Supplementary Materials

"Legislative Reciprocity: Using a Proposal Lottery to Identify Causal Effects"

The Supplementary Materials include the following information:

A Pre-Analyses Plan: Legislative Reciprocity: Using a Proposal Lottery to Identify Causal Effects

In this document we summarize key features and pre-analysis plan (PAP) for a study of legislative log-rolling.

This document explains our data collection and analyses. Any aspect that is not dealt with here will default to the Standard Operating Procedures for Donald Green's lab at Columbia University as of June 7, 2016 (Lin and Coppock, 2016).

A.1 Background

Since 2004, the names of all eligible members (non-cabinet members) in the Canadian House of Commons are randomly chosen by lottery to determine who has the right to introduce private members bills or motions. The names of Members of Parliament (MP) and the order in which they are drawn forms the Order of Precedence in the beginning of each Parliament. The random assignment offers an opportunity to overcome methodological challenges.

This study examines whether and to what extent MPs with lower lottery numbers are more likely to co-sponsor proposals made by other MPs. The underlying theory is that those who would make proposals seek to garner support for them, and cosponsoring others' proposals is a way to exchange support. We intend to examine whether there is evidence of log-rolling within or across legislative sessions.

We will use the 38th, 39th, 40th, 41st, 42nd and 43rd parliaments for a total of six parliaments.

A.2 Hypotheses

Primary H1. Being afforded a lower lottery number will increase the likelihood of MPs to second a bill or motion. This effect could be expected to taper off for MPs with a very low number. We therefore expect a non-linear effect (quadratic effect) peaking towards the first half of the list.

Primary H2. Dyads with smaller distances in lottery number will be more likely to mutually support each other.

Descriptive H3. Among major parties (e.g. Liberals and Conservatives) seconding will occur primarily within parties. This hypothesis simply states how we expect the two primary hypotheses to play out empirically.

A.3 Data

Our data are drawn from the 38th, 39th, 40th, 41st, 42nd and 43rd Canadian Parliaments where the lottery system was in full effect. This includes a total of 6 elections from 2004-2021.

Note that we intend to include the 38th and 39th parliaments in the analyses, but as of writing this PAP we do not know if we will have access to the data for these parliaments, as they are not online.

The dataset we construct comes from the Library of Parliament, which provides information on the Order of Precedence, whether the Member of Parliament proposed a motion or bill, if it reached second reading, whether it passed or not, and the names of MPs who seconded a given bill or motion.

We code all bills and motions that do not pass as not passed. We match the candidate ID's with Sevi (2021)'s data and then merge this dataset with data on all the candidates' backgrounds (Sevi, 2021).

We will not include private members' bills that originated in the Senate. The reason for this is that "when sponsoring a Senate public bill or a private bill from either House, [MPs] do not use their place in the List for the Consideration of Private Members' Business." [1] Cabinet members in each parliament will be dropped as they are not eligible members to be considered for the lottery.

Our main variable is the random lottery number each MP is given at the beginning of the Parliament. But as a robustness check, we will also use the power to propose, which is a binary variable (see Green and Sevi (2023) on coding) that indicates whether the lottery number was low enough to enable the legislator to make a proposal that reached second reading.

Following Loewen et al. (2014) and Green and Sevi (2023), we code the power to propose as MPs who had the right to propose a bill or motion and were considered for second reading.

A.4 Analysis

We estimate each regression by ordinary least squares. We have two dependent variables:

1. A binary variable indicating whether the MP seconds at least one bill/ motion.
2. A continuous variable with the number of bills/motions an MP seconds.

The main independent variable is the lottery number. We will also include as a covariate how many bills or motions an MP seconds in the previous parliament.

[1] See:https://ourcommons.ca/About/ProcedureAndPractice3rdEdition/ch_21_2-e.html#21-2-7.

We expect the effects of the lottery number to be quadratic (an inverted U-shape), although non-linear the pattern remains an empirical question. At very least, we expect that low or medium lottery numbers will encourage seconding. We will show the results pooled together and include session fixed effects. Randomization inference will be used to generate p-values.

We will also look for evidence of dyadic reciprocity. To examine dyadic effects within sessions, we will also construct a new dataset from our base dataset so that the unit of analysis is MP pairs. Dyadic analysis is a special case of the more general approach of asking whether those with better (perhaps including middling) priority numbers are more likely to co-sponsor. In particular, dyadic analysis asks the more specific question of with whom to cosponsor, if at all.

Our dyadic dataset will include every possible pairing of MPs within a session. The pairs will be ordered with the first MP in the pair being the one to have the lowest (the better) lottery number. Letting A be the first member of the pair and B being the second. There are four possibilities for dyadic support:

1. No mutual support
2. A supports B but B does not support A
3. B supports A but A does not support B
4. Mutual support

These four codes constitute the input for the dyadic support variable. This will either be the dependent variable or the basis for constructing the dependent variable. The lottery number for A, the lottery number for B, the difference between the paired lottery numbers will be the main variables of interest. Other variables such as session fixed effects and party will also be included for further precision and information.

We are also interested how dyads interact over time in successive legislative sessions. The set-up will be similar to be base dyadic dataset except the dyadic support will be predicted by using dyadic support in previous sessions. This analysis will get at the following type of question: If A supported B in session 1 but B did not support A in the same session, does B support A in the subsequent session?

B Additional analyses

Table B.1: Proposals with more cosponsors are more likely to be passed

	(1)
	Passed
Seconds Received	0.021***
	(0.003)
Constant	0.041
	(0.023)
Observations	1507
Parliament FEs	Yes
R2	0.101
R2 Adj.	0.098

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.2: Regression Estimates of the Marginal Effects of Lottery Number of Seconds Given and Received with Controls

	(1)	(2)	(3)	(4)	(5)	(6)
	seconded	seconded	given	given	received	received
Place on list	0.010	-0.078	0.315	-0.361	-0.747	1.885
	(0.037)	(0.149)	(0.186)	(0.740)	(0.971)	(2.770)
Place on list squared		0.088		0.676		-3.803
		(0.145)		(0.717)		(3.748)
$Missing\ t-1$	-5.013***	-5.001***	-41.891***	-41.792***	-18.824	-19.710
	(0.725)	(0.725)	(3.594)	(3.595)	(12.322)	(12.352)
$Num.\ of\ seconds\ t-1$	0.052***	0.052***	0.434***	0.433***	0.201	0.211
	(0.007)	(0.007)	(0.037)	(0.037)	(0.126)	(0.126)
Constant	-0.070	-0.055	-1.087***	-0.973***	-0.890	-1.214
	(0.042)	(0.049)	(0.209)	(0.242)	(0.656)	(0.729)
Parliament FE's	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1507	1507	1507	1507	738	738
R2	0.265	0.265	0.244	0.245	0.061	0.062
R2 Adj.	0.261	0.261	0.240	0.240	0.051	0.051

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.3: Main regressions with P2P

	(1)	(2)	(3)
	seconded	given	received
P2P	-0.026	-0.189	1.666***
	(0.024)	(0.122)	(0.181)
Constant	0.101***	0.193	-0.570**
	(0.029)	(0.148)	(0.219)
Parliament FE's	Yes	Yes	Yes
Observations	1507	1507	1507
R2	0.235	0.166	0.097
R2 Adj.	0.232	0.162	0.093

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.4: Main regressions with P2P and controls

	(1)	(2)	(3)
	seconded	given	received
P2P	-0.028	-0.199	1.654***
	(0.024)	(0.117)	(0.181)
$Missing\ t-1$	-5.018***	-42.107***	-7.484
	(0.724)	(3.591)	(5.564)
$Num.\ of\ seconds\ t-1$	0.052***	0.436***	0.081
	(0.007)	(0.037)	(0.057)
Constant	-0.055	-0.870***	-1.108***
	(0.039)	(0.193)	(0.300)
Parliament FE's	Yes	Yes	Yes
Observations	1507	1507	1507
R2	0.266	0.244	0.101
R2 Adj.	0.262	0.240	0.096

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.5: Regression Estimates of the Marginal Effects of Lottery Number of Seconds Given and Received

	(1) seconded	(2) seconded	(3) given	(4) given	(5) received	(6) received
Place on list	0.023	-0.098	0.413*	-0.528	-0.528	1.754
	[-0.052,0.097]	[-0.397,0.200]	[0.030,0.795]	[-2.051,0.994]	[-2.435,1.379]	[-3.699,7.206]
Place on list squared		0.121		0.941		-3.291
		[-0.168,0.410]		[-0.533,2.415]		[-10.658,4.077]
Constant	0.080*	0.100*	-0.081	0.075	0.187	-0.081
	[0.014,0.146]	[0.019,0.182]	[-0.418,0.256]	[-0.341,0.491]	[-0.836,1.210]	[-1.266,1.105]
Parliament FE's	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1507	1507	1507	1507	738	738
R2	0.235	0.235	0.167	0.168	0.051	0.052
R2 Adj.	0.232	0.231	0.163	0.164	0.044	0.043

90% confidence intervals in brackets. We performed a TOST by computing 90% confidence intervals for the regression models from 4. The TOST suggests equivalence at the 95% confidence level if the confidence intervals are completely contained within the tolerance interval.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table B.6: Prevalence of seconding among all dyads

Support level	N	%
0	187,627	99.33
1	1,237	.65
2	27	0.01

Table B.7: TOST on Pooled Effect of Power to Propose in Previous Parliament on Directed Dyadic Support

	(1) pooled
$P2P_{A,t-1}$	0.001
	[-0.001,0.003]
Constant	0.003*
	[0.001,0.005]
Parliament FE's	Yes
Observations	20,931
R2	0.003
R2 Adj.	0.002

90% confidence intervals in brackets

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$