GROUP 4

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Does money buy happiness?

GDP edition

FOUNDATIONS OF COMPUTATIONAL SOCIAL SYSTEMS

1. Introduction

How does the polarity of social media sentiments (positive, neutral, negative) vary with GDP levels across high-income, middle-income, and low-income countries?

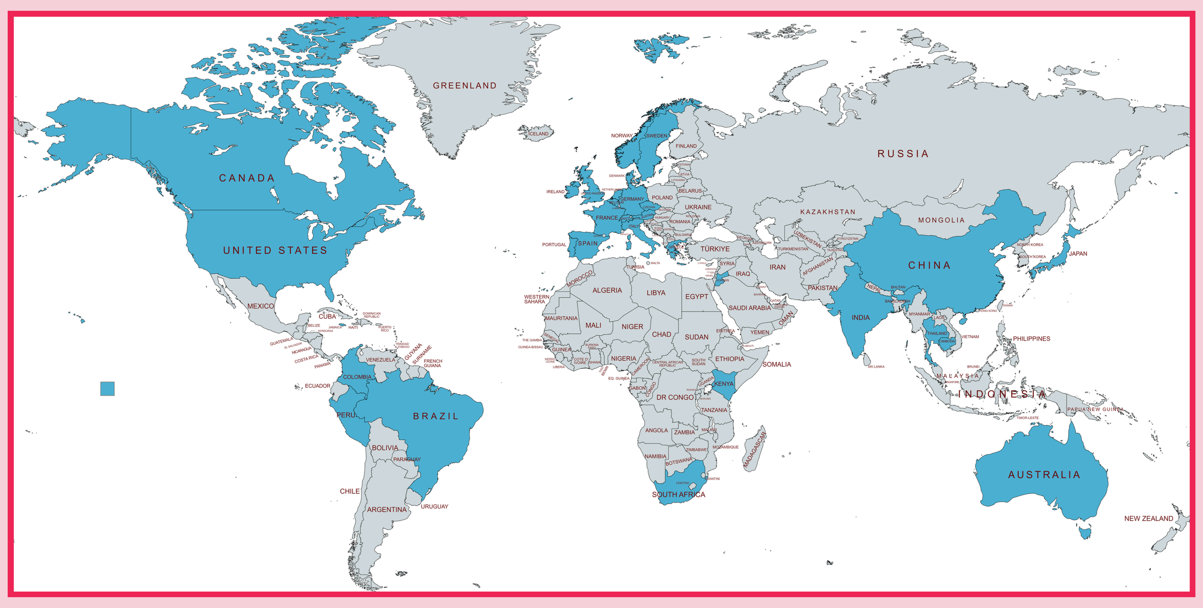
Our hypothesis is that higher-income countries tend to have a more positive sentiment than lower or medium-income countries.
When a country has a higher GDP level, it has the budget capabilities to ensure better policies for its citizens' overall well-being.
People tend to be more positive if many of their needs are covered by the state.
At the same time, there is the luxury paradox: When you have too much, you can take it for granted.

2. Data retrieval

To start our research we found data from:

THE WORLD BANK

We used the GDP of the following 33 countries from years 2010 till 2023:



3. Data processing

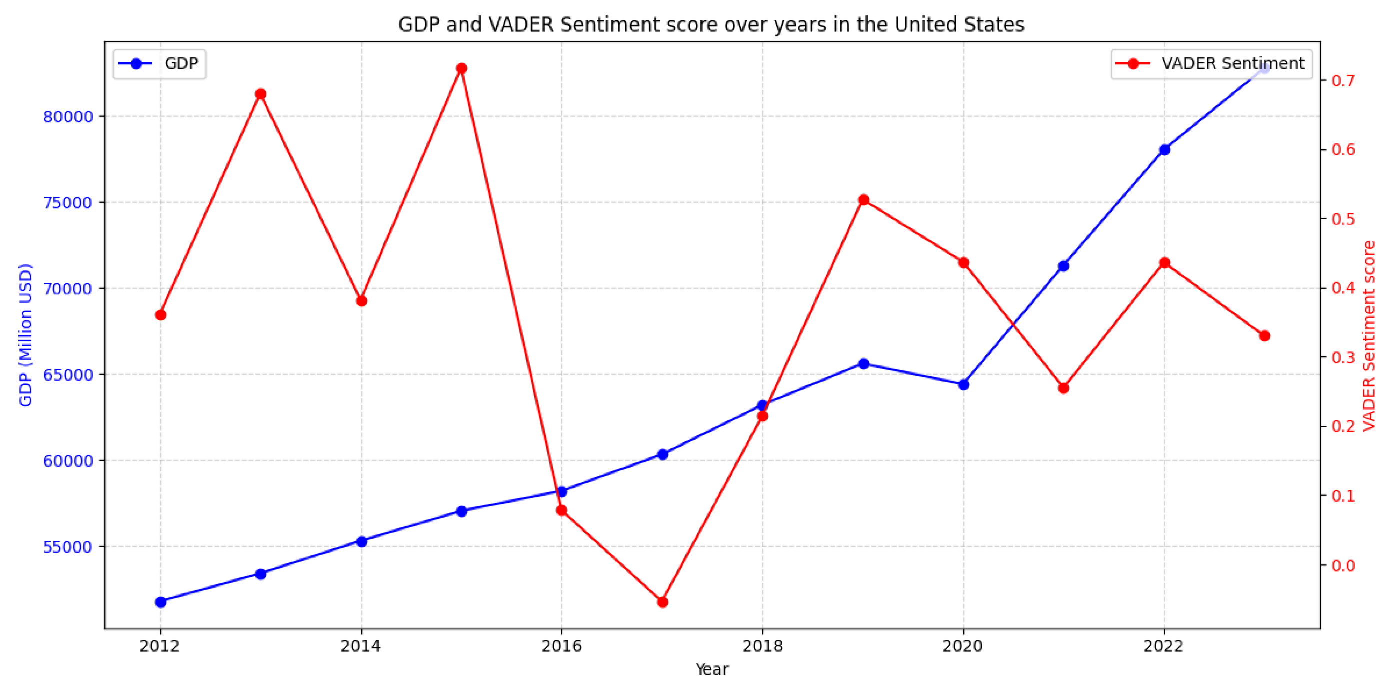
1. Scotland was renamed as part of the UK for consistency in the data.
2. GDP data and social media posts were merged by country and year to create a unified dataset.
3. Sentiment analysis of the text data was conducted using VADER.
4. Three countries with the most data on posts were analized.
5. The correlation between sentiment and GDP was calculated.

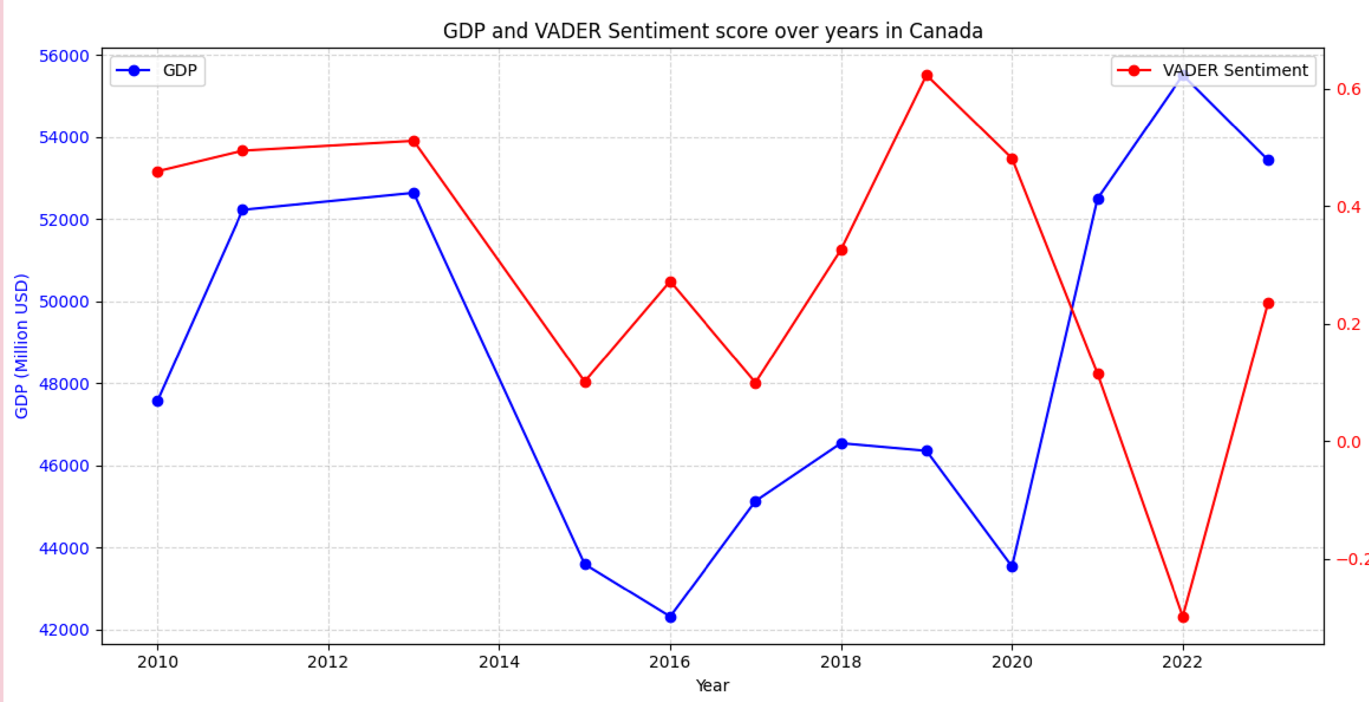
4. Analysis

- Pearson number : -0.11
- P-value: 0.72
- no significant relationship between GDP & VADER sentiment scores

2017: citizens were unhappy due to Trump's election, the #MeToo movement, hurricanes, and other challenges.

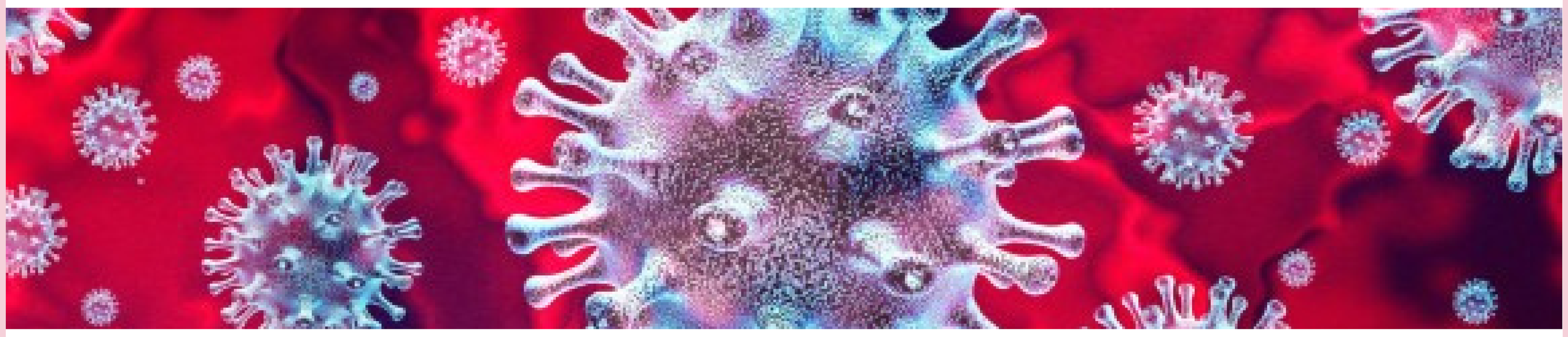
The GDP grew through the years due to technological advancements, increased consumer spending, and government policies supporting economic growth.





- Pearson number: -0.28
- P-value: 0.37
- correlation is weak and not statistically significant

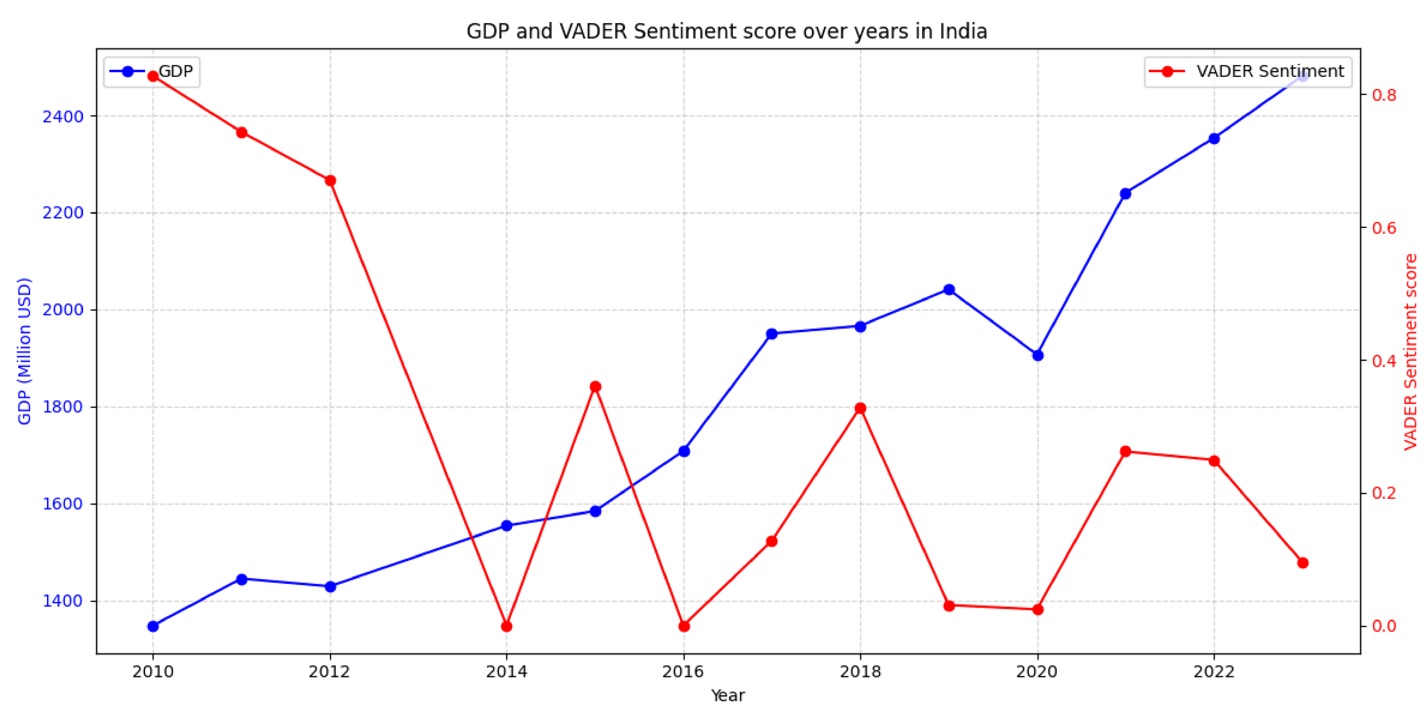
During the COVID period, citizens' sentiment decreased due to social and economic disruptions, while GDP increased due to government stimulus programs and economic recovery efforts.



- Pearson number: -0.57
- P-value: 0.042
- negative correlation, which is statistically significant

The decline in sentiment can be attributed to issues like rapid urbanization, environmental degradation, social inequality, and rising mental health concerns.

GDP growth was driven by industrial expansion, urban development, and economic reforms but failed to address the uneven distribution of its benefits.



5. Conclusion & Critique

Our hypothesis has been rejected since our results show a weak and often negative correlation between GDP and social media sentiment, emphasizing that economic growth alone does not guarantee happiness or well-being.
Factors such as social inequality and environmental challenges are critical in shaping public sentiment. Future policies should prioritize holistic measures of well-being alongside economic metrics to address the underlying issues affecting citizens' happiness.

6. References:

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