Do IGOs socialize member states? A collection of synthetic control models

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IGOs exert pressures on member states to behave cooperatively with one another, and can even shape state interests toward convergence. This tendency is frequently explained with a theory of socialization, where IGOs serve as a social environment for states to interact. All else equal, states that are members of the same IGOs should interact more with one another. Utilizing a big data approach to collecting social interactions among states, I implement a synthetic control model to determine whether or not IGO accession has a measurable impact on the volume of social interactions with other members. Accession to an IGO actually generates a prominent decline in the volume of social interaction with fellow members. The purported socializing effects of IGOs may occur at an earlier point in time, when states are seeking to join. This calls into question how IGOs actually socialize members, when the effects are most potent, and whether the social environment model functions as expected.

Introduction

Joining intergovernmental organizations (IGOs) affects the behavior of states, creating the foundation for more cooperative relationships with fellow members. For example, joint membership in IGOs reduces armed conflict, increases trade, and leads to convergence in foreign policy preferences.[1] *Socialization* is the proposed mechanism that

[1] Zuzana Murdoch et al., "Do International Institutions Matter? Socialization and International Bureaucrats," *European Journal of International Relations* 25, no. 3 (September 1, 2019): 852–77,

translates IGO membership into this behavioral change, where new member states are inculcated with values and interests by older members. States are socialized by interacting with other states. Theoretically, states' interests converge because of this social interaction facilitated by intergovernmental organizations. In the environment of an IGO, state representatives are more likely to encounter and engage with one another. For this reason, attributing policy change to socialization is only plausible if there is actually an observable increase in social interaction among member states post-accession to an IGO. To determine the validity of this mechanism, I ask: do intergovernmental organizations (IGOs) actually increase the amount of social contact between states?

Instead of directly comparing the expected cause (IGO membership) and effect (cooperative behavior) as independent and dependent variables respectively, this study seeks to validate one portion of the expected causal mechanism of socialization. Moving empirical analysis to an earlier component of the causal chain offers new opportunities to examine how socializing processes function or fail to function. To gain empirical leverage on this theoretical model, I utilize the automated event dataset ICEWS to capture the frequency of interactions between state representatives. This measurement offers a metric to determine whether or not IGO co-membership leads to this expected increase in social interaction. To compare treated units against a counterfactual, I utilize a synthetic control design of several cases to determine the effect of accession compared to a weighted pool of non-members. This design permits a degree of causal inference as to whether the socialization hypothesis has merit via the expected mechanism of social interaction.

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https://doi.org/10.1177/1354066118809156; David H. Bearce and Stacy Bondanella, "Intergovernmental Organizations, Socialization, and Member-State Interest Convergence," *International Organization* 61, no. 4 (October 2007): 703–33, https://doi.org/10.1017/S0020818307070245.

Theory

International organizations serve as venues for state representatives to gather and deliberate in an institutionalized setting. Formally, they create institutional structures that promote pro-social behavior and discourage antisocial behavior. While individual IGOs are typically limited to a specific policy sphere, all IGOs function similarly as a nexus of social engagement and socialization. The forum of an IGO gives diplomats, bureaucrats and politicians a channel to interact with one another on a regular basis. In theory, through these sustained interactions, states' interests evolve to align closer to their fellow members. This is the case even without external incentive structures imposed by the IGO as an institution: social interaction alone has the capacity to fundamentally reshape state identities and interests without material changes. Interests and interactions are endogenous.

However, outside the constructivist literature, the notion that IGOs have any social effects is contested.[2] The opposing model that foregreounds ideology presumes that state preferences exist exogenous to interaction. From this perspective, state ideology changes first, and IGO membership is a lagging indicator of these changes that happen internally within the state. Joining an IGO is an action meant to promote a state's ideal ideological point within the framework of international institutions. This rational model has no place for the downward influence of IGOs back onto state interests, and so the possibility of socialization is excluded from consideration.

How can we begin to adjudicate between these two perspectives? The basic *ceteris paribus* claim I seek to test to this end is that co-members in an international organization interact more frequently than non-members. More frequent interaction is the baseline for giving any credence to a socialization hypothesis. This increase in interaction is way the socialization mechanism operates, and is responsible for higher-order

[2]Erik Voeten, *Ideology and International Institutions* (Princeton; Oxford: Princeton University Press, 2021), 106, https://doi.org/10.23943/princeton/9780691207322.001.0001.

effects commonly observed among co-members like interest convergence.[3] More broadly, socialization is both a process and an end-state. States undergo the process of *socialization* with the result of becoming *socialized* into certain patterns of behavior. As a process, socialization involves increased interaction among states and their representatives. These interactions have the capacity to persuade agents to change their behavior for harmonization. IGOs provide a formal context for this process. Within IGOs, the process of socialization can operate on multiple levels, ranging from socializing individual bureaucrats into organizational cultures,[4] or fundamentally reshaping state identities. In all cases, socialization demands an increase in the social interactions between member states.

Should the socialization mechanism work as expected, empirical analysis should be able to detect increasing levels of social engagement among state representatives after joining the same IGOs. The actual process of socialization operates through two channels: persuasion and social influence.[5] For both of these channels to operate effectively, there must be an increase in the total amount of social contact between states. One cannot be persuaded in the absence of contact. If social influence and/or persuasion through IGOs could lead to behavioral change, we should be able to demonstrate that that IGO co-membership actually drives social engagement.[6]

Large-N studies of IGO socialization frequently rest on the untested assumption that IGO co-memberships cause social interaction. With this assumption unquestioned, analyses of whether or not IGOs cause socialization focus on the end-state of state interests rather than verifying the causal mechanism functions as expected. Instead of measuring

[3] Bearce and Bondanella, "Intergovernmental Organizations, Socialization, and Member-State Interest Convergence"; Stacy Bondanella Taninchev, "Intergovernmental Organizations, Interaction, and Member State Interest Convergence," *International Interactions* 41, no. 1 (January 1, 2015): 133–57, https://doi.org/10.1080/03050629.2014.932784.

[4] Murdoch et al., "Do International Institutions Matter?"

[5] Alastair Iain Johnston, "Treating International Institutions as Social Environments," *International Studies Quarterly* 45, no. 4 (December 1, 2001): 495, https://doi.org/10.1111/0020-8833.00212.

[6] Johnston, 510.

the social interactions that constitute socialization as a process, the dependent variable of interest is the behavior patterns that should be conditioned into socialized states. This could be domestic political structures (polity scores) or foreign policy preferences (UNGA voting patterns). By focusing on the end-state rather than the process, the question of whether joint IGO membership actually increases the level of *substantive* interstate interaction is bracketed in favor of examining this link between joint membership and interest convergence.[7] In these cases, joint membership in an IGO is considered to be *prima facie* evidence of interaction, given the fact that agents of member states are present in a particular setting. However, simple participation in an IGO, even in a position of authority, does not necessarily result in cooperative behavior consistent with a socialization hypothesis.[8]

Figure 1 illustrates how the socialization causal chain operates. IGO membership leads to an increase in interaction among member states, which leads to interest convergence. Instead of using the beginning (IGO membership) and end points (interest convergence) as the independent and dependent variables respectively, this study focuses on the first section of the causal mechanism by determining whether or not IGO co-membership results in increased levels of interaction between state representatives. Without a distinctive increase in the level of interaction between state agents post-accession, the plausibility of a causal chain linking IGO membership and interest convergence becomes doubtful. A clear increase in the general level of interaction be-

[7] Bearce and Bondanella, "Intergovernmental Organizations, Socialization, and Member-State Interest Convergence"; Anne Wetzel, "International Socialization: From Studying Effectiveness to More Effective Studies?" in *Studying "Effectiveness" in International Relations: A Guide for Students and Scholars*, ed. Hendrik Hegemann, Regina Heller, and Martin Kahl (Opladen: Barbara Budrich Publishers, 2013), 185; Taninchev, "Intergovernmental Organizations, Interaction, and Member State Interest Convergence," 140; Paul Poast and Alexandra Chinchilla, "Good for Democracy? Evidence from the 2004 NATO Expansion," in *Evaluating NATO Enlargement: From Cold War Victory to the Russia-Ukraine War*, ed. James Goldgeier and Joshua R. Itzkowitz Shifrinson (Cham: Springer International Publishing, 2023), 341–71, https://doi.org/10.1007/978-3-031-23364-7_11.

[8] Erik Voeten, "Does Participation in International Organizations Increase Cooperation?" *The Review of International Organizations* 9, no. 3 (September 1, 2014): 285–308, https://doi.org/10.1007/s11558-013-9176-y.

tween co-members, however, would be good evidence that IGOs offer the context for socialization.

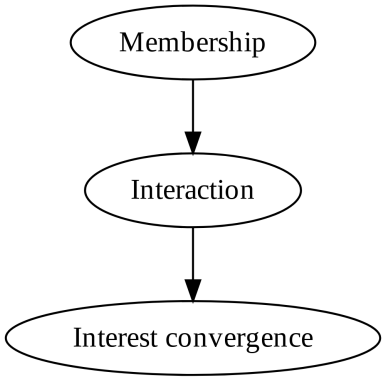


Figure 1: Causal chain of the IGO socialization process

Interaction between states through IGOs takes place on multiple levels, some more consequential for socialization than others. On one level, state bureaucrats conduct routine affairs of states within the context of an IGO. Above that, higher-level representatives interact with one another and socialize at the political level.[9] Lower-lever bureaucrat interaction is routinized and fairly mundane, and is less plausible as a mechanism for the political socialization of state identity.[10] For this reason, a socialization process is more plausible when social interactions occur between high level officials of state. In such a situation, the potential for persuasion is far greater.

Finally, there are two sets of effects to consider: anticipation and actual effects. Prospective membership in an international organization is a commonly employed foreign policy carrot to drive behavior in a preferred direction. Many international organizations have Anticipation for membership in certain international organizations can account for changes in behavior.[11] The exact timing of any increase in social interac-

[9]Bearce and Bondanella, "Intergovernmental Organizations, Socialization, and Member-State Interest Convergence," 3.
[10]Voeten, *Ideology and International Institutions*, 106.
[11]Poast and Chinchilla, "Good for Democracy?" 345.

tion has theoretical implications: a socialization effect should involve some lag between formal membership in an IGO and the actual increase in social engagement. If the increase is due to anticipation effects, it is not membership itself that performs the causal labor, rather membership is the end-state of socialization. In order to gauge the effects of IGO membership on social engagement, I use most likely cases for institutional socialization. The IGOs with the highest capacity for socialization are those that involve deep integration, which in turn should increase interaction the most as well. The cases I use include the EU, NATO and the WTO. Each of these cases has been extensively examined elsewhere as case studies for socialization.

These cases were chosen because of their prominence in analyses of socialization. More than any other organization, the European Union is the most likely case for a constructivist model of socialization, and has the broadest related set of empirical studies.[12] The strict conditions on membership and the deep level of integration make the European Union (EU) a critical case in terms of demonstrating the potential for socialization within IGOs. Additionally, findings in studies of the EU are considered broadly generalizable for answering questions about international institutions in general.[13]

NATO represents another most likely case for state socialization. What makes NATO particularly interesting is how explicitly social the integration process has been shown to be: qualitative analysis of Romania and the Czech Republic's accessions to NATO

[12]Michael Zürn and Jeffrey T. Checkel, "Getting Socialized to Build Bridges: Constructivism and Rationalism, Europe and the Nation-State," *International Organization* 59, no. 4 (October 2005): 1045–79, https://doi.org/10.1017/S0020818305050356; Jeffrey T. Checkel, "International Institutions and Socialization in Europe: Introduction and Framework," *International Organization* 59, no. 4 (October 2005): 801–26, https://doi.org/10.1017/S0020818305050289; Jeffrey T. Checkel, "Tracing Causal Mechanisms," *International Studies Review* 8, no. 2 (June 1, 2006): 362–70, https://doi.org/10.1111/j.1468-2486.2006.00598_2.x; Jan Beyers, "Conceptual and Methodological Challenges in the Study of European Socialization," *Journal of European Public Policy* 17, no. 6 (September 1, 2010): 909–20, https://doi.org/10.1080/13501763.2010.487004; Murdoch et al., "Do International Institutions Matter?"; Nicola Chelotti, Niheer Dasandi, and Slava Jankin Mikhaylov, "Do Intergovernmental Organizations Have a Socialization Effect on Member State Preferences? Evidence from the UN General Debate," *International Studies Quarterly* 66, no. 1 (March 1, 2022): sqab069, https://doi.org/10.1093/isq/sqab069.

[13]Checkel, "International Institutions and Socialization in Europe," 817–18.

has vividly illustrated how a tutelage relationship affected state interests more than any material incentives.[14] NATO membership creates the context for developing deep and substantive relationships among member states at multiple institutional levels. The creation of many institutionalized points of contact in new NATO member states should increase the level of interaction dramatically. This interaction ultimately has an effect on domestic politics, as thoroughly as promoting democratic institutions.[15] Because many of the points of contact were established after formal accession into NATO, this could be a case where accession has a measurable impact on interaction frequency. At the same time, the process of socialization into NATO begins long before formal accession, with intermediate status like the development of a Membership Action Plan potentially being as important or more important than formal accession.

Finally, I also include the case of China's accession into the WTO. Actually attaining membership of the WTO was has been attributed to the culmination of a longer socialization process resulting from the elite's exposure to ideas in neoclassical economics.[16] This makes it an interesting case in terms of understanding the actual causal impact of accession. In this case, it is likely the lion's share of interaction growth was generated by the anticipation of joining the WTO, rather than by membership itself. The accession of China into the WTO was the result of "rushing" behavior, which involves extensive concessions in order to gain membership.[17] Actual accession to the WTO could be seen as a marker of the end-state of being socialized, rather than part and parcel of the

[14] Alexandra Gheciu, "Security Institutions as Agents of Socialization? NATO and the 'New Europe'," *International Organization* 59, no. 4 (October 2005): 973–1012, https://doi.org/10.1017/S0020818305050332.

[15] Poast and Chinchilla, "Good for Democracy?"

[16] Qingxin K. Wang, "The Rise of Neoclassical Economics and China's WTO Agreement with the United States in 1999," *Journal of Contemporary China* 20, no. 70 (June 1, 2011): 449–65, https://doi.org/10.1080/10670564.2011.565177; Qingxin K. Wang and Mark Blyth, "Constructivism and the Study of International Political Economy in China," *Review of International Political Economy* 20, no. 6 (December 1, 2013): 1290, https://doi.org/10.1080/09692290.2013.791336.

[17] Quddus Z Snyder, "The Illiberal Trading State: Liberal Systemic Theory and the Mechanism of Socialization," *Journal of Peace Research* 50, no. 1 (January 1, 2013): 33–45, https://doi.org/10.1177/0022343312460394.

socialization process itself.

Data

Capturing the social interactions of state representatives in a multitude of contexts is beyond the scope of any hand-coded dataset. Instead, I utilize a big data approach, based on a subset of the automated event data source ICEWS. Event data are observations of bilateral interactions between state (and sub-state) actors, captured by scraping and processing media reports. In the ICEWS data, each individual observation in the data represents an "event" generated from a news story found online. Because the data includes a broad array of conflictual and cooperative interactions among states, event data has untapped promise in empirical constructivist studies of international relations. For the purposes of modeling state socialization, I extract what I consider to be explicitly *social* interactions between states that should have the potential for socialization. This includes events like meetings between high level state representatives.

ICEWS is based on the automated coding of media reports from a wide variety of national and international news sources. With interpretation by a natural language processor, the algorithm creates individual event observations that follow an ontology named CAMEO. Each event has a source, target, date and event class. For example, consider a news report with beginning with the sentence: "German Chancellor Angela Merkel will visit President Emmanuel Macron at his summer residence on the Mediterranean on Aug. 20, the French presidency said on Friday."[18] In this case, the source is Germany, the target is France, and the event is classified as "express intent to meet or negotiate". This event type has higher levels of aggregation, with the next level up being "express intent to cooperate", and at the most general level it is classified as a "cooperative" event.

Reliance on media reports is a potential weakness of event data, because the systemic

[18]https://www.reuters.com/article/us-france-germany-eu-idUSKCN25A1AC

biases of media interests are reflected in the structure of captured events. Some types of events are more likely to be over- or underrepresented. Journalistic decisions regarding newsworthiness have practical implications regarding what gets captured and what doesn't in an event dataset, and the interests of journalists are not identical with the interests of modelers. For example, routine contact among lower-level bureaucrats is less likely to gain media coverage, because it lacks newsworthiness. Higher-level meetings between major politicians, however, are quite likely to gain media coverage because of their publicity. In the context of state socialization, this is an acceptable trade-off: high publicity events are more likely to have socializing potential. For this reason, automated event data is an acceptable source of data for capturing relevant events.

The main dependent variable of interest is the *volume* of social interactions with the potential for socialization. ICEWS classifies events based on a framework called CAMEO. From this, I select the event class of CONSULT to represent the idea of social interactions. While I aggregate events to this level, this event class consists of six subcategories: discuss by telephone, make a visit, host a visit, meet at a "third" location, mediate, and engage in negotiation. One example of a CONSULT event is coded from the sentence: "Taiwan's Vice Foreign Minister visited Russia today, becoming the island's highest ranking government official to go there." In this case, the source is Taiwan, the target is Russia, and the event subcategory is "make a visit". A second event is also coded from this sentence, a reciprocal "host a visit" event where the source is Russia and the target is Taiwan. A visit from a high level government official, in this case the Taiwanese Vice Foreign Minister, to another country is an excellent case of a potentially socializing interaction. A substantive growth in this metric should reflect a genuine increase in the number of potentially socializing interactions.

Making this aggregation choice requires trade-offs. Although the CONSULT class of events is only one of 20 mid-level classes defined in the CAMEO ontology, CONSULT events comprise over 41 percent of the total events captured by ICEWS. Because this

event class is both reasonably precise in terms of applicability to the theory (as proxy for social interaction) and yet abundant in terms of available data, it strikes an excellent balance between these two empirical concerns. This measure of social interaction captures data not as systematically curated as international trade or military action.

In order to limit the impact of duplicate events and outliers, a common concern with ICEWS data, I implement a one-a-day filter as described by Philip A. Schrodt and David Van Brackle[19]. The assumption this filter rests on is that it is unlikely that more than one CONSULT event actually takes place on a given day, so any additional event entries are most likely duplicates. In practice, this filter aggregates all events with the same combination of source country, target country, date and event subcategory. This effectively limits the monthly count of any CONSULT event subcategory (like "discuss by telephone") between two actors to a maximum of 31, if the event was captured at least once per day that month. This dramatically reduces the variance in the number of events, and results in data that approximates the ground truth more accurately.

All event data sources based on online news reports have a tendency to overrepresent events in more recent periods. This is due to a increase in the number of ingestible online sources, rather than any real-world increase in the number of international events. While not the most prone to this bias, ICEWS data is still of the higher quality in the years post-2000. The coded data does extend further into the past, but including this data would make unrealistic temporal comparisons because of this bias. For this reason, all the time series I use in this analysis are left-censored prior to 2000, in order to avoid drawing spurious conclusions based on structural features of event data.

With post-2000 data available, I aggregated data on all countries CONSULT events with the members of the EU prior to the 2004, 2007 and 2013 accession waves. In addition, I constructed the same for NATO prior to the 2007 wave, and the WTO

[19] "Automated Coding of Political Event Data," in *Handbook of Computational Approaches to Counterterrorism*, ed. V.S. Subrahmanian (New York, NY: Springer, 2013), 43, https://doi.org/10.1007/978-1-4614-5311-6_2.

prior to the 2001 accession of China. The resulting five datasets are time-series cross-sectional data containing the number of monthly CONSULT class events that were captured between an IGO's member states and all other states in the world. In the EU datasets, for example, each observation is aggregated to the country-month level for the number of reported consultation events the country held with all EU members.

Models

To properly evaluate the social effects of IGO accession based on a Rubin causal model, we would compare the interaction levels of a newly acceded country with a counterfactual that did not accede to the same IGO. This would directly compare states exposed to the treatment (IGO co-membership) to states that remained unexposed. Rather than selecting a single state to serve as the counterfactual, I implement a generalized synthetic control.[20] This technique constructs a hypothetical counterfactual out of a weighted pool of real counterfactual states. These weightings are assigned by an algorithm that seeks to minimize the difference between the pretreatment trend of the treated unit(s) and the synthetic control. This takes any autonomy out of the researcher's hands. Broadly, there's too much variation between individual countries to simply pick one as a counterfactual, and so the weighted synthetic control averages across many of these unobserved differences. Secondly, in the context of ICEWS data, a synthetic control design generates a counterfactual that more closely mirrors the pretreatment trend of the treated unit(s). Pretreatment trends are not parallel between treated and untreated units, violating one of the key assumptions of a difference-in-difference approach.

The popularity of the synthetic control model has inspired augmentations to the base model. One of the major problems with the use of ICEWS in the traditional synthetic control model is that it is difficult to achieve good pretreatment fit between

[20] Yiqing Xu, "Generalized Synthetic Control Method: Causal Inference with Interactive Fixed Effects Models," *Political Analysis* 25, no. 1 (January 2017): 57–76, https://doi.org/10.1017/pan.2016.2.

the treated and synthetic units because of the relative stochasticity of the data compared, to, say, economic statistics. The number of events between two actors can vary wildly from month to month, and it's difficult to recreate the exact same trajectory with data from other relationships which have their own idiosyncrasies. To allow for greater pretreatment fit, I implement a newer generalized synthetic control model. Unlike the traditional synthetic control model, the generalized model can achieve greater pretreatment fit because it allows for negative weighting of donor pool countries. This is effectively extrapolating from the observed data, but in this circumstance it is preferable to comparing the treated units with a poorly fitted synthetic control.

In this case, our synthetic control model utilizes time-series cross-sectional data. Each unit (state) needs to have an interaction trend with the members of an IGO that can be examined as an individual time series. With these time series, we can construct the counterfactual and compare the post-treatment trend with the treated unit. ICEWS data is generated as dyadic data (state to state), and so it must be converted into the time-series cross-sectional format. I aggregated events from the directed dyadic format into an IGO-state undirected format for each of the cases below. The IGO-level interaction aggregations include all the members of the IGO prior to the treatment time, which specifically excludes the treated unit. Because all the CONSULT events code reciprocal events (an event from country A to B also generates an event back from B to A), I chose not to differentiate between the dyadic directions. Finally, because of the large degree of noise present in ICEWS monthly event counts, I smooth the data for the synthetic control model fairly aggressively with a 12-month moving average.

To take the case of the EU's 2004 expansion as an example, this results in a time-series cross-sectional dataset with three columns: year-month, country, and number of CONSULT events captured by ICEWS. Each entry in the dataset represents the number of consultative events in that month between a country and all members of the European Union as of 2003, the year prior to the treatment. Then, we can compare the interaction

levels of the new 2004 entrants into the EU with a counterfactual constructed from other countries that did not join the EU that year. The counterfactual's donor pool consists of European countries that are neither EU members nor the treated units. In other cases, like NATO and the WTO, the donor pool's geographic limitations are relaxed to include countries outside Europe.

Finally, states experience anticipation effects in advance of formal accession into an IGO. We need to differentiate between these anticipation effects and the actual effects of IGO accession. In many cases, these anticipation effects are very much part of the accession process. States need to meet a set of criteria prior to formalizing their membership, which should cause them to exhibit anticipation effects as consultations with member states should be common in the lead-up to actual membership. To address these concerns, I employ backdating in one of the cases.[21] Because many socialization theories hypothesize that effects operate *within* the context of being joint members of the same IGO, however, I first chart the effect of accession itself rather than the anticipation effects.

Results

These plots demonstrate the difference in each of the cases between the average interaction levels of the new acceding members and non-acceding states with the IGO. Each case has two plots: one to show the overall trends of the treated and counterfactual units, and another to demonstrate the difference between the two post-treatment. In all cases, the treated units differ in their interaction levels compared to the synthetic counterfactual. The units of time are months, with most of the models spanning approximately 24 months pre- and post-treatment depending on the availability of quality data.

[21] Alberto Abadie, "Using Synthetic Controls to Evaluate an International Strategic Positioning Program in Uruguay: Feasibility, Data Requirements, and Methodological Aspects," *Inter-American Development* 1 (2011): 1–19.

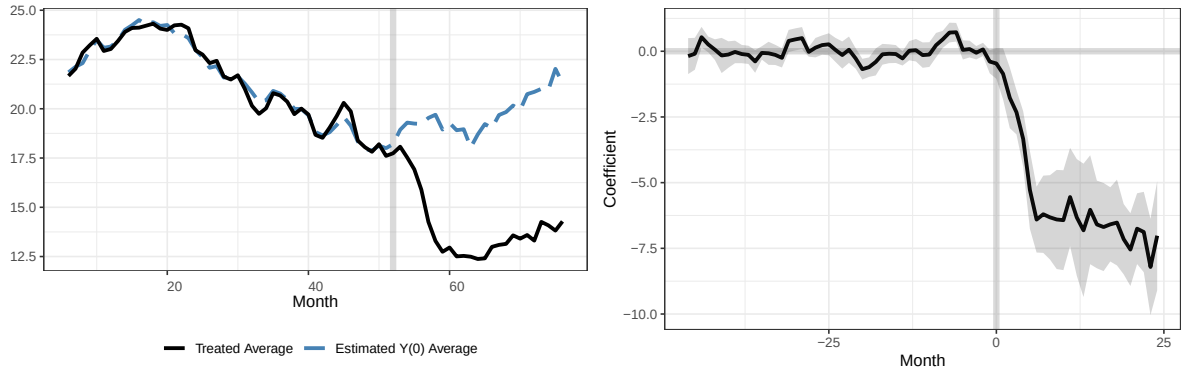
In total, the plots demonstrate the effect of the IGO accession treatment on the treated compared to synthetic counterfactuals. In the case of two of the EU models (2004 and 2007) plus the NATO model, these are average treatment effects for multiple treated units. Ten countries acceded to the European Union at the same time in 2004, and two countries acceded at the same time in 2007. In the case of Figure 4, this is a case of a single treated unit.

Beginning with the EU's 2004 accession wave in Figure 2, there is a dramatic drop in the volume of interaction events 24 month period following accession into the EU. While there is a less marked decrease in the run-up to accession, the synthetic counterfactual rebounds with a degree of stability while the treated units continue to fall faster.

The next EU accession wave in 2007 is charted in Figure 3. While the dropoff compared to the counterfactual is less immediately apparent, the difference between the two is significant by the 24 month post-accession point. While the counterfactual rebounds from a long-term decrease leading up to the treatment time, the treated units do not similarly recover.

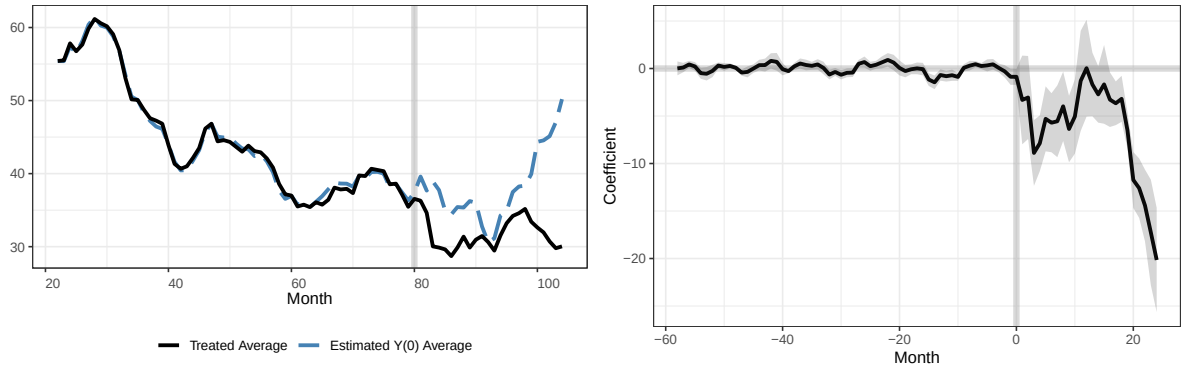
The most recent accession to the European Union, that of Croatia, has an another interesting trajectory compared to the synthetic counterfactual. As seen in Figure 4, there is a substantial rebound in the interaction levels of the counterfactual immediately after the accession, while the treated unit (Croatia) takes a much longer time to recover. Ultimately, by the 24 month mark post-treatment, there is no significant difference between the synthetic counterfactual and the treated unit.

The case of NATO in Figure 5 demonstrates the same trend as the previous two cases, but to a remarkably clear degree. While both the treated and counterfactual units follow the pre-accession trend of declining over the preceeding two years, post-accession, the volume of social interaction between new member states and existing member states never recovers in the treated unit. In contrast, the synthetic counterfactual continues to drop for a period, but then rapidly rebounds. The average treatment effect seen in



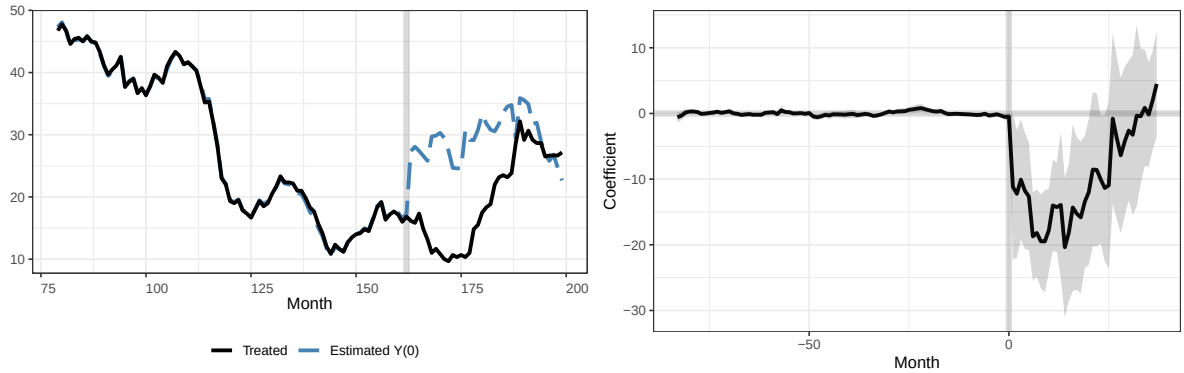
(a) Counterfactual (b) ATT

Figure 2: European Union 2004 accession waves



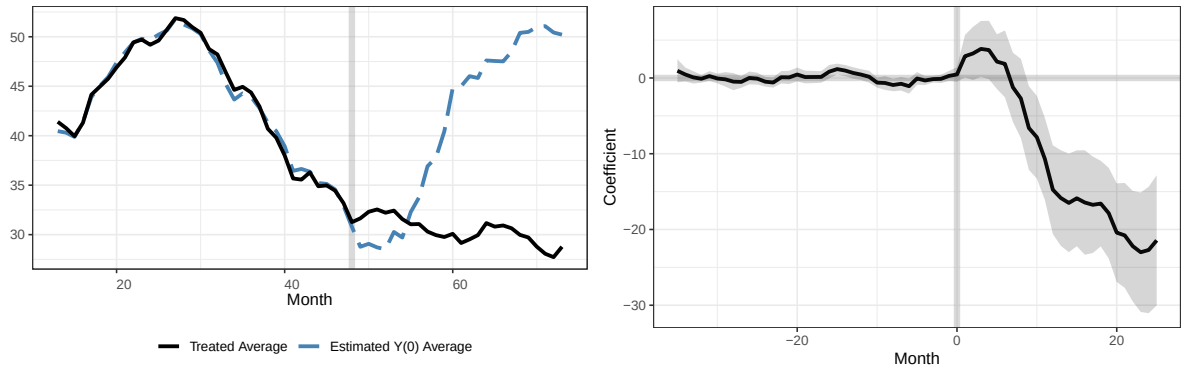
(a) Counterfactual (b) ATT

Figure 3: European Union 2007 accession wave



(a) Counterfactual (b) ATT

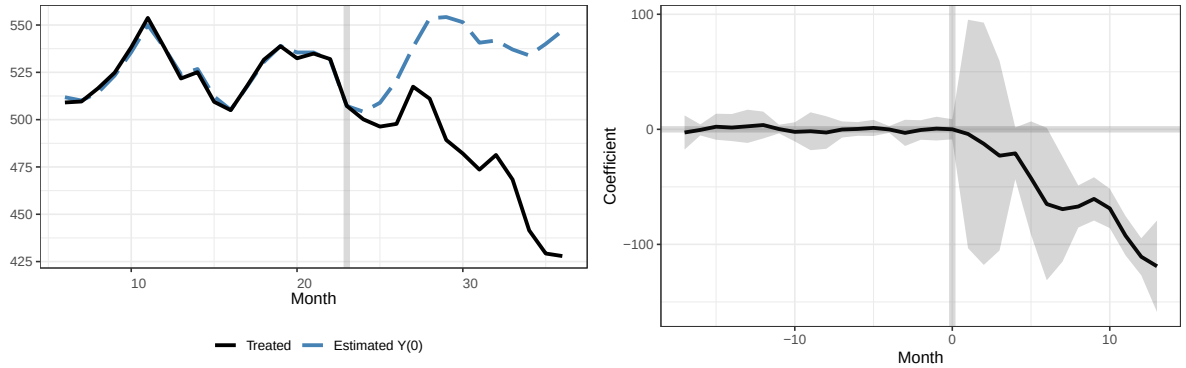
Figure 4: European Union accession of Croatia



(a) Counterfactual (b) ATT

Figure 5: NATO 2004 accession

Figure 5b shows that the short period in which in the counterfactual had less interactions with the existing members post-treatment was not significantly different from the treated units. The longer-term difference between the counterfactual and treated units in the 24 month period post-treatment, however, results in a very big and significant gap.



(a) Counterfactual (b) ATT

Figure 6: WTO2001 accession

In the case of the WTO, I right-censored the time series to 12 months in order to avoid making too extensive of predictions based on limited training data. For this reason, both the pre- and post-treatment periods are approximately a year. Even with this limitation, there's a clear decrease in interaction intensity for China post-accession compared to the

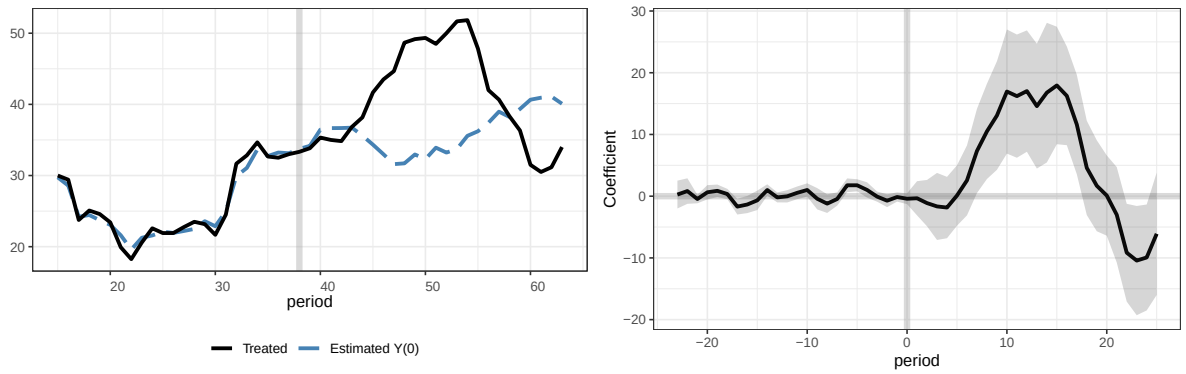
synthetic control.

In total, these results are a bit counterintuitive when we begin from the expectation that accession is what enables membership. To test for the separate anticipation effects of membership, I run a backdated analysis based on the previous model from Figure 4. This backdated model can be seen in Figure 7. In this case, the treatment is not accession into the IGO, but rather the granting of candidate country status to Croatia by the European Council in 2004. This status marked the beginning of accession negotiations, which serve as a key mechanism to socialize states into a pattern of behavior before bestowing the crowning marker of membership. We can see in Figure 7 that post-candidacy, there is a marked increase in the interaction volume over the course of the next two years.

At least in the case of the EU, we can see from the combined cases that any interaction increases are distinct from accession into the organization itself. Given the strict requirements imposed on prospective member states, this is not surprising; states must present themselves as a fully socialized member of the European community prior to gaining full membership in the union. From this perspective, it is not IGO membership itself that acts as the socializing force, but rather membership is an incentive to promote change. Membership in these organizations is difficult to rescind once granted. Once a state becomes a member, the incentive to behave cooperatively diminishes; there is no formal mechanism to expel a member state.

Conclusion

The results of the synthetic control models are surprising: there is a marked *decrease* in the number of cooperative events between IGO member countries and new members in each of these cases after accession. The theory of IGO socialization would hypothesize that cooperative interactions should increase as a result of membership. A decrease means the causal mechanism may not be functioning as expected, and we should recon-



(a) Counterfactual (b) ATT

Figure 7: Backdated croatia (2004)

sider how IGOs facilitate the socialization process. The case of Croatia's EU candidacy shows that IGOs have at least some measurable social effects, however, but these effects may be activated at an earlier point in the IGO accession process.

Anticipation effects prior to membership may be more important in terms of socializing states than accession effects. Instead of the interaction facilitated by IGOs, it may be the conditions they are required to fulfill prior to membership being bestowed that are responsible for increasing social engagement. In particular, the increase in Figure 7 implies that the socialization effect primarily takes effect prior to the actual accession. This is further supported by the other EU cases included, and other qualitative analyses of NATO and WTO accession processes. Actual membership may function more as a marker of a completed socialization process, rather than the venue for socialization to take place.

This discrepancy in how the socialization mechanism functions has implications for the way we model state socialization in international relations. For example, many large-N quantitative studies of IGO effects employ a lagged independent variable for joint IGO memberships. If the socialization effects predate the actual accession, the validity of this approach is in question. The extent of the lag differs from study to study, ranging from one to four years. The analyses conducted here in most cases extend two

years post-accession to an IGO, within which we should see any expected socialization effects begin to take root.

While not as easy as utilizing the Correlates of War project's IGO data, studies should take more seriously candidacy and other pre-accession statuses rather than full membership. For example, in version 3 of the COW IGO data, Croatia transitions directly from a non-member to a member in 2013. While accurate to the coding schema, this fails to capture many types of intermediate socializing relationships that are of interest to modelers. Large cross-national models of interest convergence resulting from IGO co-membership should keep this limitation in mind.

More broadly, this also has implications regarding the wisdom of engagement and accession into IGOs. If the peak of socializing influence is pre-accession, where membership is held out as a motivational carrot, then our expectations of the socializing influence post-accession should be moderated. State interests and identities may be less malleable without the social pressures of "rushing" or similar situations. After membership has been granted, especially in organizations like the EU that lack expulsion mechanisms, the incentive to intensively socialize may decrease.

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