Fernanda Sobrino Macias

Princeton University
Department of Economics
Julis Romo Rabinowitz Building
Princeton, NJ 08544 USA

mmacias@princeton.edu
www.fersobrino.com
Phone: +1 (609) 375 62 80
Mexican citizen(F1 visa)

Placement Director:	Steve Redding	reddings@princeton.edu	(609) 258-4016
Graduate Administrator:	Laura Hedden	lhedden@princeton.edu	(609) 258-4006

Education

Ph.D. Candidate in Economics *2014-Present*
Princeton University

M.A. Economics *2018*
Princeton University

B.A. Economics *2013*
Instituto Tecnologico Autonomo de Mexico (ITAM)
graduated with highest honors

B.A Applied Mathematics *2013*
Instituto Tecnologico Autonomo de Mexico (ITAM)
graduated with highest honors

References

Thomas Fujiwara	Esteban Rossi-Hansberg	Micaela Sviatschi
Department of Economics	Department of Economics	Department of Economics
Princeton University	Princeton University	Princeton University
fujiwara@princeton.edu	erossi@princeton.edu	mariams@princeton.edu
609-258-6993	609-258-4024	609-258-4397

Research Fields

Primary Fields: Development, Crime
Secondary Fields: Industrial Organization, Economic Geography

Job Market Paper

"The Cartel Wars: Fighting Over The Opioid Crises"

The number of major drug trafficking organizations in Mexico has increased from four to nine in the last two decades.This was accompanied by an increase in drug trade related violence. This paper examines the relationship between competition and violence in illegal drug markets. In particular I exploit an external demand shock to the heroin market, the 2010 OxyContin reformulation. I construct a novel data set of cartel presence across municipalities by scraping Google News and using natural language processing.I exploit within municipality variation from combining agro-climatic conditions to grow opium poppy with heroin prices in the United States across time. Event study estimates suggest that cartel presence increases substantially after 2010 in municipalities well suited to grow opium poppy.Homicide rates increase in the number of active cartels per municipality, with the higher increases when a second and third cartel become active in the territory.These results suggest that some of the increase in violence that Mexico experienced in the last fifteen years can be attributed to criminal groups fighting for market shares of heroin.

Teaching Experience

Princeton University

ECO327 Industrial Organization,Professor Kate Ho	*2019*
ECO326 Internet Economics, Professor Swati Bhatt	*2016-2019*
ECO332 Health Economics, Professor Maria Rueda	*2017*
WWS562 Economic Analysis of Development, Professor Jeff Hammer	*2017*

ITAM

Monetary Policy (Instructor)	*2015*
Advanced Macroeconomics, Professor Felipe Meza	*2012*
Game Theory, Professor Cesar Martinelli	*2011*

Research Experience

Research Assistant for Cesar Martinelli, ITAM	*2010-2011*
Reserch Assistant for Felipe Meza, ITAM	*2012-2014*

Non-Academic Experience

Junior Consultant C3 International *2012-2013*

C3 International is a Mexican company that does data analysis for private companies.

Honors and Awards

Princeton University Graduate Fellowship	*2014-2019*
International Economics Section Research Support	*2016*
Highest GPA in B.A. in Economics, ITAM	*2013*
Highest GPA in B.A in Applied Math, ITAM	*2013*
Partial Scholarship ITAM , best entry exam	*2009-2013*

Skills

Computational:R, Python, Matlab, QGIS
Languages:Spanish(Native), English,French (fluent), Italian,Catalan(intermediate).

Other Activities

Captain of the Princeton Tae Kwon Do team	*2017-2019*
Tutor in the JSI of the Woodrow Wilson School, Princeton U	*2017-2019*
Center for the Mexican Ice Hockey National Team	*2012-2014*

Working Papers

"Drug Cartel Entry and Expansion" *with Patrick Signoret*
Drug trafficking organizations have become multi-product enterprises with varying levels of organization and presence across the world. In theory and practice, interactions and competition between them are often, but not always, accompanied by negative externalities such as high levels of violence. This paper develops an empirical model to assess when criminal groups enter a new territory and compete with others, and when such behavior produces violent outcomes. The model combines a rent seeking success function with an endogenous sunk cost entry game. We incorporate scale economies within each cartel, which means that entry decisions are not independent across location. This is particularly relevant in illegal markets were entry fixed costs depend on how well a group knows a location is able to establish relationships with local authorities. The model allows for flexible competition patterns between cartels. After estimating the model using detailed homicide data and a novel dataset of cartel presence across Mexico, we evaluate how entry patterns react to various external shocks.

"The Mexican Connection" *with Patrick Signoret*
Mexican drug trafficking organizations are the largest producers or traffickers of heroin, marijuana, cocaine, and methamphetamines to the United States. This paper analyses how enforcement policies on both sides of the border affect potential smuggling routes. First, we use several data sources to build a data set that connects the Mexican cartels with local gangs (suppliers) in the United States. Then we build potential drug trafficking networks for each cartel that minimize trafficking costs, including the cost of government intervention and of turf war with competing groups. Using this baseline of most efficient routes, we estimate the impact of enforcement shocks along different segments of the network. The ultimate goal is to measure how violence disseminates across alternative routes when some of the cartels are forced to share a route due to increasing seizures or policing in a particular segment.

Data Projects

"Mapping Criminal Organizations" *with Marco Alcocer,Cecilia Farafan, Brian Phillips, Victor Manuel Sanchez and Patrick Signorent*
Empirical studies of organized crime and criminal violence have been limited by a dearth of high-quality data on key attributes of violent criminal organizations including their structure, where they operate, what activities they engage in, and how they relate to one another. This project aims to fill this gap for Mexico and develop techniques that can be replicated elsewhere in Latin America.We are combining methods and sources, from hand-coding data to scraping and processing entire archives to interviewing knowledgeable local actors. A public platform will make updated data, procedures, and analyses transparent and available to all. Users will be able to download panel datasets on the activities and locations of criminal groups and their factions, disaggregated by source; visualize their evolution and relationships with other criminal groups through time; and read analysis that compares and validates existing sources and methods.This project is supported by the Center for U.S.–Mexico Studies at UCSD's Global Policy School, the Empirical Studies of Conflict Project, and the Mamdouha S. Bobst Center for Peace and Justice at Princeton University.