

# When Do States Say Uncle? Network Dependence and Sanction Compliance

Cassy Dorff

Shahryar Minhas

`cassy.dorff@duke.edu`

`shahryar.minhas@duke.edu`

March 16, 2014

## **Abstract**

This article explores when and why states comply with sanctions. Previous literature has suggested a duration modeling approach is needed to adequately capture the time it takes for a sanction to “work.” This approach, however, has failed to carefully account for important dynamics relevant to the modeling of sanction outcomes. Namely, present duration approaches fail to incorporate the network effects intrinsic to international sanction processes. At any given time, target states typically face both a network of sanctioners for an individual sanction case, as well as a general network of sanctioners including senders from multiple cases. We present a model that incorporates this interdependent nature of the international system by including network effects within the duration model. In addition, we are able to test whether traditional conditions that the literature claims as critical for predicting sanction compliance, such as domestic institutions, are still influential once network dynamics are adequately modeled. In doing so we are able to test two key hypothesis: (1) does dependence between the target state and its sanctioning network increase the probability of target compliance; and (2) do domestic institutions condition network effects?

# 1 Introduction

Previous literature suggest that sanctions “work” by destabilizing leaders and domestic institutions. Lets parse out these state-level arguments and then write them in juxtaposition to newer network work in IR. Conclude with how we are going to provide a more accurate test of institutions hypotheses by incorporating network dependencies into the duration framework.

## 1.1 Literature Review

- Domestic factors: marinov 2005, Lektzian and Souva 2003
- Duration modeling: Bolks Al Sowayel 2000, McGillivray and Stam 2004
- Network: Bapat and Morgan 2009, Cranmer and Heinrich 2013
- Networks in IR: Ward and Cranmer etc.

## 2 Theory

Duration approach fails to incorporate network pressures. We conceptualize network pressures in three main ways. First by capturing how other interactions between states—such as trade—might influence sanction compliance. Second, we consider that target states often face multiple sanctions by multiple sanctioners at one time. Third, we consider that reciprocal compliance occurs over time between states within the network. We incorporate all three of these relational effects into our duration model and assess whether these network dynamics condition the effect of domestic institutions.

- Sanction Case Network: The relationship between sender(s) and the target matters for sanction compliance. Sanctions involving coalitions of sender(s) will be more quickly resolved than sanctions sent by just one state. Sanction cases where relationships are more proximate will be more quickly resolved.
- Aggregate Network: Targets of sanctions often face a multitude of sanction cases at any given point in time. States under the pressure of a multitude of sanctions will more quickly resolve sanction cases than those facing only a few.
- Target states with stronger democratic institutions that are under the pressure of sanctions will more quickly comply than those with less democratic institutions. Sanctions are designed to impose costs on key groups within countries. Affected groups will lobby the government to reach an accommodation with sanctioning

states. The ability to successfully lobby is dependent upon political institutions (Manin, Przeworski and Stokes 1999; Barro 1973; Ferejohn 1986)

### 3 Conceptualizing Networks

Two types of network effects that we capture:

- Sanction Case Network
  - Number of senders associated with a sanction case
  - Distance: The average distance between sender(s) and the receiver
  - Trade: The share of total trade that the sender(s) make up for the receiver
  - Alliances: The proportion of sender(s) that are allied with the receiver
  - IGOs: The average number of common IGOs that the sender(s) and receiver belong to
  - Religion: Similarity of religious group makeups between sender(s) and the receiver
- Aggregate Network
  - Sanctions Received: Total number of sanctions to which the target state is currently exposed

Add in reciprocity talk here.

### 4 Empirics

Threat and Imposition of Sanctions Database (Morgan 2009) provides information on 1,412 sanction case initiations and outcomes from 1945 to 2005. Our focus is economic sanctions and the period of 1984 to 2005, providing us with 184 sanction cases. Our unit of analysis is the sanction case-year, providing us with a total of 1,920 observations

We define compliance as:

- Complete/Partial Acquiescence by Target to threat
- Negotiated Settlement
- Total/Partial Acquiescence by the Target State following sanctions imposition
- Negotiated Settlement following sanctions imposition

## 4.1 Modeling Approach

$$\begin{aligned}
Compliance_{i,t} = & No. Senders_j + Distance_{j,t} + Trade_{j,t} + \\
& Ally_{j,t} + IGOs_{j,t} + Religion_{j,t} + \\
& Sanc. Rec'd_{i,t} + \\
& Constraints_{i,t} + GDP Capita_{i,t-1} + \\
& Internal Conflict_{i,t} + \\
& Constraints_{i,t} * No. Senders_j + \epsilon_{i,t}
\end{aligned}$$

- $i$  represents the target of the sanction
- $j$  represents the relationship between the set of sender(s) for a particular sanction case and  $i$
- $t$  the time period

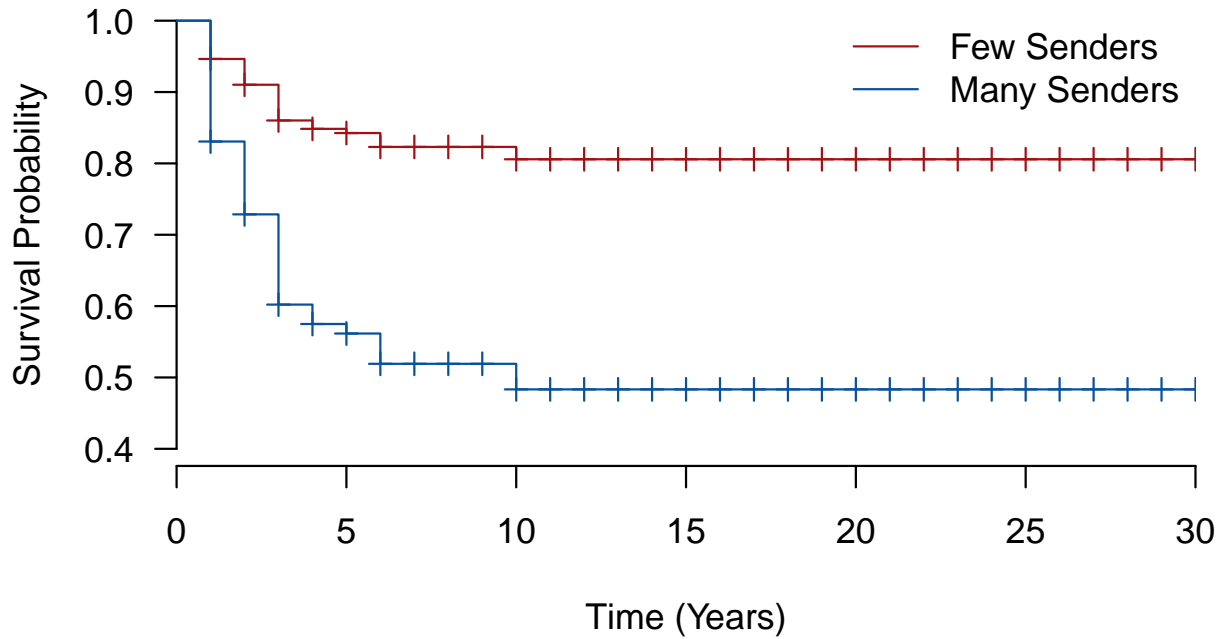
## 5 Results

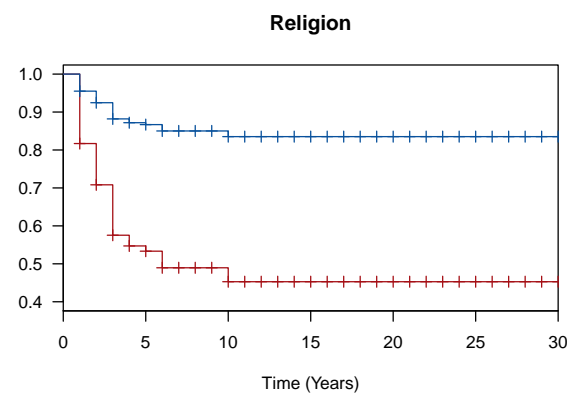
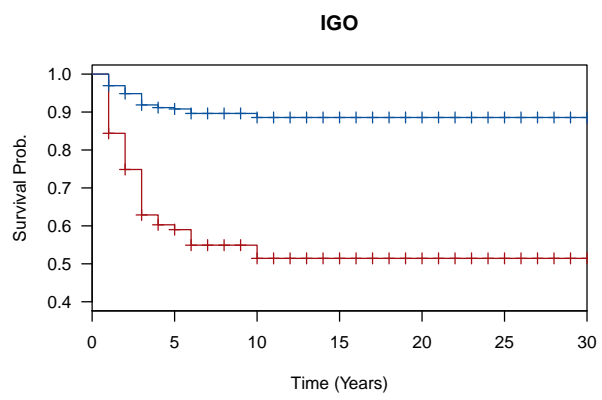
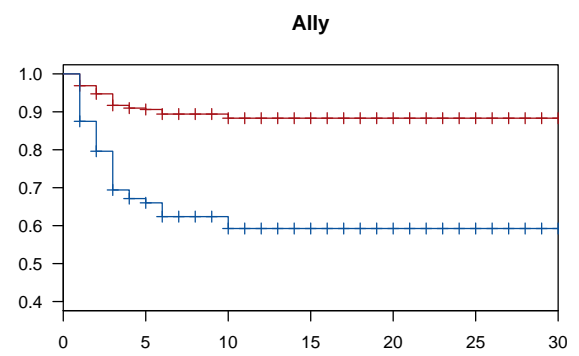
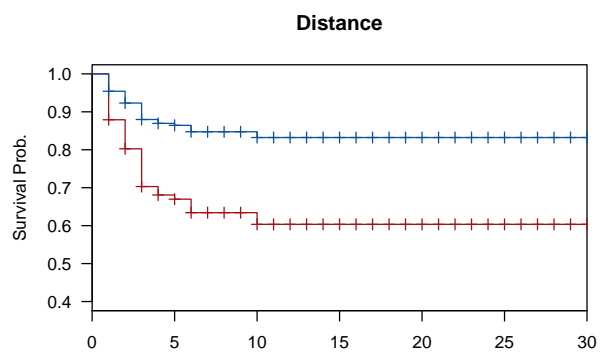
**Table 1:** Duration Model Summary

	$\hat{\beta}$	$\hat{\sigma}$	$\Pr(> z )$
Case Network Measures			
Number of senders	0.59	0.15	0.00
Distance	-218.15	97.87	0.03
Trade	0.65	0.85	0.44
Ally	1.12	0.49	0.02
IGOs	-0.03	0.01	0.04
Religion	-0.90	0.40	0.02
Aggregate Network Measure			
Sanc. Recieved	-0.06	0.09	0.49
Controls			
Constraints	0.02	0.04	0.69
GDP per Capita (lagged)	-0.00	0.00	0.43
Internal Conflict	-0.03	0.08	0.74
Time at risk = 1,027			
Number of cases = 154			
Number of compliances = 44			

**Table 2:** Duration Model with Interaction

	$\hat{\beta}$	$\hat{\sigma}$	$\Pr(> z )$
Case Network Measures			
Number of senders	1.21	0.36	0.00
Senders*Constraints	-1.66	0.92	0.07
Distance	-253.00	102.73	0.01
Trade	0.50	0.84	0.55
Ally	1.44	0.54	0.01
IGOs	-0.02	0.01	0.12
Religion	-1.33	0.45	0.00
Aggregate Network Measures			
Rec'd Sanctions	-0.13	0.10	0.20
Controls			
Constraints	-0.58	1.61	0.72
GDP per Capita (lagged)	-0.00	0.00	0.38
Internal Conflict	0.03	0.09	0.71
Time at risk = 1,027			
Number of cases = 154			
Number of compliances = 44			

**Figure 1:** Survival Probability by Number of Senders in a Sanction Case



## 6 Conclusion