

US Criminal Deportations and Human Capital in Central America[†]

By MARIA MICAELA SVIATSCHI*

In the late 1980s, the United States began deporting gang members to try to reduce violence and crime in Los Angeles. The deportation increased further in 1996 and 2003 due to the Illegal Migration Reform, the Immigration Responsibility Act, and the Homeland Security Act. As a consequence of these laws, between 1998 and 2014 US immigration authorities logged almost 300,000 deportations of Central American immigrants with criminal records back to their countries of origin, including an unknown number of gang members. The purpose of these policies was to advance criminal justice and to control migration. But these policies may also have had the unexpected, long-run impact of helping to spread criminal gangs across Central America and back into other places in the United States, where such gangs did not exist before.

This paper contributes to the literature on migration (e.g., Abramitzky and Boustan 2017; Rocha, Ferraz, and Soares 2017; Hornung 2014; Grosjean 2014), deportation (e.g., Jakubowski 2010; Blake 2015; Rozo, Raphael, and Anders 2017; Kalsi 2018) and human capital (e.g., Bayer, Hjalmarrsson, and Pozen 2009; Deming 2011; Aizer and Doyle 2015; Damm and Dustmann 2014) by arguing that the increase in criminal capital in Central America due to deportations from the United States can explain a reduction in human capital investments in that region. Although these deported criminals may have had a direct effect on crime when released in Central

America, they may also generate potential spill-over effects on children. In this paper, I ask whether peer effects generate changes in education investments in the areas where deported criminals are located in Central America.

To make this case, I exploit a change in US deportation policies—the Illegal Immigration Responsibility Act—that occurred in 1996 along with administrative data from El Salvador to perform descriptive analysis. Despite the increase in deportations in the last decade, data limitations and endogeneity concerns have previously prevented researchers from learning much about the effects of US criminal deportations in Central America. There are two endogeneity concerns. First, the period of when criminal deportees arrive in their countries of origin may not be random. Second, criminal deportees may choose to locate in areas that have a larger number of criminals or maybe higher economic activity. This paper overcomes both the data and some of the identification challenges in the context of El Salvador.

I. The Origin of Gangs

In the 1970s and 1980s, as a result of the civil war in El Salvador, many Salvadorans migrated to Los Angeles, California, where there were already Mexican and African American gangs. For self-defense, many of the Salvadoran youth who came with their families to escape the civil war created their own gang, Mara Salvatrucha or MS-13, while others joined the Mexican gang, Neighborhood-18 (Savenije 2009). Though they were not especially violent at first, after spending time in prison in Los Angeles they learned drug sales and extortion, and became skilled in violence.

In 1996, the passage of the Illegal Immigration Responsibility Act drastically increased the number of criminal deportations by adding new grounds for deportations. For example,

* Department of Economics, Princeton University, 128 JR Rabinowitz, Princeton, NJ, 08542 (email: m sviatschi@princeton.edu). I am grateful for feedback from Roland Benabou, Leah Boustan, Zach Brown, Janet Currie, Will Dobbie, Thomas Fujiwara, Jonas Hjort, Bentley Macleod, Eduardo Morales, Suresh Naidu, Kiki Pop-Eleches, Maria Fernanda Rosales, Violeta Rosenthal, Jake Shapiro, Miguel Urquiola, Tom Vogl, and Leonard Wanchekon.

[†] Go to <https://doi.org/10.1257/pandp.20191061> to visit the article page for additional materials and author disclosure statement(s).

immigrants convicted of crimes carrying prison sentences of more than a year would be deported. The Act caused the leaders of large Salvadoran gangs, many of whom likely developed into criminals while growing up in Los Angeles, to be sent back to El Salvador.

This gang deportation brought to El Salvador criminal knowledge and connections that had not previously existed there. El Salvador today has the highest murder rate in the world and much of this violence has been attributed to gangs. MS-13 is a good example of how gangs expand. It evolved from a local gang in Los Angeles into a violent transnational organization, active across the United States and many Central American countries. Recent estimates place MS-13 membership in the United States at between 8,000 and 10,000 individuals across 33 states and more than 100,000 individuals across Central America.

A. Location of Gangs in El Salvador

Once in El Salvador, gang deportees gained their freedom and most members of the two main gangs that originated in the United States (MS-13 and B-18) went back to their municipalities of birth (DeCesare 1998). Since it is often difficult to integrate back into Salvadoran society, deportees often band together and displace small, local street gangs. Gang deportees quickly begin controlling the territory and according to conversations with the police, in the extreme case of San Salvador, by the mid-2000s, gangs have clear boundaries that remain stable up to the present.

Data from census shows that in 1992, before the deportation shock in 1996, gang areas were similar to non-gang areas and had higher levels of education than non-gang areas. Sviatschi (2018) shows that having a gang leader deportee born in the municipality is significantly correlated with having a gang of US origin but is not correlated with the presence of small, local gangs.¹ Moreover, it predicts having a gang of US origin even after controlling for previous levels of violence and education, suggesting that the municipality of birth is highly predictive of the location of gangs.

Once they arrived in 1996, gang deportees' main activities were committing extortion and selling drugs, which they may have learned in the United States. Moreover, gangs started recruiting Salvadoran children who had never been exposed to US neighborhoods by providing a self-care organization for teens in their early adolescence who were affected by civil war and immigration. Recent surveys show that status, respect, and a sense of collective identity are the most important factors for gang recruitment. Most children join gangs out of a desire for respect and friendship; this may have played a more important role in the expansion of gangs than the illicit accumulation of wealth (e.g., Cruz and Peña 1998; Cruz 2007).

Overall, the deportation of gang members has not only increased the number of criminals living in El Salvador but may have spurred the recruitment of children and spread criminal knowledge acquired in US prisons, reducing educational investments in El Salvador.

II. The Effect of US Gangs on Education

In this section, I exploit the increase in criminal deportations from the United States in 1996 to analyze how individuals who grew up in municipalities affected by gangs in 1996 have fewer years of schooling when they are young adults.

Total years of schooling: to analyze the effects of the presence of gang deportees on education, this paper takes advantage of data on educational outcomes from the 2007 census. Census data allows me to look at the total number of years of education completed by people who are born before 1989, because these are the individuals who turned 18 by 2007 and have probably already completed their education.

I define gang presence as municipalities that experienced at least one homicide committed by gangs in the 2002 data.

In order to causally examine the long-term effects of criminal deportations on schooling, I estimate the effect of being exposed to criminals during childhood at relevant schooling ages. Identification comes from variation in the years of exposure to criminal deportees at different ages and from gang presence across municipalities of birth. Equation (1) presents the specification:

$$(1) \text{YearsEducation}_{mc} = \beta \text{Age1996}_c \times \text{Gang}_m + \alpha_c + \gamma_m + \varepsilon_{mc},$$

¹For more details about the data see Sviatschi (2018).

TABLE 1—CRIMINAL DEPORTATIONS FROM THE UNITED STATES AND YEARS OF SCHOOLING IN EL SALVADOR

	(1)	(2)	(3)	(4)
<i>GangShockAge7x9</i> _{<i>m,c</i>}	−0.987 (0.238)	−1.084 (0.220)	−1.125 (0.261)	−1.295 (0.383)
<i>GangShockAge10x12</i> _{<i>m,c</i>}	−0.491 (0.156)	−0.561 (0.176)	−0.623 (0.213)	−0.692 (0.335)
<i>GangShockAge13x15</i> _{<i>m,c</i>}	−0.207 (0.086)	−0.236 (0.125)	−0.316 (0.143)	−0.283 (0.237)
<i>GangShockAge16x18</i> _{<i>m,c</i>}	−0.049 (0.054)	−0.064 (0.073)	−0.103 (0.078)	−0.104 (0.128)
Observations	1,319,566	1,030,666	848,208	848,208
Municipality FE	✓	✓	✓	✓
Yob FE	✓	✓	✓	✓
Trends		✓	✓	✓
Sample	All	Non- migrants	All	All
Urban IV			✓	✓

Notes: *GangShockAge*_{*x*}_{*m,c*} is the interaction between the measure of gang presence in the municipality of birth and a dummy indicating the age *x* in 1996. The omitted category is a dummy indicating whether individuals were between 19 and 20 years old at the time of arrival of gangs in El Salvador. The dependent variable is the total years of schooling of individual *i* born in municipality *m* in year *c*. All specifications control for municipality of birth and year of birth. Cluster standard errors at the municipality of birth level in parentheses.

where *m* indexes the municipality of birth and *c* the birth year; *YearsEducation*_{*m,c*} is the total years of education for an individual born in year *c* and in municipality *m*; *Gang*_{*m*} is a dummy indicating whether gangs were present in the municipality of birth; *Age1996*_{*c*} is the age in 1996. The term α_c indicates year of birth fixed effects and controls for specific cohort effects. The term γ_m indicates municipality of birth fixed effects and control for time-invariant characteristics of the municipality that may be correlated with both childhood exposure and schooling.

Table 1 presents the results of being exposed to deportee criminals at different ages of childhood. The dependent variable is the number of years of schooling of individuals between 18 and 45 per cohort-municipality of birth. Column 1 shows that individuals who were exposed during childhood to gang leaders have less schooling than those who were older than 16 in 1996 when the law was passed. Column 2 shows the results of limiting the sample to individuals who lived in the same neighborhood all their life. Results are also robust to using as instrumental variable the place of birth of gang leaders, including municipality time trends, and keeping only urban areas.

III. Discussion

This paper takes a first step toward understanding how criminal deportations may have affected human capital investments in Central America using administrative data in El Salvador. Although it has been suggested by many that US deportation policies contributed to the development of gangs in El Salvador, results from this paper also show that the increase in US criminal deportations led to a decline in years of education for youth cohorts who were presumably exposed to a higher gang presence during their childhood years. In the future, I intend to extend these results by showing how deportation policies may have created a self-reinforcing cycle by increasing gang recruitment and child migration back to the United States. Results from this paper are highly relevant from a public policy perspective. In recent years, gang activity in Central America has pushed children out of the country and has increased the number of unaccompanied children coming to the United States. Moreover, El Salvador is nowadays known as the murder capital of the world. Understanding the factors that have contributed to this outcome is, therefore, highly relevant

for policymakers. At the same time, MS-13 has been designated by the United States as a global criminal organization on par with the Zetas of Mexico or the Yakuza of Japan. It is therefore crucial that we understand whether deportation policies may have contributed to the expansion of this criminal organization and to determining which policies could potentially help undermine gang activity and the recruitment of children.

REFERENCES

- Abramitzky, Ran, and Leah Boustan.** 2017. "Immigration in American Economic History." *Journal of Economic Literature* 55 (4): 1311–45.
- Aizer, Anna, and Joseph J. Doyle, Jr.** 2015. "Juvenile Incarceration, Human Capital, and Future Crime: Evidence from Randomly Assigned Judges." *Quarterly Journal of Economics* 130 (2): 759–803.
- Bayer, Patrick, Randi Hjalmarsson, and David Pozen.** 2009. "Building Criminal Capital behind Bars: Peer Effects in Juvenile Corrections." *Quarterly Journal of Economics* 124 (1): 105–47.
- Blake, Garfield O.** 2015. "Using Increases in Criminal Deportees from the US to Estimate the Effect of Crime on Economic Growth and Development in Latin America and the Caribbean." *Laws* 4: 691–708.
- Cruz, José Miguel.** 2007. *Street Gangs in Central America*. San Salvador: UCA Editores.
- Cruz, José Miguel, and Nelson Portillo Peña.** 1998. *Solidaridad y Violencia en las Pandillas del Gran San Salvador: Más allá de la Vida Loca*. Vol. 9. San Salvador: UCA Editores.
- Damm, Anna Piil, and Christian Dustmann.** 2014. "Does Growing Up in a High Crime Neighborhood Affect Youth Criminal Behavior?" *American Economic Review* 104 (6): 1806–32.
- DeCesare, Donna.** 1998. "The Children of War Street Gangs in El Salvador." *NACLA Report on the Americas* 32 (1): 21–29.
- Deming, David J.** 2011. "Better Schools, Less Crime?" *Quarterly Journal of Economics* 126 (4): 2063–2115.
- Grosjean, Pauline.** 2014. "A History of Violence: The Culture of Honor and Homicide in the US South." *Journal of the European Economic Association* 12 (5): 1285–1316.
- Hornung, Erik.** 2014. "Immigration and the Diffusion of Technology: The Huguenot Diaspora in Prussia." *American Economic Review* 104 (1): 84–122.
- Jakubowski, Jonathan Robert.** 2010. "Do Criminal Deportations Affect Homicide Rates in Central America?" Master's thesis. Georgetown University.
- Kalsi, Priti.** 2018. "The Impact of U.S. Deportation of Criminals on Gang Development and Education in El Salvador." *Journal of Development Economics* 135: 433–48.
- Rocha, Rudi, Claudio Ferraz, and Rodrigo R. Soares.** 2017. "Human Capital Persistence and Development." *American Economic Journal: Applied Economics* 9 (4): 105–36.
- Rozo, Sandra V., Steven Raphael, and Therese Anders.** 2017. "Deportation, Crime, and Victimization." https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2833484.
- Savenije, Wim.** 2009. *Maras y Barras: Pandillas y Violencia Juvenil en los Barrios Marginales de Centroamérica*. San Salvador: FLACSO Programa El Salvador.
- Sviatschi, Maria Micaela.** 2018. "Making a Gangster: Exporting US Criminal Capital to El Salvador." http://www.micelaasviatschi.com/wp-content/uploads/2018/11/making_ganster11x5x2018_web.pdf.