

ORIGINAL ARTICLE

Multidimensional conflicts over disarmament and international security: analyzing speeches in the First Committee of the UN General Assembly

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Abstract

In this article, we explore the rhetorical space structuring the debates in the United Nations General Assembly's (UNGA) Committee on Disarmament and International Security. To this end, we unfold states' speeches by combining three established methods. First, we estimate terms' relevance for latent topics structuring the debates with structural topic modeling. Second, we estimate topic-specific positions based on the Wordfish algorithm. Third, we map these positions onto a lower-dimensional rhetorical space using principal component analysis. We identify two latent conflicts. First, a debate over conventional weapons with states emphasizing security interests on the one end and humanitarian interests on the other. Second, a conflict over weapons of mass destruction that divides defenders and challengers of the status quo.

Keyword: measurement

International security and disarmament are controversially debated issues among states with tremendous humanitarian, geopolitical, and economic consequences. For this reason, existing research has studied states' conflicts and position-taking on these matters, relying, for example, on qualitative studies (Müller and Wunderlich, 2013), surveys (Efrat, 2010), United Nations General Assembly's (UNGA) voting data (Bailey *et al.*, 2017; Risse, 2023), or official documents (Barnum and Lo, 2020). While these approaches provide valuable insights, each of them also has specific limitations, such as focusing on a small set of states, narrowly defined issues, or neglecting the agenda setting and negotiation stages.

Against this background, we study the speeches of UN member states' representatives in the UNGA's First Committee on Disarmament and International Security, which offers a unique chance for studying government positions on arms control, disarmament, and non-proliferation. The committee's agenda calls on all states to take a stand on those issues before they are brought to the plenary. Hence, committee debates provide a nuanced yet systematic picture of the early negotiation stages on UNGA resolutions.

Based on these debates, we estimate comparable annual positions of UN member states on substantively relevant rhetorical conflicts over disarmament and international security. We combine three existing text-analytic methods in a novel fashion to (i) explore the topics structuring the debates in the First Committee, (ii) scale member states' positions on those topics, and (iii) collapse those positions into a multidimensional latent space. This three-step approach is

particularly useful because existing methods for scaling political texts such as Wordscores (Laver *et al.*, 2003) and Wordfish (Slapin and Proksch, 2008) are limited to measuring positions on a single latent dimension. However, it is unlikely that interests over such different topics as conventional arms control, nuclear non-proliferation, or the regulation of space armament are perfectly aligned along a single dimension. We can account for multidimensional rhetorical conflicts by combining the Wordfish algorithm with structural topic modeling (STM) and principal component analysis (PCA).

Specifically, we first estimate latent topic models using the STM algorithm proposed in Roberts *et al.* (2014). As a result, we obtain information on terms' exclusivity for each latent topic. In a second step, we sample terms by their exclusivity and then estimate a Wordfish model (Slapin and Proksch, 2008) for each of these samples. We argue and demonstrate that the mean values across all these Wordfish models constitute topic-specific positions. In a third step, we reduce the dimensionality by applying PCA as suggested by Lauderdale and Herzog (2016). As a result, we can identify the annual positions of all UN member states on the most relevant latent dimensions that structure the debates in the First Committee. We call these dimensions the rhetorical conflict space.

We find that the rhetorical conflict space of the UNGA's First Committee is characterized by two latent dimensions. First, we identify a conflict over the regulation of conventional weapons and regional cooperation. On the one end of this debate, we find states with salient geopolitical and international security interests. On the other one end, we find states that reveal predominantly humanitarian concerns. Second, our approach reveals a conflict over weapons of mass destruction (WMDs) and new technologies that separate status quo-oriented states from challengers of the current order. We discuss and demonstrate the validity of our estimates by comparing them to prior qualitative knowledge and to existing measures of arms control preferences and by regressing them on relevant exogenous variables.

1. Existing research on states' arms control preferences

International arms control and disarmament is not only a highly relevant, but also a highly contested policy area. States debate and disagree on a variety of issues, including for example the strengthening or weakening of arms control regimes in general (Efrat, 2010; Risse, 2023) and the current nuclear order (Bailey *et al.*, 2017). Additionally, the multifaceted conflicts between states center on issues such as the prioritization of non-proliferation or disarmament (Barnum and Lo, 2020), bilateral or multilateral agreements (Krause, 1998), and nuclear or conventional arms control (Meyer, 2016). Yet, the alignment of states' preferences is crucial to their cooperation and the adoption of meaningful agreements.

Accordingly, various studies have analyzed states' positions and lines of conflict on these issues, using a variety of different approaches. Qualitative studies have focused on individual states to obtain comprehensive pictures of their arms control policies (e.g., Johnston, 1996; Jones, 1998; Müller and Wunderlich, 2013). These studies provide useful insights, but do not allow for systematic comparisons across countries and over time. Hence, other studies have focused on quantifiable data sources: Efrat's (2010) survey of government officials aims to measure their support for regulations of the trade in small arms and light weapons. Barnum and Lo (2020) study disagreements over the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) through automated text analysis of statements from NPT review conferences. While these studies offer valuable assessments of states' positions, they focus on narrowly defined issues measured at specific points in time.

In contrast, we focus on the First Committee of the UNGA because it is a forum where all UN member states meet every year and discuss all relevant aspects related to arms control and disarmament (Müller *et al.*, 2013b; Thakur, 2017). Analyzing foreign policy positions by observing states' behavior in the UNGA has a long tradition (e.g., Ball, 1951; Voeten, 2000). After all, "the General Assembly offers a unique context in which to study [...] international politics, providing

a great deal of information about the issues most salient to its member states and about their preferences” (Kim and Russett, 1996, 629). Most studies on state preferences and conflicts in the UNGA examine voting records. This applies to states’ positions more generally (e.g., Kim and Russett, 1996; Bailey *et al.*, 2017) as well as toward arms control in particular (e.g., Bailey *et al.*, 2017; Risse, 2023).

However, the analysis of recorded votes has been criticized for black-boxing the agenda-setting and negotiation stages in the UNGA (Drieskens *et al.*, 2014). By consequence, voting data are of limited usefulness for studying the diversity of positions within highly disciplined groups or coalitions (e.g., Carrubba *et al.*, 2008; Proksch and Slapin, 2015). In international relations, the overall high level of consensus in the diplomatic realm constitutes yet another challenge for estimating foreign policy positions from voting data (Hobolt and Wratil, 2020).

In response to this criticism, Baturó *et al.* (2017) have exploited text-analytic methods to examine states’ positions in the general debate. However, their data are limited to one speech per country and year, and to those issues that each member state decides to raise. Finke (2023) analyzes verbatim records of all speeches held by member states in the UNGA plenary. Ours is the first study examining the speeches made in one of the UNGA’s committees. This enables us to identify states’ position-taking in our area of interest; that is, arms control.

2. Unfolding conflicts in the First Committee

2.1 Research design

We analyze all the 13,773 unique speeches held by member states’ representatives before the First Committee of the UNGA between 1993 and 2019. Manually encoding these amounts of text would be a very labor- and time-intensive enterprise. Therefore, we rely on automated text analysis. Although the range of available methods has increased dramatically in recent years (Mitrani *et al.*, 2022), the most prominent approaches for scaling political texts remain Wordscores (Laver *et al.*, 2003) and Wordfish (Slapin and Proksch, 2008). Yet both algorithms are restricted to scaling positions on a single latent dimension and thus may provide an incomplete picture of states’ preferences on a multifaceted issue such as arms control and disarmament.

Lauderdale and Herzog (2016) address this limitation. In a first step, they estimate Wordfish scores for debates over individual topics. In a second step, they map the debate-level scores via factor analysis to a lower-dimensional space. Unfortunately, it is not always easy to identify and delimit political debates. And where it is possible to delimit debates, they are not always structured along a single conflict dimension. Both challenges are particularly relevant for texts that cover multiple topics under a single headline, such as many of the speeches before the UNGA. The most obvious way to solve this challenge is by reading the documents and assigning sections and paragraphs to individual topics. Yet, with large bodies of text, this approach does not appear feasible.

Here, we propose to overcome these challenges in three steps. In the first step, we estimate an STM on all 13,773 unique speeches in our corpus. In the second step, we combine these speeches at the country-year level. This results in 3117 observations for which we can estimate member states’ annual positions. To delimit debates, we sample terms by their relevance for each of the latent topics identified in step 1 and then estimate Wordfish models for 1000 samples per topic. We argue and demonstrate empirically, that the mean values across these samples constitute topic-specific positions. In the third step, we apply PCA to reduce the topic-specific positions to a lower-dimensional latent conflict space. Figure 1 offers a summary of our three-step approach and guides the reader through our analysis.

2.2 Exploration of latent topics

At the beginning, the corpus was stemmed, cleared of numbers, stop words, and rare words that appear in less than five documents. In addition, we deleted all country names, as these appear

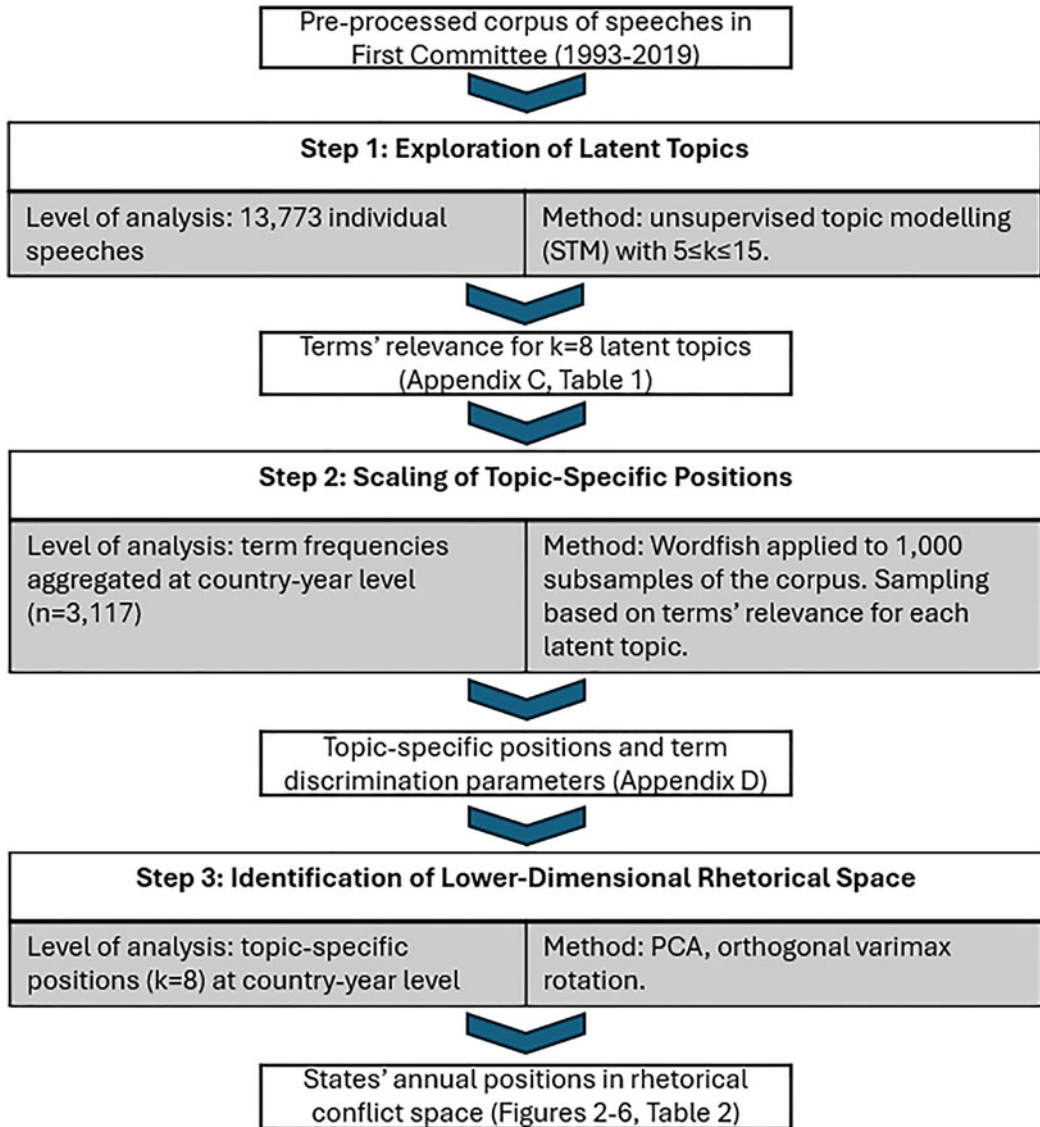


Figure 1. Unfolding the rhetorical conflict space in the UNGA's First Committee in three steps.

primarily in the speaking country's own speeches, which may bias the results and complicate the interpretation. Here, our main objective is to explore the topic structure underlying the corpus of UNGA speeches. Therefore, we opt for an unsupervised topic model which is ideal for exploring a corpus without requiring prior knowledge of all relevant topics. Specifically, we apply STM as implemented in the corresponding R package (Roberts *et al.*, 2014). Compared to other latent topic models, STM improves the assignment of words to latent topics by exploiting meta data such as the UNGA session and the country-affiliation of the speaker.

There is no unique answer to choosing the optimal (let alone "correct") number of topics, but the choice must be justified by (i) the predictive accuracy of the model and (ii) the interpretability of the resulting latent topics. Optimizing predictive accuracy and interpretability can result in a trade-off (Chang *et al.*, 2009). Appendix A reveals a first elbow effect for semantic coherence,

predictive accuracy, and residuals at $k = 5$ topics and a second one at $k = 8$ topics. In the following, we present the results for $k = 8$ topics, but our overall substantive findings are robust against choosing any number of topics between $k = 5$ and $k = 15$.

STM provides us with information on the relevance of each term for each topic. More precisely, the topic model offers two types of conditional probabilities: first, how frequently a term appears in debates on a given topic (*frequency score*), and second, how exclusive a term is to debates on this topic (*exclusivity score*). For example, the term “*nuclear*” has high frequency and exclusivity scores for debates over nuclear weapons (topic 6, see below). In contrast, “*issu*” has a high frequency, but a low exclusivity, while the opposite is the case for “*plutonium*.” The term “*landmin*” has both a low frequency and a low exclusivity for this topic. The intuition is that terms can have high-frequency scores for all topics. By contrast, terms cannot have high exclusivity scores for all topics. The commonly used FREX scores weigh the exclusivity of a term with its frequency within a topic (Bischof and Airoidi, 2012). Appendices B and C contain the 50 terms with the highest FREX scores for the $k = 5$ and $k = 8$ models.

Here, we focus on the $k = 8$ model (Table 1). Two of the eight topics (topics 2 and 5) do not substantively deal with arms control, but primarily cover procedural matters. This is illustrated by terms such as *paragraph*, *vote*, *draft*, and *sponsor* (topic 2), or *session*, *agenda*, *chairman*, and *membership* (topic 5).

Among the six more substantive topics, one covers nuclear arms control (topic 6)—*nuclear*, *npt*, *cbt*, and *iaea* are among the terms with the highest FREX scores. Terms such as *chemic*, *opcw*, *biolog*, and *mass* indicate that topic 4 focuses on WMD other than nuclear weapons, in particular chemical and biological weapons (CBWs).

The issue of conventional weapons is split into two topics. Topic 3 focuses on indiscriminate weapons (e.g., *landmin*, *ottawa*, *indiscrim*, *ccw*), in particular anti-personnel mines. In contrast, topic 8 primarily covers small arms and light weapons and their proliferation (e.g., *trade*, *light*, *small*, *att*).

Topic 1 encompasses matters of regional cooperation and conflicts (e.g., *region*, *latin*, *africa*, *mediterranean*). Interestingly, this does not include the Middle East, which is part of the nuclear topic. This, however, is not too surprising, given that the Middle East conflict has generally been delegated to the Fourth Committee, whereas the First Committee only deals with issues related to the establishment of a nuclear-weapon-free zone in this region.

Finally, topic 7 primarily includes armament of (cyber-)space (*space*, *outer*, *missil*, *telecommun*), but also terms related to transparency and confidence-building measures.

2.3 Scaling of topic-specific positions

The next step is to estimate states’ positions for each of the eight topics. To this end, we aggregate the individual speeches to the country-year level. This results in 3117 observations for which we can estimate member states’ annual positions. Given the observation period (26 years) and the

Table 1. Latent topics structuring the debates in the UNGA’s First Committee

STM topic	Content	Abbreviation
Topic 1	Regional cooperation and conflicts	Regional
Topic 2	Procedural matters I	–
Topic 3	Conventional weapons I (indiscriminate weapons)	Landmines
Topic 4	Non-nuclear WMD, CBW	CBW
Topic 5	Procedural matters II	–
Topic 6	Nuclear weapons	Nuclear
Topic 7	Other issues, e.g., (cyber-)space	Space
Topic 8	Conventional weapons II (arms trade)	Arms trade

number of UN member states (188 in 1993, 193 in 2019), it is apparent that many smaller states do not speak before the First Committee in every year.

As described above, the STM provides us with information on how exclusively each term has been used in connection with specific topics. More precisely, a term's *exclusivity score* measures the probability for a topic given the occurrence of the term. We exploit the exclusivity scores to estimate Wordfish models, because, unlike Wordscores, this algorithm is more exploratory and does not require us to identify the conflict dimensions a priori. More precisely, we estimate 1000 Wordfish models for each topic, drawing subsamples of all terms for every single model. Here, the exclusivity scores determine the probability for each term to be sampled. For example, the terms “*nuclear*” and “*plutonium*” are part of many subsamples for the nuclear topic, whereas “*issu*” and “*landmin*” are only rarely sampled for this topic.

Estimating Wordfish models on each subsample provides us with topic-specific distributions of all the relevant parameters, most importantly the positions for every country-year and the term discrimination parameters. Similar to factor scores in standard factor analysis, the latter enable us to interpret the latent rhetorical dimension. The mean values of these distributions are the expected topic-specific positions and the expected topic-specific discrimination parameters. The variations of these distributions give us information on the uncertainty of our topic-specific estimates (Appendix D).

Importantly, scaling models like Wordfish (Slapin and Proksch, 2008) and Wordscores (Laver *et al.*, 2003) are based on saliency theory (Budge, 2001). A latent conflict only emerges if one speaker emphasizes one alternative, whereas another speaker emphasizes another alternative. However, some debates are not characterized by conflicting positions but rather by different levels of salience. For example, with regard to the regulation of space armament, our Wordfish models estimate speakers' salience rather than their conflicting positions.

In the following, we do not discuss all topics in detail, but primarily focus on the *nuclear* and *landmines* topics as illustrative examples. While we briefly describe the four remaining substantive topics, we refrain from interpreting the topics that merely deal with administrative issues.

For the *nuclear* topic, Wordfish identifies a conflict between those states that seek to preserve the current nuclear order and those that challenge the status quo. Terms with negative term discrimination parameters are related to non-proliferation measures and bilateral agreements, including but not limited to those between Russia and the United States (*fmct*, *verif*, *start*, *bilat*). Both types of agreements strengthen the status quo by design; the former because they prevent the spread of weapons and technology to states that do not yet possess them (Müller *et al.*, 2013a), the latter because they exclude less powerful states (Johnston, 1996; Fehl, 2014). In addition, terms associated with critical views of nuclear disarmament (*stead*, *realist*, *pragmat*, *nato*) are also found at the negative end of the scale. The other extreme is characterized by terms indicating opposing views and criticizing, for example, the unbalanced nature of the existing nuclear regimes (*double*, *discrimin*, *imbal*, *inalien*) and the slow pace of disarmament (*pressure*, *failure*, *insist*). Accordingly, we find states that benefit from the status quo on the negative side—in particular the permanent members of the Security Council (P5) and their allies. On the positive side, we find challengers to the status quo, especially from the Middle East, but also states such as Vietnam and Venezuela.

Regarding the *landmines* topic, Wordfish identifies a latent conflict between humanitarian and security framings of these weapons. The positive side includes terms emphasizing the harm these weapons cause, especially to civilians (*contamin*, *survivor*, *displac*, *disabl*, *devast*). The negative side mainly discusses indiscriminate weapons in security-related terms, emphasizing for example their military utility (*occupi*, *troop*, *aggress*, *armament*). In addition, it focuses on agreements adopted before the “humanitarian turn” in arms control that took place in the mid- and late-1990s (*cfe*, *register*) (Wisotzki, 2013). In line with this, the negative end is occupied by states suffering from the unrestricted influx of landmines and other types of indiscriminate weapons. These include, for instance, Bosnia, Cambodia, and various states in Latin America and

sub-Saharan Africa. States with low position estimates include those that either oppose stricter regulations (e.g., Russia, Syria, United States) or are at least not affected by landmines (e.g., Germany, France, United Kingdom).

Among the other topics, the main conflict structuring debates over CBW separates (alleged) users and possessors of these weapons justifying and defending themselves (*fals, accus, occupi, baseless, aggress*) from those that stand up for the CBW taboos (*coordin, coalit, outreach, ratifi*). With regard to the *arms trade* topic, terms with high positive discrimination parameters indicate the immediate negative impact of conventional weapons (*traffic, demobil, displac, scourg, refug, violenc*), while procedural terms (*sponsor, coalit, regist, streamlin, discuss*) yield negative term discrimination parameters. The *regional* topic captures disputes over separate territorially limited conflicts and arms control efforts (*africa, caribbean, sahel, mercosur*) from those of transregional relevance (*western, atlant, caucasus*). Regarding the *space* topic, Wordfish effectively measures the salience of debates on great powers' space armament (*orbit, sky, satellit, nato, abm*) versus other, seemingly unrelated, topics (*traffic, social, climat, inalien*).

2.4 Identification of the rhetorical conflict space

In this step, we map our estimates of topic-specific positions into a lower-dimensional rhetorical conflict space using PCA. We expect that the rhetorical conflicts over several topics are aligned along the same latent dimensions (Lauderdale and Herzog, 2016). Specifically, we opt for varimax rotation to enhance the interpretability of the results by reducing cross-factor loadings. Note that factor analysis leads to very similar substantive results.

The results are unambiguous (see Table 2): the rhetorical conflict in the First Committee is structured along two latent dimensions, which explain approximately 78 percent of the variation observable in the topic-specific positions. The first latent conflict deals with conventional weapons, including landmines as well as the arms trade, and their use in regional conflicts. Positions on administrative and organizational matters are correlated with this conflict, too. The second latent conflict deals with WMDs, including nuclear arms, CBW, and new weapons in (cyber-)space.

We can interpret the latent components using the topic-specific term discrimination parameters estimated in step 2. However, in doing so we must take two aspects into account. First, we need to rotate the term discrimination parameters using the component scores. This is standard practice in the application of PCA. Second, we must consider each term's relevance for the estimation of each latent component. For this purpose, we aggregate the weighted exclusivity scores estimated in step 1, weighted by the topic's absolute component score. The latter represents each topic's relative importance for each component. The higher the aggregated exclusivity, the more important a term has been for estimating member states' positions on the respective latent component.

Figure 2 depicts the rotated term discrimination parameters for the latent rhetorical contestation over conventional arms. Large positive discrimination parameters indicate local violent conflicts and cooperation (*sahel, african, caribbean, mercosur*), the humanitarian impact of conventional weapons (*violenc, displac, existenti, contamin*), and the need for international

Table 2. Principal components underlying the topic-specific positions

Variable	Comp1	Comp2
Regional	0.37	0.09
Procedural I	0.38	0.13
Landmines	0.45	-0.07
CBW	0.39	-0.65
Procedural II	0.43	-0.04
Nuclear	0.14	0.57
Space	0.17	0.45
Arms trade	0.36	0.15

Bold numbers indicate assignment of topics to components.

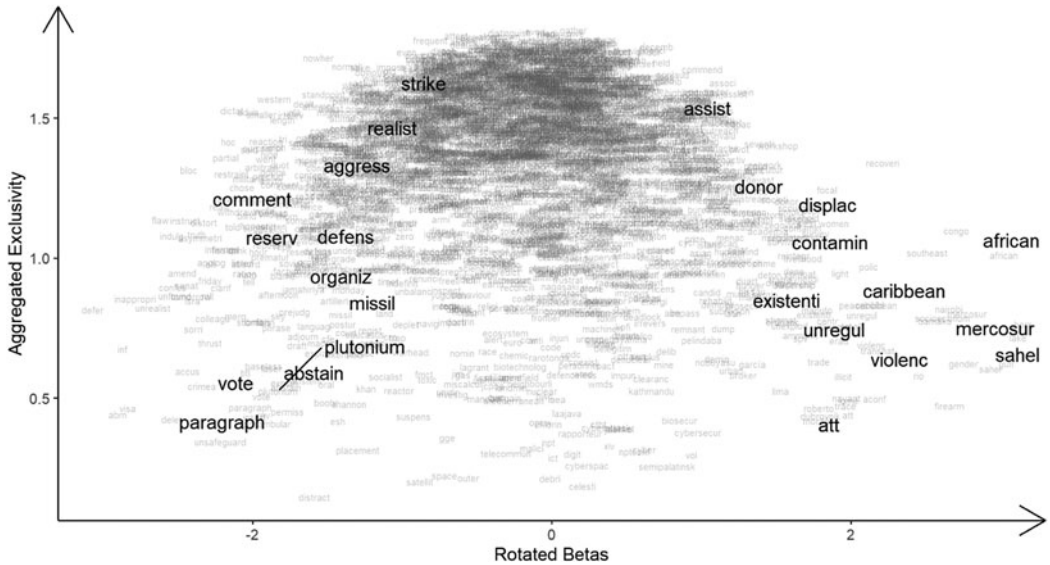


Figure 2. Rotated term discrimination parameters (betas) and aggregated exclusivity scores for the latent conflict over conventional weapons (terms mentioned in the text depicted in bold as illustrative examples).

assistance to overcome these issues (*unregul*, *assist*, *donor*, *att*). By comparison, large negative discrimination parameters primarily point at procedural matters and bureaucratic language (*paragraph*, *comment*, *organiz*), a limited substantive interest in the regulation of conventional arms (*abstain*, *reserv*, *realist*), and a focus on security matters (*defens*, *aggress*, *strike*). The underlying conflict dimension thus delineates states that frame arms control as a *humanitarian* issue from states that see arms control as a matter of national *security*.

Figure 3 depicts the rotated term discrimination parameters for the latent conflict over WMDs. Large negative term discrimination parameters indicate support for the current arms control regimes and their reinforcement as agreed during and after the end of the Cold War. Typical terms either refer to bilateral and multilateral treaties (*abm*, *fnct*, *start*, *bwc*) and intentions to strengthen these further (*enlarg*, *underpin*, *reinforc*, *deepen*) but also to restrain overambitious disarmament efforts (*steadili*, *ration*, *realist*, *pragmat*). By contrast, terms with large positive discrimination parameters point toward critique of and challenges to the established order (*reject*, *failur*, *weak*), and in particular double standards and the discriminatory nature of arms control regimes (*doubl*, *discrimin*, *imbal*). This also includes references to the “inalienable right” to use nuclear energy (*inalien*, *instal*, *energi*) and defensive language addressing accusations of violating established rules and regulations (*baseless*, *unjustifi*, *innoc*). Hence, the second conflict over WMDs delineates supporters of the status quo from states that are *challenging* the status quo.

In sum, our data and methodological approach helps us to understand states’ conflict over arms control and disarmament in two crucial ways. First, we establish that states’ disagreements in this policy field center around two dimensions: “humanitarian vs. security” and “status quo vs. challenging.” While the latter dimension resembles conflict dimensions previously identified through other types of data (see, e.g., Bailey *et al.*, 2017; Barnum and Lo, 2020), our work is, to our knowledge, the first to systematically demonstrate the relevance of the former dimension for debates around conventional weapons.¹ Second, our approach allows us not only to identify the two conflict dimensions, but also the specific types of arms control each of them is associated

¹Interestingly, a recent study by Onderco and Vignoli (2024) identifies a similar conflict line in their analysis of statements at the meetings of state parties of the Nuclear Ban Treaty, that is, in relation to a WMD issue.

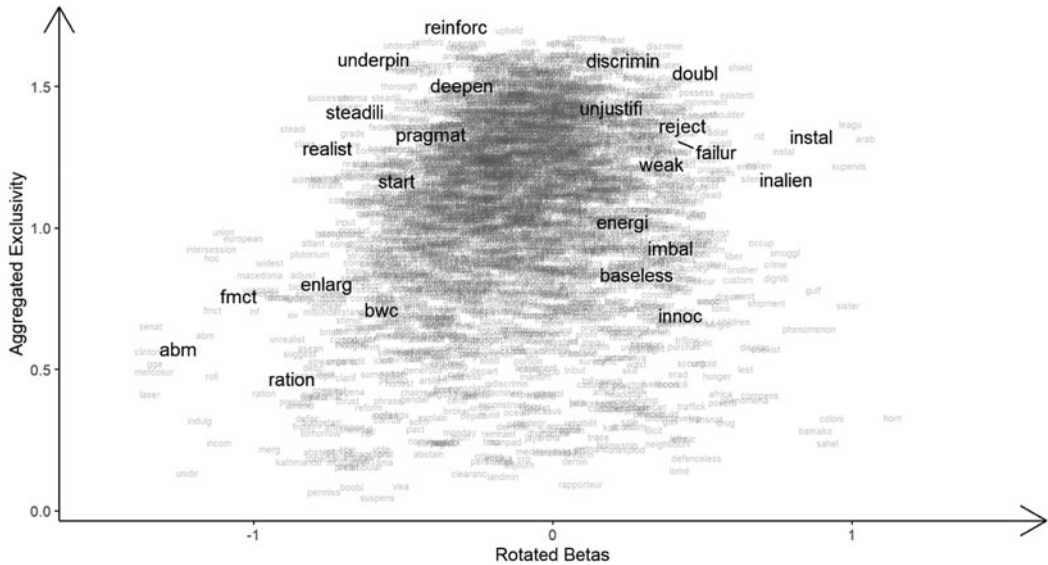


Figure 3. Rotated term discrimination parameters (betas) and aggregated exclusivity scores for the latent conflict over WMD (terms mentioned in the text depicted in bold as illustrative examples).

with. The “humanitarian vs. security” dimension is primarily relevant for discussions around conventional arms control and matters of regional conflict and cooperation, whereas disagreements concerning WMD and new technologies evolve around the “status quo vs. challenging” dimension. This further enhances our knowledge of states’ arms control preferences.

3. Validity

In this section, we assess the validity of our position estimates. Based on insights from existing, mostly qualitative studies, we formulate theoretical expectations about patterns of states’ position taking on both conflict dimensions. These expectations allow us to validate our estimates in three steps: first, we examine the variation in positions across countries and developments within countries over time. Second, we assess how our two dimensions relate to existing measures of states’ positions toward arms control. Third, we analyze pertinent explanatory variables such as involvement in the international arms trade as well as nuclear and chemical weapons possession.

Concerning the conventional weapons dimension, previous research has argued that the humanitarian turn in arms control was initiated by smaller states and motivated by the unrestricted use of conventional weapons in local conflicts (Wisotzki, 2013; Erickson, 2018). In contrast, states with geopolitical and economic interests regarding conventional weapons tend to prioritize “traditional” forms of conventional arms control, which “have often been guided by the rationale of military necessity and economic benefit” rather than humanitarian principles (Garcia, 2015, 57; see also Wisotzki, 2013). If our interpretation of the conventional weapons dimension is correct, we should therefore expect these states to be at the negative end of the scale. This should include, among others, the P5, their allies, and rivaling “rogue states” (Fey *et al.*, 2013; Wisotzki, 2013; Wunderlich *et al.*, 2013). In contrast, the “humanitarian side” of the conflict should be occupied by states in sub-Saharan Africa, Latin America, and the Balkans. Humanitarian arms control efforts are most prominent in these regions, which are heavily affected by the influx and use of small arms, landmines, and other types of conventional weapons (Stavrianakis, 2011). This also implies that certain shocks—such as the outbreak and

conclusion of conflicts—can shift states' priorities in one way or another, depending on the nature of those conflicts (Müller, 2013; Müller *et al.*, 2013c).

With respect to the WMD dimension, states that have designed—and benefit from—the current global order and its arms control frameworks should be found on the status quo side of the conflict. Existing studies have identified the P5 (and their allies) as exceptionally status quo-oriented, given their privileged status in the existing WMD control frameworks (see, e.g., Fey *et al.*, 2013). This should particularly apply to Russia and the United States, while China has more frequently acted as a challenger to the status quo—at least in the early 1990s (Johnston, 1996; Fey *et al.*, 2013). In contrast, we expect positive values for non-aligned states that are dissatisfied with the status quo, especially if they seek to change the international system in an aggressive manner (Jones, 1998; Müller *et al.*, 2013a; Wunderlich *et al.*, 2013). Shifts in states' positions can thus be triggered both by transformations of the international power structure and by internal developments that change the level of (dis)satisfaction with the status quo (e.g., Fey *et al.*, 2013; Müller *et al.*, 2013c).

3.1 Face validity

3.1.1 Conventional weapons

To explore the validity of our estimates for the first conflict dimension, we first inspect the cross-country variation (see Figure 4) before we examine changes over time. In line with our interpretation, the “humanitarian side” of the rhetorical conflict over conventional arms is primarily occupied by states such as the D.R. Congo (DRC), Cambodia (CAM), and Honduras (HON). On the “security side” of the conflict we find Western democracies, but also the MENA region and Brazil (BRA), China (CHN), Russia (RUS), and North Korea (PRK). In between we find states with mixed interests. This includes, among others, South Africa (SAF) and Turkey (TUR) as well as Western states that are not affected by armed conflicts themselves but incorporate the humanitarian aspects of arms restrictions into their foreign policy considerations—for example, Denmark (DEN).

When assessing positional changes (see Figure 5), it is notable that the average scores become progressively more positive over time. This is in line with the focus of conventional arms control shifting more and more to the containment of intrastate violence and human suffering (Wisotzki, 2013). This is illustrated by the negotiation and adoption of various humanitarian arms control treaties in the late 1990s and 2000s—such as the Ottawa Treaty, the Convention on Cluster Munitions, and the Arms Trade Treaty.

Next, we selected four states that are known to have changed their positions on conventional arms control over time: the United States, Colombia, Russia, and Ukraine. Being the largest exporter of conventional weapons and a nation with exceptionally liberal gun laws, the United States has consistently shown hesitancy toward conventional arms control measures (Wisotzki, 2013; Wunderlich *et al.*, 2013). While we do not observe a substantial shift between the presidencies of Clinton and Bush, it is important to note that the global rhetoric changed substantively during that period. Accordingly, the Bush administration, justifying its particularly negative position toward arms control with security concerns, deviated much more from the “average” rhetoric and “opposed new global norms in humanitarian arms control” (Wunderlich *et al.*, 2013, 172). Under Obama, the US position underwent a major change, embracing arms control measures and putting a stronger emphasis on the humanitarian dimension than it had before (Stohl, 2010). This positional shift was subsequently halted after rising international tensions from 2014—and then completely reversed by the Trump administration, which actively dismissed humanitarian issues in its conventional arms control policy (Stohl, 2021).

By contrast, the Colombian government has experienced a decades-long civil war and been exposed to the negative consequences of conventional weapons proliferation. As a reaction to the war's most severe phase in the late 1990s and early 2000s (UCDP, 2023a), the government

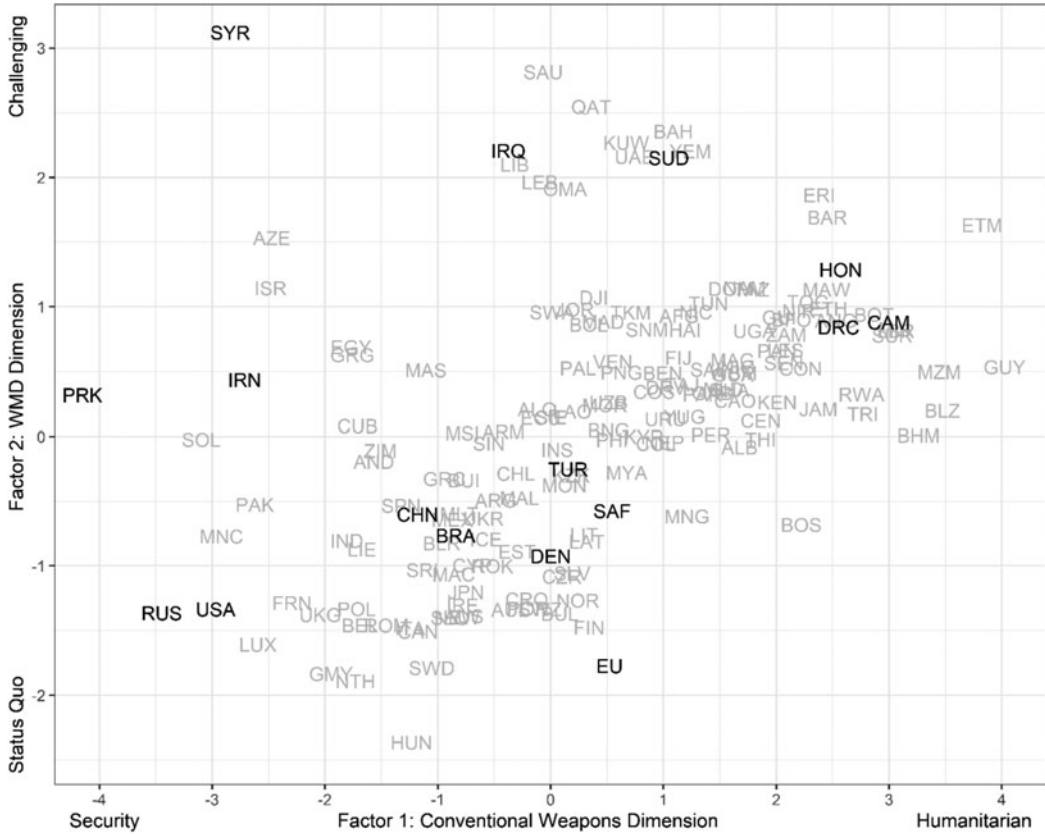


Figure 4. Member states’ average positions in the UNGA First Committee’s two-dimensional rhetorical conflict space between 1993 and 2019.

began to engage in peace negotiations and disarmament, demobilization, and reintegration efforts (Angelo, 2016). Moreover, it has largely followed—and helped to shape—the humanitarian approach to conventional arms control (Zughni, 2012). Ever since, Colombia has laid a primary focus on humanitarian aspects and assistance to affected countries and has been a strong proponent of conventional arms control (Bromley and Malaret, 2017).

Ukraine also largely followed the humanitarian rhetorical shift on conventional weapons—especially after democratization efforts and shifts in its foreign policy orientation in the early 2000s (Åslund, 2009). However, the government’s rhetoric was completely reversed after Russia annexed Crimea and subsequently backed separatist militias in Donetsk and Luhansk (UCDP, 2023b). This reflects our interpretation that involvement in conflicts does not necessarily lead to a stronger emphasis on humanitarian issues. Instead, it depends on the specific type of conflict and its relevance for international politics and the global order. More precisely, interstate tensions that are important beyond these states’ borders—as is the case with the Russo–Ukrainian conflict—bring security matters back into focus. By contrast, intrastate conflicts with a limited geographical scope, such as the Colombian civil war, rather shift states’ focus to humanitarian assistance and the negative consequences of conventional weapons.

Finally, similar to the United States and in line with our expectations, Russia remains on the security side of the conflict dimension. Nevertheless, we observe some relevant changes in its rhetoric over time. While the Russian government largely followed the general trend in the late-1990s and early-2000s and developed a somewhat more humanitarian focus, it reversed its

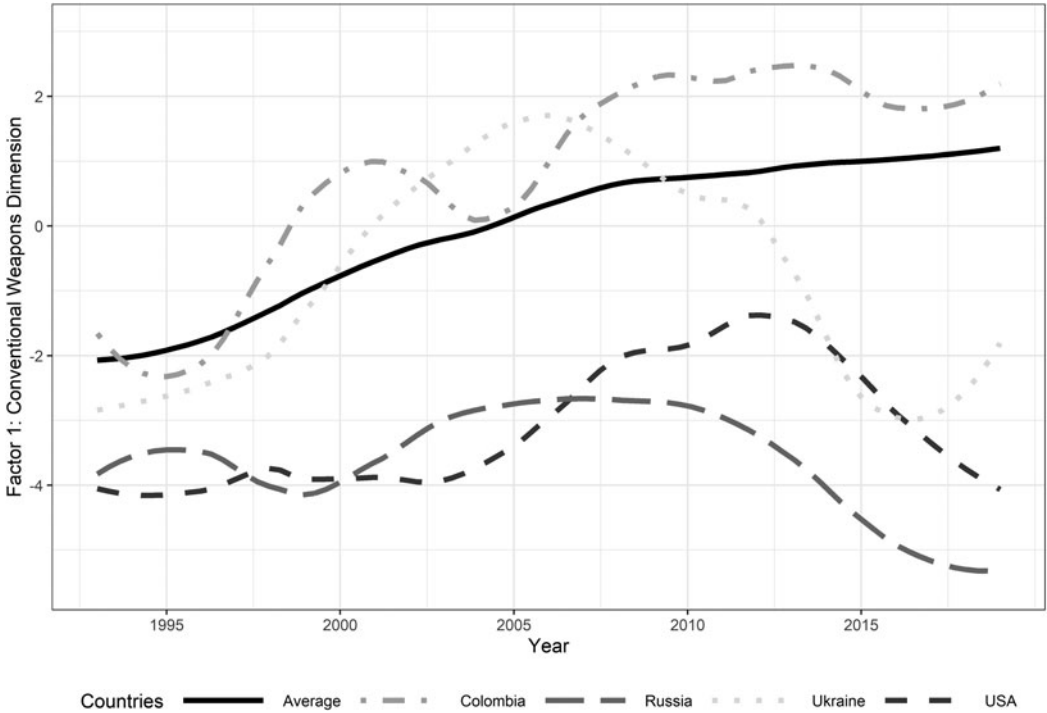


Figure 5. Development of positions on the conventional weapons dimension. Note that the graphs in Figures 5 and 6 have been smoothed with the `geom_smooth` function implemented in the R package `ggplot2`.

position back a decade later. This reflects Russia’s increasingly aggressive and expansive foreign and military policies during this period (Götz and MacFarlane, 2019), which led to an even greater focus on security matters than at the beginning of the observation period.

3.1.2 Weapons of mass destruction

With regard to the second dimension, states supporting the universal application of the nuclear arms control regime (e.g., START, FMCT, NPT) cluster at the status quo end of the conflict space. This includes, first and foremost, liberal Western democracies (e.g., EU), but also the nuclear weapon states (NWS) of Russia and—to a somewhat lesser degree—China, which also benefit from the status quo and imbalances in the global nuclear order (see Figure 6). On the opposing end, we find countries of the Global South and “rogue states” that challenge this order, including for instance Syria (SYR), Iraq (IRQ), Sudan (SUD), and Iran (IRN).

In contrast to the first dimension, states’ average scores have remained relatively stable over the years. This indicates that the discourse on WMDs has not undergone any major changes since the end of the Cold War—at least not with regard to the underlying conflict dimension. This is in line with the findings of Barnum and Lo (2020). Their analysis of statements from NPT review conferences does not yield any substantial shifts in states’ positions over time.

Turning to within-country changes over time (see Figure 6), we selected the United States, China, and Iran as illustrative examples. For this dimension, too, we observe a shift in the US position during the Obama presidency and a shift back after Trump took office. Yet this shift is far less pronounced than for the conventional weapons dimension. This is because the Obama administration not only pushed for more “classic” arms control agreements with Russia such as the New START treaty, but also for measures that arguably challenged the status quo. For instance, the

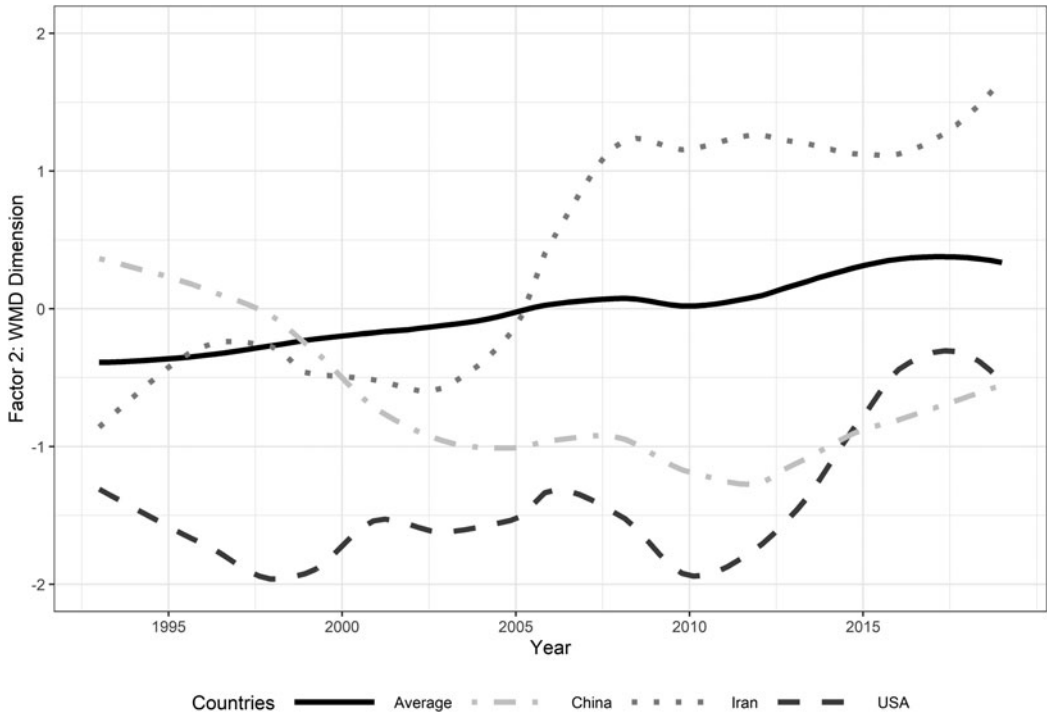


Figure 6. Development of positions on the WMD dimension.

government laid a strong emphasis on the previously neglected second pillar of the NPT—nuclear disarmament—and on the goal of achieving Global Zero (Fey *et al.*, 2013).

Under President Rafsanjani (1989–1997), Iran’s nuclear program began to expand, and there were some concerns in the international community that Iran might be seeking to develop nuclear weapons. Rafsanjani’s rhetoric toward the West and the current global order was confrontational. That changed when the reformer Khatami came to power in 1997. He called for dialogue and diplomacy to resolve the nuclear issue and thus moved closer to the supporters of the status quo. Iran agreed to suspend its uranium enrichment activities in 2003 and cooperate with the International Atomic Energy Agency. This softer diplomatic course changed drastically when the nationalist hardliner Ahmadinejad became president in 2005 (Pirseyyedi, 2012; Wunderlich *et al.*, 2013).

In the late-1990s, when China consolidated itself as a major power, it adopted new arms control policies, including stronger non-proliferation policies and an “increasing acceptance of international norms” (Wunderlich *et al.*, 2013, 181). At the same time, China has been the only NWS to upgrade and modernize its arsenal to develop a credible nuclear deterrent to guarantee its national security and achieve what it views as strategic stability (Gallagher, 2015). In the mid-2000s, when the modernization of its own nuclear arms program had made significant progress and its stockpile of warheads numbered in the low thousands, the Chinese position aligned with the one formulated by the Russian and US governments (Zhang, 2010; Bin, 2015).

In sum, we have demonstrated the face validity of our position estimates across countries and over time.

3.2 Validity: existing measures

To further validate the rhetorical conflict space underlying debates in the First Committee, we compare them to existing measures of states’ positions on arms control. Specifically, we assess

how our position estimates—aggregated to the country level²—correlate with the measure of state support for arms control introduced by Risse (2023), also averaged to the country level (see Table 3). Appendix E provides further correlation analyses with other position estimates that also support our substantive interpretation of the two dimensions.

Risse (2023) measures states' arms control preferences through manually coded UNGA resolutions on arms control passed between 1994 and 2016 and the corresponding voting records. In contrast to our conflict dimensions, he defines his conflict dimension—support versus non-support for arms control—a priori. His coding of resolutions' topics allows us to construct sub-indices corresponding to the topics of our two conflict dimensions.

We argue, first, that our position estimates on the regulation of conventional weapons should be positively correlated with Risse's measure, because proponents of conventional arms control tend to frame it as a humanitarian issue rather than a matter of security (Wisotzki, 2013). Second, we expect a weak correlation between support for arms control and the WMD dimension, as the latter reflects conflicts over the *type* of arms control (e.g., non-proliferation vs. disarmament) rather than the *degree* of arms control.

The correlation analyses are in line with our interpretations of both dimensions. Our conventional weapons dimension is, as expected, positively and moderately correlated with Risse's measure. In contrast, the position estimates on WMDs are only weakly correlated. While the focus here is on the degree rather than the direction of the correlation, the negative coefficient indicates that status quo-oriented states are somewhat more supportive of arms control than challengers. This is also not too surprising, given that several important WMD control agreements have been criticized for favoring more powerful countries—which are also more status quo-oriented (Müller *et al.*, 2013a).

3.3 Validity: exogenous variables

As a final step, we explore two relevant exogenous explanations for states' rhetorical positions in the UNGA's First Committee. First, we assess the effect of arms exports and imports (SIPRI, 2023) on positions in UNGA debates over conventional weapons. We expect that a greater economic stake in the arms trade is associated with a stronger focus on security matters rather than humanitarian issues and thus more negative scores on the conventional weapons dimension. Second, we regress the estimates on the WMD conflict dimension on two dummy variables indicating the possession (or alleged possession) of nuclear weapons and chemical weapons (Bleek, 2017; Arms Control Association, 2022). Here, we expect more ambiguous results. While nuclear weapons and deterrence remain an integral part of the post-Cold War global order (Krause and Latham, 1998), chemical weapons are under a "taboo" and banned by the widely recognized Chemical Weapons Convention (Price, 2019). Thus, chemical weapons possession constitutes a challenge to the status quo and should be positively related to our estimates, whereas we expect the opposite relationship for nuclear weapons possession.³

All models control for regional affiliation (Gleditsch *et al.*, 2002; Davies *et al.*, 2023), level of electoral democracy (Coppedge *et al.*, 2023), GDP per capita (UNSD, 2023), involvement in armed conflicts (Gleditsch *et al.*, 2002; Davies *et al.*, 2023), and national material capabilities (CINC) (Singer *et al.*, 1972; Singer, 1988). Due to the clustered data structure, we include random effects for country and year. Models that exclude the control variables and that include all four independent variables are reported in Appendix F and largely produce similar results.

²We focus on the country rather than the country-year level here to achieve better comparability, as the measure by Risse (2023) does not contain values for all years. Appendix E reports the correlations on the country-year level. These are marginally smaller than on the country level but reveal a similar pattern.

³We also conduct cross-dimensional analyses; that is, models of the relationship between arms transfers and the WMD dimension as well as between WMD possession and the conventional weapons dimension. These are reported in Appendix F and also support our substantial interpretation of both dimensions.

Table 3. Correlations with support for arms control (Pearson’s *r*)

	Conv.	WMD	<i>N</i>
Support for arms control, conv. (Risse, 2023)	0.54***	0.17*	181
Support for arms control, WMD (Risse, 2023)	0.21**	−0.17*	181

Note: Significance levels: ****p* < 0.001; ***p* < 0.01; **p* < 0.05; †*p* < 0.1.

Table 4. Regression analysis

	Conventional	WMD
Intercept	1.564 (0.685)*	0.675 (0.383)†
Arms exports (logged)	−0.056 (0.026)*	
Arms imports (logged)	−0.037 (0.019)*	
Nuclear weapons possession		−0.508 (0.250)*
Chemical weapons possession		0.366 (0.141)**
Democracy	1.170 (0.280)***	−0.336 (0.152)*
GDPPC (logged)	−0.248 (0.073)***	−0.090 (0.041)*
CINC (logged)	−0.125 (0.051)*	−0.086 (0.029)**
Armed Conflict	−0.205 (0.100)*	0.022 (0.052)
Region#Americas	−0.473 (0.285)†	−0.149 (0.167)
Region#Asia	−0.893 (0.253)***	−0.567 (0.149)***
Region#Europe	−1.715 (0.287)***	−1.208 (0.166)***
Region#Middle East	−0.697 (0.353)*	1.302 (0.211)***
Observations	2656	2656
Country-clusters	166	166
Year-clusters	24	24

Note: Standard errors in parentheses.
Significance levels: ****p* < 0.001; ***p* < 0.01; **p* < 0.05; †*p* < 0.1.

The effect of arms trade turns out as expected. Table 4 reveals that speeches by states with high arms trade volumes see conventional arms control from a perspective of national security. Furthermore, the possession of nuclear weapons is significantly related to a stronger status quo orientation. By contrast, states with chemical weapons stockpiles are significantly more likely to challenge the status quo. Thus, the regression analyses confirm our expectations and further validate our substantial interpretation of both conflict dimensions.

4. Conclusion

Political texts such as government declarations, or as studied here, speeches before the UNGA often cover a wide range of topics. Nevertheless, positions revealed in those speeches are usually structured by lower-dimensional conflicts. We refer to this latent conflict structure as the “rhetorical conflict space.” To unfold the rhetorical space in the UNGA’s First Committee on international security and disarmament, we fruitfully combine three existing methods, namely topic modeling using the STM algorithm (Roberts *et al.*, 2014), text scaling using the Wordfish algorithm (Slapin and Proksch, 2008), and, finally, PCA. We find that the debates in the UNGA’s First Committee are structured along two latent dimensions. We show that the first dimension deals with conventional weapons. On the one end of this conflict dimension, we find states with salient geopolitical and security interests. On the other end, we find states that reveal predominantly humanitarian concerns, reflecting the humanitarian turn after the end of the Cold War. The second dimension reflects the rhetorical conflict over WMD and new technologies. This dimension divides defenders from challengers of the status quo.

These findings improve our understanding of states’ position taking toward disarmament and international security in the UNGA and beyond. Our approach illustrates that next to a conflict

about preserving or breaking up the current order, the question of whether humanitarian or security concerns should be prioritized is also an important and divisive issue. Furthermore, it not only enables us to identify the two most important conflict dimensions, but also the sub-topics each of them is primarily related to. The analysis of debates in the First Committee thus offers a valuable complementary alternative to the analysis of other data sources such as recorded votes.

Our approach does not come without limitations. The greater nuances and higher volatility compared to voting records is both a blessing and a curse. On the one hand, it enables us to uncover intra-country and intra-group conflicts more easily. After all, this has been a point of criticism with regard to vote-based position estimates (e.g., Carrubba *et al.*, 2008; Proksch and Slapin, 2015). In the UNGA and many other assemblies, speeches are also less prone to suffer from selection bias. On the other, speech-based measures are more responsive to changes of the agenda. If, for example, an arms control debate is triggered by a recent conflict with tremendous human suffering, rhetorical positions on conventional arms control may change accordingly and in lockstep for all states. Consequently, when utilizing speech-based measures it is all the more important to control for such agenda effects.

In our opinion, this three-step approach might be fruitfully applied to the analysis of political texts that (i) cover different topics and (ii) are structured by more than a single latent conflict dimension. This includes, for example, government declarations or speeches before international organizations such as the UNGA plenary.

Besides exploring the utility our approach for other political debates, future research should exploit the opportunities that come with volatility and use our approach to study changing rhetorical positions. Moreover, we hope that some researchers may find our topic-specific positions (step 2) useful for analyzing more narrow and specific debates. Finally, future studies may further examine the determinants of states' preferences concerning the two conflict dimensions—and to which degree our estimates can meaningfully predict the behavior of states.

Supplementary material. The supplementary material for this article can be found at <https://doi.org/10.1017/psrm.2024.56> To obtain replication material for this article, <https://doi.org/10.7910/DVN/WV0ECC>

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