Analyzing the Relationship between UN Voting Alignment and Positive Sentiments: A Computational and Graphical Approach

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POSTER PRESENTATION

Introduction

The UN General Assembly resolution voting process serves as an active lobbying ground for countries to influence opinions of other states towards their favor on important global issues.

Previous literatures have explored important implications that stem from the voting alignments between countries in the UN. For example, voting similarity and strong trade networks (Magu & Mateos, 2017). Also, co-voting patterns have shown international alignments and policy preferences on normative international issues (Pauls & Cranmer, 2017).

However, although these voting alignments reflect positive political orientations between countries, it is not clear whether such outcomes are due to the broader international context that these countries operate in or whether it is the internal preferences of the countries towards each other that result in their political closeness.

Therefore, the research aim of our project is to **Explore Whether The UN Voting Alignment between a Pair of Countries Reflects into The Underlying Positive Sentiments about the Country.**

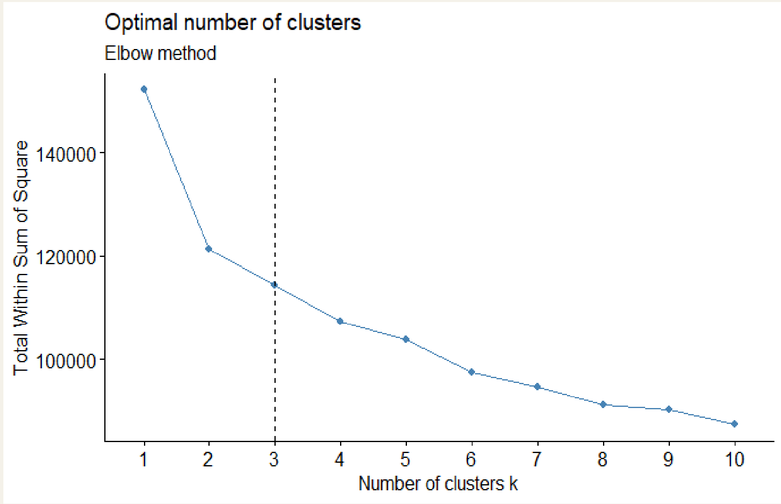
Methodology

Our work relies on two datasets. We first used the UN Votes dataset adapted from the original UN Voting Database (Voten, 2013). It includes all the voting records of countries on all the UN resolutions. Votes are divided into 5 categories: Yes, No, Abstain, Absent, Not a Member. Additionally, the resolutions are classified into different themes such as the Palestinian Conflict, Nuclear Weapons and Materials, Arms Control, Colonialism, Human Rights and Economic Development. Finally, the dataset also indicates whether a vote was termed as high importance by the US State Department. This dataset is used to perform our K-Means Clustering Analysis and Network Analysis to group countries by their voting alignment and create community blocs around the five veto powers.

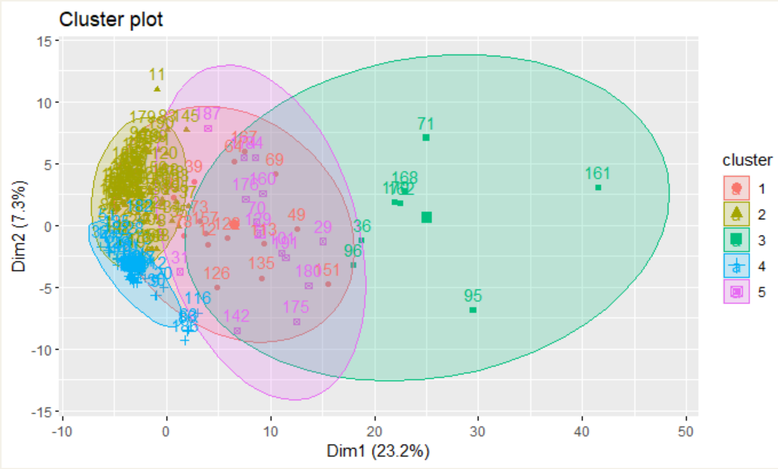
The second dataset is extracted from the official transcripts of the Chinese Ministry of Foreign Affairs Press Conferences held between 15 October 2002 and 31 December 2022 (Mochtak & Turcsanyi, 2021). The dataset is organized around an important question/response structure about each country for the Chinese Spokesperson. This is used to analyze sentiment about a particular country from China's point of view.

K-Means Cluster Analysis

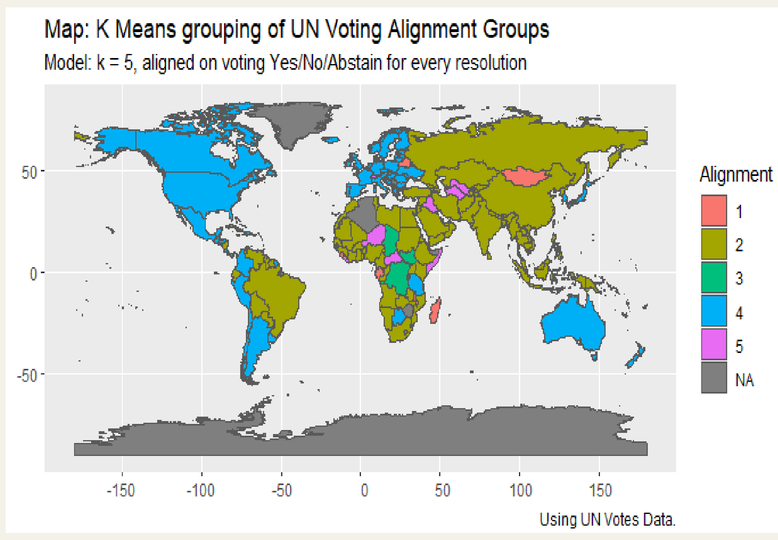
Firstly, we performed data wrangling to the dataset to make it fit for our K-means analysis. Then, using the Elbow method and Gap Statistic, we aim to find the Optimal Cluster Gap. There are elbows at 3 and 5. The Gap Statistic analysis shows us that 8 is the optimal, but 5 is a local turning point as well. Since there are 5 UN Superpowers so, we can set it as 5 clusters.



Next, we try to fit in our K-Means Model by clustering the dataset into 5 clusters. The groupings are divided upon the voting similarity with one of the UN Veto Powers.



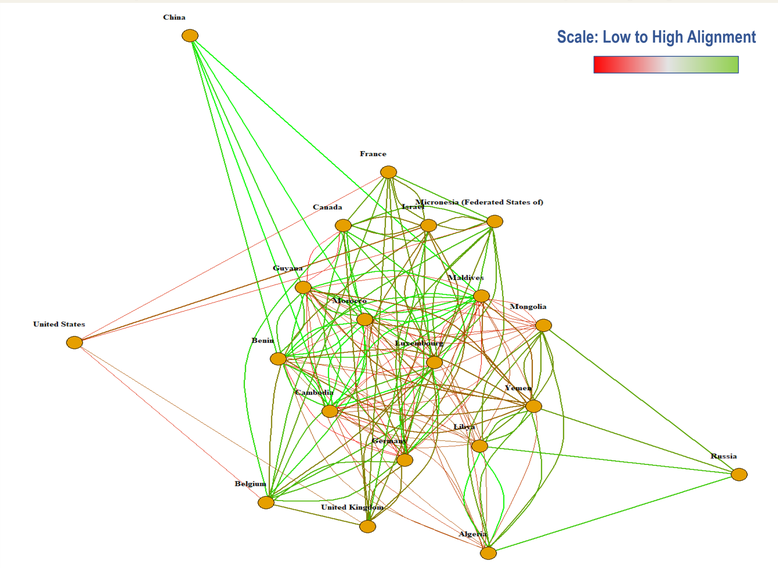
For our visualization, we have created a a world map with 5 color bar scales to show the voting alignment of countries with each UN veto power. Our visualization shows that the UN voting alignments are mainly divided into 2 camps: Pro-US & Pro – China.



Network Analysis

Next, we aim to create a graphical network of voting alignments between countries with the 5 Superpowers taking the center nodes of the network. In which, we are trying to expand on finding the Top 5 ally countries for each superpower based on their voting similarity. We also show the Top 5 countries that are the most aligned with each camp. We found that China and Russia have stronger ties to their Top 5 Allies by alignment compared to the US, France & UK. It also looks like between the 2 camps; the relations are weaker compared to within the 2 camps. One potential reason that the US have weaker ties is generally because there are aligned more with Israel while some other countries might abstain.

Network Analysis: UNSC Veto Powers & their top 5 Allies by voting alignment



Top 5 Idealologically Aligned Countries with the United States

name	Ideological_Difference
Israel	0.5082637
United Kingdom	0.5446054
France	0.8367001
Micronesia (Federated States of)	0.8848817
Belgium	0.9246887

Top 5 Idealologically Aligned Countries with China

name	Ideological_Difference
Cambodia	0.0011624
Maldives	0.0020700
Morocco	0.0077686
Guyana	0.0143165
Benin	0.0194391

Sentiment Analysis and Regression

In this final part, we are trying to regress whether a country's voting alignment implies an underlying positive sentiment by using the case for China.

We used the question/response dataset and run sentiment analysis to detect the positive sentiments about each county based on the responses given by the Chinese Spokesperson about each country. We get the top 5 and bottom 5 countries based on the average sentiment scores.

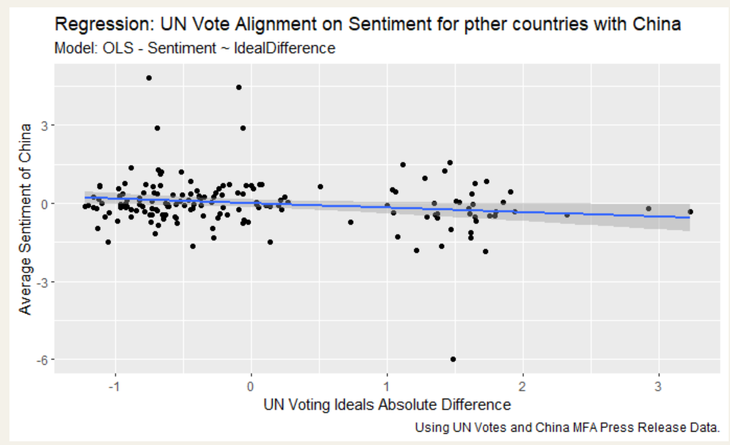
Top 5 Sentiment Countries for China

iso3c	avg_sentiment	name
GAB	48.50000	Gabon
RWA	45.66667	Rwanda
CIV	32.00000	Côte d'Ivoire
MUS	32.00000	Mauritius
FIN	20.66667	Finland

Bottom 5 Sentiment Countries for China

iso3c	avg_sentiment	name
LSO	-6.750000	Lesotho
GEO	-8.000000	Georgia
FRO	-8.333333	Faroe Islands
SVK	-8.600000	Slovakia
MCO	-44.000000	Monaco

The regression results show that there is no regression relationship between the voting alignment and the underlying positive sentiment for the country. ($p = 0.0274$, $F = 4.957$) since the F values is less than 10, this implies UN voting alignment is a bad Instrument Variable for country sentiment (Andrews et al., 2018).



	Dependent variable:
	avg_sentiment
IdealAbsDiff	-0.173**
	(0.078)
Constant	-0.000
	(0.077)
Observations	163
R2	0.030
Adjusted R2	0.024
Residual Std. Error	0.988 (df = 161)
F Statistic	4.957** (df = 1; 161)
Note:	*p<0.1; **p<0.05; ***p<0.01

Conclusion

In short, previous literatures have introduced various types of relationships that result from voting alignments, but they fail to establish a causality of the relationship with the public sentiment. So, we wanted to use the UN Voting Alignment as an instrument to cut the reverse causality and eliminate covariate measurement error.

We found that the relationships between how countries vote in the UN is more bipartite and that China and Russia have a stronger correlation to their most closely aligned countries compares to western veto states.

References

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