

Appendix for “You Had Me at Citation: How Citations Increase Support for United Nations Resolutions”

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1 Descriptive Statistics:

1.1 Citations and Resolutions

Both the UNGA and UNSC exhibit increased rates of citation over time, as well as increasing numbers of citations included in each resolution. Intuitively, this makes sense, as the universe of precedents and thus material to cite increases over time. Citation rates are more variable in the UNSC than the UNGA over time, which is likely due to the more flexible institutional nature and small number of negotiating parties in the UNSC, leading to more flexible working norms. Patterns in resolution and citation rates over time are illustrated in Figures 1, 2, and 3. Annual citations, even when normalized by the number of resolutions, particularly increase in the 1990s. This finding is also intuitive, as the 1990s were an extremely active period of legislation in the UN, as Cold War politics no longer precluded consensus between the United States and the Soviet Union/Russia. This pattern is exhibited in both chambers, but is more pronounced in the UNGA.

Figure 1: Total number of resolutions increasing over time

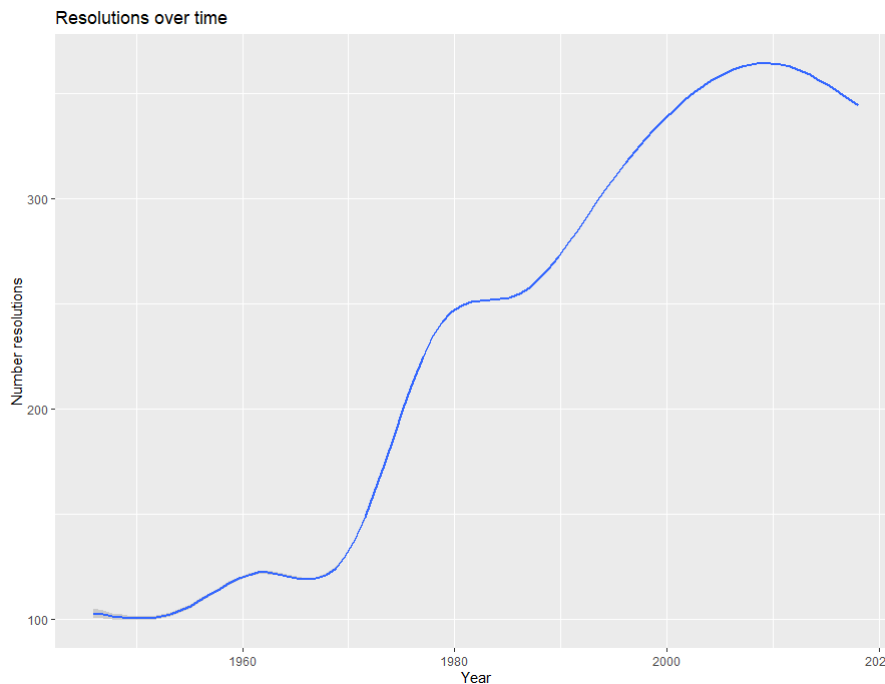


Figure 2: Citations increasing over time, but at a different rate than resolutions

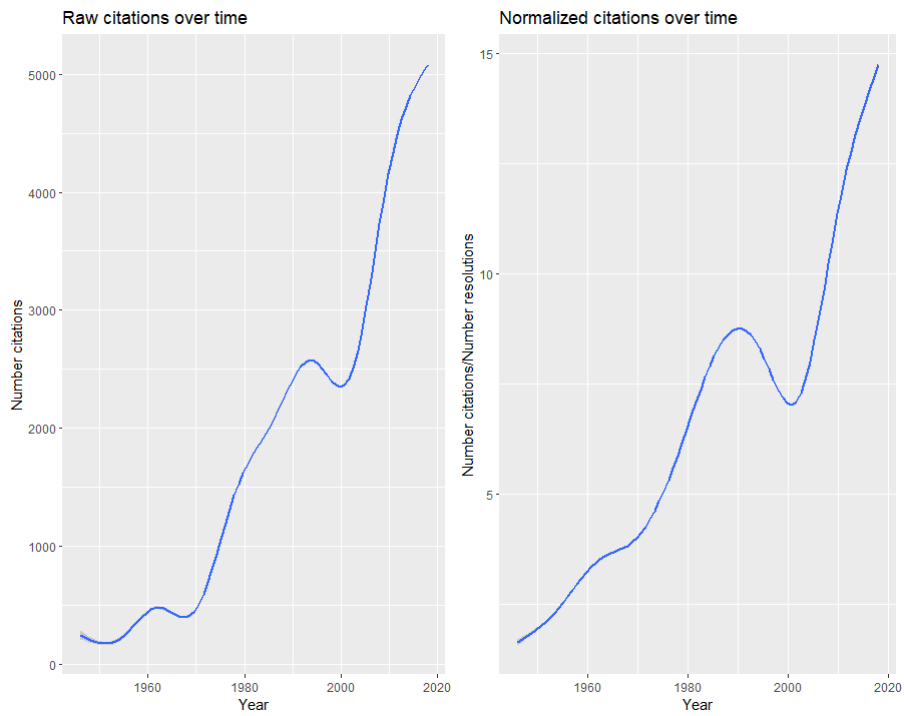
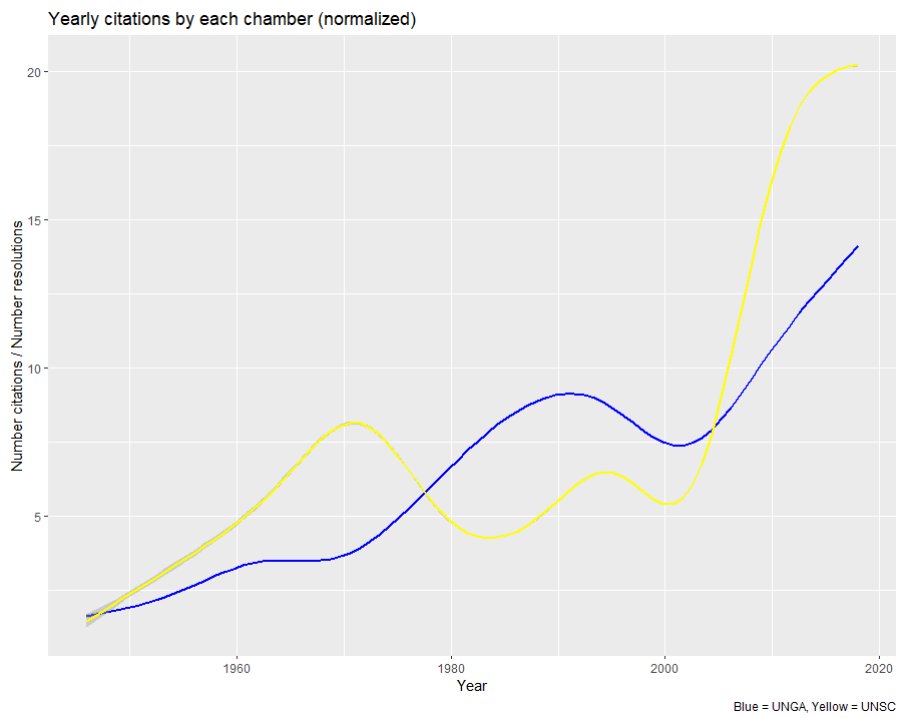


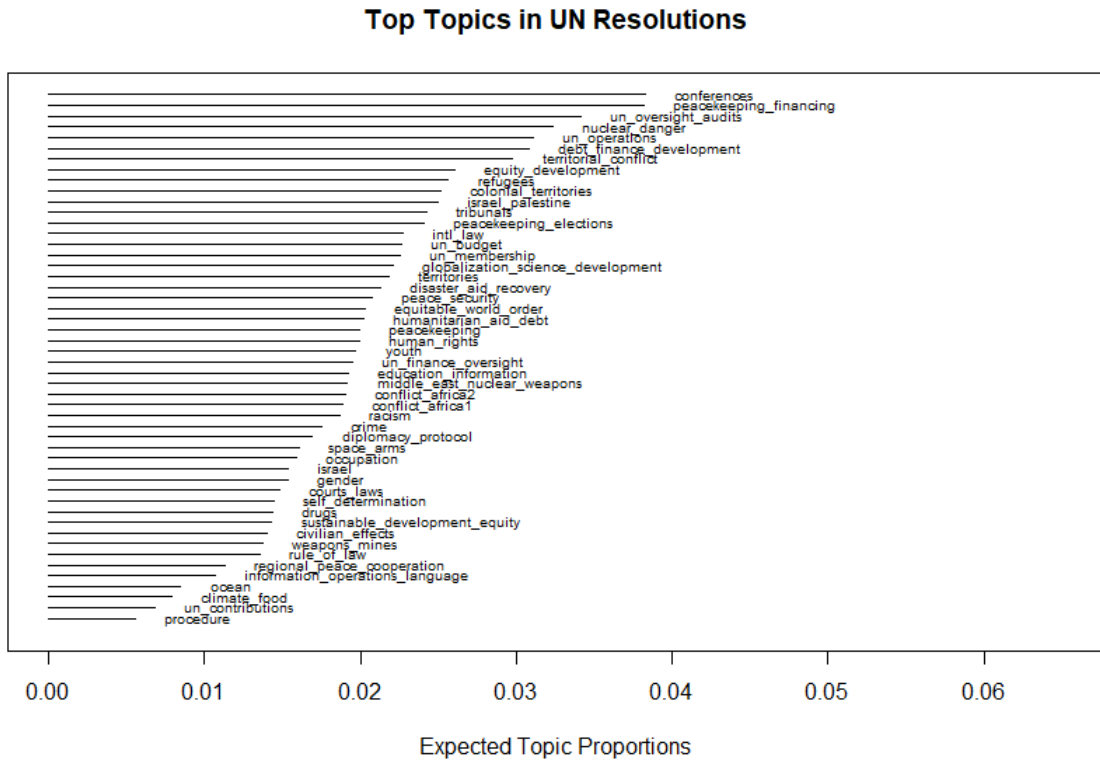
Figure 3: Citations increasing over time in both chambers, but particularly in the UNGA



1.2 Topical Variation

We identify topics using a structural topic model (Figure 4), an approach which we describe in detail in the main text (see also Roberts et al. 2014). We show key findings for each topic area, including the number of resolutions, number of citations, topical alignment, topical proportion of the overall corpus, and age in Table 1 and illustrated in Figures 4, 5, 6, and 7. The strategies used to measure alignment, resolution and citation count, and topic proportion are described in the main text, and our strategy for measuring topic age is described below.

Figure 4: Resolutions by topic areas



Note: Estimation with Structural Topic Model (STM)

Temporal Effects

Across all topics, while the number of resolutions and topic proportions are relatively constant, the rate of citation is increasing over time, and that the rate of annual citations varies across topic areas (Figures 6 and 7). On some topics, trends in citation rates and resolution rates move together (“south_africa”), but sometimes they exhibit distinct patterns (“unraw_administration,” “conservation”). Examining temporal patterns in citation shows us that on some topics, ‘ownership’ is passed back and forth between the UNGA and the UNSC over time (Figure 8). For example, “africa” and “conflict_response.”

Once issues are introduced onto the UN’s agenda, they are unlikely to be removed because of bureaucratic inertia and state incentives to maintain institutional attention. (Hurd 2008, 114-118). We therefore measure topic age using the year in which a resolution

Table 1: Key findings by topic

	Number Resolutions	Number Citations	Alignment (97.5 Percentile)	Topic Proportion	Age
peacekeeping	344	2911	37.87	0.020	1949
conflict_africa1	318	3853	40.78	0.019	1946
peace_security	352	4719	42.06	0.021	1946
un_oversight_audits	635	6488	28.53	0.034	1946
tribunals	398	1435	41.02	0.024	1946
territorial_conflict	459	2775	51.83	0.030	1947
conflict_africa2	344	3385	44.67	0.019	1946
peacekeeping_elections	281	2468	36.56	0.024	1948
civilian_effects	232	1767	207.38	0.014	1946
diplomacy_protocol	295	1656	94.35	0.017	1946
occupation	286	2822	41.18	0.016	1951
colonial_territories	495	2586	187.75	0.025	1946
information_operations_language	157	1030	31.96	0.011	1946
peacekeeping_financing	671	12439	675.11	0.038	1946
israel_palestine	424	4268	98.29	0.025	1947
courts_laws	188	843	34.95	0.015	1946
israel	277	3273	79.10	0.015	1946
drugs	275	2657	72.94	0.014	1947
gender	278	2039	51.85	0.015	1946
un_operations	202	1158	25.41	0.031	1946
weapons_mines	251	1361	65.75	0.014	1946
humanitarian_aid_debt	372	2410	59.29	0.020	1946
human_rights	389	3289	61.73	0.020	1947
refugees	482	2252	35.94	0.026	1946
ocean	169	1334	43.50	0.008	1948
education_information	292	2189	34.23	0.019	1946
space_arms	279	2335	151.08	0.016	1958
nuclear_danger	589	5662	111.36	0.032	1948
un_membership	204	451	44.59	0.023	1946
disaster_aid_recovery	420	2741	54.82	0.021	1946
self_determination	269	1651	170.94	0.014	1949
middle_east_nuclear_weapons	355	4442	152.07	0.019	1947
un_finance_oversight	373	2519	62.44	0.019	1946
equitable_world_order	387	1923	46.51	0.020	1947
crime	330	2645	46.27	0.018	1946
equity_development	247	1551	32.53	0.026	1946
conferences	561	3872	34.24	0.038	1946
sustainable_development_equity	208	1553	249.83	0.014	1954
rule_of_law	212	2668	47.91	0.014	1950
youth	378	2370	42.03	0.020	1946
debt_finance_development	633	3520	58.56	0.031	1946
globalization_science_development	391	2978	52.80	0.022	1947
un_budget	435	2881	112.93	0.023	1946
territories	393	1881	198.30	0.022	1946
regional_peace_cooperation	223	1303	45.78	0.011	1948
climate_food	119	1346	74.46	0.008	1948
un_contributions	99	584	99.98	0.007	1946
intl_law	368	2415	48.90	0.023	1946
racism	362	2144	49.11	0.019	1946
procedure	26	39	31.32	0.006	1950

Figure 5: Citations and Resolutions by topic areas

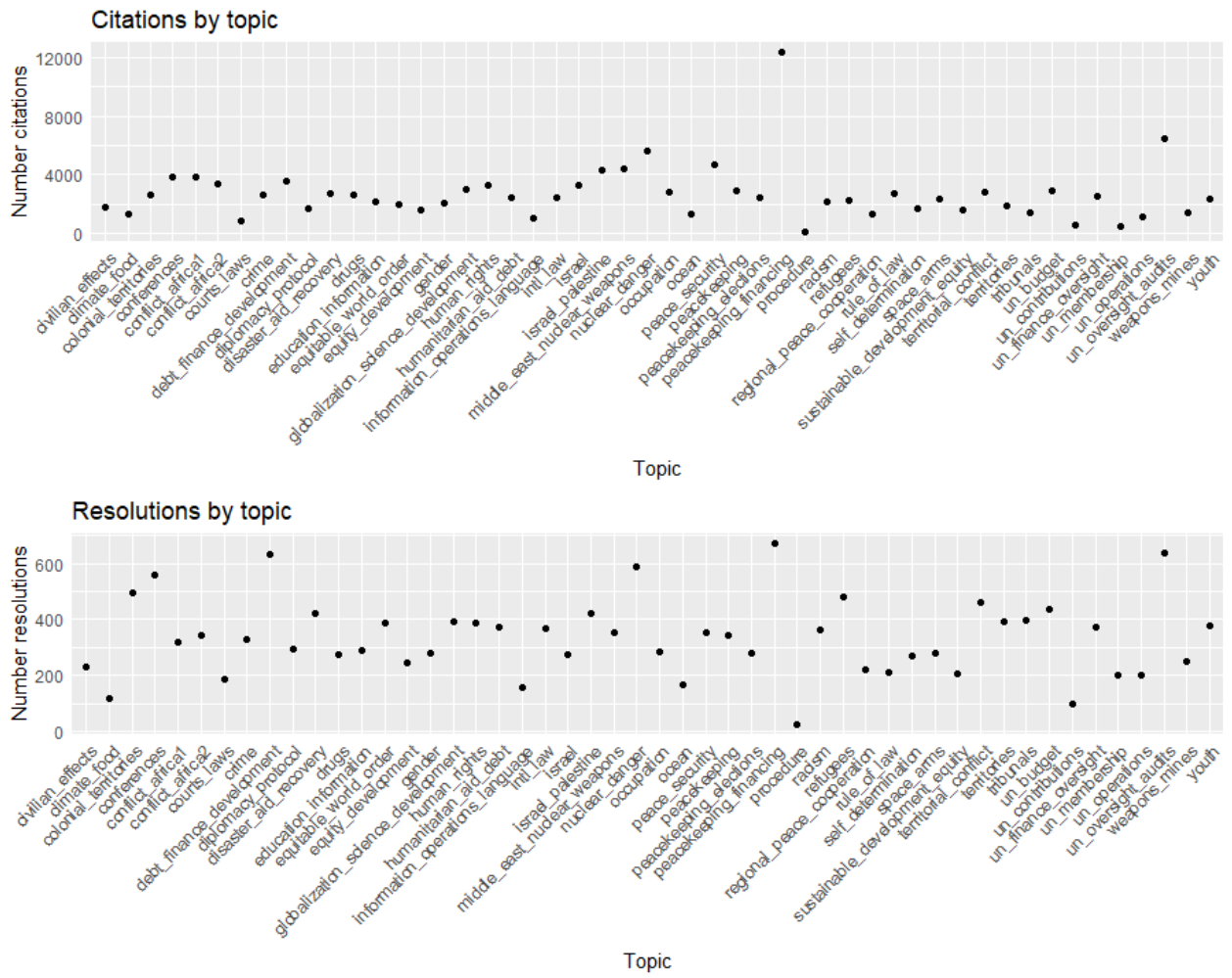


Figure 6: Citations and Resolutions by topic areas, over time

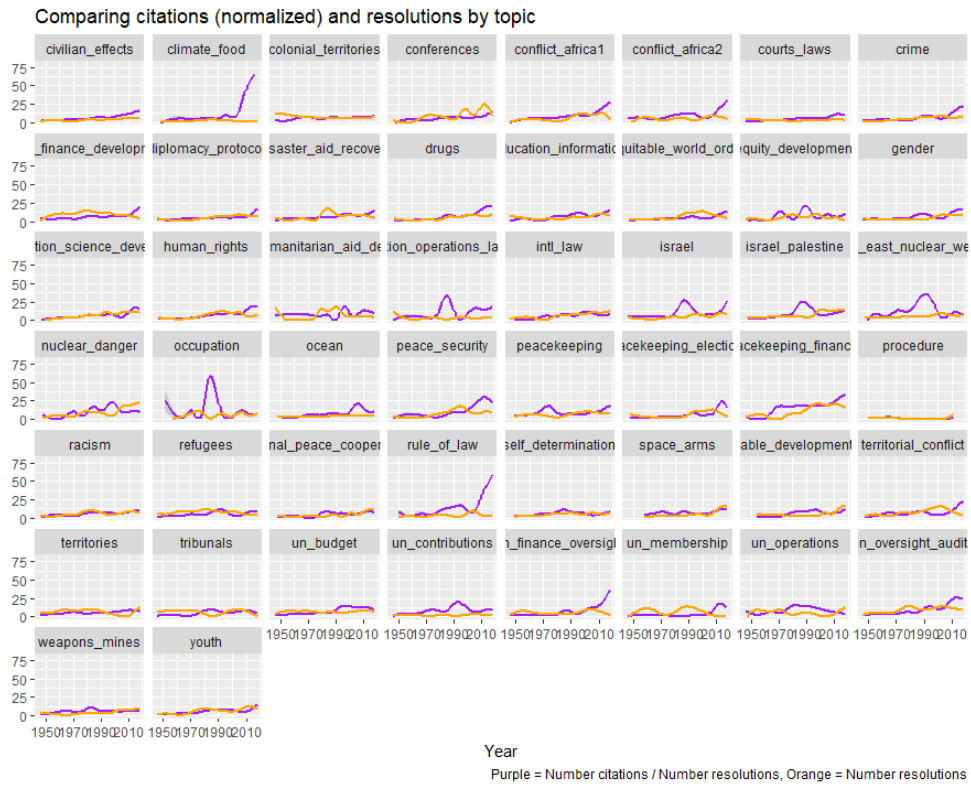


Figure 7: Citations and Topic Proportions by topic areas, over time

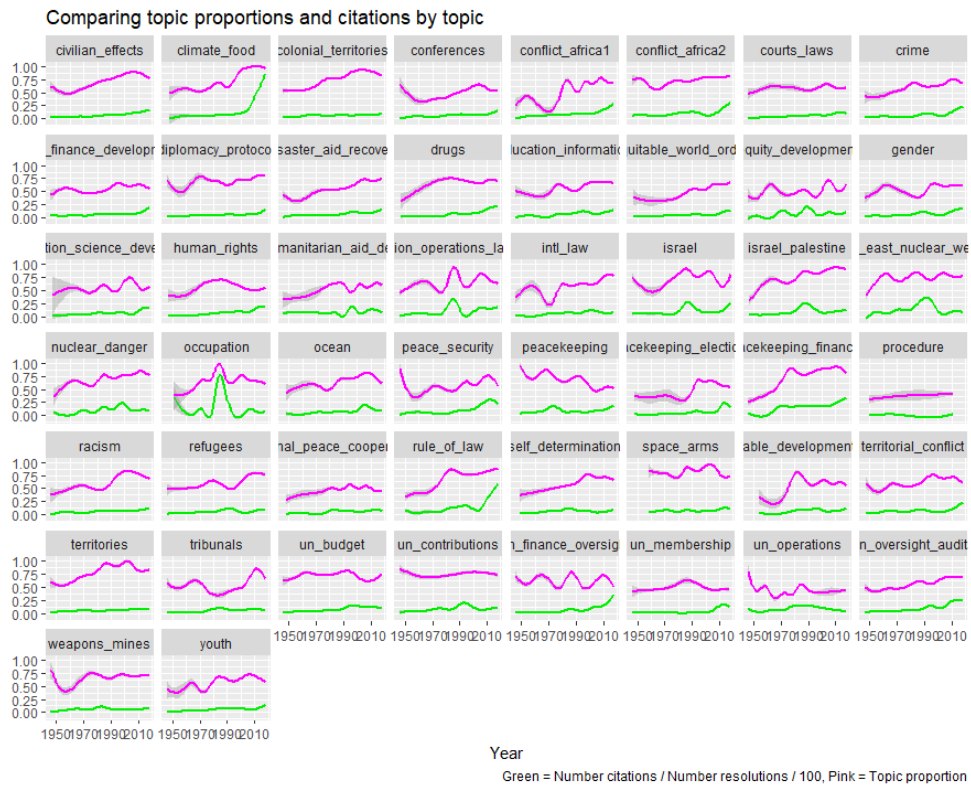
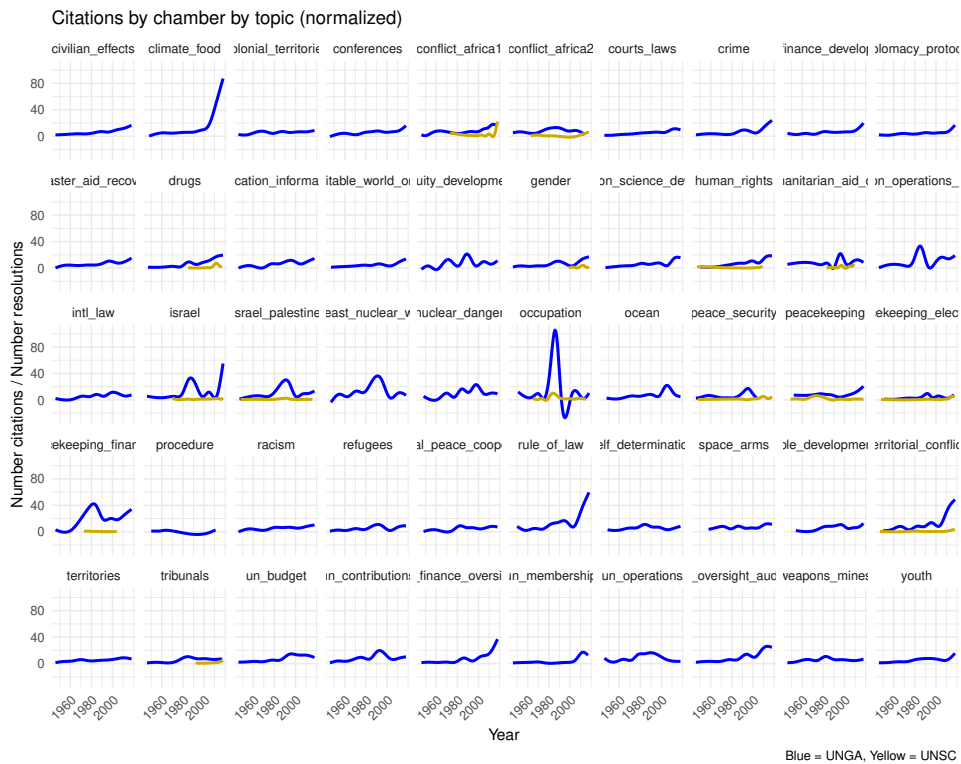


Figure 8: Chamber-level citations on different topics over time



with a given modal topic was first introduced onto the UN’s working agenda. Our data attest to the validity of this approach, showing that once a topic is introduced, the number of resolutions addressing it remains fairly consistent year on year (Figure 9). For most topics, the proportion of resolutions with that modal topic is also relatively flat over time, though some important exceptions where topic proportion notably changes over time— such as “conservation” – are present. The only topic that vanishes entirely from the agenda is “south_africa.”

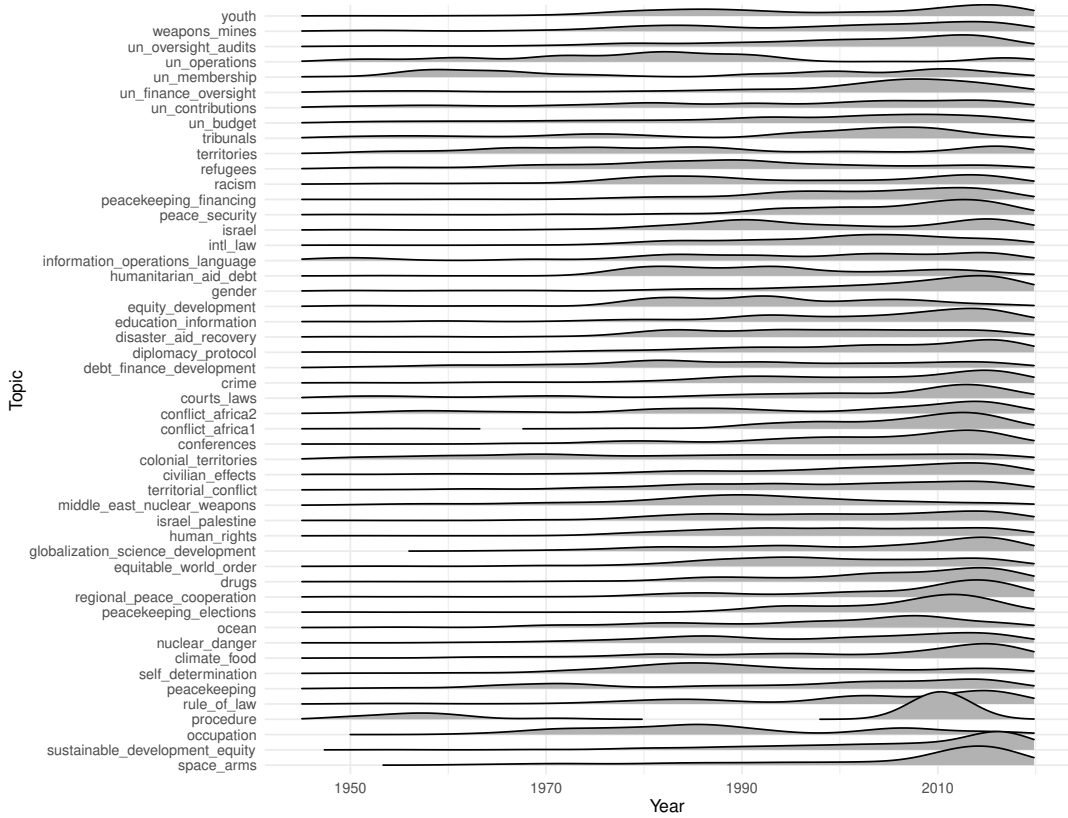
Using this measurement approach, we find that the age of most topics is essentially equal. 46 of the 50 topics we identify were first introduced during the first decade of the UN’s work, which we can see in Figure 9. Alternative measures of issue age, including the mean of the resolution years for each topic, yield similarly little variation. Average resolution age is one such example— for 43 of the 50 topics, the average resolution age is 1990 or more recent, and average resolution age has a standard deviation of just 7.78. This finding suggests that the topics identified by our model may be too broad to capture temporal variation in issue introduction. As we discuss below, subcomponents of the various topics may be introduced at various points in time, but the larger themes we identify have been present on the UN’s agenda in one form or another since the institution’s founding.

2 Political Effects

2.1 Sponsorship

Our analysis of the relationship between citation and sponsorship largely follows the strategy we outline in the main paper to assess the relationship between citation

Figure 9: Resolutions over time, oldest to newest topics



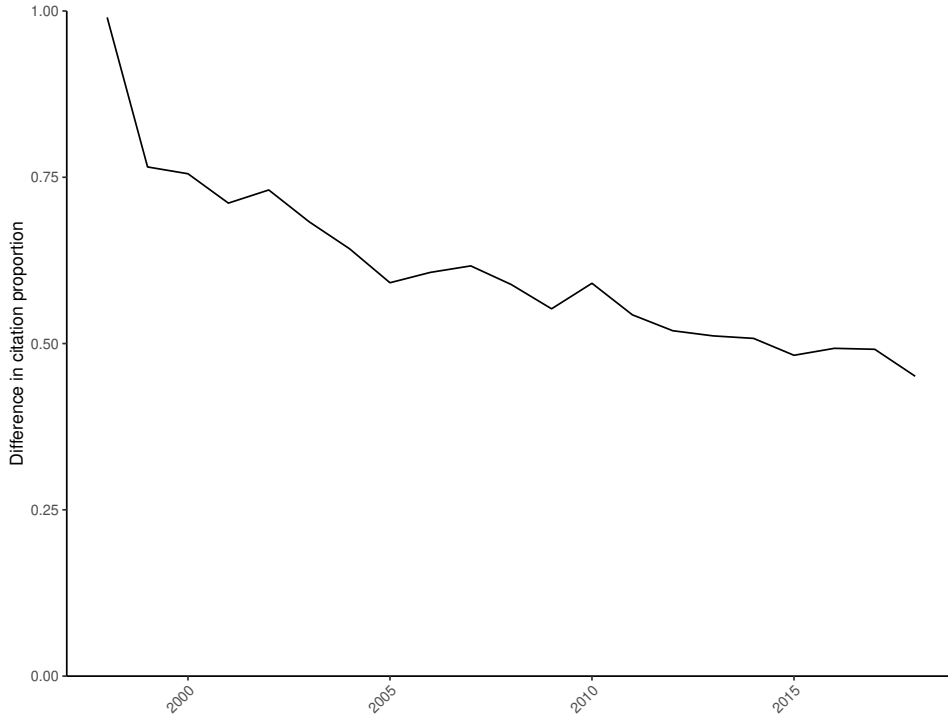
and voting. To investigate the relationship between sponsorship and citation, we first identify state sponsors for all resolutions for which sponsorship data are available through the [UNGA Digital Library](#), which includes essentially all resolutions passed from 2000 onwards. In particular, for each resolution we identify whether each country was listed as a sponsor of that resolution prior to that resolution’s passage. To study relationships between sponsorship and citation, we then calculate the following statistic:

$$S_t = \frac{1}{n_t} \sum_i \frac{N_{(i,t)}(\text{sponsor}, \text{cite})}{N_{(i,t)}(\text{sponsor})} - \frac{N_{(i,t)}(\sim \text{sponsor}, \text{cite})}{N_{(i,t)}(\sim \text{sponsor})} \quad (1)$$

Where n_t is the number of countries in year t , and $N_{(i,t)}(\text{sponsor}, \text{cite})$ is the number of resolutions sponsored by country i in year t that also cite country i at least once. S_t therefore represents the average difference in a country’s citation rate for resolutions that country sponsors versus those it does not, which we average across countries and years. For example, suppose that the UN passes 100 resolutions in year t , of which 18 cite country i and 82 do not cite country i . If i sponsors 12 out of 18 resolutions that cite i and 38 out of 82 resolutions that do not cite it, $S_{i,t} = \frac{N_{(i,t)}(\text{sponsor}, \text{cite})}{N_{(i,t)}(\text{sponsor})} - \frac{N_{(i,t)}(\sim \text{sponsor}, \text{cite})}{N_{(i,t)}(\sim \text{sponsor})} = \frac{12}{18} - \frac{38}{82} \approx 0.20$. As shown in Figure 10, we find support for our hypothesis: resolutions that are sponsored by a country are approximately 50-75 percentage points more likely to cite a resolution that country previously sponsored, compared with resolutions that country did not previously sponsor.

We conduct a similar exercise to compare sponsorship patterns based on defensive ally citation and sponsorship patterns. We focus on military alliances specifically, which, as a form of ‘deep’ agreement are likely to be a stronger relationship between states than trade or other types of shallow agreements. Previous findings support this decision.

Figure 10: Difference in citation proportion, sponsored vs non-sponsored resolutions



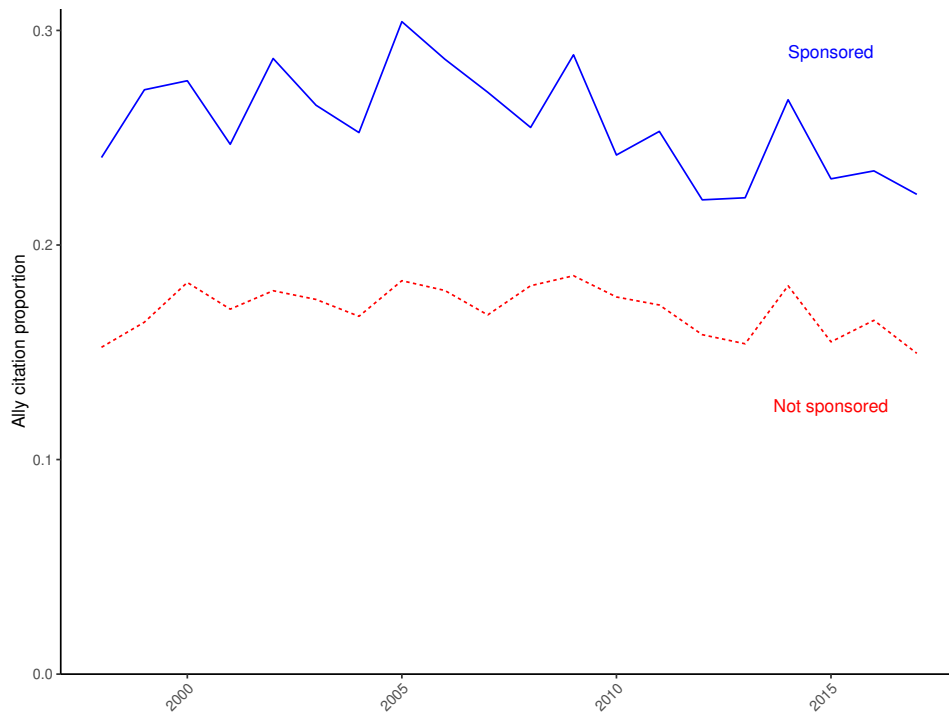
Joining together in the relatively shallow BRICS alliance, for example, did not increase co-sponsorship behavior between members (Dijkhuizen and Onderco 2019), while membership in the EU, an extremely deep alliance, led to coordinate co-sponsorship behavior on human rights resolutions (Smith 2006, 127). To examine ally citation and sponsorship patterns, we specifically calculate:

$$A_t = \frac{1}{|S_{(i,t)}|} \sum_{j \in S_{(i,t)}} (ally\%)_{(i,j)}$$

Where $S_{(i,t)}$ is the set of resolutions sponsored by country i in year t , and $(ally\%)_{(i,j)}$ is the proportion of country i 's allies that sponsored at least one resolution cited in resolution j . $A_{(i,t)}$ therefore represents the average proportion of country i 's allies that sponsored at least one resolution cited in resolutions sponsored by country i in year t . We calculate an equivalent version of this statistic for non-sponsored resolutions, and compare the two in Figure 11.

The results of this comparison also support our theoretical expectations. We find that the average proportion of a country's allies cited in resolutions sponsored by that country is approximately 10 percentage points higher than the average proportion of allies cited in resolutions not sponsored by that country. Since we only observe sponsorship and citation decisions at the end of the negotiation process, we cannot be sure of the causal direction between citation and sponsorship – that is, whether citation is a strategy to induce sponsorship, or whether sponsorship leads to the inclusion of citations. However, since sponsorship decisions usually come at the *end* of the negotiation process, this result suggests that citation patterns have some persuasive impact on downstream resolution sponsorship decisions.

Figure 11: Ally citation proportion, self-sponsored vs non-sponsored resolutions

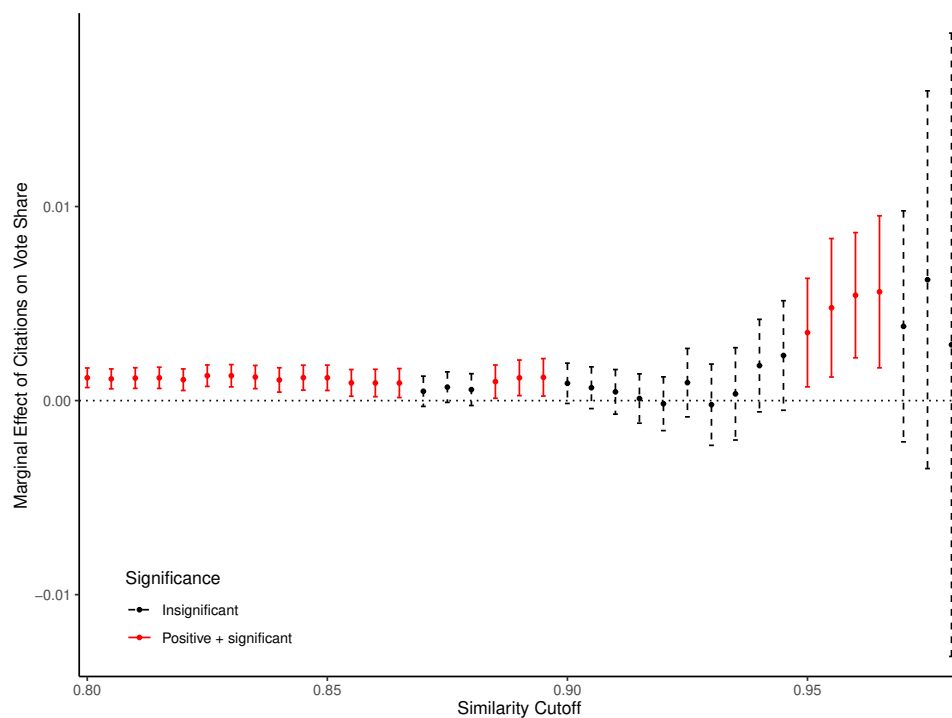


2.2 Voting

One possible concern with the in-text relationship between citations and votes among highly-aligned resolution pairs that we explore in text is that this relationship may depend on the number of total citations in the resolution pairs. Resolutions with many citations, in other words, may derive diminishing marginal political returns from additional citations. To partially address this concern, we replicate our in-text results while controlling for the total number of resolutions in the older resolution in each pair (Figure 12). We find that our results are essentially unchanged from our in-text results.

Importantly, this finding does not preclude the possibility of diminishing marginal returns from citation patterns. Among the set of highly-aligned pairs of resolutions, total citation counts are relatively uniform. For example, among the set of resolution pairs with a similarity score of 0.8 or higher, some 80% of pairs have 15 or fewer citations in the older document, compared with an overall in this set of 107 citations. As such, diminishing political returns to citation may be present in resolutions with a particularly large number of citations, but our data contain insufficient observations in this region to identify or rule out this pattern.

Figure 12: Relationship between votes and citations for highly-aligned resolutions is robust, controlling for the total number of resolutions



Note: OLS linear regression model. The dependent variable is the difference in proportion of yes votes between pairs of highly-aligned resolutions. The key predictor variable is the difference in the number of citations for each resolution. Each point represents a model fit with all pairs with similarity scores above a given cutoff. Fixed effects included for the year of each resolution in the pair.

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