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Applied Political Science Research

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### Homework 4

#### 1. Stand Your Ground!

- 1.1. 50% of states have a stand your ground law, and this was obtained by taking the mean of the stand dummy variable.
- 1.2. The crosstab tells us that the South is the region with the most states that have stand your ground laws with 11 out of 16. The midwest has the next most and is majority stand your ground. The northeast and the west both have more non stand your ground states than stand your ground ones, so these regions seem to be less conservative when it comes to gun handling. (Crosstab on next page)
- 1.3. The variable that appears to matter the most in this logistic regression is the senate ideology variable, which has a statistically significant positive coefficient. The senate variable's positive coefficient indicates that as state senates become more conservative, the state is more likely to have stand your ground laws. (Regression table on next page)
- 1.4. From senate values of -1.4 to 1, the logistic regression predicts the probability of having stand your ground laws to change from 0.04 to 0.84. This shows that

democratic senates predict no stand your ground laws, whereas conservative senates would predict having stand your ground laws in place.

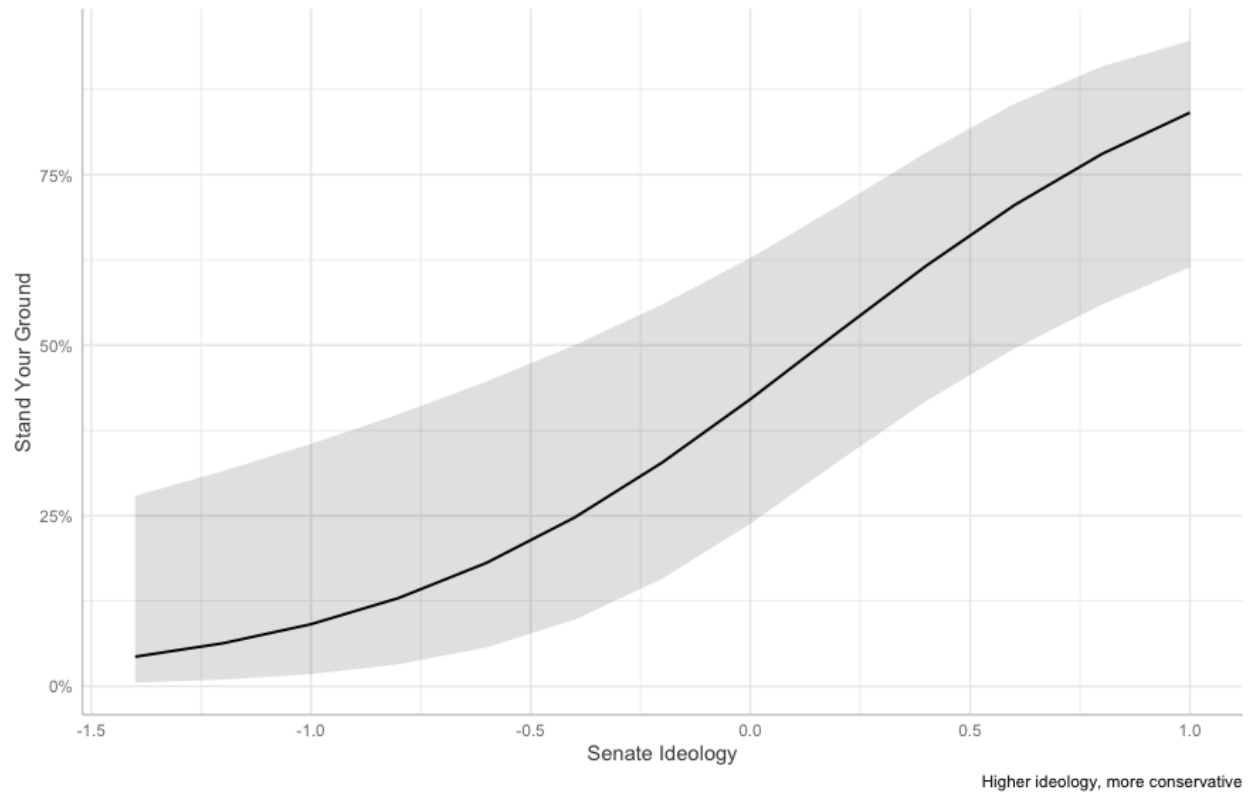
- 1.5. The plot further reflects the `ggpredict` values. As senate ideology moves from -1.5 to 0, the predicted probability of having stand your ground laws remains below 50% which signals that a state likely wouldn't have stand your ground laws. Above 0 though, the senate ideology sharply raises the probability of having stand your ground laws, which shows that as senates become more conservative, it's more likely that the state will have a stand your ground law.

Cell Contents					
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N					
N / Col Total					
N / Table Total					
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Total Observations in Table: 50					
region					
stand	South	West	Midwest	Northeast	Row Total
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0	5	8	5	7	25
	0.312	0.615	0.417	0.778	
	0.100	0.160	0.100	0.140	
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1	11	5	7	2	25
	0.688	0.385	0.583	0.222	
	0.220	0.100	0.140	0.040	
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Column Total	16	13	12	9	50
	0.320	0.260	0.240	0.180	
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<b>stand</b>			
<i>Predictors</i>	<i>Odds Ratios</i>	<i>std. Error</i>	<i>p</i>
(Intercept)	0.70	3.89	0.949
house	0.68	0.46	0.575
senate	7.27 **	4.49	<b>0.001</b>
democrat	0.94	0.07	0.440
poptotal [log]	1.13	0.45	0.766
Observations	50		
R <sup>2</sup> Tjur	0.375		

\*  $p < 0.05$    \*\*  $p < 0.01$    \*\*\*  $p < 0.001$

Chart 1: Senate Ideology and Stand Your Ground Laws



## 2. Thinking About Causation

- 2.1. For my paper, “The Effect of Foreign Aid on Economic Growth in Developing Countries” by EM Ekanayake, the main dependent variable is countries’ economic growth rate, measured in growth of real GDP per capita in constant, real 2000 \$US. The main independent variables are: foreign aid, measured in Official Development Assistance (ODA); an ethnic war dummy variable; regional effects dummy variables for Asia, Latin America, and Sub-Saharan Africa; income level dummy variables; economic freedom measure from Freedom House in 2008; and initial GDP and investment/GDP.
- 2.2. The author utilizes panel data on foreign aid from 85 countries over 1980-2007 as this will yield information about long term effects of foreign aid on economic growth. The author finds from previous studies that policy regimes of countries influence aid effectiveness, so he includes a variable on inflation. Furthermore, from a previous 2005 study, the author finds that investment was the most significant transmission mechanism between aid and economic growth, so the author includes a variable (investment/GDP) to measure investment within the country as well.
- 2.3. The author assumes the production function of  $Y = f(L, K, A)$  to be linear in logs or, in other words, a natural log function.  $Y$  is GDP in real terms,  $L$  is labor input, or population in this case,  $K$  is domestic capital stock, and  $A$  is stock of foreign aid. With this in mind, I believe this assumption is reasonable as all these values are expected to be relatively large, and the spread of these data in their original

form may not produce an appropriate relationship. So, I am convinced that the assumption of a natural log relationship is the way to go here.

- 2.4. Although the author's choice of variables makes sense, I feel that other variables could be better in the model. Variables reflecting regime type, resource industries, or even initial electricity consumption could reveal much about how levels of democracy, development, and economic diversification affect foreign aid effectiveness. I think a model with a foreign aid and regime type interaction could yield interesting results as well, or an interaction between aid and economic policy type could help as well. I don't think using inflation as a proxy for economic policy is necessarily appropriate in the author's case, so a variable like World Bank Ease of Doing Business Rankings or some other similar measure could better be used as a policy variable. I think some drawbacks to this approach would be choosing the correct function to utilize, whether it's a logistic, probit, or other kind of regression. After reading various papers on foreign aid, many different models have been brought to the table when it comes to this topic. From panel vector autoregressions (PVARs) to geographical interaction regressions, many models have been tested, so it would be a tough task to pick just the right one or a new one even.

Works Cited

Ekanayake, EM, and Dasha Chatrna. "The Effect of Foreign Aid on Economic Growth in Developing Countries." *Journal of International Business and Cultural Studies*.

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.534.1944&rep=rep1&type=pdf>

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