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Does Killing Drug Cartel Leaders Increase Violence in Mexico?

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Does Killing Drug Cartel Leaders Increase Violence in Mexico?

Summary

Soon after Felipe Calderon became president of Mexico, he drastically changed the country’s policy concerning drug cartels and drug trade. The policy moved from destroying production of drugs, such as burning poppy and marijuana fields, to an attack on the organization of the Drug Cartels. Opponents of this action, argue that the policy has been ineffective in reducing drug flow, but has only increased violence. One argument made for the increasing violence is that the killing of drug cartel leaders leads to fractionalization and competition within the cartel. This fractionalization then leads to violence as different members of the cartel fight for power. I conduct my research to determine if this is true.

Data

The dataset utilized in this research to determine the number of "executions", or drug related homicides, is from the University of San Diego’s Justice in Mexico Project. The data is compiled using a data set from the Mexican government and another from the Mexico City newspaper Reforma. The data reporting the street price of methamphetamines was found through the Executive Office of the President’s report National Drug Control Strategy. The data for the Merida Initiative was found from the Congressional Research Service’s report: U.S. Mexican Security Cooperation.

Method

One of the main evidences used for the argument that the death/capture of drug lords increases violence was the killing of Arturo Leyva of the Beltrán-Leyva Cartel and the following battle for power between two rival factions, one led by Arturo’s sibling, Héctor Leyva, and the other headed by U.S. citizen Edgar Villarreal. To see this effect I examined the weekly executions in the state of Morelos, where he was captured, and searched for a break in the data. To do so I used a method called a Chow test to determine if the data before the time of Leyva’s death is statistically different than the data after. To continue the research I determined 10 other drug lords with a reward of 30 million Pesos (the top reward offered) and conducted the same test within the state they were killed/captured. I then recorded the Chow test’s change in intercept and change in lag coefficient. Still not fully convinced of the results I conducted a random effects panel model to determine if the deaths/captures had an effect quantitatively as well as qualitatively. To control for omitted variable bias I integrated into the model prominent variables that the literature claims effects executions: Governor party affiliation, location, U.S. drug demand, and U.S. funding for the War on Drugs. I also test if the death/capture only has a lagged reorganization effect. This was done on a separate model but is shown here on the same graph.

Results

As is evident by time series, Arturo Leyva’s death likely increased the level of violence in that area. However, by looking at Ignacio Villarreal’s death we can see that this is not always the case. All Chow tests represented a break in data except in Baja California Sur. The graph “change in intercept” shows that there are only 4 instances when a death/capture caused a positive increase in the intercept. Most exhibited little to no change in intercept and still passed the Chow test because the Lagged autoregressive component changed. These two graphs, while not capturing the whole picture, attempt to demonstrate that though the death/capture does affect executions, it does not necessarily increase them. This is further confirmed in the random effects model which shows that the death/capture effect statistically significant with a coefficient of -1.63. This means that executions actually decrease when a drug cartel leader is killed/captured.