The Analysis of the Variations in Russian Policy Orientation and Focuses

Executive Summary:
The analysis aims to delve into Russian policy and its focal points by employing topic modeling and sentiment analysis techniques on speeches delivered by Russian representatives at the UN General Assembly between 1992 and 2022. The objectives include pinpointing the primary topics Russia emphasized and tracing fluctuations in their stance over this period. The data utilized is sourced exclusively from UN records and comprises only Russian speeches. To preserve the time-series relationship, text data is meticulously prepared through normalization, stemming, and sentence segmentation. Latent Dirichlet Allocation (LDA) uncovers six distinct topics, along with their potential human-defined names and interpretations. The "Vader" lexicon is employed to scrutinize the sentiment of each sentence, evaluating shifts in tone over time. This comprehensive project offers a nuanced comprehension of Russia's evolving diplomatic strategies and foreign policy priorities throughout the years.

Project Objectives:
The objective of this project is to gain insights into the focus of Russian policy over the years. To achieve this, I used topic modeling and sentiment analysis on the speeches made by the representative of the Russian Federation at the United Nations General Assembly from 1992 to 2022. I have two main goals:

First, I aim to identify the topics that Russia has focused on during this period. By analyzing the speeches, I can extract the main themes that Russia emphasized and gain a better understanding of their priorities in international politics.

Secondly, I aim to track changes in Russia's attitude towards these topics over time. By comparing the sentiment of the speeches on the same topics across different years, I can detect shifts in their stance and evaluate their diplomatic strategies.

By achieving these two goals, I can develop a comprehensive understanding of Russia's political position and its evolution in international politics over the years. This analysis can provide valuable insights for policymakers, researchers, and anyone interested in understanding Russia's role in global affairs.

Data Description:
Our project focuses on analyzing the official meeting records of the United Nations General Assembly from the 47th session in 1992 to the 76th session in 2022, including five inter-sessions within this period. These records are available in pdf format on the official website of the United Nations. While the original documents contain statements from representatives of various countries, our analysis specifically targets the statements made by the Russian Federation.

To extract only the relevant sections from the official documents, I underwent a manual data-preprocess. I found that simply searching for the keyword "Russian" using code was not effective since other countries' representatives also mentioned this word in their speeches, which make general expressions unable to differentiate Russia's speech context from others. Therefore, I used the filter function in the pdf file to manually check and select only the sections spoken by the Russian representative. I then saved these filtered sections in separate text files for further text mining analysis.

In summary, our project involves analyzing the official meeting records of the United Nations General Assembly and specifically focuses on the statements made by the Russian Federation. To extract only the relevant sections, I manually filtered the data and saved the selected sections in separate text files for further analysis.

Methodology:
To prepare the data for analysis, I combined 36 speech files and conducted normalization and stemming processes. The resulting text was then split into individual sentences, which were stored in a data frame. To preserve the time-series

relation between the sentences, I labeled each sentence with its corresponding year and kept the original sequence of sentences intact.

This approach allows us to analyze the text data at a granular level and identify trends and changes in Russia's political stance over time. By preserving the time-series relation between sentences, I can also explore how Russia's priorities and attitudes may have evolved in response to global events and geopolitical changes. Overall, our data preparation process ensures that our analysis is both comprehensive and accurate, providing valuable insights into Russia's diplomatic strategies and political positioning at the United Nations General Assembly.

To further analyze the data, I employed Latent Dirichlet Allocation (LDA) to identify the latent topics present in the corpus. This technique allowed us to group the words in the text data into distinct topics and understand how they relate to each other.

First, I conducted a bag-of-words analysis to extract all the unique words present in the corpus. I then applied LDA to these words to identify the most relevant topics in the corpus. By identifying these latent topics, I can gain insights into the key themes and issues that Russia focused on during the UN General Assembly sessions. This information can provide valuable insights into Russia's foreign policy priorities and diplomatic strategies.

To determine the optimal combination of parameters for our LDA model, I used GridSearchCV from the Sklearn library. Before conducting the parameter search, I needed to determine whether the bag-of-words matrix was dense or sparse. I used the SciPy library to confirm that the matrix was dense. I pre-set the possible search space of parameters as {'n_components': [2, 4, 6, 8, 10], 'doc_topic_prior': [0.1, 0.25, 0.5], 'topic_word_prior': [0.01, 0.1, 1]}. After conducting the parameter search, I found the best combination to be doc_topic_prior = 0.1 and topic_word_prior = 1. Using these optimal parameters, I fit the LDA model and identified six topics and their possible human-defined names.

In addition to topic analysis, I also used the "Vader" lexicon to perform sentiment analysis on each text unit. This allowed us to assess the overall sentiment of each sentence and track changes in Russia's tone over time.

Finally, I created a matrix where each row represents a single sentence, arranged in chronological order. For each sentence, I also included its related probability distribution of topic assignment, allowing for further analysis and deeper insights into the political discourse of Russia at the UN General Assembly.

Overall, our approach allowed us to gain a nuanced understanding of the topics and sentiments present in the speech data, providing valuable insights into Russia's diplomatic strategies and foreign policy priorities over time.

Results and Discussion:
Based on the result of the model, I conclude 6 topics that Russian representatives have been commonly focusing on, which covered various aspects such as politics, economy, ideology, and security issues.

1)Global Security and Cooperation
This topic mainly focuses on international security, cooperation, nuclear weapons, peace, and the role of international organizations such as the United Nations in resolving conflicts and ensuring global stability.

2)Regional Alliances and Geopolitics
This topic revolves around the relationships between different countries and regions, such as Russia, the European Union, Asia, Africa, and Latin America. It also discusses various alliances, associations, and regional groupings.

3)Cultural and Social Issues
This topic covers a range of social, cultural, and historical issues such as diplomacy, territorial disputes, religion, and cultural events. It also includes discussions about societal challenges and alternative perspectives.

4)Global Challenges and Development
This topic addresses global challenges, including conflict, economic development, terrorism, and human rights. It highlights the need for international cooperation and emphasizes the role of the world community in addressing these challenges.

5)Russian History and Foreign Policy
This topic centers on Russian history, foreign policy, and its role in the international arena, including its relationship with the United States and other countries. It also touches upon notable events and anniversaries in Russian history.

6)Intervention and National Sovereignty
This topic discusses various forms of intervention and the responsibility of nations to protect their citizens. It also includes discussions on ideology, terrorism, and debates surrounding the justification of interventions in countries like Syria, Yemen, and Libya.

From the trend graph of all the topics I can see that in the past years, Russia always focuses a lot on the topic of global challenges and development. It also pays a lot of attention to the topic of global security and cooperation and regional alliances and geopolitics. In recent years, Russia gradually paid more attention to Russian history and foreign policy, and also maintained a high attention in cultural and social issues and global challenges and development.

Conclusion:
The article's findings can be used by interested parties for many different purposes.
1) Policymakers can use the research findings to better understand Russia's policy positions at the UN General Assembly and to develop better foreign policies.
2) Researchers can further explore the themes and sentiments presented in the article in order to study Russian international policy and its impact on the global agenda in greater depth.
3) The media and the public can use the findings to better understand Russia's international role and foreign policy, and to comment on and analyze relevant political events.
4) In addition, the results can provide businesses, NGOs, and other stakeholders with information on business opportunities, social and environmental impacts related to Russian policy for better decision-making and planning.

Existing drawbacks and ways to overcome them:
(1) The data set spans a long time period, which may have problems of data quality and comparability. It is recommended that in future studies, a more continuous time period be selected whenever possible and that the reliability and consistency of the data sources be ensured.
2) The study is based on the analysis of UN General Assembly speeches only, which may not fully reflect the characteristics and trends of Russian foreign policy. It is recommended to combine other data sources and methods, such as policy documents and expert interviews, in future studies in order to gain a more comprehensive understanding of Russian foreign policy.

Overall, the article's findings can provide useful references and insights for a variety of interested parties and help them better understand and respond to Russia's international policies.

Citation:
"Where Can I Find Statements Made by the Russian Federation during the General Debate of the United Nations General Assembly? - Ask Dag!" United Nations. Accessed May 3, 2023. https://ask.un.org/faq/84607.
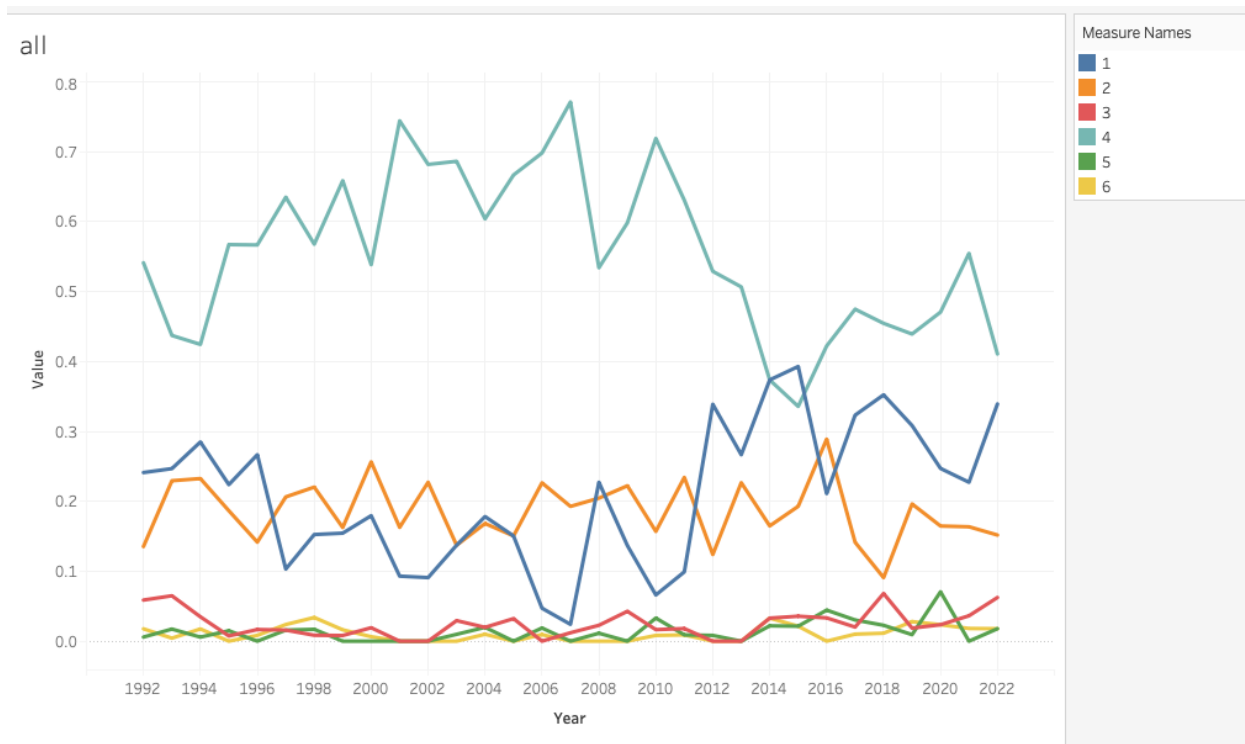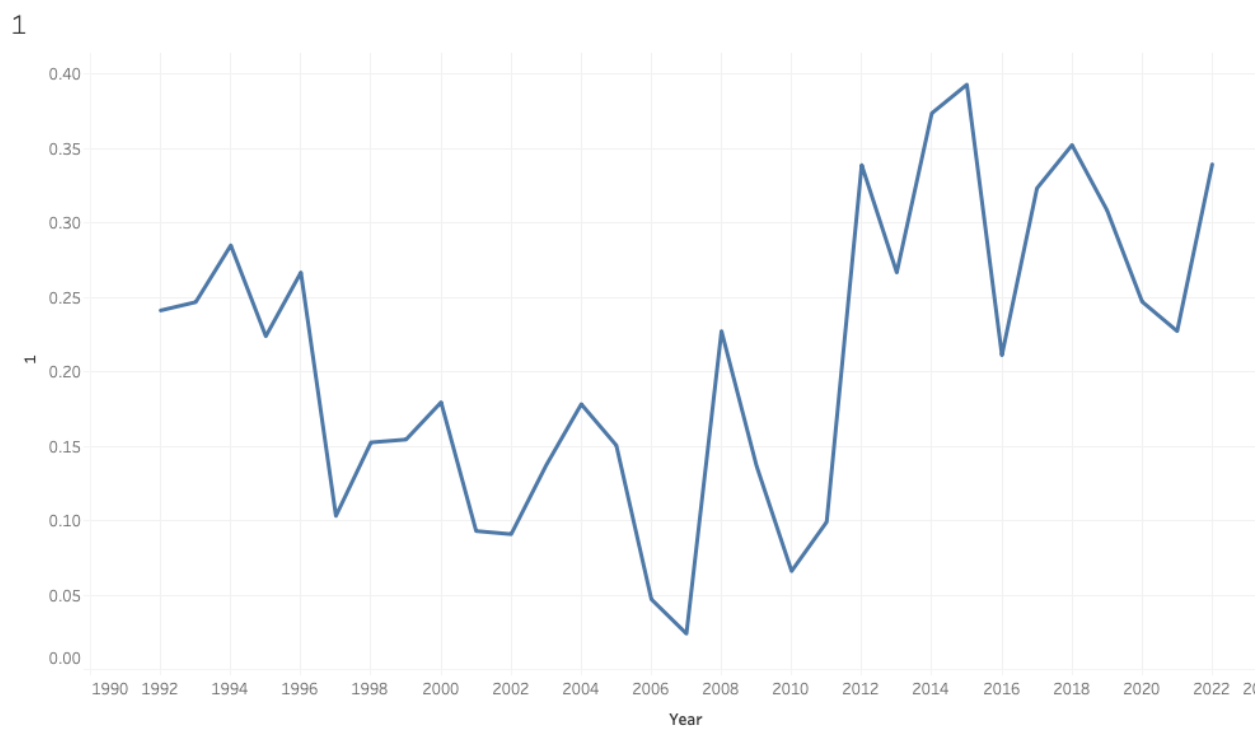
Appendix:

Figure 1: the trend of all topics

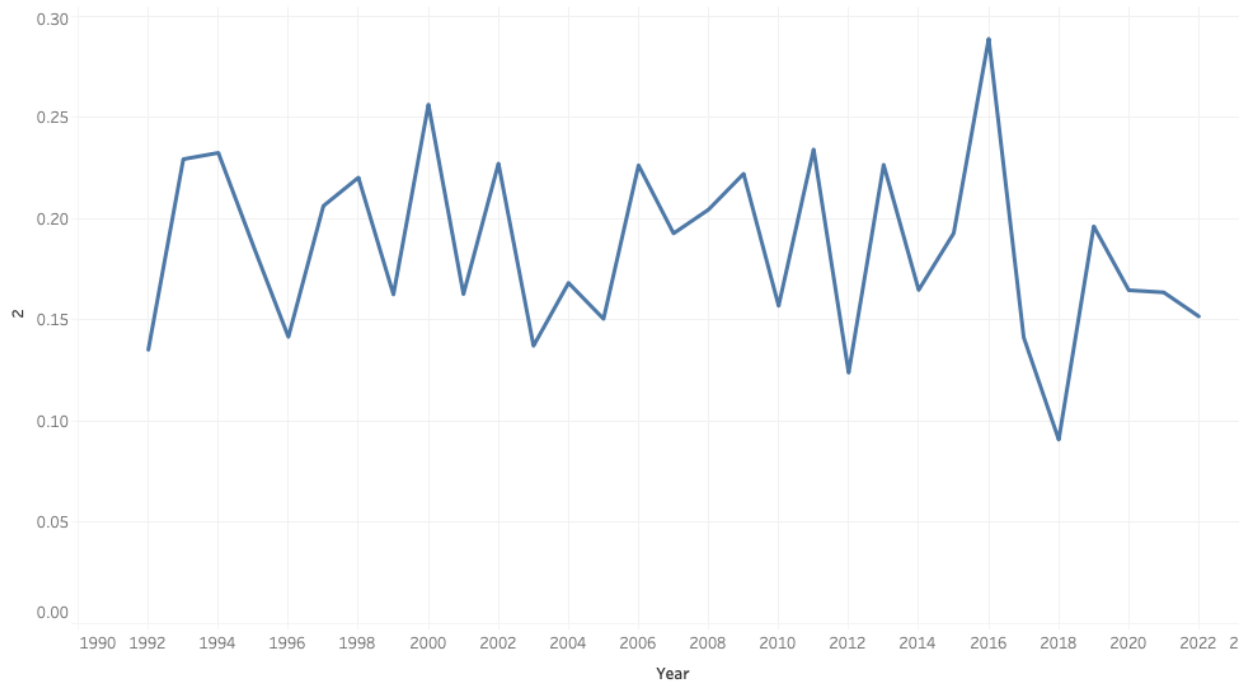Figure 2: the trend of topic 1

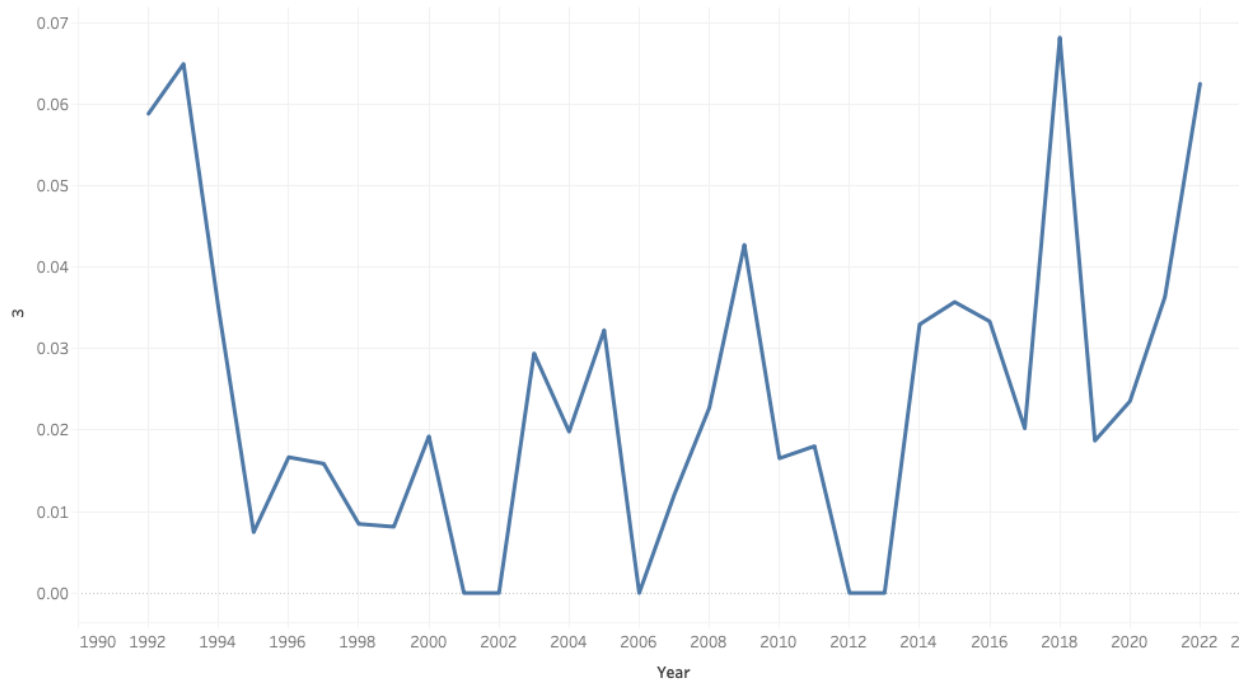Figure 3: the trend of topic 2

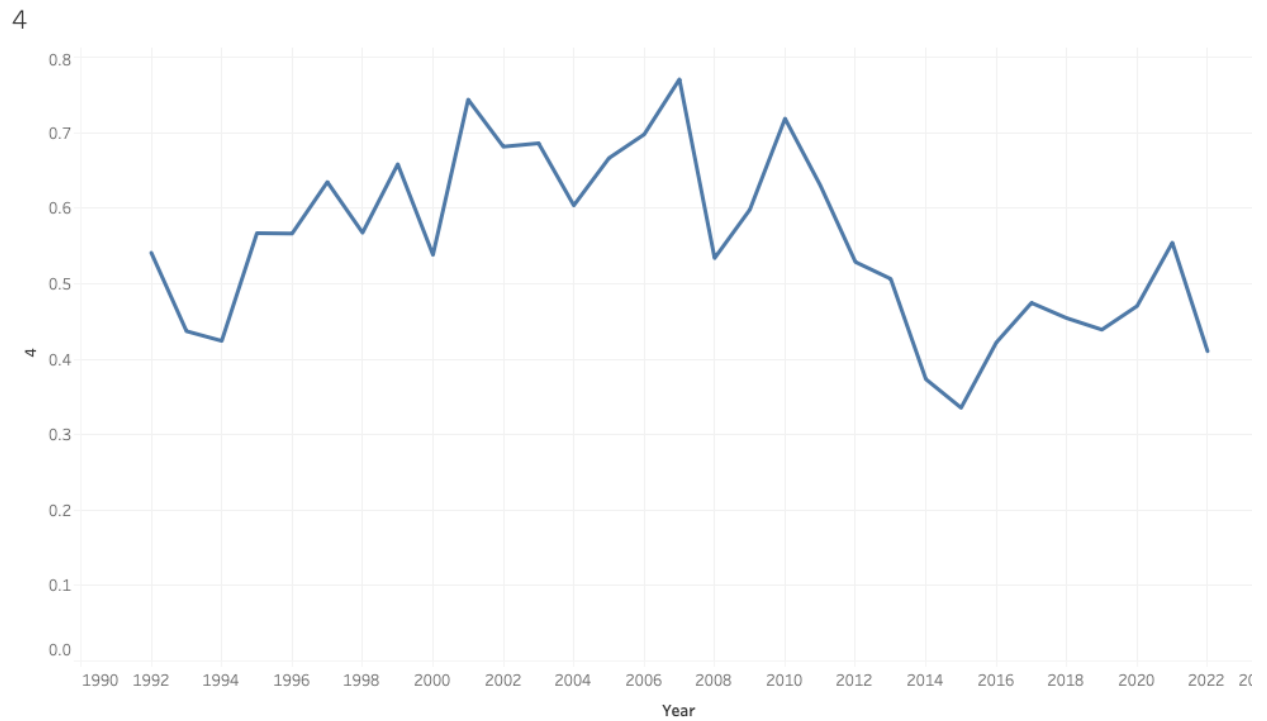
Figure 4: the trend of topic 3
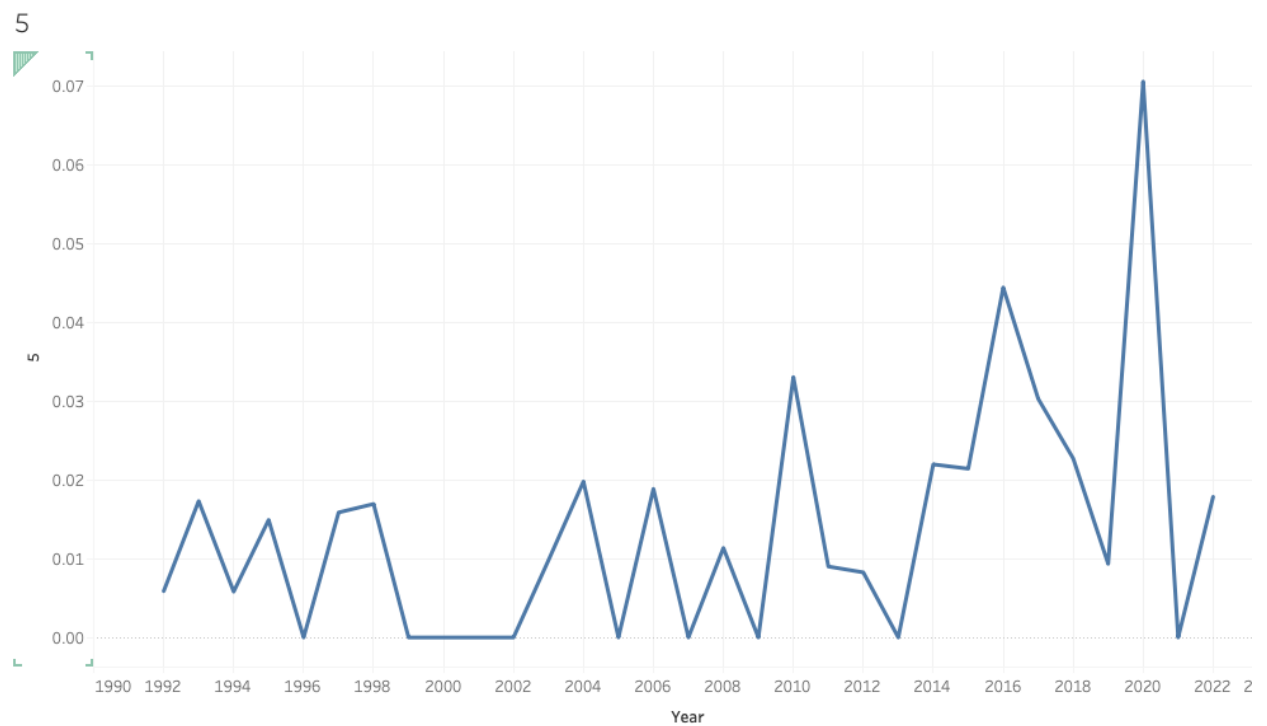
4

Figure 5: the trend of topic 4
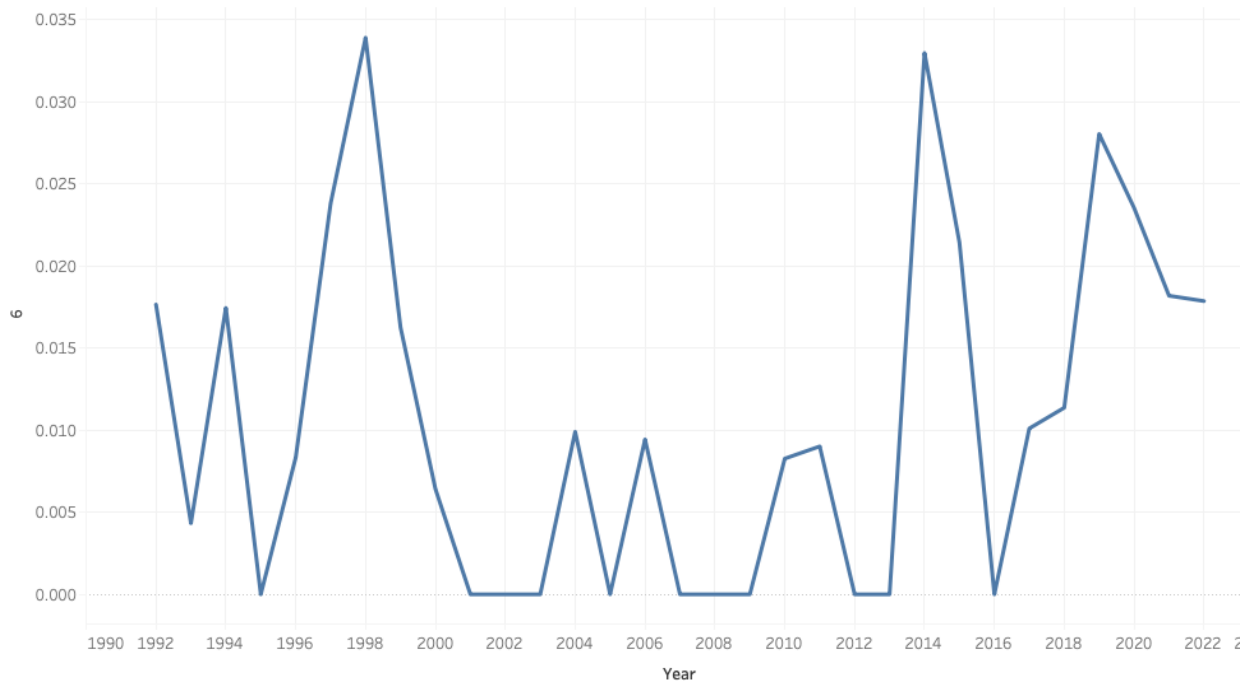
5

Figure 6: the trend of topic 5

6

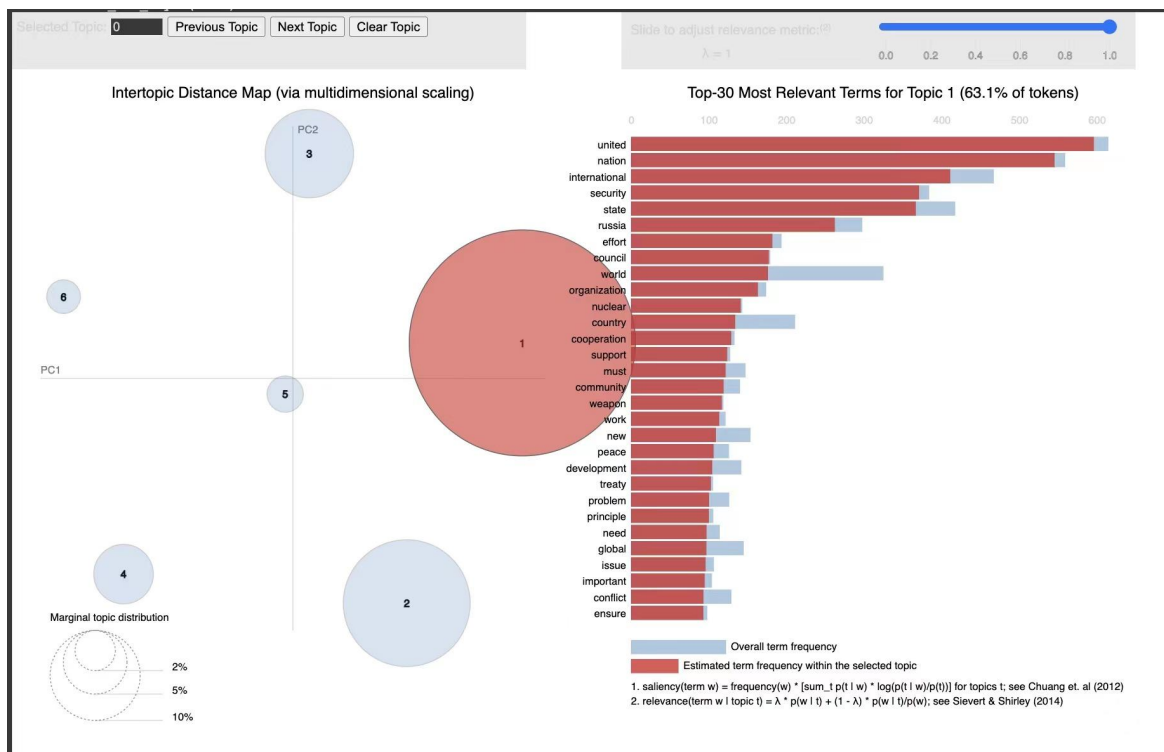Figure 7: the trend of topic 6

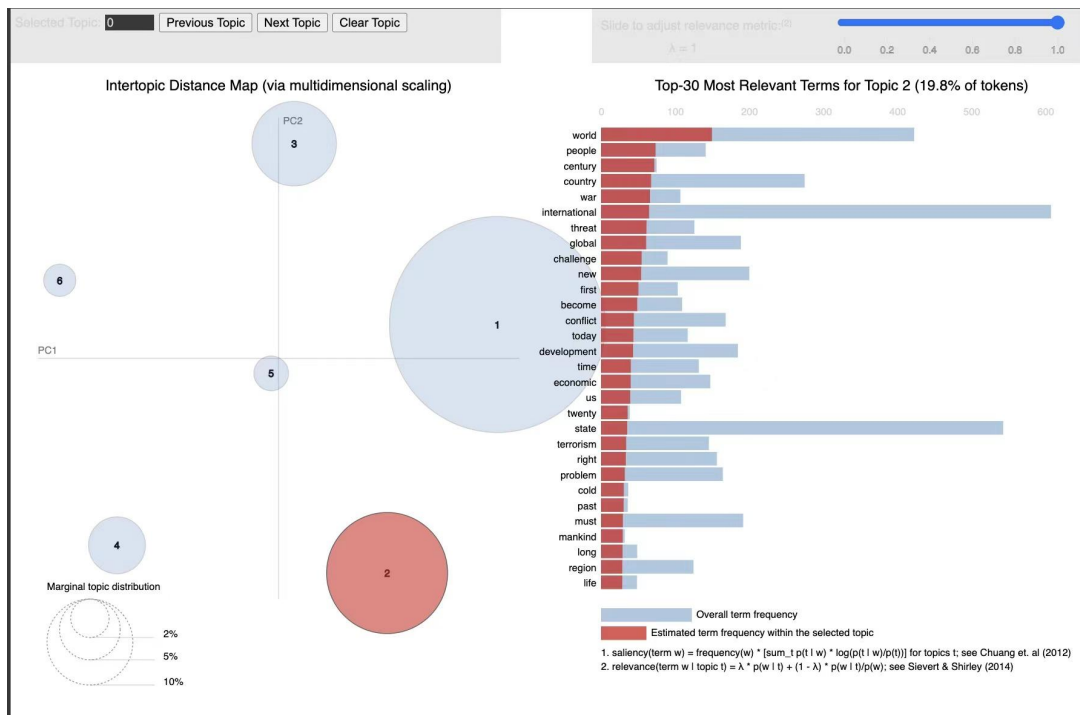Figure 8: top words in topic 1

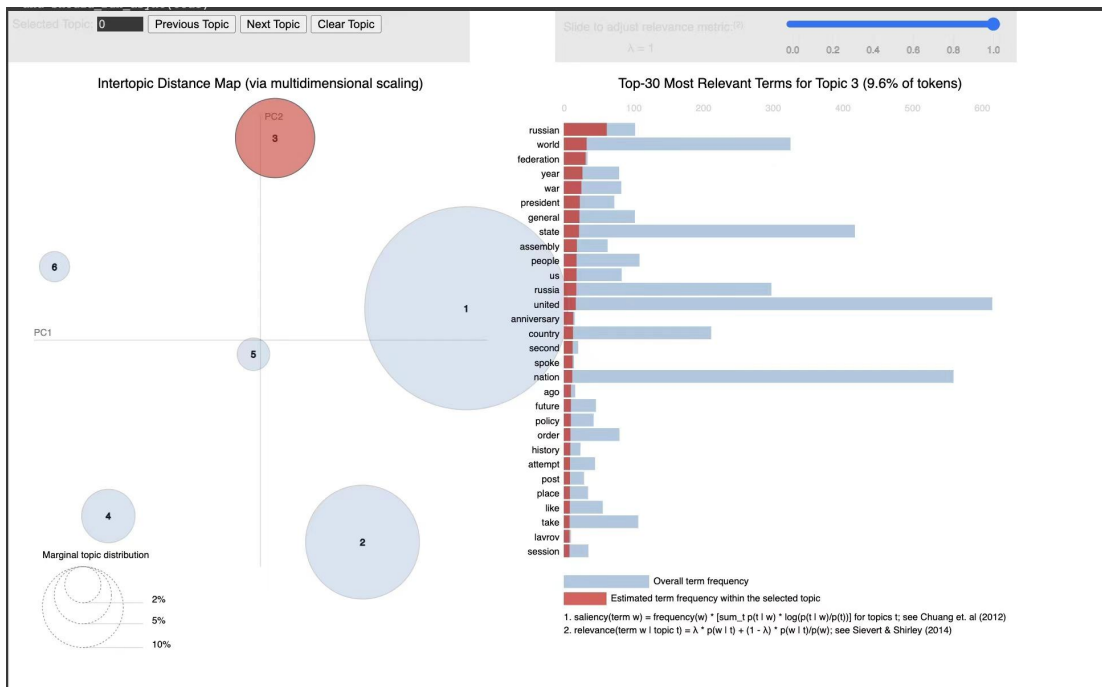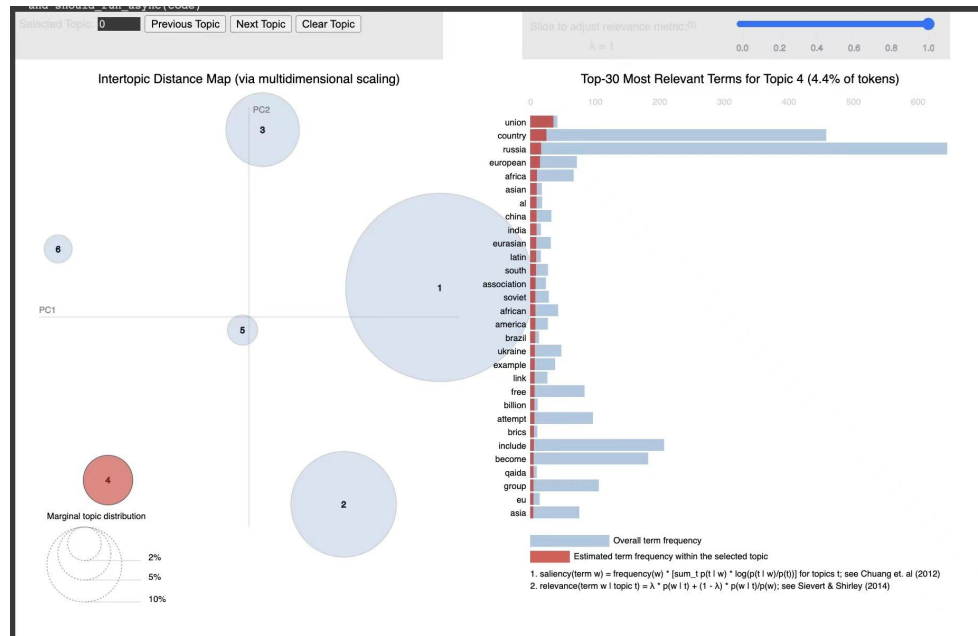Figure 9: top words in topic 2

Figure 10: top words in topic 3
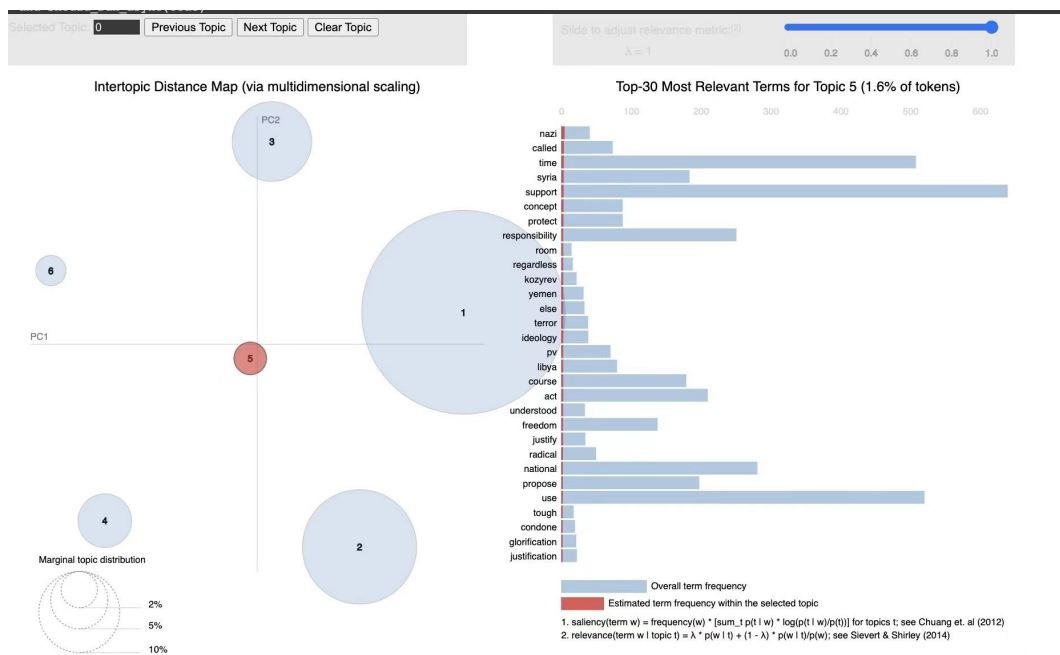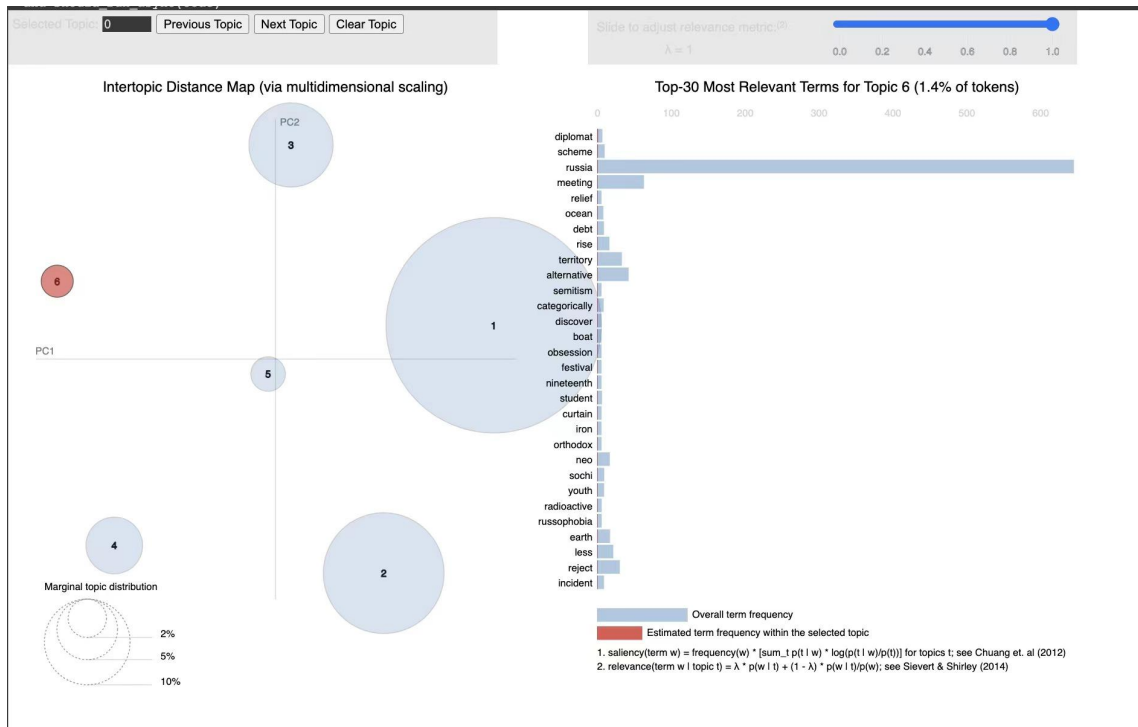
Figure 11: top words in topic 4

Figure 12: top words in topic 5

Figure 13: top words in topic 6