Lobbying Strategy Diffusion in Canadian Politics: a latent network approach

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Introduction

Studies of lobbying in North America have tended to focus largely on activities and strategies of interest groups and their lobbyists in American politics. However, the lax reporting requirements of the Lobbying Disclosure Act limit scholars' ability to systematically address detailed questions about these groups behavior and their strategic environments at scale. In this project, we find more fertile ground for enquiries of this kind by turning to Canada, which has similar registration laws as the United States, but requires significantly more detailed reporting of lobbying communications. These data allow us to begin to explore topics that require granular knowledge of interest group activity over time such as the manner in which interest groups' lobbying strategy is informed by the concurrent lobbying activity of other ally or opposing interests.

In this project we investigate the extent to which interest groups exhibit "flocking" behavior in the decisions they make over which government officials to communicate with on particular topics. This literature has explored coordination among interest groups through coalitions [5].

Data

We use data from Office of the Commissioner of Lobbying of Canada to build a network of communication between lobbyists and government officials with daily resolution between 2008 and May 5th 2015, when we downloaded the up-to-date lobbying registry data. Lobbyists (both in-house and consultant) file communication reports on behalf of their clients (interest groups) in which they report the dates of all communications with designated public officials (DPOHs) and the subject matter discussed. Subject matter is a selection the lobbyist made from a predesignated set of options. We use these data to explore patterns of emulation and following in lobbying strategies within the network. We define a particular strategy, s_i, as the act of lobbying a particular DPOH on a particular subject. We define a potential instance of strategy diffusion between two interest groups, x and y, as occasions when interest group x is engaged in s_i at time t and interest group y adopts that same strategy s_i at any time after t. We use these instances of potential diffusion to construct cascades for every DPOH $\times$ subject strategy s_i. We use Gomez-Rodriguez et. al's NETRATE algorithm [6] which infers a latent network by estimating the pairwise transmission rate between the nodes in these cascades such that it maximizes the likelihood of the observed cascades.

We estimate separate networks for each parliamentary session and derive the dependent constructs used in the explanatory models below for each client in each session. From the public registration data we look at whether a given client is a member of a registered coalition, whether they have received government funding, the number of active registrations the client has in a given session, the number of lobbyists they employed during that session, and the share of those lobbyists that previously worked as government officials.

Theoretical Expectations and Hypotheses

Each registration filed on behalf of a client corresponds to a separate lobbying campaign, in which lobbyists specify the agencies they intend to contact and the means of communications they intend to use. Registrations are a rough measure of how active a particular client is. The more active a client is, the more they would show up in the strategy cascades used in the latent network inference.

Hypothesis 1 *The likelihood of an edge is higher as the number of registrations for both the leader client and the follower client increase.*

The number of lobbyists hired by a client during the legislative session is a related measure of client lobbying activity, and consequently expect we number of lobbyists to be positively associated with edge existence. We expect this effect to be particularly strong for number of lobbyists hired by the follower. Adapting to the lobbying strategies of others — either counteractively [1][2] — or in support, requires that a client be aware of the lobbying actions of others. The more lobbyists a client has, we believe, the more political intelligence the lobbying team is likely to have and be able to respond to. This increases the client's likelihood of following.

Hypothesis 2 *The likelihood of an edge is higher as the leader and follower have more lobbyists. This effect is more pronounced in the follower client.*

Coalition participation suggests two conflicting hypotheses. Insofar as coalition members have similar policy goals, we expect them to be more likely to adopt the same strategy – lobbying the same government officials on the same topics. A succession of clients engaged in the same strategy in short order would appear like a set of clients following each other in the strategy cascades. This suggests hypothesis 3a.

However, if coalition members seek to minimize the duplication of efforts and divide their lobbying targets based on who has closer access to particular government officials, we should expect less leading/following behavior by coalition members overall, hypothesis 3b.

Hypothesis 3 *a) The likelihood of an edge is higher if the follower is a member of a coalition; b) The likelihood of an edge is lower if either client is a member of a coalition*

Finally, we expect that the follower client receiving government funding will be positively associated with the existence of an edge. The receipt of government funding — whether a loan, subsidy, contract etc.— signifies a previous victory for an interest group. Current policy benefits them, and as such they are likely to favor the status quo. As actors that favor the status quo, they are more interested in lobbying defensively to ensure they do not lose their government funding, rather than proactively lobbying for policy change.

Hypothesis 4 *Edge existence is more likely when the follower client receives government funding.*

Defensive lobbying (which can be thought of as a special case of Austen-Smith & Wright's Counteractive lobbying [1][2]), involves lobbying those that your opponents lobby, including your allies, to prevent them from changing the status quo. In our data, this would show up as "following" the lobbying of the client you were trying to counteract.

Method

Our dependent variable is derived from latent diffusion networks we estimated separately for each session of parliament between 2008 and the May 5th 2015. These networks were estimated using the NETRATE algorithm[6], which is similar to the earlier NETINF algorithm [4] Desmarais recently used to infer policy diffusion in the American States [3]. We set the time horizon to the number of days in a given session and assume an exponential model of transmission likelihood.

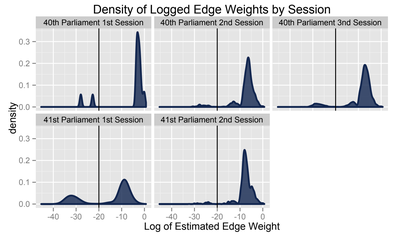

Figure 1: logged edge weight distribution

We provide network summary statistics for the five estimated strategy diffusion networks in Table 1, below. These networks are sparse and with low reciprocity indicating that clients tend to take on either leader or follower roles. To the left, in Figure 1, we show the distribution of logged edge weights across the multiple estimated networks. Based on the bimodal nature of this distribution, we set -20 as a cut-point and dichotomized these estimated edges. All edges with a logged estimated weight above -20 were coded as 1, all other possible edges between any two clients active during that session were coded as 0.

To examine the relationship between our covariates of interest and the existence of an estimated strategy diffusion edge, we estimated the likelihood of an edge existing based on node characteristics of the leader client and follower client. We adopt a modeling approach similar to that taken in Desmarais's policy diffusion paper [3].

We used a logistic mixed model regression with random effects for leader and follower clients and fixed effects for legislative session. With 11,051,630 observations, each a potential edges between clients, the model had 3,864 groups for the leader random effects and 3,864 follower random effects. These random effects control for dyadic dependence between observations. However, in network data there may be more complex dependence structures. While currently we have left this unaddressed, as we move forward we plan to employ QAP standard errors to address network dependence concerns. We leave the session fixed effects unreported, but they all sessions had a higher tendency to form edges than the first session of the 40th, which was the suppressed category.

Table 1: Summary Statistics for Inferred Networks

	40th Parl. Session 1	40th Parl. Session 2	40th Parl. Session 3	41st Parl. Session 1	41st Parl. Session 2
Total Nodes	229	1334	1371	2029	1554
Nodes in output graph	34	810	934	1586	642
Edges	26	2087	3726	14395	1287
Diameter	3	16	12	11	20
Clustering coefficient	0.424	0.175	0.265	0.345	0.175
SCC Max	1	322	584	1119	245
WCC Max	6	752	889	1539	581
Average K	1.529	5.153	7.978	18.153	4.009
Assortativity	0.091	0.127	-0.011	0.077	0.061
Reciprocity	0	0.030	0.087	0.141	0.044
Gamma (Indegree)	2.096	1.695	1.591	1.496	1.761
	(0.252)	(0.027)	(0.021)	(0.013)	(0.034)
Gamma (Outdegree)	2.071	1.620	1.521	1.406	1.701
	(0.246)	(0.025)	(0.019)	(0.011)	(0.032)

Results

Table 2: Logistic Mixed Model of Edge Formation

	Dichotomized Edge
Leader Client Effects	
Member of a coalition	−0.029
	(0.123)
Received government funding	0.018
	(0.034)
Number of lobbying registrations	0.046***
	(0.005)
Number of lobbyists	0.00003
	(0.002)
Share of lobbyists formerly public officials	0.057
	(0.052)
Follower Client Effects	
Member of a coalition	−0.158
	(0.115)
Received government funding	0.072**
	(0.032)
Number of lobbying registrations	0.062***
	(0.004)
Number of lobbyists	0.004**
	(0.002)
Share of lobbyists formerly public officials	0.019
	(0.054)
Constant	−9.659***
	(0.215)
σ_L (Leader Random Effect)	1.330
σ_F (Follower Random Effect)	1.327
N	11051630
Log Likelihood	−117967.900
AIC	235969.800
BIC	236211.500

Discussion

The results presented in the table above suggest the following about our proposed hypotheses.

- The coefficient on number of registrations is positive and significant for both leaders and followers, which is consistent with the expectations of Hypothesis 1.
- Number of lobbyists hired by the leader client is not significantly associated with the existence of a diffusion edge. The association is positive and significant for lobbyists hired by the follower client. This presents mixed support for Hypothesis 2; but, it is in line with our expectation that the effect would be more meaningful for followers.
- Both leader clients and follower clients being members of a coalition is negatively correlated with edge existence, but is not statistically distinguishable from a null association. This finding does not support Hypothesis 3.
- Edges are more likely to exist when the follower client's that has received funding, which supports the Hypothesis 4 about defensive lobbying.

It is worth noting that the β coefficients estimated by this model are small in magnitude. We believe it is likely that leader and follower effects are importantly related to client industry, and issue position, however more data collection will be required to address these concerns. We are puzzled by the null finding regarding the role of coalitions and would like to address this in more detail in future work. It is possible that the countervailing effects proposed in Hypotheses 3a and 3b, confound each other and complicate detection.

References

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