Gov52 Replication Project

Lindsey Greenhill

4/16/2021

Table 1

Possible extension is creating a different measure of competitiveness

Table 2

Figure 1

Figure 2

Table 3

Replication of Political Disaster: Unilateral Powers, Electoral Incentives, and Presidential Disaster Declarations

In the following report, I replicate Andrew Reeves's 2011 paper "Political Disaster: Unilateral Powers, Electoral Incentives,and Presidential Disaster Declarations." I first provide an overview of the original paper, then explain my replication process, and finally propose an extension to Reeves's work.

Overview

Reeves's work explores the relationship between presidential disaster declarations and electoral competitiveness. It seeks to find evidence that presidents disproportionately declare disasters and reward aid to electorally competitive states in an effort to gain votes for reelection. For context, a President can declare a disaster without the approval of other branches of government. Such a declaration makes states eligible for grants and other sorts of aid. In his analysis, Reeves utilizes a data set of all presidential disaster declarations in the United States from 1981 to 2004. The unit of analysis is the amount of disaster declarations in a state per year. Reeves purposefully split his analysis into two parts: years before and after the Stafford Disaster Relief and Emergenccy Assistance Act of 1988. The Stafford Act expanded the powers of the president to provide disaster relief. Ultimately, Reeves finds that after 1988, there is a positive relationship between electoral competitiveness and number and disaster declarations. Additionally, Reeves finds evidence that there is a positive relationship between disaster declarations and electoral support, meaning that states who received more disaster declarations were more likely to support the incumbent president in the next election.

Replication

For the replication part of this report, I replicated the paper's two models and two figures. I will describe the specifics of each part of the replication below.

- Note on the data: I did not have to do any data cleaning for the replication, as the replication data had no missing values and was already transformed into its final state

Table 1

The first table I replicated is summary table of key variables used in Reeves's analysis. The variables are as follows:

- Presidential Disaster Declarations: how many disasters declared a state for that year
- Actual Disasters: objective count of disasters according to the Property Claims Service, a branch of the Insurance Services Office (a private company contracted by insurance companies)
- Electoral Votes
- Competitiveness: measured by the average of the loser's vote margin in the last three elections
- Logged Per Capita Personal Income
- Logged Insurance Dollars: the inflation-adjusted dollar value of the actual disasters recorded by the ISO.
- Congressional Delegation Same party as the President: whether or not a state congressional delegation's partisanship is the same as the president's
- Governor Same Party as the President: whether or not the governor's partisanship is the same as the president's

variable	Mean	Std_Dev	Min	Max
Presidential Disaster Declaration	0.8	1.0	0.0	6.0
Actual Disasters	2.7	2.7	0.0	17.0
Electoral Votes	10.7	9.2	3.0	54.0
Competitiveness	42.4	4.2	26.5	48.6
Per Capita Personal Income (logged)	10.2	0.2	9.6	10.7
InsuranceDollars (logged)	13.6	7.7	0.0	23.7
Congressional Delegation Same party as the President	0.5	0.3	0.0	1.0
Governor Same Party as the President	0.4	0.5	0.0	1.0

Discussion

There is significant variation across many of the variables, especially within actual disasters and presidential disaster declarations.

Model 1

The first model I replicated is a Poisson regression. Reeves actually creates three different models: one with all of the data from 1981 - 2004, one with data pre stafford act (1981 to 1988), and one with data post Stafford act (1988 - 2004). I replicated all three models. They are shown in the table below.

As a reminder, the unit of analysis in the data set is a state-year. For example, Wyoming in 1981.

The dependent variable is **number of disaster declarations** in each state-year.

The independent variables are as follows:

- Competitiveness, actual disasters, logged insurance dolalrs, per capita income, electoral votes, congressional/presidential partisanship, gubernatorial/presidential partisanship, an indicator variable for year of administration, and control variables for each administration from 1981 - 2004 (Reagan 1, Reagan 2, GHW Bush, Clinton, W Bush)

Model of Presidential Disaster Declarations

	Dependent variable:		
	fema.dis		
	full	pre	post
	(1)	(2)	(3)
Competitiveness	0.03^{**}	-0.11	0.04^{**}
	(0.02)	(0.10)	(0.02)
Actual Disasters	0.13^{***}	0.19^{***}	0.13^{***}
	(0.02)	(0.05)	(0.02)
Insurance cost (logged)	0.02^{**}	0.03	0.01
	(0.01)	(0.02)	(0.01)
Per capita income	1.33	1.52	-0.70
	(1.02)	(2.63)	(1.58)
Electoral Votes	-0.02	-0.11	-0.06
	(0.03)	(0.10)	(0.05)
year 2 of admin	0.09	0.48^{**}	0.05
	(0.10)	(0.23)	(0.12)
year 3 of admin	0.08	0.17	0.12
	(0.10)	(0.26)	(0.12)
year 4 of admin	0.26^{**}	0.28	0.37^{***}
	(0.11)	(0.29)	(0.13)
Congressional partisanship	0.04	0.62	0.03
	(0.16)	(1.13)	(0.17)
President / Governor same party	0.001	-0.26	0.03
	(0.07)	(0.22)	(0.08)
Reagan (term 1)	-0.42	-0.15	
	(0.30)	(0.30)	
Reagan (term 2)	-0.58^{***}		
	(0.22)		
GHW Bush	-0.21		-0.46^{**}
	(0.17)		(0.23)
W Bush	0.06		0.13
	(0.11)		(0.12)
Clinton (term 1)	-0.15		-0.32^{*}
	(0.14)		(0.18)
Intercept	-15.19	-11.83	5.57
	(10.42)	(26.16)	(16.08)
Observations	1,200	400	800
Log Likelihood	$-1{,}198.75$	-280.21	-882.90
Akaike Inf. Crit.	2,527.50	682.43	1,891.80
Note:	*p<0.1; **p<0.05; ***p<0.01		

Discussion and Interpretation of Key Coefficients

- Interestingly, competitiveness is not statistically significant in the pre Stafford act model. However, in both the full and post Stafford model, the effect of competitiveness is positive and statistically significant. This makes sense, as presidents did not have the power to make as large of an impact pre stafford act. Post stafford act, it makes sense that presidents tried to leverage their new power in the hopes of gaining more electoral support.

- The effect of actual disasters is positive and statistically significant in all three models. It makes sense, and is perhaps obvious, that as actual disasters increase disaster declarations also increase.
- The effect of insurance dollars is positive in all models but only statistically significant for the full model. This suggests that the size of a disaster is not necessarily correlated with an increased likelihood in a disaster declaration.
- The effect of year of administration changes from pre Stafford to post Stafford. Pre Stafford act, the president (Reagan) declared the most disasters on average in year 2 of the administration. Post Stafford act, the presidents on average declared the most disasters in year 4 of administration. It makes sense that presidents were more likely to declare disasters near the end of their term, in election years, if they wanted to gain the most electoral support for their actions. It is similar to the way a president might enact more fiscal policy in year 4 in an effort to boost the economy before an election.