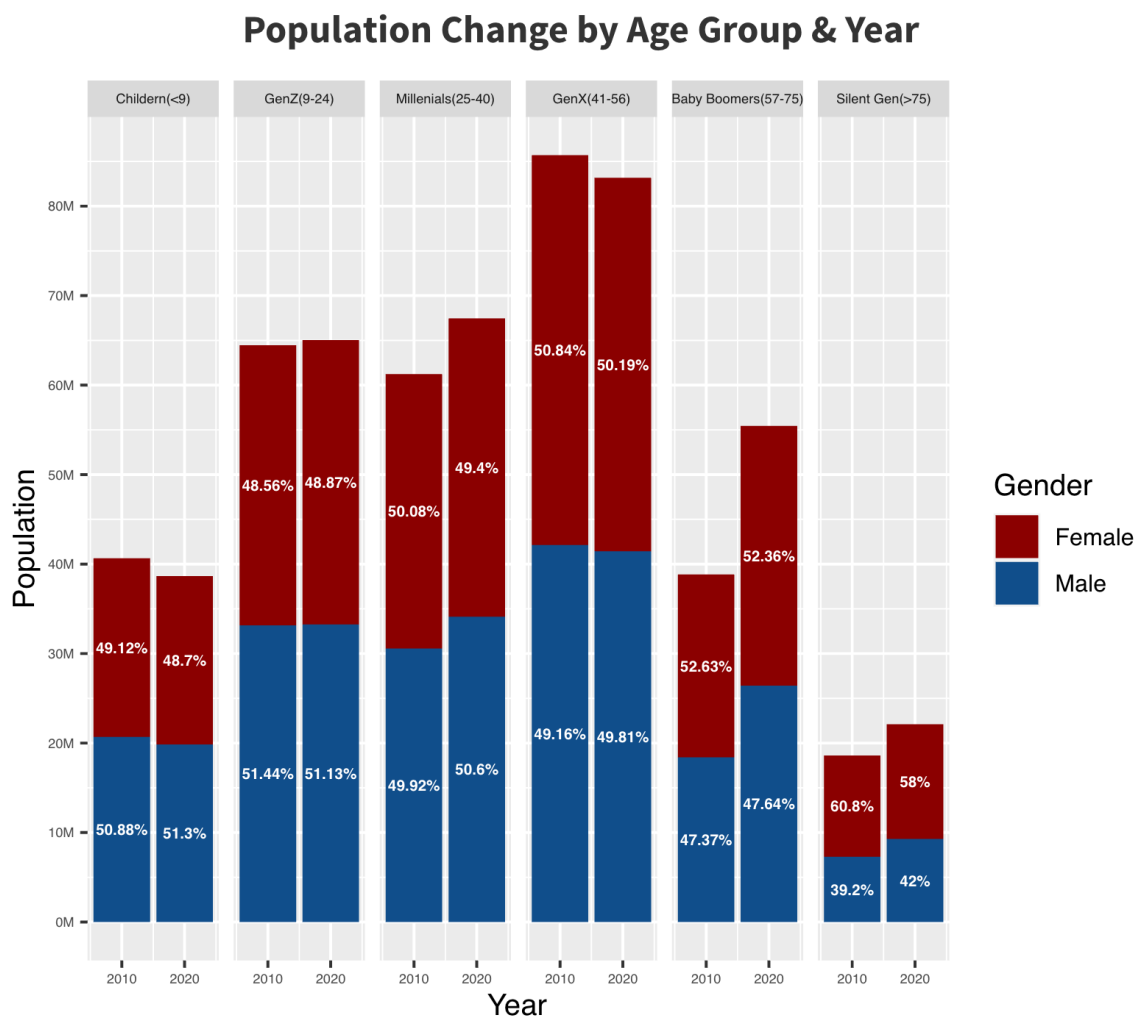
--> GenZ: 9-24 years

--> Millenials: 25-40 years

--> GenX: 41-56 years

--> Baby Boomers: 57-75 years

--> Silent Gen: >75 years



Key Inferences:

1. Gender distribution across age groups: For children and Generation Z (ages 0-24), the male population marginally surpasses the female population. Millennials and Generation X (ages 25-56) show similar male and female proportions. For Baby Boomers and the Silent Generation (ages 57 and above), the female population significantly exceeds the male population.
2. Age group-wise population changes: Children and Generation X experienced a decrease in population, while the other four age groups observed population growth. Baby Boomers had the highest increase in population, followed by Millennials, the Silent Generation, and Generation Z.
3. Dominant age groups: Generation X has the highest population, followed by Generation Z and Millennials, which have similar population sizes.
4. Future Scope: The report suggests exploring organic population growth based on births and deaths and the impact of immigration on the US population across different age groups.

Conclusion

This report provides a comprehensive analysis of the US Census data, focusing on population changes based on age group, state, and gender. The findings indicate varying population trends across regions, ages, and genders. Factors such as the ageing population, migration patterns, economic growth, job opportunities, cost of living, and birth rates contribute to these trends. The report also highlights future areas for further exploration and validating hypotheses using underlying data and analysis techniques.

Note:

Once you run the RShiny code provided in the GitHub link, you will land on a beautiful interactive dashboard, and snippets of the interactivity have been attached below.

RShiny also helps us publish a website that can be shared and accessed from anywhere. The basic version has a time constraint of free hours, so the website link has yet to be attached to this project. But, the GitHub project is reproducible, and you can easily create your analysis website quickly.

