The Impact of Campaign Finance Laws on Party Competition

Potter, J., & Tavits, M. (2015). The Impact of Campaign Finance Laws on Party Competition. *British Journal of Political Science, 45*(1), 73-95

Data and source code available: *https://github.com/joshuaalley/cross-sectional-ols/tree/master/potter-tavits-2015*

1. Introduction

This paper examines whether campaign finance laws either encourage or restrict party competition, globally. The authors expect that more equal finance laws will restrict the access of larger parties to more campaign resources, which will even out the playing field, allowing for greater party competition. Whereas fewer limits on campaign finance sources would allow larger parties access to wealthy donors and other organizations, making it more difficult for smaller parties to compete.

Hypothesis: As fund parity increases, the effective number of parties (ENP) at the national level should increase as well.

2. Methods and Data

This paper uses a multivariate OLS regression to examine this relationship under the four assumptions of linear regression:

1. The relationship between X and the mean of Y is linear.
2. Homoscedasticity: The variance of residual is the same for any value of X.
3. Independence: Observations are independent of each other.
4. Normality: For any fixed value of X, Y is normally distributed.

This paper examines 118 democratic countries, internationally using data from the Funding of Political Parties and Election Campaigns instalment of the International Institute for Democracy and Electoral Assistance (International IDEA).

They collect data from 2003 and 2012, so there are 237 data points in total.

Variables:

Dependent variable: Effective number of parties in the electoral system

Main independent variable: Fund parity (limits on access to campaign finance resources)

Fund parity is measured under 4 categories:

1. whether there is a limit on the amount of money an individual can donate to a political party
2. whether there is a limit on the amount of money a political party can expend in contesting an election
3. whether parties are entitled to free media access
4. whether parties are entitled to direct public subsidization.

Other independent variables measured are; number of years democratic, whether or not presidential, whether or not federal, ethnolinguistic fractionalization, and district magnitude

(entered in logged form to account for its non-normal distribution across their cases). They include an interaction term for ethnolinguistic fractionalization and district magnitude.

They chose these variables as the "standard battery of variables employed in a study of this nature".

The authors first run their model on all countries together and then subset countries that democratized post 1974, to control for a reverse causal relationship, explained below.

3. Control for Endogeneity

The authors consider that there might be a reverse relationship between the dependent variable and the main independent variable, that ENP impacts fund parity;

Objection 1: Systems with a large ENP encourage fund parity to allow for more competition access, whereas systems with a low ENP might want to use their electoral advantage and restrict access for smaller parties.

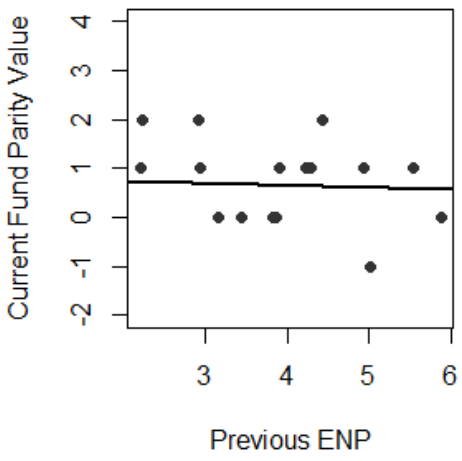
To test this, they examine democracy post-1974 countries. When these countries democratized, there was no party system established, but they did have campaign finance laws. This establishes that the causal relationship is that fund parity comes before ENP.

Objection 2: The instability of these newer party systems resulted in a higher ENP, as voters had yet to grow accustomed to democratic electoral institutions. Therefore, the cause of the ENP isn't fund parity, but an open, instable system.

However, the authors took data from 2003 and 2012 which would have allowed this inflated ENP to settle.

Objection 3: The previous ENP could have determined fund parity, which affects current ENP.

To test this, the authors regress fund parity against previous ENP, but find a very weak positive correlation of 0.11, which suggests that previous ENP does not determine fund parity.



4. Results

Table 3:

	Dependent variable:	
	postenp	
	(1)	(2)
fundparity4	0.438***	0.454**
	(0.153)	(0.210)
demyears	0.013	−0.013
	(0.011)	(0.033)
fed	−0.213	−0.228
	(0.476)	(0.754)
pres	−0.172	−0.025
	(0.211)	(0.284)
log(avemag)	0.601**	0.343
	(0.301)	(0.446)
fract	0.956	−0.427
	(1.290)	(1.911)
log(avemag):fract	−0.750	−0.576
	(0.641)	(0.889)
Constant	3.070***	4.383***
	(0.764)	(1.217)
Observations	90	54
R^2	0.198	0.168
Adjusted R^2	0.129	0.041
Residual Std. Error	1.647 (df = 82)	1.792 (df = 46)
F Statistic	2.885*** (df = 7; 82)	1.327 (df = 7; 46)
Note:		*p<0.1; **p<0.05; ***p<0.01

My replication results gave the same as the author's results using their R code.

First model:

- Fund parity and district magnitude are statistically significant.
- For every unit increase in fund parity, ENP increases by 0.438, holding all other variables constant.
- For every log unit increase in district magnitude, ENP increases by 0.6, holding all other variables constant.

Second model (post-1974):

- Fund parity is the only statistically significant variable.
- For every unit increase in fund parity, ENP increases by 0.45, holding all other variables constant.
- It is clear that there is a strong positive relationship between fund parity and ENP in both models.

These models support the author's hypothesis that, as fund parity increases, the effective number of parties (ENP) at the national level should increase as well.

5. Issues/Comments

They originally collected 237 data points, there are a lot of NA data points which were removed, so there was only 93 data points in the end.

The R^2 for the first model is 0.2, and 0.17 for the second model, which means that ENP is only explained by 20% and 17% of the input variables, respectively. There are a lot of other variables which have not been examined in this model.

They have included 118 countries internationally. However, the political system of the US is very different to the political system of e.g., African states, so a generalized study of such a broad range of countries is probably not appropriate, because the theoretical framework used to understand each democracy is not universally applicable. It ignores the complexity and diversity of different political systems, even if they are all democratic. Campaign finance sources vary greatly between democratic countries, as does the driving forces behind the ENP of a given country. This may have worked better on countries with more similar institutional frameworks. e.g., European countries over a greater time period.

6. My Analysis

To examine whether our model estimates change depending on the type of political framework within a given country, I created a subset; a European Union category, including 28 EU countries, and a subset of non-EU countries. My result showed as follows:

EU(1) vs non-EU(2):

Table 2:

	Dependent variable:	
	postenp	
	(1)	(2)
fundparity4	0.140	0.490**
	(0.252)	(0.206)
demyears	0.015	0.025
	(0.015)	(0.016)
fed	−0.686	−0.141
	(0.831)	(0.624)
pres	−0.001	0.200
	(0.420)	(0.292)
log(avemag)	−0.766	0.457
	(0.776)	(0.416)
fract	−7.601	1.388
	(6.397)	(1.421)
log(avemag):fract	3.901	−0.562
	(2.730)	(0.812)
Constant	5.870***	1.881*
	(1.709)	(1.006)
Observations	35	55
R^2	0.198	0.234
Adjusted R^2	−0.010	0.120
Residual Std. Error	1.569 (df = 27)	1.641 (df = 47)
F Statistic	0.952 (df = 7; 27)	2.054* (df = 7; 47)
Note:		*p<0.1; **p<0.05; ***p<0.01

There is quite a contrast in the impact of fund parity on EU vs non-EU countries.

- For EU countries, for every unit increase in fund parity, there is only a 0.14 increase in ENP, which is not statistically significant.
- For non-EU countries, for every unit increase in fund parity, there is a 0.49 increase in ENP, which is statistically significant.

This indicates that the model in the study only really holds for non-EU countries but doesn't apply to EU countries. This highlights how the source of campaign funds for European countries is not a major influence on ENP, and that something else determines the ENP in Europe, which needs to be examined.

It is clear that the dynamics at play in EU and non-EU countries varies quite a bit when it comes to campaign finance law regulations and how it affects elections. Therefore, a breakdown of countries into smaller subcategories based on, for example, their geographical location or institutional structure would be a more accurate examination of what causes ENP.

The author's hypothesis does not hold for European countries, and possibly other countries with further examination.

7. R code

```
install.packages("stargazer")
library(stargazer)
library(foreign)
raw.data<-read.dta("potter_tavits_data.dta")
View(raw.data)

# drop outliers
campaigns <- subset(raw.data, postenp < 9.2)

# create post-1974 subset for endogeneity test
later1974<-subset(campaigns, demin>1973)

# estimate Model 1
library(arm)
full<-lm(postenp ~ fundparity4
         + demyears
         + fed
         + pres
         + log(avemag)
         + fract
         + log(avemag):fract,
         data=campaigns)
display(full)

# estimate Model 2
post1974<-lm(postenp ~ fundparity4
             + demyears
             + fed
             + pres
             + log(avemag)
             + fract
             + log(avemag):fract,
             data=later1974)
display(post1974)


stargazer(full, post1974)
```

```
#Europe vs not Europe
not_europe <- subset(campaigns, subset = !(cnty %in% c("Austria", "Belgium", "
    Bulgaria", "Croatia", "Cyprus", "Czech Republic", "Denmark", "Estonia", "
    Finland", "France","Germany", "Greece", "Hungary", "Ireland", "Italy", "
    Latvia", "Lithuania","Luxembourg","Malta", "Netherlands", "Poland", "
    Portugal", "Romania", "Slovakia", "Slovenia", "Spain", "Sweden")))
View(not_europe)

europe <- subset(campaigns, subset = cnty %in% c("Austria", "Belgium", "
    Bulgaria", "Croatia", "Cyprus", "Czech Republic", "Denmark", "Estonia", "
    Finland", "France","Germany", "Greece", "Hungary", "Ireland", "Italy", "
    Latvia", "Lithuania","Luxembourg","Malta", "Netherlands", "Poland", "
    Portugal", "Romania", "Slovakia", "Slovenia", "Spain", "Sweden"))
View(europe)

europe_mod <- lm(postenp ~ fundparity4
                         + demyears
                         + fed
                         + pres
                         + log(avemag)
                         + fract
                         + log(avemag):fract,
                         data=europe)
display(europe_mod)

noteurope_mod <- lm(postenp ~ fundparity4
                    + demyears
                    + fed
                    + pres
                    + log(avemag)
                    + fract
                    + log(avemag):fract,
                    data=not_europe)
display(noteurope_mod)
stargazer(europe_mod, noteurope_mod)
```

```
# construct the endogeneity plot in Figure 1
plot(campaigns$fundparity4
     ~ campaigns$preenp,
     pch=20, col="grey20", cex=1.5,
     xlab="Previous ENP",
     ylab="Current Fund Parity Value")
display(lm(fundparity4 ~ preenp, data=campaigns))
abline(a=0.82, b=-0.04, lwd=2)
```