

Models

Project: Dominant Party Regimes in Sub-Saharan Africa

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This file reports the modelling process and the associated analytic decisions. It also includes the results of sensitivity tests.

Read in the data compiled in the *data_building.qmd* file.

```
data <- read_rds(here("data", "data_built", "data.built.rds"))
```

The main and only model in my original work was a multinomial logistic model. The main disadvantage of using this class of models in this context is that logistic models typically require more observations than linear models. Nevertheless, I start with a multinomial model to i) establish a baseline, ii) provide ground to validate the analytical coding of the dominant party regimes and iii) because there are not many alternative methods to analyze the data.

I first use a preferred specification, with party system institutionalization and education variables imputed with the mean of 2013-2018 values for the country with missing data, ELF imputed with previous values for the country and oil rents variable presented as a dummy.

```
m1a <- multinom(party_reg ~ v2xps_party_mean + elf_fill + col_type
+ housesys + v2x_polyarchy + oil_rent_dummy + e_peaveduc_mean,
data = data)

m1b <- multinom(relevel(party_reg, ref = "Autocratic Dominant")
~ v2xps_party_mean + elf_fill + col_type
+ housesys + v2x_polyarchy + oil_rent_dummy + e_peaveduc_mean,
data = data)
```

```
modelsummary(list("Ref: Non-dominant" = m1a,
"Ref: Autocratic Dominant" = m1b), stars = T,
shape = term ~ response, coef_rename = T,
output = "kableExtra") |>
kable_styling(latex_options = c("scale_down"))
```

Table 1 reveals that

Table 1: Multinomial logistic model, preferred specification

	Ref: Non-dominant		Ref: Autocratic Dominant	
	Democratic Dominant	Autocratic Dominant	Democratic Dominant	Not Dominant
(Intercept)	2.131 (4.319)	8.219 (5.973)	-6.090 (4.960)	-8.239 (5.977)
PSI (Mean)	11.261+ (5.836)	8.545 (7.040)	2.708 (5.826)	-8.556 (7.041)
ELF (Imputed)	3.852 (3.218)	3.559 (3.872)	0.305 (3.228)	-3.544 (3.871)
Colonial Legacy [France]	0.477 (1.585)	-1.215 (1.967)	1.693 (1.680)	1.220 (1.968)
Colonial Legacy [Mixed]	-7.858 (123.274)	-3.529 (113.129)	-3.489 (129.126)	6.267 (166.662)
Colonial Legacy [None]	-5.960 (135.665)	2.763 (16.287)	-7.018 (57.399)	-2.748 (16.298)
Colonial Legacy [Other]	-3.770 (3.034)	-4.459 (4.202)	0.696 (3.202)	4.475 (4.205)
Electoral Rules [Plural]	-4.987* (2.525)	-3.997 (3.831)	-0.988 (3.121)	4.005 (3.830)
Democracy	-15.564* (6.615)	-26.599** (9.945)	11.022 (8.265)	26.608** (9.945)
Oil Dummy [Not equal to zero]	-0.961 (1.494)	0.111 (2.049)	-1.078 (1.746)	-0.118 (2.050)
Education (Mean)	0.164 (0.264)	-0.082 (0.392)	0.246 (0.361)	0.082 (0.392)
Num.Obs.	38		38	
R2	0.511		0.511	
R2 Adj.	0.488		0.488	
AIC	86.5		86.5	
BIC	122.5		122.5	
RMSE	0.34		0.34	

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001