

ESSAYS ON THE VOLUME, ISSUE SCOPE, AND INTER-NATION ALIGNMENT OF
UNITED NATIONS GENERAL ASSEMBLY SPEECHES

By

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PUBLIC ABSTRACT

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A range of literature has argued that countries use the United Nations (UN) to communicate their interests and coordinate their foreign policies. However, a core behavior at the UN – public-facing speeches – have remained understudied. While negotiation often takes place in private, the puzzle remains of why countries would then turn to a public forum to communicate—given the always-present option of a private one. In this dissertation, I expect that public forums serve a distinct purpose as compared to private negotiations: rather than being *persuasive* in nature, these public communications serve as being *political* in nature. I expect that the countries who benefit most from this broadcasting capability will be those who benefit most from *communicating their position to a large audience*, be those audiences international or domestic. In order to isolate the purely political nature of these public-facing speeches, I draw on the text of speeches delivered at the United Nations General Assembly (UNGA) for the years 1984-2014.

ABSTRACT

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A range of literature has argued that countries use the United Nations (UN) to communicate their interests and coordinate their foreign policies. However, a core behavior at the UN – public-facing speeches – have remained understudied. While negotiation often takes place in private, the puzzle remains of why countries would then turn to a public forum to communicate—given the always-present option of a private one. In this dissertation, I expect that public forums serve a distinct purpose as compared to private negotiations: rather than being *persuasive* in nature, these public communications serve as being *political* in nature. I expect that the countries who benefit most from this broadcasting capability will be those who benefit most from *communicating their position to a large audience*, be those audiences international or domestic. In order to isolate the purely political nature of these public-facing speeches, I draw on the text of speeches delivered at the United Nations General Assembly (UNGA) for the years 1984-2014.

This dissertation is composed of three chapters, and makes two broad contributions. First, it provides political grounding to one of the most public, visible, and prolific behaviors in international politics: public-facing political speeches delivered at international institutions. This has implications for both the study of the UN and the study of diplomacy more broadly, and provides a framework to study other institutions in the future. Second, it casts doubt on the conventional wisdom that these types of speeches are not informative: to the contrary, I show that all three dimensions of speech—*volume*, *content*, and *alignment*—map on to patterns of behavior—namely, UN Peacekeeping troop deployment; intervention into civil wars; and UNGA voting similarity. This suggests that each dimension of political speech contains useful information about countries' underlying interests.

In the first chapter, I analyze why countries engage with the UN General Assembly *at all*. I argue that engagement with the UNGA is driven by the political benefits a country perceives from communicating opinions to politically relevant audiences. I show that countries with the capacity and interest to act in many issues, as well as countries with strong political incentives linking them to influential audiences at home, will tend to speak the most at the UNGA. I also validate that the volume of UNGA speech does in fact measure a perception of political benefit from the UN more broadly, showing that the amount of speech at the UNGA is strongly related to troop contributions to UN Peacekeeping missions

In the second chapter, I examine the *scope* of interests that countries speak on in their public facing speech. This provides, in part, a mechanism for the first chapter: countries with the material capacity to act in more issues, and countries with the political incentives to communicate with a more diverse audience, will tend to speak on a more diverse set of issues in their speeches. I also validate that the issues countries speak on tend to be ones of political interest: I do so by showing that when a country experiences a civil war, countries who speak similarly will be more likely to intervene in some way in the conflict.

Finally, in the third chapter, I examine the conditions under which countries use speech to *reinforce* or *hedge against* the underlying incentives and interests driving their behavior. I examine two such conditions. First, I show under conditions where coercion is more likely—such as where a large power difference exists—hedging is more likely since it is more likely there is a difference between underlying positions and observed positions. Second, I show that conditions under which friends and enemies are more clearly defined—including periods of rivalry, joint democracy, and as issues become more controversial—the cost of hedging will increase and thus countries will tend to reinforce in their speech. I use UNGA voting alignment as behavioral baselines for measuring reinforcement and hedging across issues. This chapter also relies on an ideal point measure—created in collaboration with Michael Colaresi, using a Dynamic Linear Model to cast ideal points in multiple dimensions based on speeches—to measure hedging and reinforcing speech.

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To my father, Sheikh Tahir Mahmood,
for motivating me to always push forward

and

To my mother, Nuzhat Mahmood,
for giving me the strength to do so.

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For the past seven and a half years, I have read multiple dissertations, each with its own set of acknowledgements. Each time, I found myself thinking about the day I would finally get to write my own. To properly acknowledge all the people who brought me to this point, and to put into writing something to memorialize their contributions. There is a certain irony to the fact that today, when the time has finally come to write this, I find myself at a loss for words. Nearly every dissertation before me has mentioned the difficulty of acknowledging those who deserve acknowledgement. While I always thought I understood this intellectually, most things in life are as my mother and father always told me: you will learn when you finally get there. I finally understand.

It's only fitting, then, that the greatest acknowledgement goes to my mother, Nuzhat Mahmood, and my father, Sheikh Tahir Mahmood. In many ways, my life up to this point is analogous to this dissertation: a stumbling, incomplete, and pretty underwhelming attempt to build upon the great ones before me to reach new heights. Perhaps I've passed the bar for doing alright so far in life, in the same way that this dissertation might pass the bar to continue in this field, but to have gotten this far is only to have gained the humility in realizing how far I have left to go. My mother and father's lives, building on their mothers, fathers, and elders before them, have achieved new heights: leaving a lasting impact on a community, leaving a legacy to build upon for the next generation, and teaching innovating new and important ways to live life. Through their innovations and their work, I've been given the luxury in life to reach heights I never thought possible. While every time I reach a bit higher I eventually lose my balance—inevitably falling over again—it's only through their achievements that I'm able to reach just high enough to maybe find something new. I can only hope that one day, in reaching higher and higher, I might find something to grasp, and give my shoulders to someone after me to reach even higher. Anything great in my life is only possible because I stood on their shoulders to find it.

Next, I have to thank Carina Saavedra. While I lived the fool's life of continuously reaching high, falling over, only to reach and fall again, she was able to provide me the inspiration of the

grounded path. Where I might have just continued to fall back to zero, her support help raise the ground beneath me, allowing me to fall slightly higher each time. When I needed to take a full time job in the middle of graduate school, she was there to march forward while I worked until midnight each day. When I was mentally exhausted after falling down yet again, she was there with her feet planted, ready to help me up. And when life got difficult because I felt like I was juggling too many things, she was there to remind me that there was a floor beneath me, and that sometimes it's OK to put things down and pick them back up again. Her groundedness in life is only matched by her genuine love for the Earth; much like her uncanny ability to nurture plant life to new and amazing heights by nurturing the ground beneath her, she has a similar capacity to ground those around her—however stubbornly they insist on having their heads in the clouds. For someone like me, who sometimes (and with concerning ease) forgets which way is up or down, it's hard to overstate how valuable this really has been.

It goes without saying that it's impossible to fully thank everyone else who deserves to be thanked. But I suppose I can try. Katie M. Willett, a history teacher at Independence High School and the Academy of International Studies program, was the first person to inspire me to pursue and research international politics. University of North Carolina (UNC) Political Science Professor Dr. Mark Crescenzi was my main source of inspiration, and was always there for me as I fine-tuned my introduction to Political Science as a discipline. UNC Chemistry professor Dr. Domenic Tiani—who quite literally could not contain his laughter when he saw my grades, when I said I was considering medical school (even as he wrote me a letter of recommendation regardless)—left a lasting impression on me as embodying the value of having incredibly honest, smart, and sincere mentors around you. And, finally, I look back at all my teachers from Elementary through University. I've had the luxury in life of remembering—fondly—every single teacher I have had since Kindergarten. This may have been the single greatest privilege of my life: to have always had the honor of being taught by passionate, memorable, and truly inspirational teachers at every single step of my life. This is not a luxury are all granted in life, and for this I am truly thankful.

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KEY TO ABBREVIATIONS

UN United Nations

UNGA United Nations General Assembly

PDF Portable Document Format

ODS Official Document System

CSV Comma-Separated Values

COW Correlates of War

CHAPTER 1

INTRODUCTION TO THE DISSERTATION AND SUMMARY OF DATA COLLECTION

1.1 Introduction

In June of 2013, Hassan Rouhani was elected president of the Islamic Republic of Iran, winning an overwhelming 50.71% of the vote—ahead of the runner-up Mohammad Baqer Qalibaf, who won about 16.56% of the vote.¹ This prompted immediate reactions from both within Iran and outside of it. With “hard-liners” within his own country, Rouhani faced criticism over perceptions that he would capitulate to Western pressure on the nuclear issue,² and many Western elites remained cautiously optimistic about the prospects for diplomatic opportunities with Iran that were not possible with Rouhani’s predecessor, Mahmoud Ahmadinejad³—including a “historic” phone call with U.S. president Barak Obama, the first direct talks between the United States and Iran since the 1979 revolution.⁴

This strong shift in tone—what The Guardian termed a “diplomatic offensive”—by Rouhani also caused concern for Israel’s hawkish⁵ Prime Minister, Benjamin Netanyahu, raising concerns both of a future detente between the U.S. and Iran, and concerns that the shift simply reflected “a wolf in sheep’s clothing” on the part of Rouhani.⁶ Ultimately, while only time will reveal whether the Rouhani regime signaled a structural shift toward the interests of Iranian reformists and away from more hard-line, hawkish conservative interests,⁷ the reactions to Rouhani’s moderate rhetoric—

¹<http://www.bbc.com/news/world-middle-east-22916174>

²<https://foreignaffairs.org/articles/iran/2013-06-16/why-rouhani-won-and-why-khamenei-let-him>

³<http://www.bbc.com/news/world-middle-east-22916174>

⁴<https://www.theguardian.com/world/2013/sep/27/obama-phone-call-iranian-president-rouhani>

⁵<https://www.theguardian.com/world/2013/sep/29/netanyahu-rouhani-iran-rhetoric>

⁶<http://www.washingtontimes.com/news/2013/oct/1/israels-benjamin-netanyahu-new-iran-leader-hassan-/>

⁷<https://foreignaffairs.org/articles/iran/2013-06-16/why-rouhani-won-and-why-khamenei-let-him>

notably before he had undertaken any tangible policy decisions—suggests that foreign policy elites pay close attention to the prospects of shifting interests within regimes. Indeed, the historic opening of diplomatic relations between the U.S. and Iran—even for only 15 minutes—coupled with a historic international agreement on Iran’s nuclear program only two years after Rouhani’s election, does suggest some tentative evidence that a shift—however small—may be taking place.⁸

While at the time, it was impossible to say whether or not Rouhani was, in fact, a true moderate, it should be of interest to scholars of international relations that a shift in rhetoric relative to a less moderate leader prompted such a diplomatic reaction. The shifting sands of international politics are important to understanding international relations, be this in the field of forecasting escalation and de-escalation of international rivalries (Colaresi, 2005; Colaresi et al., 2008); explaining the long-term balance of power in the international system (Waltz, 1979; Schweller, 1996; Mearsheimer, 2001); or understanding changes in regime types over time (Levitsky & Way, 2010; Boix, 2011). These shifts in underlying interests (and the expression thereof) also have direct implications for the propensity for international attempts at regime change, be this during civil wars (Lemke & Regan, 2004) or as wars of aggression (Crescenzi, 2007), driven by the anticipation of how a given regime will act on its underlying interests (Singer, 1963; Gent, 2008).

A spate of previous literature has explored various methods of communicating or learning these interests, from alliances (Morrow, 1986) and voting behavior at the UN (Crescenzi, 2007; Gent, 2007) as signals of foreign policy alignment, to cheaper signals of conflict and cooperation (Thyne, 2009). While the former literature has successfully explained a host of outcomes ranging from conflict to civil wars—suggesting that actors do in fact learn from these behaviors—behaviors such as alliances, votes, and wars, are far removed from the underlying interests in question. For example, while voting in the UN may be useful for learning about how states relate, these votes are often marred by politics which distort the very interests that states care to learn about (e.g. through vote buying; see (Vreeland & Dreher, 2014)). As (Gartzke & Jo, 2006) point out, while students and

⁸Also of note is the strong domestic pressure Rouhani faces from hard-liners, including from former President Ahmadinejad himself (<http://ifpnews.com/news/politics/nuclear/former-president-ahmadinejad-reacts-to-iran-nuclear-deal/>).

professors may actually prefer to drive a Ferrari, their observed actions will likely distort these preferences since they may only be able to afford a Volkswagen. Similarly, signing alliances and fighting wars (or not fighting a war—see Fearon (1995)) are almost by definition distortions of underlying interests, since they are driven by a large set of constraints that minimizes how these interests actually manifest.

The latter approach to signaling alignment helps resolve some of these problems. Thyne (2009), for example, argues that “cheap” signals such as statements of support or offers of foreign aid can be informative signals of foreign policy alignment. This link between “cheap” signals and communicating interests is also present in the literature on diplomacy (Ramsay, 2011) and in economics (Farrell & Gibbons, 1989a,b), though its applications to Political Science have remained somewhat limited. In particular, even Thyne’s (2009) approach is limited to direct signals—for example, President Bush’s speech in 2005 expressing that “America stands with [the Iranian opposition]”—of opposition and support.⁹ There are other types of speech that do not speak as clearly about a specific side of an issue—such as those at the UN—which may simply make note of a concerning issue, but are often not as explicit in terms of stating support for one side or another of an issue.¹⁰ These are the types of speeches I analyze in this dissertation.

1.1.1 The United Nations as a domain of analysis for speeches

Politicians speak in a variety of different forums. From local media to transnational groups, leaders express their opinions on a large variety of issues. European Allies, for example, expressed concern over President George Bush’s use of “Religious language” to describe what he called an “axis of

⁹His approach relies on a merging of COPDAB and WEIS, two events-data-based measures of conflict and cooperation, which include these “cheaper” signals.

¹⁰For example, in his 2015 speech during General Debate, during the 70th session of the UN General Assembly, President Barack Obama spoke in specific terms about United States inability to “stand by while the sovereignty and territorial integrity of [Ukraine] [was] flagrantly violated”, while he spoke in much more general terms about the South China sea, where he proclaimed that the United States “[makes] no claim on territory there” and that the US “[does not] adjudicate claims”, simply “encouraging China and other claimants to resolve their differences peacefully” (UN General Assembly, Session 70 Plenary meeting 13. See UN Document A/70/PV.13, page 10).

evil” during his 2002 State of the Union address.¹¹ Conservative hardliners in Iran lambasted the moderate Rouhani after Trump’s 2017 speech in Saudi Arabia for [Rouhani’s] controversial attempt at detente with the U.S.,¹² and in the same source we note that President Bush’s speech against Iran helped undermine a moderate Khatami’s “policy of detente. . . [paving] the way to hardliner Mahmoud Ahmadinejad. . . in 2005.” In other words, when a politician talks, interested audiences listen—and react accordingly.

A key problem with communicating, however, is comparability: how would we compare two leaders’ speeches to two entirely different media outlets? Leaders speak in both idiosyncratic terminology with local audiences (for example, using religious language) or they speak specifically to their specific audiences—undermining the ability to compare two speeches. Moreover, the audiences are different, and so there are fewer sacrifices to be made: the relative information is limited in that we are not able to compare how the two politicians would speak in the same setting, given the same audience. In order to derive useful inferences from speech, we need to be able to compare leaders in a context with a relatively similar lexicon, audience, and set of issues under discussion. This is not to say that no information can be gleaned from other sources, but rather it is to say that a structured context would be ideal.

This problem is analogous to comparing political parties in different countries. For example, how might we determine whether the Democratic Party in the US is more or less liberal than the Labor party in the UK? To measure this via their speech, we would have to isolate the two parties speaking in a similar context on similar issues, such that we can gauge how similar or different they are. This would also pose an identification problem for defining “liberal”: thus, we might, for example, compare both to the Republican Party in the United States to determine who is further away from them on a given issue. In other words, there are two problems to solve when trying to glean systematic information from speeches: a comparability problem as defined above (i.e. the influence of different contexts, different audiences, etc), and an identification problem of estimating

¹¹<http://www.pbs.org/wgbh/pages/frontline/shows/blair/etc/cron.html>

¹²<http://time.com/4787856/trump-islam-speech-iran-rouhani-conservative/>

positions on a relative scale (e.g. defining how “liberal” a party is).

This is where institutions can play a role. Institutions coerce leaders to essentially speak to the same audiences. They also place leaders in the same context, with the same historical context: two leaders speaking at the United Nations, for example, are drawing from the same UN Charter and body of international law when crafting their speeches. They also draw from the same history—for example, the UN’s history with promoting decolonization or, as a specific example, in founding the state of Israel (a notably controversial issue at the UN). Moreover, the broad membership of the UN provides a unique *population* for comparability. Regional organizations like the EU, AU, etc. can be valuable—and will likely contain more regional-specific information—but they do so at the sacrifice of cross-national comparability (for example, comparing France’s speech at the EU with Liberia’s speech at the AU is less useful than comparing their speech at the UN, even though the first and second are more likely to address more specific, regional issues).¹³ Future work would do well to zoom into these bodies and explore the politics of public deliberation there—with a particular eye to the audience to whom these bodies are speaking. On the topic of audiences, another unique opportunity with the UN is its broad political reach: the UN has been one of the preeminent (if not the preeminent) IGOs of the post-war era, politically relevant enough to reliably reach a massive audience across the globe. It is a reasonable assumption, then that a very wide, diverse array of actors—both domestic and international—are at least potentially listening. More importantly, when two leaders speak publicly at the UN, the same groups should be able to listen to both, creating a shared political foundation from which to compare the two.

Tying to the literature on diplomacy, formal institutions like the UN are also unique in that they provide opportunities for both public and private communication. This would maximize the *politically* oriented signal from public speeches, and minimize *negotiation* oriented signals, since these negotiations often take place in private. For example, in the leadup to the Iraq War in 2003, the French were able to publicly focus on their disagreement with the United States and United Kingdom on the Iraq War, while in private they were able to speak in more detail about the

¹³This links directly to Thompson’s (2009) conceptualization of how a diverse set of interests can lead to credible signaling at the UN.

parameters of this disagreement—for instance, whether Resolution 1441 constituted an “automatic trigger” for war Recchia (2015, p.634).¹⁴ Moreover, the political nature of speech in this case is illustrated by the united front that France and Germany put up against the United States and United Kingdom. While the French expressed marginally more support for a possible war than the Germans—who were categorically opposed to force, even in private¹⁵—the two countries put up a united front in their respective public media pushes and corresponding public speeches¹⁶, further underscoring the way political incentives can be amplified in public forums where private forums are equally accessible.

Finally, given potential constraints on the agenda at the UN Security Council (Binder & Golub, 2020), I focus on speeches delivered at the UN General Assembly. This focus also provides the additional benefit of linking to an ongoing literature on the United Nations, where the bulk of work has focused on the actions of the UN Security Council (Fortna, 2008; Beardsley, 2013; Allen & Yuen, 2020). While recent work has begun to open the black box of the UN General Assembly—especially through the efforts of UN General Debate corpus data collection by Baturo et al. (2017)—these works often are either descriptive in nature (Baturo & Dasandi, 2017), or *assume* the measurement value of these speeches (Chelotti et al., 2018) toward a different end. However, little work exists to understand the speeches themselves, and the political origins of variation in their magnitude (i.e. how much leaders speak at all) or content.¹⁷ In this dissertation, I set out to lay groundwork toward understanding these origins.

To this end, I analyze three characteristics of speeches at the United Nations General Assembly, each containing potentially distinct but valuable information about the political alignments, priorities, and interests that countries seek to convey to interested public audiences. In the first

¹⁴Also see <http://www.pbs.org/wgbh/pages/frontline/shows/blair/etc/cron.html>

¹⁵<http://www.spiegel.de/international/germany/berlin-efforts-to-prevent-iraq-invasion-classified-papers-prove-german-warnings-to-bush-a-730979.html>

¹⁶<https://www.theguardian.com/world/2003/jan/22/germany.france>

¹⁷To be explicit, we can think of this as differentiating between speech as a phenomenon to be decomposed, speech as an *explanatory* variable toward an inferential end, and speech as a *dependent* variable to be modeled as a function of other political variables. My approach falls in the third category.

essay, I analyze the **volume** of speech: that is, how much a country speaks at all at the UN General Assembly. This will provide a broad view of the material and political correlates to the breadth of issues and depth of opinion that countries express on the array of topics under discussion at the UN General Assembly. It also provides an insight into whether countries view the United Nations as a politically valuable forum at all, since their private options would allow them negotiation power regardless of whether they also utilize the public forum for public-facing political gain.

In the second essay, I analyze the **composition** of speech: that is, the diversity of issues and topics that countries speak on at the UN General Assembly. This provides underpinnings to the political and material incentives from the first chapter, and focus on the decision to actually speak on an issue at all. Moreover, it provides insight into why countries speak on an issue at all; in this case, I show that the public decision to speak on an issue speaks to that particular issue's political importance; this should result in predictable patterns of behavior between countries, since it points to the presence of shared interests between any two countries (whether they agree or disagree on that issue).

Finally, in the third essay, I analyze the **alignment** of speech: that is, patterns of how countries express their similarities and differences with other countries across issues. In any speech, a country can decide to either reinforce the alignment expressed by other behavior (for instance, voting against a country while also speaking differently to them), or they can *hedge* against that alignment (for example, voting against a country but using speech to express similarity to them, in spite of the vote). I show that political conditions surrounding the political costliness of aligning with a *known* friend or enemy is correlated with the propensity to use speech in this reinforcing or hedging manner.

To do this, I collect an original dataset of all speeches delivered at the UN General Assembly during plenary meetings. This dataset is collected independently of the one collected by Baturo et al. (2017), and builds upon it by including speeches beyond the General Debate. I detail the data collection and cleaning process in the next section.

1.2 Data collection

The data collection process involved four steps: *Scraping* the transcripts from the United Nations repository; *Converting* the transcripts into machine-readable text; *Parsing and cleaning* the transcripts into individual speeches; and *Identifying* the individual speakers for each speech.

1.2.1 Step 1: Scraping and converting to text

I begin by scraping Portable Document Format (PDF) files from the United Nations (UN) website. More specifically, I access the UN's official document system (ODS), using a URL pattern

```
http://www.un.org/en/ga/search/view_doc.asp?symbol=
```

followed by the United Nations Document Symbol for the General Assembly transcript, which is composed of the prefix *A* followed by a session number and a plenary identifier *PV.*, separated by a slash */*. For example, to signify UN General Assembly session 50, Plenary session 99 I use the URL pattern¹⁸

```
https://www.un.org/en/ga/search/view_doc.asp?symbol=A/50/PV
.99
```

Using this framework, I wrote a script using Python 2.7 to loop across Sessions and Plenary Meetings for all sessions starting with session 31 through 69 (i.e. January 1975 through December 2014). I manually identified the maximum number of Plenary Meetings per session, given in a list format¹⁹

```
maxlist=[109, 111, 108, 120, 114, 111, 122, 106, 108, 134, 103,
116, 96, 100, 82, 92, 112, 106, 108, 128, 107, 92, 107, 100,
```

¹⁸This is only applicable to documents starting in 1976. Prior to 1976, the Document Symbol for General Assembly transcripts would be *A/PV.* with a single number ranging from 1 through 2444. That is, the earliest Plenary session is given by the Document Symbol *A/PV.1* and the last Plenary session of 1975 (December 17th, 1975) is given by the Document Symbol *A/PV.2444*.

¹⁹I end data collection at *A/69/PV.74*. Note that the plenary meetings for 2014 actually end at *A/69/PV.77*

```
112, 112, 94, 95, 118, 101, 109, 122, 105, 122, 118, 131, 99,
109, 74]
```

Finally, using this URL pattern, I navigate to the page using the BeautifulSoup library in Python (Richardson, 2007) to set cookies, access the site frame, and navigate to the source location of the PDF file, to eventually download the file. I define a function to scrape a given URL as defined above, and download to a file as defined by the session and plenary meeting. Figure 1.1 provides a screenshot of the frame in the HTML for a PDF file, which this scraper is able to access.²⁰

```
def unga_scrape(URL, filename):

    BASE_URL = 'http://www.un.org/en/ga/search/'
    BASE_ACCESS_URL = 'http://daccess-ods.un.org'

    # start session
    session = requests.Session()
    response = session.get(URL, headers={'User-Agent': 'Mozilla
        /5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36
        (KHTML, like Gecko) Chrome/35.0.1916.153 Safari/537.36'})

    # get frame links
    soup = BeautifulSoup(response.text)
    frames = soup.find_all('frame')
    header_link, document_link = [urljoin(BASE_URL, frame.get('
        src')) for frame in frames]

    # get header
```

²⁰Credit to user **alecxe** on Stackoverflow for solving the issue of extracting the PDF from the UN website's frame. See <https://stackoverflow.com/questions/24841632/how-to-get-contents-of-frames-automatically-if-browser-does-not-support-frames>

```

session.get(header_link, headers={'Referer': URL})

# get document html url
response = session.get(document_link, headers={'Referer': URL
    })
soup = BeautifulSoup(response.text)

tempmatch = soup.find('meta', content=re.compile('URL='))
content = tempmatch['content']
document_html_link = re.search('URL=(.*)', content).group(1)
document_html_link = urljoin(BASE_ACCESS_URL, document_html_
    link)

# follow html link and get the pdf link
response = session.get(document_html_link)
soup = BeautifulSoup(response.text)

# get the real document link
content = soup.find('meta', content=re.compile('URL='))['
    content']
document_link = re.search('URL=(.*)', content).group(1)
document_link = urljoin(BASE_ACCESS_URL, document_link)
print document_link

# follow the frame link with login and password first - would
    set the important cookie
auth_link = soup.find('frame', {'name': 'footer'})['src']

```

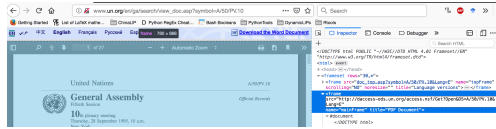


Figure 1.1: HTML for PDF file on UN website

```
session.get(auth_link)

# download file (Name example: A/31/PV.1 = "document 31_1")
with open(filename, 'wb') as handle:

    response = session.get(document_link, stream=True)

    for block in response.iter_content(1024):
        if not block:
            break

        handle.write(block)
```

The only difficulty with this method is that the UN website, periodically, kicks off the scraper. Thus, I add a unit test to the script to check if a file exists, and then re-execute the script for each time it is kicked off.

1.2.1.1 Conversion to text

To convert PDF files to text, I use a different method to convert files prior to session 48. Session 48 saw a marked change in the quality of transcript, from previously being typeset as a typewriter (see Figure 1.2) to being typeset in a more modern two-column layout, with advanced formatting (see Figure 1.3). For the latter group, I convert the PDF files to machine-readable text using Adobe Acrobat Pro, drawing on the Action Wizard to batch convert several files at a time in a given directory.

A/47/PV.112
2-5

The meeting was called to order at 10.40 a.m.

AGENDA ITEM 8 (continued)

ADOPTION OF THE AGENDA AND ORGANIZATION OF WORK: LETTER FROM THE PRESIDENT OF THE ECONOMIC AND SOCIAL COUNCIL (A/47/1011)

The PRESIDENT: This morning the General Assembly will first turn its attention to document A/47/1011, which contains a letter dated 2 September 1993 from the President of the Economic and Social Council addressed to me. The annex to that letter contains the text of a draft resolution on the International Year of the Family; the Economic and Social Council recommends that draft resolution for adoption by the General Assembly. The President of the Economic and Social Council requests that, in order to facilitate the preparatory process for the International Year of the Family, action on the draft resolution be taken before the end of the forty-seventh session.

To enable the Assembly to take the required action it will be necessary to reopen consideration of agenda items 12, "Report of the Economic and Social Council" and 93 (a), "Questions relating to the world social situation and to youth, ageing, disabled persons and the family".

May I take it that the Assembly wishes to reopen consideration of agenda items 12 and 93 (a)?

It was so decided.

The SECRETARY-General has also stated that the Assembly wishes to

Figure 1.2: Pre-Session-48 formatting of PDF transcript

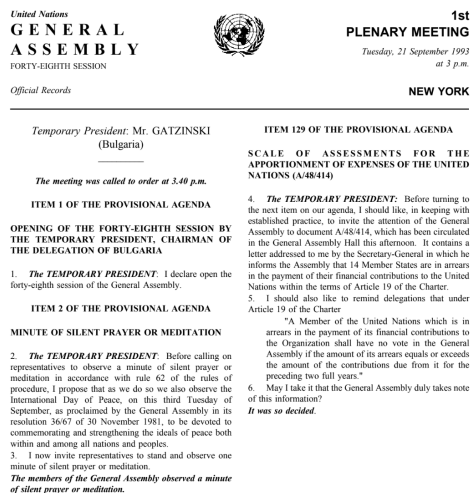


Figure 1.3: Post-Session-47 formatting of PDF transcript

For the former group, I turn to OCR methods. I use the ABBYY FineReader PDF Optical Character Recognition (OCR) engine to convert PDF files between sessions 31 and 47 (ABBYY Production LLC, 2013). To convert these at scale, I use a Mac OSX Automator to set up a folder action, implementing the ABBYY FineReader conversion to text for any PDF file that exists in that folder (see Figure 1.4). Next, I use a BASH script to automate the process of transferring individual PDF files to the folder in question, sleeping for several seconds in between each to allow the text conversion to take place, and deleting the PDF file from the folder once the text file appears in the output folder. I repeat this process until all PDF files have been converted to machine readable

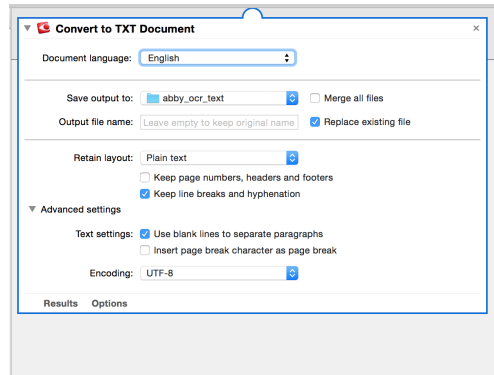


Figure 1.4: Mac Folder Action for ABBYY FineReader

```

92-61237      1379V (E)
A/47/PV.12
1(a-z)

General debate [9] (continued)

Statements made by

Mr. Moravcik (Czechoslovakia)
Mr. Moussa (Egypt)

A/47/PV.12
2

The meeting was called to order at 10.40 a.m.

ADDRESS BY MR. ANATOLIJS GORBUNOV, CHAIRMAN OF THE SUPREME COUNCIL OF THE
REPUBLIC OF LATVIA

The PRESIDENT: The Assembly will now hear an address by the
Chairman of the Supreme Council of the Republic of Latvia.
Mr. Anatolijs Gorbunovs, Chairman of the Supreme Council of the Republic
of Latvia", was escorted into the General Assembly Hall.

The PRESIDENT! On behalf of the General Assembly, I have the honour
to welcome to the United Nations the Chairman of the Supreme Council of the
Republic of Latvia, His Excellency Mr. Anatolijs Gorbunovs, and to invite him
to address the Assembly.

Chairman GORBUNOV (spoke in Latvian; English text furnished by the
delegation): Please accept Latvia's congratulations on your election to the
presidency of the forty-seventh session of the General Assembly, Sir. The
people of Latvia wish you a successful term as its leader.

```

Figure 1.5: Machine readable text file with speeches highlighted

text.²¹

1.2.2 Step 2: Parsing and Cleaning

The bulk of the work to collect UN General Assembly speeches occurred in this stage. The machine readable text for both pre-session-48 and post-session-47 contains a *continuous stream* of text throughout the transcript. Recall, the goal here is to compile and identify individual, unique speeches for every transcript. Figure 1.5 shows an example of what this looks like with respect to the machine-readable text files, highlighting the individual speeches visible in the snapshot.

²¹A brief comparison of Adobe Acrobat Reader's OCR engine and ABBYY's OCR engine revealed that the latter seemed to perform better, especially given the formatting issues in the pre-48 group.

Despite the fact that these texts are continuous streams of text, there is a key characteristic that makes parsing possible: every speech begins on a *new line*, and these new line characters are preserved in the conversion from PDF to Text. For example, as Figure 1.5 shows, despite the fact that the first speech is multiple lines long, the next speech begins on a new line.²² This new line character serves as the first pillar of parsing the continuous text into individual speech-level observations.²³

Second, notice from Figure 1.5 that the speaker—after the new line—tends to *end* with a colon (" "). This is only a tendency, though: the second speech in this snapshot shows how, especially in pre-session-48 observations, but generally across all transcripts—there are times when the PDF-to-Text conversion misreads a colon as another symbol, such as an exclamation point "!" or a semi-colon ";". Moreover, there are other idiosyncrasies that exist in some documents, such as rogue symbols being falsely detected immediately after the new line and prior to the first letter of the speaker name; new lines in the middle of a speaker's name; and inconsistencies in the detection of whitespace and tabs between words. To this end, I define a regular expressions function as defined below, using the *regex* library in Python²⁴

```
def speechparse(sp_text): #sp_text = speechnext1b
    '''This function takes continuous stream of UNGA text and
    returns
```

²²Readers will also note that the first speech contains non-speech, administrative text about a speaker being escorted into the hall. As discussed later, however, this is presidential speech—which is usually removed from analysis since the function of their speech is by definition administrative as opposed to as a representative of their countries. Future work may revisit these presidential speeches to determine whether systematic differences in content exist depending on the country holding the presidency.

²³To be thorough, I also clean the entire text file prior to parsing the individual speeches. This includes substituting various OCR mistakes that were manually detected during the process of data cleaning, such as replacing "iVlr" with the correct "Mr.", or replacing excess whitespaces, tabs, or new lines with simple spaces. It also replaces specific instances where symbols would interfere with the parser, such as replacing apostrophes in known phrases (so that they are not picked up by the speech parser), etc. This script is available upon request; it consists of approximately 60 lines of regular expressions substitution statements.

²⁴This script was written in Python 3.

```

a list of individual speeches per the regex rules below.'''

speechtext3=re.sub(r'.*?The meeting was called to order', '',
    sp_text, flags=re.DOTALL|re.MULTILINE|re.IGNORECASE)
speech=re.findall('\n+[\- \}\{\|\s\t\r\n]*([A-Z][^\./\, \'\n\r
]+?[\n\r]{0,4}?[^\./\, \'\n\r]+[\: \; \!]) (?:\s{0,2}[A-Za-z
12580])(. *?) (?:\n+[\- \}\{\|\s\t\r\n]*[A-Z][^\./\, \'\n\r
]+?[\n\r]{0,4}?[^\./\, \'\n\r]+[\: \; \!]\s{0,2}[A-Za-z
12580]|\Z)', speechtext3, re.MULTILINE|re.DOTALL)

if len(speech)==0:
    speech=None

return(speech)

```

Each transcript also contains meta-data about the meeting time—i.e. the date of the meeting, among other meta-data such as the time of day the deliberations began and ended. I also parse these using regular expressions, where I compile a manual list of plenary sessions which had parsing errors. This is a tactic which I also used during parsing of speeches in the previous step: I used the more specific functions on all data to isolate the specific information desired (such as the date of the meeting), and after manual validation, I use a more general function to at least *capture* this information—even if it means sometimes also capturing more noise. This iterative method provides some balance between flexibility of capturing more data and the specificity of actually isolating the data of interest.

An important characteristic of this parser, is that it splits speeches by looking for *speakers* in the text. Thus, the parser will return both speakers and speeches simultaneously. This will become important in the cleaning step, when falsely split speeches will be identified by utilizing the content of the *speaker*.

```

if str(ses)+"_"+str(pv) in parse_errs:

```

```

meettimetxt=re.findall('\A.*?General[\s\n]+Assembly
.*?([A-Z][^\n]+\n?[^\\n]+m\\.\\s).*?President\s*',
text,re.DOTALL|re.MULTILINE|re.IGNORECASE)
meettimetxt2=re.findall('[MTWFS][a-z]+day[^\n]+\n?[^\\n]+m\\.',text,re.DOTALL|re.MULTILINE)
else:
meettimetxt=re.findall('\A.*?General[\s\n]+Assembly
.*?Session.*?Meeting.*?([A-Z][^\n]+\n?[^\\n]+m\\.\\s)
.*?President\s[\\:;\\I]*',text,re.DOTALL|re.
MULTILINE|re.IGNORECASE)
meettimetxt2=re.findall('[MTWFS][a-z]+day[^\n]+\n?[^\\n]+m\\.',text,re.DOTALL|re.MULTILINE)

if meettimetxt:
meetime=meettimetxt
elif meettimetxt2:
meetime=meettimetxt2
else:
meeterr='Meeting time not found'
meetime=[]
errs.append(meeterr)

```

This parsing method outputs a Comma-Separated-Values (CSV) file for individual plenary sessions, containing unique observations (i.e. rows) for each split identified by the parsing function defined above.

1.2.2.1 Cleaning: parsing error correction

The parser as defined above provides a useful start for isolating individual speeches. However, it is not sufficient. Any parsing will require a balance between (a) correctly capturing all the true splits (that is, making sure two different speeches are not labeled as being the same speech); and (b) preventing any false splits (that is, making sure a single speech is not falsely labeled as being two different speeches). In the parser above, I favored the first goal (a) more heavily than the second, with the intention of following up in later steps to *rectify* the erroneous splits in (b).

To identify erroneous splits, I take advantage of the ordinal nature of the parser, and the fact that we have both speaker and speech information. For example, in Figure 1.5, suppose the second line of the last speech (blue) is falsely identified as a unique speech, where the phrase "*presidency of the forty-seventh session of the General Assembly*" is falsely identified as a new speaker, and the text afterward identified as the corresponding speech. Given that we can identify this *speaker* as not actually being a speaker, we can *concatenate* both this "speaker" and "speech" with the previous speech (which in this example, assume is correctly identified with the speaker "*Chairman GORBUNOV (spoke in Latvian; English text furnished by the delegation)*"), resulting in a single speech containing what was previously the correctly identified speaker, the correct corresponding speech, a falsely identified speaker, and a falsely corresponding speech in that order.

Identifying these erroneous speakers was not a simple task, and required a manual reading of each identified speaker to determine whether it is legitimate or illegitimate. To facilitate this manual reading, I use a three-step process to identify *thresholds* above and below which we can separate legitimate speakers from illegitimate speakers. More precisely:

1. In step 1, I find the cutoff number of words (for example, 5 words) **above which I only capture non-speakers**, looking for for PERFECT SEPARATION in that cutoff.
2. In step 2, I find the cutoff number of words (for example, 4 words) **below which I captured ALL legitimate speakers**. This process includes manually compiling an *exception list* for

legitimate speakers, where—for example—if we have one or two speakers above the identified cutoff, I can include them as exceptions so they'll be included in the final list.

3. For step 3, sometimes there are a lot of speakers above a given cutoff. For example, above 3 words we still get a ton of speakers, but you'll also get a lot of non-speakers. This creates difficulty using an "exceptions" list. Therefore, this step looks for a cutoff **below which I capture all legitimate speakers**, where we specify an *exception list for illegitimate speakers* to remove from below that cutoff.

To do this, I first stack all individual plenary meeting CSV files into a single session-level CSV file. Then, using trial and error, for each session I execute the three steps above. For example, for step 1 on UNGA session 37, I will compile all speakers in that session and manually review all speakers above 3 words long. If there are any legitimate speakers in that list, I increase this to 7 words. If there are no legitimate speakers in that list, I will decrease it to 5 words. If there are still no legitimate speakers, I will decrease to 4 words. Finally, if there are legitimate speakers present above the 4-word threshold, I will set the threshold for session 37 for step 1 as being 5 words. For example, a resulting source file for thresholds would look like this in Python list format, for all sessions from session 37 through 69:

```
[5, 12, 10, 21, 19, 14, 15, 18, 16, 15, 18, 6, 9, 7, 3, 3, 3, 4,
 4, 3, 3, 4, 4, 6, 5, 4, 4, 5, 5, 9, 9, 4, 5]
```

I then repeat this process for each step, where step 2 and step 3 also include manually compiling *exceptions* to the thresholds—as defined in the above summary. More precisely, this list of exceptions would be the exact text of *speakers* that are identified to be exceptions to thresholds in step 2 and 3. Finally, after all source files (i.e. thresholds and exceptions lists) have been identified, I run a python script for each iteration, where erroneous speakers—and the corresponding erroneous speech—are concatenated with the previous speaker/speech observations. Note that I do this as a loop: this means that if two consecutive rows are identified as erroneous speaker/speech observations, the

79. Mr. BUENO (Brazil): The Brazilian Government has always followed developments in Puerto Rico with great interest. The Puerto Rican people have had several opportunities freely to express themselves on the subject of their political status, and we understand that in the near future they will once again be able to voice their preferences through an island-wide plebiscite. We therefore believe that involvement of the General Assembly in the affairs of Puerto Rico would have little to add at the present stage. Brazil shall therefore vote in favour of the decision taken by the General Committee as appears in paragraph 20 of the document now under consideration.

80. Mr. NISIBORI (Japan): Mr. President, in the interest of time I shall defer to a later date the expression of my delegation's congratulations on your assumption of the high office of the presidency.

81. My delegation supports the first report of the

Figure 1.6: Example speakers with parenthetical identification

first of these errors will be concatenated with the correct observation before it, and *then* the second of the original errors would be concatenated with that newly concatenated, speech.

Ultimately, while no parsing methodology will be exact, this methodology provides a useful balance between automated identification and parsing with the precision of manual reading. This marriage between human and machine is an important part of the data collection for this dissertation, and is a conceptual framework for data collection that should be replicated in other areas of large-scale data collection and cleaning.

1.2.3 Step 3: Identifying speeches with individual countries

Having compiled speech-level observations following the methodology above, I turn to the task of labeling each speech with a respective speaker. Many speakers contain this information within their text; as Figure 1.6 shows, identifications of speakers with countries are often listed parenthetically after the speaker name and prior to the colon separating speaker and speech. For these, it is relatively straightforward to use a Regular Expression to search the speaker for parentheses and search for matches between the text within parentheses and a source file linking the text of country names to Correlates of War (COW) country codes.

A large number of speeches, however, do not contain this parenthetical information. For example, Figure 1.7 United States representative to the UN Madeleine Albright's speech is not tagged with a corresponding parenthetical label. However, the opportunity to identify these speeches

The PRESIDENT: I now call on the representative of the United States of America, who will speak on behalf of the host country.

Mrs. ALBRIGHT: The United States, as host country, wishes to express its profound sadness at the loss of President Félix Houphouët-Boigny of Côte d'Ivoire. We extend our sympathies to the family of the President and to the people of Côte d'Ivoire as they mourn the loss of a great man of peace.

Figure 1.7: Example speaker without identification

id_4	Ghana	Ghana (PRE The President (Ghana))	I have great pleasure in welcoming the Prime Minister of Japan, Mr. Morihiro Hosokawa, and his
id_4		Japan	I should like first of all to extend my heartfelt congratulations to you, Mr. President, who also see

Figure 1.8: CSV file rows with speakers and speeches

comes from the speech *immediately before*: I exploit the institutional formalities of the UN General Assembly to use the immediately preceding speech to identify unidentified speeches. In nearly every case, this preceding speech is the UN General Assembly president introducing the speaker—including their respective country or organization.

To this end, I loop sequentially over every speech in my cleaned dataset. I use a regular expression to attempt a match on whether or not the speaker name contains parentheses, and then I attempt to match the text within those parentheses with country names in a source file mapping country names to COW country codes. If there is no match, I pull *both* that speaker-speech observation *and* I pull the speaker/speech observation *immediately preceding it*. This resulted in a CSV file with the text of both speeches one after another (Figure 1.8), where the country or organization name can be manually added.²⁵ I then add country names manually to each unidentified speaker-speech observation and save the CSV file as a source file; then, I re-run the sequential loop over all speeches, drawing from the source file for those speakers which do not contain country names in parentheses.

Finally, a critically important phenomenon that occurs in UN General Assembly speeches are *grouped* statements. These statements are delivered by one country on behalf of a particular group—for example, on behalf of the European Union. This becomes problematic for country-level analyses since it censors the content of speech in transcripts: for example, if Canada delivers a speech on

²⁵Thanks to Tara Iseneker for assistance with this

behalf of Canada, Australia, and New Zealand, then the data would only show this speech as being associated with Canada. This censors the fact that, by definition, all three countries—Canada, Australia, and New Zealand—effectively delivered *the same speech* in that instant. This would, for example, systematically underestimate the similarity of speeches between two countries who deliver speeches via the same grouped statement, and impact the subsequent analysis linking speech patterns to foreign policy or political incentives.

To this end, I also exploit the formal nature of speeches at the UN General Assembly by searching for common phrases at the start of a speech, indicating it is a grouped statement. To do this, I search for the phrases "speak on behalf of" or "in my capacity as", both of which almost always precede grouped statements.²⁶ I also compile source files for every group I find in the data; Table 1.1 provides a list of all of these. Notice that many are draft resolutions: this is due to the fact that in many cases, a country will deliver a speech on behalf of the signatories to a particular draft resolution. Similarly, there are groups such as African Parties to the International Criminal Court (ICC), which are exactly as the name describes—African members of the ICC.

²⁶While I cannot claim to have read every speech to validate this tactic, there were no grouped statements I came across which did not include these phrases.

ALBA	Latin American and Carribean Group	CentAmerica
AOSIS	MERCOSUR	CentralAmericanIntegrationSystem
ASEAN	NAM	Committee on the inalienable rights of the Palestinian people
AU	Nordic	Democracy and Human Rights in Haiti
AfPartToICC	OIC	Draft Resolution A51L71
AfricanGroup	PIF	Draft Resolution A52L46Rev1
AntarcticTreaty	PSIDS	Draft Resolution A52L67Rev1
ArabLeague	Pompidou	Draft Resolution A53L16
ArabMaghrebUnion	PortugueseSpeaking	Draft Resolution A59L54
AsiaGroup	RioGroup	Draft Resolution A68L33
CARICOM	SACM	Entrepreneurship and privatization for economic growth and sustainable development
CIS	SADC	FriendsOfMediation
CPLP	SIDS	
CSCE	SOPAC	
CSTO	ShangCoop	
ECCAS	SpanishSpeaking	
EEC	Union of South American Nations	
EEG	WEOG	
EU	CANZ	
G77		
G77andNAM		
GUUAM		
Group77china		
IberoAmerican		
LDCs		
LLDCs		

Table 1.1: Groups found in UN General Assembly speeches

As the python script loops over each speech, I include a prompt to manually enter a source file for a given speech, given that it is caught by the phrases above. I then read the caught sentences and manually input a corresponding source file: for example, if a speech is delivered on behalf of the European Union, I input "EU.csv" to indicate that the speech is referencing the list of countries given by the source file EU.csv. Further, in many cases, additional countries will also sign on to a statement—even if they are not members of the group. I also list these countries manually as prompted in the Python script. Depending on the organization, I also include the year—and in some cases, the months—that individual countries actually became members of the group. I add this into the source files, and write a function accordingly to read the CSV file correctly depending on the group. This returns a list of countries—both within the organization, and any additional countries who signed on to the speech—which I then use to repeat the speech in question and create separate country-speech observations for every country in the list.

```
def csv_ident_extraction(fname, sourcedir, yr, mo, type1, type2):
    _curdir=os.getcwd()
    os.chdir(sourcedir)
    _outcntrylist=[]

    _app=[]
    if ";" in fname:
        _z=fname.split(";")
        fname=str(_z[0])
        _app=_z[1:]

    #Cross ref with file types
    if fname not in type1+type2:
        _tp=3
    elif fname in type1:
```

```

        _tp=1
elif fname in type2:
    _tp=2
with open(fname,'r') as _f:
    _reader=csv.reader(_f)
    for _row in _reader:
        _cntry=_row[0]
        if int(_tp)==1:
            _joinyr=int(_row[2])
            _joinmo=int(_row[1])
            if int(yr)>=_joinyr and int(mo)>=_joinmo:
                _outcntrylist.append(_cntry)
        elif int(_tp==2):
            _joinyr=int(_row[1])
            _endyr=int(_row[2])
            if int(yr)>=_joinyr & int(yr)<=_endyr:
                _outcntrylist.append(_cntry)
        elif int(_tp==3):
            _joinyr=int(_row[1])
            if int(yr)>=_joinyr:
                _outcntrylist.append(_cntry)
        else:
            sys.exit("csv_ident_extraction() function
                    requires type 1;2; or 3")
_outcntrylist.extend(_app)
os.chdir(_curdir)
return _outcntrylist

```

```

if "speak on behalf of" in first.lower() or "in my capacity as"
in first.lower():
    cap=re.search("speak\s+on\s+behalf\s+of\s*(.*)",first.lower())
    try:
        ident=(int(ses),int(pv),str(sp),str(cap.group(1)))
    except AttributeError:
        cap=re.search("in\s+my\s+capacity\s+as\s*(.*)",first.
            lower())
        ident=(int(ses),int(pv),str(sp),str(cap.group(1)))

print(ident)
challenge=input("file?_")
challenge=comma2semicolon(challenge)
if challenge=="":
    challenge=input("Are you sure?")
    if challenge=="":
        #We still need to put it in our dict to confirm
        assert grouped==0
        challenge=ccode
        groupdict[ident]=challenge
        newlab=ccode
        finrow=[ses,pv]+rowdata+[newlab,grouped,corrccode,
            speech]
        writerow(finrow,outfile,outdir,'a')
        counter+=1
        continue

```

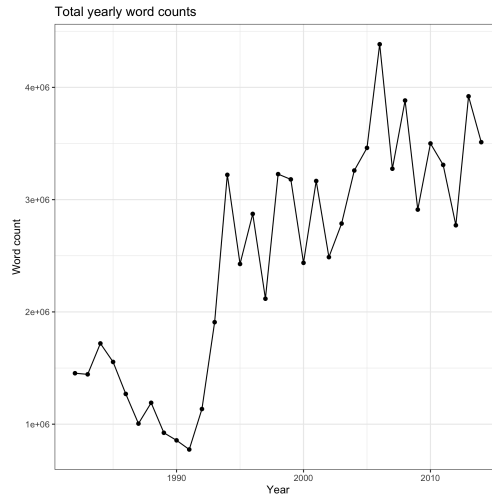


Figure 1.9: Total word count over time

```

else:
    pass

#if I give it a value for the input, go find it
grouped=challenge
groupdict[ident]=challenge
ungrouped=GetUngrouping(challenge,sourcedir,yr,mo,type1,type2)
for cntry in ungrouped:
    newlab=cntry
    finrow=[ses,pv]+rowdata+[newlab,grouped,corrccode,speech]
    writerow(finrow,outfile,outdir,'a')

```

The data consist of 84,872 speeches delivered by individual countries between 1982 and 2014.²⁷ These consist of over 81,000,000 words spoken, with an average of around 1.2 million words per year prior to 1992, and an average of around 3 million words from 1992 onward. Figure 1.9 plots the total yearly word count over time; similar trends are also present for the number of speeches delivered per year.

²⁷Slightly over 50,000 speeches were delivered by others, including organizations; celebrities; or other speakers

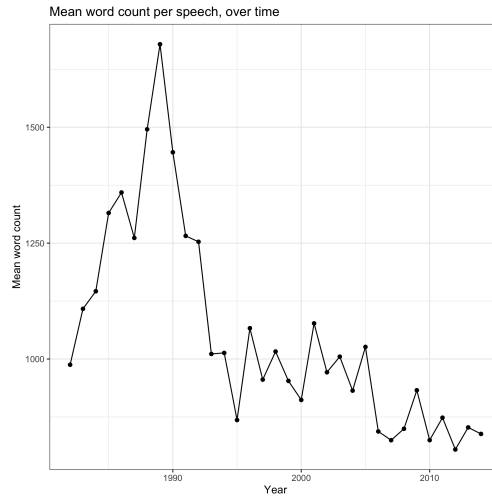


Figure 1.10: Mean word count per speech, over time

One noteworthy pattern is that despite the fact that total words and speeches have increased over time, the average length of any given speech has decreased. Figure 1.10 plots the average length of any given speech, per year, over time. Thus, the increase in speech at the UN General Assembly over time is largely driven by more individual speeches, which is likely driven by more issues being discussed; this follows from previous work on the UN General Assembly by scholars studying voting patterns (Bailey et al., 2015), who show that the agenda has changed over time as countries vote on different issues.

CHAPTER 2

MATERIAL CAPACITY AND POLITICAL INCENTIVES AS DRIVERS OF UN GENERAL ASSEMBLY SPEECHES

Since its inception in 1945, the United Nations has captured the attention of both scholars and policymakers as a vehicle for countries to channel their foreign policy interests. The ensuing discussion has been a diverse one: from specific behaviors like peacekeeping and other policies at the UN (Neack, 1995; Fortna, 2008; Beardsley & Schmidt, 2012), to institutional questions about how these policies might come about (and their impact on international politics) (Voeten, 2001; Mearsheimer, 1995; Keohane & Martin, 1995; Mearsheimer, 1994), to the very sources of the UN's political legitimacy itself (Keohane, 2012; Chapman, 2011; Thompson, 2009; Ruggie, 1982; Claude, 1966). This body of work has provided a rich picture of the UN's role in international politics, particularly with respect to the way the UN promotes and legitimizes the core values of its organizational mission.

While some have argued that the institution itself can take on an agenda of its own as an "active participant" in world affairs (Barnett & Finnemore, 2004, p.16), the UN is composed of individual actors. The individual member states of the UN engage with the UN in a variety of diverse ways. A recent literature, for example, has examined the patterns of how individual countries contribute to United Nations peacekeeping missions (Kathman & Melin, 2017; Bellamy & Williams, 2013; Bove & Elia, 2011), in relation to broader theories on where the UN sends peacekeepers more generally (Uzonyi, 2015; Fortna, 2008; Gilligan & Stedman, 2003; Andersson, 2002). This literature has shown that countries contribute troops where the *risk* of having idle troops otherwise would be high: Kathman & Melin (2017), most notably, show that the history of coup attempts as well as the presence of a rivalry both are strongly related to the number of troops contributed to UN Peacekeeping missions. Another vehicle to understand individual state engagement with the UN has been the study of roll call votes at the UN General Assembly (Ball, 1951; Lijphart, 1963; Alker, 1964; Russett, 1966; Keohane, 1969; Newcombe et al., 1970; Voeten, 2000; Bailey et al., 2015),

with some notable work also looking at patterns of resolution sponsorship at the UNGA between countries (Jacobsen, 1969; Dijkhuizen & Onderco, 2019). Finally, a literature has arisen studying the dynamics of voting itself: an argument has emerged, for example, that powerful countries are able to buy votes from weaker countries at the UN General Assembly Carter & Stone (2015); Dreher et al. (2008); Wang (1999); Rai (1980). In both the cases of Peacekeeping and General Assembly voting, current literature has shown that both *political interests* and *material capacity* can help drive and explain individual state engagement with the UN.

Another type of behavior at the UN has yet remained overlooked, despite its prolific nature going well beyond both voting and Peacekeeping: individual country speeches at the UN—and in particular, the UN General Assembly. In 2014 alone, there were over 2.2 million words spoken on the floor of the UN General Assembly, composed of 194 countries and over 3500 unique speeches. These speeches occur in a variety of contexts on a plethora of issues, ranging from Economic development to Nuclear proliferation, and are one of the most politically visible actions an individual country can take at the UN. Yet to date, in the scholarly literature, little systematic study has been done on this behavior; while some work has alluded to the presence of a public forum (Voeten, 2005), and others have made use of the speeches themselves to answer other questions (Baturu et al., 2017; Medzihorsky et al., 2017; Binder & Heupel, 2015), the actual variation between countries in their delivery of speeches has not yet been subject to empirical scrutiny. Especially given the public nature of these speeches—particularly during Plenary sessions—and the increasingly prolific nature of these speeches in the media and political sphere more broadly,¹ this behavior provides an opportunity to more deeply study the politics of public diplomacy at the United Nations.

In this paper, I set out to examine why some countries speak more at the UN General Assembly than other countries. I argue that speech at the UN General Assembly is related to the audiences who may potentially be listening, and that countries with greater capacity to influence issues will gain more political benefit in speaking on them (resulting in more speech). First, I show

¹A search of New York Times articles for "U.N. General Assembly" since 1990 returns over 7500 results, with an average of 16 per month from 1990-2001, and an average of 24 per month from 2001 to August 2020

that countries with a greater capacity to influence the UN's broader institutional mission—namely, "international peace and security" and the "relations among nations"²—should speak to a more diverse set of audiences, since they will either be involved in or have the *capacity* to be involved in more issues relevant to the UN. Second, I show that countries with stronger political incentives linking audiences to leaders—in this case, through domestic political institutions—will speak more than their counterparts, all else being equal. Third, I evaluate the mechanisms linking both *material capacity* and *political incentives* to the amount of speech, showing that powerful countries who show an explicit interest in a larger number of issues speak the most, and that the impact of political incentives on the amount of speech is highest for those countries with fewer alternative avenues for delivering these speeches. Finally, I validate that the amount of speech at the United Nations General Assembly does indeed reflect an interest in a broader array of issues relevant to the UN as a whole, as well as an interest in *influencing* these issues. I do so by drawing from the literature on UN Peacekeeping troop contributions, showing that countries who speak more are strongly more likely to both participate in missions and contribute more troops to it. This suggests that the amount of speech at the UN General Assembly is directly linked to the issues the UN is most engaged with, and that it is driven politically by an interest in influencing these issues.

2.1 The UN General Assembly as a platform for connecting speakers to audiences

There is a fair amount of literature on rhetoric in international politics, not only limited to the UN General Assembly. This literature is diverse, analyzing international speech through multiple lenses: from *justifying* one's own behavior to an interested political audience (Steffek, 2003, drawing from Weber (1978) and Habermas (1984)), to *coercing* others into a given behavior (Fearon, 1994; Schultz, 1998; Tomz, 2007), to even *persuading* others (Krebs & Jackson, 2007; Steele, 2007). While each of these literatures are robust and ongoing, all three point to a key insight about rhetoric: namely, that rhetoric does not occur in a vacuum. Rather, a fundamental component of any analysis of speech must include a link between the speech being delivered and the *audiences*

²(Nations, 1945, art.1, par. 1)

who are listening or potentially listening.³

Through this lens of linking speaker to audience, the politics surrounding UN General Assembly speeches can be more clearly understood. Both domestic and international audiences have some stake in leaders' behavior and interests at the UN broadly—both at the Security Council and the General Assembly. From seeking legitimization of force at the UN Security Council (Claude, 1966; Voeten, 2005; Thompson, 2009; Chapman, 2011) to the coercive politics of vote-buying at the UN General Assembly (Carter & Stone, 2015; Dreher et al., 2008; Wang, 1999; Rai, 1980), there is a growing body of work pointing to the fact that countries behave at least *as if* there are audiences interested in both the costly and symbolic behaviors at the UN.⁴

UNGA Speeches almost certainly fall into the camp of symbolic behavior. With minimal if any cost involved in their delivery, UN speeches are entirely symbolic actions.⁵ Like General Assembly votes, given the UNGA's lack of legal power, speeches are almost entirely political and serve a communicative function; often crafted by speechwriters or leaders themselves, these speeches provide leaders a mechanism for targeting key political demographics, speaking to media at home and abroad, and communicating values on a broad array of issues (Collier, 2018; Hecht, 2016; Waheed et al., 2013). Here, governments are free from "external constraint", whereby

³Despite its association in the literature with "audience costs", the term "audience" here is used more broadly, indicating any actor or group of actors who either listen to or can potentially listen to a speech.

⁴To be clear, this literature does provide some evidence of audiences *actually* both listening and reacting to actions taken by the UN (Chapman, 2011). Moreover, vote buying is by definition costly, even to powerful countries like the US: given that UNGA votes do not carry any legal power, this must mean that there are explicit and tangible benefits (to offset the costs) from symbolic communication like UNGA voting. These benefits are only possible if politically relevant audiences (such as donors and elite interest groups) actually internalize symbolic behavior, like UNGA voting patterns. Thus, there is at least some evidence that states not only behave *as if* politically relevant audiences are listening and watching, but that they in fact *are* listening and watching.

⁵This is an assumption, but not without meritorious challenges. The role of speechwriters in the United States, for example, demonstrates the possible moderating influence of political institutions on the actual composition of speech. This adds a non-trivial cost to crafting a political speech, since it requires investment in both educating speechwriters and in the political infrastructure required to analyze relevant values and political audiences. While it is beyond the scope of this paper, future work may consider how these costs impact the subsequent political incentives around delivering speeches.

they are empowered to "speak their mind" rather than being constrained by institutional processes (for example, voting) or coercion (Baturu et al., 2017, p.2, citing Waltz (1959); Smith (2006)).⁶

Finally, an important characteristic of a public forum like the UN General Assembly is the scope of issues it addresses, and the corresponding scope of audiences it can reach—each with a set of one or more issues they prioritize. Both domestic and international audiences are exposed to the content, character, and volume of speeches that countries choose to deliver. This also differentiates speeches delivered publicly at the UNGA from dialogue that occurs in private: public speeches at the UNGA serve the purpose of communicating efficiently to political audiences who otherwise would not be present in a private setting.⁷ Thus, while private dialogue and discussions are a vital function of institutions like the UN, it is not immediately obvious that they can serve as a replacement for public speech, and so public speech can be understood independently of these private options.

2.1.1 Material capacity, Political institutions, and UNGA speech

With the lack of constraint involved with speeches, as well as the communicative function of speeches to audiences, we should expect two things. First, an increase in the *number* of politically relevant audiences, each presumably with their own set of prioritized foreign policy issues, should correspond with an increased volume of speech at the UN General Assembly—holding all else equal—given that these leaders must address a more diverse array of issues. Second, a stronger *political connection* between leaders and politically relevant audiences should also lead to an increased amount of speech, since leaders will not only need to elaborate on their positions more clearly, but they will also need to explain their positions further to dissenting audiences.

Given the global scope of the United Nations, in particular its mandate for "international peace and security" and the "relations among nations"⁸, a country's *material capacity* serves as a natural

⁶This is analogous to what Gartzke & Jo (2006) argue with respect to UNGA voting.

⁷This distinction serves as a foundational element in analyzing private diplomacy, both in its incidence (Baum, 2004) and its effectiveness (Kurizaki, 2007)

⁸(Nations, 1945, art.1, par. 1)

barrier for its capacity to influence—and thus, to be politically relevant in—the issues most relevant to the United Nations. As discussed extensively in previous literature, from peacekeeping to even symbolic votes on UNGA resolutions, the most powerful countries are consistently in a position to influence a more diverse array of issues relevant to the UN. Both the capacity to coerce less powerful countries to bend to their political will as well as the capacity to influence the issues themselves (for example, the capacity to pressure nuclear countries to de-nuclearize or limit proliferation) makes material capacity a useful measure for the diversity of issues in which that country is involved, interested, or potentially relevant at the UN. It should follow, then, that these countries will speak the most at the UNGA, since there are a larger number of politically interested audiences (by virtue of a more diverse set of issues the country is interested in) present for that leader.

Hypothesis 1: More powerful countries will speak more at the UN General Assembly

Additionally, *within* any given political audience, we would expect some diversity of preferences, since any single issue will have a diverse possible array of potential responses, dimensions, and political angles.⁹ Thus, leaders with institutional incentives leaving them *beholden*—or politically vulnerable—to interested audiences should be more active in their speech, since they must provide sufficient elaboration to all sides of an issue.¹⁰ It should follow, then, that countries with domestic institutions connecting leaders to constituents more strongly—such as democratic countries—will tend to speak more at the UNGA.

Hypothesis 2: More democratic countries will speak more at the UN General Assembly

⁹For example, a given issue might see some hawkish and some dovish sub-constituents, each with some level of political power that influences a leader’s public speech (Kertzer, 2016).

¹⁰As a corollary, this also implies that they will discuss a more diverse array of issues, since they are more beholden to these diverse audiences, which further suggests an increased amount of speech. See Mahmood (2020a) for more.

2.2 Data and measurement

Data on these speeches come from the UN website, where I scrape all transcripts for plenary sessions in PDF format.¹¹, converting these to text via Adobe Acrobat Pro's batch OCR processing. Next, I identify each speech with its corresponding country and speaker using a combination of regular expressions (where speakers are identified parenthetically) and manual coding, using Python to write an interactive script to detect unidentified speakers and pull the preceding speech—the vast majority of the time being an introductory speech by the UNGA president. I then manually identify the speaker from this preceding introductory speech, and re-process it into the full dataset programmatically, integrating in the manually identified speakers as source files. This corpus was collected independently of the one by Baturo et al. (2017), whose corpus focuses only on speeches delivered by heads of state under *General Debate*.¹² The time frame for this paper is 1984-2014.¹³

Given that the UNGA is a finite medium, there may be some slight right-censorship: that is, countries who may have otherwise spoken more might constrain themselves. However, these are not substantial constraints, and should not have a substantial impact on the analysis¹⁴. Moreover, if in fact there are substantial numbers of countries delivering high-volume speeches who would have otherwise delivered more, this would only diminish the variation between countries making empirical leverage more difficult to gain. Finally, as Baturo et al. (2017) point out, UNGA speeches

¹¹This is achieved by exploiting the fact that UNGA plenary sessions are labeled consistently in the format A/[session]/PV.[plenary], across sessions and plenary meetings within each session. This is conducted in Python, and draws directly from the UN website, www.un.org

¹²For example, their data from the year 2000 (session 55) includes the speech made by Madeleine Albright in the 10th plenary meeting of the 55th session, but leaves out President Clinton's address during the 3rd plenary meeting, which occurs outside the confines of "General Debate" and under different agenda topics.

¹³Speech data were originally collected to correspond with voting data, which only goes back to 1984. Data has been collected for the years 1945-1984, but parsing and cleaning is ongoing.

¹⁴Only the General Debate has a "voluntary" limit of 15 minutes on speeches. The broader plenary sessions do not have an explicit time limit set, though there are rules in place to allow member states to vote on placing one should they decide to. As I discuss below, my data encompasses all speeches including both General Debate and Plenary meetings. For more information, see the Rules of procedure for the General Assembly, focusing primarily on Rule 72 in the Plenary Session rules. Also see the Frequently Asked Questions on the UN General Assembly.

are unique in that "...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.2), meaning that individual country word counts have the added empirical benefit of being relatively independent observations, which facilitate the use of econometric and statistical tools and the underlying assumptions therein.¹⁵

Between 1982 and 2014, a total of around 59 million words were spoken, with an average of around 1.8 million per year across all countries. In any given year, there are usually around 1200 speeches delivered across all countries at the UNGA, ranging from around 750 as the Cold War came to a close in 1989 to around 1500 in multiple years as the UN's activity increased. The average country delivered around 8000-10000 words per year, though there is substantial variation across countries. Figure 2.1 provides the total yearly word count across this period.¹⁶ The variation across countries is visualized in Figure 2.2, which provides the average yearly word count per year across the world from 1982-2014.¹⁷

In the aggregate, there appears to be strong support for the theory that both powerful and Liberal democratic countries are speaking more with at the UN General Assembly: in addition to the US, Russia, and China, countries in Western Europe are highly engaged with the UN. Regional powers also play a significant role: Brazil in Latin America, Egypt and North Africa more broadly, South Africa, India and Pakistan, and Indonesia are all relatively high in UN engagement. Figure 2.4 provides a map of European Union countries in their respective word count; Figure 2.3 and Figure 2.5 provide similar maps for countries in the non-aligned movement and in Africa.

¹⁵As I discuss later, a key source of non-independence comes from the presence of grouped statements, which I account for in the analysis.

¹⁶Individual country averages follow a similar trend

¹⁷Mapping is done via the R package *rworldmaps*. See South (2011).

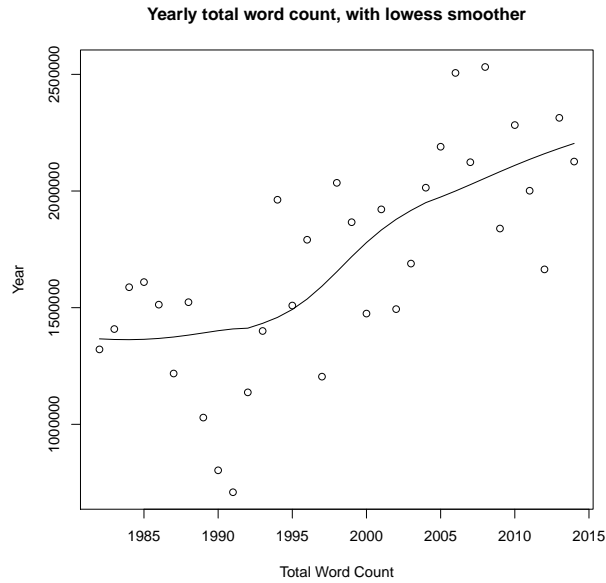


Figure 2.1: Total word count, yearly

2.2.1 Measurement of country-level characteristics

2.2.1.1 *Variables of interest*

To measure material capacity and power, I use two different measures, each capturing a different aspect of power. First, I use the Composite Indicator of National Capabilities (CINC) (Singer et al., 1972, version 5), which provides as a continuous variable an indexed score aggregating military, population, economic, and other measures of a country's general level of power. This provides a broad, comparable measure of *power* and *material capacity* across countries. Noteworthy here is to point out that the component measures of CINC score—especially GDP Per Capita, Population, and Military Spending—can each be analyzed separately as different components of broader "material capacity". As noted below as well, the high correlation between CINC score and these constituent components (in particular, population, which has an over 0.90 correlation with CINC score) makes it difficult to include both CINC score and any of these constituent parts in the same model. Thus, for robustness, I run models with only CINC included in the model, and also models with each individual component (as well as combinations thereof).

Average word count per year, 1982–2014

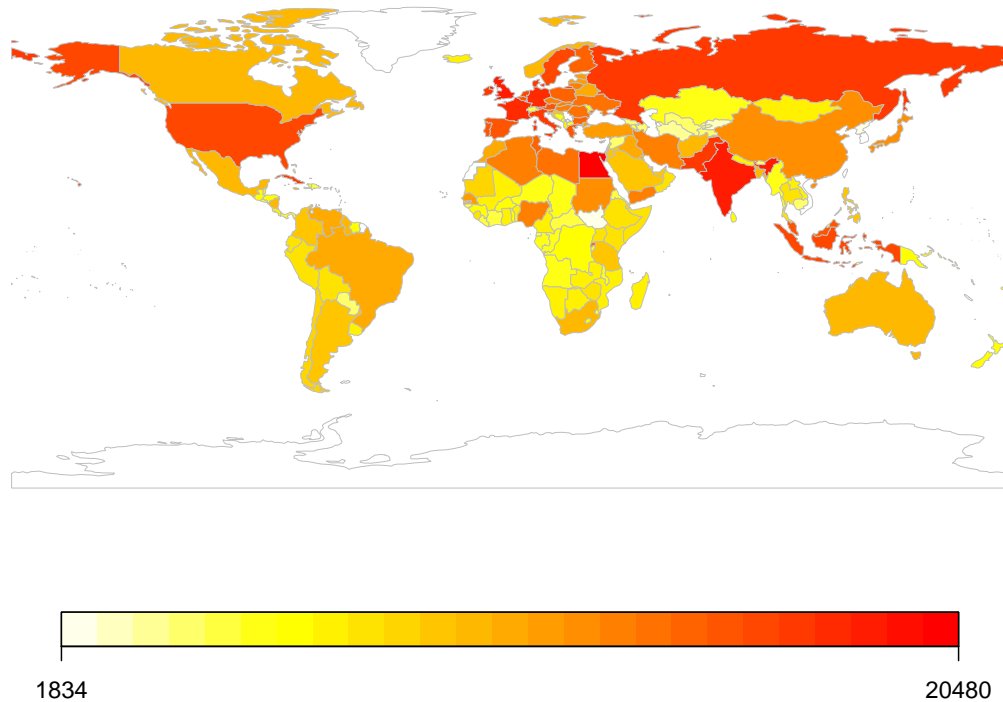


Figure 2.2: Average yearly word count, worldwide, across 1982-2014

Second, I include a measure of Nuclear capability, which in the post-World War 2 era serves as a uniquely stark measure of a country's coercive leverage, given the threat associated with Nuclear weaponry. For this, I use Fuhrmann & Tkach's (2015) data on Nuclear Latency. This data moves beyond the binary classification of nuclear powers and non-nuclear powers, and also includes the ambition for nuclear power by coding countries with "at least a laboratory-scale enrichment or reprocessing plant" and countries with "at least a pilot-scale enrichment or reprocessing plant". Using this data, I create a 4-category variable composed of *None*, *Either lab or pilot*, *Both lab and pilot*, and *Full*.

Measuring democracy is a trickier task. There is a robust literature on how to measure

Average word count per year, 1982–2014 (Non–Aligned Movement)

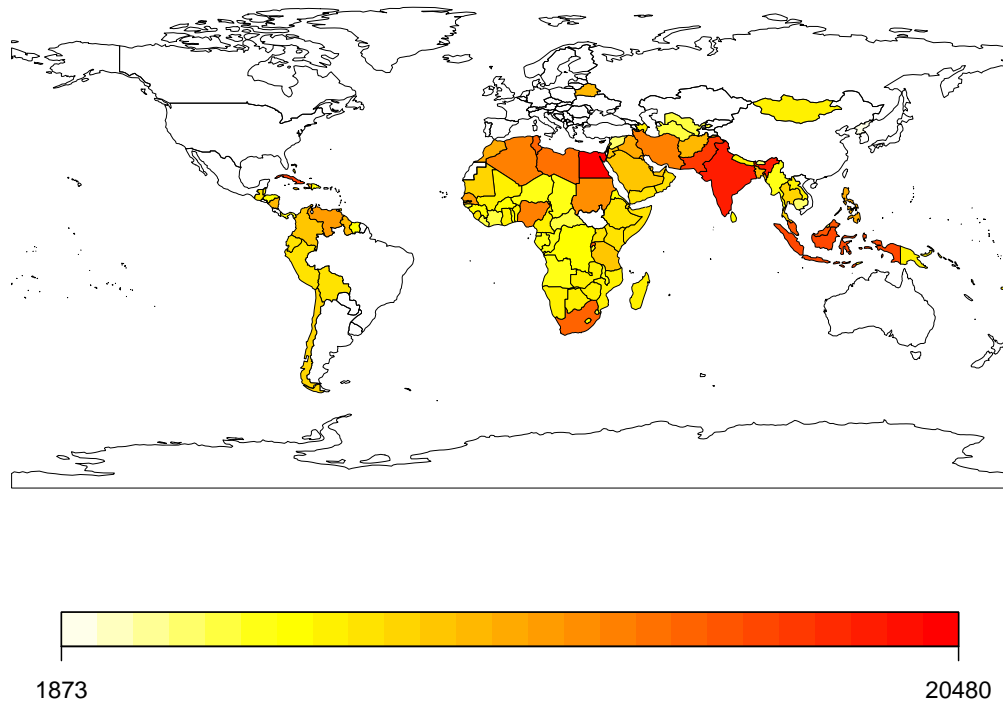


Figure 2.3: Average yearly word count, NAM countries, across 1982-2014

Democracy, given the high dimensionality of the concept as well as the prioritization of different elements of democracy. Extensive work has been done to resolve these issues. Some work, such as the highly-cited¹⁸ Polity score, the Freedom House scores (House, 2014) or Przeworski's (2000) scores¹⁹, sets out to aggregate across various measures and indicators to create a single index. Recently, building off from this has been a second, related method which uses statistical models to both weight various attributes of democracy and to account for measurement error in these estimates (Treier & Jackman, 2008); these methods have also been used *across* measures of democracy themselves—as opposed to on the underlying attributes—to help "minimize the impact of

¹⁸But recently controversial; see Treier & Jackman (2008); Boese (2019)

¹⁹Also see Cheibub et al. (2010)

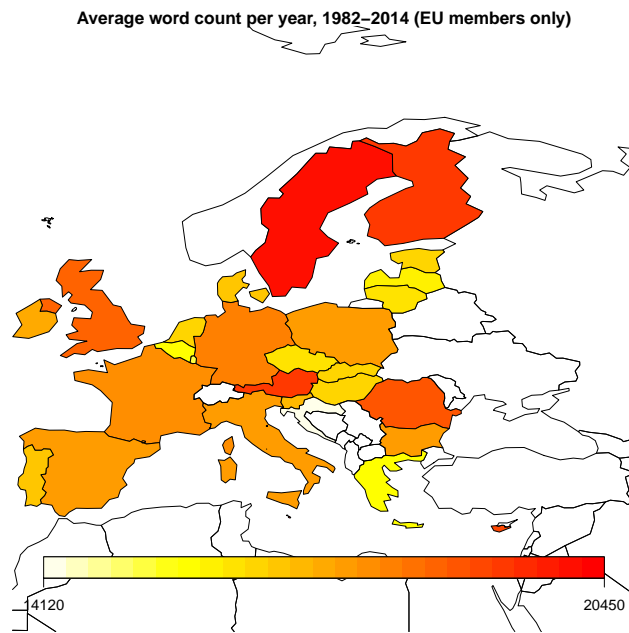


Figure 2.4: Average yearly word count, EU countries, across 1982-2014

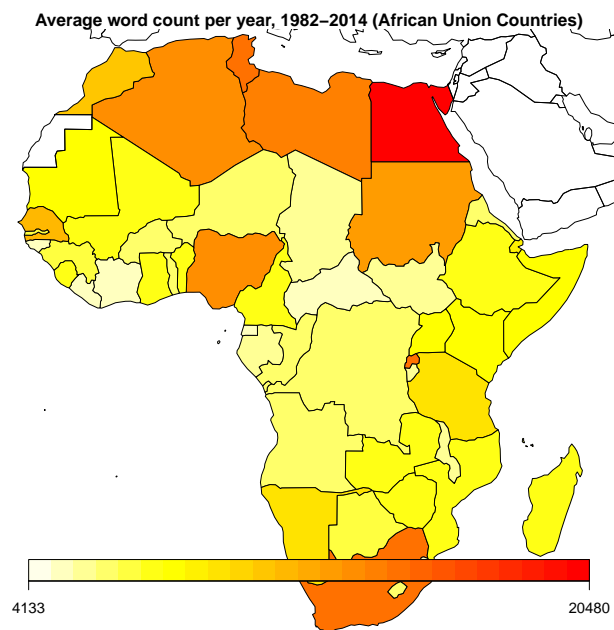


Figure 2.5: Average yearly word count, AU countries, across 1982-2014

idiosyncratic errors that occur in individual measures, to take advantage of the level of agreement between raters" across independent measures (Pemstein et al., 2010). Finally, a third method embraces multi-dimensionality by explicitly breaking out democracy on multiple dimensions, providing unique scores across these different dimensions while *also* providing aggregated scores in addition to breaking out dimensions (Lindberg et al., 2014), a method which has seen some validation in the literature (Boese, 2019) as compared to others.

One advantage of the third method is that the explicit mechanism in question can be more carefully measured. More specifically, the argument presented here is that democracies are most optimally suited to *incentivize* leaders to *cater politically* to the diversity of preferences in their respective populations. This is a limiting factor of more popular indices such as the Polity index, which is primarily focused on the institutional structure behind the leader's power (i.e. executive recruitment, political competition, and executive independence).²⁰ Using V-Dem data (Lindberg et al., 2014), I use two measures to capture the institutional link between leader and constituent: the *electoral democracy* index, which measures the extent of suffrage; freedom of civil society to operate; cleanliness and fairness of elections; and most importantly whether "elections affect the composition of the chief executive of the country"—a crucial mechanism to linking constituent to leader. The second indicator I use from V-Dem is the *participatory democracy* index, which relatedly measures the extent to which there is maximal participation in the political process by the population (including civil society engagement) and also participatory institutions such as direct-democracy and sub-national governance. Finally, to be thorough, I also use the Unified Democracy Scores (Pemstein et al., 2010) from the work on statistical measurement models, since this measure provides a rigorous approach to compromising between using any single indicator (such as Polity or Freedomhouse) and also having a single, unified measure to compare across countries. All results are similar to those presented here.

²⁰However, given its prevalence in the literature, I also use the Polity score as a robustness check.

2.2.1.2 *Control variables*

There are other characteristics, be they country-level or structural, that may be expected to contribute to a country's engagement with the UN General Assembly. For instance, while *material capacity* is a variable of interest here, the *five permanent members of the UN Security Council* are also among the most powerful countries in the world, and yet likely have different incentives due to their vastly superior position to leverage the UN Security Council. Whether this leads to less speech (due to their capability to coerce favorable outcomes at the UNSC) or more speech (due to their heightened interest in issues of the UN due to this position), I account for this as a separate characteristic. To do this, I include binary indicators of the 3 Western powers of the Permanent-5 members of the Security Council (The United States, Great Britain, and France), and a binary indicator for the 2 other Permanent-5 members (China and Russia). For a related reason, I also include an additional binary measure of whether a country is a member of the UN Security Council at all—including the rotating membership every 2 years. Finally, given that some countries simply may have unobserved reasons to value international institutions over others—making them more prone to activity at IGOs at all—I include a measure of a country's general propensity to engage with international institutions by using the count of Inter-Governmental Organizations to which a country is party Pevehouse et al.'s (2004).

I also include variables to measure a country's alignment with the UN's organizational mission in protecting peace and security, promoting human rights, and mitigating violence (Fortna, 2008; Beardsley & Schmidt, 2012; Binder, 2015). For example, we might expect that countries involved a conflict – particularly intense conflicts – would see different levels of engagement with the UN. For this, I use the Uppsala Conflict Data Program and Peace Research Institute of Oslo's (UCDP/PRIO) data on international conflict; these code all conflicts with greater than 25 battle deaths as conflicts, with an indicator for whether a conflict crosses the 1000 battle death threshold. This allows me to construct two variables, for conflict and for intense conflicts. I label any country which is an actor (i.e. on side A, side B, or the location of the conflict) in a conflict within a given year as experiencing a conflict. To capture alignment with the UN's normative mission to promote human

rights, I include a measure of a country's Human Rights record using Fariss's (2014) latent variable measure of Human Rights. Finally, I include a logit-transformed proportion of *No* or *Abstain* votes that a given country made in a given year, out of all the resolutions in that year. This should provide an additional measure of a country's interest in the immediate mechanics of the UN General Assembly in a given year.

As briefly discussed above, one of the key variables of interest—the Composite Indicator of National Capabilities—is composed of multiple, more fine-grained measures of a country's broad material capacity. These are also important characteristics that are not only standard in the literature to explaining political outcomes, but also have direct implications for more concretely understanding material capacity. These include GDP Per Capita (Food & of the United Nations, 2019b)—which is a measure of the more specific *economic* material capacity—as well as Population (Food & of the United Nations, 2019a), which is a measure of both *human* capacity as well as a proxy for the diversity of preferences within the nation, which overlaps with democracy as a key variable as well. In the framework of this paper, both should be expected to have a very strong relationship with a country's engagement with the UN General Assembly. I do not include Population and CINC in the same models, since the latter is a composite including the former and thus collinearity is severe. As Table 2.1 shows, the correlation between CINC and population is extreme, at around 0.94—I include Population in all models that do not contain CINC, with the understanding that it is also a key measures of *material capacity*.

Finally, despite the relative independence of UNGA speeches, there is a unique and important source of *interdependence* between countries in terms of their speeches at the UNGA. It is relatively common practice at the UNGA for blocs of countries – such as the Arab League, European Union, Non-Aligned Movement, etc. – to deliver foreign policy speeches *as a group*, which by definition results in word counts being extremely similar for those countries. These groups are often formed on the very fact that these countries share common foreign policy interests, and so they must be accounted for when modeling individual countries' decisions to speak. Therefore, during the process of parsing and organizing speeches, I identified speeches which were given "on behalf of"

an identifiable group, or those which are given by a country "in their capacity as" the chairperson or leader of one of these groups. In this analysis, I include a binary variable for whether a country is a member of the EU, Non-Aligned Movement, African Union, or ASEAN. I also include a mean-centered variable capturing the word count delivered as part of a group in the models of overall word count. Finally, to further account for interdependence, I include a cubic polynomial of Bailey et al.'s (2015) ideal point measure of UNGA voting affinity, to further account for unobserved heterogeneity and interdependence.²¹

2.2.1.3 *The dependent variable*

The outcome of interest is the number of words spoken at the UN General Assembly by an individual country in a given year. The variable is normally distributed with a slight right skew; Figure 2.6 provides a distribution of individual countries' speeches across the full 1982-2014 time period. The distribution is slightly skewed right, but not substantially; yearly distributions are similar to the average. There are two possible approaches to modeling this, each with compelling justification. First, while words are superficially an ordinal *count*, in that there cannot be a decimal number of words, they are not independent of one another; in fact, they are explicitly *dependent*—and more precisely, they are *co-occurring*. Words are a mechanism to achieve communication of an underlying concept: two words, be they in a single sentence or a single paragraph, co-occur by design during the process of translating an unspoken latent concept into spoken communication.²² Treating these as counts in a statistical sense would be nonsensical, since the volume of words *in totality* can be treated as a single, unified realization drawn from a random distribution across more efficient (i.e. communication in fewer words) or less efficient (i.e. communication in more words) possibilities in communication. Thus, we should instead treat word counts as being centered on some average

²¹The results are substantively similar when I instead break these measures into 5 equal categories, and include these as categorical variables.

²²Indeed, the acute reader would notice this is precisely the logic of topic models and (to some extent) word embeddings in natural language processing, whereby words are *observed* instances of some unobserved, latent concepts that can either be derived as a latent variable (Blei et al., 2003) or measured in parallel to other concepts in word embeddings (Collobert et al., 2011).

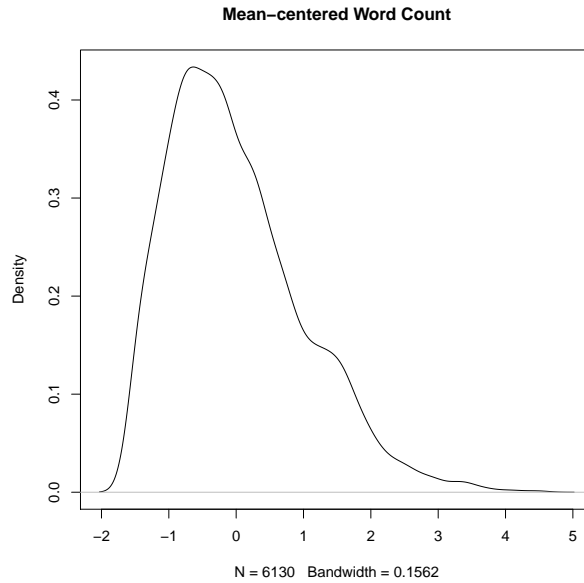


Figure 2.6: Average yearly word count per individual country, 1982-2014

level of efficiency in an approximately normal distribution, such that some speakers will randomly be more or less efficient (all else being equal) in their communication. Here, we would expect that given this random distribution of efficiency, changes in the *mean* of the distribution would be driven by more content to communicate—and thus capture the political mechanism under analysis here.

On the other hand, as others have pointed out in the literature, such correlated counts still need not mean we can model them using a normal distribution. For example, writing on the topic of political violence, Krain (1998) points out that models like OLS (and the Normal distribution more broadly) would allow for nonsensical negative values—which is relevant for speech, since word counts cannot take on negative values. Further, it assumes that a single unit change is the same across units, whether it be the difference between 100 and 200 words, or the difference between 10,000 and 10,100 words. This is also problematic, since in theory, as word counts increase, the importance of adding more words would decrease. Finally, they argue, while it is true that count models in an ideal form assume independence, "correlated events create situations of overdispersion or underdispersion, which can be accounted for by more complex count models, such as the negative binomial or zero modified count models" (Krain, 1998, p.145, citing Liao (1994); Long (1997)).

Thus, while there are compelling theoretical arguments for the data-generating process of text to be treated as a normally distributed variable centered on some average speech amount, there are also statistical reasons to believe that event-count models such as the Negative Binomial would be sufficient, and in some ways may be superior especially due to both non-negative values and the changing importance of one-unit changes.

Granting these difficulties, I model word counts using a negative binomial distribution. However, all models are substantively similar in alternative models.²³ Briefly, the negative binomial model is a generalization of the poisson model, which models the probability of count y_i occurring:

$$P(Y_i = y_i) = \frac{\mu_i^{y_i} \exp(-\mu_i)}{y_i!} \quad (2.1)$$

where the parameter μ_i is modeled with a natural log transformation $\ln(\mu_i) = X_i^T \beta$, where β is a vector of coefficients theorized to explain the variance in the expected count—in this case, the number of words spoken. While the poisson model assumes that both the expected value and the variance are both equal to μ_i , this assumption is often violated (in this paper, for example, the variance in the data is over 3000 times the mean); thus, the negative binomial model adds a gamma-distributed variance parameter ϵ_i to account for overdispersion (or underdispersion).

While no transformation is required for the dependent variable, since the negative binomial accounts for the changing importance of unit changes, some of the independent variables in the model are highly skewed. Namely, CINC score; GDP Per Capita; and Total Population are all extremely right-skewed, since material capacity is highly unequal in its distribution across the international system. Thus, I log-transform these three variables in the estimated models. Finally, I center the count of IGO memberships at its mean to facilitate interpretation. All analysis and

²³Namely, I subject these results to additional robustness checks, including OLS, Robust Regression (Western, 1995)—which uses iterative least squares to downweight outliers—as well as bootstrapped robust regressions (Zeileis, 2004, 2006) and OLS with AR1-panel-corrected standard errors (Kashin, 2014). Additionally, I also estimate a model with a lagged dependent variable to account for any temporal stickiness and interdependence between yearly engagement. The results are substantively similar.

model estimation was done using R.²⁴

2.3 Empirical patterns

Bivariate relationships and correlations between key variables provide strong support for the main claims in this paper. Table 2.1 provides a table of bivariate correlations between the Unified Democracy scores, V-Dem components, natural-log transformed CINC scores, non-transformed CINC scores, Word Counts at the UN General Assembly, Population, UN Security Council membership, and major power status (P2 and P3). The correlation between the log-transformed CINC and Word count is around 0.43, a remarkably high correlation; similarly, the correlation between Democracy and word count is about 0.25. Figure 2.7 provides a loess-smoothed graphical relationship of CINC score against word count, across the entire time period; Figure 2.8 provides a similar plot across Unified Democracy scores. Descriptively, there is a clearly discernible propensity for powerful and democratic countries to speak more at the UN General Assembly—across all measures.

²⁴More specifically, the MASS package (Venables & Ripley, 2002) to estimate negative binomial models, the "visreg" (Breheny & Burchett, 2015) package in some cases to visualize the results, and the "texreg" (Leifeld, 2013) package to output tables. Robust regression was done using the "rlm" package (Zeileis, 2004, 2006).

	centWTwc	cinc	logcinc	UDSmedian	v2x_partipdem	v2x_polyarchy	v2x_libdem	v2x_delibdem	v2x_egalDEM	logtpopFAO	loggdppcFAO	UNSCmem	P3	P2
centWTwc	1.00	0.26	0.40	0.30	0.34	0.30	0.34	0.34	0.36	0.32	0.38	0.20	0.20	0.09
cinc	0.26	1.00	0.53	0.05	0.07	0.05	0.07	0.10	0.07	0.51	0.13	0.46	0.40	0.65
logcinc	0.40	0.53	1.00	0.05	0.11	0.06	0.08	0.11	0.08	0.91	0.23	0.32	0.26	0.27
UDSmedian	0.30	0.05	0.05	1.00	0.92	0.94	0.93	0.92	0.91	-0.03	0.59	0.10	0.18	-0.09
v2x_partipdem	0.34	0.07	0.11	0.92	1.00	0.97	0.97	0.96	0.95	0.03	0.59	0.13	0.22	-0.11
v2x_polyarchy	0.30	0.05	0.06	0.94	0.97	1.00	0.97	0.97	0.94	-0.00	0.55	0.11	0.20	-0.11
v2x_libdem	0.34	0.07	0.08	0.93	0.97	0.97	1.00	0.98	0.97	-0.02	0.63	0.13	0.22	-0.11
v2x_delibdem	0.34	0.10	0.11	0.92	0.96	0.97	0.98	1.00	0.96	0.02	0.61	0.14	0.21	-0.08
v2x_egalDEM	0.36	0.07	0.08	0.91	0.95	0.94	0.97	0.96	1.00	-0.05	0.67	0.13	0.21	-0.08
logtpopFAO	0.32	0.51	0.91	-0.03	0.03	-0.00	-0.02	0.02	-0.05	1.00	-0.08	0.30	0.21	0.27
loggdppcFAO	0.38	0.13	0.23	0.59	0.59	0.55	0.63	0.61	0.67	-0.08	1.00	0.15	0.21	-0.01
UNSCmem	0.20	0.46	0.32	0.10	0.13	0.11	0.13	0.14	0.13	0.30	0.15	1.00	0.43	0.35
P3	0.20	0.40	0.26	0.18	0.22	0.20	0.22	0.21	0.21	0.21	0.21	0.43	1.00	-0.02
P2	0.09	0.65	0.27	-0.09	-0.11	-0.11	-0.11	-0.08	-0.08	0.27	-0.01	0.35	-0.02	1.00

Table 2.1: Bivariate correlations with UNGA Word Count

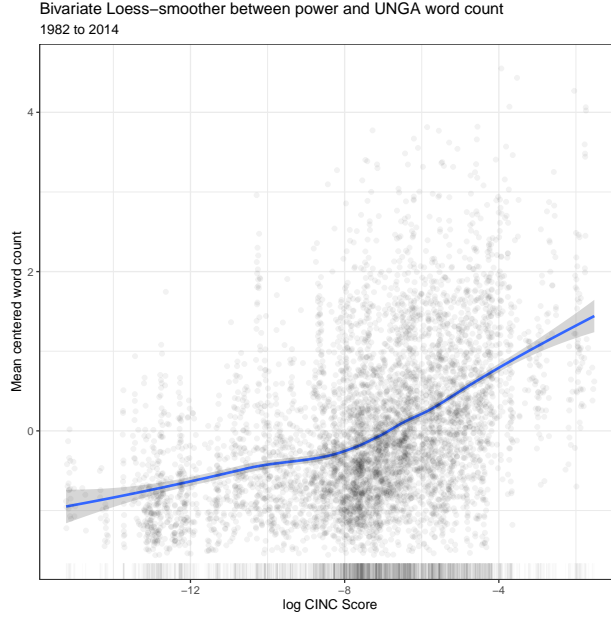


Figure 2.7: UNGA word count vs CINC

Table 2.2 tabulates coefficients from estimated negative binomial models, across different model specifications. The positive relationship between power and democracy—under both participatory and polyarchy definitions (Lindberg et al., 2014)—remains robust to the inclusion of a battery of control variables. Table 2.3 provides the Incident Response Rates (i.e. exponentiated coefficients) with 95% confidence intervals for key variables in this paper.²⁵ A change from no Nuclear capability to having *either* a lab or a pilot program is related to between a 13% - 33% increase (95% CI) in the expected amount of speech, and a change from no capability to *full* nuclear capability is around 31% to 61% increase (95% CI). Figure 2.9 plots the predicted values of speech across levels of Nuclear capability from model 1; Figure 2.10 and Figure 2.11 provide these plots for CINC score and V-Dem Polyarchy measures, including a plot with both log-transformed and un-transformed CINC scores. Figure 2.12 plots predictions for V-Dem Participatory measures from model 2.

²⁵Briefly, given that the regression coefficients are the log of expected counts, and the difference between unit i and $i + 1$ can be given as $\log(\mu_{i+1}) - \log(\mu_i)$, yielding a ratio $\log\left(\frac{\mu_{i+1}}{\mu_i}\right)$. The IRR, then, exponentiates this ratio, providing interpretability as log-odds.

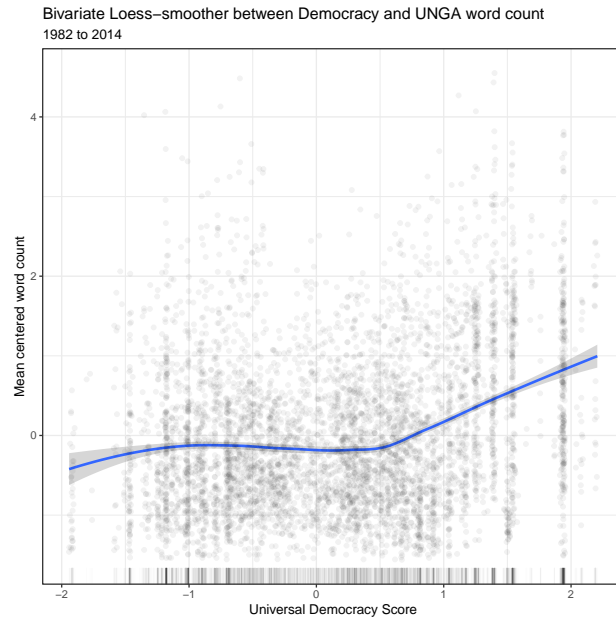


Figure 2.8: UNGA word count vs Democracy

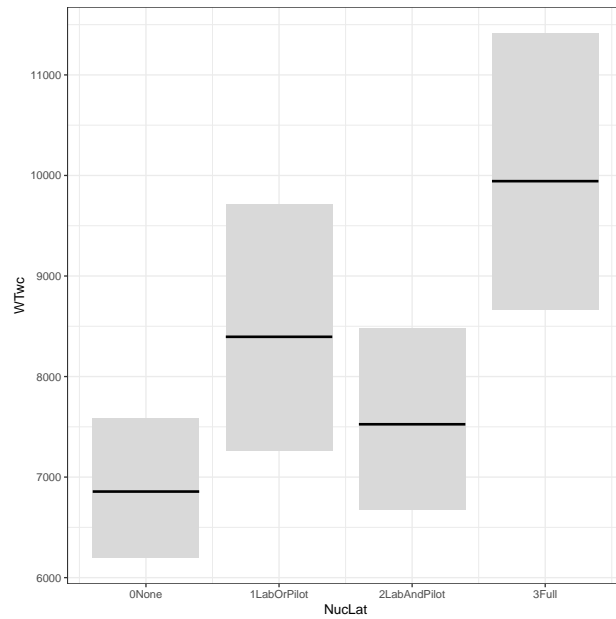


Figure 2.9: Predicted word count (with 95% CI), UNGA word count (cent) vs Nuclear capability

	Model 1	Model 2
(Intercept)	9.488*** (0.083)	9.496*** (0.083)
log(CINC)	0.100*** (0.006)	0.099*** (0.006)
vDEM polyarchy	0.243*** (0.040)	
vDEM partipdem		0.384*** (0.055)
Group WTwc	0.387*** (0.009)	0.384*** (0.009)
UNSC Seat	-0.017 (0.025)	-0.018 (0.025)
P3	-0.430*** (0.072)	-0.427*** (0.072)
P2	-0.000 (0.080)	0.022 (0.080)
EU Member	-0.300*** (0.032)	-0.299*** (0.032)
NAM Member	0.078*** (0.023)	0.085*** (0.023)
AU Member	0.244*** (0.043)	0.243*** (0.043)
ASEAN Member	0.077* (0.036)	0.084* (0.036)
cent IGO Count	0.033* (0.013)	0.029* (0.013)
log(GDPpc)	0.060*** (0.008)	0.057*** (0.008)
UCDP conflict	-0.041 (0.034)	-0.039 (0.034)
UCDP intense conf	0.052 (0.035)	0.047 (0.035)
NucLat 1: LabOrPilot	0.203*** (0.042)	0.203*** (0.042)
NucLat 2: LabAndPilot	0.093** (0.036)	0.097** (0.036)
NucLat 3: Full	0.372*** (0.052)	0.369*** (0.052)
HumRights	0.016* (0.008)	0.014 (0.008)
logit(NoOrAbstVoteProp)	0.002 (0.002)	0.002 (0.002)
Num. obs.	3884	3884
Year Dummy Vars	Y	Y
Regions	Y	Y
UNGA IP Polynomial	Y	Y
AIC	73936.960	73925.811
Log Likelihood	-36915.480	-36909.906
Deviance	3976.370	3976.150

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 2.2: Negative Binomial Regression, UNGA word counts, yearly

	exp(Est.)	2.5%	97.5%	z val.	p
(Intercept)	13196.79	11208.95	15537.16	113.90	0.00
log(cinc) ⁺	1.11	1.09	1.12	16.80	0.00
vDEM_polyarchy ⁺	1.27	1.18	1.38	6.08	0.00
vDEM_partipdem ⁺⁺	1.47	1.32	1.64	6.99	0.00
loggdppc ⁺	1.06	1.05	1.08	7.64	0.00
NucLat1LabOrPilot ⁺	1.22	1.13	1.33	4.78	0.00
NucLat2LabAndPilot ⁺	1.10	1.02	1.18	2.60	0.01
NucLat3Full ⁺	1.45	1.31	1.61	7.10	0.00

⁺Based on Model 1; ⁺⁺Based on Model 2

Table 2.3: Incident Response Ratios for variables of interest

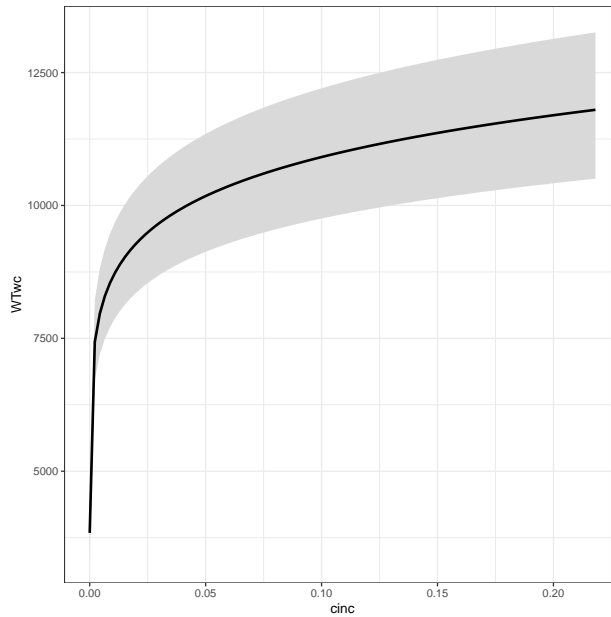


Figure 2.10: Predicted word count (with 95% CI), UNGA word count (cent) vs CINC

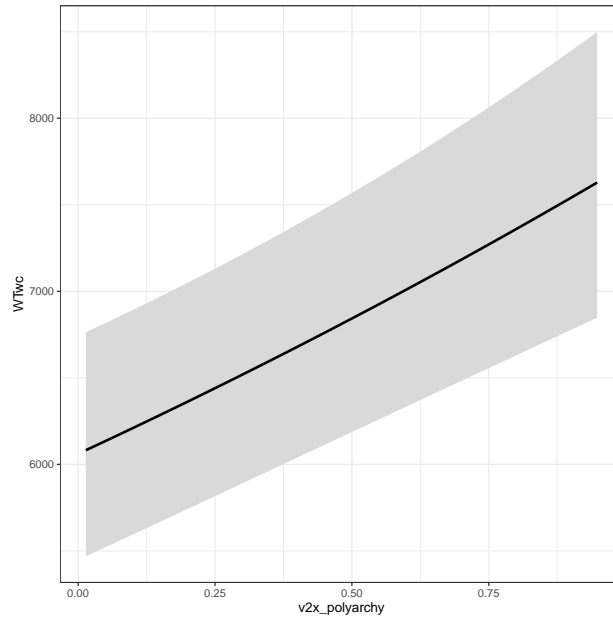


Figure 2.11: Predicted word count (with 95% CI), UNGA word count (cent) vs VDem Polyarchy

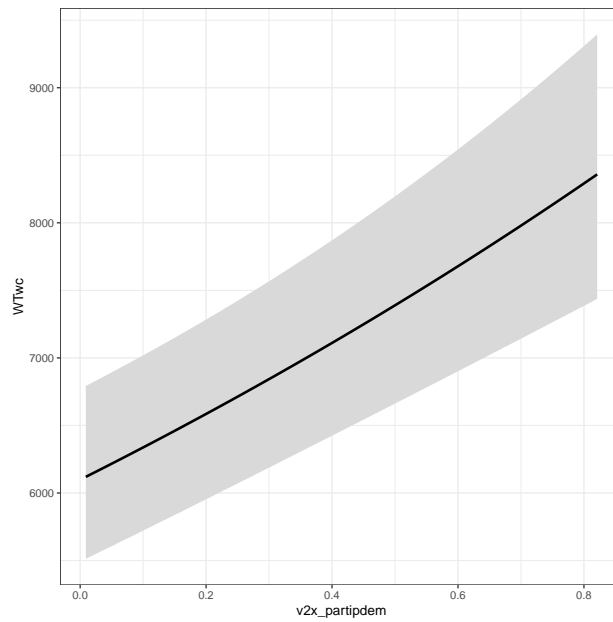


Figure 2.12: Predicted word count (with 95% CI), UNGA word count (cent) vs VDem Participatory

2.3.1 Evaluating mechanisms

There are two mechanisms under discussion here, each captured respectively under the empirical characteristics of *material capacity* and *political incentives*. Both have additional considerations and potentially clarifying elements for the mechanism translating them to UN General Speeches. This section provides some insight into these more specific elements.

2.3.1.1 *Material capacity*

First, I argue that countries with higher levels of material capacity will have the capability to become involved with a larger number of international issues, and thus will have a more diverse set of issues and political perspectives to address within their speeches. There are at least two possible mechanisms within this argument. The first mechanism is that the most powerful countries have extensive coercive power, both at the UN Security Council (Voeten, 2001) to leverage outside options to coerce others to bend toward their will, and at the UN General Assembly (Carter & Stone, 2015) to explicitly (or implicitly via threat) buy votes. Here, the goal of speech is to *reach* politically relevant audiences who are interested in a given issue—and material capacity incentivizes these countries to voice their opinions on a larger set of issues. This mechanism is *inherent* to material capacity, since these countries have both the military and the economic leverage to pressure countries on a variety of issues. This mechanism is also difficult to test, since the observable implications of coercion are scarce: the observed behavior of countries would be the *result* of this leverage, and thus using observable data to test it is extremely difficult (Gartzke, 1999). In a sense, this can be treated as a quasi-null hypothesis.

The second mechanism is that these powerful countries have a *propensity* to involve themselves in global affairs, and as a result these underlying propensities drive *observable* involvement, which then leads to increased speech. This is much more straightforward to test. There is some preliminary support for this hypothesis: as Table 2.2 shows, the number of Inter-Governmental Organizations to which a country is party is related to an increased amount of speech at the UN General Assembly (0.5% to 6% per unit increase (95% CI)). If the finding about *material capacity* is also explained

by the *propensity to engage*, the positive relationship between material capacity and UN General Assembly speech should be more pronounced for those countries with an already-demonstrated propensity to engage. To put it differently, since weaker countries have a much lower ceiling in their capacity to engage—whether their potential capacity via coercive power, or expressed capacity via actual involvement abroad—the difference between highly engaged and less engaged *weak* countries would be smaller than the difference between highly engaged and less engaged *strong* countries.

Empirically, this suggests an *interactive* relationship between material capacity and the number of IGOs to which a country is party. Note that this also corresponds well to Berry et al.'s (2012) guidance on forming theoretically driven interaction effects, where they point out that "...logically, all interactions are symmetric...In other words, if Z modifies the effect of X on Y, then X must modify the effect of Z on Y" (Berry et al., 2012, p.653, citing (Brambor et al., 2006; Kam & Franzese, 2007)). In this case, the two theorized, complementary relationships are clear: the relationship between material capacity and UNGA speech should be amplified when countries are more embedded in the system (given the increase in propensity to engage), and that the relationship of embeddedness and UNGA speech should increase as material capacity increases, due to the higher ceiling of possible issues a country can affect at all. To test this, I use a multiplicative term between these two variables.

Table 2.4 provides output of the negative binomial regression on UNGA word counts, including an interaction between individual measures of material power and the number of IGOs to which a country is party. The results are mixed. The results on the interaction between CINC and IGO count are generally positive, but the magnitude changes drastically depending on whether GDP per capita is included in the model. Figure 2.13 plots the change in marginal effect for both IGO and CINC from Model 2. This is also complicated by, as discussed above, the fact that GDP per capita is actually a constituent part of the CINC score. While the correlation between the two, as given in Table 2.1, is not as unusually high as it is for population, the results in Model 2 show that removing GDP Per Capita, and isolating only CINC score, the interaction term is in the expected direction. However, GDP per capita is the opposite direction: Model 3 shows that the interaction between

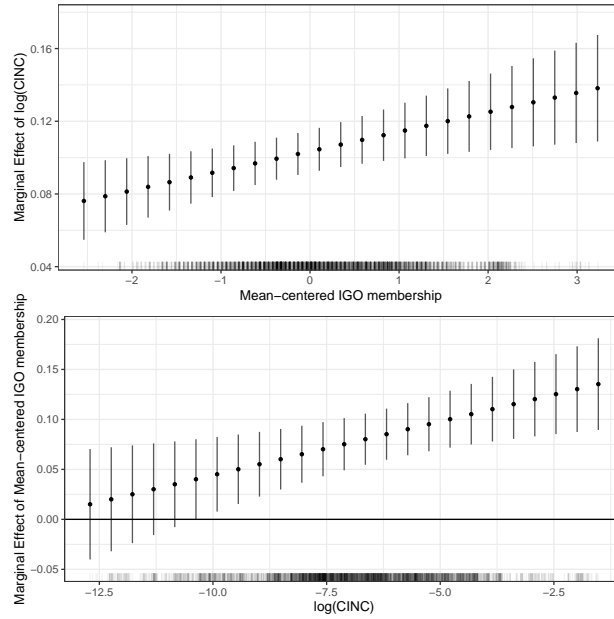


Figure 2.13: Marginal effect of CINC score across IGO membership, and vice versa

GDP Per capita and IGO membership is *negative*, which contradicts the propensity to engage mechanism (also see Figure 2.14). This may lend some credibility to the more specific *coercion* argument, since Nuclear Latency (model 4) shows similar patterns as CINC score. In other words, there is some evidence that the propensity to actually engage with international issues amplifies the relationship between *coercive* power and the level of speech at the UN General Assembly, but there is little falsifying evidence that it amplifies the relationship between *economic* power and speech at the UN General Assembly. Thus, the specific mechanism at play seems to fall back to more traditional explanations of international politics: if international politics ultimately reflects the will of the militarily powerful, speeches at the UN General Assembly reflect some combination of specifically this military power distribution (i.e. opportunity) and the actual willingness to engage with international political issues in the first place.

2.3.1.2 *Political incentives*

Second, I argue that countries with a stronger connection between leader and constituent will incentivize leaders to speak more to cover all the angles of a given issue, as well as to address

	Model 1	Model 2	Model 3	Model 4
(Intercept)	9.459*** (0.084)	9.925*** (0.060)	8.754*** (0.072)	8.765*** (0.077)
log(CINC)	0.106*** (0.006)	0.103*** (0.006)		
Mean-Cent IGO	0.064* (0.030)	0.152*** (0.029)	0.331*** (0.041)	0.154*** (0.011)
vDEM polyarchy	0.291*** (0.040)	0.301*** (0.041)	0.226*** (0.039)	0.186*** (0.041)
Mean-Cent Group WC	0.386*** (0.009)	0.388*** (0.009)	0.372*** (0.009)	0.370*** (0.010)
UNSC mem	-0.014 (0.025)	0.002 (0.026)	0.050* (0.024)	0.012 (0.026)
P3	-0.231*** (0.067)	-0.311*** (0.070)	-0.194** (0.063)	-0.071 (0.099)
P2	0.313*** (0.065)	0.356*** (0.065)	0.444*** (0.062)	0.245** (0.085)
EU	-0.312*** (0.033)	-0.333*** (0.034)	-0.321*** (0.033)	-0.356*** (0.033)
NAM	0.090*** (0.023)	0.077*** (0.023)	-0.001 (0.022)	0.009 (0.023)
AU	0.267*** (0.041)	0.171*** (0.040)	0.121** (0.039)	0.079 (0.043)
ASEAN	0.013 (0.036)	0.080* (0.036)	0.075* (0.034)	0.189*** (0.037)
log(GDPpc)	0.062*** (0.008)		0.068*** (0.008)	0.065*** (0.008)
Num Conf	0.027* (0.013)	0.014 (0.013)	0.053*** (0.012)	0.013 (0.014)
Intense Conf	-0.010 (0.023)	0.022 (0.023)	-0.037 (0.022)	0.007 (0.024)
Hum Rights	0.009 (0.008)	0.039*** (0.007)	-0.051*** (0.007)	-0.045*** (0.008)
logit(Prop NoVotes)	0.002 (0.002)	0.002 (0.002)	0.005* (0.002)	0.006** (0.002)
log(CINC):centIGO	0.004 (0.004)	0.011** (0.004)		
log(GDPpc):centIGO			-0.019*** (0.005)	
NucLat1 - LabOrPilot				0.757* (0.310)
NucLat2 - LabAndPilot				0.494 (0.256)
NucLat3 - Full				1.414*** (0.214)
log(GDPpc):NucLat1				-0.058 (0.037)
log(GDPpc):NucLat2				-0.027 (0.027)
log(GDPpc):NucLat3				-0.145*** (0.028)
Num. obs.	3884	4070	4214	3884
Year Dummy Vars	Y	Y	Y	Y
Regions	Y	Y	Y	Y
UNGA IP Polynomial	Y	Y	Y	Y
AIC	74001.025	77768.560	80595.918	74194.798
Log Likelihood	-36949.512	-38834.280	-40245.959	-37042.399
Deviance	3977.679	4176.091	4317.480	3981.565

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 2.4: UNGA Word Count (mean-centered), with Power*IGO interactions

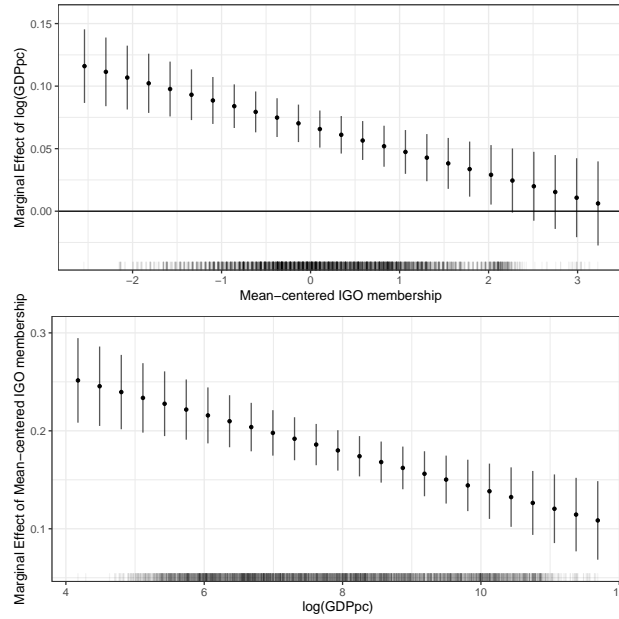


Figure 2.14: Marginal effect of Log GDP Per Capita across IGO membership, and vice versa

alternative issues that may otherwise not receive coverage. One critique is that the Democracy finding may simply be an artifact of a propensity towards Liberal values: simply put, it may be argued that *democracy* does not only capture the domestic audiences to whom a leader wishes to speak, but rather that it captures the *underlying Liberal values* that predispose a country to engaging in a Liberal institution like the UN. To clarify this, we can also turn to IGO membership as an opportunity: IGO membership provides, among other things, an *internationalized* measure of Liberal values; thus, to validate this critique we would expect that the highest propensity to speak should be *democratic* countries who are members of *large* amounts of IGOs, since this would maximize a given country on both domestic and international expressions of Liberal values.

Table 2.5 provides output of the negative binomial regression on UNGA word counts, including an interaction between two different V-Dem measures of democracy, and the number of IGOs to which a country is party. The results cast doubt on the Liberal Values critique: as shown in the perspective plot in Figure 2.15, the highest propensity to speak actually comes from democratic countries who are party to the *least* number of IGOs. This isolates the relationship as being one more driven by Democracy specifically, rather than the broader underlying Liberal values that might

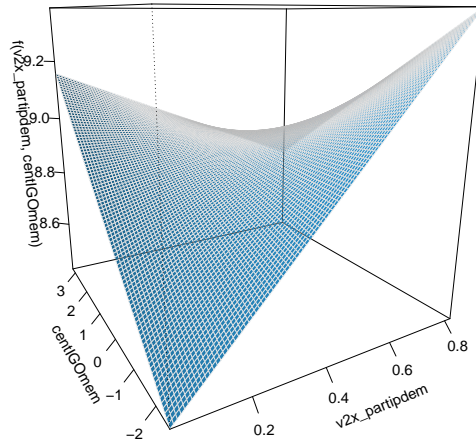


Figure 2.15: 2D perspective plot, UNGA word count vs Democracy and IGO membership

predispose a country to IGO engagement. Figure 2.16 provides marginal effects for Democracy and IGO membership, showing that contrary to the expectations of a Liberal Values hypothesis, among democracies the relationship of IGO membership to UNGA word count is actually the most negative. This also suggests that the UN may be one of many forums in the world for leaders to speak to key constituents, with those leaders who get the most marginal benefit from this communication—those with the least number of alternative forums (in this case, alternative IGOs) to leverage—employing it the most. This particular question of choosing between alternative forums for communication may be an interesting avenue for future research.

2.4 Linking speech to interest on relevant UN issues

If UN General Assembly speeches reflect the political incentive to influence issues relevant to the UN, we should expect that countries who speak more at the UN General Assembly will also reflect an interest in the issues that the UN as an institution addresses. While establishing political and material bases to speech is valuable, this is ultimately incomplete without a link to a tangible, otherwise costly behavior that directly implicates a political interest. To that end, I measure whether

	Model 1	Model 2
(Intercept)	9.513*** (0.084)	9.501*** (0.083)
log(CINC)	0.111*** (0.006)	0.110*** (0.006)
vDEM polyarchy	0.253*** (0.040)	
Cent IGO	0.144*** (0.022)	0.131*** (0.019)
Cent Group WC	0.384*** (0.009)	0.379*** (0.009)
UNSC mem	-0.008 (0.025)	-0.010 (0.025)
P3	-0.141* (0.065)	-0.102 (0.065)
P2	0.231*** (0.066)	0.242*** (0.065)
EU	-0.252*** (0.034)	-0.240*** (0.034)
NAM	0.082*** (0.023)	0.088*** (0.023)
AU	0.215*** (0.041)	0.214*** (0.041)
ASEAN	-0.018 (0.035)	-0.013 (0.035)
log(GDPpc)	0.068*** (0.008)	0.067*** (0.008)
Num Conf	0.033* (0.013)	0.030* (0.013)
Intense Conf	-0.011 (0.023)	-0.011 (0.023)
Hum Rights	0.015 (0.008)	0.012 (0.008)
logit(Prop NoVotes)	0.001 (0.002)	0.001 (0.002)
vDEMpoly:centIGO	-0.198*** (0.032)	
vDEM partipdem		0.444*** (0.055)
vDEMpautopartip:centIGO		-0.291*** (0.040)
Num. obs.	3884	3884
Year Dummy Vars	Y	Y
Regions	Y	Y
UNGA IP Polynomial	Y	Y
AIC	73964.551	73937.511
Log Likelihood	-36931.275	-36917.755
Deviance	3976.973	3976.441

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 2.5: UNGA Word Count, with V-Dem*IGO interactions

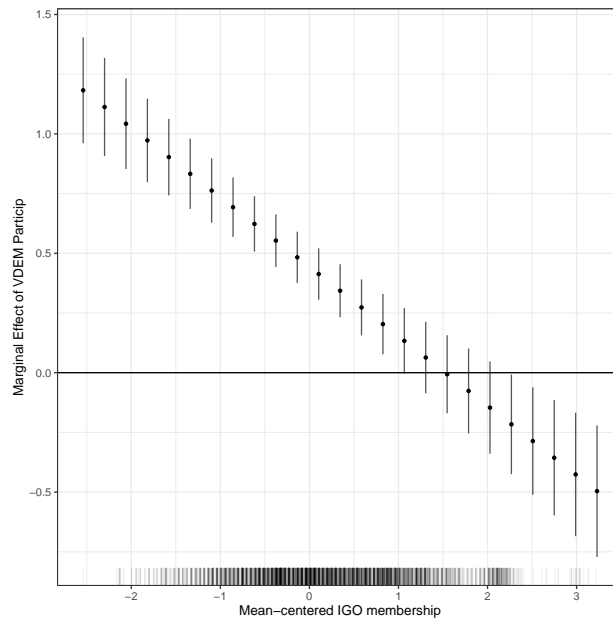


Figure 2.16: Marginal effects (with 95% CI), vDEM Particip and IGO membership

higher levels of engagement with the UN General Assembly provides explanatory power towards whether a country actually has some investment in the UN as an institution overall. To do this, I turn to seminal work by Kathman & Melin (2017), who model why particular countries devote troops to UN Peacekeeping Operations.

In their paper, Kathman & Melin (2017) argue that countries deploy troops to UN Peacekeeping Operations, in part, to areas that "focus the foreign and security policy attention of states". They measure this via the presence of an interstate rivalry, showing that countries are more likely to contribute troops where a rivalry is present. If UN General Assembly speeches reflect the presence of foreign and security policy attention of states on the issues relevant to the UN, we should expect that countries who deliver more speech at the UN General Assembly will be more likely, in general, to contribute troops—and also contribute more of them (all else equal). I replicate Kathman & Melin's (2017) work to determine whether the addition of UN engagement shows an additional, independent relationship with this decision. Kathman & Melin (2017) use a Zero-Inflated negative binomial model, which simultaneously models the decision *to send* UN peacekeepers at all, as well as the count of troops deployed *given* that decision. In this case, we should expect that engagement

with the UN should be related to both. To do this, Kathman & Melin (2017) draw from original data in Kathman (2013) on troop contributions to all UN PKOs between 1992-2010, which falls well within the time period under study in this paper.

Descriptively, there is a fairly robust correlation between UN General Assembly engagement and the number of troops deployed to UN Peacekeeping operations. Figure 2.17 provides a Loess-smoothed plot over the bivariate relationship between UNGA engagement and the number of troops sent, showing a strong positive relationship.

Table 2.6 provides the output from the Zero-Inflated negative binomial model from Kathman & Melin (2017), replicating both of their original analyses and adding in UNGA word counts. To quote from Kathman & Melin (2017, 158), "...the interpretation of coefficient directions in the [first stage of the model] is different from a standard regression model interpretation, as positive coefficients indicate an increased likelihood of contributing 'nothing' (i.e., a decreased likelihood of contributing 'something'), whereas a negative coefficient indicates a decreased likelihood of contributing 'nothing' (i.e., an increased likelihood of contributing 'something')." In other words, the first stage models the probability of contributing *no troops*, while the second stage models the count of troop contributions among countries who do end up contributing troops.

The results show support for the claim that the amount of UN General Assembly speech is measuring a level of interest in the issues relevant to the UN more broadly. Replicating Kathman & Melin's (2017) methodology for plotting predictions from the model, Figure 2.18 plots the predicted counts of Troop contributions to UNPKO operations across the centered and scaled value of word count at the UN General Assembly. Movement from speaking one standard deviation below the yearly mean to speaking one standard deviation over the mean yields approximately a 400% increase in the predicted count of troops devoted to UNPKO operations, holding other variables constant at their means.²⁶

²⁶These results also hold to almost identical results when we exclude Pakistan, India, Bangladesh, and Egypt, which are the 4 highest troop contributors. As shown in Figure 2.2, Pakistan, India, and Egypt in particular have noticeably high levels of speech overall, hence the value of validating the robustness of this finding to their removal from the dataset.

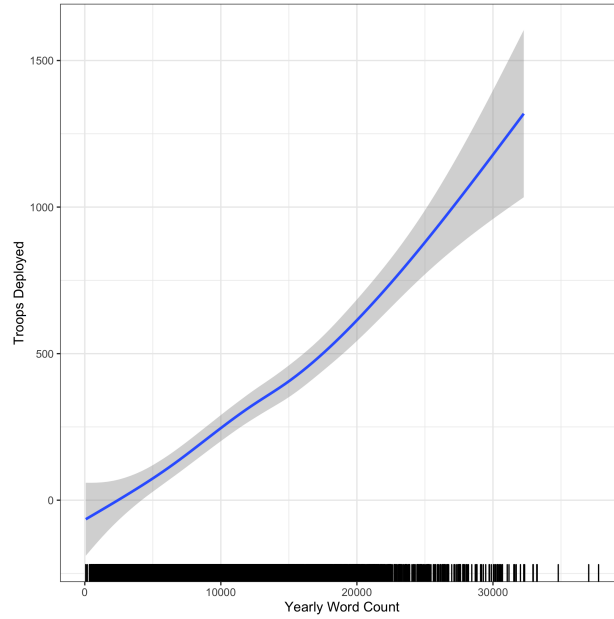


Figure 2.17: Loess smooth bivariate relationship, UNGA engagement and troop contribution

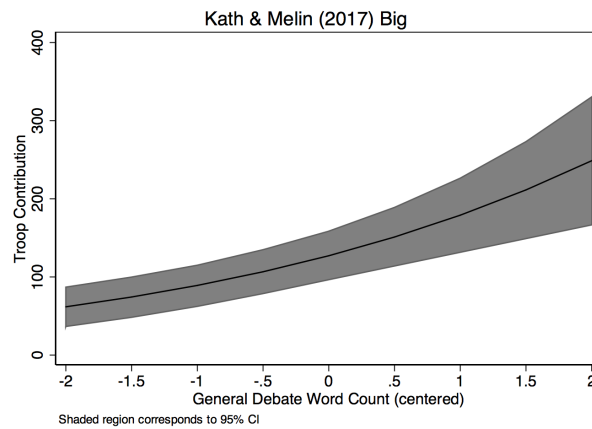


Figure 2.18: Predicted Counts of UNPK troops across word count

2.5 Discussion and conclusion

In summary, powerful countries with strong political accountability structures tend to speak the most at the UN General Assembly. The impact of material capacity is most present among countries that are highly integrated into the international system; this suggests that the increased propensity

	(1) troop count	(2) troop count	(3) troop count	(4) troop count
<i>Second Stage</i>				
Rivalry	0.238 (0.121)	0.218 (0.125)	0.226 (0.115)	0.201 (0.124)
Yrs Since last Coup	0.0340 (0.0145)	0.0303 (0.0144)	0.0297 (0.0137)	0.0275 (0.0135)
Yrs Since last Coup ²	-0.000521 (0.000228)	-0.000499 (0.000231)	-0.000421 (0.000214)	-0.000416 (0.000214)
Lag Total Troops	0.000790 (0.000140)	0.000797 (0.000148)	0.000859 (0.000168)	0.000858 (0.000174)
UNGA WordCount		0.136 (0.0606)		0.110 (0.0569)
Maj Civil War			0.135 (0.280)	0.201 (0.301)
Total UN Missions			-0.109 (0.0186)	-0.104 (0.0190)
Democracy			-0.0493 (0.110)	-0.108 (0.116)
Autocracy			0.160 (0.205)	0.101 (0.207)
Constant	5.134 (0.251)	5.144 (0.248)	6.980 (0.342)	6.946 (0.334)
<i>First stage</i>				
Lag Total Troops	-6.476 (1.300)	-6.008 (0.749)	-5.592 (0.343)	-5.379 (0.344)
UNGA WordCount		-0.887 (0.124)		-0.921 (0.111)
Lagged contribute troops			0.426 (0.365)	0.476 (0.400)
Year			0.776 (0.126)	0.816 (0.127)
Year ²			-0.0857 (0.0141)	-0.0903 (0.0140)
Year ³			0.00252 (0.000446)	0.00263 (0.000446)
Democracy			0.143 (0.235)	0.245 (0.245)
Autocracy			1.497 (0.395)	1.555 (0.421)
Total UN Missions			0.159 (0.0374)	0.158 (0.0392)
Maj Civil War			0.405 (0.428)	0.522 (0.442)
GDP Per Capita			-0.111 (0.113)	-0.0646 (0.121)
Americas			0.513 (0.342)	0.780 (0.347)
Europe			-0.270 (0.348)	0.500 (0.373)
Africa			0.111 (0.334)	0.206 (0.327)
Middle East/North Af			0.0676 (0.462)	0.664 (0.489)
Constant	2.409 (0.113)	2.419 (0.114)	-0.917 (1.046)	-1.714 (1.086)
Inalpha	0.916 (0.126)	0.899 (0.104)	0.796 (0.102)	0.801 (0.0964)
AIC	16828.1	16483.5	16398.3	16073.1
log-likelihood	-8406.0	-8231.8	-8174.1	-8009.6

Standard errors in parentheses

Table 2.6: Replication of Kathman and Melin (2017)

to speak is not due to integration in the system alone, but rather about the way material capacity is linked to an underlying interest in being involved with international politics more broadly. This has implications for the way we understand UN General Assembly speeches: namely, that what we observe is *disproportionately* composed of countries with an already existing interest in world issues, and who have some capacity to influence them. It also contradicts the conventional wisdom that these types of speeches provide no benefit to countries: under this scenario, we would expect the impact of material capacity to be *negative* among those countries with the most interest in influencing international politics, since those with high material capacity would have sufficient private avenues to pursue their political interests. These findings show strong evidence that when leaders speak at the UN General Assembly, they do so with an eye towards politically relevant audiences to gain some specific benefits toward the goal of influencing politics. Future research should dig deeper into understanding the mechanisms of how the content of these speeches translate into political mobilization toward influence—for example, filtration and/or amplification through the media (Baum & Groeling, 2009; Baum & Potter, 2008) or the role of justifications on political accountability (Levendusky & Horowitz, 2012; White & Ypi, 2011; Habermas, 1984).

The role of political institutions connecting relevant audiences to political leaders is also further evidence that leaders can gain some political benefits from these types of speeches, and contradicts the null hypothesis that these speeches ultimately do not impact (or are not expected to impact) a leader's political success. The impact of political institutions on the incidence of speeches seems directly linked to the *opportunity* to actually speak at all, since leaders who are less involved in other institutions (where they can find a forum to communicate) will be most impacted by these political incentives. Descriptively, as shown in `autoreffig:wcovertime`, there is some evidence that the amount of speech in general is growing over time. Given questions on whether democratization is decreasing in the world (Lührmann & Lindberg, 2019; Mechkova et al., 2017; Diamond, 1996), there may be opportunities to more concretely link international audiences to political leaders. This could include mechanisms of international trade or other such links, be it vulnerability to external leverage (Levitsky & Way, 2005) or the political decision to exchange sovereignty for economic and

military security (Lake, 2009). There may be additional patterns to be understood on the impact of international or domestic political incentives on leaders propensity to speak publicly on issues, which may be an area for future work.

Overall, these findings provide insight into a side of international institutions that, especially in the empirical literature, has been relatively understudied: patterns of engagement by individual member countries. It also provides a bridge between the coordination function of an institution and the diplomatic, communicative function of the public forum contained therein. The question, for example, of whether the provision of a highly visible public forum helps or hinders eventual foreign policy cooperation through the institution is worth pursuing, given the politics surrounding public speech presented here. This link between communication and institutions has far reaching potential, given the proliferation of institutions in the international system over the past few decades, as well as the increasing visibility—via mass media and the internet—of public speeches to potentially influential elites at home and abroad.

CHAPTER 3

COMPOSITIONAL SPECIFICITY AND DIFFUSENESS OF SPEECHES ACROSS WORLD ISSUES

Every year, nations of the world gather at the United Nations General Assembly (UNGA) to discuss pertinent issues facing them. These speeches are highly varied: to some, it provides an opportunity to air grievances on specific issues and conflicts, while for others it provides an opportunity to expound upon a vision for the future of both their own country and the community more broadly. Though recent work has provided interesting insights into the content (Baturu et al., 2017) of these speeches, as well as the use of these speeches to derive ideological distances (Gurciullo & Mikhaylov, 2017), relatively little is known about how these speeches are generated at the level of politics, and what they can communicate about a country's broader foreign policy interests. This despite the fact that especially at the United Nations, these formal, public statements of opinion and foreign policy interests are both prolific and detailed.

This disconnect between data and theory presents a potential opportunity for both the study of the United Nations and for the study of diplomacy more broadly. Unlike public threats (Sartori, 2005, 2002; Fearon, 1994), making demands of other countries (Trager, 2017, 2013), or statements of resolve to deter an adversary (Ramsay, 2011; Sartori, 2002), statements at the United Nations General Assembly tend to be *statements of opinion*—speeches delivered to express a particular country's view on a variety of issues. Though these statements of opinion may be interpreted in many ways—such as with respect to communicating resolve—the more fundamental question remains unanswered of whether simply expressing an opinion at all on an issue communicates anything noteworthy. This is especially true since at forums like the UN General Assembly, where there is relatively little constraint on a country's capability to speak, and almost no constraint on the *content* of these speeches.

Statements of opinion often do not fall into the category of a threat, demand, or statement of resolve; nor is it necessarily intuitive why these statements surface on the issues they do. For

example, on 18 December 2002, during the process of voting on the Optional Protocol to the Convention against Torture, the Kingdom of Bahrain spoke in regards to its vote:

My country's delegation wishes to explain its position before the vote on the draft resolution on the implementation of human rights instruments and on the Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. The Kingdom of Bahrain is making efforts, particularly within the area of the democratic process, to establish institutions designed to serve the aspirations of our people, which will help advance the interests of Bahraini citizens. The Constitution and legislation of Bahrain condemn all forms of discrimination against or cruel treatment of any human beings within the territory of the Kingdom whether they are citizens or resident aliens. That is tangible evidence of the great importance the Kingdom of Bahrain attaches to the preservation of and respect for human rights in order to promote human dignity and the role of individuals (Kingdom of Bahrain, A/57/PV.77).

Though this is an otherwise simple and relatively benign political statement, it is somewhat illustrative, since the statement seems otherwise entirely superfluous: the statement occurs in the wake of a vote which had already taken place—to which Bahrain voted in the affirmative¹—which should have served to communicate Bahrain's interest in the issue already. Hence, the question: why would countries state their opinion verbally at an otherwise legally powerless forum like the UN General Assembly, when actions can serve to communicate these opinions equally as well (or better)?

In this paper, I argue that the decision to speak on an issue reflects some political salience of that issue, since the country's leader has made a political calculus that its behavior in the past has been insufficient to properly communicate an opinion on the issue. Note that this need not require that a country is stating its "true" opinion: in the example of Bahrain above, whether the

¹<https://digitallibrary.un.org/record/482408?ln=en>

Kingdom of Bahrain is *actually* "making efforts...within the area of the democratic process" and whether the nation *actually* "attaches [importance] to the preservation of and respect for human rights" is less important than the fact that the country's leadership felt it salient to state an opinion on the issue of human rights at all. The process is, I argue, a reflection of some underlying political reality—whether or not the content of the statement is actually true in an objective sense. More concretely, speech represents a political decision to speak about a country's interests—whether with the intent to clarify or muddy the waters—to some audience with political relevance to the speaker.

Drawing on an original dataset of all speeches delivered at the UN General Assembly between 1984-2014, I show that (a) countries act in predictable ways with respect to whether they speak *diffusely* or *specifically* across the universe of issues under discussion; and (b) that the decision to speak on some issues rather than others can be mapped to observable foreign policy behavior—in this case, co-involvement in civil wars. The first provides insight into the political roots of how and why countries allocate their speech at a forum like the UN General Assembly, given that they can choose to speak on as many or as few issues as they want. The second shows that the priorities countries express in their speeches do reflect some level of interest, as opposed to being reserved for either issues countries do not care about, or for exogenously imposed (such as by the UN itself) issues that are independent of a country's interests. This paper contributes to a growing body of literature on diplomacy, showing that countries deliver statements of opinion in part to reflect politically salient issues.

3.1 Diplomacy, communication, and the audiences who listen

A body of literature has steadily grown at the nexus of diplomacy and international politics, gaining insights into how the things countries *say* contain—if at all—information about what countries *mean*. In a well-known model of international crises, Fearon (1994) shows that when leaders "engage the national honor" through threats and demands, they risk potential political costs imposed by the *audiences* with the power to remove a leader from power. He shows that this results in the capacity to communicate credibly, arguing that democracies—beholden directly to voters—

can successfully communicate their resolve due to the presence of "strong" audiences. This has also been expanded to explore autocratic countries by Weeks (2008, 2012), blossoming itself into its own line of productive literature and data collection efforts (Geddes et al., 2014). This mechanism of translating *audience costs* into behavioral differences among regimes has been validated experimentally (Tomz, 2007) and has seen extensive theoretical refinement (Schultz, 2001; Tomz & Weeks, 2013; Kertzer & Brutger, 2016) over the past several decades. Though it has not been without some skepticism (Snyder & Borghard, 2011; Trachtenberg, 2012) and debate (Gartzke & Lupu, 2012; Slantchev, 2012; Kurizaki & Whang, 2015), the framework that connects *leaders* to the *audiences who can impact them* is a valuable one with extensive implications for the study of international politics, even beyond the more specific mechanism that underlies audience cost theory.²

This connection between the leaders who speak and the audiences who listen has been leveraged throughout the study of international diplomacy, with implications for how and whether countries' statements communicate information. In another landmark work in diplomacy, Sartori (2005) shows that *international* audiences can impact the way in which countries communicate. She shows that through the prospect of reputational costs imposed from international audiences, countries have incentives to make statements—most notably threats and demands—that reflect their actual priorities, as opposed to being misrepresentations or blustering for the purpose of political maneuvering. This mechanism adds an international element to the broader question of audiences, and it also generalizes the specific question of *threats* into a more broad study of credibility. It also links the study of diplomacy with the longstanding question of *trust* in international politics (Kydd, 2005, 1997; Schweller, 1996; Hobbes & Macpherson, 1968). Much like the work on domestic audiences, this mechanism has been subject to refinement (Guisinger & Smith, 2002) and debate (Press, 2005), and highlights the way in which the presence of international—in addition to domestic—audiences can generate patterns of credible communication.³

²For a useful summary on the specificity of "audience cost" theory as it relates to the broader question of communication, see Schultz (2012).

³The role of audiences in communication has also been extended to explain why some statements

Diplomatic communication is not limited to the audiences a leader speaks to: it also extends to audiences a leader *does not* speak to. This dovetails with a growing literature on how the presence of *opposition groups* can facilitate communication (Trager & Vavreck, 2011; Ramsay, 2004; Schultz, 1998); more generally, the mechanisms of communicating via public speech go beyond the presence of politically relevant audiences, and also include the presence of *alternative audiences* to whom a leader chooses *not* to speak. This is especially relevant to a forum like the UN General Assembly, where leaders actively eschew some issues in favor of others when broadcasting their opinions to worldwide audiences. The diversity of issues a leader *can* speak on, combined with the issues a leader *actually does* speak on, creates dimensionality in which incentives can exist for communication (Trager, 2011).⁴ Ultimately, I expect that the choice to speak in public, and to choose to speak on some issues over others, communicates the *political salience* of those particular issues in addition to communicating the fact that a *politically relevant* audience exists for those issues.

3.1.1 Statements of opinion and the UN General Assembly

These two existing frameworks can be combined to understand speeches at the UN General Assembly, with testable implications for patterns of how countries prioritize different issues. Given a possible *set of audiences* to whom a leader can speak, the informative value of these speeches can in part come from choosing to target some set over others. In the example of Bahrain above, the perceived benefit of speaking about Human Rights—even given their affirmative vote—outweighed the perceived benefit of remaining silent. This could be for a host of reasons: at the time, for example, the ascension of Hamad bin Isa to king in February of 2002; new human rights initiatives including steps loosening restrictions on organized labor; and the public designation of Bahrain as a major U.S. ally (Katzman, 2019). The political decision to speak on the issue of Human Rights points to both the *presence of an audience* for these opinions in the first place, and the *salience* of

are delivered in private as opposed to on a public forum (Tarar & Leventoglu, 2009; Kurizaki, 2007)

⁴For a slightly different take on eschewing some possibilities in favor of others, see Trager (2013) on how choosing to demand some amount as opposed to all of an issue can convey information.

the issue—given that the implemented reforms and affirmative vote was still insufficient to fulfill the political need to express the opinion.⁵

Note that this does not imply anything about whether, at this time, King Hamad *actually* believed in human rights in some objective sense; nor does it imply anything about whether King Hamad ultimately integrated human rights specifically into observable policy—since translating political interests into actual policy requires a complicated process involving additional costs and considerations (Gartzke & Jo, 2006). However, the decision to speak on the topic does suggest the presence of a politically relevant audience willing to listen. In the aggregate, while it is difficult to map any *single* issue to any *single* policy outcome, there should be predictable patterns of issue emphasis within speeches, depending on the characteristics of the audience and the political characteristics of the speaker.

With the UN General Assembly, the combination of possible audiences and possible issues becomes especially poignant. With a worldwide membership of 193 countries, and its status as one of the most prominent public forums in international politics, the set of possible audiences (including non-state groups, domestic groups, institutional elites, etc.) and the set of possible issues to discuss are functionally infinite. As a result, allocating time and political messaging toward some issues rather than others should become a viable method of communicating political priorities.

3.1.1.1 *Empirical implications*

Given some set of politically relevant interest groups of size N , there are two extremes a leader can employ in a given speech. On one side, a leader will attempt to address multiple interest groups

⁵This is not necessarily a novel formulation of how the presence of an audience can reveal information from UN General Assembly speeches. For example, Binder & Heupel (2015, p.242) argue that "...providing reasons and justification for positions in the public sphere is not only an important political act in itself...but it is also **revealing with regard to the beliefs held by the intended audience**. Whether states make statements about the Council's legitimacy and how these statements are framed show us what grounds for legitimacy, if any, are believed to **resonate within the community of states**" (emphasis added). In this way, the presence of a large, public audience can be informative with respect to which issues a leader believes will "resonate" most with their intended, relevant political audience.

in a single speech, peppering it with either lip service or genuine concern on all N possible issues. As noted above, under this framework the prioritization of an issue in a given speech does not speak to exactly how a leader necessarily feels about a given issue, but rather it speaks to the fact that there is a *politically relevant* audience whom the leader benefits from speaking to. This could be due to political institutions or a large, diverse set of interest groups at home, or it could be due to a country's extensive reach into a large variety of issues, and thus a more diverse web of interconnected issues to juggle at once. Contrast this with the other extreme, where a leader will only devote speech to a single issue $n_i \in N$, to either focus maximum impact on a single politically powerful interest group, or to focus limited political capacity onto a particular, relevant issue area.

From this, we should see certain observable implications. A leader with a diverse set of interest groups to whom they are politically beholden should, on average, lean towards the first extreme—where they tend to speak on more issues in any given speech in order to placate multiple audiences. This should most notably be visible in political institutions: democratically elected leaders should, all else equal, be beholden to a larger number of politically relevant audiences than Autocratic countries, drawing more benefit from placating opposition parties and voters with different priorities. This in contrast to Autocratic regimes, which as Li (2006) puts it, "are characterized by narrow elite control and a small winning coalition".⁶ Given these characteristics we should expect that, in any given speech—delivered on a specific issue, at a specific time, and in a specific context—Democratic countries should show a tendency to placate multiple audiences at any time in any given speech, resulting in a more *diffuse* focus within any speech.

In addition to the size of the politically relevant audience, a country should show a propensity towards diffuse speech when it is more capable of actually *acting* on a larger number of issues. These should tend to be more powerful countries, with both the economic and military power to actually sustain a large, diverse portfolio of issues in which they are involved. Conversely, countries with less capacity to actually have tentacles in multiple issues should, on average, speak more specifically, focusing in on the issues where they have influence, or speaking only to a narrow

⁶Also see Lektzian & Souva (2007, 857)

set of issues where the risk of offending strong political opposition can be minimized.⁷ Much like democratic leaders, countries with more capacity to act will tend to have a larger set of politically relevant interest groups to whom they benefit from speaking to, and thus should be more diffuse in the speeches they deliver.

H1: Countries with a larger set of politically influential audiences at home will speak more diffusely on average

H2: Countries with the capacity for involvement in more issues should speak more diffusely on average

3.2 Data and issue composition

To test these claims, I draw from the text of UN General Assembly speeches delivered between 1984-2014 (Mahmood, 2020b).⁸ This corpus is distinct from the one collected by Baturo et al. (2017), which focuses primarily on yearly speeches delivered under the *General Debate* agenda item; the corpus I use in this paper includes a more comprehensive set across all plenary sessions of the UNGA.⁹ I scrape, clean, and parse the text primarily in Python.

The concepts of *diffuseness* and *specificity* in speech remain yet to be operationalized. There are potentially many methods of doing so. For example, one option would rely on the UN's own internal measurement: in this case, using agenda items. For example, during session 57/plenary session 47, the UN General Assembly passed three resolutions, each on different topics: in this case, resolutions A/RES/57/10; A/RES/57/9; and A/RES/57/8. Respectively, these covered agenda

⁷In prior work, the author found that weaker countries spoke much less than stronger countries overall at the UN General Assembly. This follows from a similar framework: the cost-benefit analysis of speaking on issues and either risking saying the incorrect opinion or failing to address an important counterpoint should be far riskier for weaker countries or leaders, who have little capacity to even set an agenda on issues regardless.

⁸Data collection for the years 1945-1984 is ongoing

⁹All results presented here remain substantively similar when applied to the UN General Debate corpus from Baturo et al. (2017).

item 34—on Bosnia & Herzegovina; agenda item 14—on a report of the IAEA; and agenda items 21 (d) and 37—on a war-torn Afghanistan. By the logic outlined above, we could define *specificity* by the variety of agenda items a country speaks on: in this case, we would expect democratic and powerful countries to speak on a greater number of different topics than average.

While this is a promising method of defining the *space* of potential topics a country can speak on, it comes with a prohibitively large amount of work to gather the requisite data: within each plenary session, as the example of A/57/PV.47 demonstrates, there can be multiple agenda items, each with associated speeches. To do this manually would require copying and pasting text from potentially hundreds of transcripts, requiring extensive resources. Automating this is a more scalable solution, but is not without its difficulties: Figure 3.1 provides a snapshot of the text of the UN’s official transcript of A/57/PV.47, with a particular focus on the transition between agenda items. The translation of this to raw text removes the bold-face formatting, and the syntax of when an agenda item starts and finishes is not consistent across transcripts. Thus, I turn to alternative methods to measure the diffuseness and specificity of topics.

The raw text of speeches contains a rich level of detail about the topics a country can speak about. This level of detail transcends even the stated agenda item of the plenary session: for example, during a speech by India’s Hardeep Singh in A/57/PV.47—delivered under the agenda item of the IAEA, and partially visible in Figure 3.1—the topics of the IAEA as an organization; Nuclear power; and global climate change were all raised during the course of three different paragraphs. Thus, in addition to overcoming the difficulties with separating transcripts by their respective agenda items, drawing from the *content of the speeches themselves* allows the opportunity to more comprehensively understand how countries speak on some topics with respect to the population of topics across all speeches at the UN General Assembly.

To measure this, I turn to methods of natural language processing, and use a Structural Topic Model (Roberts et al., 2014) to measure the composition of individual speeches. This method represents each speech as a K-dimensional vector, where K is some number of possible topics. For example, if the above speech by India were composed of three equal-length paragraphs, each

thereby providing new recommendations for future United Nations activities in this domain.

To achieve these goals, I ask you to be prepared for such a discussion. What I envisage as very important are our attempts to find out what were the lessons learned by the United Nations in Afghanistan. The panel should also give us an opportunity to see the consequences of the decisions adopted by the United Nations and to find out if these decisions were properly implemented. What are the results that these decisions helped us to achieve? Should we modify our humanitarian activities and economic assistance in Afghanistan? What else needs to be done in order for us to achieve United Nations goals in Afghanistan sooner and more effectively? I do truly hope that we will be able to meet these criteria.

I now give the floor to the representative of the Secretariat.

Mr. Chen (Under-Secretary-General, Department of General Assembly Affairs and Conference Management): Under operative paragraph 1 of draft resolution A/57/L.13/Rev.1, the General Assembly decides to convene, on 18 November 2002, an open-ended panel on Afghanistan, which will have two consecutive sessions, one from 9 to 11 a.m., and the other, from 11 a.m. to 1 p.m.

Should the General Assembly adopt draft resolution A/57/L.13/Rev.1, no additional expenditure would be required, since the open-ended panel would be convened on a date and time when the plenary would not be in session. The related meeting servicing costs would be met, therefore, from overall resources earmarked for the meetings of the plenary.

Agenda item 14 (continued)

Report of the International Atomic Energy Agency

Mr. Singh (India): At the outset, let me compliment the International Atomic Energy Agency (IAEA) on its completion of 45 years as a unique multidisciplinary international organization, functioning to fulfil its mandate to the satisfaction of all its stakeholders. The Agency is a unique professional body in the area of nuclear science and technology, with the ability and wherewithal to provide solutions to various issues concerning all of us. The Agency has not shied away from adding new dimensions to its activities, while at the same time maintaining a careful balance among all its statutory activities.

The World Summit on Sustainable Development recently concluded its work in Johannesburg. The threat to our global climate due to increasing carbon dioxide emission is even more evident than in the past. Notwithstanding the important role of renewable and other clean energy technologies, and given the magnitude of this problem, there can be no doubt that nuclear power is an inevitable option at the present state of development of advanced energy technologies and can meet the development aspirations of a large fraction of the world's population, while at the same time conforming to the criteria of sustainability. It is ironic that, in spite of its large energy potential, with the capability of meeting sustainable worldwide energy needs without any real or significant environmental impact, the unfounded misconceptions about nuclear energy still dominate and have impeded sustainable development.

Figure 3.1: Snapshot of UN General Assembly transcript

on a specific topic, in theory a 3-topic STM could represent this speech as the vector [0.33, 0.33, 0.33], where the speech is shown to contain 33% attention to each topic.¹⁰ I use the algorithm proposed by Mimno & Lee (2014) to select a number of topics (Roberts et al., 2014, p.12), which yields 81 total topics.¹¹ I do not include covariates in the model, meaning the model is reduced to a logistic-normal topic model, or a correlated topic model (Blei & Lafferty, 2006).

¹⁰Of course, this is a simplified example, since statistically there is no way to guarantee specific topics arise from a given text. However, using this method is still valuable, since it provides the best fitting model of the text—as represented by individual words and whether or not they occur in the same document—into a mixture of K latent, unobserved topics

¹¹As Grimmer & Stewart (2013) correctly point out, there is no truly "correct" answer to the number of real topics present in the data. While this approach leans heavily on automated methods, I also include in later sections a qualitative approach as well by *aggregating* the topical composition into a set of qualitatively informed groups. I detail each group in the appendix; however, for example, this method aggregates two similar topics such as *Humanitarian assistance in natural disasters* and *Humanitarian coordination and assistance for emergency responses* into a single category, *Humanitarian Assistance*. In part, the categories are informed by domain knowledge gained from extensive reading of these speeches, as well as previously estimated topic models on much smaller (and arbitrary) numbers of topics such as 15, 20, 25, and 30 topic models. To aggregate the composition, I simply add the estimated proportions of relevant topics among each category; in total, my categorization yielded 22 categories across the 81 estimated topics—including one topic simply consisting of document-level noise. I re-estimate all models on this 22-category composition, yielding substantively similar results.

3.2.1 Issue diffuseness and specificity

The primary hypotheses above make predictions about the *diffuseness* and *specificity* of any given speech. More concretely, given that we can represent any given speech as some k -dimensional vector composed of k issues,

$$P = [p_1, p_2, p_3, \dots, p_k] \quad (3.1)$$

where the vector P sums to 1, we can represent this concept as the *maximum value* of any given value p_k within P . The sum constraint allows for this, since each value of p is dependent on the others, and thus a *higher* maximum value implies that the others will be *lower*. A more specific speech, then, will have a *higher* maximum, where the speaker is delivering a speech emphasizing some topic k^* disproportionately relative to the other topics. In contrast, a diffuse speech will have a *lower* maximum, where the speaker is delivering a speech emphasizing some topic k^* relatively similarly to the others. Corresponding to the proposed theory, then, each value of $[p_k]$ corresponds roughly to a given political audience who is listening for that given issue.¹²

Each speech, however, exists at the document (i.e. the speech) level, while the covariates measuring power and democracy are at the yearly level. Thus, we are left with several possibilities. The first possibility is to simply estimate the STM model across *all* words spoken in a given year. This is problematic, though, since we lose the granular speech-level information that the speeches provide. The second possibility is to model each speech as an independent observation, repeating the yearly covariate for every speech. This would likely over-estimate the certainty in the results, since the covariates are not measured at each point of observation.

The third option, which I employ here, is to aggregate the individual speech compositions over the year. Given that each speech is a different length, it would not be prudent to simply average each topical proportion p_k for a given country in a given year, since it would over-emphasize lower-length speeches and under-emphasize higher-length speeches. Instead, I distribute the word

¹²This is, no doubt, a highly simplified and stylized version of this mechanism, since a given audience and interest group can have multiple interests simultaneously—albeit usually correlated ones. The specificity and diffuseness of the interest groups themselves is an interesting area for future research, especially in how it links to the content of political speech.

count w for each speech i across its respective composition, creating an *estimated word count* per topic k , per speech

$$w_{k,i}^* = w_i * p_{k,i} \quad (3.2)$$

Next, I calculate an estimated yearly word count w^y by summing all *estimated word counts* across speeches $i \in I$, for all topics k

$$w_k^y = \sum_{i=1}^I w_{k,i}^* \forall k \quad (3.3)$$

I do this for all countries, for each year, resulting in a country-year dataset of *estimated words spoken* on each of the 81 topics.

The question of interest, though, is on a country's *emphasis* across topics, rather than which countries speak more than others. Thus, I revert this vector of estimated words spoken $W = [w_1, w_2, w_3, \dots, w_k]$ back to a compositional variable P^* in order to capture this emphasis by dividing all estimated words spoken by a given country w_k by the total number of words spoken in that year, reverting back to a vector

$$P^* = [p_1^*, p_2^*, p_3^*, \dots, p_k^*] \quad (3.4)$$

Finally, each vector P^* exists on the K-1 simplex, meaning that the maximum value is constrained to be less than 1. To transform the vector to euclidean space, I perform an Aitchison Log Ratio transformation on the compositional variable P Aitchison (1986), defined as:

$$alr(P^*) = \left[\ln \left(\frac{p_1^*}{p_k^*} \right); \dots; \ln \left(\frac{p_2^*}{p_k^*} \right); \dots; \ln \left(\frac{p_{k-1}^*}{p_k^*} \right) \right] \quad (3.5)$$

defining p_k^* by choosing one topic out of the 81 as the reference topic. Finally, one benefit of Topic Models is the ability to qualitatively understand the content of each topic by analyzing the most probable words given any topic. This allows for additional cleaning, which is important in this case since the goal is to understand issue specificity. Some topics seem to be primarily referring to *grouped statements*, where for many countries part of their speech is devoted to diplomatic platitudes "on behalf of" their respective foreign policy group. In this case, the three groups present

in the topic models are the European Union; Non-Aligned Movement; and Caribbean Community.¹³ There is also a topic devoted purely to noise due to parsing the UN text, with the top words referring to the Dag Hammarskjöld Digital Library, where the transcripts are housed. For the analysis, I remove these topics and calculate the maximum value in $alr(P^*)$, omitting these four topics.¹⁴

The dependent variable of interest—a measure of issue specificity at a given country-year level of analysis—is a continuous measure of the maximum value in $alr(P^*)$. Figure 3.2 provides a kernel density plot of the maximum ALR values aggregated across all countries and all years. The data is generally normally distributed; to model the data, I estimate an Ordinary Least Squares model. Results are substantively similar when estimating a Robust Linear Model instead—which down-weights influential observation according to an M-estimator, using iterated-weighted-least-squared regression (IWLS) (Venables & Ripley, 2013).¹⁵

3.2.2 Model and variables

The primary independent variables of interest are a country's capacity to influence, and the political relevance of diverse audiences. I use three different measures to account for the first variable. First, I include the Composite Indicator of National Capabilities (Singer et al., 1972, version 5), which provides as a continuous variable an indexed score aggregating military, population, economic, and other measures of a country's general level of power. Second, I include a measure for a country's Gross Domestic Product Per Capita (Food & of the United Nations, 2019b) to capture economic

¹³Note that these are not simply regional topics. For example, the European Union topic is not simply a topic about European issues, but rather includes words like "European", "Union", "Welcome", "Committee", "Particular", pointing more to an administrative and diplomatic topic as opposed to a more substantive one.

¹⁴I also estimate all models with these included. The results are substantively similar, though as expected the regional fixed effects change slightly, with Europe showing a tendency to be more specific on average, and France/the UK being more diffuse than average—more on par with the United States. Key findings, however, do not change.

¹⁵For robustness, I also estimate all models by excluding any observation with a Dependent variable less than 6, a threshold that came from visual inspection of a qq-plot. I also estimate all models (OLS, RLM, and threshold corrected) using bootstrapped standard errors via the sandwich package in R (Zeileis, 2004, 2006). The results are substantively similar to those presented here.

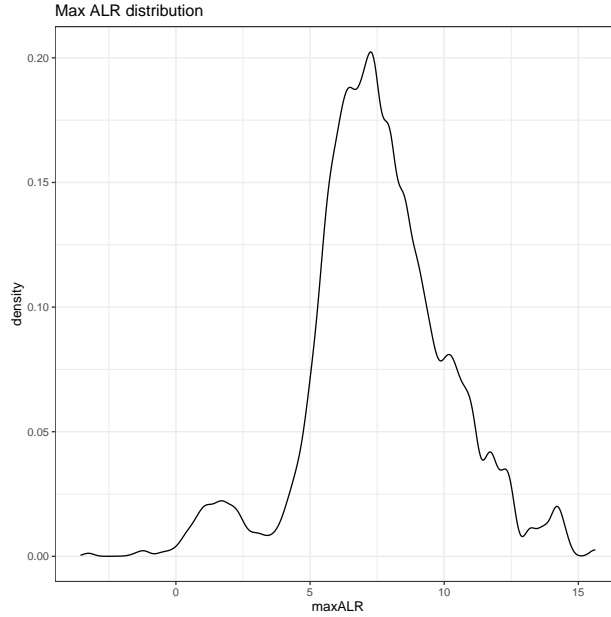


Figure 3.2: Distribution of maximum ALR value of year-aggregated speeches, 1984-2014

power in particular. Finally, I include a measure of Nuclear capability for similar reasons, since it serves as a uniquely stark measure of a country’s coercive leverage—especially in the post-World War 2 era. For this, I use Fuhrmann & Tkach’s (2015) data on Nuclear Latency to create a 4-category variable composed of *None*, *Either lab or pilot*, *Both lab and pilot*, and *Full*.¹⁶

For the second, I use the Unified Democracy Scores (Pemstein et al., 2010), which provide a latent variable estimate for democracy across ten existing scales, including among others the Polity IV score (Marshall & Jaggers, 2018); the Freedomhouse score (House, 2014); and the (Cheibub et al., 2010) measures.¹⁷ I also include a measure of a country’s population (Food & of the United Nations, 2019a) as a second measure for the diversity of a country’s domestic constituents.

¹⁶Including three different variables allows for a more robust view of the hypothesis, since there are considerable tradeoffs with using any single one. As the analyses show, for example, while CINC score is a more generalized score for countries, it is highly correlated with its constituent parts—in some cases like population, up to around 95%—rendering analyses with the constituent parts included at risk for statistical artifacts. A measure like GDP Per Capita allows us to separate between the constituent parts, but it also focuses in more on economic power, and also results in substantially more missing observations. Finally, Nuclear Latency provides a stark, clear measure of coercive power with relatively good coverage, but it sacrifices the granularity of a continuous measure like the CINC score.

¹⁷Full list, detailed citations, and information available online. See Pemstein et al. (2010).

Often, UN General Assembly speeches are delivered via *grouped statements*. Despite the otherwise independent nature of speeches, this particular phenomenon must be accounted for; thus, I include a binary variable for whether or not a country is a member of the EU, Non-Aligned Movement, African Union, or ASEAN, as well as a variable for whether they are a member of *no group at all*. The reference category, then, is any other group.¹⁸ To further account for interdependence between countries, I also divide Bailey et al.'s (2015) UN General Assembly Vote-based ideal point measure into 5 mutually exclusive categories, and include a categorical indicator of which category a country belongs to.

From the example of Bahrain above, we may expect that a country's voting behavior in a given year will influence how they speak: given the relatively rare incidence of dissident voting at the UN General Assembly (i.e. "no" votes and "abstain" votes), countries with higher proportions of non-affirmative votes may have different tendencies to speak diffusely or specifically in their speech. Thus, I include a logit-transformed¹⁹ proportion of non-yes votes per country out of the total number of resolutions in a given year.

Finally, I also include the total number of words a country has spoken across topics, a measure of a country's human rights (Fariss, 2014), a count of Inter-Governmental Organizations to which the state is party in a given year (Pevehouse et al., 2004), the Region to which a country belongs²⁰, a mutually exclusive categorical variable for the five major powers (including a category for non-P5), and year-fixed effects to account for the overall level of specificity present among the international community in a given year. I log-transform highly skewed variables in the analysis, including population; CINC score; and GDP Per Capita.

¹⁸There are a total of 43 groups identified, on behalf of which speeches are commonly delivered

¹⁹That is, given some proportion $p = v_{\neg y}/N$ non-yes votes $v_{\neg y}$ on N resolutions, the logit-transformed proportion p^* would be calculated as $p^* = \log((p/(1 - p)))$; for those with zero non-yes votes, I substitute 0 for $p = 0$ with $p = 0.0000001$.

²⁰Region, in this case, consists of *Americas*; *Asia/Oceania*; *Europe*; *Middle East and North Africa*; and *Sub-Saharan Africa*.

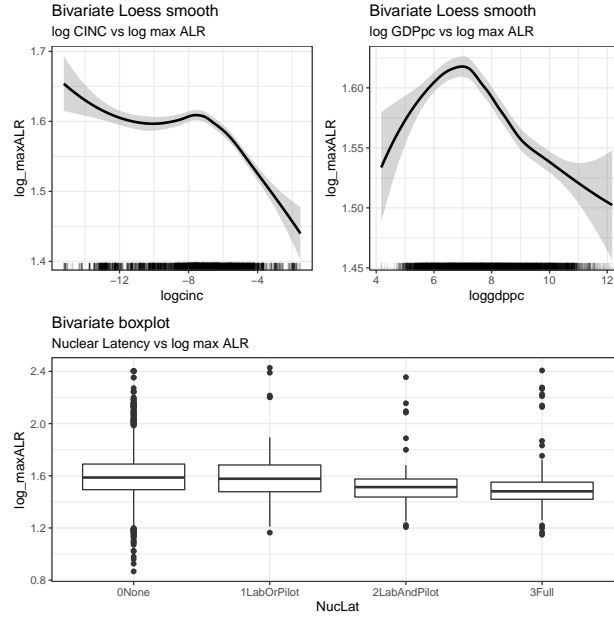


Figure 3.3: Descriptive relationship between measures of power and issue specificity

3.3 Analysis

Table 3.1 provides a correlation matrix between the main variables of interest. Figure 3.3 provides a Loess-smoothed bivariate relationship between three measures of power and a log-transformed maximum-ALR value, and Figure 3.4 provides the same for the two measures of political audience size. The descriptive patterns are consistent with the expected patterns; while GDP per capita does show some curvilinearity, this is largely driven by relatively few lower-income countries. However, to be thorough, I also include a quadratic term for power in some model specifications; the results are not substantively affected.

	log_maxALR	maxALR	logcinc	loggdppcFAO	NucLat_Numeric	UDSmedian	logtpopFAO	centIGOmeme
log_maxALR	1.00	0.89	-0.11	0.00	-0.10	0.07	-0.07	0.08
maxALR	0.89	1.00	-0.15	-0.02	-0.13	0.07	-0.10	0.06
logcinc	-0.11	-0.15	1.00	0.16	0.56	0.01	0.93	0.58
loggdppcFAO	0.00	-0.02	0.16	1.00	0.19	0.63	-0.11	0.47
NucLat_Numeric	-0.10	-0.13	0.56	0.19	1.00	0.12	0.53	0.36
UDSmedian	0.07	0.07	0.01	0.63	0.12	1.00	-0.08	0.51
logtpopFAO	-0.07	-0.10	0.93	-0.11	0.53	-0.08	1.00	0.52
centIGOmeme	0.08	0.06	0.58	0.47	0.36	0.51	0.52	1.00

Table 3.1: Variable correlations

Table 3.2 provides output from the Ordinary Least Squares model, across different model specifications to account for the high correlation between CINC score and its constituent parts within

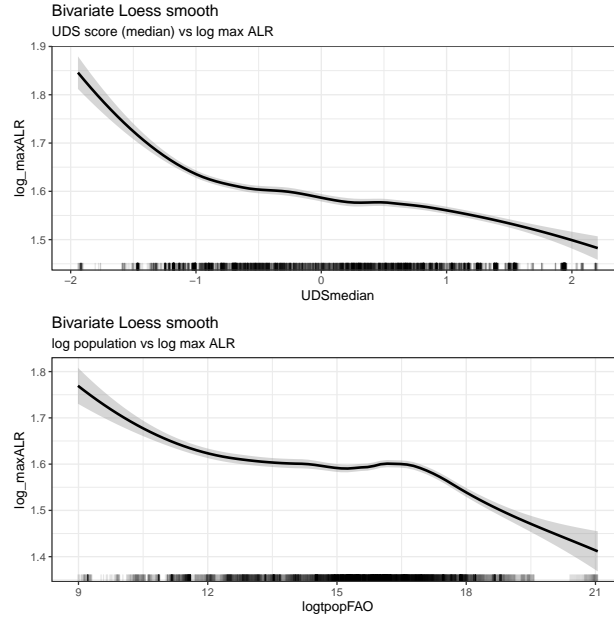


Figure 3.4: Descriptive relationship between audience size and issue specificity

the model (namely population and GDP per capita). Support for hypothesis 1 is consistent across specifications: as countries become more democratic, and as they become more populated, the composition of speeches become much more diffuse. This is consistent with the theory that as countries have more politically relevant audiences to whom they are beholden, their speech composition will reflect that diversity. More importantly, it casts doubt on the claim that emphasizing particular issues is about pleasing some exogenous audience (for example, the UN’s administration, an elite group of interested NGOs, or even a single world superpower), where we might expect little variation across regime types. Figure 3.5 plots the predicted linear relationship between Democracy and speech specificity, and Figure 3.6 plots the same for population.²¹

The results for powerful countries are mixed, but generally consistent. In both the case of Nuclear capacity and GDP per capita, countries with greater capacity tend to speak more diffusely, as expected. However, the CINC score is flipped in a model that includes population; given the very high correlation of around 94% between CINC score and population, it is possible this is a statistical

²¹The results are substantively similar when we use Polity score (Marshall & Jaggers, 2018) instead of UDS; it also reveals an interesting pattern where the high specificity is mostly concentrated in the most autocratic countries—with scores of -9 and -10.

	All Vars	CINC (no parts)	Excl CINC	Excl Pop
(Intercept)	8.56*** (0.99)	3.33*** (0.28)	6.87*** (0.46)	3.59*** (0.30)
log(GDPpc)	-0.10*** (0.02)		-0.08*** (0.02)	-0.04* (0.02)
cent Word Count	-0.24*** (0.02)	-0.25*** (0.02)	-0.24*** (0.02)	-0.25*** (0.02)
NucLat1 - LabOrPilot	0.39*** (0.10)	0.36*** (0.11)	0.40*** (0.10)	0.40*** (0.11)
NucLat2 - LabAndPilot	0.20* (0.09)	0.10 (0.10)	0.20* (0.09)	0.15 (0.09)
NucLat3 - Full	0.16 (0.12)	0.16 (0.13)	0.18 (0.12)	0.19 (0.12)
Democracy	-0.12*** (0.03)	-0.16*** (0.03)	-0.14*** (0.03)	-0.17*** (0.03)
Hum Rights	-0.04* (0.02)	-0.03* (0.02)	-0.04* (0.02)	-0.01 (0.02)
cent IGO mem	0.00 (0.04)	-0.07* (0.03)	0.00 (0.04)	-0.05 (0.03)
log(CINC)	0.06 (0.03)	-0.06 (0.05)		-0.09*** (0.01)
log(Pop)	-0.20*** (0.04)		-0.14*** (0.02)	
g_AU	-0.23* (0.11)	-0.24* (0.11)	-0.28** (0.11)	-0.31** (0.11)
g_EU	0.37*** (0.08)	0.42*** (0.08)	0.37*** (0.08)	0.42*** (0.08)
g_NAM	0.15** (0.05)	0.18*** (0.05)	0.16** (0.05)	0.17*** (0.05)
g_ASEAN	-0.10 (0.09)	-0.15 (0.08)	-0.09 (0.09)	-0.10 (0.09)
majpow - FRA	0.29 (0.28)	0.47 (0.29)	0.30 (0.28)	0.43 (0.28)
majpow - Other	0.32 (0.23)	0.57* (0.24)	0.37 (0.23)	0.54* (0.23)
majpow - RUS	0.20 (0.28)	0.38 (0.28)	0.25 (0.28)	0.39 (0.28)
majpow - UK	0.26 (0.28)	0.42 (0.29)	0.29 (0.28)	0.40 (0.28)
majpow - USA	0.55 (0.29)	0.65* (0.29)	0.62* (0.28)	0.69* (0.28)
logit_Prop_NoVotes_AbstAsNo	-0.02*** (0.00)	-0.02** (0.00)	-0.02*** (0.00)	-0.02*** (0.00)
log(CINC) ²		0.00 (0.00)		
g_NONE		0.02 (0.15)		
Year FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
UNGA Ideal Pt Cat	Yes	Yes	Yes	Yes
R ²	0.82	0.82	0.82	0.82
Adj. R ²	0.82	0.82	0.82	0.82
Num. obs.	4351	4408	4351	4351

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 3.2: OLS Regressions

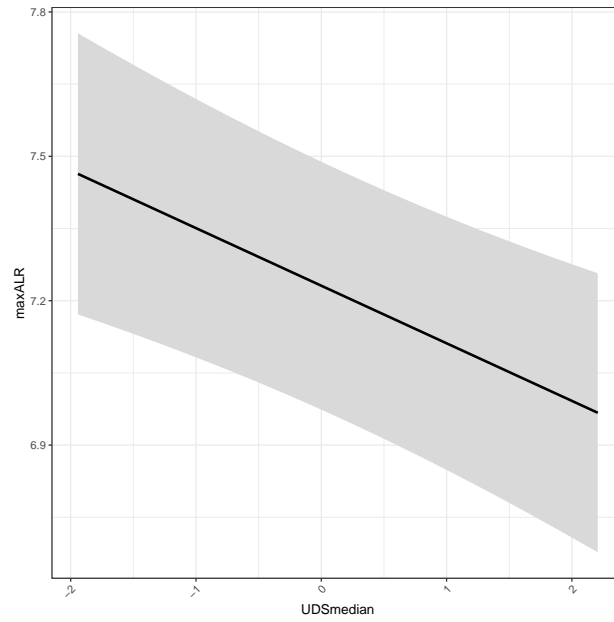


Figure 3.5: Predicted max ALR value across Democracy Score

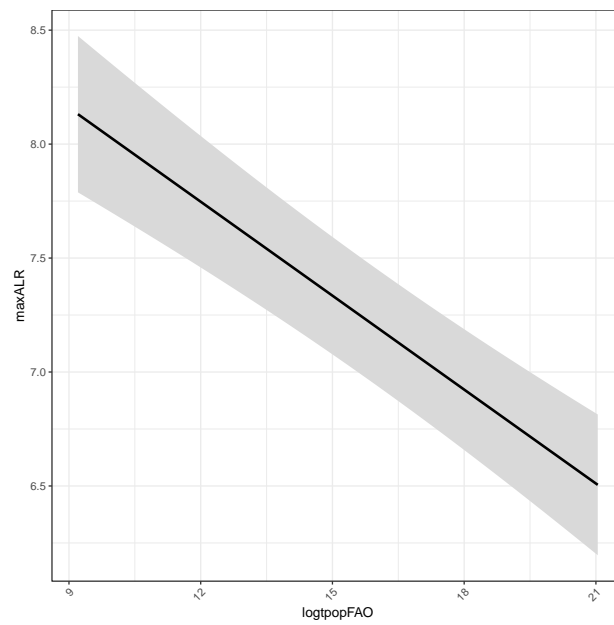


Figure 3.6: Predicted max ALR value across log-Population

	Milex
(Intercept)	7.99*** (0.70)
cent Word Count	-0.22*** (0.02)
NucLat1 - LabOrPilot	0.33** (0.10)
NucLat2 - LabAndPilot	0.04 (0.09)
NucLat3 - Full	-0.24 (0.13)
Democracy	-0.10** (0.03)
Human Rights	-0.03 (0.02)
cent IGO mem	-0.04 (0.04)
log(CINC)	
g_AU	-0.23* (0.11)
g_EU	0.29*** (0.07)
g_NAM	0.15** (0.05)
g_ASEAN	-0.02 (0.09)
g_zmNONE	0.31 (0.24)
majpow - FRA	0.28 (0.27)
majpow - Other	0.08 (0.23)
majpow - RUS	0.09 (0.27)
majpow - UK	0.22 (0.27)
majpow - USA	0.14 (0.29)
logit_Prop_NoVotes_AbstAsNo	-0.02** (0.01)
log(GDPpc)	-0.07* (0.03)
log(Milex)	-0.22** (0.08)
log(Milex) ²	0.01** (0.00)
log(Pop)	-0.11*** (0.03)
Year FE	YES
UNGA IP FE	YES
Region FE	YES
R ²	0.84
Adj. R ²	0.83
Num. obs.	3775

***p < 0.001; **p < 0.01; *p < 0.05

Table 3.3: OLS Regression - Military Expenditure

artifact. Table 3.3 provides output from a similar model, using military expenditure instead of CINC score, retaining population and GDP in the model. While this model has substantially fewer observations due to missing data, the coefficient is in the expected direction. Given this result combined with the descriptive data, prior findings on overall UN engagement²², and results from alternative measurements, there does seem to be general—though not conclusive—support for the hypothesis that more powerful countries will speak more diffusely across issues.

²²Also note that higher word count, which was shown in previous work to be strongly related to a country's capacity, is associated with more diffuse speech.

ASSEMBLY RESOLUTIONS (International Instruments in various codes)					
Resolution No.	Plenary or Other	Agenda Item No.	Meeting Record Date/Plenary Session Date	Draft	Topic
ASSEMBLY/RES/121	Plen.	121 (6)	ASSEMBLY/RES/121 14 September 2015 without a vote	ARTL 79 and Add 1	Cooperation between the United Nations and the Pacific Islands Forum
ASSEMBLY/RES/10706	Plen.	10706	ASSEMBLY/RES/10706 14 September 2015 without a vote	ARTL 4796/1 and Add 1	Cooperation between the United Nations and the African Union
ASSEMBLY/RES/54	C-4	54	ASSEMBLY/RES/54 14 September 2015 without a vote	ARTL4206/1	Comprehensive review of the whole spectrum of peacemaking operations in all four main regions of the United Nations and International Convention
ASSEMBLY/RES/19	Plen.	19	ASSEMBLY/RES/19 14 September 2015 without a vote	ARTL 82	Initiatives for the south-south dialogue on Financing for Development
ASSEMBLY/RES/13	Plen.	13	ASSEMBLY/RES/13 14 September 2015 without a vote	ARTL 81 and Add 1	Consolidating gains and accelerating efforts to combat and eliminate malaria in developing countries, particularly in Africa, by 2018

Figure 3.7: Snapshot of UN General Assembly Resolution metadata

3.3.1 Alternative measures and the content of speeches

3.3.1.1 Resolution topics

To further validate the expected patterns, I turn to an alternative measure for the number of issues a country decides to speak on, based more on the UN General Assembly's own coding of issue areas. While parsing agenda items across transcripts poses a large challenge, *UN General Assembly Resolutions* are also associated with agenda items, providing an opportunity to at least approximate agenda items. For this, I scrape the UN's website for metadata on all UN General Assembly resolutions between 1984-2014.²³ I then draw from voting data collected by Erik Voeten (et al) (Bailey et al., 2015) to match individual plenary sessions per resolution (identified in the voting data, going back only through 1984²⁴) with the metadata scraped from the web. Figure 3.7 provides a screenshot of this table from the UN's website for session 67.

Finally, I keep only the subset of speeches delivered during these particular plenary sessions which were associated with UN General Assembly votes. This provides a rough approximation for the number of unique agenda items where a country spoke in a given year: for example, if a given plenary session saw votes on agenda items 121, 54, 19, and 13, a country that spoke during that plenary session can be approximately said to have spoken on four agenda items.²⁵ Thus, we can approximate the number of agenda items a country spoke on in any given year in order to

²³I use the URL structure https://www.un.org/depts/dhl/resguide/r54_resolutions_table_eng.htm, replacing the number 54 with all sessions from number 35 through 67. For sessions above 67, I use the URL structure https://www.un.org/depts/dhl/resguide/r69_resolutions_table_en.htm, replacing the number 69 with all sessions from 68 through 69.

²⁴Email correspondence with Erik Voeten

²⁵Parsing exactly which resolution the country spoke on reverts back to the original problem in the transcripts exemplified by Figure 3.1.

further test the hypotheses posed here. More specifically, we can model the *proportion of estimated agenda items that a country spoke on, out of the possible agenda items discussed in a given year*. We should expect that as the number of politically influential audiences increases, and the capacity to act in a diverse number of issues rises, so too should the coverage of speech across the possible agenda items under discussion by the UNGA. We can make a similar dependent variable for the proportion of *Plenary Sessions* (out of the possible number of Plenary Sessions where a Resolution was voted upon), and the proportion of *Resolutions* on which a country spoke.

Given that the dependent variable here is a true proportion, and that the measure of the variable does not allow for the granularity of binary successes and failures, I model the proportion using a beta distribution, estimating a beta regression in R (Zeileis et al., 2016). Table 3.4 provides output from 6 models; for each of the three dependent variables, I estimate a model including and excluding Population as a covariate, given the concerns listed above regarding the strong correlation between CINC score and population. The results remain generally consistent with the expectations given above. The only exception is the Nuclear capabilities measure; while the distinction between low-level and no nuclear capability is positive and significant, the remaining categories are statistically indistinguishable from the no-capability category. While this may suggest curvilinearity, additional tests on CINC score and GDP per capita do not show any curvilinearity, and the coefficient estimates from the five major powers are all substantially higher than the non-P5 category, casting doubt on the claim that the *most* powerful countries speak on fewer issues than their middle power counterparts. Overall, there is general support for the claims that both the broadness of politically relevant audiences and the capacity for action across issues is associated with a greater diversity of issues on which a country will speak.

3.3.1.2 Dirichlet Regression

The maximum ALR method of modeling specificity and diffuseness allows for the use of more conventional modeling techniques, but it sacrifices the richness of the information estimated by the structural topic model. From this model, recall that each speech can be represented as some

	PV	PV_NoPop	RES	RES_NoPop	AG	AG_NoPop
(Intercept)	-2.99*** (0.33)	-2.39*** (0.16)	-3.69*** (0.64)	-2.22*** (0.31)	-3.68*** (0.64)	-2.21*** (0.31)
loggdppcFAO	0.05*** (0.01)	0.05*** (0.01)	0.09*** (0.01)	0.07*** (0.01)	0.09*** (0.01)	0.07*** (0.01)
wc	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)
NucLat1LabOrPilot	0.05 (0.04)	0.05 (0.04)	0.15* (0.07)	0.16* (0.07)	0.14* (0.07)	0.15* (0.07)
NucLat2LabAndPilot	0.04 (0.03)	0.05 (0.03)	0.01 (0.05)	0.03 (0.05)	0.00 (0.05)	0.02 (0.05)
NucLat3Full	-0.07 (0.05)	-0.07 (0.05)	0.06 (0.09)	0.03 (0.09)	0.04 (0.09)	0.02 (0.08)
UDSmedian	0.10*** (0.01)	0.11*** (0.01)	0.15*** (0.02)	0.17*** (0.02)	0.15*** (0.02)	0.17*** (0.02)
HRfariss	-0.00 (0.01)	-0.01 (0.01)	-0.03* (0.01)	-0.04*** (0.01)	-0.03* (0.01)	-0.04*** (0.01)
logcinc	0.04*** (0.01)	0.06*** (0.00)	0.02 (0.02)	0.07*** (0.01)	0.02 (0.02)	0.07*** (0.01)
logtpopFAO	0.03* (0.01)		0.07** (0.03)		0.07** (0.03)	
g_AU	0.10** (0.04)	0.11** (0.03)	0.19** (0.07)	0.20** (0.07)	0.18** (0.07)	0.19** (0.07)
g_EU	0.02 (0.03)	0.01 (0.03)	0.14** (0.05)	0.13** (0.05)	0.13** (0.05)	0.12* (0.05)
g_NAM	-0.02 (0.02)	-0.02 (0.02)	-0.01 (0.04)	-0.02 (0.04)	-0.01 (0.04)	-0.02 (0.04)
g_ASEAN	0.00 (0.03)	0.00 (0.03)	0.08 (0.06)	0.08 (0.06)	0.07 (0.06)	0.07 (0.06)
logIGOmeme	0.09*** (0.03)	0.11*** (0.03)	0.01 (0.05)	0.05 (0.05)	0.01 (0.05)	0.05 (0.05)
majpowLabFRA	-0.22* (0.10)	-0.23* (0.10)	-0.06 (0.16)	-0.08 (0.16)	-0.07 (0.16)	-0.09 (0.16)
majpowLabOther	-0.33*** (0.08)	-0.36*** (0.08)	-0.16 (0.15)	-0.24 (0.15)	-0.18 (0.15)	-0.25 (0.14)
majpowLabRUS	-0.08 (0.09)	-0.10 (0.09)	-0.14 (0.18)	-0.20 (0.17)	-0.15 (0.18)	-0.21 (0.17)
majpowLabUK	-0.24* (0.10)	-0.25** (0.10)	-0.09 (0.16)	-0.12 (0.15)	-0.10 (0.15)	-0.13 (0.15)
majpowLabUSA	-0.19 (0.11)	-0.21 (0.11)	0.35 (0.18)	0.32 (0.18)	0.29 (0.18)	0.26 (0.18)
Year Fixed Eff	Yes	Yes	Yes	Yes		
UNGA ideal pt	Yes	Yes	Yes	Yes		
World Regions	Yes	Yes	Yes	Yes		
Pseudo R ²	0.78	0.78	0.59	0.59	0.59	0.59
Log Likelihood	8986.94	8983.78	7013.49	7008.74	6996.32	6991.71
Num. obs.	4965	4965	4965	4965	4965	4965

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 3.4: Beta regression results, proportion of Plenary meetings; Resolutions; or Agenda items connected to a country speaking (precision model results omitted)

composition of K topics, represented by a vector $P = [p_1, p_2, p_3, \dots, p_k]$, where the components of P sum to 1. We can model this directly as a Dirichlet distribution, which is a generalization of the Beta distribution across multiple dimensions K on the $K - 1$ simplex. The distribution models both expected value and precision explicitly; Maier (2014, p.6) derives expected values and likelihood functions for the distribution, requiring only a reference category specified by the user prior to estimating the regression.

For this, I collapse the 81-topic structural topic model into 20 topics, each of which were qualitatively specified post-hoc following estimation of the STM. This provides a more concrete interpretation of similar topics, and also provides an alternative method of determining whether specificity and diffuseness of speech still follows from differently specified topics. As noted briefly earlier, this method would aggregate similar topics such as *Humanitarian assistance in natural disasters* and *Humanitarian coordination and assistance for emergency responses* into a single category, *Humanitarian Assistance*; I conduct this aggregation at the level of individual speeches by adding together the component topics within each topic, retaining the compositional character of the now 20-simplex. Table 3.5, Table 3.6, Table 3.7, and Table 3.8 provide tables of these 20 categories (split across tables for readability), with their constitutive topics from the 81 topic model listed as well.

Aspirational	Development	DiplomacyGroup	Governance	HumAsst
<i>IntWorldPeace</i>	<i>DevCntryTradeIndig</i>	<i>GroupMemBehalfWorkHonorThnk</i>	<i>ApartheidRacistRegim</i>	<i>HumanitAsstNaturDisastDev</i>
<i>NationsMustIntPeaceSec</i>	<i>DevSocEconSummit</i>	<i>EurUnionWelcomeCommitParticul</i>	<i>IntDemGovElectSuppSecur</i>	<i>HumanitCoordAsstNationEmergResp</i>
<i>WillProcessYearHope</i>	<i>DevCoopHighWillEffort</i>	<i>DevNamPeacekeep</i>	<i>ApartheidRegimGovernSanction</i>	<i>CommPeacebuildActivReportFund</i>
<i>WorldNationHumanPeacRight</i>	<i>DevCntryDebtNegot</i>	<i>UngaNamResolutWork</i>		
<i>OrgNationTwelvNewWillWorld</i>	<i>DevPeopYouthGovernSudanSomalia</i>	<i>CaricomCommunDevelopSmallReg</i>		
<i>WorldChallengDevelopWill</i>	<i>DevClimChngSustainSmallGlob</i>			
<i>StrongLetStandTogBetterAgend</i>	<i>DevPovertPerCentAchievEduc</i>			
<i>WorldMustWillCanOne</i>	<i>DevEconTradeInternCntryProduct</i>			
<i>WorldPeacWarMustHuman</i>	<i>DevProgramGovNatSector</i>			
<i>IntMustOneMakeProbPossib</i>	<i>IntDuwaitPeaceSwitzDevelop</i>			
<i>RemindEndurPursLosePartConstant</i>	<i>DevEconPeaceSocialOrgan</i>			
	<i>DevSocMigratPolicipovert</i>			
	<i>FinancCrisisGroupNatWorkSituat</i>			
	<i>DevCntryImplemGoalCommit</i>			
	<i>DevAfricaSupportContinPartner</i>			

Table 3.5: Collapsed Topics (1-5)

HumRights	Independence	Institution	IntCoop	IntLaw
<i>HumrightsProtectUnivDecl SlavDiscrimRaciHumTrade</i>	<i>IndependColoniResolut</i>	<i>DelegRepresCharterStatement UNSCReformWork ProcMeetHighlevelPlenaryReport GroupProposProgramSecGenBudg CommItemRepAgDoc ForumFrancNatSmallRegMemb SecGenOrganOperSupportReform SecCouncilMemReportWorkIss GenAssembSesWorkReportResolut DraftResAdoptVoteConsensusPar</i>	<i>IntCoopOrganIslamDevelop</i>	<i>IntCourtLawJustice IntLawSeaFish IntLawConventComissSeaLegal IntTribunCrimeRwandCoopGenocid IntCovnventMineTraffick</i>

Table 3.6: Collapsed Topics (6-10)

IntPeaceSec	Noise	Nuclear	PubHealth	Reg_LatAmerica
<i>IntCoopOrganPeacSecur</i> <i>RefugDisplSportPeac</i> <i>PeacConfSolutSettlementNegot</i> <i>ConfSecurPreventCoopOSCREgion</i>	<i>DigitLibDagHammarask</i>	<i>NucAgenIAEAenerg</i> <i>NucWeapDisarmTreat</i>	<i>HealthHivAidsProgramPrevent</i> <i>HealthDiseasPreventControlDevelop</i>	<i>CubaBlockadEconTrade</i> <i>CubaNamEconGovRight</i> <i>CubaEmbargoLawIntern</i> <i>NicaragGovLatinHondSalvPeople</i>

Table 3.7: Collapsed Topics (11-15)

IntPeaceSec	Noise	Nuclear	PubHealth	Reg_LatAmerica
<i>IntCoopOrganPeacSecur</i> <i>RefugDisplSportPeac</i> <i>PeacConfSolutSettlementNegot</i> <i>ConfSecurPreventCoopOSCREgion</i>	<i>DigitLibDagHammarask</i>	<i>NucAgenIAEAenerg</i> <i>NucWeapDisarmTreat</i>	<i>HealthHivAidsProgramPrevent</i> <i>HealthDiseasPreventControlDevelop</i>	<i>CubaBlockadEconTrade</i> <i>CubaNamEconGovRight</i> <i>CubaEmbargoLawIntern</i> <i>NicaragGovLatinHondSalvPeople</i>

Table 3.8: Collapsed Topics (16-20)

This approach provides a potential opportunity to gain insight into the mechanisms for how countries use their speeches. While there is no way to specify *a priori* a specific category or type of speech, the post-hoc defined categories may provide additional validation. In this case, prior work (Mahmood, 2020b) suggests that these speeches can serve an agenda-setting function, resulting in certain types of countries being more engaged with the UNGA overall. This should suggest that powerful and democratic countries should, on average, deliver more *normative* speeches, delivering language on what they value and what they believe others *should* value—with language imploring action, stating what should (or "must") be done, etc. In Table 3.5, I define a category of speech as *Aspirational* language, which is composed of topics most associated with words like "must", "will", "hope", "can", etc.

The coefficients of the Dirichlet regression are difficult to interpret without additional context, though they are provided in the appendix. Figure 3.8 provides a heat map for predicted values across the 20 topics—holding all other variables at their median (or, for factor variables, at the first value in ascending order)—across GDP Per Capita. Mirroring the results from the maximum ALR values, CINC score is flipped on the Aspirational topic, though the patterns from GDP per capita and Nuclear capability are consistent with expectations.

The predictions show the strongest trends across Aspirational speech and the category of Development, broadly defined: Powerful countries tend to speak much more on aspirational categories, while weaker countries tend to speak more on Development. Figure 3.9 provides a similar plot for Democracy. While subtle, this also suggests that Democracies tend to speak slightly *more* on development as well, in addition to speaking in more Aspirational language. There may be further qualitative work to be done to disentangle why specific issues might be overrepresented by democracies, including whether their political structures disproportionately incentivize political posturing on public goods such as economic development and sustainable development.

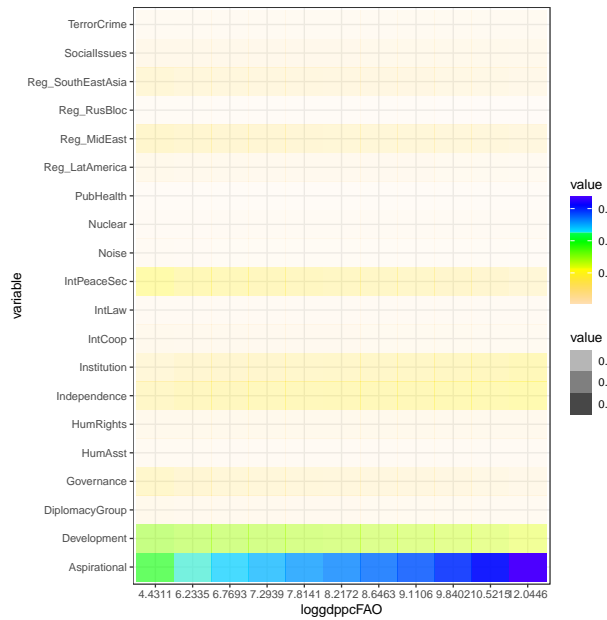


Figure 3.8: Predicted composition across categories, across GDP Per Capita

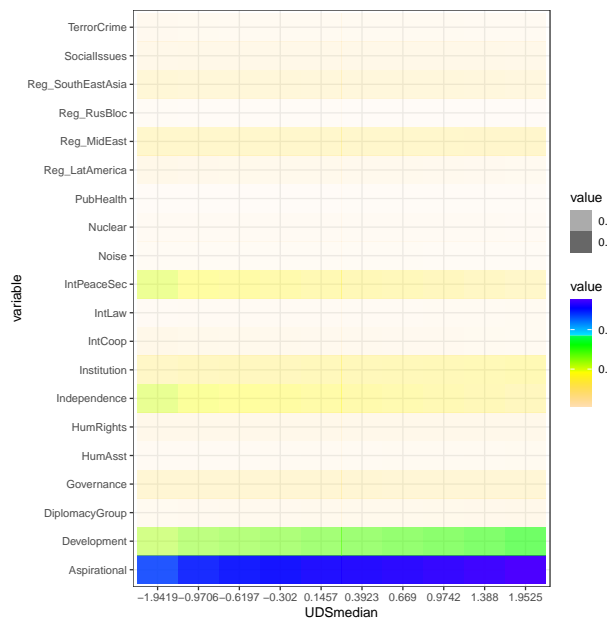


Figure 3.9: Predicted composition across categories, across Democracy

3.4 Does issue prioritization correspond to issue salience?

The compositional patterns of specificity and diffuseness in speech are consistent with the claim that countries tend to speak on issues that are politically relevant, whether this be via a larger, more diverse politically relevant audience, or whether it be via greater capacity to actually execute an ambition on a larger set of issues (each salient to some audience). This implies, though, that the composition of speech should correspond to some external measure of political relevance: explicitly, the issues a country speaks on should predict that country's behavior, if the decision to speak on an issue is driven by the salience of a given issue politically. More generally, the *similarity* of issues two countries speak on should predict a *similarity* of politically relevant issues for both countries; it should follow, then, that two countries with similar speech compositions should be more likely to either cooperate or conflict with one another, given the overlap of politically salient issues.

To this end, I use involvement in an ongoing civil war as a measure for whether countries have overlapping interests, following the framework of Lemke & Regan (2004) and others, who argue that involvement in a civil war should follow Singer's (1963) model of inter-nation influence. From this, we should expect that involvement in civil wars should—on average—in part be predicted by whether the potential intervener has similar political interests as the country in conflict, making it more likely that the potential intervener will have a political interest in the outcome (for example, whether the government is successful or overthrown).²⁶

In order to test this data, I compile a dataset of all civil wars, drawing from UCDP/PRIO's Armed Conflict dataset, which classifies any organized violence involving the government of a state as a primary party, and which reaches a 25 battle deaths per year and per conflict dyad (Pettersson et al., 2019; Gleditsch et al., 2002). I include those conflicts classified as either a Civil War or an *internationalized* civil war in this dataset. Next, I create a country-conflict dataset, allowing every

²⁶This closely mirrors Lemke & Regan's (2004) hypotheses, which focus on whether countries are contiguous; whether they have a historical colonial relationship; and whether they are allies (p.153).

country in the system in the year prior to the conflict start to be potentially involved in a given conflict. Finally, I code *involvement* in a civil war as being a binary variable of whether a country is included as an actor in the civil war by the UCDP/PRIO dataset; I exclude the involved government as a potential actor in each conflict.

Drawing from previous literature, I include several additional variables to model the probability of involvement. First, I include conflict-specific characteristics such as whether the conflict was classified as *intense* by UCDP/PRIO (1000 battle deaths), and the type of incompatibility (government or territory) as classified by UCDP/PRIO. Second, I capture actor- and location-specific factors including the level of democracy (as measured by the Unified Democracy Scores (Pemstein et al., 2010)), the total Population, and the GDP Per Capita of both the potentially involved country and the location country. Finally, I include dyadic measures of whether the two actors (location and potentially involved country) are joint-members of a United Nations group, the distance between their respective capitol cities, the colonial history (if any) between the two countries, whether the two countries are involved in an alliance together, and the difference in UN General Assembly Ideal points as measured by Bailey et al. (2015). I also include a log transformed measure of the maximum number (in any year of the conflict) of *refugee or refugee-like* people originating from the *location in conflict* to each individual potentially involved country, and a categorical variable of the world region for the conflict location.

To measure the similarity and difference in which issues countries are speaking about, I use the ALR-transformation of the yearly-aggregated 81-topic compositional variable, as represented in Equation 3.5. Given two of these transformed variables $alr(P_i^*)$ and $alr(P_j^*)$ for a potentially involved country i and a government experiencing civil war j , we should expect that the likelihood of country i —all else being equal—being involved in the conflict involving j should increase as the *difference* between the two compositional variables *decreases*. Substantively, if UN General Assembly speeches speak to issues that are politically salient to a given country, then as the composition of issues under discussion becomes more similar, relative to a government j in conflict, an external country i should become more likely to be involved. I use the *euclidean*

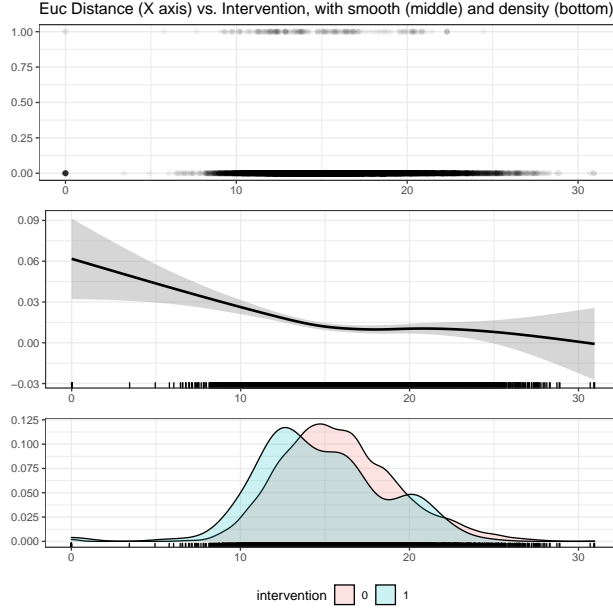


Figure 3.10: Descriptive relationship between Euclidean distance in speech composition and civil war involvement

distance between the two compositional variables $alr(P_i^*)$ and $alr(P_j^*)$ as the quantitative measure for this difference.²⁷ The full dataset spans across 89 conflicts, with covariates coded as their respective values in the year prior to the starting year.

Figure 3.10 provides a descriptive overview of country-conflict involvement across all country-conflicts; on average, there emerges a clear pattern that as compositional differences increase, the likelihood of involvement in a conflict decreases.

I estimate a logistic regression using the variables above; Table 3.9 provides the output for these models, including a version excluding population, GDP per capita, and Refugee counts in order to reduce the amount of missing data. The models provide strong support for the claim that the composition of issues spoken about at the UN General Assembly captures underlying political incentives that translate into behavior; Figure 3.11 plots the marginal likelihood of a country's involvement in a civil war across values of Euclidean differences. While there are few observations

²⁷Given that some countries *only* deliver grouped statements in a given year, some of the distances ended up as zero; the models presented here are ones where I replace zeroes with the minimum euclidean distance in the dataset. However, all results are substantively identical when we use the un-corrected distances.

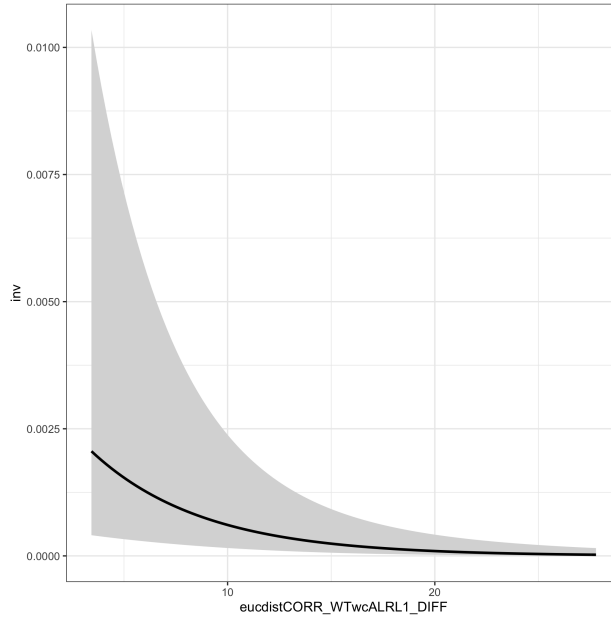


Figure 3.11: Predicted probability of involvement, across values of Euclidean Distance

at the lowest levels, the changes are dramatic, with the probability of involvement decreasing by almost 60% as Euclidean distance increases from the 25th percentile to the 75th percentile in the data.²⁸

3.5 Discussion and conclusion

In the diverse arena of international politics, countries are able to speak on as few or as many issues as politically beneficial. While prior work has tended to cast skepticism on whether these types of speeches contain useful information, this paper links the decision to speak on an issue with a politically relevant audience willing to listen. From this framework, it follows that countries with a larger, more diverse cohort of politically relevant audiences—such as higher population or more democratic countries—will tend to speak more diffusely, across a larger variety of issues. Moreover, a country’s capacity to actually act on an issue yields a greater political benefit to agenda setting on those issues, creating additional incentives to speak towards these interested audiences. This

²⁸Listwise deletion of all observations where Euclidean distance is less than or equal to 7 yields similar results; this threshold is arbitrary, but determined visually based on the distribution of distances across the full dataset.

	Baseline	Baseline_Minimal	EucDist	EucDist_Minimal
(Intercept)	-1.52 (2.64)	-5.51*** (0.60)	2.00 (2.73)	-3.41*** (0.80)
MaxConfIntensity	3.09*** (0.32)	2.29*** (0.22)	3.20*** (0.32)	2.29*** (0.22)
incompatibilitytype_2	0.14 (0.31)	-0.01 (0.23)	0.21 (0.31)	0.05 (0.23)
g_ANY_JNT	0.03 (0.35)	-0.22 (0.30)	-0.36 (0.36)	-0.43 (0.31)
P5	-0.17 (0.48)	1.05* (0.43)	-0.22 (0.49)	0.96* (0.43)
P5_JNT	1.11 (1.18)	0.48 (1.18)	0.83 (1.16)	0.27 (1.16)
Region_LOCAsiaOceania	-10.19*** (1.20)	-2.40** (0.82)	-10.57*** (1.24)	-2.41** (0.82)
Region_LOCEurope	-7.82*** (1.28)	-4.32*** (1.10)	-7.91*** (1.29)	-4.31*** (1.11)
Region_LOCMENA	-2.98*** (0.70)	-1.75** (0.65)	-2.46*** (0.67)	-1.49* (0.63)
Region_LOCSubSaharAfr	-3.53*** (0.64)	1.46*** (0.43)	-3.39*** (0.63)	1.62*** (0.43)
UDSmedianL1	0.18 (0.17)	0.09 (0.14)	0.12 (0.18)	0.11 (0.14)
UDSmedianL1_LOC	1.07*** (0.26)	0.28 (0.24)	1.10*** (0.26)	0.21 (0.24)
UDSmedianL1_BothAboveZero	0.19 (0.32)	0.79** (0.29)	0.10 (0.33)	0.78** (0.30)
LogTotalRefugeeLike	0.02 (0.05)		0.03 (0.05)	
kmdist	-0.00*** (0.00)	-0.00*** (0.00)	-0.00** (0.00)	-0.00*** (0.00)
log_FAO_GDPpc_mmL1_LOC	-1.96*** (0.21)		-2.08*** (0.21)	
log_FAO_GDPpc_mmL1	0.03 (0.10)		0.07 (0.10)	
log_FAO_tpopL1_LOC	0.45*** (0.12)		0.47*** (0.13)	
log_FAO_tpopL1	0.35*** (0.06)		0.32*** (0.06)	
colhist	0.87 (0.55)	0.65 (0.54)	0.92 (0.57)	0.65 (0.55)
atopally	1.46*** (0.29)	1.41*** (0.25)	1.15*** (0.30)	1.16*** (0.26)
UNGAip_DIFF	0.23 (0.16)	0.05 (0.15)	0.29 (0.17)	0.13 (0.15)
eucdistCORR_WTwcALRL1_DIFF			-0.20*** (0.04)	-0.15*** (0.04)
AIC	904.90	1072.62	880.62	1055.97
BIC	1063.71	1195.62	1045.97	1185.67
Log Likelihood	-430.45	-519.31	-417.31	-509.99
Deviance	860.90	1038.62	834.62	1019.97
Num. obs.	10085	10248	9791	9948

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 3.9: GLM models: Conflict involvement

builds in previous work by the author as well, where similar political origins also drove the *volume* of speech delivered at the UN General Assembly.

Additionally, the finding about civil war involvement suggests that in addition to fulfilling political incentives, the liberal argument that political audiences (or constituents, be they domestic or international) can drive political *behavior* also finds support. The composition of speeches is strongly related to patterns of how countries relate in terms of the diverse issue space in international politics: those countries with similar politically salient interests will tend to fight the same battles. In this case, a government experiencing a threat from within will attract outside actors who have what Singer (1963) refers to as *preferred policies* surrounding the issues most politically relevant to that government. Future work can tease out whether patterns of alignment on a given issue is related to which side an external actor joins in a civil war, even as it is shown here that these actors will tend to join (regardless of bias for or against the incumbent government) when similar political issues are discussed in public speeches.

This has implications for the study of diplomacy and international organizations more broadly. A public forum is one of the most prominent functions that an international organization can provide. The UN General Assembly is one of the most visible forums in the world; given the diversity and proliferation of speeches on that forum, the question of whether these speeches are meaningful becomes relevant to policymakers and scholars seeking to more concretely understand the interests of world actors. Moreover, it also provides an opportunity to generalize beyond the UN General Assembly: be it other inter-governmental organizations, or be it worldwide media outlets, there are a multitude of forums on which world leaders deliver speeches and statements, providing an opportunity to understand how countries prioritize issues in the context of the possible issues they can address on these forums.

CHAPTER 4

COMMUNICATING FOREIGN POLICY ALIGNMENT VIA STATEMENTS OF OPINION AT THE UNITED NATIONS GENERAL ASSEMBLY

In September of 2013, Hasan Rouhani gave what the *New York Times* called "the most widely awaited speech" at the United Nations General Assembly.¹ This speech was widely received as signaling a potential transition in Iranian foreign policy—particularly toward the United States, its allies, and Israel—and more specifically a transition in the direction of moderation.² This perception of moderation, notably *before* Rouhani had taken any tangible policy actions, resulted in a historic opening of diplomatic between the United States and Iran via a 15 minute phone call between the two countries³—and led in part to the capacity for Rouhani to negotiate a historic international agreement on his country's nuclear program in a way his more hardline predecessor could (or would) not.⁴

The co-incidence between Rouhani's shift in speech with an eventual foreign policy change points to a deficit in the study of diplomacy in international politics. Namely, it suggests that these types of speeches—otherwise innocuous statements of opinion, interests, and priorities—can communicate important information about the landscape of foreign policy interests among nations. In this case, the shift in Rouhani's speech *aligned* him closer with the US and the rest of the international community, relative to his predecessor whose rhetoric tended to *differentiate* him from them. This seems at odds with a range of previous literature, which has suggested that statements of this nature by politicians at the United Nations likely do not contain useful information (Voeten, 2005; Farrell & Gibbons, 1989b).

¹"Iran's New President Preaches Tolerance in First U.N. Appearance". *New York Times*. Rick Gladstone. 24 September 2013.

²"Obama tells UN that diplomatic path must be tested with Iran". *The Guardian*. Julian Borger and Ed Pilkington. 24 September 2013.

³"Obama holds historic phone call with Rouhani and hints at end to sanctions". *The Guardian*. Dan Roberts and Julian Borger. 28 September 2013.

⁴"Former President Ahmadinejad reacts to Iran nuclear deal". *Iran Front Page News Service*. 16 July 2015.

The question of how speech patterns could potentially map to future behavior is of critical importance. Especially on high-stakes issues such as nuclear proliferation, policymakers and diplomats would benefit from understanding how to interpret statements of opinion, which are otherwise prolific in international politics and often occur on a continuous basis. For scholars of international relations, understanding this type of information in a systematic way allows for a more expansive study of diplomacy and international communication—particularly at international institutions such as the UN.

In this paper, I examine the conditions under which speeches at the UN General Assembly can communicate useful information about the alignment pattern of foreign policy interests. I argue that leaders face a tradeoff between the the cost of aligning with unfriendly peers and the incentive they have to pander to multiple audiences. An analysis of UN General Assembly speeches between 1984 and 2012 shows that on more controversial issues, where a history of disagreement separates between friends and foes more easily, the alignment of speech patterns map most clearly on to the alignment of behavioral patterns, suggesting that in these cases leaders restrict themselves to speaking mostly with friendly peers.

4.1 Speech, foreign policy alignment, and the United Nations

A rich literature exists in international relations on how states communicate. From the credibility of threats (Schelling, 1960; Waltz, 1979; Guisinger & Smith, 2002; Fearon, 1994, 1995; Sartori, 2005; Kydd, 2005; Press, 2005), to the alignment of policy interests (Morrow, 1994, 2000; Crescenzi, 2007), to the salience of a demand (Trager, 2011), there are a range of things that leaders need to communicate to other state leaders. This communication generally takes the form of either *actions* or *speech*, such as conflict and troop deployment in the first category, or verbal threats and verbal demands in the second category.

While the scholarly interest in these types of communication has grown over the past several decades, a specific form of communication has remained largely under-theorized: public expressions of opinion and sentiment. This is particularly important since these types of speeches are so

prolific in politics writ large: from media interviews to the United Nations, state leaders communicate an almost continuous stream of opinions and sentiment over time to a host of audiences on a range of issues. While there has been a fair amount of work done on communication *within* states by political elites (Monroe et al., 2008; Quinn et al., 2010; Proksch & Slapin, 2012), including some theorizing on the data generating process thereof (Budge et al., 1987), there has not been an analogous effort in international politics to understand speeches *between* states. Not only is this type of speech prolific in international politics, its informative value is often assumed in many scholastic studies of international politics, either in case study narratives (Press, 2005; Thompson, 2009) or as a variable of interest which affects other processes Thyne (2009); Hayes & Guardino (2013).⁵

This *informative value* of speech, however, has not been subject to systematic testing. More explicitly: what, if any, information is being communicated in these expressions of opinion and sentiment? To better understand this, we can look to the literature on domestic party politics. Proksch & Slapin (2012), for example, argue that public debates serve to "communicate...policy positions to their parties, other parties, and voters", arguing that parties have incentives to "maintain [their] brand" by "preventing [members] from undertaking activities that contradict the party's primary message" (p.521-522). In this way, the choice to prioritize some issues over others – for instance, emphasizing symbolic and social issues near an election (Quinn et al., 2010) – or the choice of one "brand" over another "brand" (in terms of the sentiment they express on an issue) can serve an informative purpose.⁶

⁵Ramsay (2011); Bils & Spaniel (2017) are notable exceptions; they provide promising frameworks to understand how uncertainty over the alignment of interests can lead to credible communication, both in terms of policy coordination and preventing militarized conflict.

⁶This is also similar to Trager's (2011) theory of multi-dimensional diplomacy, wherein he argues that during bargaining, leaders can communicate issue salience by prioritizing some issues over others—for example, choosing to demand a more difficult concession over an easier one, suggesting that the leader is willing to risk negotiations falling apart and potential war. While his theory exists in the context of private negotiations and the communication of resolve, it is directly applicable to public deliberation and the communication of alignment, in that the choice to emphasize some issues over others reflects a prioritization that differentiates one leader/country from another.

Yet international relations is markedly different than domestic politics. Most importantly, formal political parties do not exist the way they do in countries, and so the eponymous "brand" analogy made by Proksch & Slapin (2012) breaks down since these brands ultimately do not exist in a structured way.⁷ This speaks to the problem that Voeten (2005) correctly identifies with regard to deliberation at forums like the United Nations, where there are only "a shallow set of common values... [and] obvious incentives to misrepresent their positions, as the stakes are clear and the relevant actors few". This would seem to render it difficult to map particular opinions and argument to some kind of identifiable position (p.537).⁸ Ultimately, without some kind of *supra-national* lexicon by which to identify a particular country's branding, or without a mechanism linking statements to a clear incentive structure, the conventional wisdom among international relations scholars is generally that these statements ultimately have little informative value.

However, there are two areas for improvement. First, especially in public arenas like the United Nations, the number of "relevant actors" are in fact quite large. These public arenas broadcast opinions not only to other state leaders, but also to interested political elites *across the world*. Be they NGOs, domestic elites, or elites in other countries, the scope of relevant actors is large and heterogeneous. Since a given speech is finite in both size and content, a leader must pick and choose between audiences – creating a strategic environment and incentive structure. Second, while there is no *supra-national* lexicon to objectively identify any given speech, there is an *endogenously defined* lexicon by which to *compare speeches to one another*. More explicitly, while the absolute content of a speech may not be meaningful, the relative content can be: an emergent lexicon exists as leaders speak on any given issue over time, providing a medium in which to compare any set of speeches.⁹

⁷Lake (2009) provides a compelling counterargument to this, where he argues states do in fact exist in "hierarchies". An interesting theoretical link exists here in bridging the literature on party politics and international relations, with respect to messaging and branding.

⁸For arguments defending the UN's discursive and persuasive roles, see Johnstone (2003, 2005); Krebs & Jackson (2007)

⁹While a more detailed, descriptive lexical analysis of the UN is beyond the scope of this paper, there is useful work on how the language of politics changes over time (Greene et al., 2019). For a simple example, consider the Topic Model which I describe later in the paper. One of the uncovered

The UN General Assembly is the most natural starting point for analyzing how statements of opinion and sentiment on foreign policy communicates foreign policy interests, and how this maps onto observable behavior. Since its inception in 1945, scholars of international politics have studied the UN from a variety of angles, including its role in legitimizing foreign policy (Claude, 1966; Voeten, 2005; Thompson, 2009; Chapman, 2011), the Security Council's authorization of collective foreign policies (Fortna, 2008; Beardsley & Schmidt, 2012), and with respect to UN General Assembly voting Alker (1964); Alker & Russett (1965); Vincent (1971, 1972); Kim & Russett (1996); Voeten (2000); Bailey et al. (2015).

The General Assembly in particular is useful here for several reasons. First, it includes all countries in the world. This membership scope provides a unique opportunity to observe statements of opinion in a context where all countries speak on similar issues, and in a similar environment with a commonly understood emergent lexicon at any given time. This makes cross-country comparison more robust. Second, the wide membership combined with the General Assembly's high profile provides a large set of "relevant actors" (to use Voeten's (2005) terminology) from which leaders must pick and choose an audience. This creates a strategic environment and incentive structure whereby leaders must prioritize some interests of some audiences over others. Third, the UN General Assembly provides a very useful empirical opportunity to map speech patterns to *relevant* behavior, issue by issue. In this case, as I discuss in more detail below, the UNGA provides an opportunity to map speech patterns onto foreign policy behavior *across knowable issues* by using voting patterns to measure foreign policy behavior. Finally, the General Assembly is useful from a theoretical perspective in this study, since it has little if any true legal power. In other words, the null hypothesis and conventional wisdom – namely, that speech patterns reflect a *babbling* process, topics is consistently composed of words like "international", "tribunal", and "law", which based on post-hoc domain knowledge likely maps on to an international law topic. Starting in the middle of the dataset, toward the early 2000s, the terms "rome" and "icc" begin to appear. This is almost certainly due to the fact that the Rome Statute establishing the ICC as an arbiter and player in international law was adopted (1998) and implemented by 2002. In this way, the emergent lexicon surrounding the issue of international law shifted slightly to reflect changes in the relevant players. To cite the ICC during an ongoing crisis, then, becomes associated with the politics which surround the institution—and the countries who invoke it during that crisis.



Figure 4.1: Three countries speaking in similar ideological spaces



Figure 4.2: Three countries speaking in very different ideological spaces

conveying little or no systematic information about foreign policy interests – should be favored most strongly in a forum like the UN General Assembly, which might otherwise be seen as merely a "contemptible talk-shop" (Claude, 1966, p.372).

4.2 A scale of two interests: Alignment through relative content

When leaders speak, audiences listen. Though this axiom has mostly been used to understand how domestic audiences can make threats more credible (Fearon, 1994; Weeks, 2008; Levendusky & Horowitz, 2012; Tarar & Leventoglu, 2013; Kertzer & Brutger, 2016), there is also work to suggest that it applies more broadly to international audiences as well—both overseas intra-state audiences (Hayes & Guardino, 2013) and other countries (Sartori, 2005; Ramsay, 2011). In a high-profile setting like the UN General Assembly, this means that *all* public actions—such as voting and speeches—are subject to this simple but important axiom.

What, if any information can these audiences glean from speech, and why would leaders care? A critical issue for onlookers to resolve from these speeches is that the underlying scale is, *a priori*, undefined. For instance, consider three countries, *A*, *B*, and *C*. This issue can be illustrated by a hypothetical situation where *A* states that he is a "7" on the issue at hand. Without additional information, the content of that speech is essentially indeterminate, since as Voeten (2005) points out there is only a shallow "common set of values" in which to interpret this statement. That is, a "7" could mean vastly different things depending on the context: compare Figure 4.1 and Figure 4.2, where the same statement maps *A* on to very different sides of the ideological scale (holding *B* and *C* constant in their own positions).

Drawing from the terminology used earlier, this problem occurs from reading the *absolute* content of speeches: a "7" has little to no meaning in an absolute sense without some clarifying set of values in which to interpret it. However, as Figure 4.1 and Figure 4.2 allude to, *A*'s speech does still contain *relative* content. That is, it remains possible to make robust statements about ΔAB , ΔBC , and ΔAC . For a more concrete example, if *A* and *C* emphasize their "concern about the humanitarian situation" in some civil war *i*, and *B* tends to emphasize his concern about "maintaining institutional stability" in the same civil war *i*, while it is difficult to say whether *A*, *B*, and *C* are *different* in some objectively meaningful way, it is much easier to say that ΔAC is smaller than ΔAB —meaning that *A* and *C* are more *aligned* in their foreign policy speech. The informative nature of *difference* and *similarity* is not a novel ideal in the study of diplomacy: Jervis (1970, p.21) argues a similar idea, noting that "all secret messages and most public ones are signals...these signals may involve **following an established routine, as in the use of diplomatic language, or may entail breaking that pattern**" (emphasis added). This pattern is defined by the community at large, or by a sustained pattern over time, subject to change.

Interestingly, under this framework the information about alignment in speech depends only on content, and requires no additional statements about the *truth* or *falsehood* of that content. For instance, whether or not *A* is "truly" concerned about the humanitarian situation in *i* has no bearing on the fact that in his speech, *A* is communicating a closer alignment to *C* than he is to *B*. This is a critical takeaway from the theory presented here: there might be valuable information contained in speeches *even if leaders are not faithfully representing their **true** interests*. The emphasis on "true" here is important, since it is often a red herring that can obfuscate the process of gleaning information when leaders deliver public statements of opinion.¹⁰

Also noteworthy is that the scales are defined at the bounds by the most polarized content:

¹⁰In the extreme example, suppose *C* is never communicating their "true" opinion on a given issue. The logic of alignment presented here would still apply, since the content of a speech can still be assumed to represent something that a corresponding audience wants to hear. For instance, a verbal threat may not always result in a conflict, and may not always represent the resolve or capacity to fight, but it would be assumed that consistently delivering verbal threats still reflect a level of hostility above the absence of any verbal threats (Terechshenko, 2020).

given some endogenously defined vocabulary, countries are identified in alignment relative to one another in a space defined by those countries who speak *most differently* than one another on that particular issue. This leads to interesting theoretical opportunities to study patterns of polarization more broadly in international politics, though this is beyond the scope of this paper.

4.2.1 Mapping speech to friends and foes

Political actors care about other leaders' interests. For domestic actors, there is a lingering concern that leaders will forego the interests of the public in order for a leader to pursue his/her own private interests (Stasavage, 2004; Svolik, 2012; Colaresi, 2014), or more generally that a leader may forego the interests of one domestic group in favor of another. For international actors, a similar concern applies: decisions about foreign policy making are driven by the anticipation of what other leaders will do (Findley & Teo, 2006), and more specifically by the anticipation of whether these other leaders will implement favorable (or "preferred") policies (Singer, 1963). Learning about the alignment of interests becomes a vital part of coordinating foreign policy, particularly when the stakes involved with pursuing a difficult or risky policy—where counter-action might be extremely costly (Gent, 2007)—are very high. As Bils & Spaniel (2017) argue, uncertainty over ideological positions can make cheap talk a useful component of pre-crisis bargaining and the ultimate decision to go to war. They show that the presence of many potential opponents with disparate policy preferences can render cheap talk effective, and more importantly that the variance of perceived alignment in latent ideological space can have critical implications—including, in some cases, whether war breaks out. Thus, there is wide agreement in the scholarly literature that the audiences who are listening to this relative content *care* about (and can potentially use) the information they glean.¹¹

Connecting relative content to alignment, this creates a decision for leaders to make. Consider, for example, a simple setting where two interested onlookers— C_A and C_B —are watching A and B .

¹¹Also see (Ramsay, 2011), who argues that pre-crisis signals about potential *alignment* of interests can affect peace by leading to bargaining in the first place

Assume that A and B *disagree* on some issue i , and that their *behavior* reflects a decision to reflect the interests of C_A or C_B respectively, whose preferences are conflicting on issue i . There are two possibilities with regards to the speech patterns of A and B on issue i , given their conflicting behavior on that issue. The first possibility is that A can speak in a way that *also* differentiates him from the way B speaks on that issue. Under this scenario, A is using his speech to *double down*, or *reinforce* his disagreement with B . The second possibility is that A can speak in a way that *aligns* him with the way B speaks on the issue. Under this scenario, A is using his speech to *hedge* against his disagreement, or *pander* to the interested onlooker C_B who otherwise sees A siding with a foe in their behavior.¹²

4.2.1.1 *Empirical implications*

Given this, we should expect that patterns of reinforcement and hedging are driven by two things. First, as the *distance* increases between some country A 's observed behavior (for example, a weak country A being coerced into supporting the interests of C_B), and the interests of some politically important constituent C_A that A values, we should expect that these leaders will benefit more from hedging at all—since they will have a constituent to whom they must pander verbally given a lack of alignment in their behavior. For example, consider the case of voting on UN General Assembly resolutions, where a range of prior work has elucidated the role of vote buying—especially by more powerful countries against weaker countries (Carter & Stone, 2015; Dreher et al., 2008; Wang, 1999; Rai, 1980). Here, if a given country i has some underlying foreign policy interest F_i , the *weakest* countries would be most vulnerable to being pulled away from that position and towards

¹²While this can be expressed in terms of dyadic relationships between countries, there is no reason we cannot equally express this in terms of issues themselves. For instance, consider some issue i , with two sides of the issue preferred by some groups C_A and C_B . If A and B in their behavior act differently than one another, they can use their speech to either *reinforce* this difference (thus speaking differently than one another, mirroring their disagreement) or *hedge* against this disagreement (where either A or B panders to the other side in speech, while acting in behavior in favor of their side of the issue). The dyadic formulation facilitates observation, but there may be some implications to the issue-focused interpretation—for instance, whether the complexity of an issue causes differences in how countries align with one another.

the position expressed by some resolution or action. That is, if a resolution's position is expressed as R , then the magnitude of $F_i - R$ should be much higher for the weakest countries than the strongest countries. As a result, we would expect that the weakest countries will be most likely to hedge their behavior.

Hypothesis 1: As the power difference between two countries increasing, their speech will be less reinforcing

Second, we should expect the tendency for reinforcing or hedging speech to change depending on the *political conditions* between two countries. Specifically, given a pre-existing relationship between countries, the capacity to *separate* between friends and foes should become more clear—resulting in an increased cost of aligning with one or the other inconsistently. For example, if two countries with a hostile rivalry vote differently on an issue at the UN General Assembly, the cost of *hedging* against that vote for either country will be higher than if the rivalry did not exist.¹³ Similarly, if two countries have political constituents who tend to favor one another, hedging against an *agreeing* vote could be costly.¹⁴ In this case, we can use Rivalry to measure pre-existing enmity between countries, using data from Thompson & Dreyer (2011). Second, I use joint Democracy to measure pre-existing camaraderie, following Tomz & Weeks (2013), who show that politically

¹³In some ways, this mirrors recent findings in the literature on Audience costs. As Kertzer & Brutger (2016) argue, constituents will punish leaders for being inconsistent with their (the constituent's) political propensities: hawkish constituents with pre-existing beliefs about the use of force will punish leaders for inconsistency, while dovish constituents with pre-existing beliefs about pacifism will punish users for the act of threatening in the first place. Given that rivalries have been shown to have deep roots in domestic politics (Colaresi, 2005), in the rare cases when rivals agree on an issue, hedging against that agreement would risk raising questions about why leaders still chose to express agreement through behavior; similarly, when rivals disagree on an issue, the cost of hedging against that disagreement risks raising questions about whether the leader is actually disagreeing to a sufficient degree with a known rival. Hence, we should expect less hedging. There may be future implications here for studying the dynamics of rivalries, since the prediction of this theory would be that as rivalries de-escalate, hedging would be more of a possibility since leaders will be balancing conflicting incentives to reconcile with a rival while also still maintaining the rivalry as politically necessary.

¹⁴Much like with rivalries, we should expect that given a known preference between two politically relevant groups, the cost of hedging against behavior should increase since friends and foes are more clearly defined

relevant Democratic constituents tend to view other Democracies as sharing their interests, more worthy of trust, and more worthy of moral consideration with respect to war.¹⁵

Hypothesis 2: Rival countries will reinforce in their speech more

Hypothesis 3: Joint Democracies will reinforce in their speech more

Third and finally, we should expect that the conditions surrounding an *issue* at the UNGA can shape the incentives surrounding alignment patterns of both speech and behavior. Specifically, on the most controversial issues, there will be a consistent pattern of disagreement among nations: on these issues, the prevalence of disagreement creates the ability to *separate* between friends and foes. For example, on the issue of the Middle East, there is a consistent pattern of disagreement between countries on multiple *possible* questions. This creates separation: determining whether Libya and Iran are a friend or foe to the United States on this issue is relatively simple. Similarly, returning to Hassan Rouhani's speech in 2013, his rhetoric on the nuclear issue represented a marked change in alignment patterns from his predecessor, calling international concerns "reasonable" and stating "unambiguously" that Iranians sought peaceful technology and embraced "international cooperation" and "transparency".¹⁶ Compare this to rhetoric in 2012, where on the nuclear issue then-president Mahmoud Ahmadinejad focused on "intimidation by nuclear weapons...by the hegemonic powers", the "continued threat by [Israel]", and the "state of mistrust...[where] no one feels safe."¹⁷ This shift was radical in its stark differentiation from his predecessor *and* its move toward reconciliatory language, communicating information on the new regime's priorities and foreshadowing the eventual cooperation that ended up occurring.¹⁸ More importantly, the high-stakes nature of this issue meant that the combination of a radical shift in rhetoric and the intense polarization

¹⁵Tomz & Weeks (2013, p.857; p.860)

¹⁶Transcript accessed from The Times of Israel website. Accessed December 2018.

¹⁷Full transcript available here.

¹⁸Interestingly, the subsequent termination of the Iran agreement by the Trump administration in May of 2018 (source: BBC online) is also predictable from another shift in rhetoric, though this time originating from the United States.

that had arisen around the issue created an environment where this shift in language communicated a substantial amount of information to the international community.

Thus, on these controversial issues, there is much more *possible* information to be gleaned from speeches, in that when A speaks then C_A and C_B are more readily able to determine whether A is speaking *similarly* or *differently* than friends and foes on that issue. Contrast this with much less controversial issues, where the information is more muddled: when nations generally agree on an issue—such as world peace in more abstract terms—the differences in ΔAC or in ΔAB are less informative, since it remains unclear who is a friend or foe of whom (or if there are *any* foes at all). Further, in these cases politicians should have a less restrictive environment in which to speak freely—for instance, to pander to multiple audiences, or to explore the ideological space more freely. This should result in more randomness with regard to who countries are aligned with at any point in time, regardless of their eventual behavior. Thus, controversial issues should be more informative overall, in that speeches in these environments should map most closely with eventual behavior.

Hypothesis 4: Higher controversy issues will see the most reinforcing speech with respect to behavior.

Statistically, we can represent these tendencies of *reinforcement* or *hedging* as the relationship between the alignment of speech patterns with the alignment of behavior. More specifically, given two countries A and B , the most *reinforcing* speech occurs when as the difference in speech $\Delta(S_A, S_B)$ increases, the difference in their behavioral outcomes $\Delta(O_A, O_B)$ also sees a corresponding increase. The most *hedging* speech is the inverse, where an increase in one corresponds to a decrease in the other. Thus, given some model:

$$\Delta(O_A, O_B) = \beta \times \Delta(S_A, S_B)$$

describing a linear relationship between $\Delta(O_A, O_B)$ and $\Delta(S_A, S_B)$, we can say that as β *increases* in value, speeches are becoming more *reinforcing* with respect to behavioral outcomes. In this paper, I use voting on UN General Assembly resolutions as a measure of behavior; as

discussed in the next sections, this allows for us to model variation across issues—in this case, differentiating more controversial issues from less controversial issues.

4.3 Empirical strategy

To measure speech patterns, the data comes directly from the United Nations General Assembly, where I have scraped the transcripts for all plenary sessions in PDF format, translated them to text, and identified each speech with its corresponding country. This corpus was collected independently of the one by Baturo et al. (2017), whose corpus focuses only on speeches delivered by heads of state under *General Debate*.¹⁹ To measure behavior corresponding with those speeches, I rely on the raw text of UN General Assembly resolutions; I use a scraper built by Erik Voeten²⁰ to extract the full text of resolutions starting in UN General Assembly session 48, corresponding to the year 1993, and I collect the remaining resolution text back to 1984 myself. Thus, the time frame for this paper is 1984-2012.²¹

4.3.1 Mapping speeches to resolutions

As discussed in a later section, one of the variables of interest in this paper is the controversy surrounding an issue. This requires separating both speeches and resolutions into categories of issues, and classifying each into corresponding groups. Mapping speeches to corresponding resolutions is a complicated task. For example, a resolution can be on different topics, from nuclear proliferation to the Middle East to a UN humanitarian mission. However, a single speech can encompass multiple topics. This makes it difficult to generalize from a broad, multi-topic speech to a single resolution. To rectify this problem, I separate each General Assembly speech into paragraphs. Next, I use a Structural Topic Model (STM) (Roberts et al., 2014) to classify

¹⁹For example, their data from the year 2000 (session 55) includes the speech made by Madeleine Albright in the 10th plenary meeting of the 55th session, but leaves out President Clinton's address during the 3rd plenary meeting, which occurs outside the confines of "General Debate" and under different agenda topics.

²⁰Email correspondence, 5 May 2017

²¹Voting data is only mapped to resolutions through 1984; see previous email correspondence.

paragraphs and resolutions into distinct topics. STMs classify *documents* – in this case, paragraphs and resolutions – into topics via a mixed-membership model, where a document can be composed of many topics at once. The model does so by estimating $pr(topic|word)$ across all words, allowing for post-processing by the analyst to label topics (Quinn et al., 2010).

Choosing the number of topics is a difficult task, with no correct answer (Grimmer & Stewart, 2013). To rectify this, I marry together the quantitative and qualitative methods by estimating a high-dimensional topic model—with the specific number of topics decided upon by the algorithm proposed by Mimno & Lee (2014)—and then grouping these topics into broader categories by hand. The STM model returned 87 topics, which I then further grouped based on domain knowledge of UN General Assembly speech content, as well as from experience running topic models of lower dimensionality.²² For example, given two topics *{Millen, Develop, Goal, Sustain, Commit}* and *{Econ, Povert, Environ, Soc, Polit, Erad}*, I collapsed both into a single category of *Development*. Similarly, I collapsed seven (7) topics containing normatively active terms such as "can", "will", "hope", "aspir", "must", "believe", etc. into a single category of *Aspirational*.

Through this process, I identify 31 categories that compose resolutions and speeches. To convert the original 81-topic composition to the 31-category composition, I take the sum of the proportions returned for all topics which are part of a given category. For example, given the 81 topic composition of a single speech or resolution, in order to find the proportion on the category of *Development*, I take the sum of the proportions given in the topics *{Millen, Develop, Goal, Sustain, Commit}* and *{Econ, Povert, Environ, Soc, Polit, Erad}*. This results in each speech and resolution being represented by a vector of length 31, which sums to 1.00. Finally, I classify each resolution and paragraph into the category with the highest proportion.²³

²²For instance, whether 20, 30, or 40 topics, topics such as Nuclear Non-Proliferation, Aspirational goals, Human Rights, and Economic Development were always present; these are also examples of issues which a subject matter expert on UNGA speeches would expect to find in the underlying content.

²³For example, a 20-topic model might return a vector [0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.11, 0.0001, 0.0001, 0.0001, 0.23, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.0001, 0.65, 0.0001, 0.0001], representing a single point on the 31-dimensional simplex. In this paper, I would

Proportion	Category
0.018	Aspirational
0.004	Conflict
0.059	Development
0.005	Diplomacy
0.097	Economic
0.003	Governance
0.002	Humanitarian
0.002	HumanRights
0.004	Illicit
0	Independence
0.096	IntCoop
0	IntJustice
0.01	IntLaw
0	MidEast
0.15	Misc
0.001	NatDisaster
0	NonProliferation
0.001	NuclearSafety
0.005	Peace
0	PoliticalRights
0.001	PublicHealth
0.009	Social
0.049	Speech
0.04	Sustainability
0.027	UN_GenAssembly
0.208	UN_Operations
0.002	UN_Principles
0.06	UN_Reports
0.141	UN_Resolution
0.005	UNSC
0	Violence

Table 4.1: 31-category composition for UNGA resolution A/RES/47/214

Finally, especially given the nature of UN General Assembly resolutions, there are administrative and institutional categories that are not as relevant here, since they do not reflect any major category of foreign policy interest. For example, the resolution A/RES/47/214 is 13 pages long, and is an extensive resolution on the proposed medium-term plan for the years 1992-1997 with respect to programme performance, budgeting, and administrative committees for the UNGA. The 31-category mixture for this resolution is:

In this case, the three highest proportions belong to administrative categories. For this dataset, I remove the categories *Misc*, *Speech*, *UN General Assembly*, *UN Operations*, *UN Reports*, *UNSC*.

I classify this document into topic 29. I remove any resolutions which are less than 10% composed of any *single* topic.

I retain the remaining categories as listed in Table 4.1.

4.3.1.1 *Measuring alignment of speech*

A key independent variable of interest is the similarity between any two countries' speeches. There has been a growing literature in measuring similarities and differences from political text (Grimmer & Stewart, 2013), including with applications to measuring similarities and differences between groups such as countries, political parties, or party manifestos (Budge et al., 1987; Laver et al., 2003; Slapin & Proksch, 2008; Monroe et al., 2008; Elff, 2013). To measure differences between countries on speech, I draw upon previous work, drawing from the aforementioned literature and treating words as data, to estimate ideal point estimates drawing from the text of the UN speeches (Mahmood & Colaresi, 2016, 2017). I estimate ideal point measurements using a dynamic linear model in the form:

$$\begin{aligned} y_{jt} &= \mathbf{z}_t x_{jt} + w_{jt} \\ (N \times 1) & \quad (N \times p)(p \times 1) \quad (N \times 1) \end{aligned} \quad (4.1)$$

$$\begin{aligned} x_{jt} &= \mathbf{A} x_{j,t-1} + e_{jt} \\ (p \times 1) & \quad (p \times p)(p \times 1) \quad (p \times 1) \end{aligned}$$

where N represents each word spoken in the full vocabulary of all speeches and p represents the number of dimensions in which the ideal point estimates x are estimated per country over time. In this model, y_{jt} represents a noisy projection of latent ideal points x_{jt} in p -dimensional space, where the state equation represents the evolution over time of x_{jt} , for country j at time t . I use Euclidean distance as the distance metric between the estimated positions; in the main body of the paper, I present results from a 2-dimensional model.²⁴

²⁴I also run all analyses excluding the United States and Israel from the analysis, given their unique role with the topic of Israel at the UN over the past 70 years. I also run these models using both 2- and 3- dimensional ideal point models. I also estimate the results using Proksch & Slapin's (2012) WordFish model instead of the one presented above. Since their model does not include a dynamic component, I estimate a different model per year across all countries. All results remain substantively similar.

4.3.1.2 *Measuring levels of controversy*

Recall that one of the predictions of the theory is that the direction of relationship between speech patterns and voting patterns depends on the strategic incentives present on a given issue. To operationalize these incentives, I use the proportion of dyads who *disagreed at all on any resolution*, constructed for each topic, to rank order topics every year by their respective levels of controversy (using voting patterns from the previous year).²⁵ This provides a scale of least to most controversial issues.

To justify this, consider the role of controversy in the theory presented earlier. *Controversy* specifically pertains to the ability to identify two countries *A* and *B* as either *tending to be friends* or *tending to be enemies*. This is a difficult concept to measure in any objective way. While a thorough discussion of identifying objective enmity or friendship between countries is beyond the scope of this paper, I focus primarily on the UN as a way to most closely approximate friends and enemies in the context of the UN. To do this, I consider each resolution R_i as representing a single possible question in the broader array of possible questions that any given issue i could potentially produce. It is reasonable, then, that as a given issue i sees a larger and larger tendency for countries to *disagree* on more and more questions, it can be considered more "controversial". On these issues, countries are displaying a tendency to have more polarized views—such as the Palestine issue above—whereas on less controversial issues the sorting between friends and foes is much less clear. Most relevant to the research design, it also provides a rigorous way to measure a yearly, issue-by-issue level of controversy at the UN General Assembly over time, mapping those to corresponding speeches and resolutions in order to test the theory presented earlier.

Figure 4.3 shows the count of resolutions across topics. Figure 4.4 shows the 25th, 50th, and 75th percentiles of calculated speech alignment on each topic, aggregated across the years. Finally, using the measure of controversy as described here, Figure 4.5 shows the average level of controversy—across all years—per topic. Notice that a large number of topics have controversy

²⁵For example, in the year 1995, the measure of controversy would be created by calculating the proportion of dyads who disagreed, based on all dyads in the dataset within 1994, for each topic.

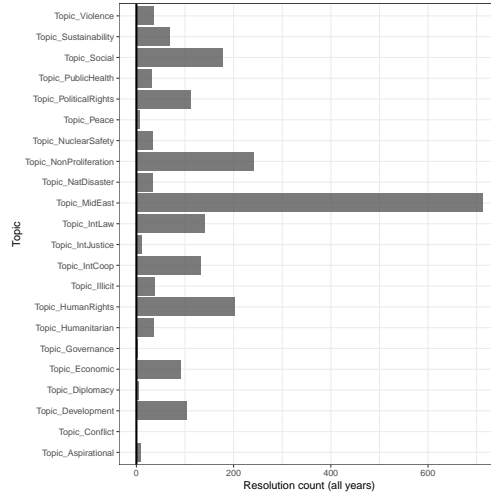


Figure 4.3: Number of resolutions, by topic

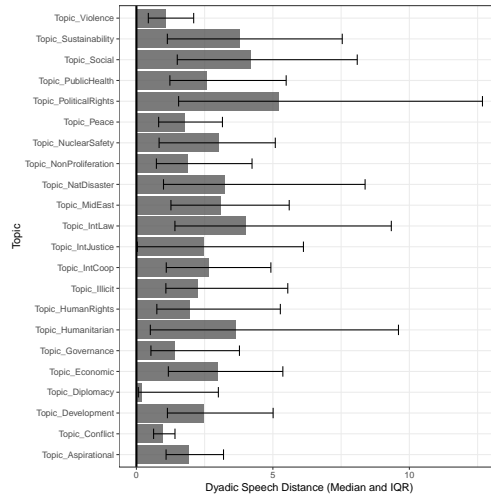


Figure 4.4: Speech alignment, by topic

levels of zero: this indicates that there was no disagreement present on that issue. To this end, I run all empirical analyses including these zeroes, but for robustness I also run models dropping those issues with zero controversy.

4.3.1.3 *Behavioral similarity*

Finally, recall that the goal of this paper is to measure whether or not similarities and differences in speech map onto similarities and differences in observed behavior, and the direction in which this

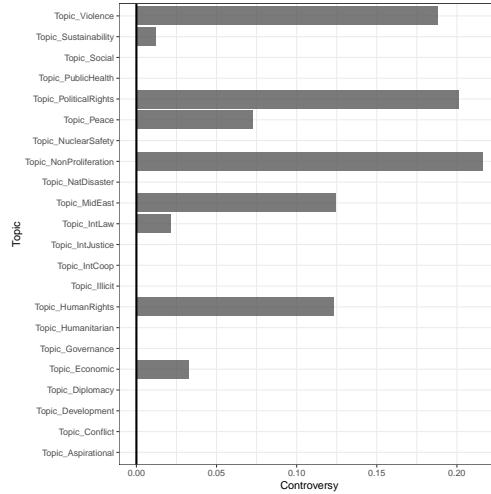


Figure 4.5: Controversy level, by topic

mapping occurs (inverse or direct). The dependent variable, therefore, is the *similarity* of voting on some resolution between any two countries A and B . This requires some specific decisions, however. There are 4 possible ways a country can act on a particular resolution: a *yes* or *no* vote, an *abstention*, or an *absence*. To collapse this into a binary decision, I code *abstentions* as *no* votes, and I treat *absences* as missing data.²⁶ Finally, since the purpose here is to predict similarity and differences in votes, I convert these to an [undirected] dyadic dataset covering all dyads, where $\{1\}$ indicates disagreement in voting within the dyad and $\{0\}$ indicates agreement in voting. Given that the covariates of interest (controversy, speech alignment) vary at the level of topic-year, I collapse all observations to the topic-year unit of analysis, with the dependent variable of interest being the count of disagreements and agreements on all resolutions within a particular dyad.

4.3.2 Research design

The research question is concerned with the conditions under which countries reinforce or hedge in their speech, and more specifically the pattern by which *alignment in speech* maps on to an *alignment of interests*. Rather than being a causal question, then, this is a measurement question:

²⁶The raw voting data also includes a placeholder for countries that are not members of the international system at the time of voting. I treat these as missing as well.

given a causal relationship between interest patterns and behavioral patterns, can the alignment of *speech patterns* provide empirical leverage in explaining the alignment of these underlying interests, and what are the conditions under which they can do so?²⁷. Given the hypotheses above, such conditions should include the level of controversy of a given issue in a given year; the presence of a rivalry between two countries, and whether or not the Cold War is ongoing. To model this, I use a multiplicative interaction:

$$y_{ij} = \beta_{sp}X_{ij}^{sp} + \beta_{cond}X_{ij}^{cond} + \beta_{int} \left(X_{ij}^{sp} * X_{ij}^{cond} \right) + \Phi Z_{ij} + \epsilon_{ij} \quad (4.2)$$

The interpretation of coefficients in this case should not be treated as a causal one, but rather as a statistical one: namely, whether and how variation in patterns of behavior are explained by variation in patterns of speech.²⁸ More specifically, reinforcing speech here will be represented as a *positive* relationship between X_{ij}^{sp} and y_{ij} , at some level of X_{ij}^{cond} —and, more importantly, that this relationship is specifically *more positive* under some conditions versus others. For example, given some binary variable of whether a given pair of countries are in a rivalry, when $X_{ij}^{cond} = 0$ to represent no Rivalry, the relationship between X_{ij}^{sp} and y_{ij} (that is, the alignment of speech and the alignment of behavior) will be given by β_{sp} , and we should expect this to be less than the corresponding Rivalry pairs, when $X_{ij}^{cond} = 1$, given as $\beta_{sp} + \beta_{int}$.

²⁷Acute observers will note this is a somewhat flipped version of instrumental variable estimation, where one is *given* a useful measurement of an underlying concept in order to evaluate the underlying causal relationship

²⁸This is a crucial distinction, especially given that speeches on specific issues can occur *both before and after a vote on that issue*. Countries can raise an issue in speech after a vote is made on that issue, and can vote on the same issue multiple times in a single year. The current level of granularity in this paper is at the *issue* level of analysis, rather than the *resolution* level: as a result, we cannot say for certain that specific patterns of alignment *on a given resolution* will predict agreement or disagreement. Rather, we can only say that there are patterns of correlation between voting alignment and speech alignment on a given issue, in a given year, and that these patterns follow expectations derived from theory. Moreover, this paper does not address the question of persuasion: there are no claims presented here that speech *prior to a vote* can *cause* changes in voting afterward. Thus, the temporal order of speeches are not in question for the purposes of this paper. Future research can attempt to more concretely identify single speeches with single resolutions, and tease out both causal and correlative relationships accordingly.

In this paper, y_{ij} represents the *disagreement* between two countries on UN General Assembly resolutions. To model this, I assume that y_{ij} is distributed $y_{ij} \sim \text{Binomial}(n, p)$ for each dyad-year-topic unit of analysis, and use a logit link function to transform the outcome for linear predictors.

Model specification and UN voting blocs

I include several additional indicators for modeling dyadic voting patterns between countries. First, material power difference has been shown to impact voting at the UN Security Council (Voeten, 2001); while the UN General Assembly does not have the legal power of the UN Security Council, it would be reasonable to expect that a similar difference would impact voting at the UNGA. Thus, I use the Composite Indicator of National Capabilities (Singer et al., 1972, version 5.0) to calculate the difference between two countries' power levels; I log-transform this measure to account for the very high rightward skew. I also include a indications for whether the pair of countries are either *both* members of the 5 Permanent Members of the UN Security Council, or whether *one* is a P5 member; more precisely, I separate between P3 (US, UK, France) and P2 (Russia and China). Second, I include a binary (0/1) variable for the Post-Cold-War period, defined as all years after 1991. Third, I include indicators of pre-existing ties between countries, including alliance obligations (more specifically, defense pacts, as defined by the Correlates of War Formal Alliance data v.4.0: see (Gibler, 2009)) and whether or not two countries are jointly Democratic (Marshall & Jaggers, 2018). Related to pre-existing relationships, I also include the differences between countries as expressed by their overall voting patterns, using Bailey et al.'s (2015) ideal point measures of country positions as measured by voting patterns at the UN General Assembly. This captures the overall propensity for any two countries to disagree, and also presents a more difficult test for additional covariates such as speech to explain unique variance not explained by pre-existing tendencies.

I include several additional variables in the model.²⁹ First, I include year-fixed-effects to account

²⁹In addition to these, as a robustness check, I also estimate models which include a binary (0/1) variable for whether or not a given country is present in the dyad: for example, the observation for US/Russia disagreement on Non Proliferation in 1994 will have a 1 for the USA dummy variable;

for the overall propensity to disagree in any given year. Second, I include topic-fixed effects to account for a given topic's overall propensity to see disagreement, across the entire time frame. Third, I include a log-transformed measure of the number of words a country spoke on the floor of the UN General Assembly; bivariate relationships suggest a curvilinear relationship between the number of words spoken and the propensity to disagree. While this may be an avenue for future research, especially given findings in previous work by the author (Mahmood, 2020b), the reasons for this curvilinearity are beyond the scope of this paper. However, I do include a quadratic term for the log-transformed word count in the model.

Finally, given that the research question examines whether *speeches* at the UNGA are linked to *votes* at the UNGA, an important caveat is to emphasize that often, both activities are carried out in blocs. It is highly common practice at the UNGA for blocs of countries—such as the Arab League, European Union, Non-Aligned Movement, etc.—to deliver foreign policy speeches *as a group*, which by definition results in an observed similarity in their speech patterns, X_{ij}^{sp} in Equation 4.2. These groups are often formed on the very fact that these countries share a common foreign policy context, and so they must be accounted for when trying to link foreign policy behavior and speech. Therefore, during the process of parsing and organizing speeches, I identified speeches which were given "on behalf of" an identifiable group, or those which are given by a country "in their capacity as" the chairperson or leader of one of these groups. I include a binary variable for whether two countries are members of the same group, across *all* groups for which I have data.

As a matter of theory, however, it is worthwhile to note that this phenomenon complements the broader argument of this paper: namely, that foreign policy speech is *systematically* related to underlying foreign policy interests, and that the political incentives involved in crafting and delivering a speech are much stronger than previous research has claimed. Indeed, the very fact that these communities take the time and resources to agree upon and craft joint statements suggests that these speeches are vehicles for communicating some kind of information relevant to that foreign policy community. Moreover, a surprisingly common phenomenon is to see countries who are *not* a 1 for the Russia dummy variable; and a 0 for all other countries. Some of these models saw convergence issues given the high degree of freedom.

members of a group signing onto statements—such as former Soviet states or aspiring EU states signing on to statements delivered by the EU. Thus, while I do take these groups into account empirically, it is noteworthy that the presence of these groups can be seen as an explicit result of the argument presented in this paper. Future research on the dynamics of foreign policy speech would do well to examine the politics of crafting these speeches, to see how these politics balance between sending reinforcing and compensatory (or clarifying) content with respect to the foreign policies carried out by member countries.

4.4 Results and evaluation

Following the advice of (Brambor et al., 2006), I primarily rely on visualizations as opposed to interpreting tables alone for the interaction term. Additionally, the linear predictor represents the change in log-odds of disagreement given a one-unit increase in speech difference. To facilitate substantive interpretation, I discuss coefficients in terms of the change in log-odds of disagreement moving from the 25th percentile to the 75th percentile of disagreement—the Interquartile range (IQR). In this case, the IQR is about 5 units.

Table 4.2 provides Generalized Linear Model results for a test of Hypothesis 1, where we expect speech to be *less* reinforcing as the power difference between countries increases. The results support the hypothesis: Figure 4.6 plots the change in the linear predictor for the relationship of speech to voting (with 95% confidence intervals) across levels of power difference, with all other variables held at their median values. Recall again that reinforcing speech should yield a *more positive* coefficient for speech; the results are consistent with the expectation that as power difference increases, speech becomes more reinforcing. At the lowest levels of CINC differences, all else being equal, a one-IQR increase in speech difference is related to about a 1.3% decrease in the odds of disagreement. Contrast this with the highest levels of CINC difference, where a one-IQR increase in speech difference is a decrease in the odds of disagreement of around 4%.

Table 4.3 and Table 4.4 provide output for models testing Hypotheses 2 and 3. As noted above, the expectation for these is that under both conditions—whether Rivalry or joint democracy—we

	Lin	Lin (2)	CINC	CINC (2)
(Intercept)	-20.17 (33.82)	-20.61 (37.78)	-20.10 (33.82)	-20.57 (37.78)
log_cincdiff	0.10*** (0.00)	0.06*** (0.00)	0.11*** (0.00)	0.07*** (0.00)
SPcur	-0.00*** (0.00)	-0.00*** (0.00)	-0.02*** (0.00)	-0.01*** (0.00)
log_minWC	0.53*** (0.01)	0.56*** (0.01)	0.53*** (0.01)	0.56*** (0.01)
log_minWC ²	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)
jointgroup	-0.58*** (0.00)	-0.47*** (0.00)	-0.58*** (0.00)	-0.47*** (0.00)
UNGAipdiffL1	0.80*** (0.00)	0.85*** (0.00)	0.80*** (0.00)	0.85*** (0.00)
CONTcur	10.85*** (0.03)	10.96*** (0.03)	10.85*** (0.03)	10.97*** (0.03)
RIVany	0.06** (0.02)	0.07*** (0.02)	0.06** (0.02)	0.07*** (0.02)
oneP2	-0.30*** (0.01)	-0.10*** (0.01)	-0.29*** (0.01)	-0.10*** (0.01)
jointP2	-0.30** (0.11)	-0.19 (0.11)	-0.30** (0.11)	-0.19 (0.11)
oneP3	0.11*** (0.01)	0.09*** (0.01)	0.11*** (0.01)	0.09*** (0.01)
jointP3	1.04*** (0.05)	0.89*** (0.05)	1.04*** (0.05)	0.89*** (0.05)
defense		0.01 (0.01)		0.00 (0.01)
jointdemL1		0.31*** (0.00)		0.31*** (0.00)
proptotalWCgroup		-0.35*** (0.01)		-0.35*** (0.01)
log_cincdiff:SPcur			-0.00*** (0.00)	-0.00*** (0.00)
Year FE	Y	Y	Y	Y
Topic FE	Y	Y	Y	Y
AIC	2059465.89	1795443.46	2059296.46	1795408.57
BIC	2060176.50	1796182.59	2060019.75	1796160.23
Log Likelihood	-1029676.95	-897662.73	-1029591.23	-897644.28
Deviance	1269919.84	1106372.02	1269748.40	1106335.13
Num. obs.	2367243	2015035	2367243	2015035

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4.2: Binomial model of dyadic disagreement per topic; interaction with power difference

should see more reinforcing speech (i.e. a more positive slope relating the alignment of speech and the alignment of votes between any two countries). The results support both expectations. Figure 4.7 plots the change in linear predictor for the relationship of speech to voting (with 95% confidence intervals) for Rivalry and non-Rivalry conditions. Among countries with an ongoing rivalry, a one-IQR increase in speech ideal points is correlated with about a 7.8% increase in the odds of disagreement. Contrast this with the average for countries not in a rivalry, which is around an 2.3% decrease in the odds of disagreement (a marginal tendency to hedge).

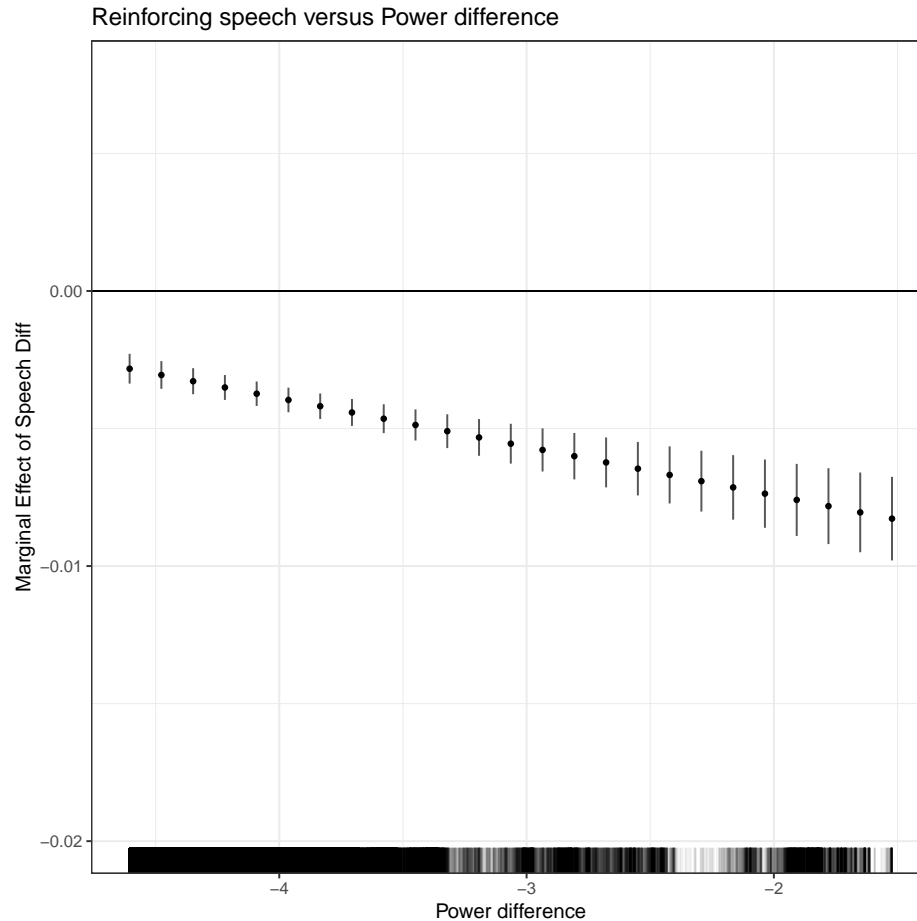


Figure 4.6: Change in linear predictor of Speech difference vs. Disagreement, across levels of power difference (95% confidence intervals)

Figure 4.8 provides a similar plot for the interaction of speech distance and whether two countries are jointly democratic. Recall the expectation is that jointly Democratic countries will tend to have more reinforcing speech; the results support this expectation. Among jointly Democratic countries, a one-IQR change in speech difference corresponds to around a 1.2% increase in the log odds of disagreement, versus around a 3% decrease.

Finally, Table 4.5 provides output for a model testing Hypothesis 4. The expectation here is that as the level of controversy increases, we should expect a corresponding increase in the *reinforcing* nature of speech on these issues. Figure 4.9 plots the linear predictor between speech and disagreement across values of controversy; the results support the expectation that as nations discuss more controversial issues, their speech tends to be more reinforcing. At the highest levels

	Lin	Lin (Full)	Riv	Riv (Full)
(Intercept)	-20.17 (33.82)	-20.61 (37.78)	-20.74 (33.82)	-20.61 (37.78)
log_cincdiff	0.10*** (0.00)	0.06*** (0.00)		0.06*** (0.00)
SPcur	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)
log_minWC	0.53*** (0.01)	0.56*** (0.01)	0.57*** (0.01)	0.56*** (0.01)
log_minWC ²	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)
jointgroup	-0.58*** (0.00)	-0.47*** (0.00)	-0.56*** (0.00)	-0.47*** (0.00)
UNGAipdiffL1	0.80*** (0.00)	0.85*** (0.00)	0.82*** (0.00)	0.85*** (0.00)
CONTcur	10.85*** (0.03)	10.96*** (0.03)	10.84*** (0.03)	10.96*** (0.03)
RIVany	0.06** (0.02)	0.07*** (0.02)	-0.08** (0.02)	-0.04 (0.03)
oneP2	-0.30*** (0.01)	-0.10*** (0.01)	-0.08*** (0.01)	-0.10*** (0.01)
jointP2	-0.30** (0.11)	-0.19 (0.11)	-0.13 (0.11)	-0.21 (0.11)
oneP3	0.11*** (0.01)	0.09*** (0.01)	0.23*** (0.00)	0.09*** (0.01)
jointP3	1.04*** (0.05)	0.89*** (0.05)	1.22*** (0.05)	0.89*** (0.05)
defense		0.01 (0.01)		0.01 (0.01)
jointdemL1		0.31*** (0.00)		0.31*** (0.00)
proptotalWCgroup		-0.35*** (0.01)		-0.35*** (0.01)
RIVany:SPcur			0.02*** (0.00)	0.02*** (0.00)
Year FE	Y	Y	Y	Y
Topic FE	Y	Y	Y	Y
AIC	2059465.89	1795443.46	2084485.14	1795391.55
BIC	2060176.50	1796182.59	2085196.02	1796143.20
Log Likelihood	-1029676.95	-897662.73	-1042186.57	-897635.77
Deviance	1269919.84	1106372.02	1290161.08	1106318.11
Num. obs.	2367243	2015035	2379377	2015035

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4.3: Binomial model of dyadic disagreement per topic; interaction with Rivalry

of controversy, a one-IQR change in speech difference is associated with around a 28% increase in the odds of disagreement, whereas at the lowest level of controversy, a one-IQR change in speech difference is associated with a 13% decrease in the odds of disagreement. This is a fairly substantial change as compared to the other measures; this makes sense, since both controversy levels and alignment are measured at the UN General Assembly itself, providing a more directly applicable political environment in which to understand speech.

	Lin	Lin (Full)	JntDem	JntDem (Full)
(Intercept)	-20.17 (33.82)	-20.61 (37.78)	-21.00 (37.71)	-20.99 (37.77)
log_cincdiff	0.10*** (0.00)	0.06*** (0.00)		
SPcur	-0.00*** (0.00)	-0.00*** (0.00)	-0.00*** (0.00)	-0.01*** (0.00)
log_minWC	0.53*** (0.01)	0.56*** (0.01)	0.64*** (0.01)	0.61*** (0.01)
log_minWC ²	-0.07*** (0.00)	-0.07*** (0.00)	-0.08*** (0.00)	-0.07*** (0.00)
jointgroup	-0.58*** (0.00)	-0.47*** (0.00)	-0.49*** (0.00)	-0.44*** (0.00)
UNGAipdiffL1	0.80*** (0.00)	0.85*** (0.00)	0.88*** (0.00)	0.86*** (0.00)
CONTcur	10.85*** (0.03)	10.96*** (0.03)	10.99*** (0.03)	10.97*** (0.03)
RIVany	0.06** (0.02)	0.07*** (0.02)	0.06** (0.02)	0.07*** (0.02)
oneP2	-0.30*** (0.01)	-0.10*** (0.01)	0.05*** (0.01)	0.03*** (0.01)
jointP2	-0.30** (0.11)	-0.19 (0.11)	-0.04 (0.11)	-0.07 (0.11)
oneP3	0.11*** (0.01)	0.09*** (0.01)	0.14*** (0.00)	0.15*** (0.00)
jointP3	1.04*** (0.05)	0.89*** (0.05)	0.99*** (0.05)	0.97*** (0.05)
defense		0.01 (0.01)		0.02*** (0.01)
jointdemL1		0.31*** (0.00)	0.29*** (0.00)	0.29*** (0.00)
proptotalWCgroup		-0.35*** (0.01)		-0.35*** (0.01)
jointdemL1:SPcur			0.01*** (0.00)	0.01*** (0.00)
Year FE	Y	Y	Y	Y
Topic FE	Y	Y	Y	Y
AIC	2059465.89	1795443.46	1811135.93	1808178.39
BIC	2060176.50	1796182.59	1811850.19	1808917.72
Log Likelihood	-1029676.95	-897662.73	-905510.96	-904030.20
Deviance	1269919.84	1106372.02	1120549.93	1117588.39
Num. obs.	2367243	2015035	2021867	2021867

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4.4: Binomial model of dyadic disagreement per topic; interaction with Joint Democracy

Discussion and conclusion

Out of sample performance is inconclusive. While there is no evidence of overfitting—that is, there is no evidence that the inclusion of speech or the respective interaction terms presented here cause a *decrease* in predictive power—there is also no evidence that these additions increase the out of sample performance of the model. There may be future work to be done on fine-tuning the measurements of speech alignment as given here—for example, using only specific parts of speech or filtering out additional terms, or increasing the dimensionality of the model. While the evidence

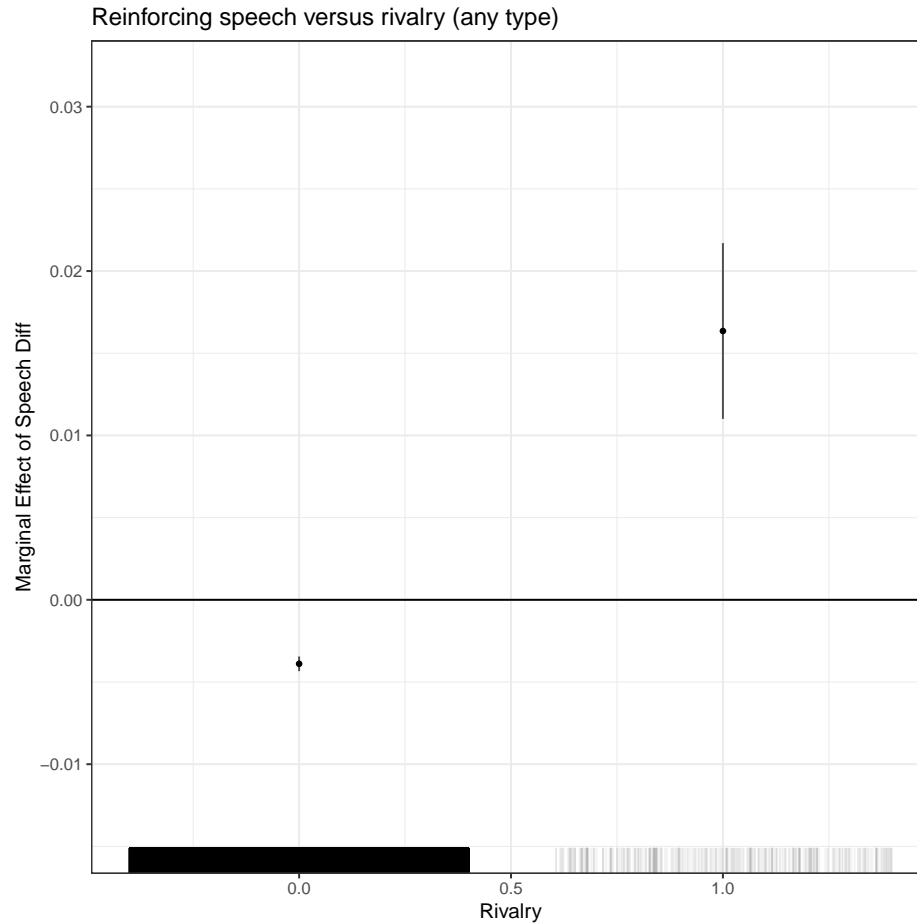


Figure 4.7: Change in linear predictor of Speech difference vs. Disagreement, across levels of rivalry (95% confidence intervals)

presented here is consistent with expectations, the findings are yet preliminary given the uncertainty surrounding the measure of speech alignment measurement.

Additionally, these analyses assume a consistent dimensionality over time for speech and issue space. This may not be the case. For example, Greene et al. (2019) show that the dimensionality and lexicon of human rights have changed over time; there is no reason to dismiss the possibility that a similar change has occurred at the UN.³⁰ Moreover, the topic model presented here aggregates all speeches over time and classifies speeches in topics, independent of time. This is a relatively

³⁰Even if this change has occurred, however, this would not affect the logic of an *endogenous lexicon* as provided here, since this change would still be endogenous to the United Nations, and thus would remain understood across all its member states as the change occurs.

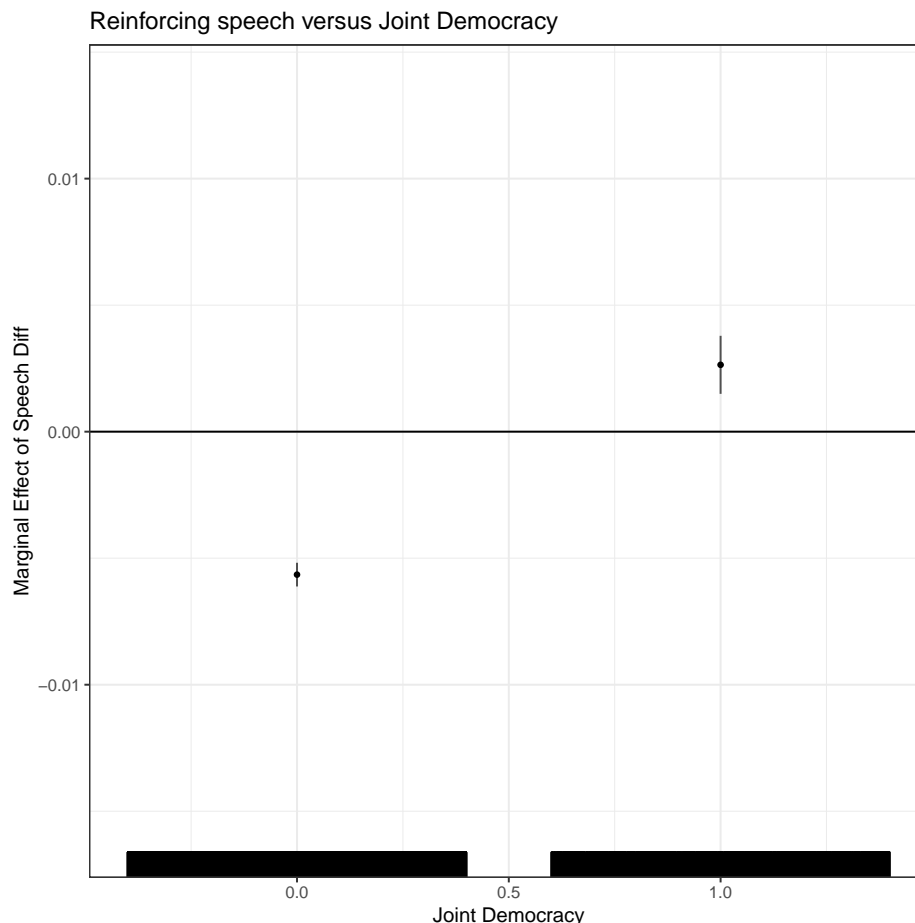


Figure 4.8: Change in linear predictor of Speech difference vs. Democracy, across levels of joint Democracy (95% confidence intervals)

coarse method; as others have shown with respect to the UN General Assembly (Bailey et al., 2015), the agenda of the UNGA has changed over time. Thus, there is room for growth to more precisely identify the subject matter of an individual speech, paragraph, or sentence, and leverage this to more precisely measure alignment around a more concretely defined issue.

Finally, dyadic analyses have been subject to strong critique in the past several years (Poast, 2016). While this analysis makes every attempt to account for interdependence—most notably the inclusion of UN General Assembly voting ideal points, accounting for UN group membership, and robustness checks with country-level dummy variables—the dyadic structure of the data is nonetheless a limitation of this paper. Advances in network analysis, for example, would lend themselves well to further analyzing the relationship between the *alignment* of behavior and the

	Lin	Lin (Full)	Cont	Cont (Full)
(Intercept)	-20.17 (33.82)	-20.61 (37.78)	-20.60 (33.89)	-20.47 (37.88)
log_cincdiff	0.10*** (0.00)	0.06*** (0.00)		0.06*** (0.00)
SPcur	-0.00*** (0.00)	-0.00*** (0.00)	-0.03*** (0.00)	-0.03*** (0.00)
log_minWC	0.53*** (0.01)	0.56*** (0.01)	0.55*** (0.01)	0.55*** (0.01)
log_minWC ²	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)	-0.07*** (0.00)
jointgroup	-0.58*** (0.00)	-0.47*** (0.00)	-0.55*** (0.00)	-0.47*** (0.00)
UNGAipdiffL1	0.80*** (0.00)	0.85*** (0.00)	0.81*** (0.00)	0.84*** (0.00)
CONTcur	10.85*** (0.03)	10.96*** (0.03)	10.27*** (0.03)	10.39*** (0.04)
RIVany	0.06** (0.02)	0.07*** (0.02)	0.05** (0.02)	0.08*** (0.02)
oneP2	-0.30*** (0.01)	-0.10*** (0.01)	-0.09*** (0.01)	-0.10*** (0.01)
jointP2	-0.30** (0.11)	-0.19 (0.11)	-0.11 (0.11)	-0.20 (0.11)
oneP3	0.11*** (0.01)	0.09*** (0.01)	0.23*** (0.00)	0.09*** (0.01)
jointP3	1.04*** (0.05)	0.89*** (0.05)	1.22*** (0.05)	0.89*** (0.05)
defense		0.01 (0.01)		0.00 (0.01)
jointdemL1		0.31*** (0.00)		0.31*** (0.00)
proptotalWCgroup		-0.35*** (0.01)		-0.33*** (0.01)
CONTcur:SPcur			0.16*** (0.00)	0.16*** (0.00)
Year FE	Y	Y	Y	Y
Topic FE	Y	Y	Y	Y
AIC	2059465.89	1795443.46	2082326.65	1793557.51
BIC	2060176.50	1796182.59	2083037.54	1794309.17
Log Likelihood	-1029676.95	-897662.73	-1041107.33	-896718.76
Deviance	1269919.84	1106372.02	1288002.60	1104484.07
Num. obs.	2367243	2015035	2379377	2015035

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Table 4.5: Binomial model of dyadic disagreement per topic; interaction with issue Controversy

alignment of speech; further, these methods would allow for a more rigorous method for modeling both monadic and dyadic relationships simultaneously (Minhas et al., 2019).

However, the strongest results presented here come from variation in the controversy surrounding an issue—as measured by voting disagreement at the UN General Assembly on a given issue. The most *reinforcing* speech patterns tend to occur in more controversial issues. There are implications for future work by scholars studying the United Nations General Assembly, and for the study of institutions more broadly: interpretation of speeches in relation to other speeches is ideally done in

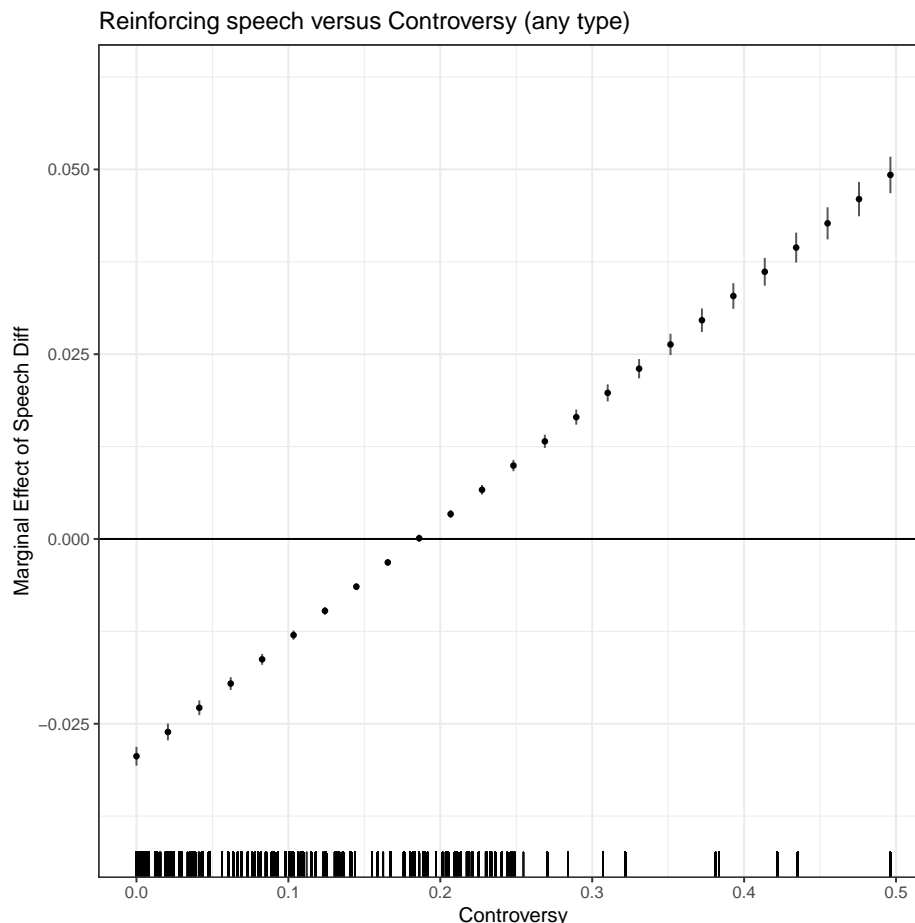


Figure 4.9: Change in linear predictor of Speech difference vs. Disagreement, across levels of controversy (95% confidence intervals)

the most controversial issues, since these are the environments where speech will best reflect those underlying patterns of interests. The implicit political ramifications of hedging on controversial issues is also a somewhat concerning finding, since it suggests a positive feedback loop between leader and political audiences: as an issue becomes more polarized, the costs of de-escalation become higher—as reflected by the fact that despite high controversy, we see countries reinforcing their already polarized positions as opposed to using speeches to pander towards the other side.

Overall, while there are still additional improvements to be had, this paper has implications for the study of diplomacy and cooperation, both at the United Nations and in international relations more broadly. Specifically, while the United Nations is a vehicle for coordinating foreign policy (Abbott & Snidal, 1998), and it can reduce foreign policy costs with respect to things like military

intervention (Thompson, 2009; Chapman, 2011), its role as a vehicle to communicate the alignment of foreign policy interests more generally has not yet been understood.³¹ Particularly in highly politically charged environments—such as during interstate rivalry or in the face of massive power imbalances—and on the most polarizing, controversial issues in international politics, this role of institutions in facilitating public diplomacy should be of interest to the scholarly community.

³¹Chiba & Fang (2014) is an example of work that moves in this direction with respect to the UN. Other promising work on the topic of speech specifically includes Ramsay (2011); Bils & Spaniel (2017).

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