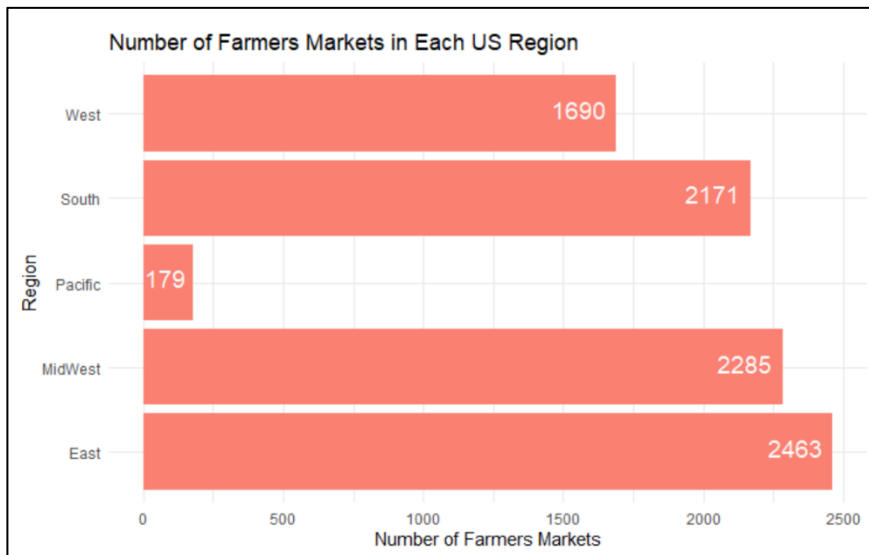


ANALYSIS OF FARMER'S MARKETS IN US : How to analyze and compare data

By Sahar Tariq

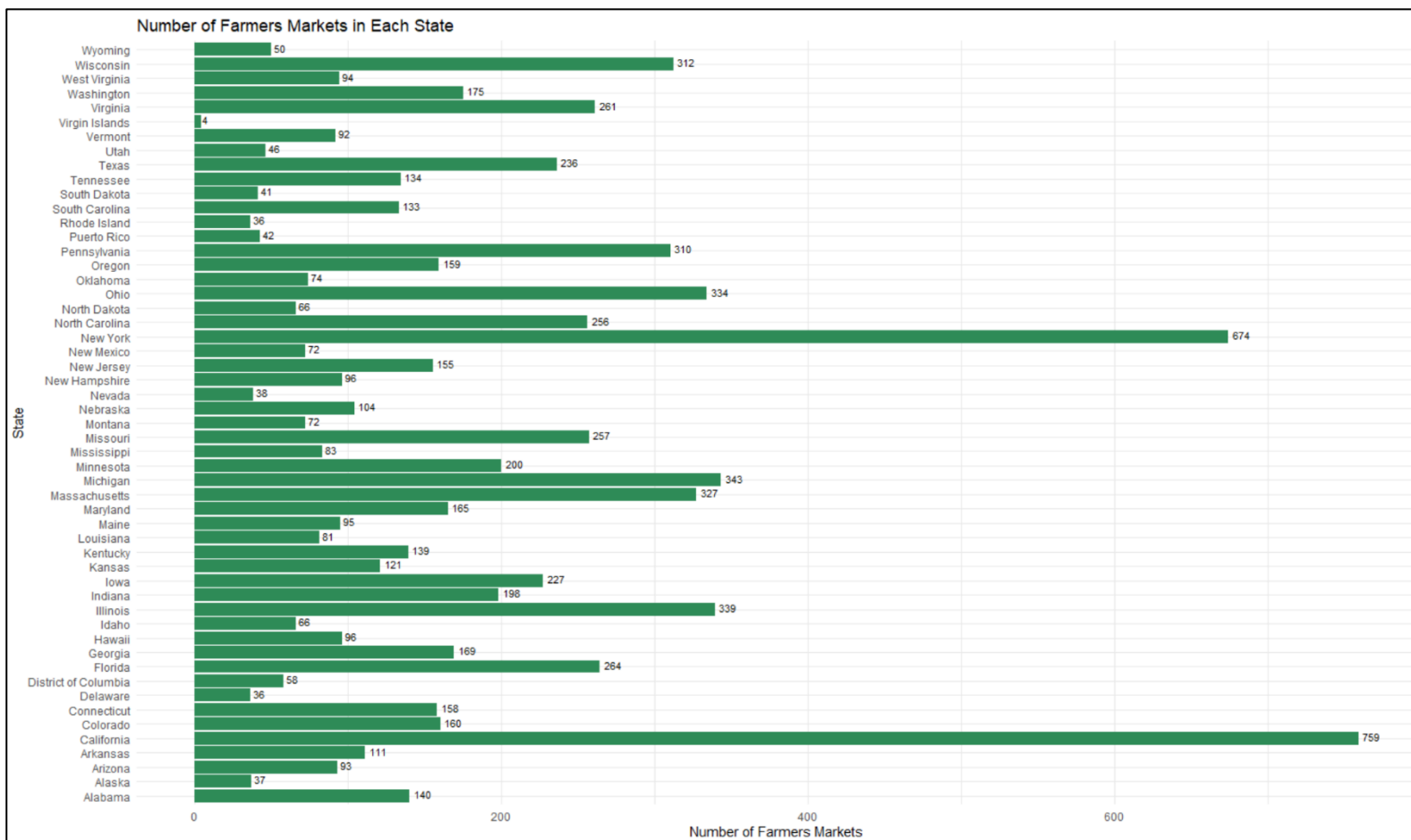
1. Geographical

a. Absolute number of markets by location



Comments:

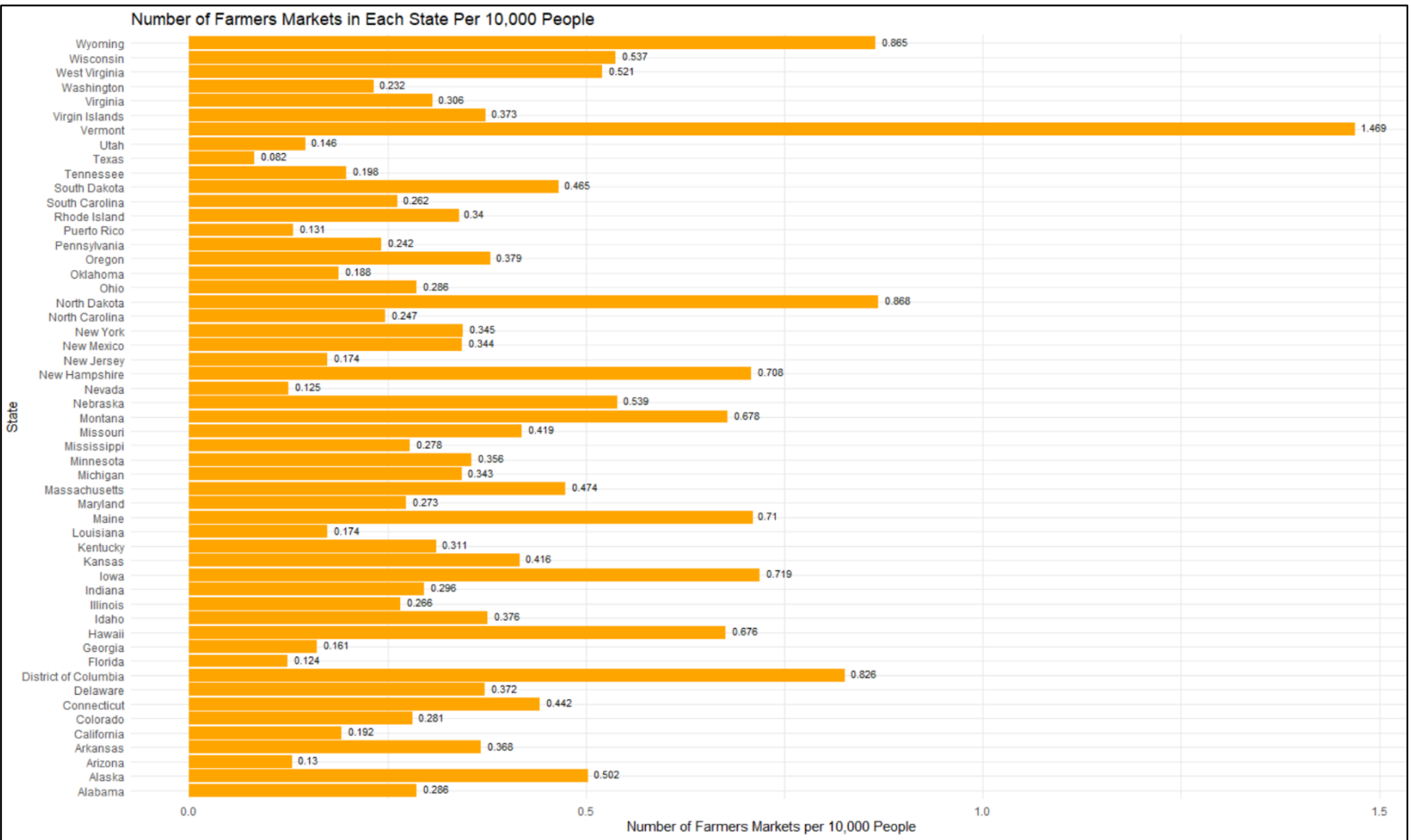
The absolute number of markets in an area (city, state, or region) may not be a proper indication of popularity of markets in the area, as it does not take into consideration population or land area. Big areas and highly populated areas may by default have higher number of markets than smaller areas so those metrics should be factored in to determine the spread and density.



b. Density of markets by location taking into consideration population

Comments:

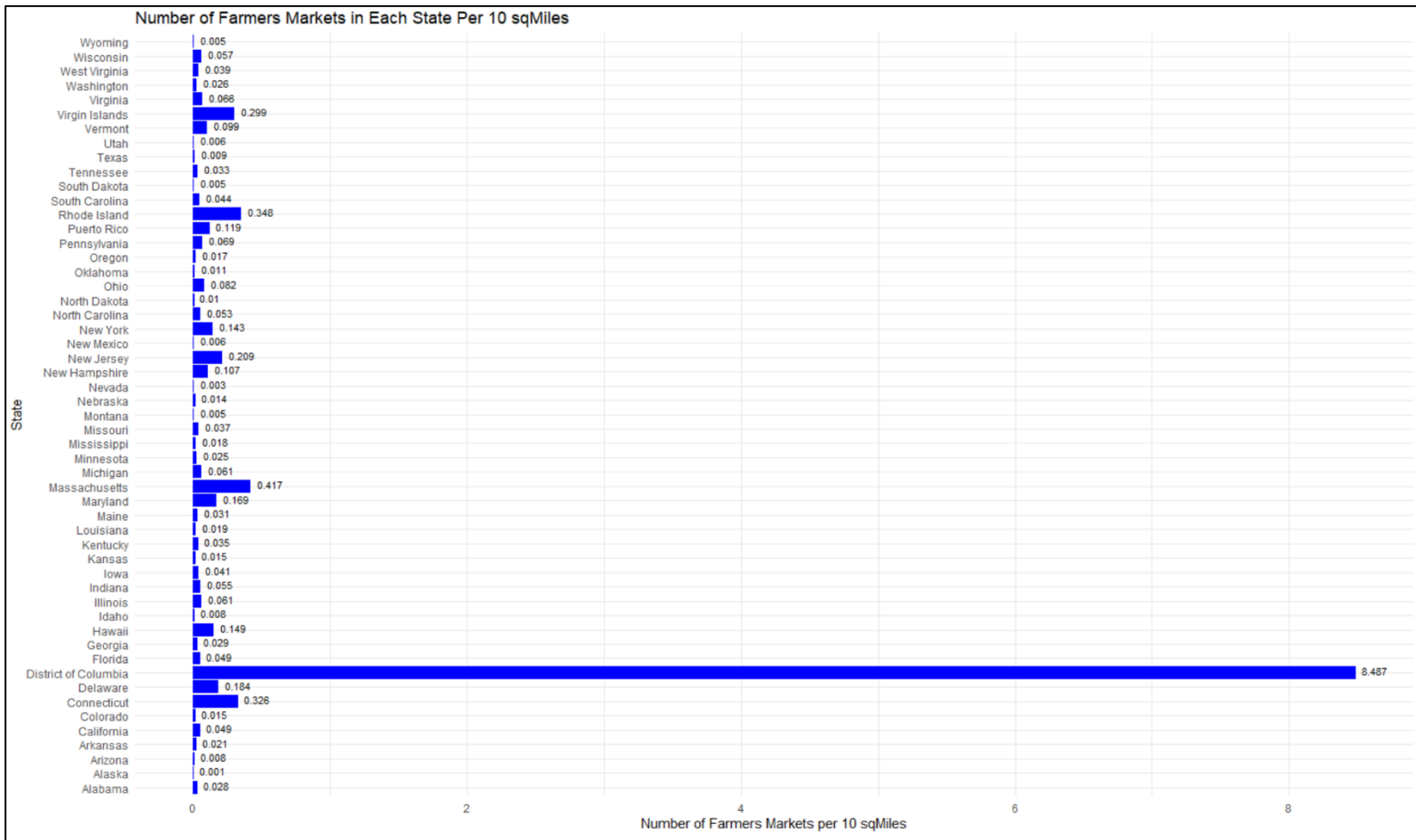
This shows how many markets are there for every 10,000 people in a state, giving a proper indication of popularity.



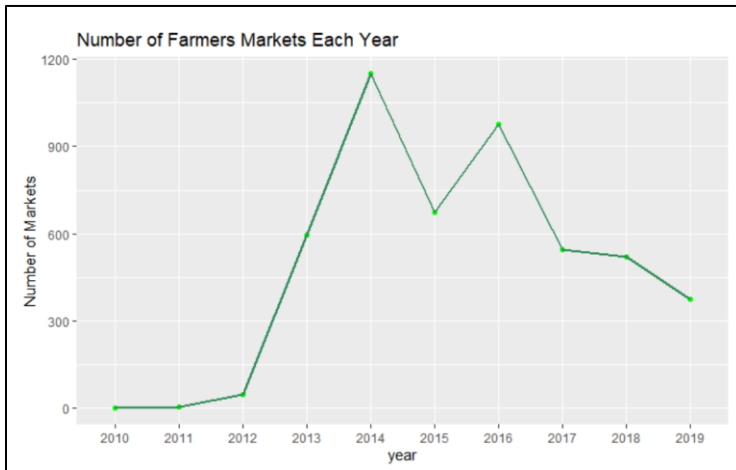
c. Density of markets by location taking into consideration land area

Comments:

This shows how many markets are there in every 10 square miles in a state, giving a proper indication of density.

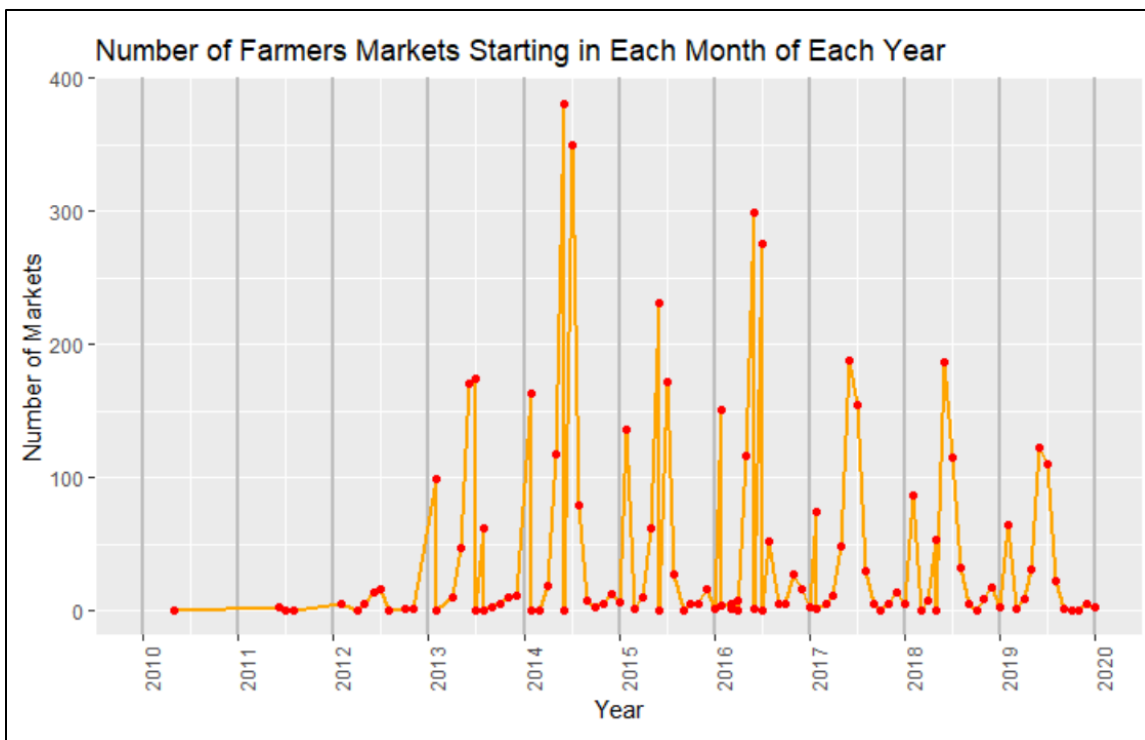
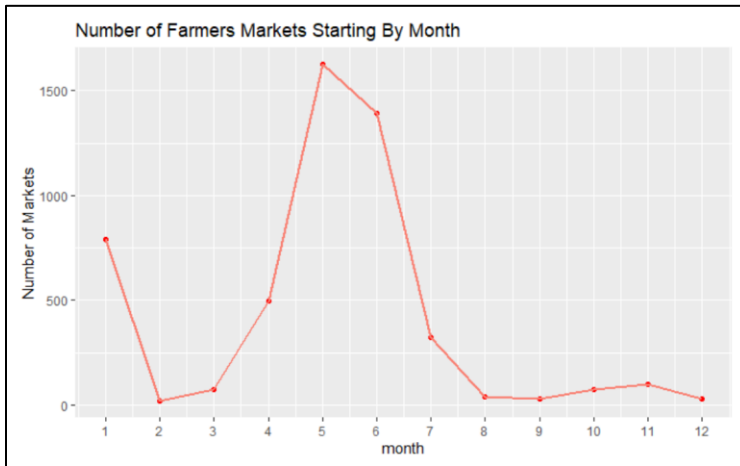


2. Time



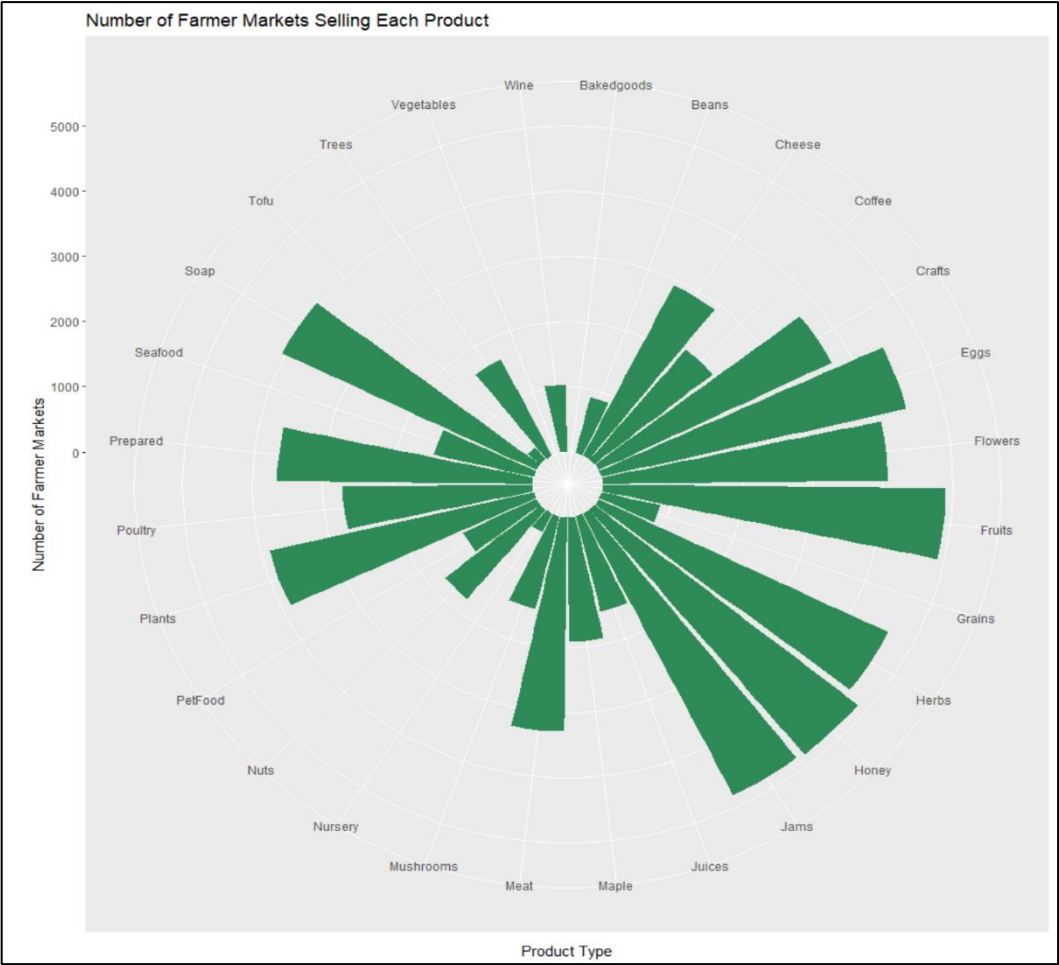
Comments:

Trend of number of markets starting each month. Since every year the number of markets is changing, separate plots for year and month may not be most appropriate. Combined plot of month and year shows the trend over the years, and also over each month in those years.



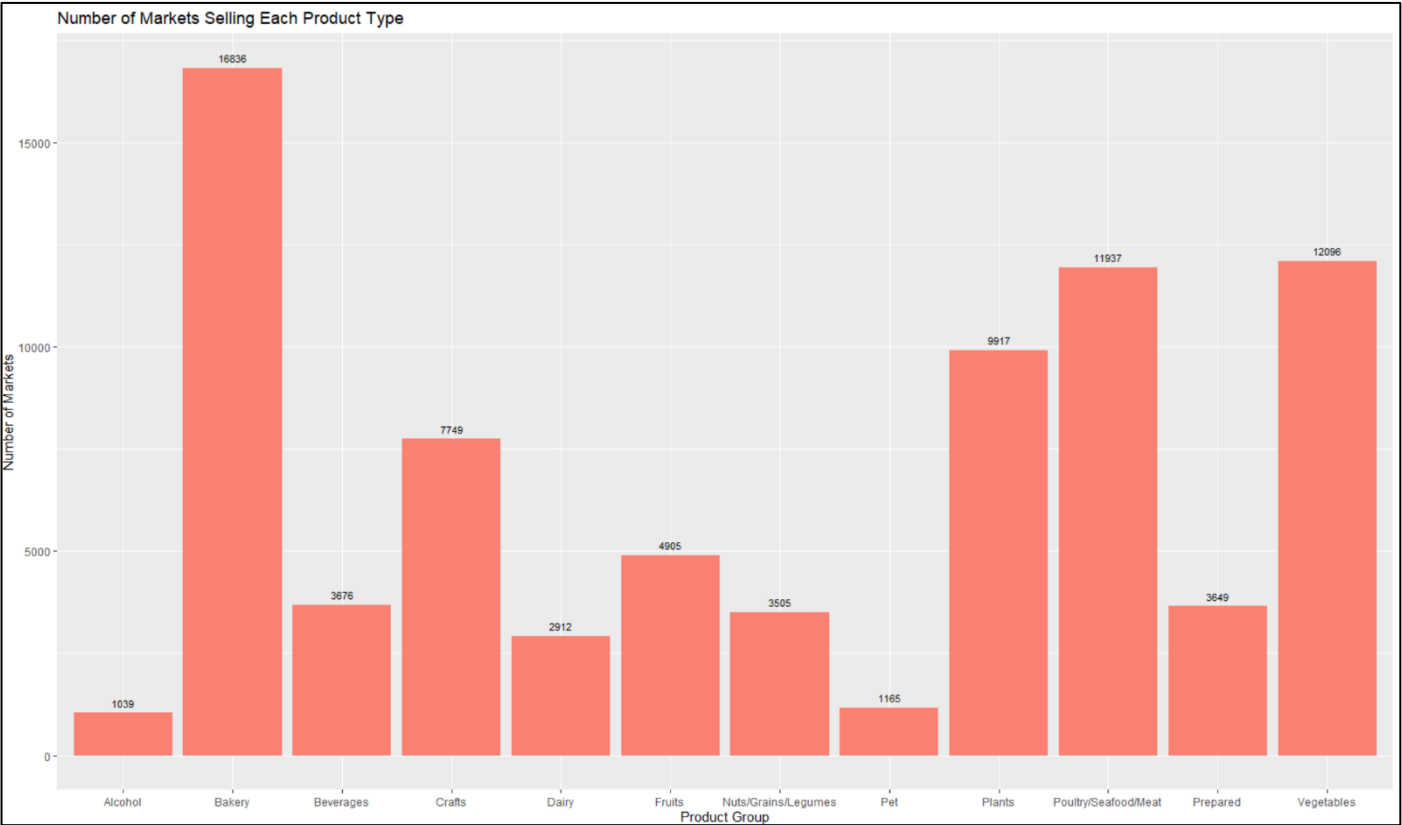
3. Product

a. Absolute number of markets selling each product

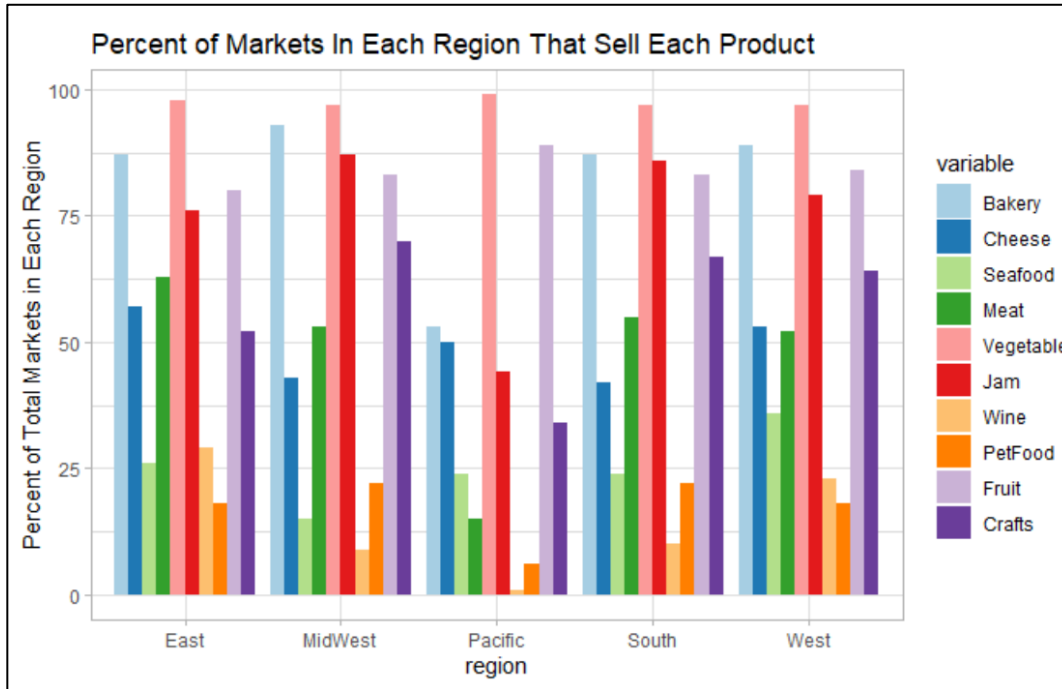


Comments:

2 types of plots showing total number of markets selling each product. Absolute number is okay when comparing the data for all areas and years together to get a quick view of most popular products at markets.



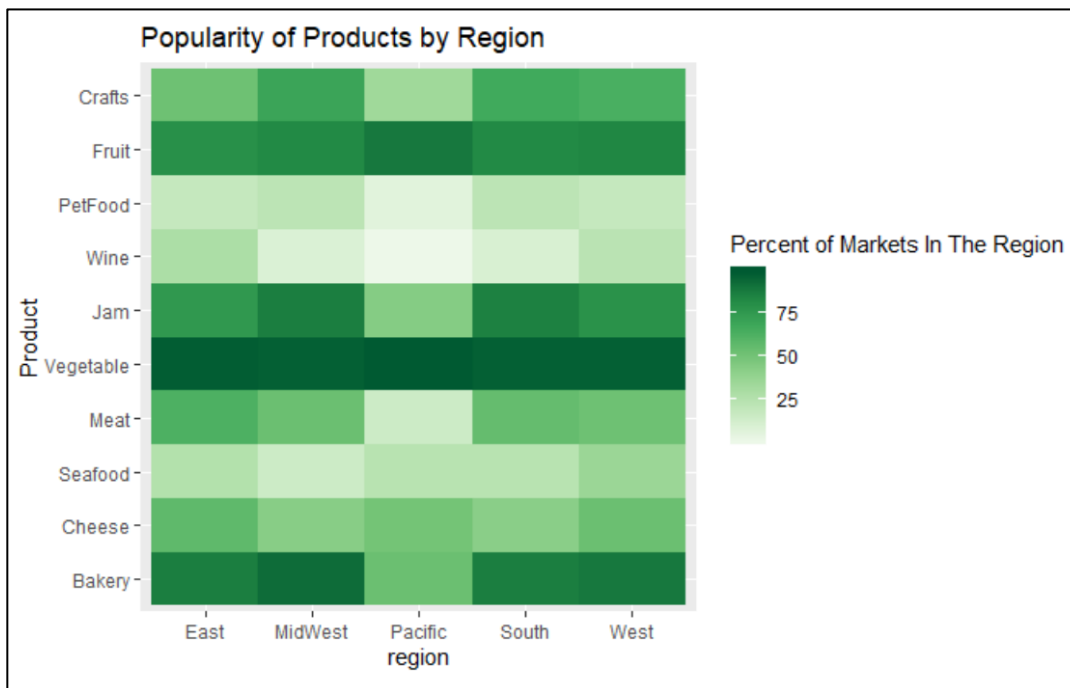
- b. Proportion of markets selling each product – taking into consideration each region has a different number of markets



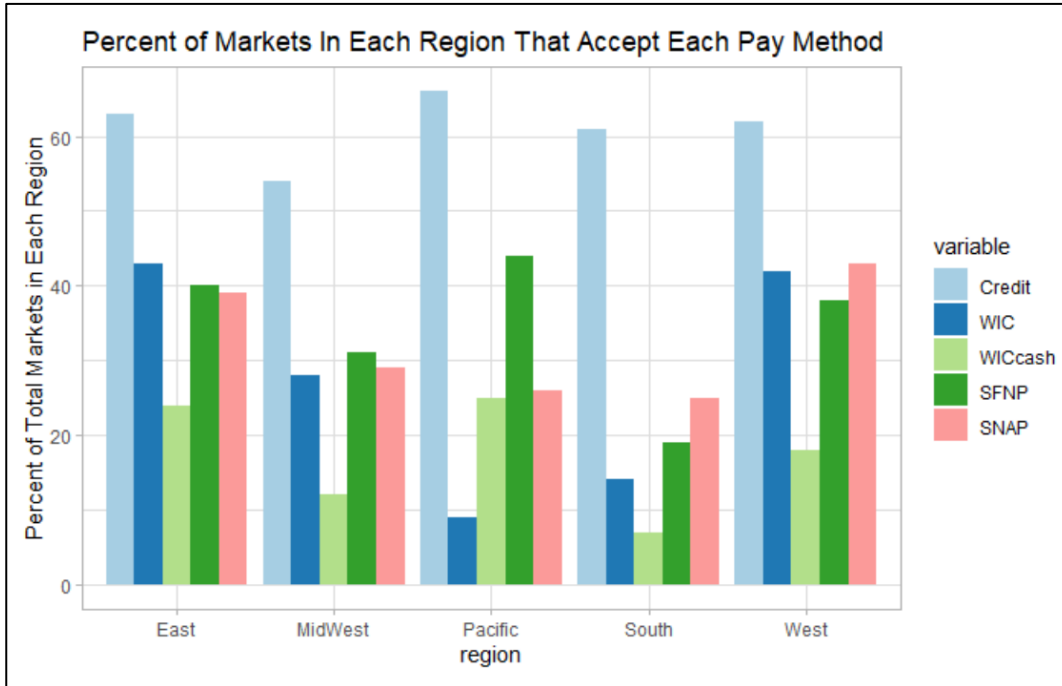
Comments:

Using total number of markets selling each product in an area is not appropriate to compare popularity of each product **between** the areas, since different areas have different number of markets. To properly compare popularity, need to take into consideration the number of markets in each area, and find the proportion of markets in each area selling that product.

Here are 2 graphs types showing the percent of markets in a region that sell each product, so popularity between the regions can be properly compared.



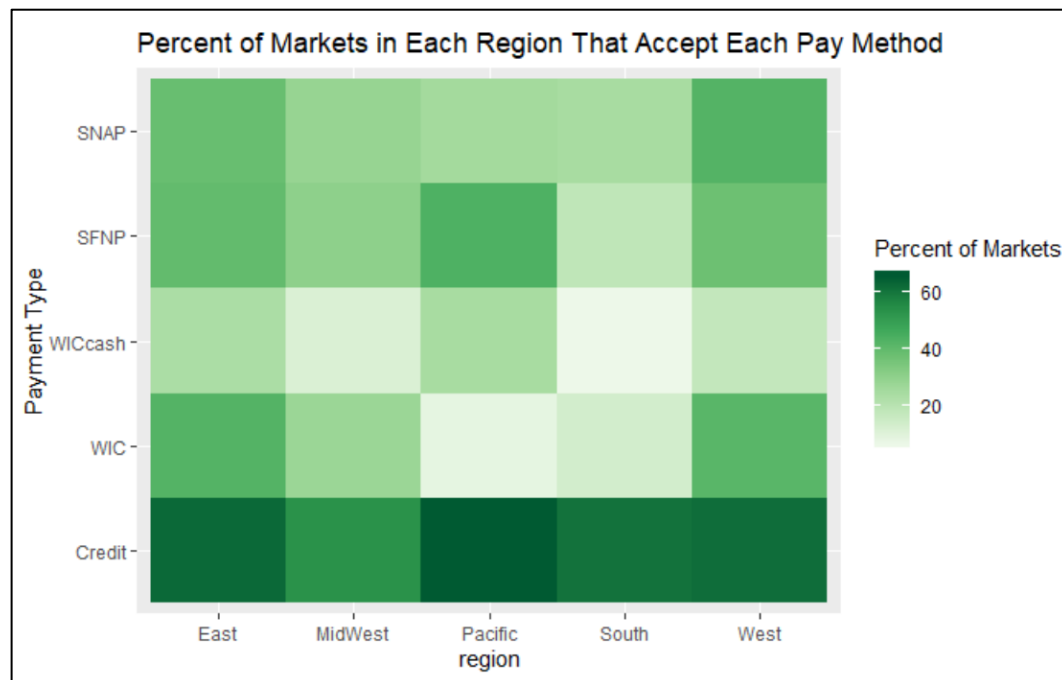
4. Payment



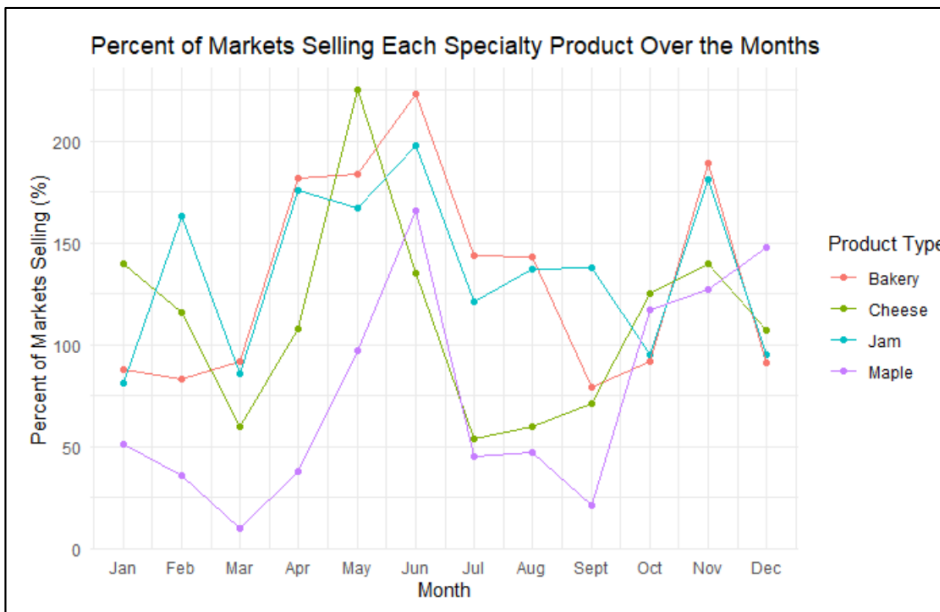
Comments:

Similar to product popularity, the payment type popularity also needs to consider that different areas have different number of markets, so need to use the proportion of markets that use each payment instead of absolute number of markets.

Here are 2 graphs types showing the percent of markets in a region that have each payment type, so popularity can be properly compared.



5. Combined Metrics



Comments:

Over the years, the number of markets change, as seen in the time graphs. Therefore, when comparing the popularity of a product over time, it is not appropriate to take the absolute number of markets. Need to find the proportion of markets selling the product to properly gauge popularity over time.

Can further compare the trend of a product over time in each area by isolating the regions and placing the plots of each region in a grid together. (only shows plot for East Region)

