



Analyzing the growth in consumer spending on Food

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Questions of Interest

- How does each state's nominal and constant dollar sales compare to that at the national level?
- What states have the highest and lowest food sales?
 - Which states have the largest increase in food sales between 1997 and 2022?
- How have salaries and food prices increased over time?
 - Is there a relationship between the two variables? If so, what is this relationship?
 - Do some states more closely correlate food sales and salaries than others?
- What is the per capita food sales for each state?
 - How is it different between states and the national level?
 - Has the state or federal minimum wage increased at the same rate?
 - Do per capita food sales increase or decrease based on major economic or world events, such as the 2008 recession?



Data and Sanity Check

	Year	State	FAH sales million nominal U.S. dollars with taxes and tips	FAFH sales million nominal U.S. dollars with taxes and tips	Total sales million nominal U.S. dollars with taxes and tips	FAH sales million constant 1988 U.S. dollars with taxes and tips	FAFH sales million constant 1988 U.S. dollars with taxes and tips	Total sales million constant 1988 U.S. dollars with taxes and tips
0	1997	Alabama	5,789.30	3,465.67	9,254.97	4,342.91	2,644.37	6,987.28
1	1998	Alabama	6,064.24	3,841.10	9,905.35	4,482.77	2,855.59	7,338.36
2	1999	Alabama	6,408.45	4,101.04	10,509.50	4,663.24	2,976.07	7,639.31
3	2000	Alabama	6,752.33	4,352.40	11,104.73	4,784.95	3,088.45	7,873.40
4	2001	Alabama	6,895.12	4,604.09	11,499.21	4,750.33	3,181.66	7,932.00
5	2002	Alabama	7,027.29	4,845.79	11,873.08	4,779.21	3,274.28	8,053.49
6	2003	Alabama	7,226.87	5,204.53	12,431.40	4,811.03	3,434.63	8,245.66
7	2004	Alabama	7,427.67	5,580.12	13,007.79	4,757.14	3,572.01	8,329.15
8	2005	Alabama	7,751.12	5,922.87	13,673.99	4,865.33	3,684.75	8,550.08
9	2006	Alabama	7,736.35	6,326.07	14,062.43	4,763.66	3,818.41	8,582.07



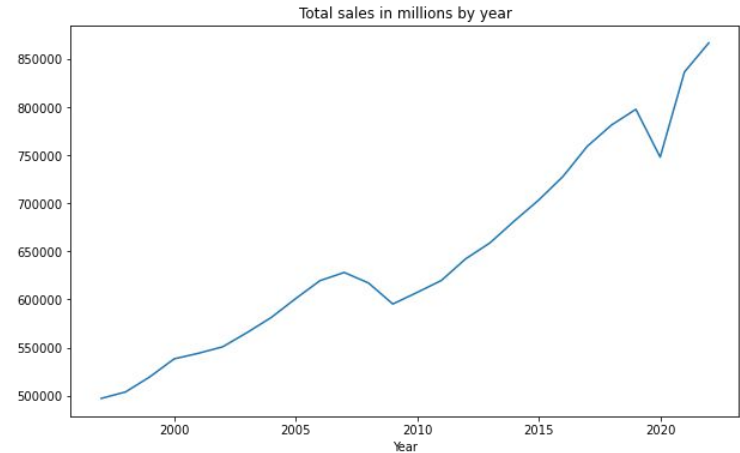
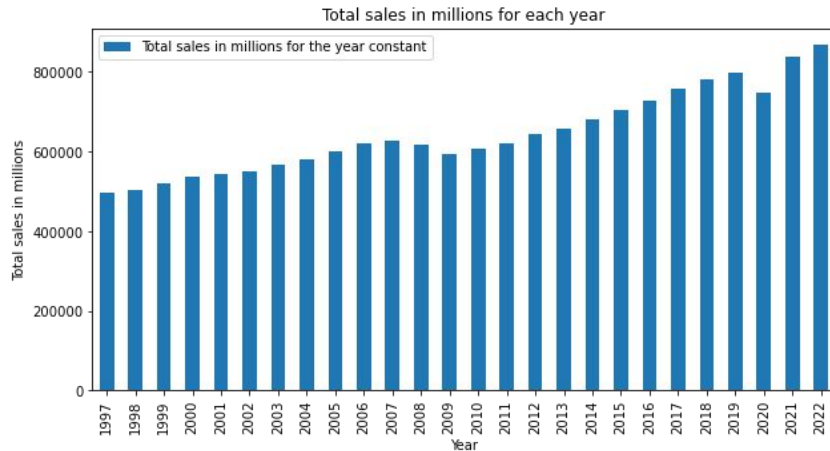
Initial Exploration

We updated the Column names, removing spaces and created different dataframe to operate on to present results.

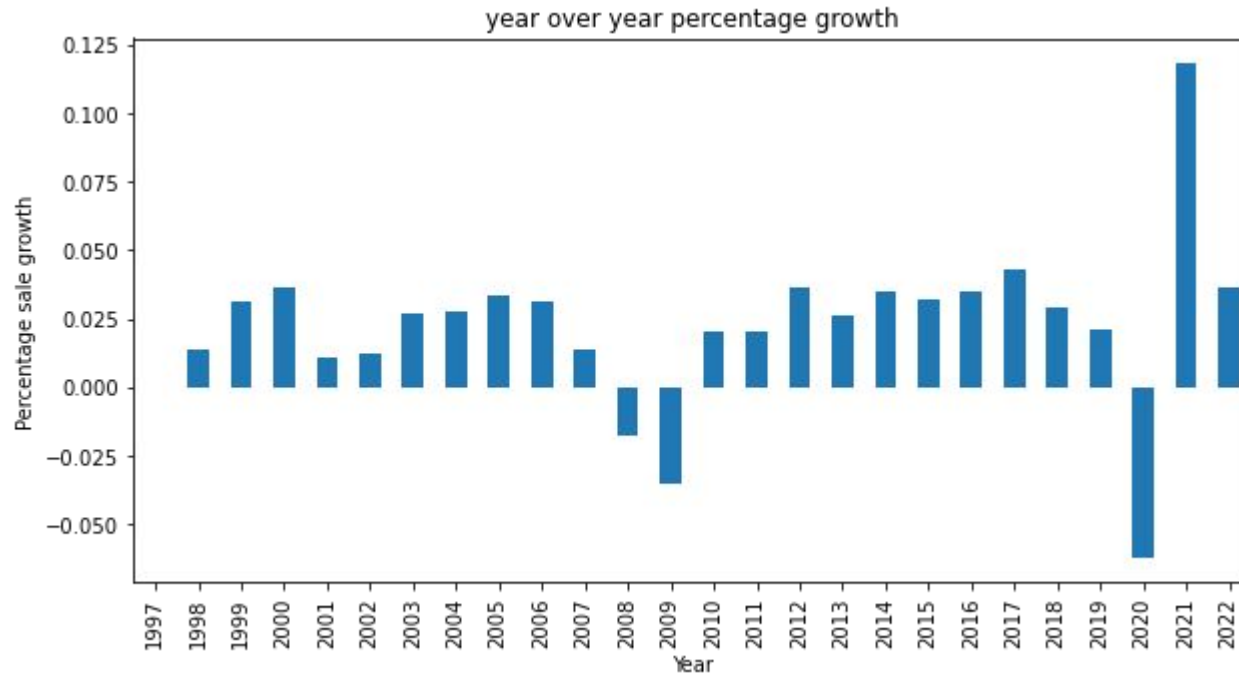
Updated the dollar values into floats and not objects so it can be operated on

Dropped columns from some data frame that wouldn't be of value to it.

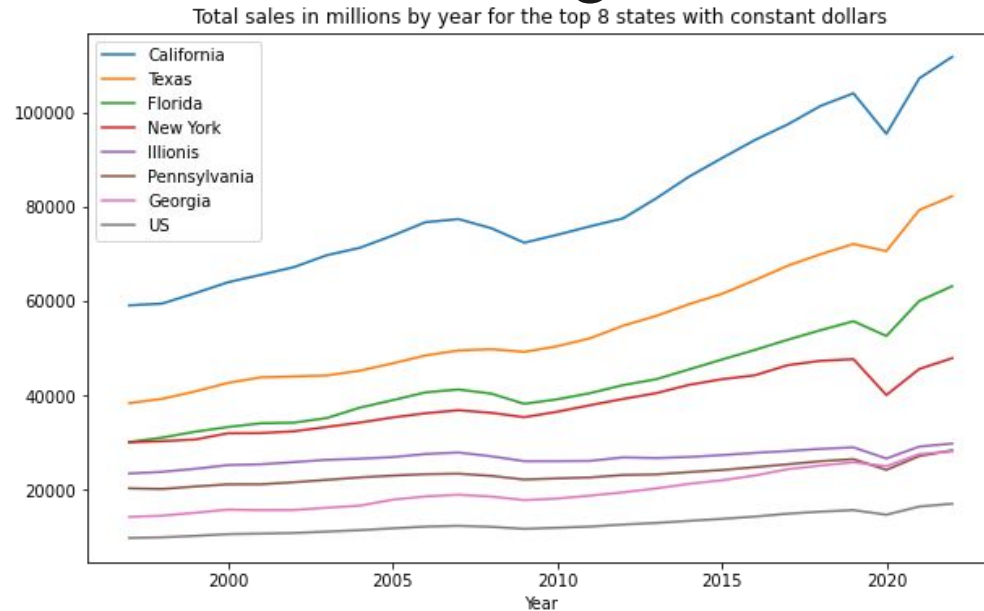
Initial Exploration - Total sales for the US



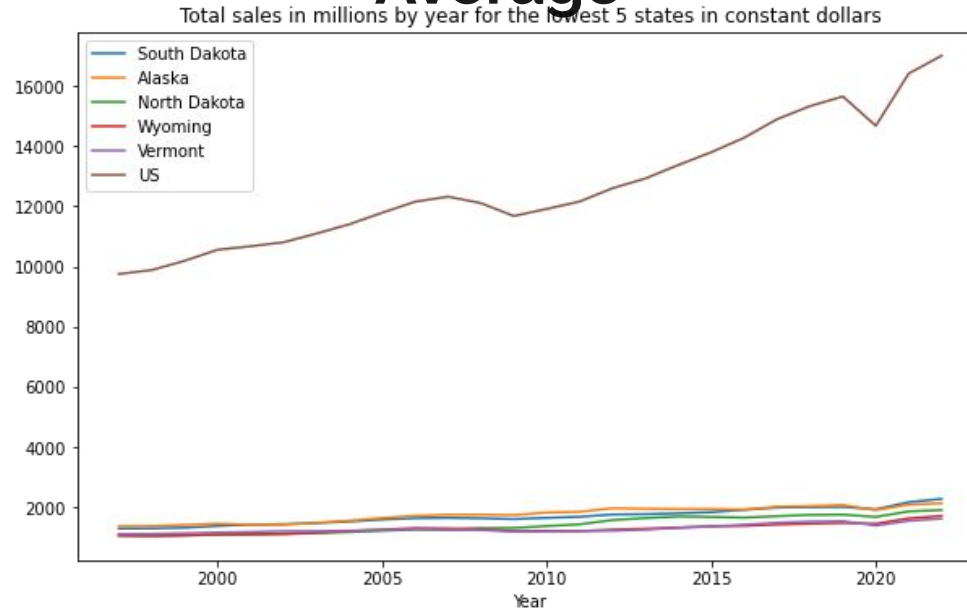
Initial Exploration - Growth year over year



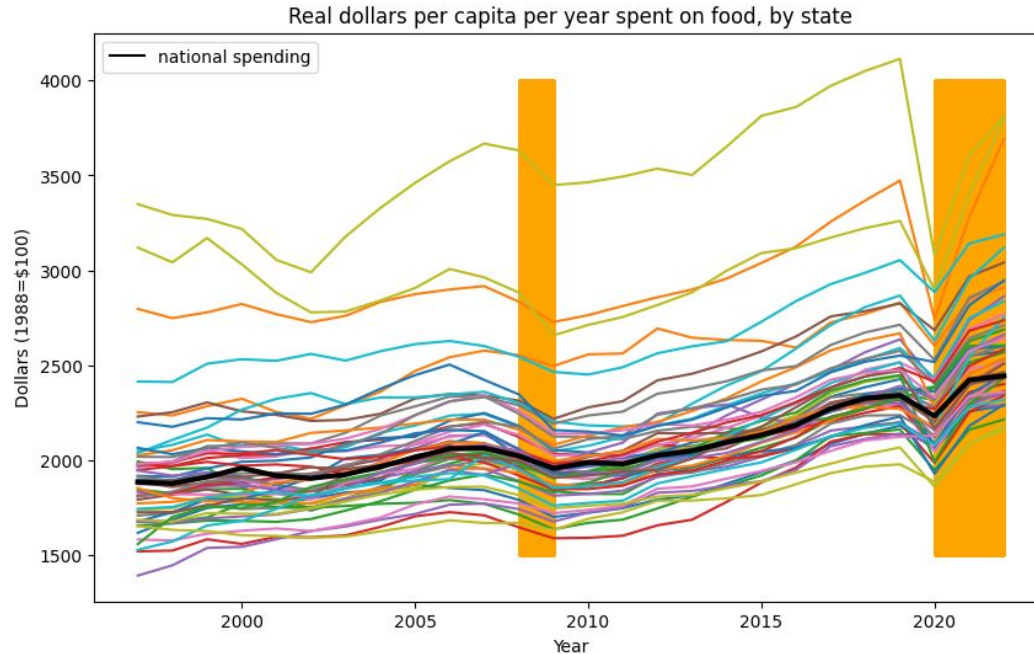
How does the Constant sale compare to the national Average



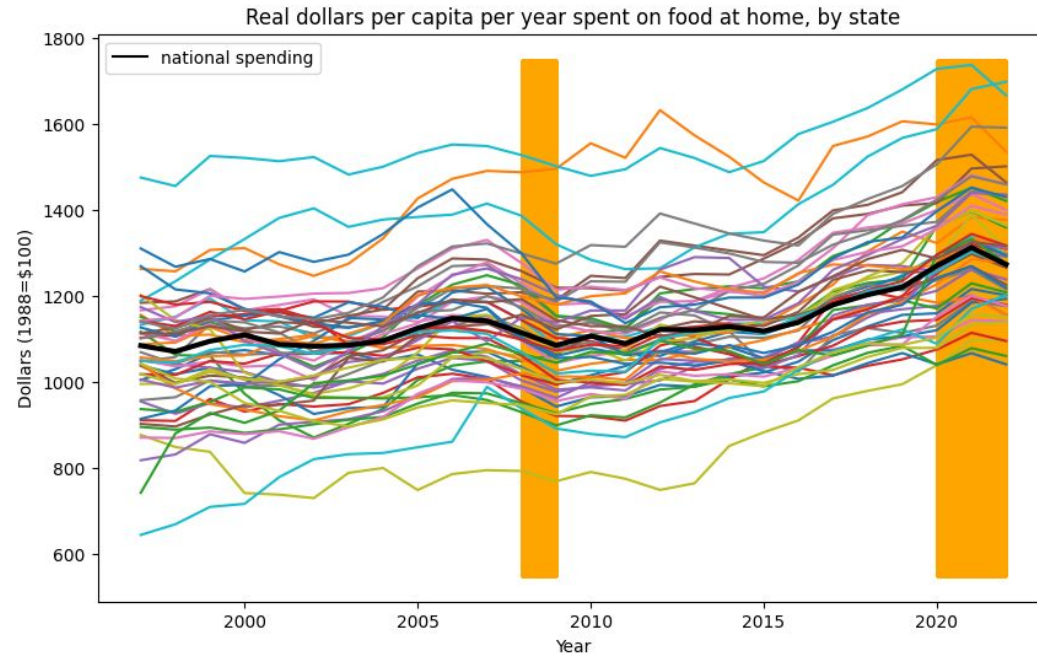
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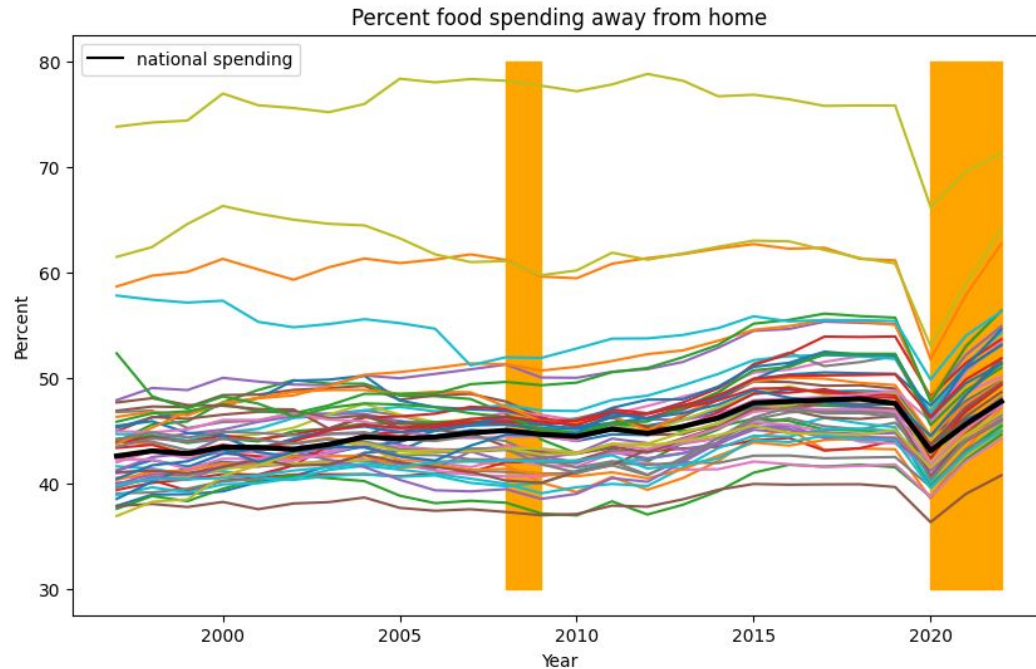
How have per capita food sales for each state changed?



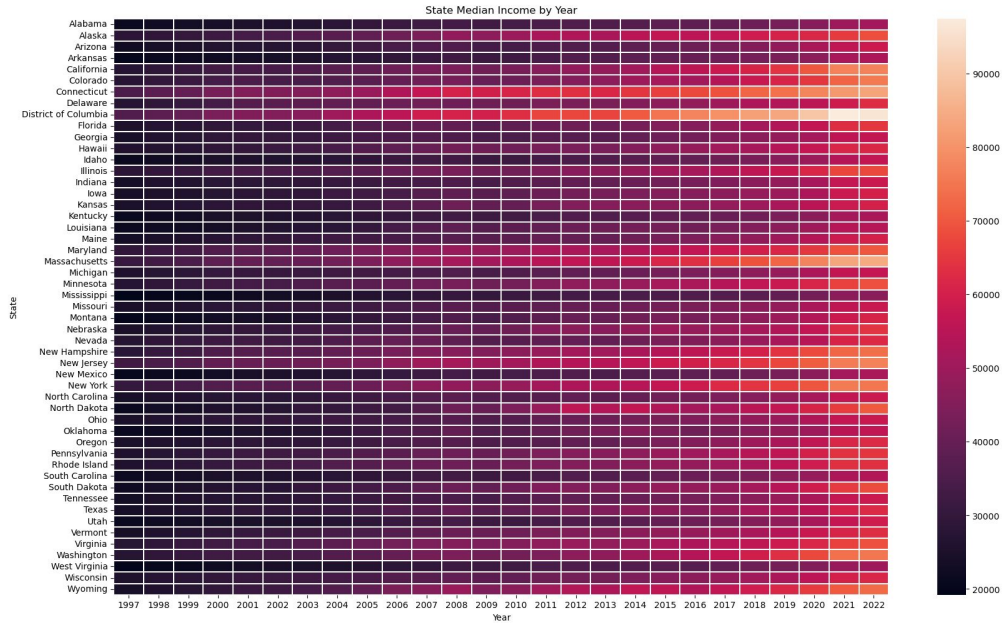
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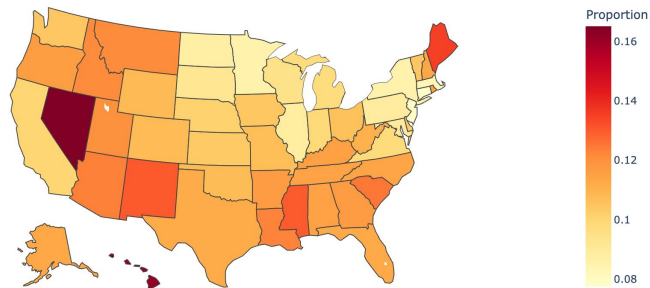


Relationship Between Food and Salary



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Proportion of Food Spend to Median Income in 2022





Conclusion

- consumers have been spending more money on food, and not just due to inflation.
- Some states, such as California, have historically spent more on food due to their much higher population.
- all states have faced higher spending on food adjusting for inflation.
- Food costs are clearly on the rise, even adjusting for inflation, and wages must continue to keep up in order to prevent people from spending what is already a significant portion of their paychecks on food.