

# Measures of Importance:

## *UNGA Speech Mentions Network*

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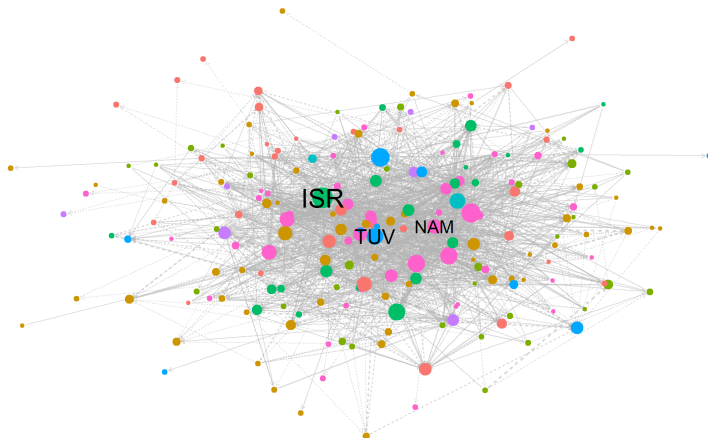
# Why UNGA Speeches?

- ▶ UNGA speeches are an under-explored source of information on government policy preferences over time.
- ▶ Unlike with UNGA votes, each member state is able to set its own agenda in their speeches.
- ▶ There is a growing literature using QTA and Network Analysis in IR, but there is little overlap between the two.<sup>1</sup>
- ▶ “The lack of external constraints means that when delivering their GD statements, governments have more leverage with the positions they take and the issues they emphasise.” Baturo et al., [2017](#), p. 199
- ▶ A relational approach can capture more granular data on State preferences and stances, and co-mentions data show higher levels of variation than alliances over time.

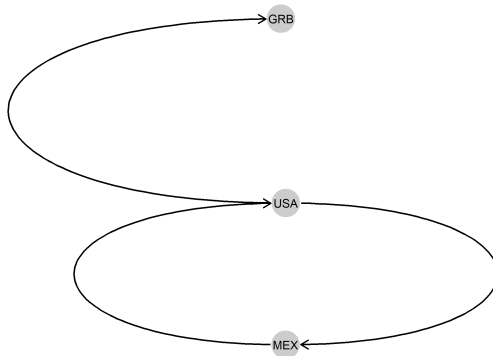
<sup>1</sup>See: Baturo et al., [2017](#); Duque, [2018](#); Hafner-Burton et al., [2009](#); Terman, [2017](#); TRABER et al., [2020](#)

# UNGA Mentions Network 2000

- East Asia & Pacific
- Latin America & Caribbean
- North America
- South Asia
- Europe & Central Asia
- Middle East & North Africa
- Other
- Sub-Saharan Africa



## Example UNGA Mentions Network



country	year	text	GRB	MEX	USA	FRA
GRB	2016	London is the capital of the United Kingdom.	1	0	0	0
MEX	2016	The capital of Mexico is Mexico City and the capital of the United States is Washington.	0	2	1	0
USA	2017	The Great Britain, Mexico and the United States are members of the UN.	1	1	1	0

# Proof of Concept 1/2

## Dummy Data

```
example <- data.frame(  
  country = c("GRB", "MEX", "USA"),  
  year = c(2016, 2016, 2017),  
  text = c("London is the capital of the United Kingdom.",  
           "The capital of Mexico is Mexico City and the capital of the United States is Washington.",  
           "The Great Britain, Mexico and the United States are members of the UN.")  
)  
  
new_vars = c("GRB", "MEX", "USA", "FRA")  
  
example <-  
  cbind(example, setNames(lapply(new_vars, function(x) x=NA), new_vars))  
  
code_list_df <- data.frame(  
  country = c("GRB", "MEX", "USA", "FRA"),  
  country_ids = c("Great Britain|United Kingdom",  
                  "Mexico",  
                  "United States|USA|United States of America",  
                  "France")  
)
```

# Proof of Concept 2/2

## Simple Classifier

```
for(i in 1:nrow(example)) {  
  
  for(j in 1:nrow(code_list_df)){  
  
    example[i,code_list_df[[j,"country"]]] <-  
      str_count(example$text[i], code_list_df[[j,"country_ids"]])  
  
  }  
  
}
```

# UNGA Corpus

- ▶ The corpus consists of UNGA speeches where each observation is a country  $i$  speech in a year  $j$
- ▶ The corpus is cleaned by transforming all words to lower case and Latin-ASCII (special characters are removed).
- ▶ The original corpus was collected by Baturo et al., [2017](#). It includes only the official English-language translations of each speech.

# Network Data

- ▶ The data is presented in the form of an edgelist where each row is a link between a source and target country.
- ▶ Source countries represent the speakers and target countries represent the mentioned countries. Self-mentions are excluded.
- ▶ Edge weight represents the number of times a source country mentioned a target country in a given speech  $i, j$ .

## Random Sample

year	source	target	weight	mentioned
1995	TTO	KHM	1	1
1974	GIN	PRK	4	1
1994	TUR	ZAF	4	1
1978	GTM	COG	1	1
2017	COG	BDI	1	1
1987	KHM	PAK	2	1
2005	NGA	MLI	3	1
1982	GHA	MOZ	1	1
2007	BOL	USA	4	1
1990	JOR	IRQ	3	1
1975	CHN	CHN	8	0
1988	GNB	ESH	1	1
1974	GAB	ZAF	1	1
2008	ECU	NIC	1	1
2015	AUS	CAF	1	1



# Panel Data

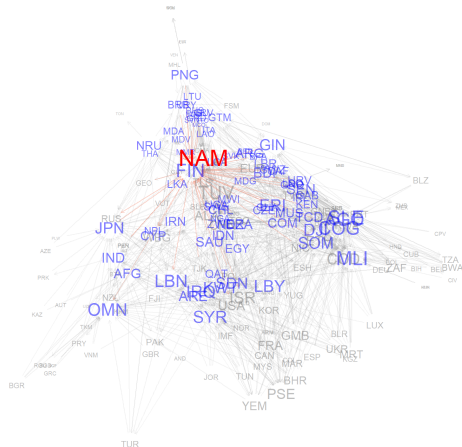
- ▶ Dyads are summarized into a balanced panel where observations are countries rather than edges.<sup>a</sup>
- ▶ I calculate an adjusted Herfindhal-Hirschman concentration index at the year level.
- ▶ mentions\_in represent the total number of times a country was mentioned (weighted-indegree) by other countries in a given year.
- ▶ mentions\_out represents the total number of other countries mentioned (out-degree).
- ▶ mentions\_self represents the total number of times a country mentioned itself

<sup>a</sup>Panel variables are re-scaled and ranked by year.

```
df_panel <- df_network %>%  
  filter(mentioned == 1) %>%  
  group_by(year, target) %>%  
  summarise(mentions = sum(weight)) %>%  
  ungroup() %>%  
  group_by(year) %>%  
  mutate(total_mentions = sum(mentions),  
         max_mentions = max(mentions)) %>%  
  ungroup() %>%  
  mutate(mentions_sq = (mentions / total_mentions)^2) %>%  
  group_by(year) %>%  
  mutate(hhi_year = sum(mentions_sq, na.rm = T),  
         scale = (mentions - 1) / (max_mentions - 1),  
         rank = dense_rank(desc(mentions))) %>%  
  ungroup()
```

# Example: Namibia

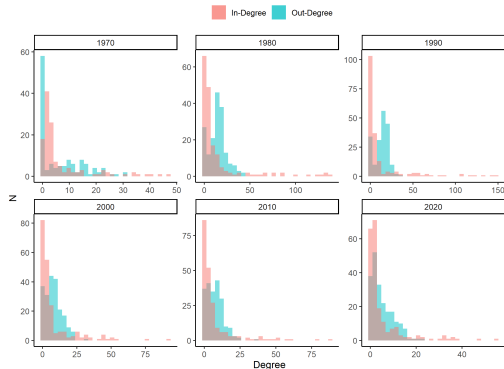
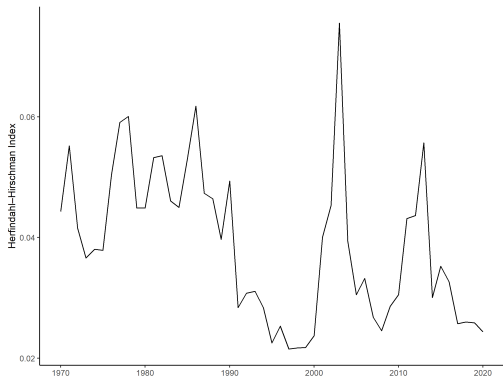
- In 2000, Namibia was the highest scorer by eigenvector centrality.



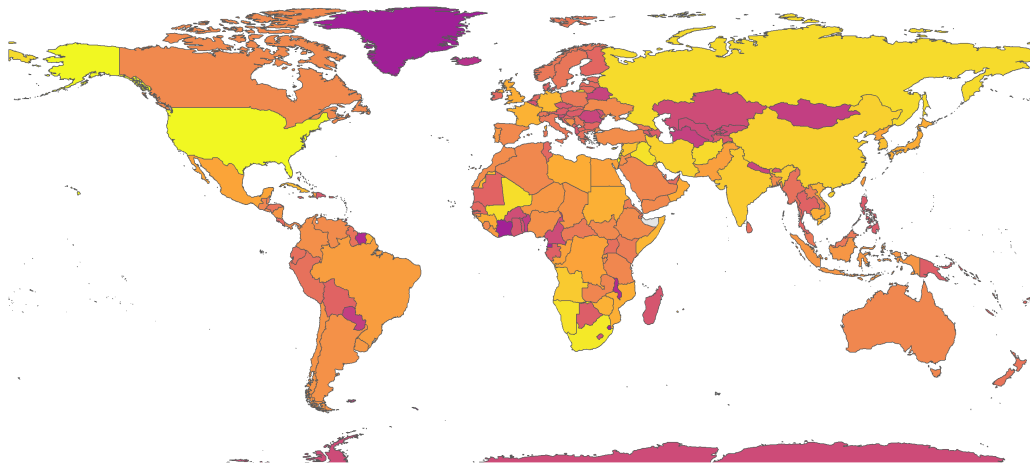
# Most Salient Countries



# Timeseries



# Weighted In-Degree 1970:2020



# Next Steps

## Limitations:

- ▶ Blunt instrument (not all mentions are meaningful)
- ▶ Computationally inefficient (loop-based)
- ▶ Relevant actors might be omitted (e.g. OPEC)

## Future Research:

- ▶ Targeted Sentiment Analysis
- ▶ Panel Models (DV and IV)
- ▶ Further Metric Adjustment (TF-IDF)
- ▶ Interactive Dashboard

# References



Baturo, A., Dasandi, N., & Mikhaylov, S. J. (2017). Understanding state preferences with text as data: Introducing the un general debate corpus. *Research & Politics*, 4(2), 1–9.  
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Duque, M. G. (2018). Recognizing international status: A relational approach. *International Studies Quarterly*, 3(62), 577–592.



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Terman, R. (2017). Islamophobia and Media Portrayals of Muslim Women: A Computational Text Analysis of US News Coverage. *International Studies Quarterly*, 61(3), 489–502. <https://doi.org/10.1093/isq/sqx051>



TRABER, D., SCHOONVELDE, M., & SCHUMACHER, G. (2020). Errors have been made, others will be blamed: Issue engagement and blame shifting in prime minister speeches during the economic crisis in europe. *European Journal of Political Research*, 59(1), 45–67.  
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