Indigenous Resistance to Criminal Governance

Why Regional Ethnic Autonomy Institutions Protect Communities from Narco Rule in Mexico

ONLINE APPENDIX

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Research design for quantitative analysis

To assess the external validity of our argument and findings based on a paired comparison of the indigenous highlands of Guerrero and Chihuahua, we conduct a quantitative analysis to test for the impact of indigenous mobilization and ethnic autonomy institutions on the spread of criminal violence across 881 indigenous municipalities in Mexico. These are Mexican municipalities that at any time between 1970 and 2000 had at least 10 percent indigenous-language speakers.

Mexico experienced a major cycle of indigenous protest between 1975 and 2000 and the development of subnational ethnic autonomy institutions between 1995 and 2000. We rely on information from the Mexican Indigenous Insurgency Dataset (MII) (Trejo 2012), which accounts for all instances of indigenous protest that took place in Mexico's 881 indigenous municipalities between 1975 and 2000. We use information from the MII Dataset and from government statistics reported by Trejo (2012) to identify the diverse de jure and de facto ethnic autonomy arrangements that were established following the 1994 Zapatista rebellion in Chiapas. This involves a wide range of arrangements, including, among others, the Zapatista Autonomous Municipalities and Regions in Chiapas, the CRAC-PC in Guerrero, and the system of Usos y Costumbres prevalent in over two-thirds of Oaxaca's municipalities, where citizens select municipal authorities by means of indigenous customary laws and practices.

We estimate a cross-sectional negative binomial model to assess the impact of indigenous mobilization and ethnic autonomy developed in the 1990s on the cumulative drug-related murders in the 2007–2012 period. This is a particularly important period because the state's war on the cartels created a major spike in state-cartel and inter-cartel wars. In this context, cartels and their criminal associates engaged in major turf wars and, to remain competitive in these wars, began developing subnational criminal governance regimes. As we explain in the article, we are not directly testing for criminal governance, but for one of the structural conditions (the intensification of war and violence) that led to the development of criminal governance. We use information from the Criminal Violence in Mexico (CVM) dataset (Trejo and Ley 2018a).

We rely on a Negative Binomial Model because this is the most appropriate estimation technique for the statistical analysis of count data (murders) that exhibit overdispersion (variance greater than the mean).

We control for social, economic, and political conditions that may have affected criminal violence during our study period, 2007–2012. We use census information from 2005.

Description of variables used in quantitative analysis

Table A.I describes the variables used in the quantitative analysis and the main information sources.

Table A.I. Variable description

Variable	Description	Source
Inter-cartel violence, 2007–2012	Cumulative count of all drug-related murders during the 2007–2012 period	Criminal Violence in Mexico Dataset, Trejo and Ley (2018a)
History of mobilization, 1975–2000	Cumulative count of all indigenous protest events per indigenous municipality from 1975 to 2000	Trejo (2012)
Ethnic autonomy institutions, 1994–2000	Dichotomous variable equal to 1 if de jure or de facto institutions of autonomous indigenous governance were developed in the municipality during the 1994–2000 period	Trejo (2012)
Public prosecutors, 2005	Public prosecutors per 10,000 population	Instituto Nacional de Estadística y Geografía (INEGI)
Marginality index, 2005	Composite index that measures municipal access to public goods and services, including water, sewage, health, education, paved roads and highways	Mexican Population Bureau (CONAPO)
Indigenous population, 2005	Percent of indigenous-language speakers in 2005	Instituto Nacional de Estadística y Geografía (INEGI)
Ages 15–34, 2005	Percent of young population ages 15 to 34	Instituto Nacional de Estadística y Geografía (INEGI)
Sex ratio, 2005	Ratio of males versus females	Instituto Nacional de Estadística y Geografía (INEGI)
Female-headed households, 2005	Percent of female-headed households	Instituto Nacional de Estadística y Geografía (INEGI)
Ln. Population, 2005	Natural logarithm of municipal population	Instituto Nacional de Estadística y Geografía (INEGI)
Migrant population, 2005	Percent of migrant	Instituto Nacional de

	population, either living in another state or abroad	Estadística y Geografía (INEGI)
Ln. Confiscated poppy hectares, 2000–2006	Natural logarithm of confiscated poppy hectares for the 2000–2006 period. Since many municipalities had a value of 0, in order to calculate the natural log we added 1 unit to all municipalities and then estimated the natural log.	Sedena (2016)
Ln. Confiscated marijuana hectares, 2000–2006	Natural logarithm of confiscated marijuana hectares for the 2000–2006 period. Since many municipalities had a value of 0, in order to calculate the natural log we added 1 unit to all municipalities and then estimated the natural log.	Sedena (2016)
Effective number of parties, 2005	Effective number of parties in municipal elections	State electoral institutes

Regression Results

Table 3. The Impact of Indigenous Mobilization and Ethnic Autonomy on Inter-Cartel Violence in Mexico, 2007-2012 (Negative Binomial Models)

	Model 1	
	Coefficient	**IRR**
Regional autonomy institutions		
History of mobilization, 1975-2000	0.043**	1.044
	[0.021]	
Ethnic autonomy institutions, 1994-2000	-0.047	0.954
	[0.339]	
Mobilization x Ethnic autonomy	-0.051**	0.951
	[0.021]	
State controls		
Public prosecutors, 2005	0.812**	2.252
	[0.380]	
Marginality index, 2005	0.022	1.023
	[0.021]	
Socioeconomic controls		
Indigenous population, 2005	-0.023***	0.977
	[0.009]	
Ages 15-34, 2005	0.077	1.080
	[0.070]	

Sex ratio, 2005	0.063	1.065
	[0.054]	
Female headed households, 2005	0.041	1.042
	[0.047]	
Ln. Population, 2005	2.159***	8.666
	[0.197]	
Migrant population, 2005	0.106	1.112
	[0.074]	
Ln. Confiscated poppy hectares, 2000-2006	0.447***	1.564
	[0.119]	
Ln. Confiscated marihuana hectares, 2000-2006	0.049	1.050
	[0.144]	
Political controls		
Effective number of parties, 2005	-0.139	0.870
	[0.192]	
Constant	-20.514***	
	[6.500]	
Observations	878	
Log-likelihood	-494.711	
BIC	1097.864	

Robust standard errors, clustered by state, in brackets
*** p<0.01, ** p<0.05, * p<0.10
IRR = Incidence Rate Ratios

Replication

Replication material can be found at: https://sandraley.net/data/