THE IMPACT OF POLITICAL IDEOLOGY AND MASS SHOOTINGS ON FIREARM ACQUISITION IN THE UNITED STATES

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Abstract

This research explores the determinants of firearm acquisition in the United States in two parallel areas: (1) the impact of political ideology, and economic well-being and (2) the impact of mass shootings.

Impact of Political Ideology
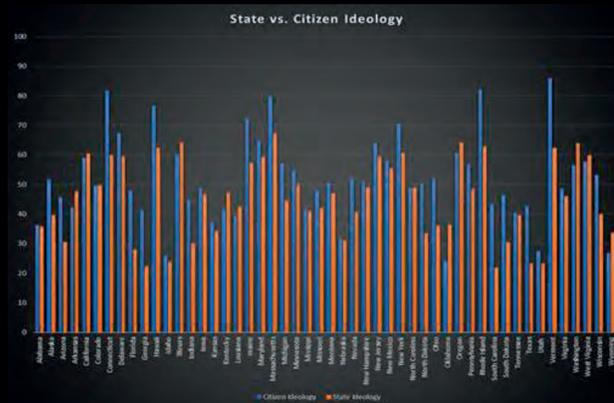

State vs. Citizen Ideology

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In an attempt to identify the influence of political ideology on firearm acquisition, proper data sets were selected to quantify these variables. Economist Jurgen Brauer created a data set by adjusting the FBI's National Instant Criminal Background Check records to more realistically represent firearm acquisitions. Political Ideology is typified using two separate indices: citizen and state. Citizen Ideology measures the average location of the the active electorate in each state and State Ideology measures the average location of the elected officials in each state on a liberal conservative continuum.

Two separate simple linear regressions were conducted in order to analyze the relationship between both state and citizen political ideology and firearm acquisition within the United States, from 2003 to 2016. These regressions determined that approximately 5.3% of the variation in firearm sales can be explained by state political ideology, and approximately 3.4% by Citizen Political Ideology.

Estimates of Firearm Sales							
	2003	2005	2007	2009	2011	2013	2015
Citizen Ideology	-70.3211	-138.189	-185.409	-293.918	-562.719	-384.316	-243.4
	(36.651)	(39.68071)	(63.33071)	(73.55617)	(91.68804)	(95.4782)	(123.3626)
Constant	17479.2	22187.14	29579.5	39425.05	54240.63	54031.84	50126.74
	1890.79	2202.689	3862.535	4204.603	4600.216	4975.179	6292.22
State Ideology	65.67	-137.86	-204.47	-56.11	-90.62	-93.51	17.54
	(42.72)	(75.32)	(625.66)	(82.67)	(79.85)	(-110.09)	(122.81)
Constant	12024.46	19782.17	30592.39	28052.97	32072.51	37967.82	37567.38
	(2186.74)	(2102.04)	(3125.44)	(4127.15)	(4106.32)	(3542.82)	(4902.76)
	0.00612	0.019878	0.01413	0.026006	0.059256	0.026379	0.006468
Observations	50	50	50	50	50	50	50

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Impact of Mass Shootings

In an attempt to identify the affect of mass shooting events on firearm acquisition, the appropriate Autoregressive Integrated Moving Average (ARIMA) model was determined. This model transformed the raw firearm sales data into a stationary form, meaning it no longer contains a trend or seasonality, more appropriate for forecasting. This model was used to create forecasts of firearm sales for the months surrounding seven selected mass shootings.
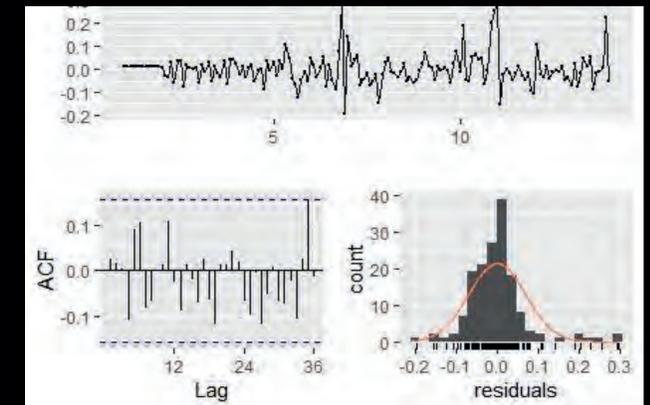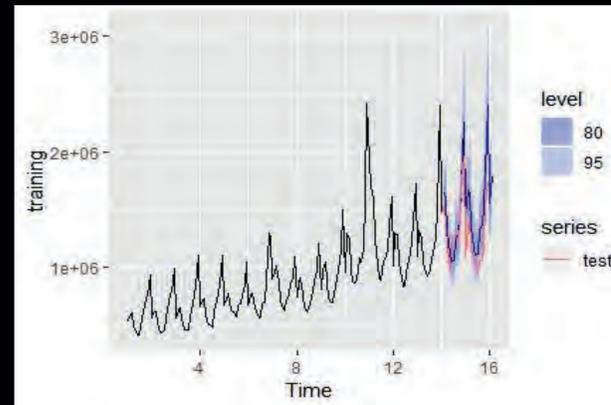

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This model was used to create forecasts of firearm sales for the months surrounding seven selected mass shootings. These forecasts were compared to actual observed sales for the time period, in an attempt to identify any variation in firearm sales potentially caused by the mass shooting event. The earliest selected mass shooting, Virginia Tech, showed an increase in firearm sales of approximately 10.4% in the months following and the most recent shooting, Las Vegas, showed an increase of approximately 2.2%.

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Summary

Throughout modern history, firearm acquisitions have been increasing dramatically and the contributing variables to this shift have been poorly understood. This research indicates that though there is a slight correlation between variables such as political ideology and unemployment levels and firearm acquisition – there is no evidence for causality. The data does suggest increased firearm acquisition following mass shooting events, with the largest spikes following earlier events and decreasing influence in later years.

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