Ethical concerns
We're worrying about the simplification of our result since sentiment analysis, while powerful, is not capable of capturing the full nuances and complexities of human sentiment. There could be a risk of oversimplifying complex public opinions into positive, negative, or neutral categories. And there may be Individuals or organizations that may use our results to confirm pre-existing biases. It's crucial to stress that sentiment analysis only provides one piece of the puzzle and should not be the sole basis for decision-making.
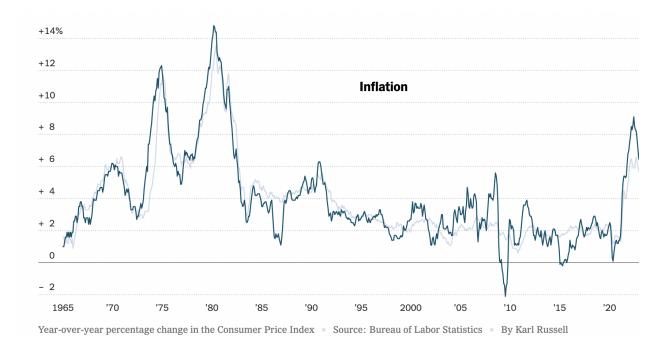
Our analysis may cause misinterpretation: Sentiment analysis can sometimes be misleading or open to interpretation, especially when it comes to more nuanced or complex issues. This could lead to misinterpretations of the public's sentiment about the economic situation. Another thing is unethical use of findings, our findings may impact certain groups of people, if we spread out without considering the consequences, it would be problematic.

Someone may be affected by this analysis: Many individuals or communities might not be aware that their publicly available comment could be used for sentiment analysis. They might not have provided informed consent for this type of use, which raises ethical concerns.
Since we get the twitter users' comments through web scraping, the data being used in a manner that is not agreed to by the individuals who provided the data. But we believe that since the data being used is publicly available and doesn't involve personal identifiers, it's generally considered acceptable for research purposes.

Social- historical context
Inflation: Since July of last year, the United States has experienced its largest inflation in 50 years, with the CPI approaching the 10% mark. This represents the country's highest inflation rate in half a century and has profound implications for the cost of living and economic stability for millions of Americans. [1]Our data, derived from sentiment analysis of online comments, is likely to reflect this macroeconomic phenomenon. We anticipate that the escalating inflation may influence public sentiment, with an expected increase in negative commentary around economic issues. For instance, we might see a higher frequency of words related to cost, expenses, and financial struggle, indicating a growing public concern about the economic situation.

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[1]https://apnews.com/article/inflation-prices-economy-interest-rates-recession-8de81ae4cf70ef3357af830c624ceb7d

Inflation

+14%
+12
+10
+ 8
+ 6
+ 4
+ 2
0
− 2

1965   '70   '75   '80   '85   '90   '95   2000   '05   '10   '15   '20

Ukraine-Russia war: The invasion of Ukraine by Russia in February 2022 has had far-reaching impacts on the global economy, beyond the immediate geographical region. The conflict has introduced more inflation and economic uncertainty into an already fragile global economy. As reported by AP News, the war has resulted in a broad spectrum of economic hardships, ranging from strained supplies of essential commodities like grain, fertilizer, and energy, to exacerbated inflation and economic uncertainty in an already volatile global scenario[2]. In our analysis of word frequency within the data, we discovered that the terms "Russia" and "war" prominently feature as some of the most frequently utilized words. This event affects public sentiment towards economic policies and events. The economic hardship brought about by the Russian-Ukrainian conflict could color public reactions to these policies and events.

The major stakeholders in this project are primarily businesses, governments, and individuals interested in understanding public attitude toward economy(investors). Businesses could use sentiment analysis to gauge consumer reactions to their products or services, helping them to make informed decisions. For example, people always become more price sensitive when the economic situation is tough. For the FMCG companies like P&G, they need to analyze people's sentiment toward current economic conditions, so that they can set the reasonable prices for the consumers. Governments could leverage it to gauge public opinion on policies, events, or proposed changes, such as tax rate adjustments. By undertaking sentiment analysis, they can gain insights into public reaction and tailor their approach accordingly.For individual investors, sentiment analysis could serve as an invaluable resource, providing a sense of the macroeconomic trends. By evaluating public sentiment, investors can gain insights into the current economic climate and make more informed decisions.But the outcomes of sentiment analysis might pose challenges for certain stakeholders, such as politicians. As sentiment analysis effectively serves as a small-scale public opinion survey, unfavorable results could

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[2] https://apnews.com/article/russia-ukraine-war-economic-impact-ef6e4c4443743ccbf7740892fb0b4f3b

reflect poorly on a government's performance. This could potentially influence public opinion and voting behavior during elections.

Relevant research:
In a recent paper published in the Knowledge-Based Systems journal by Consoli, Barbaglia, (2022), a novel methodology named Fine-Grained Aspect-based Sentiment (FiGAS) analysis was proposed. [3]This method seeks to identify the sentiment tied to specific topics within each sentence of a document, attributing real-valued polarity scores ranging from -1 to +1 to these topics. FiGAS is an unsupervised approach, designed explicitly for the economic and financial domains, and utilizes a specialized lexicon and comprehensive set of semantic polarity rules. This methodology can provide more precise and insightful sentiment analysis, informing decision-making across various sectors, such as government policy and financial investment.

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[3] Consoli, Sergio, Luca Barbaglia, and Sebastiano Manzan. 2022. "Fine-Grained, Aspect-Based Sentiment Analysis on Economic and Financial Lexicon." Knowledge-Based Systems 247: 108781