

# Bank of England

## Soft Influence & Its Effect



Analysis by Team 10/10



# Defining the Business Problem

Does speech sentiment effectively limit 'shock'?

Project Goals:

1. Evaluating potential relationships between speech sentiment and the economy.
1. Determining the effectiveness of the bank's communications at mitigating the impact of crises.

# Summary of Insights:

## Insights

Consistent 'tone' of sentiments.

The prevailing sentiment across Bank of England speeches is negative.

Evidence that sentiments are intentionally deployed as well as reactionary.

Disunity in MPC voting does not translate to variance in the sentiment .

# Summary of Recommendations:

## Recommendations

Deploy litigious and constraining as the strongest direct influence in tandem with your hard influence control.

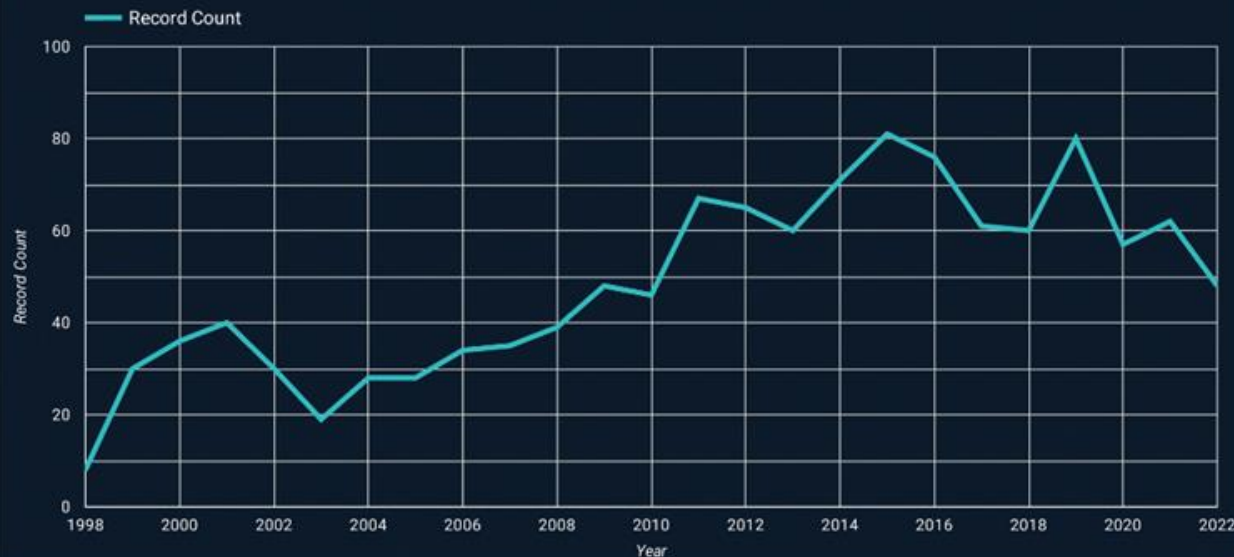
Stay predictable.

# Section 1:

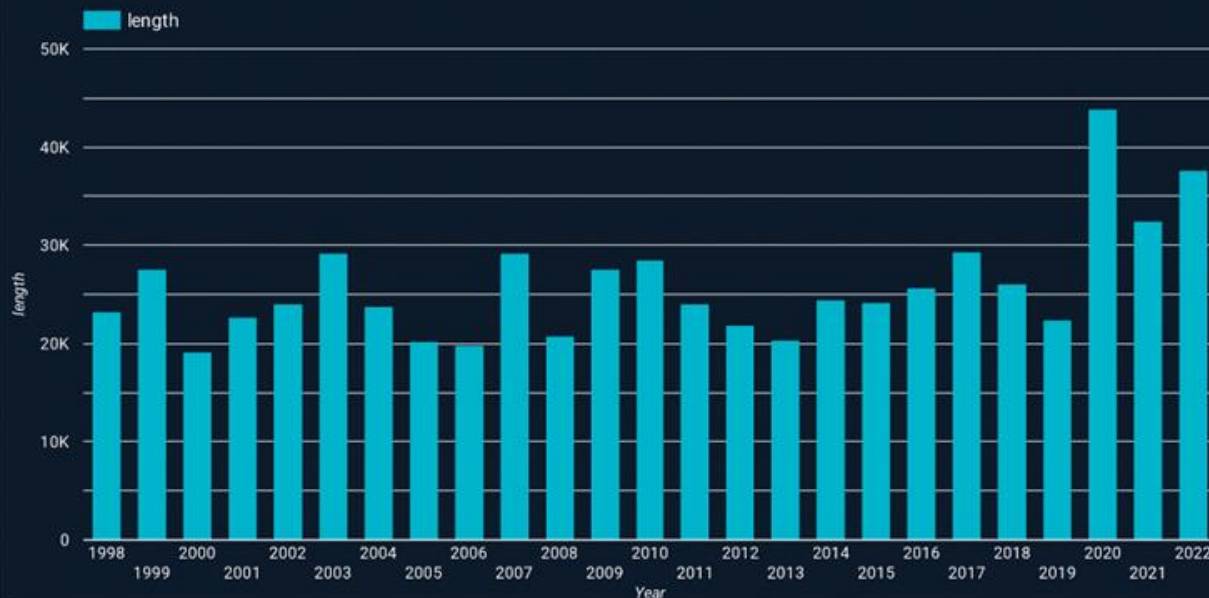
## Descriptive Insights

# General Descriptive Statistics

## Total Recorded Speeches by Year



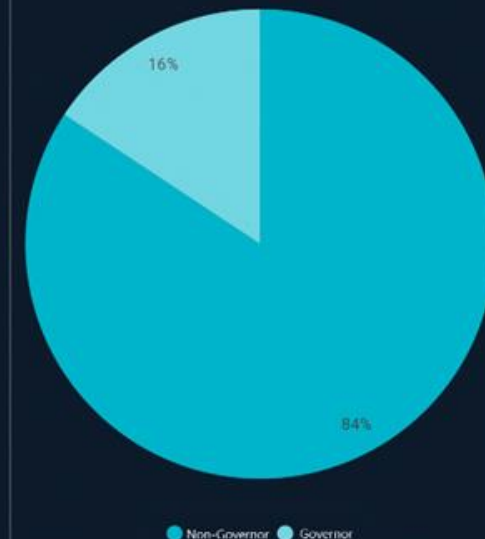
## Average Length of Speech by Year



## Total Speeches by Author



## Ratio of Speeches made by Governor and Non-Governors



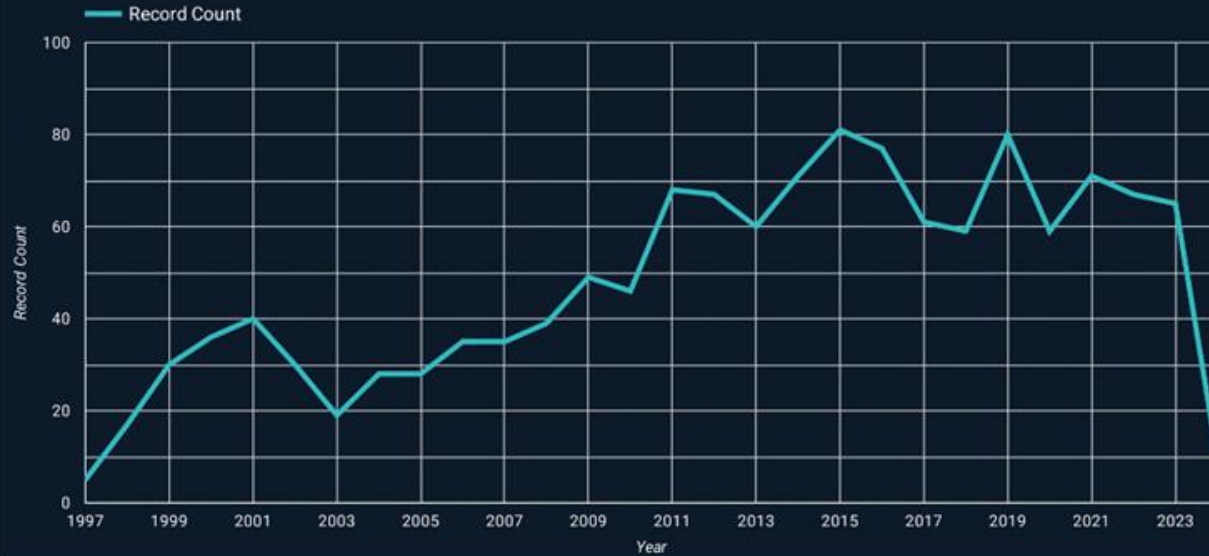
## Data Quality issues

- 32 null authors
- 35 null titles
- Found 14 duplicate texts and others that were summaries/slides and not verbatim.
- Incorrect governor/non-governor data through sense-checking.
- Upon inspection the Bank of England data on this site now only goes back to 2009.

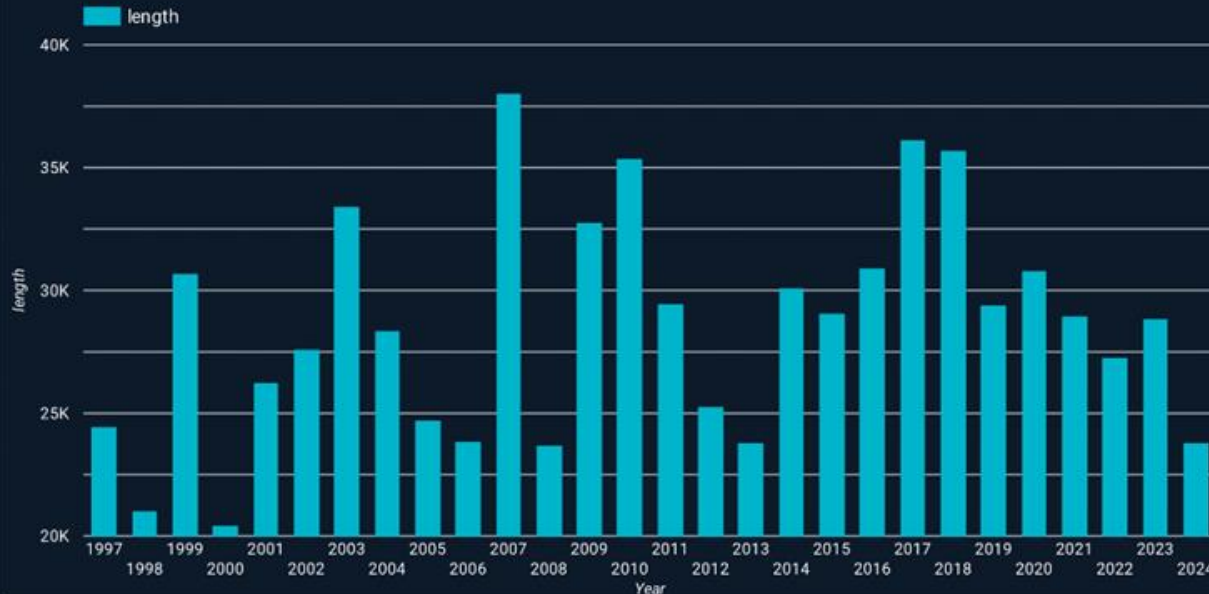
Record Count  
1,209

# General Descriptive Statistics - New Data Set

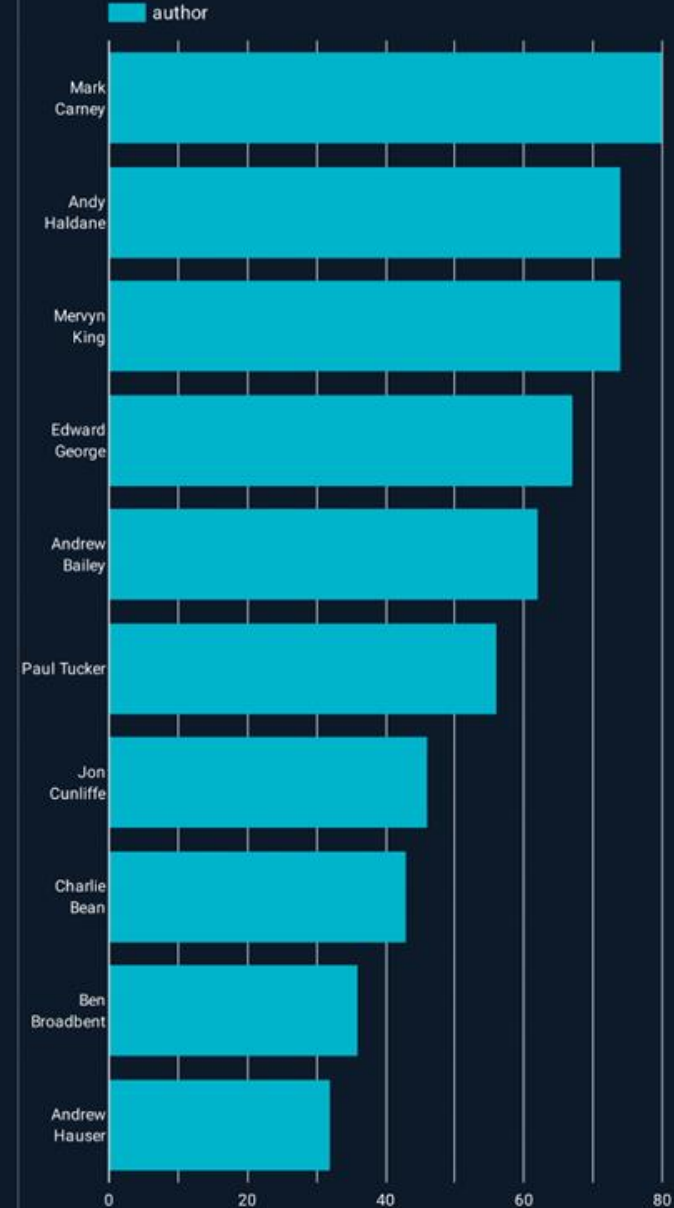
## Total Recorded Speeches by Year



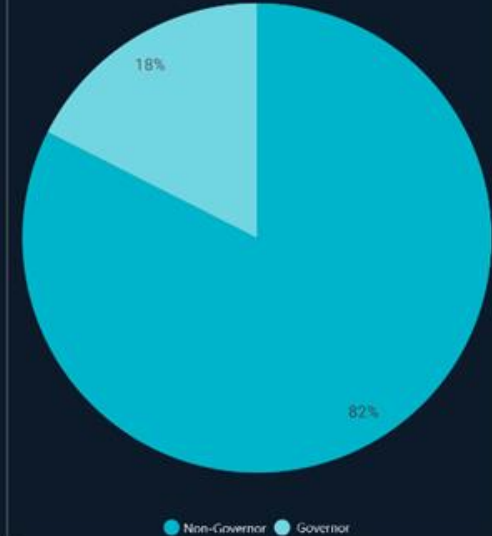
## Average Length of Speech by Year



## Total Speeches by Author



## Ratio of Speeches made by Governor and Non-Governors



## Improvements

- Scraped directly from the BoE website
- Cleaned and aligned to the original dataset for columns.
- Sentiment largely stays consistent but the increased accuracy of descriptive stats gives more confidence in the dataset as a whole.
- this opens up the potential for a rudimentary pipeline to continue the analysis in future projects

Record Count  
1,333



Sentiment	Description	Examples
Positive	Positivity	achieve, improve, profitable
Negative	Negativity	serious, unpaid, misconduct
Uncertainty	General notion of imprecision not just risk	contingency, dependence, fluctuation
Constraining	Communicating concerns	commitment, comply, imposed
Litigious	Legal contest or litigious environment	regulation, deposition, testimony
Weak	Weak modality	could, depend, might
Strong	Strong modality	will, always, unequivocal

- Speeches Interrogated Against Wordlist
- Normalised by length (NL)



# Governor Data

Mean Sentiment Score Ratio for Governor Speeches



Breakdown of Mean Sentiment Score Ratio by Governor

author	negative	positive	uncertainty	litigious	strong	weak	constraining
1. Edward George	0.3	0.29	0.18	0.03	0.08	0.1	0.02
2. Mervyn King	0.33	0.23	0.18	0.04	0.1	0.08	0.05
3. Mark Carney	0.27	0.27	0.18	0.05	0.11	0.07	0.05
4. Andrew Bailey	0.28	0.22	0.19	0.06	0.12	0.09	0.05

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## Timeline of Governors

**Edward George:** 1st July 1993 - 30th June 2003

**Mervyn King:** 1st July 2003 - 30th June 2013

**Mark Carney:** 1st July 2013 - 15th March 2020

**Andrew Bailey:** 16th March 2020 - Present

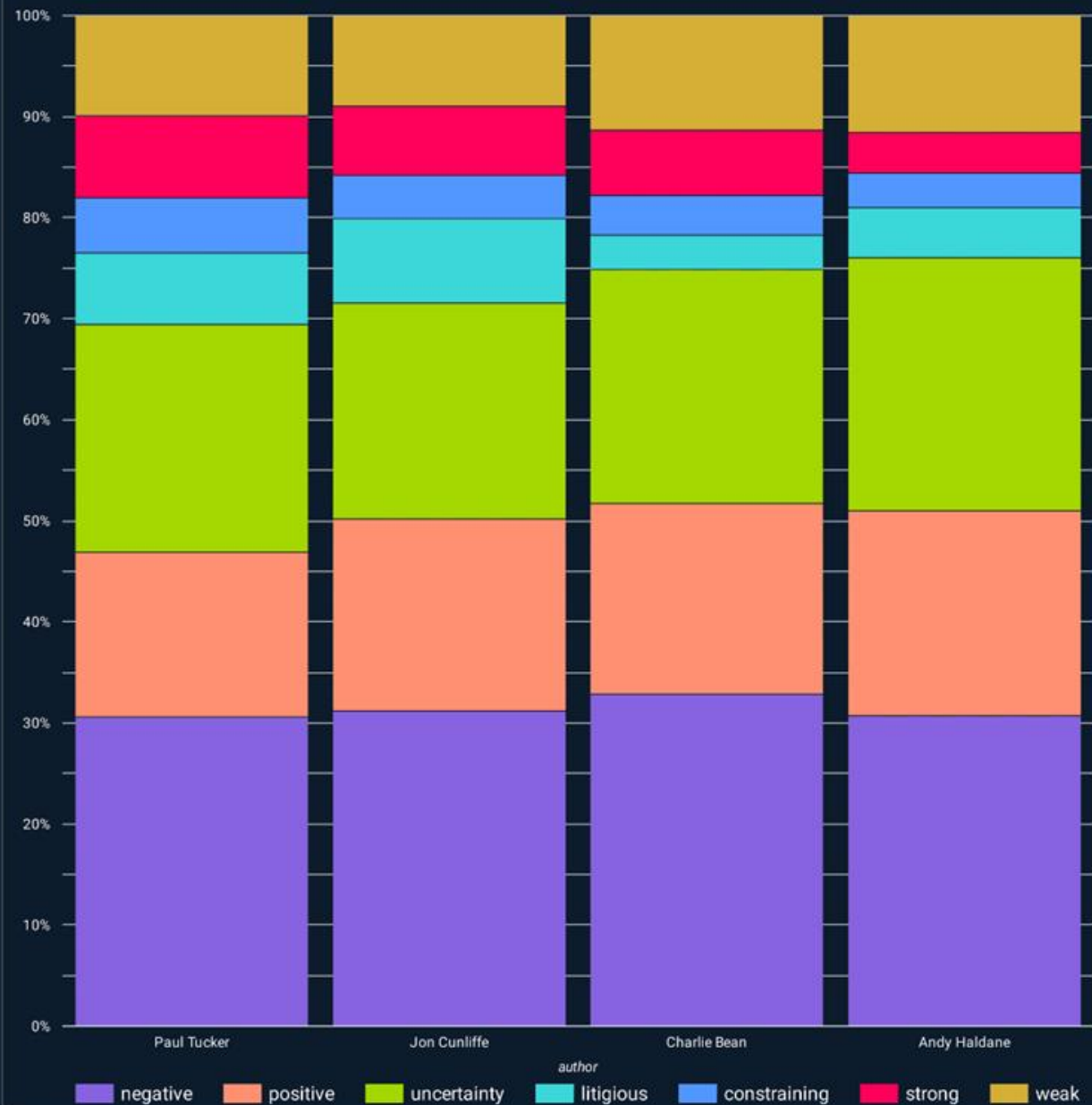
## Insights

- Negative sentiment is the highest sentiment among all governors
- Mark Carney and Edward George both have near equal negative to positive sentiment scores
- Andrew Bailey and Marvyn King have higher negative sentiment then positive
- All Governors have low litigious and constraining sentiment



# Non-Governor Data

Mean Sentiment Score Ratio for Non-Governor Speeches



Breakdown of Mean Sentiment Score Ratio by Non-Governor

	author	negative	positive	uncertainty	litigious	strong	weak	constraining
1.	Paul Tucker	0.31	0.16	0.23	0.07	0.08	0.1	0.05
2.	Jon Cunliffe	0.31	0.19	0.21	0.08	0.07	0.09	0.04
3.	Charlie Bean	0.33	0.19	0.23	0.03	0.06	0.11	0.04
4.	Andy Haldane	0.31	0.2	0.25	0.05	0.04	0.12	0.03

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## Non-Governor Selection

The top 4 non-governor authors with the highest speech count were selected for comparison

Andy Haldane: 74 speeches

Paul Tucker: 56 speeches

Jon Cunliffe: 46 speeches

Charlie Bean : 43 speeches

## Insights

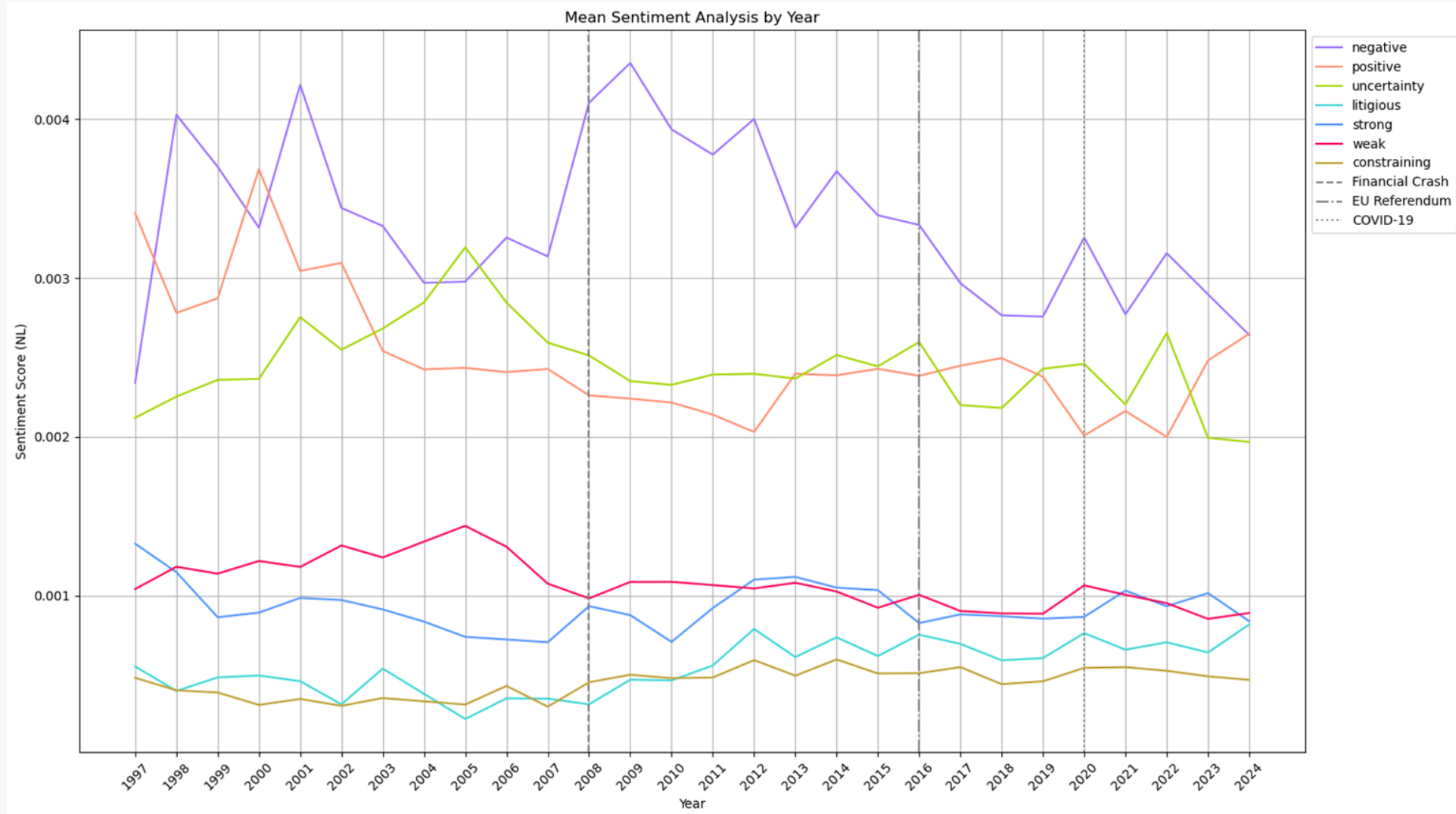
- Negative sentiment is the most used but positive sentiment is used less compared to governors
- Wider variety of sentiment used compared to governors
- Uncertainty sentiment is used more frequently compared to governors
- Strong and weak sentiment seem to be avoided by non-governor authors



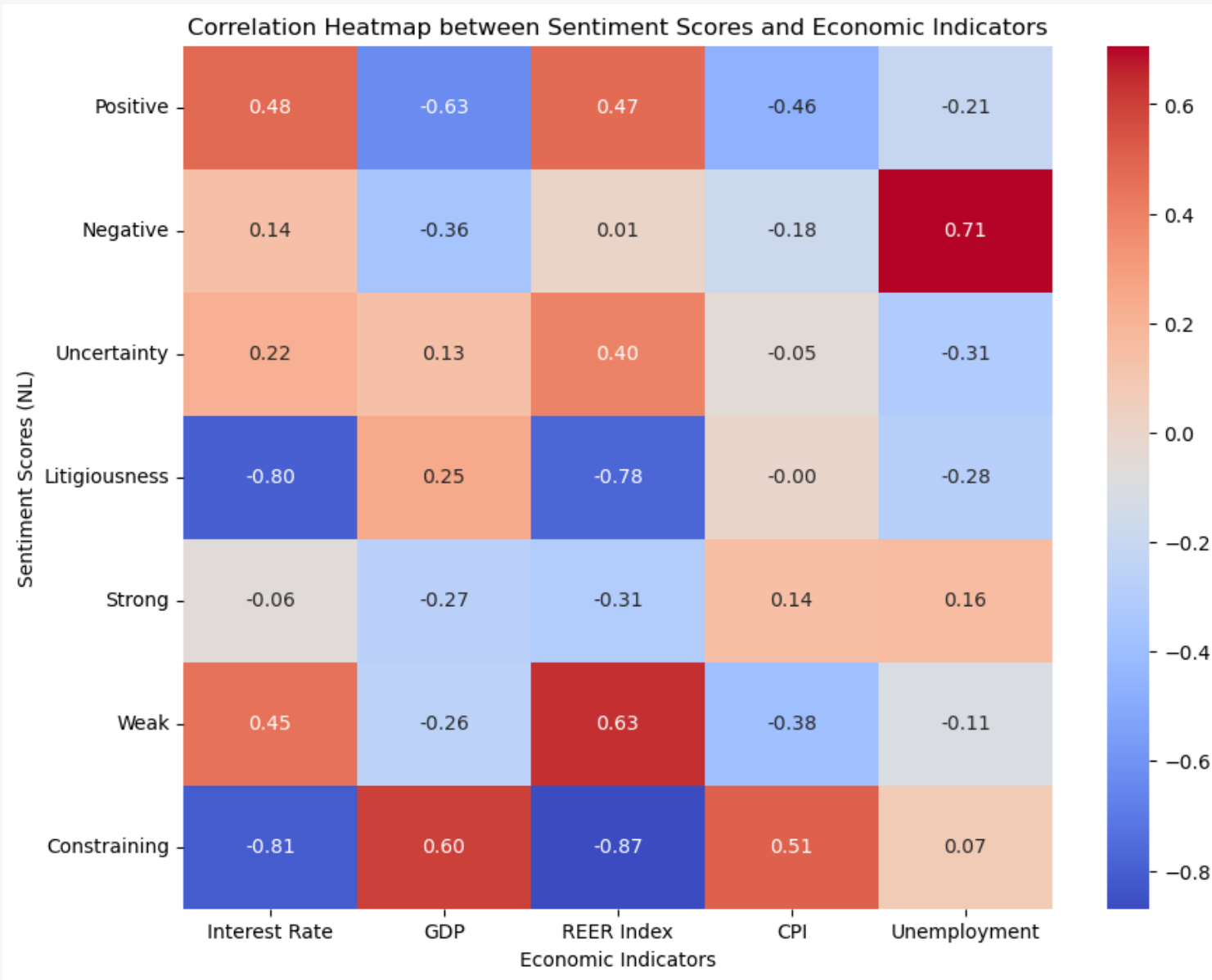
# Sentiment Trends



**Insight:** The prevailing sentiment is negative.



# Correlation Matrix



**Recommendation:**  
Deploy litigious and  
constraining as the  
strongest direct  
influence in tandem  
with your hard  
influence control.

# Section 2:

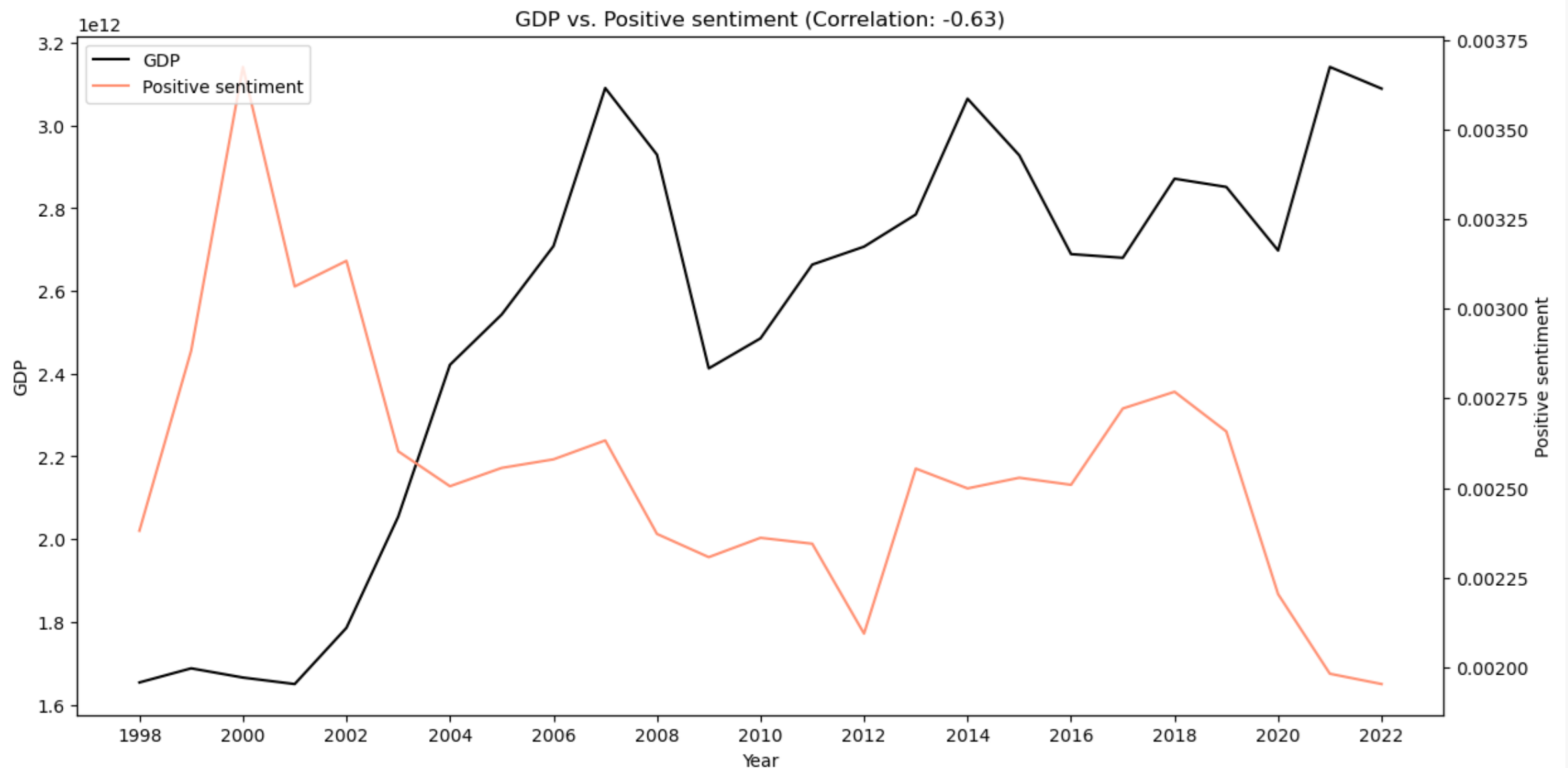
# Sentiment Insights



# Project Goal 1:

Evaluating relationships between speech sentiment and economic health.

# Counterintuitive Response to Growth

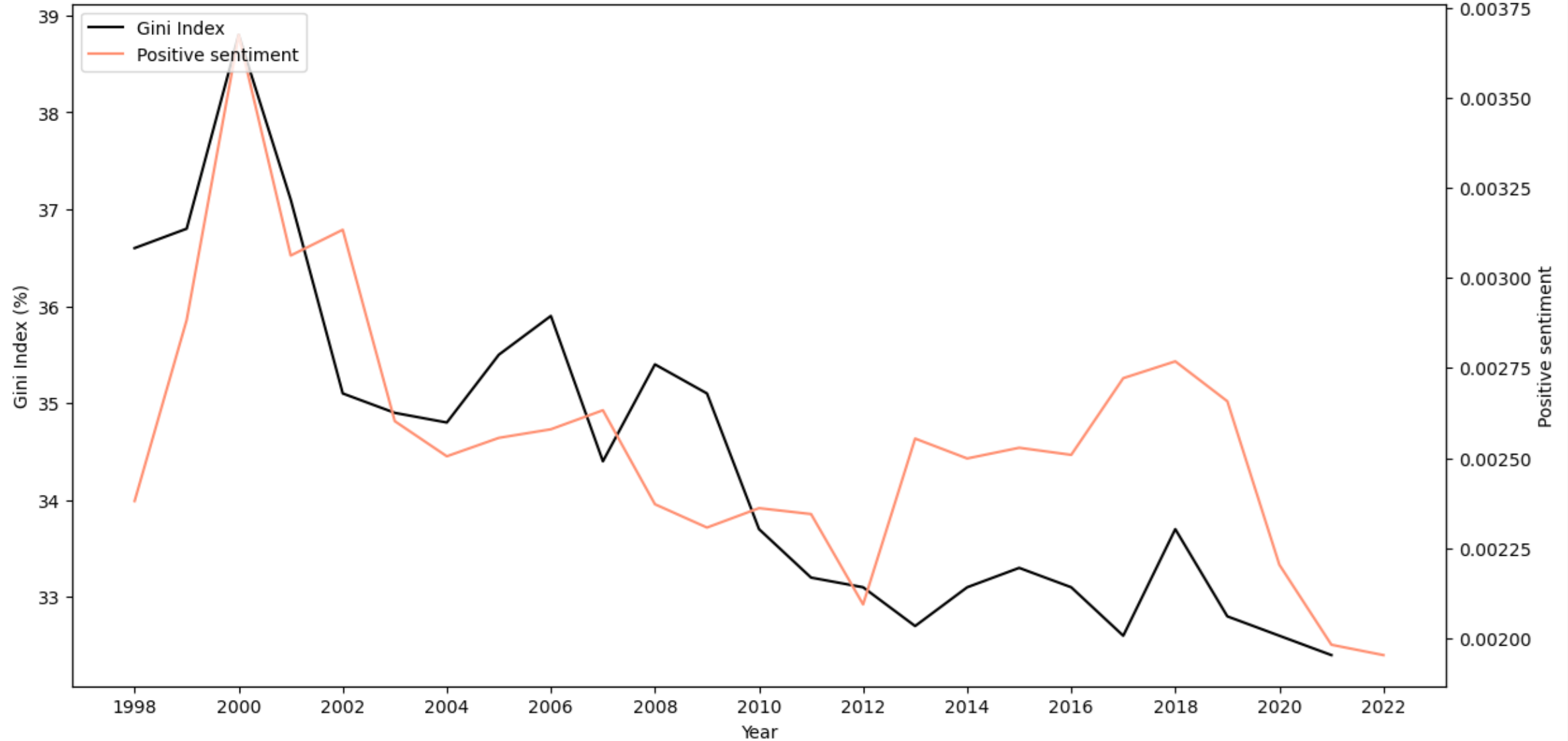




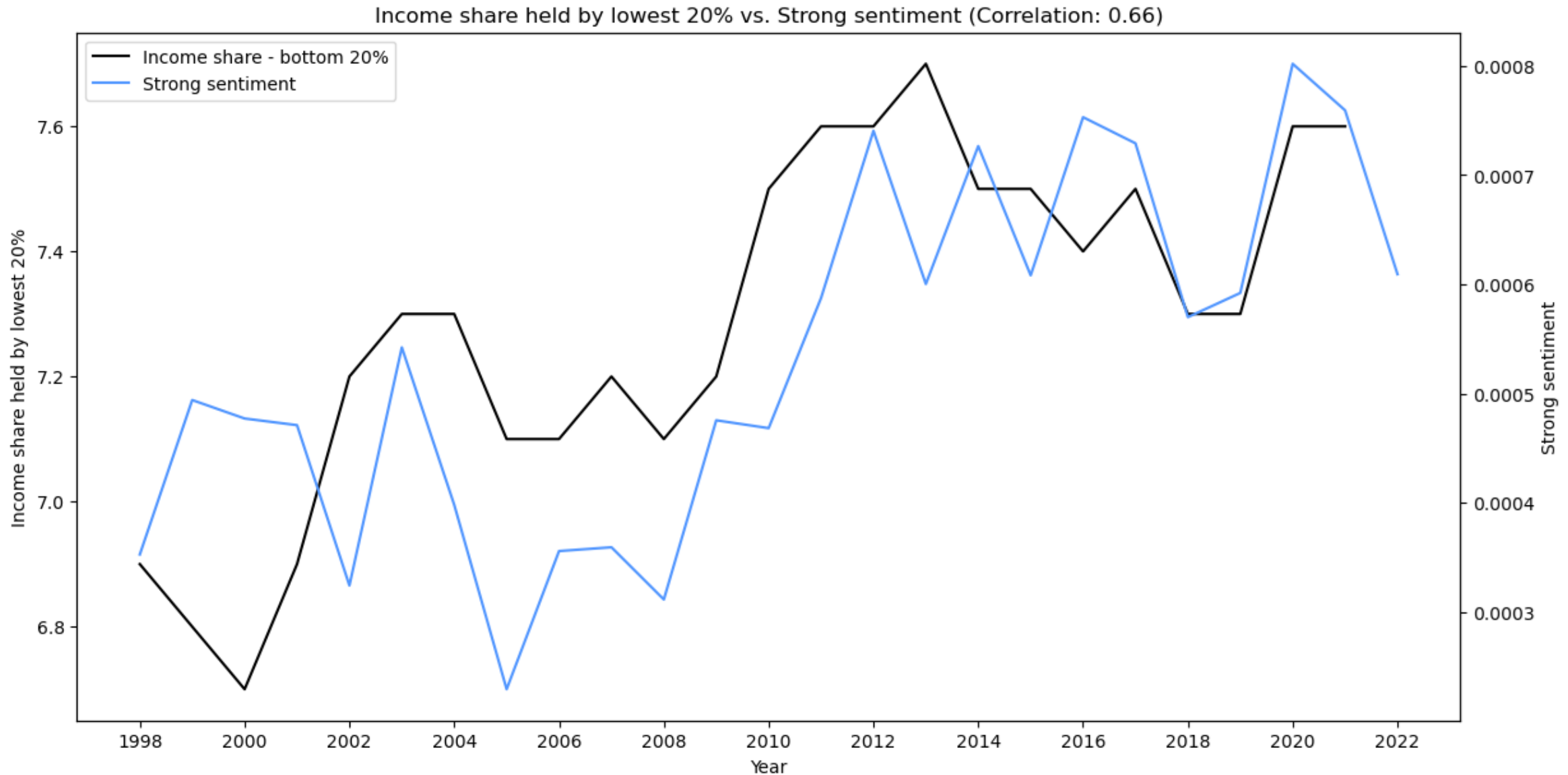
# Indicator of Inequality



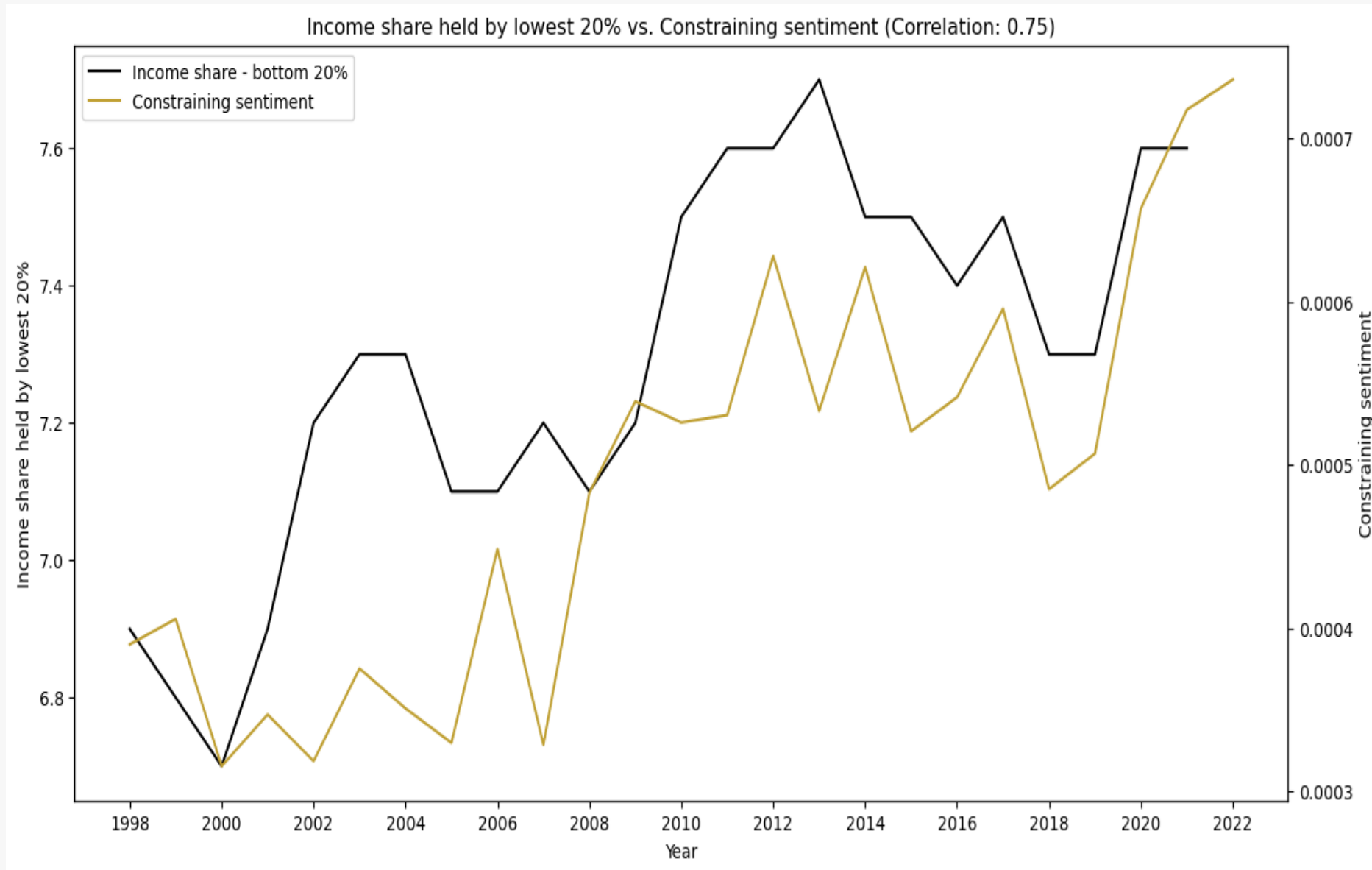
Gini Index (%) vs. Positive sentiment (Correlation: 0.65)



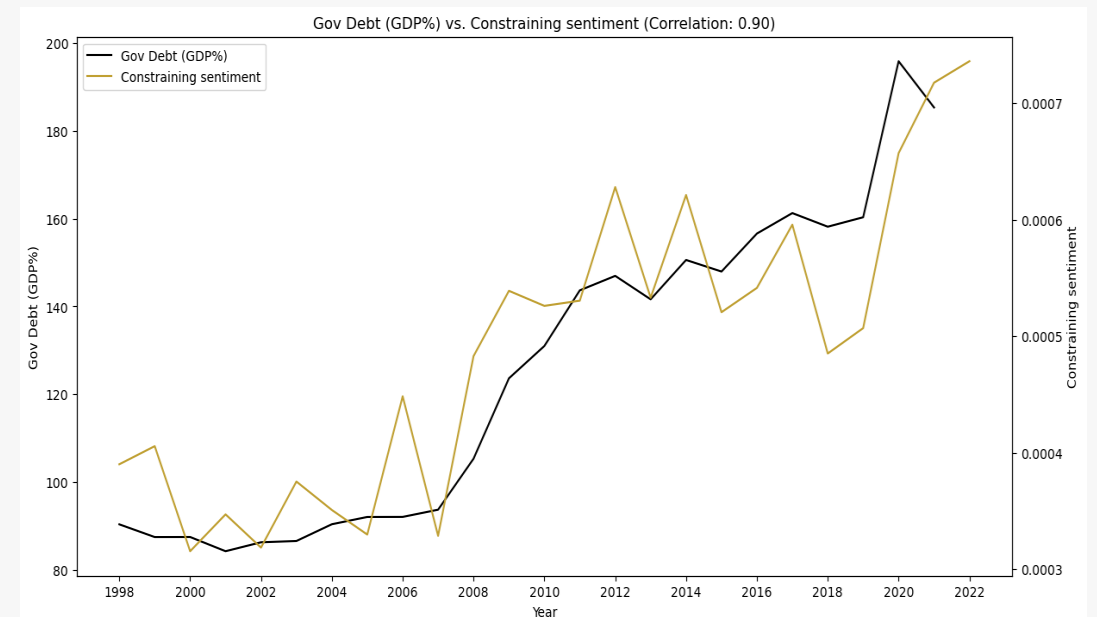
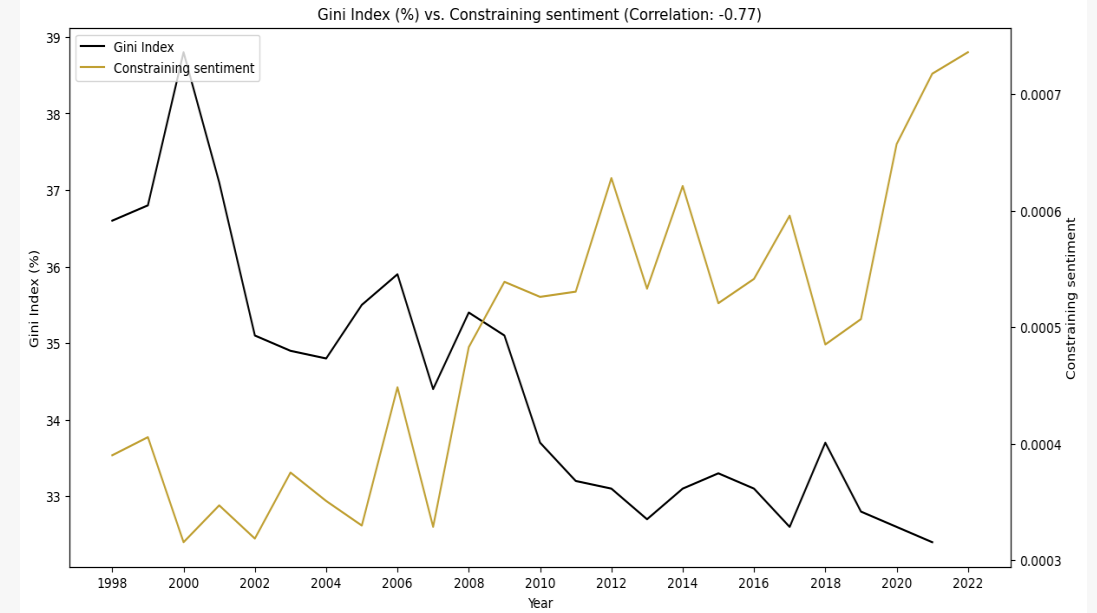
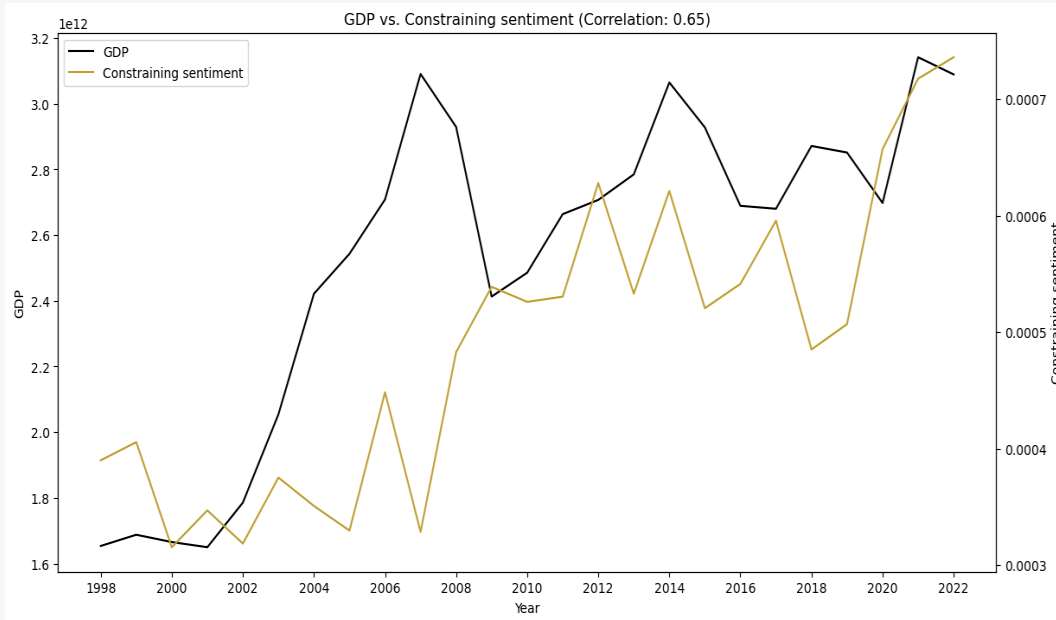
# Mixed Messaging?



# Demand-pull Inflation Risk



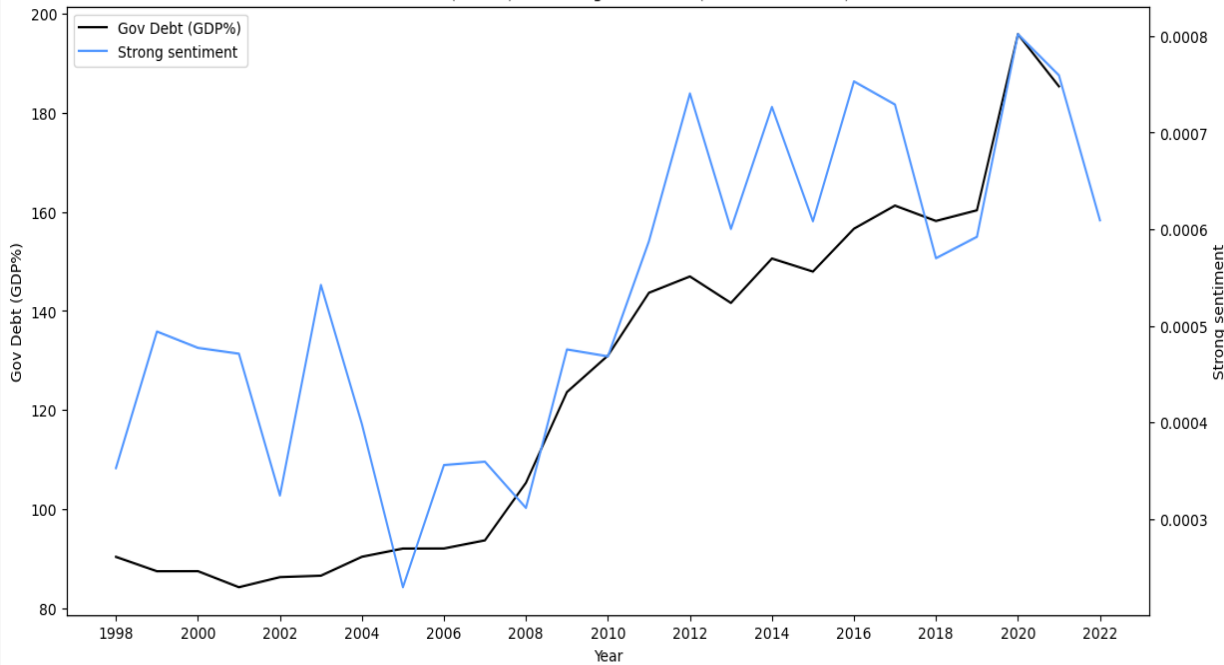
# Constraint as a Tool



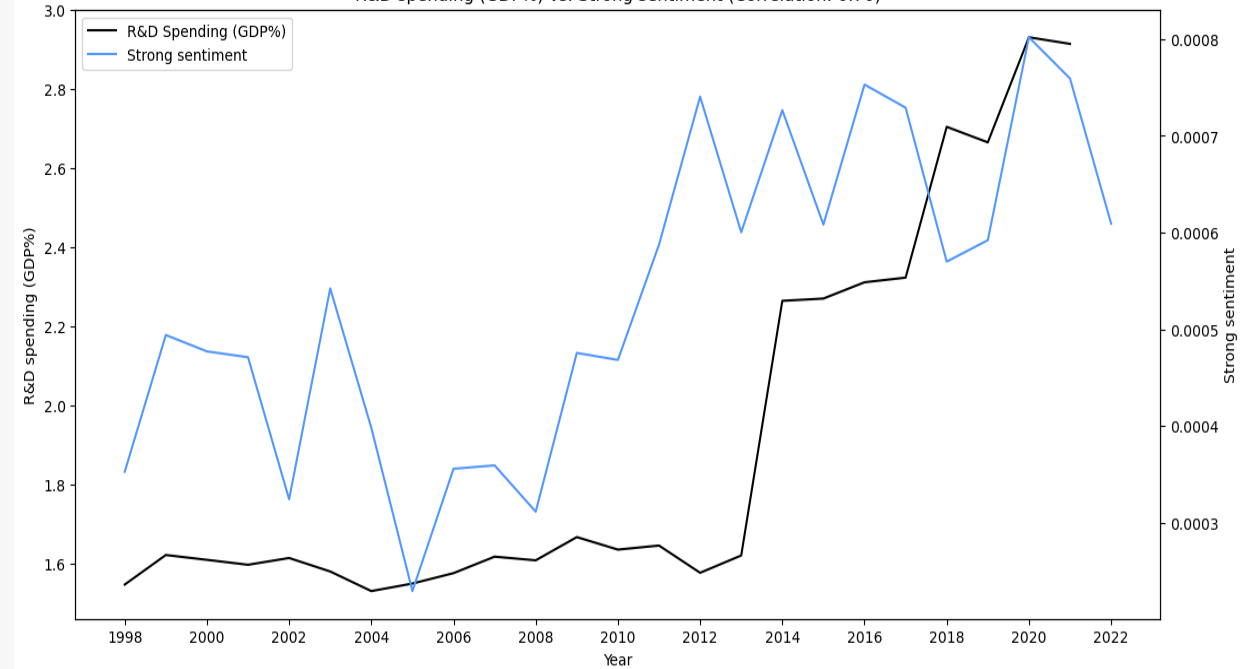
# Strength as a Tool



Gov Debt (GDP%) vs. Strong sentiment (Correlation: 0.84)



R&D spending (GDP%) vs. Strong sentiment (Correlation: 0.70)



- Output of negative and litigious sentiment increases
- Negative prior to and litigious post change in indicator
- Intentional vs reactive deployment
- Classification is complex





## Project Goal 2:

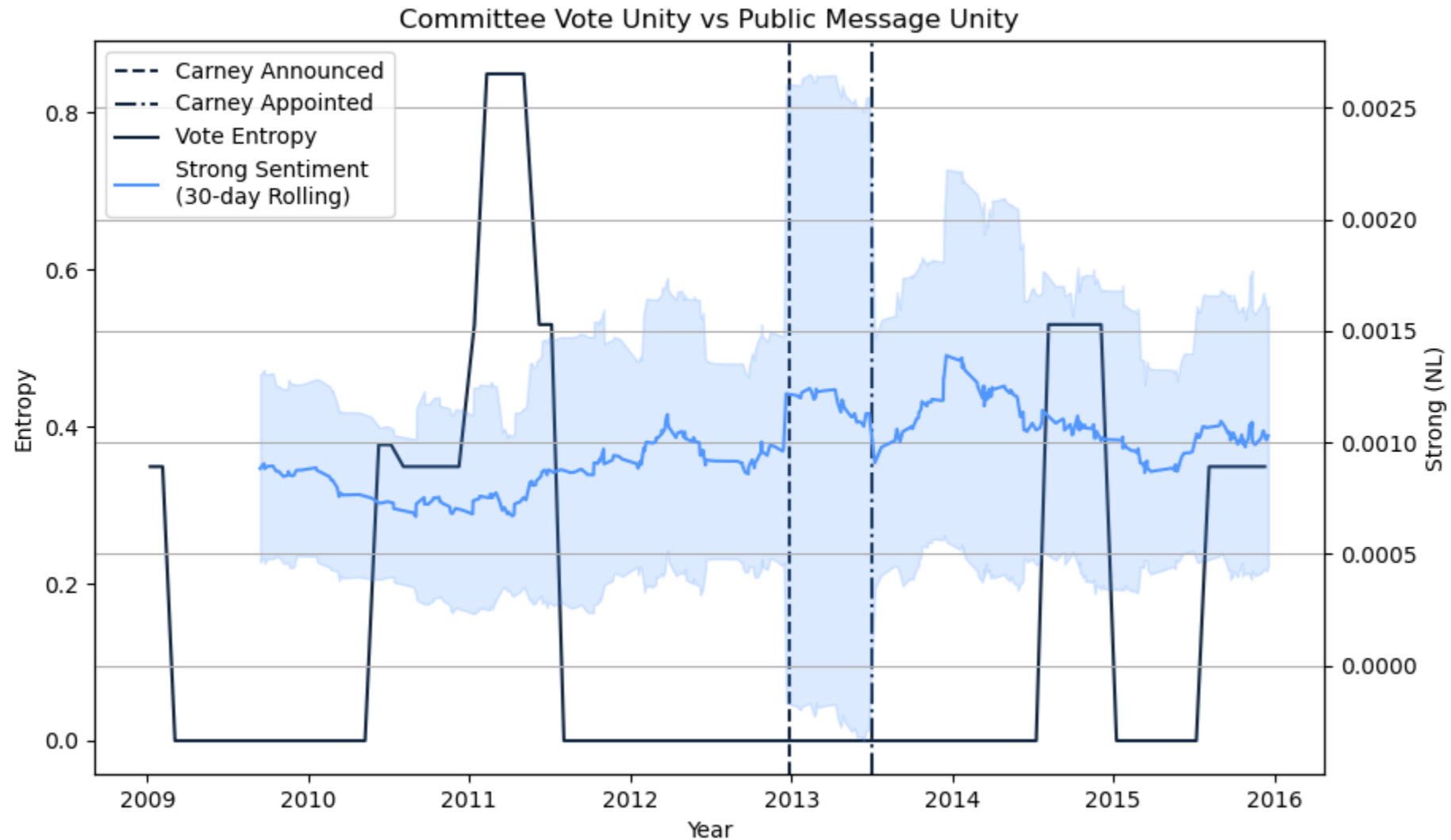
Is there significant variance in speaker messaging?

Does this variance correlate with the unity of the voting record in the MPC?

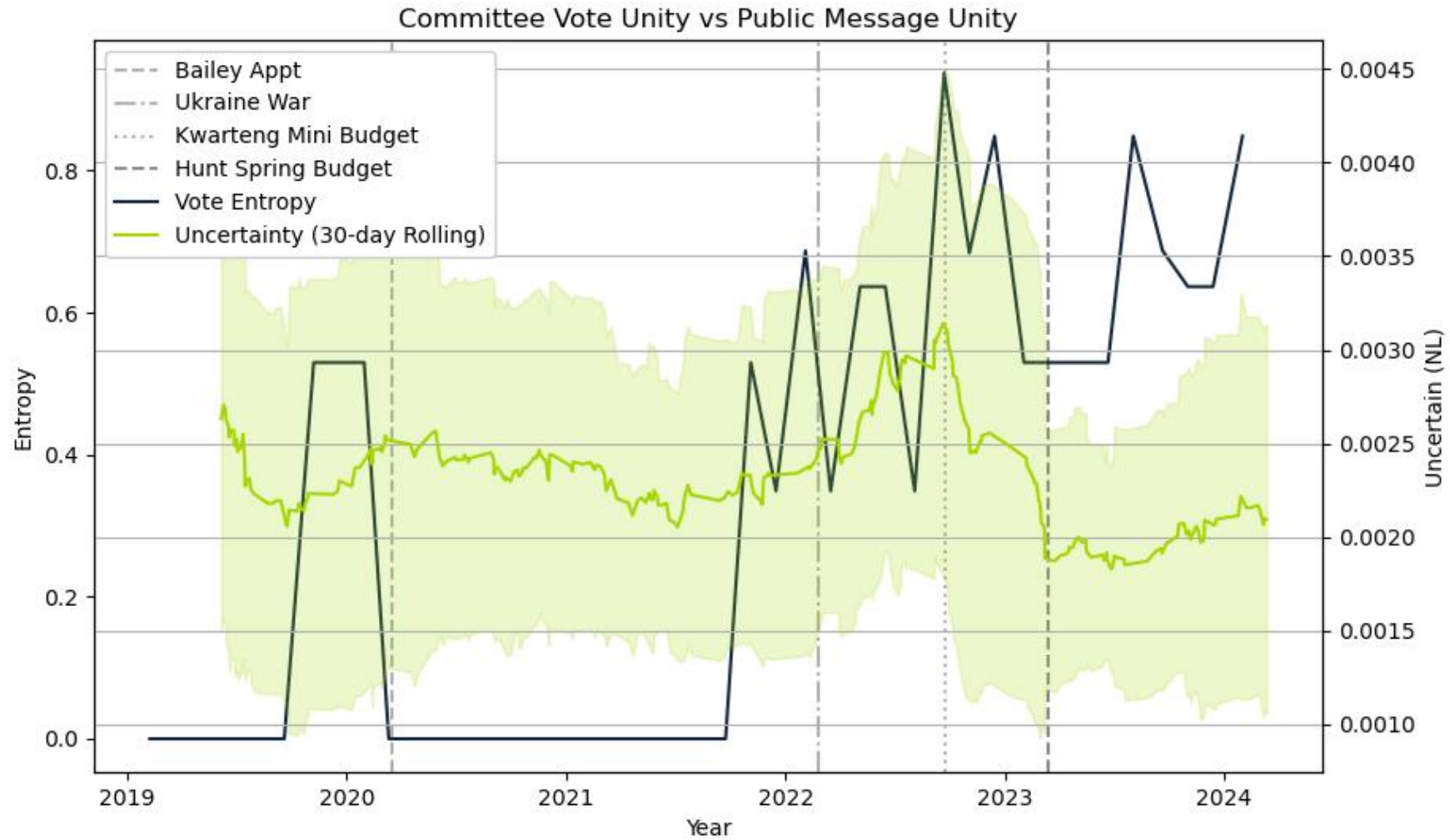
How does this variance manifest around economic crises?



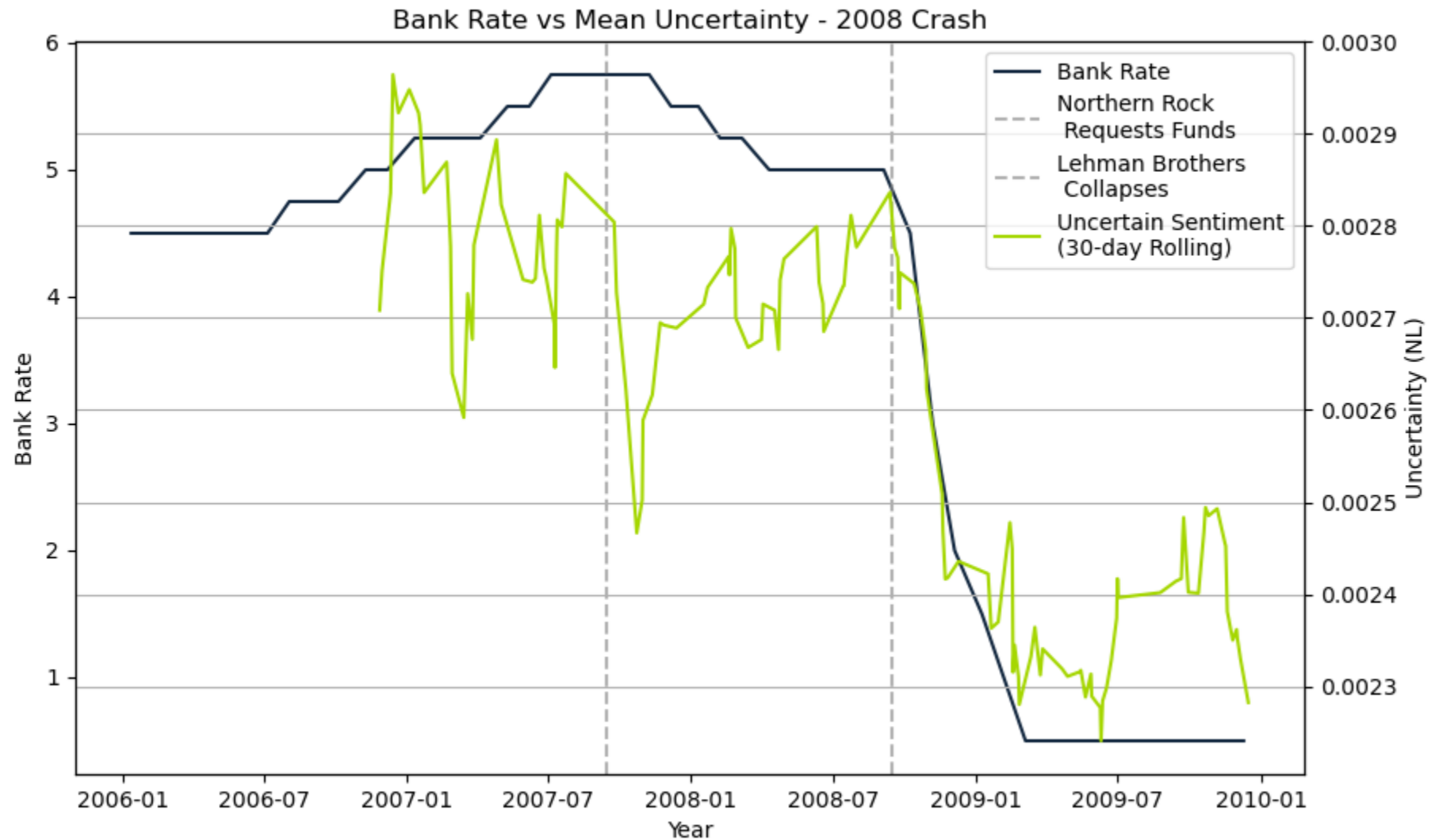
# Indications of Soft Influence



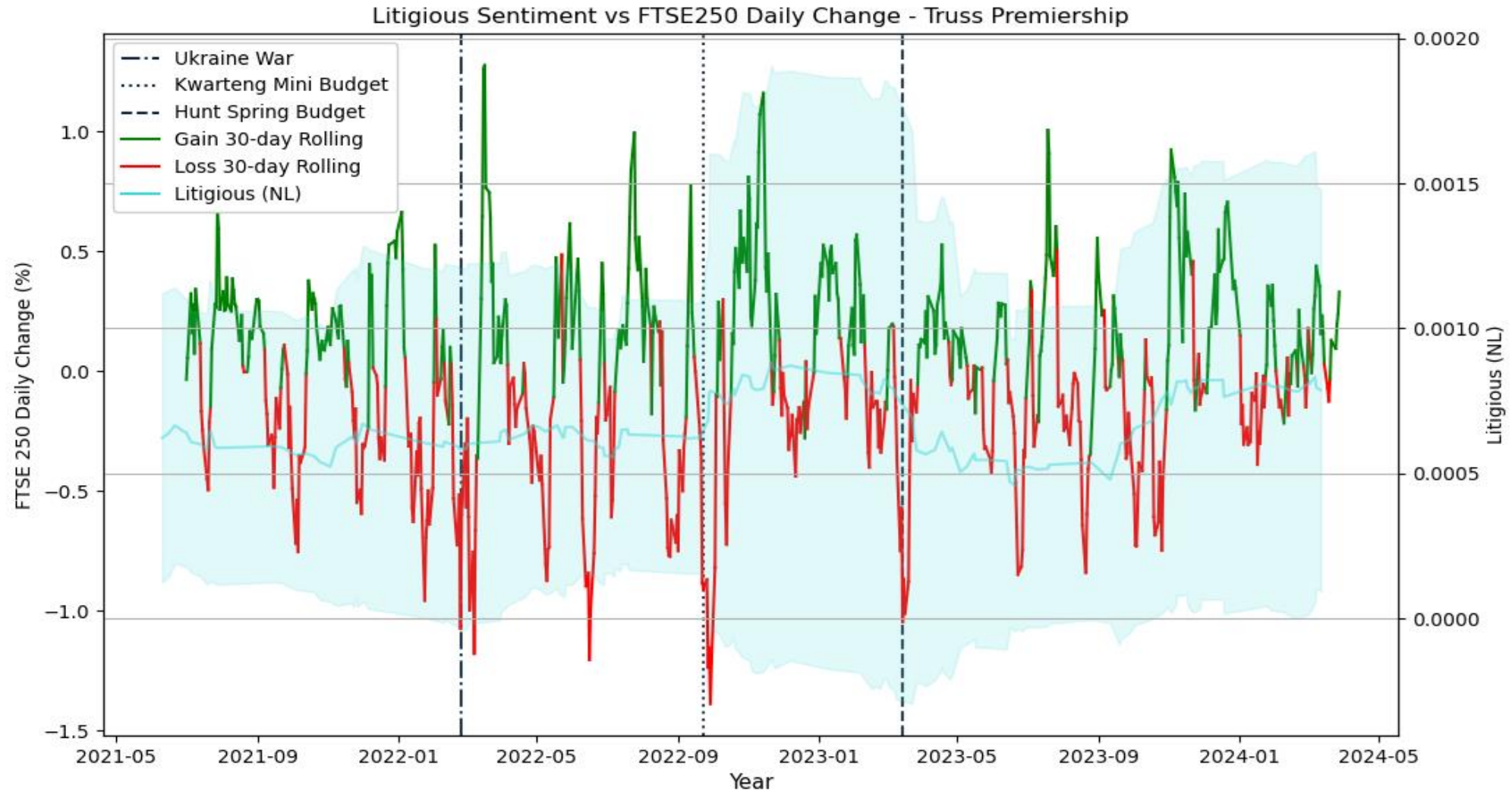
# Indications of Soft Influence



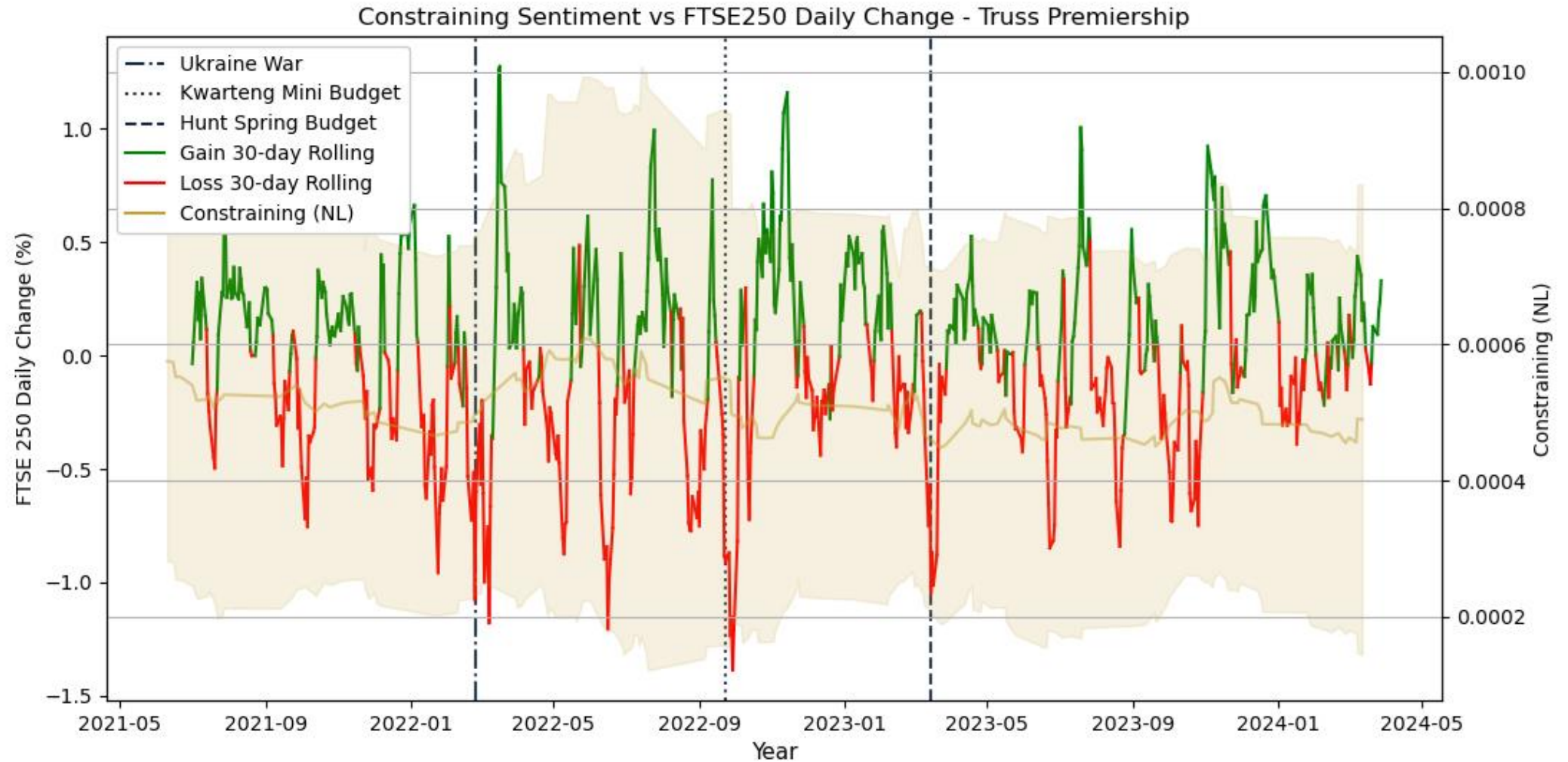
# Indications of Soft Influence



# Indications of Soft Influence



# Indications of Soft Influence



# Section 3: Conclusion

# Conclusion

## Insights

Consistent 'tone'.

Prevailing sentiment is negative.

Hard to classify.

Sentiment is not anchored to MPC unity.

## Recommendations

Deploy litigious and constraining in tandem with your hard influence control.

Eco-system is established. Stay predictable.



# Question and Answer

Question: What is the difference between a question and an answer?

Answer: A question is a statement that asks for information, while an answer is a statement that provides information in response to a question.