

Retail Food Sales Analysis



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Project 1 - Group 4

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Executive Summary

What?

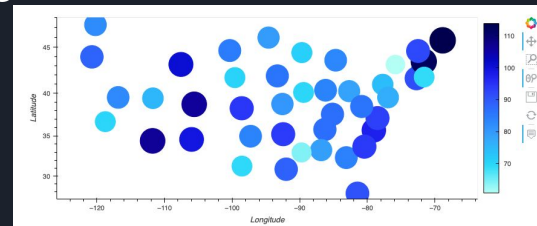
- We wanted to investigate national trends in sales and consumption of food and beverage products across the US.

Why?

- To inform and improve decision-making for policy-makers.

How?

- USDA Weekly Retail Food Sales data (2019 - 2022)
 - National Level
 - 13 product categories
 - 45 subcategories
 - State Level (43)
 - 10 product categories
 - No subcategories



Units of vegetables per capita, state by state



Data Collection, Cleanup, and Exploration

- USDA Economic Research Service
 - Limitations
 - Additional Context Needed
- US Census Bureau
 - Control for state population size
 - Per capita consumption habits
 - Median Household Income
- Geoapify API
 - Latitudes & Longitudes
 - Visualization



Approach to Project Goals

Start with broad research questions

1

Cleaning and exploring the data helped guide us in refining these questions and **creating a strategy** for answering them

Use visualizations to gain insights

2

Creating visualizations helped to reveal some **unanticipated problems**, and **insights**, which set out the next steps in our analysis

Make assumptions and get answers

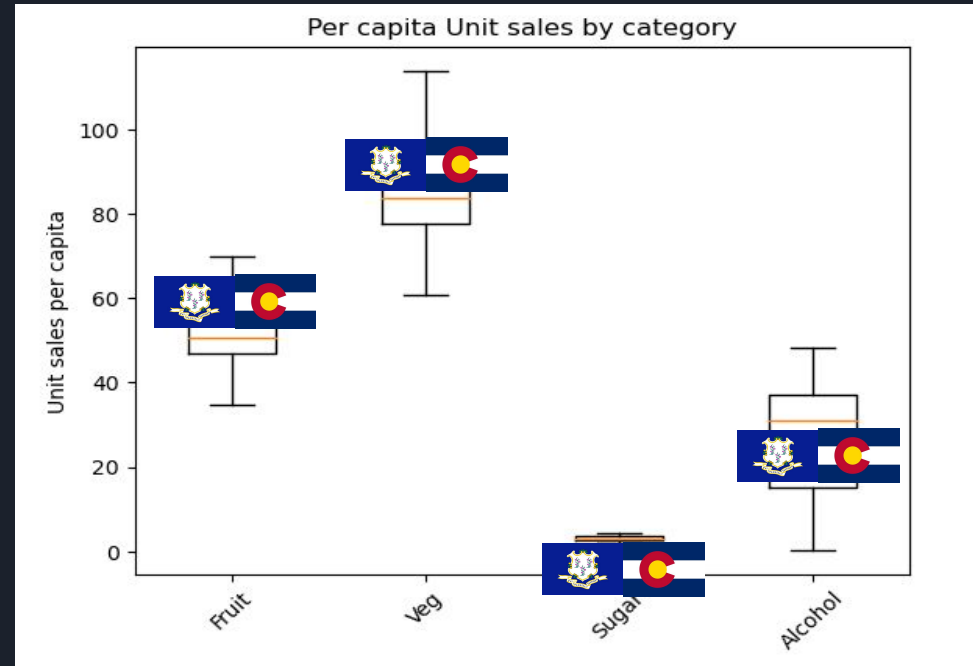
3

Exploring and visualizing our data made it clear what **opportunities and limitations** existed to answer our research questions. These helped set the **assumptions** used to draw our **conclusions**.



Which state eats the healthiest? - Results

- We defined “healthy eating” as above average **per capita consumption** of fruits and vegetables, and below average per capita consumption of sugar and alcohol.
- Two states fit our criteria: **Connecticut** and **Colorado**
- We tried a stricter test - **top quartile** in desirable attributes and **bottom quartile** in undesirables - but no state passed that test
- We declared a tie for **healthiest state**



Results/ conclusions cont.

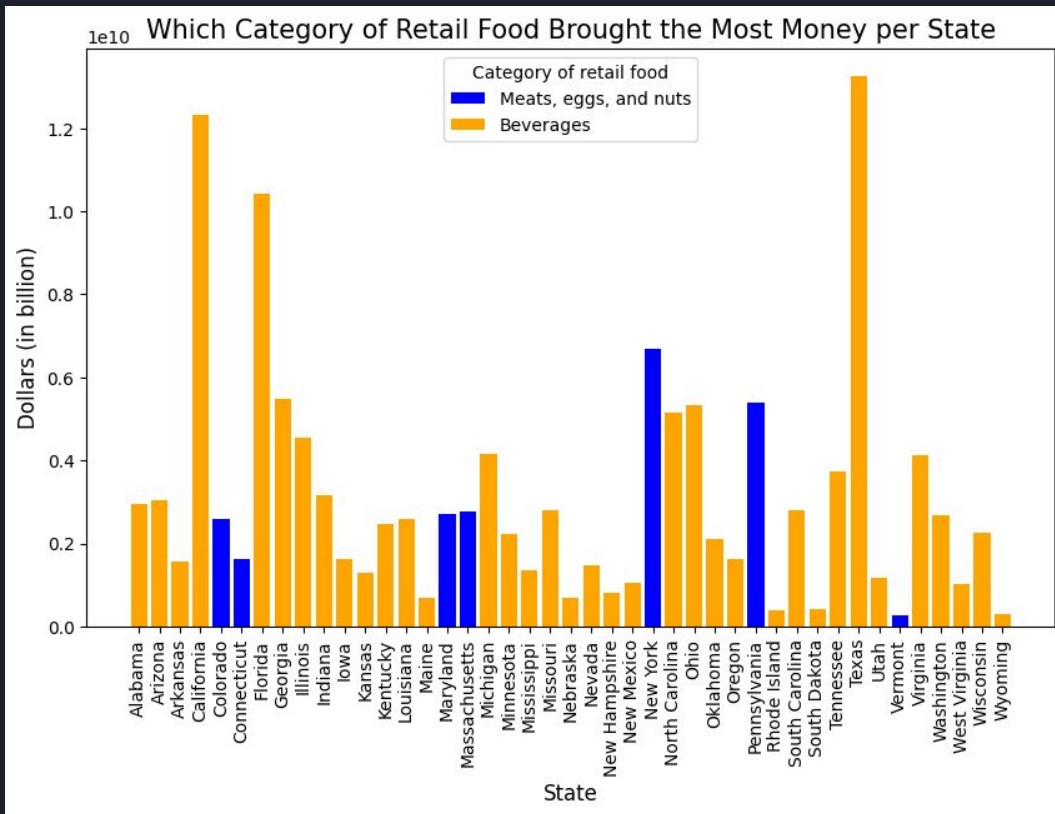
- Which category of retail food brought the most sales (dollars) per state?

Beverages and meat, eggs and nuts were the only categories that were in the top in sales (dollars) among the states.

- 36 states concluded that beverages brought the most money in sales,
- 7 concluded that meats, eggs, and nuts brought the most money in sales.

When looking at the national level data we saw similar trends.

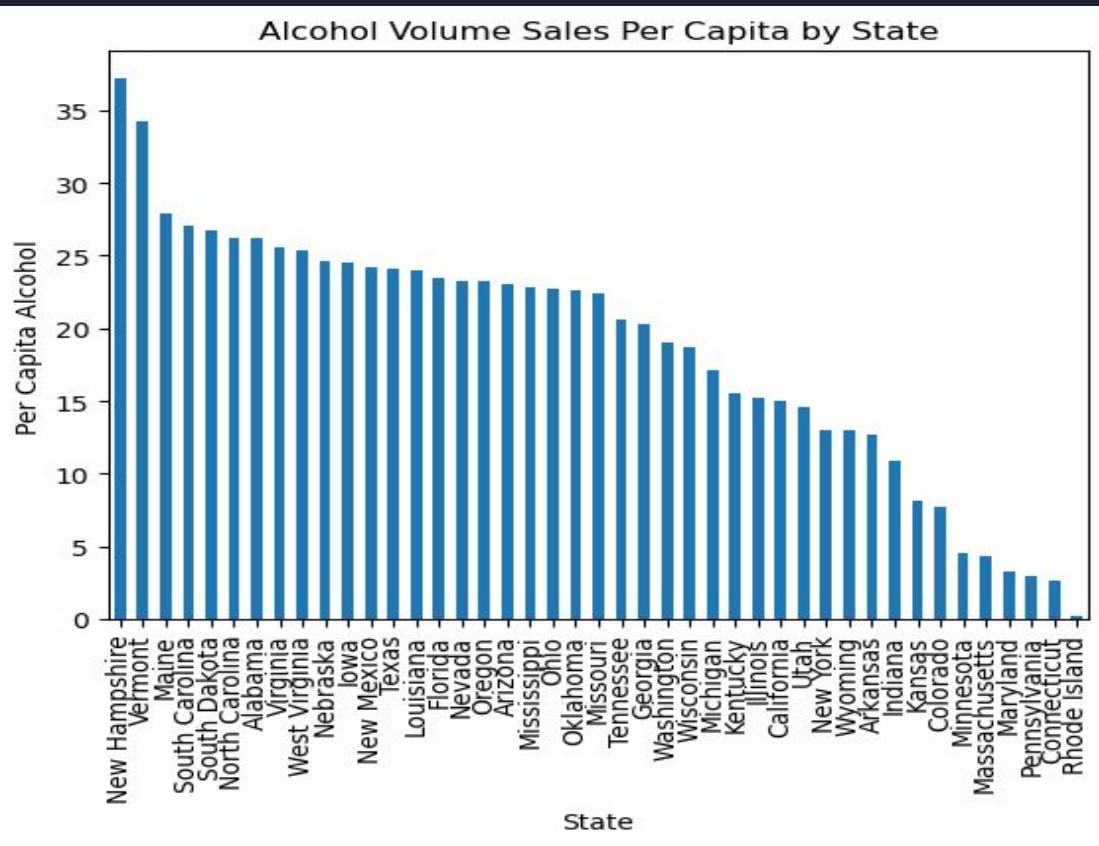
- Maximum dollars spent was repeated for the subcategory “regular fresh/frozen meat” (in Meats, Eggs, Nuts Category).
- Maximum volume sales was consistently for the subcategory “Fruit drinks and non-carbonated sugary” products in the Beverage Category.



Results/ Conclusions

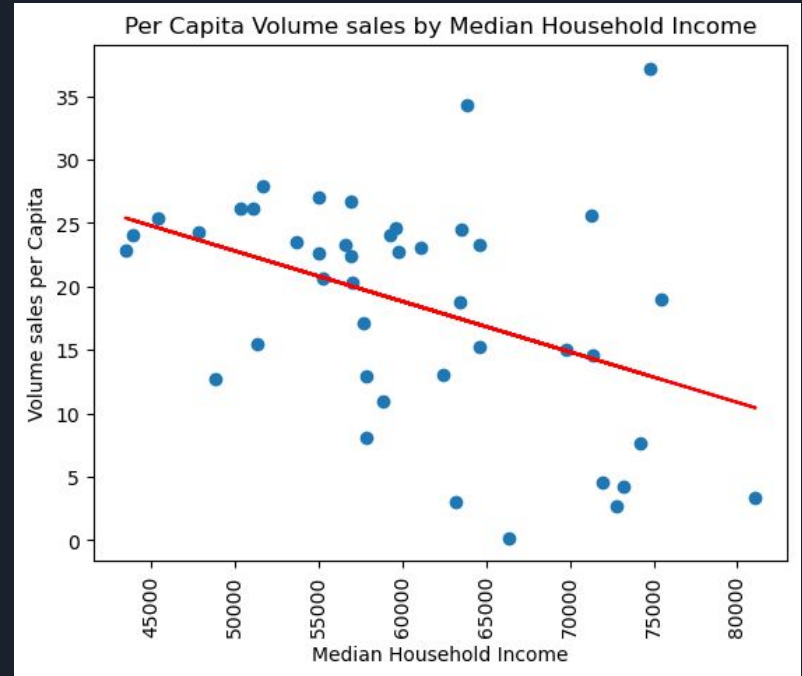
- Which state has the highest/ lowest alcohol sales per capita?

- Alcohol volume sales per capita:
 - New Hampshire, Vermont, and Maine were found to have the highest volume of alcohol sales per capita
 - Pennsylvania, Connecticut and Rhode Island were found to have the least



Results/Conclusions

- Which state has the highest/ lowest alcohol sales per capita?
 - A linear regression was performed to determine the correlation between the per capita volume sales by median household income
 - Regression showed a negative correlation
 - We can predict that the states with the higher median income will have a decrease in per capita alcohol sales



Next Steps





Annex



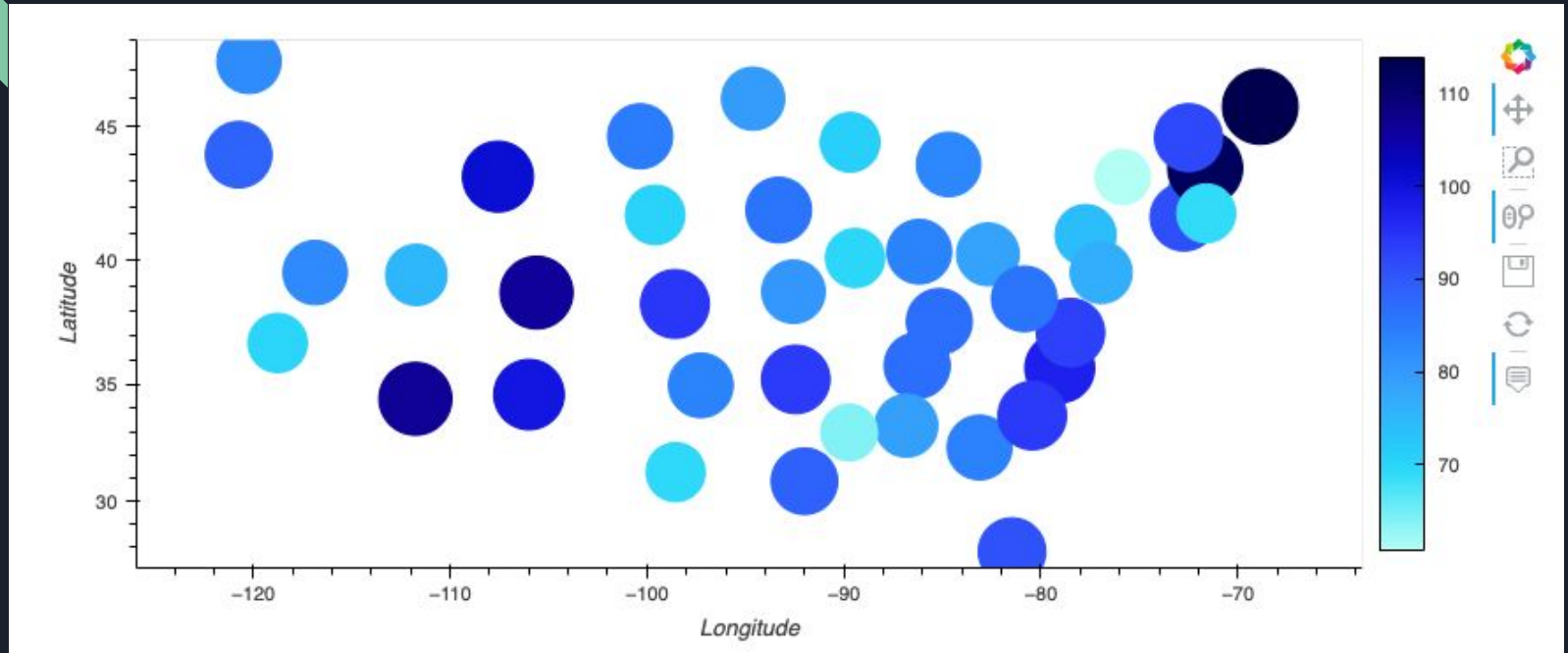
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Our research questions

- Which state has the highest/lowest alcohol sales?
- Which state eats the healthiest?
- Which retail product sale was most popular by year (nationally)?
- Which category of retail food brought the most sales (dollars) per state?

Which state eats the healthiest - Data exploration



Units of vegetables per capita, state by state

Which State has the highest Alcohol Unit Sales Per Capita?

