Replication II: Preventing Coups d'état: How Counterbalancing Works

Data Analysis in R

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Table of contents

List of Figures

List of Tables

1 Introduction

Does counterbalancing–the creation of alternative security forces outside of the military chain of command–decrease the risk of military coups? In this document, we replicate the analysis in De Bruin (2017), focusing in particular on the descriptive analysis in Tables 1 (p. 9) as well as the models in Table 2 (p. 13) and 3 (p. 14).

This report is structured as follows. Section 2 briefly reports the hypotheses developed in De Bruin (2017). Section 3 describes the data (available here). This section also reproduces the descriptive analysis in Table 1 of the original article (Section 3.1). Section 4 estimates the regression models in Table 2 and some of the models in Table 3. In Section 5, we conclude by summarizing the results of our replication.

2 The hypotheses

De Bruin (2017) develops the following hypotheses based on existing research on military coups:

> **Hypothesis 1**: Coups are more likely to succeed against regimes that do not counterbalance than those that do.
>
> **Hypothesis 1a**: Counterbalancing decreases the probability a coup will suc- ceed by creating barriers to communication and coordination between forces.
>
> **Hypothesis 1b**: Counterbalancing decreases the probably a coup will succeed by increasing the likelihood that coup plotters will face armed resistance to the coup.
>
> **Hypothesis 2**: Counterbalancing does not decrease the likelihood of coup attempts.
>
> **Hypothesis 3**: The creation of a new counterweight increases the risk of a coup in the following year.

3 The data

The data are available as a STATA `.dta` file on the journal website (scroll all the way down). I downloaded the data set (called `esd_preventingcoups_data.dta`) and read it into R using the `read_dta()` function from the `haven` package. The data set has 37 variables with 2978 observations. Table 1 lists all variables and presents summary statistics (note that non-numerical variables are excluded).

Table 1: Summary statistics

	n	mean	sd	min	max
ccode	2978	465.57	251.98	40.00	950.00
year	2978	1986.39	14.54	1960.00	2010.00
attempt	2978	0.07	0.25	0.00	1.00
success	196	0.40	0.49	0.00	1.00
top	196	0.32	0.47	0.00	1.00
middle	196	0.21	0.41	0.00	1.00
cbcount	2978	1.13	1.06	0.00	9.00
counterbalancing	2978	0.63	0.50	0.00	2.30
newcb	2978	0.03	0.18	0.00	1.00
military	2798	0.13	0.33	0.00	1.00
polity2	2748	-1.71	6.60	-10.00	10.00
dem7	2978	0.26	0.44	0.00	1.00
lngdppc	2588	7.39	1.19	4.36	10.36
chgdp	2341	0.02	0.07	-0.39	0.64
lmilex	2312	6.15	1.76	2.02	10.69
chmilex	2296	1.05	41.11	-0.88	1965.29
soquall	2312	8.43	1.24	0.93	12.73
lmilper	2374	4.01	1.74	0.00	8.47
recent_rev	2909	0.04	0.19	0.00	1.00
recent3	2978	0.16	0.36	0.00	1.00
ht_region	2978	3.58	1.95	1.00	9.00
regional3	2978	0.68	0.46	0.00	1.00
banks_conflict	2978	0.21	0.41	0.00	1.00
coldwar	2978	0.55	0.50	0.00	1.00
fpt_coup	2978	0.06	0.23	0.00	1.00
fpt_success	169	0.49	0.50	0.00	1.00
giniSIDD_1	1320	43.11	9.63	17.77	65.69
giniSIDD2_1	1320	1951.58	828.64	315.95	4314.90
theil	901	41.30	7.00	22.10	64.36
theil2	901	1754.33	547.39	488.41	4142.21
frenchcol	2978	0.20	0.40	0.00	1.00
ucdp_civil	2978	0.25	0.43	0.00	1.00
fatalmid	2978	0.16	0.36	0.00	1.00
p_hat	2316	0.23	0.16	0.02	0.92
defensepact	2978	0.33	0.47	0.00	1.00

3.1 Descriptive analysis

In this section, we reproduce Table 1 in the original article. There is a STATA do-file (`esd_preventingcoups_dofile.do`) which contains the STATA code for the table. Here are the contents:

```
*MAIN TEXT TABLES*
*Table 1: Counterbalancing and Coups
tab attempt cbcount
tab attempt newcb
tab success cbcount
tab success newcb
```

This code simply cross-tabulates variables (namely coup attempts or successes with the count of (new) counterbalancing organizations). It seems that De Bruin (2017) filled in the table manually from this code. We will of course generate the table programmatically.

Table 2: Counterbalancing and Coups

	Number of Counterweights				New Counterweight		
	0	1	2	3+	No	Yes	Total
Total observations	974	1,008	722	274	2,882	96	2,978
No coup attempt	904	953	670	255	2,699	83	2,782
% country years with attempts	7%	5%	7%	7%	6%	14%	7%
Coup attempts	70	55	52	19	183	13	196
Failed	36	32	35	14	108	9	117
Successful	34	23	17	5	75	4	79
% coup attempts successful	6%	28%	51%	64%	31%	56%	32%

4 Models

Table 3 shows the models from De Bruin (2017), Table 2.

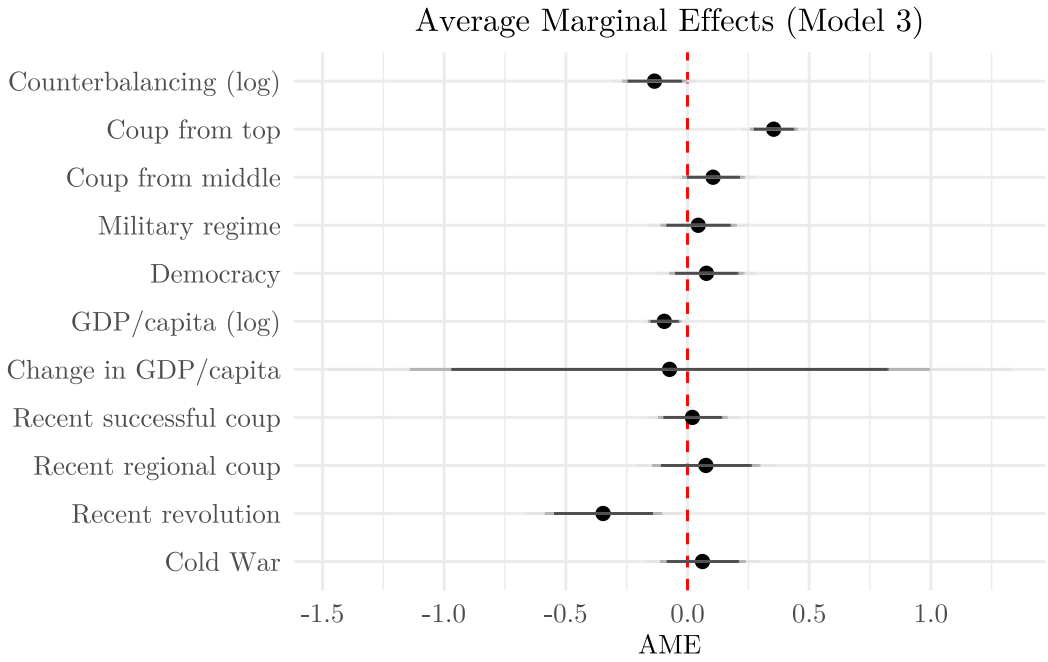
Table 3: Effect of Counterbalancing on Coup Outcomes

	Coup success		
	(1)	(2)	(3)
Counterbalancing (log)	−0.632**	−0.611**	−0.772*
	(0.301)	(0.278)	(0.418)
Coup from top		2.031***	2.015***
		(0.361)	(0.406)
Coup from middle		0.616*	0.598*
		(0.329)	(0.358)
Military regime			0.250
			(0.447)
Democracy			0.443
			(0.463)
GDP/capita (log)			−0.543***
			(0.198)
Change in GDP/capita			−0.420
			(3.090)
Recent successful coup			0.114
			(0.411)
Recent regional coup			0.430
			(0.636)
Recent revolution			−1.974**
			(0.819)
Cold War			0.350
			(0.516)
Constant	−0.008	−0.842***	2.316
	(0.203)	(0.262)	(1.804)
N	196	196	179
Log Likelihood	−129.723	−112.968	−94.178
AIC	263.446	233.936	212.356

*p < .1; **p < .05; ***p < .01

4.1 Marginal effects

The Average Marginal Effect (AME) gives the change in the predicted probability of a successful coup for a one-unit increase in the independent variable. The figure below plots the AME for all variables in Model 3, along with 90, 95, and 99% confidence intervals.



5 Conclusion

References

De Bruin, Erica. 2017. "Preventing Coups d'état: How Counterbalancing Works." *Journal of Conflict Resolution* 62 (7): 1433–58. https://doi.org/10.1177/0022002717692652.