

Inflation for the everyday American



Group: Data Scientists or
Something

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	32,796.40	-46.73	-0.14%
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NASDAQ	12,368.98	-21.71	-0.18%

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By [CNN Business](#)
Updated 2:34 PM EDT, Fri June 10, 2022



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Gas prices are displayed on a sign at a gas station in Williams, Ariz., on Wednesday, July 6, 2022. (AP Photo/Chris Wedel)


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PERSONAL FINANCE INFLATION

Popular grocery staples are getting more expensive as inflation plague continues to hit shoppers

BY MEGAN LEONHARDT
July 23, 2022 at 7:00 AM EDT



Many Americans are finding that as inflation continues to surge, the prices they're paying at checkout are far outpacing the national inflation barometers.

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Facing Higher Grocery Prices, Shoppers Change Habits

They're store-hopping, cutting back on expensive items and using more coupons. Plying the meat counter staff with homemade banana bread for favors is not out of the question.

THE WALL STREET JOURNAL

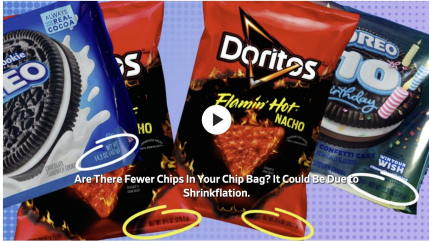
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BUSINESS

Grocers Push Through Inflation, Passing Higher Prices to Shoppers

Albertsons said it is gaining market share as it manages inflation; Kroger, other supermarkets reporting higher sales

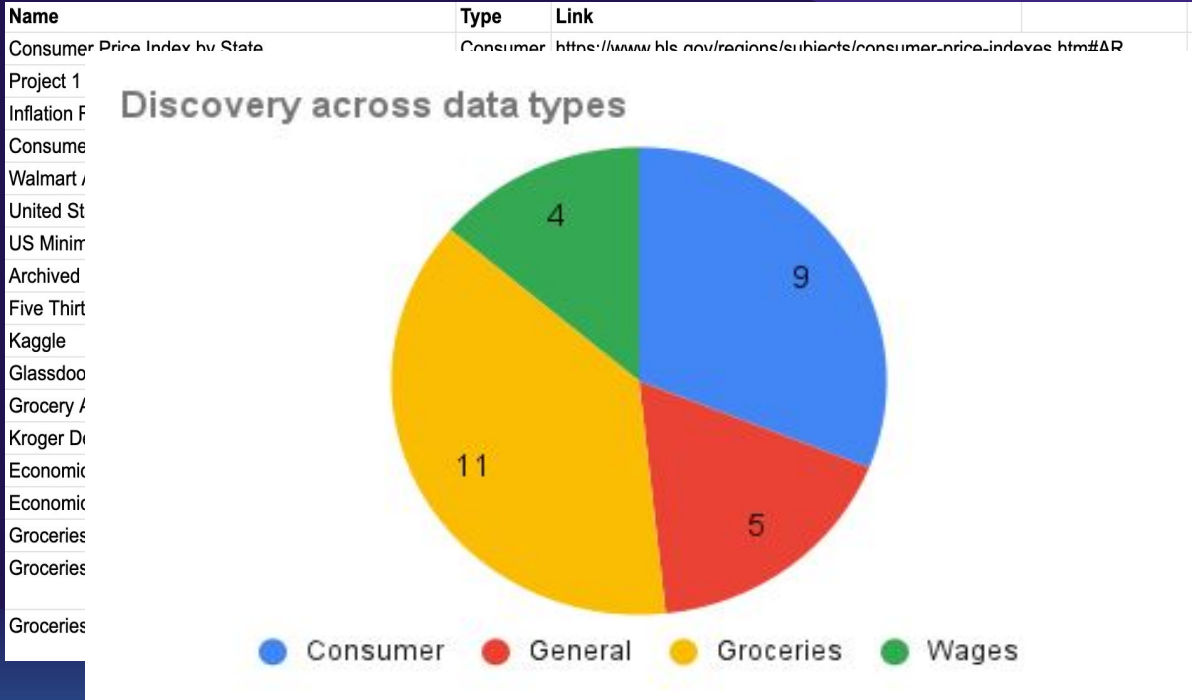


Are There Fewer Chips in Your Chip Bag? It Could Be Due to Shrinkflation.

Consumers are growing savvy to shrinkflation, the practice of downsizing the contents of a product rather than raising prices. So companies are getting creative. WSJ's Annie Gasparro explains how to spot it in all its forms. Illustration: Adele Morgan

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High-Level Overview: Data Discovery & Crunching



Number of CSVs
14

Number of APIs Used
1

Number of data points
300,000

Years of Data Used
2005-2022

Key measures of inflation

- ❑ Consumer Price Index (CPI)
- ❑ Dollar Value
- ❑ Inflation Rates

Questions



How do grocery prices and minimum wages relate to Inflation?



How has Inflation affected grocery purchasing habits?



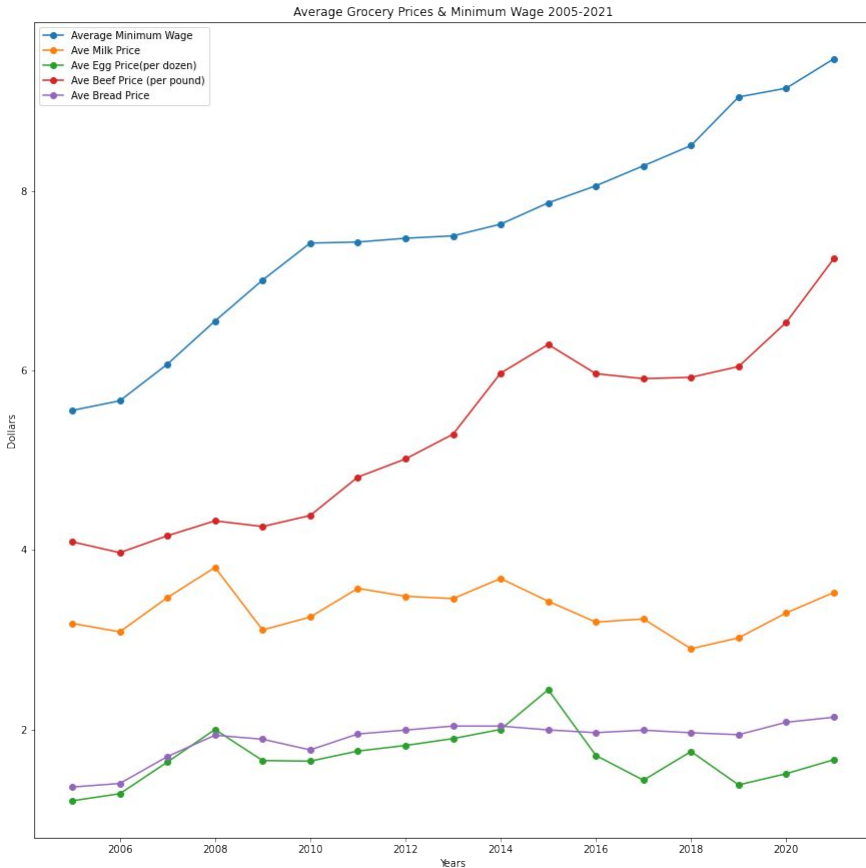
How does inflation affect gas prices and median wages?

Groceries, rent/mortgage, GAS why is everything so high or continue to rise what seems to be each day. Data Scientist or Something decided to take a deeper dive and investigate- to find a correlation and/or reason so that you may continue to buy your favorite Starbucks drinks without worry!

Part 1

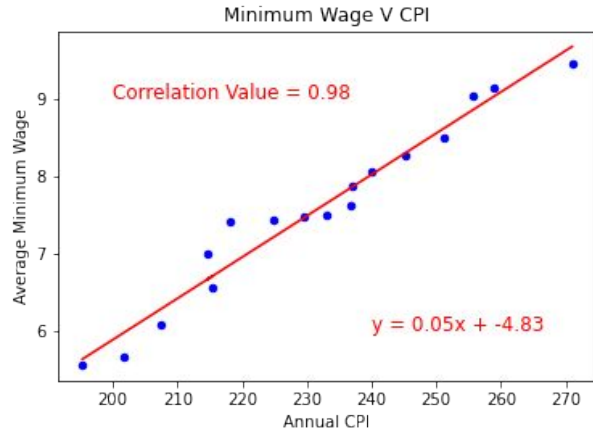
Groceries, Minimum Wage, and Inflation

Average Basic Grocery Prices & Minimum Wage

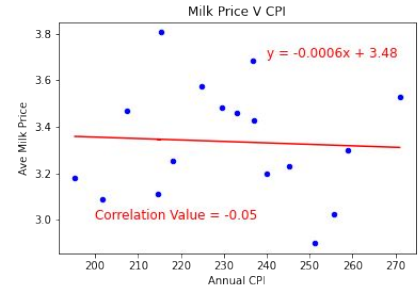
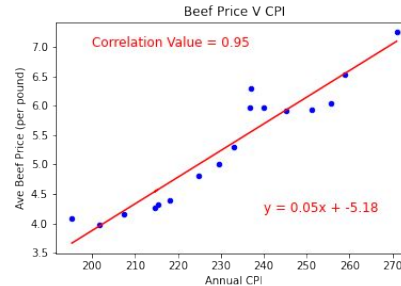
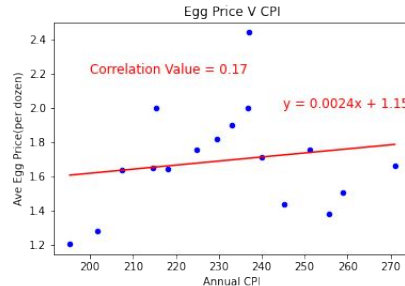
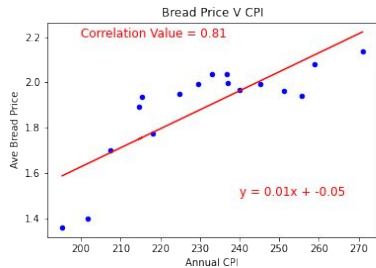


- Between 2005 & 2021 we see consistent rise in:
 - Average Minimum Wage
 - Average Beef Price
- In the same time period we see inconsistency in:
 - Average Milk Price (spikes in 2007-2008)
 - Average Egg Price (spikes in 2008 & 2015)
 - Average Bread Price (stays consistent over time)

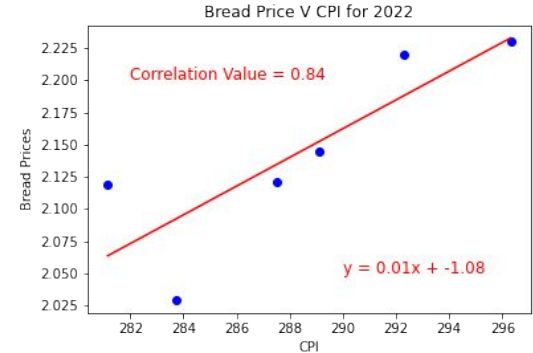
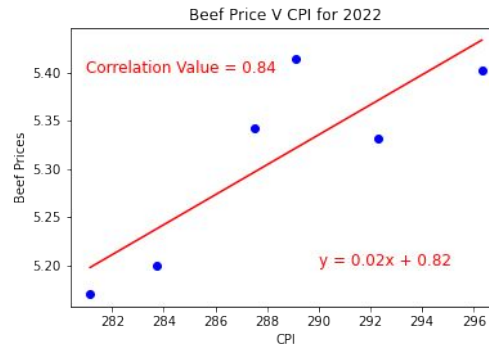
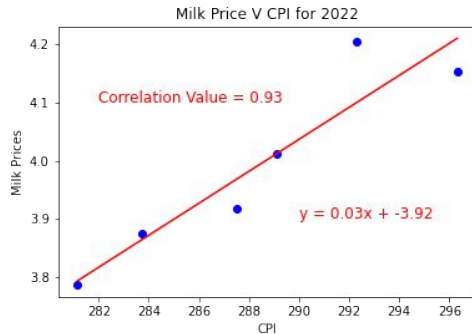
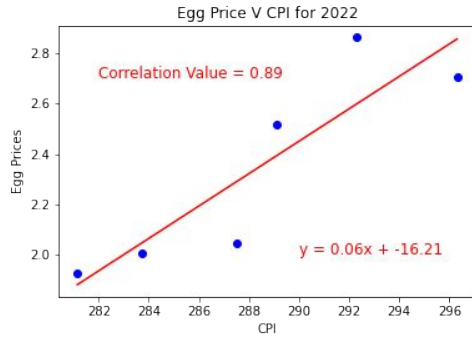
Inflation's effect



- We see a strong correlation in some but not all categories
- As the CPI (consumers price index) goes up it has a strong effect on three categories:
 - Minimum Wage goes up (correlation value .98)
 - Beef Prices go up (correlation value .95)
 - Bread Prices go up (correlation value .81)
- While having no effect:
 - Egg Prices (correlation value .17)
 - Milk prices (correlation value -.05)



2022 Inflation comparison



- All Categories in the first half of 2022 show strong Correlations.
- What does that mean:
 - Inflation is somewhat connected to the price of your groceries. However, it cannot be the only factor since there is a weak correlation for some categories over the last 16 years.

Part 1 Conclusions



Inflation is not the only factor

With some correlations being very strong and others very weak, the consumer price index is not the only factor to consider for the price of your food.



Minimum Wage will rise with the CPI

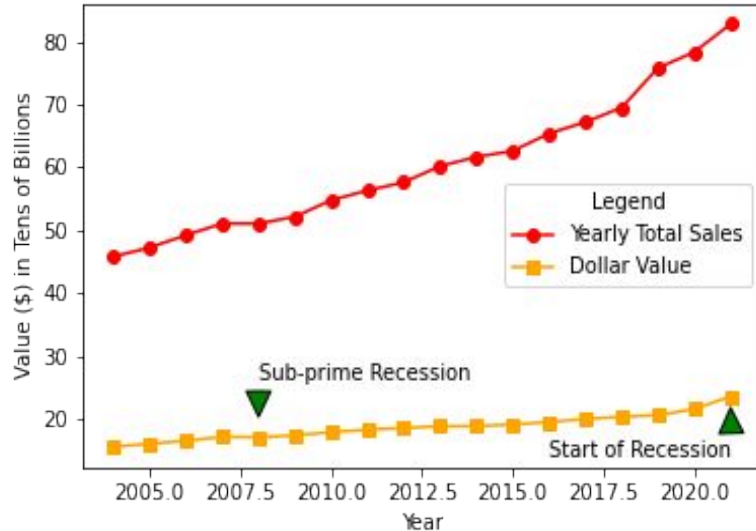
As the Consumer Price Index goes up so will the minimum wage.

Part 2

**How has Inflation affected grocery
purchasing habits**

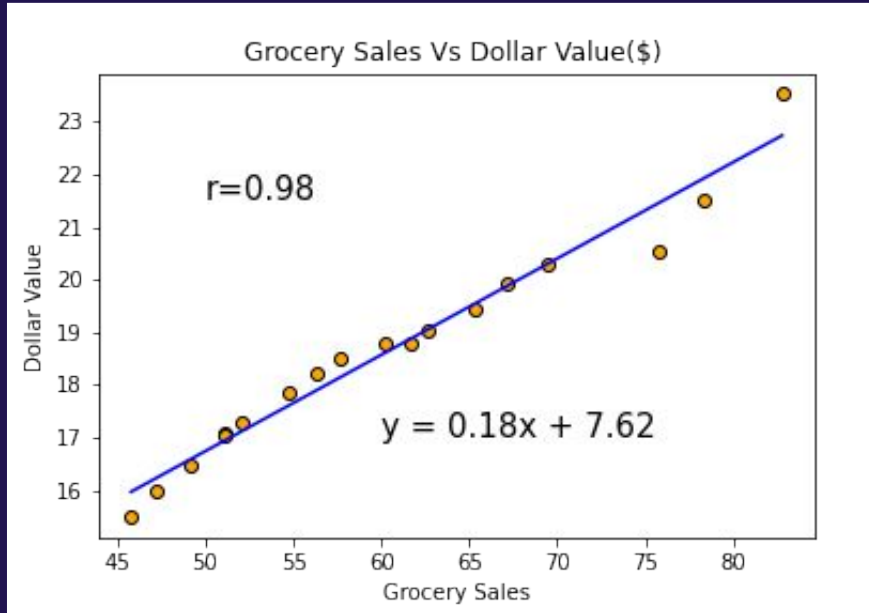
Total Grocery Sales Vs Dollar Value

Yearly Total Sales Vs Dollar Value Vs Inflation over the last 16 years



- From 2005 to 2018 we noticed a steady but slow increase in both dollar value and grocery sales
- After 2018 we noticed a sharp increase in grocery sales
- Whereas, after 2020 there's a sharper increase in dollar value

Total Grocery Sales Vs Dollar Value

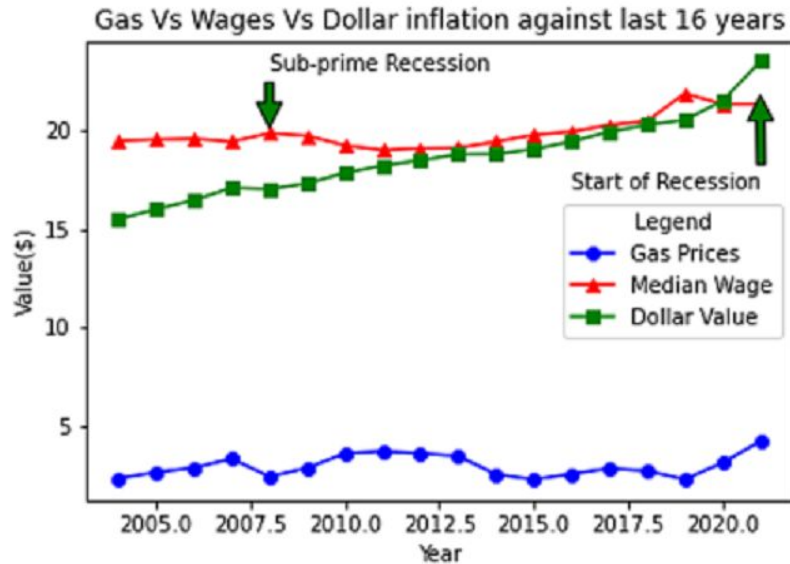


- Here is the correlation coefficient (r) between Grocery Sales and Dollar Value between 2005 to 2022
- The direction of this relationship is a positive association as one increases, so does the other
- The points of this scatter form a straight line, the form of the relationship is linear.
- The slope shows the strength of their relationship. With r being so close to $+1$, there is a nearly perfect correlation.

Part 3

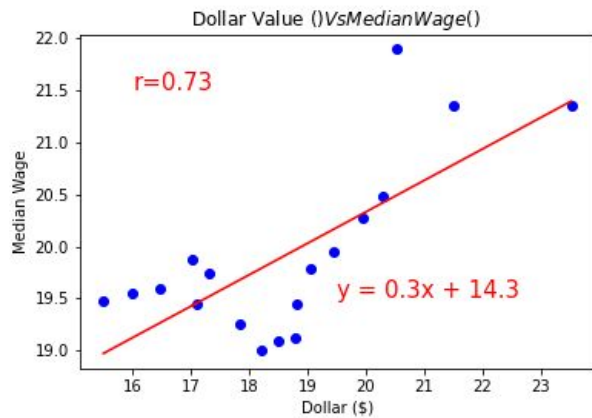
**How does inflation affect gas
prices and median wages**

Gas price and Median Wage versus value of the dollar

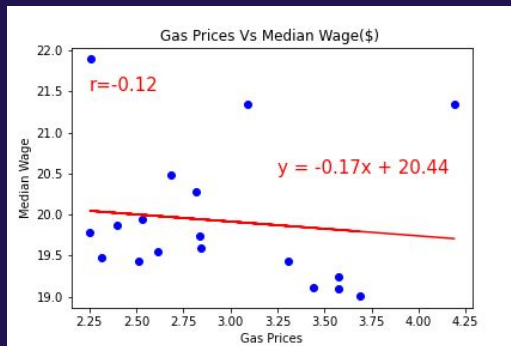
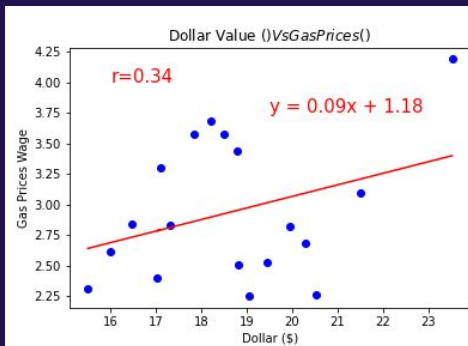


- Between 2005 & 2021 we see consistent rise in:
 - Average Minimum Wage
 - Dollar Value
- In the same time period we see inconsistency in:
 - Gas prices
- During the Subprime Recession, we see a decrease in gas prices and wage as the dollar increases.
- While the Current recession, we see different behavior. Wages have fallen in comparison to the dollar but gas prices increased greatly.

Inflation's effect



- We see a strong correlation between Dollar Value and Median Wage
- As the value of the dollar increase, we see a corresponding increase in median wage with an r value of 0.73
- We see weak correlation between Gas prices and Dollar value ($r=0.34$)
- Surprisingly, we see no correlation between gas prices and median wages. ($r=-0.12$)



Final Conclusion

- Q1: Inflation is not the only factor affecting grocery prices
- Q2: While we see correlation between inflation and grocery sales, one doesn't directly affect the other
- Q3: Inflation doesn't seem to affect gas prices.

**While inflation has an effect in all our lives,
it is not the only cause of price fluctuations.**