Exploring Taxes, Cost of Living and Employment in Metro and Non- Metro Cities

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Introduction

- **Overview:** This study examines the connections between taxes, cost of living, education, and Employment in metro and non metro cities
- **Purpose:** Using county-level unemployment and education data alongside the US Family Budget dataset, we aim to uncover regional economic disparities and potential policy interventions.
- **Engaging Nature:** Our project delves into crucial aspects of social well-being, highlighting areas for intervention or adjustment.

Dataset

- **Dataset Selection:** Utilizing Kaggle datasets on county-level unemployment and education, and the US Family Budget dataset from the Economic Policy Institute.
- **Data Integration:** Merging datasets using the 'county' column for comprehensive analysis.
- **Preprocessing:** Ensuring consistency in the 'county' column format before merging.
- **Data Description:** Cost of living data includes rent, food, transportation, and healthcare costs, while unemployment data spans rates from 2000-2020.

References

Kaggle:
US Cost of Living Dataset (1877 Counties)
USA Unemployment & Education Level

Citation:
Berghammer, C., & Adserà, A. (2022). Growing inequality during the Great Recession: Labour market institutions and the education gap in unemployment across Europe and in the United States. Acta Sociologica, 65(4), 374-397. https://doi.org/10.1177/00016993221083226

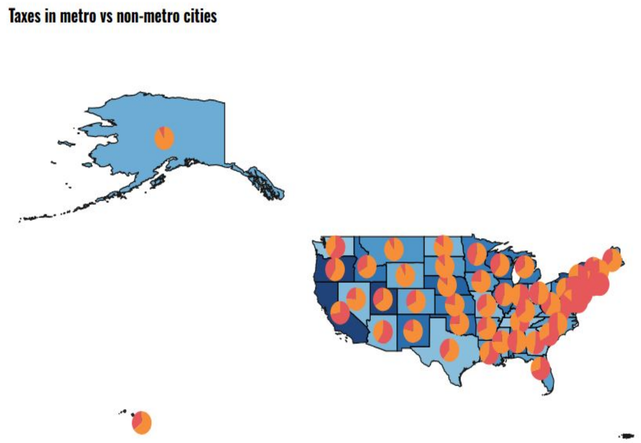
Visualization Designs

- Utilized interactive data visualization techniques:
  - **Mapping** for geographic data representation.
  - **Bar charts** for comparing categorical data like cost of living.
  - **Line charts** for tracking trends over time, such as employment rates.
- Chosen for clarity and user interaction.
- Methodologically aligned with visual best practices.
- Enables effective communication of socioeconomic trends for informed decision-making.

Analysis

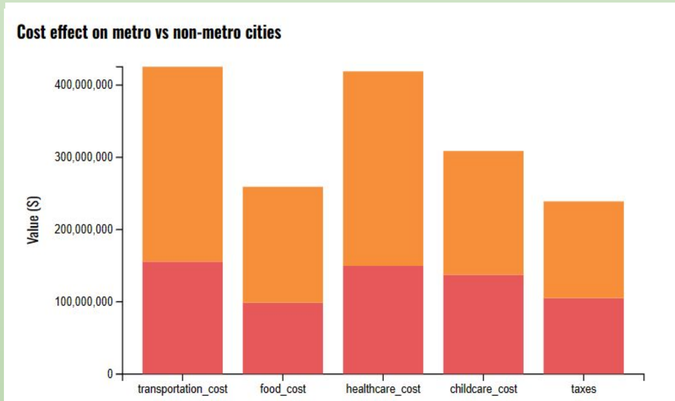
Visualization 1: Map with pie of Taxes:

- Illustrates tax rate disparities between metro and non-metro areas.
- Allows users to explore tax rates for specific regions.



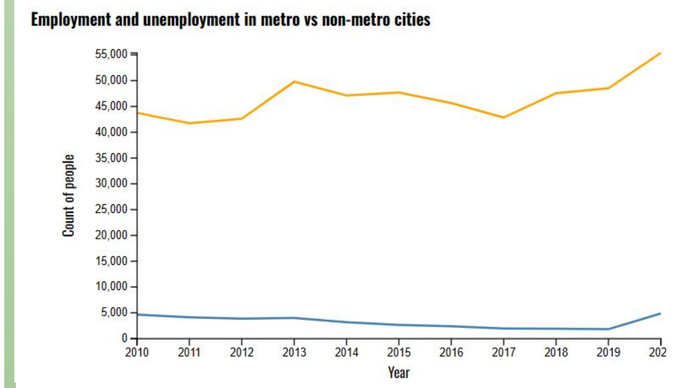
Visualization 2: Cost Comparison Bar Chart:

- Compares cost of living between metro and non-metro cities.
- Provides insights into affordability challenges across different expense categories.



Visualization 3: Employment Trends Line Chart:

- Displays employment and unemployment trends over time for metro and non-metro cities.
- Highlights potential disparities in job opportunities between urban and rural areas.



Filter Panel

- Allows to filter on Metro and Non Metro Cities for user interaction as well as to reset to initial visualization

Legend

- Colour legend for differentiating between each element.

Analytical Tasks

Tasks:

- Explore correlations between taxes, cost of living, education, and employment in metro and non-metro areas.
- Analyze trends and disparities across urban and rural regions.

Target Audience:

- **Researchers** investigating socioeconomic dynamics and regional disparities.
- **Policymakers** seeking insights for informed decision-making on economic policies.
- **Individuals** interested in understanding regional economic trends for personal or professional purposes.

Conclusion

Summary:

- Explored socioeconomic relationships in metro and non-metro areas.
- Analyzed trends to understand regional dynamics.

Challenges:

- Data integration.
- Designing intuitive visualizations.
- Interpreting complex trends.

Alignment:

- Prototype meets expectations, with room for improvement.

Lessons:

- Importance of iterative design.
- Significance of data preprocessing.
- User feedback essential for design refinement.