Gangs, Labor Mobility, and Development*

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Abstract

We study how two of the world's largest gangs—MS-13 and 18th Street—affect economic development in El Salvador. We exploit the fact that the emergence of these gangs was the consequence of an exogenous shift in American immigration policy that led to the deportation of gang leaders from the United States to El Salvador. Using a spatial regression discontinuity design, we find that individuals living under gang control have significantly less education, material wellbeing, and income than individuals living only 50 meters away but outside of gang territory. None of these discontinuities existed before the emergence of the gangs. The results are confirmed by a difference-in-differences analysis: after the gangs' arrival, locations under their control started experiencing lower growth in nighttime light density compared to areas without gang presence. A key mechanism behind the results is that, in order to maintain territorial control, gangs restrict individuals' freedom of movement, affecting their labor market options. The results are not determined by exposure to violence or selective migration from gang locations. We also find no differences in public goods provision.

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I Introduction

How do non-state armed actors, such as criminal organizations, affect economic growth? In developed societies, the effect is likely to be negative as they might impede the government from providing public goods, enforcing property rights and contracts, and preventing violence (Acemoglu, Johnson, and Robinson, 2001; Michalopoulos and Papaioannou, 2013). On the other hand, if the government is weak and unable to control parts of its territory, non-state armed actors may take the role of the government and fulfill essential institutional functions, potentially enabling economic growth (Arjona et al., 2019; Bates, Greif, and Singh, 2002; De la Sierra, 2020; Olson, 1993; Tilly, 1985).[1] In this paper, we study how a specific type of non-state armed actors—namely, criminal organizations—affect socioeconomic development in Latin America. In this setting, criminal organizations mainly function in urban centers, often controlling certain parts of the city, while the others are controlled by the state.

Drug cartels and gangs, have been greatly responsible for the recent increase in violent crimes, making Latin America home to 43 of the 50 cities with the highest homicide rates in the world.[2] These criminal organizations often have complete control over certain neighborhoods—and sometimes even cities—with the government being unable to enter those locations. In many aspects, these areas resemble autocratic states, with criminal groups having nearly unlimited control over the residents and using their power to extract rents from the population, often via extortion and drug selling.

In this paper, we analyze the effect that two of the world's most powerful gangs— MS-13 (*Mara Salvatrucha*) and 18th Street (*Barrio 18*)—have on socioeconomic development in El Salvador.[3] We exploit a natural experiment that took place in the 1990s. Before 1997, El Salvador did not have any powerful gangs. However, in 1997, the United States began implementing a new immigration policy, which made it easier to deport individuals with criminal backgrounds back to their country of origin. As a result, many Salvadoran migrants, who were members of California-based gangs (i.e., MS-13 and 18th Street), were deported back to El Salvador, where

[1] The origins of gangs in California and of the Italian Mafia are also related to the inability of the state to regulate illegal activities and protect landowners' property rights (Acemoglu, De Feo, and De Luca, 2019; Bandiera, 2003; Gambetta, 1996; Skarbek, 2011).

[2] An overview of which cities have the highest homicide rates can be found in this article by the Economist (accessed on May 8, 2020).

[3] Both MS-13 and 18th Street also have a major presence in Honduras, Guatemala, and parts of Italy, Mexico, Spain, and the United States. Moreover, similar criminal organizations are also present in many other countries (e.g., Brazil, Colombia, Jamaica, Japan, South Africa, etc.).

they established these gangs and quickly gained control over certain parts of the country.

To estimate the effect that gangs have had on socioeconomic development, we perform two empirical exercises. First, we use the boundaries of the gang-controlled neighborhoods in El Salvador's capital, San Salvador, to perform a spatial regression discontinuity design. The outcome variables come from the 2007 census and from our own geocoded survey, which we conducted in 2019. Both the 2007 census and the 2019 survey included respondents from gang-controlled areas as well as individuals living outside of gang territory. Second, we perform a difference-in-differences analysis, comparing the growth in nighttime light density in locations with high and low gang presence between 1992 and 2013.

The results from the spatial regression discontinuity design indicate that residents of gang-controlled neighborhoods in San Salvador have worse dwelling conditions, less income, and lower probability of owning durable goods compared to individuals living just 50 meters away but outside of gang territory. They are also less likely to work in large firms. The magnitudes are very large. For instance, we find that residents of gang areas have $350 lower income compared to individuals living in neighboring non-gang locations and have a 12 percentage points lower probability of working in a firm with at least 100 employees.

These differences in living standards did not exist before the arrival of the gangs. In particular, we replicate the regression discontinuity design with data from the 1992 census, showing that, at that time, neighborhoods on either side of the boundary of gang territory had similar socioeconomic and geographic characteristics. The difference-in-differences analysis confirms this result: after the arrival of the gang members from the United States, areas with gang activity experienced lower growth in nighttime light density compared to places without gang presence, while before the deportations, both types of locations experienced similar rates of growth.

A key mechanism through which gangs affect socioeconomic development in the neighborhoods they control is related to restrictions on individuals' mobility. In order to maintain control over their territory and prevent the police and members of rival gangs from entering it, both MS-13 and 18th Street have instituted a system of checkpoints, not allowing individuals to freely enter or leave their neighborhoods (International Crisis Group, 2018). Our analysis suggests that, as a result of these restrictions, residents of gang-controlled areas often cannot work outside of gang territory, being forced to accept low-paying jobs in small firms in the neighborhoods where they live.

Using the data from the geocoded survey that we conducted in 2019, we perform a spatial

regression discontinuity design to document the presence of these restrictions on individuals' mobility. For instance, we show that residents of gang areas are less likely to have been to places outside of San Salvador and to say that there is freedom of movement in the neighborhood where they live. We also document that they are 11 percentage points more likely to work in the same neighborhood where they live and 50 percentage points more likely to work inside of gang territory. Importantly, while individuals who both live and work in gang-controlled areas have significantly worse labor market outcomes than individuals from outside of gang territory, this gap is much smaller for residents of gang locations who work in non-gang areas. For instance, the latter respondents have an 85% smaller gap in the probability of working in large firms with at least 100 employees compared to the other individuals from gang areas. Similarly, they have a much smaller gap in income.[4]

We examine other potential determinants of lower socioeconomic development in gang-controlled neighborhoods but do not find evidence in their support. In particular, we find no differences in the availability and quality of public goods provision (i.e., schools, hospitals, etc.). This finding is consistent with the qualitative evidence, which suggests that the government has been willing to provide public goods in gang-controlled areas in order not to ostracize the residents of those locations. In addition, the government may have been motivated by political considerations: without providing public goods in gang-controlled neighborhoods, political parties would likely have been unable to campaign in those areas (e.g., see Córdova, 2019).[5] We do not find evidence that the gangs themselves provide public goods, financial assistance, or help resolve security, legal, and civil problems in the neighborhoods that they control.[6]

We also show that lower socioeconomic development of gang-controlled neighborhoods cannot be explained by selective migration of individuals across the boundary of gang territory, differential exposure to violence, or higher levels of unemployment and informal employment in gang-controlled neighborhoods. Overall, although we cannot definitevely say that restrictions on individuals' mobility are the sole mechanism behind the lower socioeconomic development

[4]These results support the conclusions of the existing literature, which has suggested that the mobility of labor and goods facilitates economic development and integration (e.g., see Asher and Novosad, 2018; Calì and Miaari, 2018; Donaldson, 2018; Faber, 2014)

[5]This stems from the client-broker relationship between the political parties and the gangs, particularly during elections. In order to campaign in gang-controlled neighborhoods, political parties need to provide public goods in those areas.

[6]This result may be different in other settings where criminal organizations have territorial control. In particular, in San Salvador, the gangs might not provide these services because the government has been willing to provide them. However, in settings when the government is not willing and able to do this (e.g., in rural areas where the government is not present), criminal organizations may perform these services.

of gang areas, we are able to reject a number of other plausible explanations.

Our results present several important policy implications given that a significant share of the urban population in developing countries lives in areas controlled by criminal organizations (Blattman et al., 2019). By measuring the effect that gangs have on economic development in El Salvador, we shed light on the costs of organized crime in developing countries. The results are particularly relevant to locations where criminal organizations restrict freedom of movement. For example, non-state armed actors in Brazil and Colombia also regulate the movement of people for tax collection purposes and to keep territorial control (Arjona et al., 2019; Magaloni, Franco Vivanco, and Melo, 2020). Our results also shed light on the consequences of deporting individuals with criminal records to a country with low state capacity. In particular, apart from the direct effect on such countries, the increase in criminal activity abroad may also have an indirect effect on the rest of the world (e.g., due to drug trafficking and the number of refugees).[7]

This paper is related to the literature studying the effects of organized crime (Acemoglu, De Feo, and De Luca, 2019; Alesina, Piccolo, and Pinotti, 2019; Bandiera, 2003; Buonanno et al., 2015; Gambetta, 1996; Khanna et al., 2019; Pinotti, 2015; Skarbek, 2011; Sviatschi, 2019) and the industry of private protection (Frye and Zhuravskaya, 2000; Gambetta, 1996; Skaperdas, 2001). While most of the literature focused on the role of the Italian Mafia, we complement this literature by providing evidence on the socioeconomic impact of criminal organizations in developing countries with lower state capacity. We also document a novel mechanism through which criminal organizations can affect development outcomes. Unlike the Mafia, Latin American gangs often have complete control over entire neighborhoods, and, in order to maintain that control, they frequently restrict individual' mobility. This paper is also related to the literature studying the emergence and organization of criminal actors (Blattman et al., 2019; Carvalho and Soares, 2016; Dell, 2015; Lessing and Willis, 2019; Levitt and Venkatesh, 2000; Sviatschi, 2020). We complement these papers by providing causal evidence on the consequences of gang activity for socioeconomic development.

This paper also complements the literature studying criminal governance of armed groups (e.g., Arjona et al., 2019; Berman, Shapiro, and Felter, 2011; De la Sierra, 2020; Magaloni, Franco Vivanco, and Melo, 2020). In particular, while most of the work has focused on rural areas or cross regional differences in exposure to organized crime, these findings may not generalize to

[7]Criminal activities of gangs and drug cartels have recently displaced millions of people in El Salvador, Guatemala, Honduras, and Mexico (Clemens, 2017; Sviatschi, 2020).

urban settings. In urban settings, where criminal organizations and the state closely interact with each other, criminal organizations may be particularly concerned about maintaining their territorial security, and, thus, implement measures to protect the borders of the neighborhoods they control. Also, while in rural areas criminal organizations may provide public services that the government cannot provide, this is unlikely to be the case in urban areas, where the government has more capacity to provide public goods. As Glaeser and Sims (2015) point out, little is known about the consequences of crime in the urbanized developing world. Our paper aims to fill this gap.

The rest of this paper is structured as follows. Section II describes the rise of criminal organizations in El Salvador and their organization. Section III describes the main data sources used in this study. Section IV presents the regression discontinuity design. Section V analyzes the mechanisms driving the results. Section VI presents the difference-in-differences analysis. Section VII concludes.

II Historical Background

In this section, we present an overview of how MS-13 and 18th Street developed in Salvadoran migrant communities in the United States and how members of those gangs were then deported to El Salvador as a result of a shift in American immigration policy that took effect in 1997. We then describe how, once in El Salvador, the gangs quickly established their criminal structures, began recruiting, and gained territorial control over certain neighborhoods, particularly in urban centers such as the capital, San Salvador.

II.A The origins of MS-13 and 18th Street

Southern California, and especially Los Angeles, became home for thousands of Salvadorans fleeing the country's descent into civil war in the 1980s (Stanley, 1987). Lacking established network support, Salvadoran migrants lived in poor and overcrowded neighborhoods, often facing discrimination from other migrant groups (Brettell, 2011). In a typical family, both parents worked, often leaving the children without supervision (Savenije, 2009).

Left on their own and facing prejudice from other migrant groups and their gangs, some Salvadoran youth formed the precursors to MS-13, self-defense groups that were initially better known for petty crime, affinity to cannabis, and heavy metal rather than brutal violence,

while others joined an existing Mexican gang, 18th Street (Cruz, 2010; Dunn, 2007; Martínez and Martínez, 2018).[8] As membership grew across Salvadoran migrant communities, MS-13 and 18th Street became known to the local authorities, and some of their members were sent to prison, where they gained criminal capital and social connections that helped them solidify their structures (Martínez and Martínez, 2018; Womer and Bunker, 2010). By the mid-1980s, both MS-13 and 18th Street had developed independent identities, organizational structures revolving around neighborhood cliques (*clicas*), and a fierce rivalry that continues to date (Ward, 2013).

In 1996, in an effort to reduce crime in urban areas and deeming Central America "safe" after the end of the region's civil wars, the United States passed the Illegal Immigration Reform and Immigration Responsibility Act (IIRIRA) which took effect on April 1997 (Abrego et al., 2017; Chacón, 2009). IIRIRA drastically increased immigration enforcement, creating expedited removal procedures, adding new grounds for deportation, and increasing the number of border patrol agents. In practice, for El Salvador, this shift in American immigration policy had a profound impact on the number of forced removals of its citizens from the United States, significantly increasing the number of deportees in 1997 and subsequent years.

II.B The emergence of gangs in El Salvador

Given that they did not have criminal records in El Salvador, the repatriated gang members—many of whom were serving or served sentences in the United States—gained their freedom after returning to their home country (Ward, 2013). In 1997, El Salvador was still recovering from the consequences of the civil war which ended in 1992, and the Salvadoran state did not have sufficient resources to prevent the gangs from expanding. The 1992 Peace Accords mandated the creation of a new police force—the Civilian National Police (*Policía Nacional Civil*, PNC)—and at the time of the repatriations, the structure of the PNC was still being defined (e.g., there were no rural police units until 2004). As a result, in 1997, MS-13 and 18th Street filled the vacuum that existed because of the government's inability to enforce law and order in certain locations. Briscoe and Keseberg (2019) describe the situation in the following way: "Gangs did not steal the territory from the state, they simply occupied it when it was empty [after the armed conflict]."

Both MS-13 and 18th Street quickly expanded their control over many neighborhoods in El Salvador, particularly in urban areas such as the capital, San Salvador. Zoethout (2015) describes

[8] Prior to adopting their current name, MS-13 was known as MSS: *Mara Salvatrucha Stoners* (Martínez and Martínez, 2018).

how "gang activity evolved [...] negatively affecting citizen security, social cohesion and community sustainability" and how after the gangs became stronger, they "gained complete control of [certain] localities."

At the same time, the police built the capacity to prevent the gangs from expanding their territory further, which "finalized" the boundaries.[9] However, while the state gained the capacity to prevent the gangs from expanding their influence, it is still unable to establish control over the neighborhoods controlled by the gangs.[10] There have been attempts by the police to regain control over those locations, but they have been unsuccessful. In part, those efforts have failed because the gangs have formed ties with the local population, cultivating a network of informants that allows them to elude capture (Boerman and Golob, 2020; Cruz, 2010; Ward, 2013).

The importance of the boundaries of gang territory has been widely documented. International Crisis Group (2017) describes the situation as follows: "In some areas, gangs have accumulated so much power that they have become de facto custodians of these localities, setting up road-blocks, supervising everyday life and imposing their own law." In another interview to International Crisis Group (2018), a resident of San Salvador is even more direct: "Do you see that place across the road? I could never get in there since it's the 18th Street gang's territory. If they see me in there, they might think I'm a spy [...] and I could easily get killed."

How were the boundaries of gang territory formed? It is possible that when the gangs initially arrived in San Salvador in 1997, they began with establishing their rule over neighborhoods with particularly low levels of state presence. Thus, it is plausible that the areas deep inside of gang territory were different from locations far away from gang territory even before the arrival of the gangs. However, the gangs quickly concentrically expanded their territorial control, and the exact locations of the boundaries were determined primarily by the ability of the police to prevent the gangs from gaining control over a particular area at that particular point in time.

The identification assumption in this paper relies on the fact that, for places very close to the boundary of gang territory (i.e., only 10-50 meters from each other) treatment status is as good as random. Given that we are comparing locations that are only a few meters away from

[9] According to our conversations with the police and individuals from gang-controlled areas, in San Salvador, the boundaries were formed soon after the deportees arrived, and although there are turf wars between MS-13 and 18th Street, it is for the original territory seized in the late 1990s.

[10] In June 2019, the government launched the operation "Plan Territorial Control" (*Plan Control Territorial*), which seeks to regain control over gang territory. The launch of this plan and its name allude to the gravity of the situation and to the strength of the gangs: La Prensa Gráfica (accessed on October 5, 2019).

each other but on opposite sides of the boundary of gang territory, this assumption appears quite plausible. In particular, in Subsection IV.C, we show that areas close to the boundaries of gang territory did not have any pre-existing differences in socioeconomic conditions (e.g., quality of housing, the population's level of education, etc.), geography (e.g., elevation, access to the waterways, etc.), or crime.

II.C Gang activity, restrictions on mobility, and public goods

Once the gangs assert control over a particular neighborhood, they zealously protect it from outside influence. One of their main goals is to prevent members of rival gangs and police informants from entering the territory and jeopardizing their security. For this reason, both MS-13 and 18th Street introduced a system of checkpoints, requiring individuals attempting to enter or exit the area to show their identification cards, which have the residential address printed on them (International Crisis Group, 2018). To implement this policy, the gangs have junior gang members and collaborators (*banderas*) patrolling the boundaries of their territory (Boerman and Golob, 2020; International Crisis Group, 2018).[11,12] These restrictions on individuals' mobility are likely essential for the gangs' long-term survival. Without them, the gangs would not be able to maintain control over their territory, which would, in turn, make the gang members vulnerable to arrest or assassination.

In addition to improving security, the presence of checkpoints also allows the gangs to collect extortion payments from individuals and businesses entering or exiting their territory (e.g., distribution and transportation companies). Martínez (2016b) describes the situation in the following way: "One of the great advantages of having borders between rival gangs is imposing taxes. Everyone pays: companies that install cable television, the women that sell in the central markets, taxi drivers." The fee is equal to at least one-three dollars, a non-trivial expense for individuals whose average monthly income is approximately $300, and needs to be paid to a *bandera*, who is monitoring the boundary of gang territory (International Crisis Group, 2018).

It should be noted that both MS-13 and 18th Street also extort businesses and households in non-gang-controlled parts of San Salvador.[13] However, since, for security reasons, gang col-

[11] Often the *banderas* are barely 8 years old (International Crisis Group, 2018), which protects them from being arrested.

[12] Both MS-13 and 18th Street also sometimes stop public buses and check the identity cards of the people inside. If a passenger lives in a neighborhood controlled by a rival gang, he or she need to leave immediately or they face the risk of being killed. For instance, see this report by the BBC (accessed on October 6, 2019).

[13] For instance, according to the Salvadoran National Council of Small Businesses, 79% of businesses pay extortion

laborators are already monitoring who is entering and leaving the neighborhood, the collection of these payments requires little additional effort. This type of extortion is also easily enforceable and, unlike conducting a raid in a different part of the city, involves minimal risk of encountering the police or a rival gang.

As the de facto custodians of the territory they control, the gangs claim to be "providing a 'community service' by protecting locals from other criminals and corrupt police" (International Crisis Group, 2018). However, the government has been willing to invest in infrastructure amd social and educational programs in gang-controlled neighborhoods in the hope that it would lead to a reduction in gang violence.[14,15] Moreover, even though a permanent reduction in violence never followed, the government did not stop providing public goods in gang-controlled areas, which happened for two main reasons. First, if the government were to stop investing in public goods in gang territory, its legitimacy in the eyes of the local population would likely be undermined, increasing support for the gangs (Zoethout, 2015). Second, such a move could be costly for incumbent politicians: "gangs serve as intermediaries between political parties and residents in controlled neighborhoods [...] offer[ing] political candidates what no other broker or intermediary can provide—the use of coercive violence to sway elections in their favor" (Córdova, 2019). Thus, defunding social programs in gang neighborhoods could significantly reduce politicians' reelection prospects, in addition to potentially endangering their lives.[16]

III Data

In this section, we document the primary sources of data drawn upon in this study. Further clarifications about the data, as well as a description of the ancillary data sources, can be found in the Appendix. Table A1 in the Appendix presents the summary statistics of all the variables used in the analysis.

Gang boundaries.—In 2015, a local newspaper—*El Diario de Hoy* (EDH)—published the map that is utilized in this study, which delimited the locations controlled by MS-13 and 18th Street in San Salvador. EDH based its report on information and cartography from the Ministry of Justice

to the gangs, including expensive restaurants and shopping malls (e.g., see this article by the Economist, accessed on May 8, 2020).

[14]For instance, see this article by InSight Crime (accessed on August 10, 2020).

[15]The gangs have benefited from infrastructure investments in their neighborhoods. For example, the construction and repair of roads in gang-controlled neighborhoods has allowed the gangs to collect more extortion revenue from trucks and transport firms, passing through their territory (International Crisis Group, 2017).

[16]For an in-depth look at how gangs use their political power, see, for example, this article by El Faro (accessed on October 6, 2019).

and Public Security and the PNC. The newspaper further validated the map of gang boundaries by confirming that the gang-controlled neighborhoods on the map are also the places where its distribution network had periodic encounters with gang members.[17]

1992 and 2007 population and household censuses.—The General Directorate of Statistics and Censuses (*Dirección General de Estadísticas y Censos*, DIGESTYC) provided us with anonymous microdata for the 1992 and 2007 censuses. The data covers the socioeconomic characteristics of all the country's households and individuals, including—but not limited to—educational attainment and material ownership (e.g., having a car, a TV, etc.). Both censuses also recorded the characteristics of all the dwellings in El Salvador.[18] For most outcome variables, both the 1992 and 2007 censuses had the exact same wording of the questions. Hence, the data are directly comparable across censal exercises.[19]

1992 and 2007 censal cartography.—DIGESTYC also provided us with maps of the census tracts (*segmentos censales*) for both the 1992 and the 2007 censuses. Each census tract represents a very small area with a fixed geographic perimeter. In 2007, the average census tract in our sample included 131 households and 473 individuals. The fact that the census tracts are quite small allows us to accurately measure their location, which we estimate by using the geographic coordinates of their centroids. In addition, because of the difficulty with attributing treatment status, we exclude 26 census tracts (3.9% of the census tracts in San Salvador), which have the centroid outside of gang neighborhoods, but at least 25% of their territory is controlled by the gangs. Finally, we limit our analysis to census tracts located within 420 meters of the boundary of gang territory because after that, there are gaps in the distribution of observations both inside and outside of gang-controlled areas.

2019 survey.—To document the mechanisms through which gangs affect socioeconomic development, we conducted our own geocoded survey in San Salvador in 2019.[20] The survey consisted of in-person interviews, which lasted approximately 30 minutes and contained questions related to individuals' mobility, employment and income, public goods access and satisfaction, and the role of formal (i.e., government) and informal institutions in resolving problems in the neighborhood. However, it should be noted that, for security reasons, we were unable to

[17]The map has also been replicated by InSight Crime in 2018 (accessed on May 4, 2020).

[18]Notably, the data for these variables were not self-reported by the respondents but recorded by the enumerators based on their observations.

[19]The notable exception are questions related to technologies that were not widely available in 1992 (e.g., access to the internet). These questions were only asked in the 2007 census.

[20]The details of the sampling procedure can be found in the Appendix.

ask individuals questions related to gang activity.

Extortion.—The data on extortion of firms and individuals in San Salvador come from the following three sources. First, the data on whether firms are exposed to extortion come from a survey of small and medium-sized enterprises conducted by the Salvadoran Foundation for Economic and Social Development (*Fundación Salvadoreña para el Desarrollo Económico y Social*, FUSADES). In particular, the survey asked whether the firm has faced extortion and whether it has witnessed gang activity in the location where it operates. The survey took place in 2015 and includes data on 512 firms in San Salvador.

Second, the data on the amount of extortion paid to the gangs come from confidential internal records on all the extortion payments that a large Salvadoran firm has made to the gangs in 2012 to 2019.[21] The firm operates throughout San Salvador municipality and has had to pay extortion in all parts of the municipality. The data consist of 4,120 observations representing the amount of money paid to the gangs and the exact geocoordinates of the location where the payment was made. All the payments are relatively small in size, ranging between $1 and $100 with the mean of $6, and are paid on a day-to-day basis. Almost 97% of the payments fall into the the range from $1 to $20.

Finally, the data on instances and the amount of extortion paid by individuals come from our own geocoded survey that we conducted in San Salvador in 2020. In particular, we asked individuals whether they had ever been extorted and the amount of extortion they had to pay.[22] The design of the 2020 survey was exactly the same as the one for the 2019 survey except for the fact that it was conducted over the telephone. The survey was conducted over the telephone for two reasons. First, if the enumerators were to ask about extortion in in-person interviews, that would have posed a significant risk to their safety. Second, the lockdown restrictions due to the COVID-19 pandemic made it very difficult to conduct in-person interviews. Further details about the design of survey can be found in the Appendix.

Annual school censuses.—The annual school census data were obtained from the Ministry of Education and cover the period from 2005 to 2017. These censuses included annual information of the number of students that were enrolled in each grade at the beginning of the year and on the number of student that graduated from each grade, allowing us to calculate the dropout

[21] These data were shared with us as part of a confidentiality agreement with the firm. We do not name the firm because of security concerns. Please refer to Brown et al. (2020).

[22] More specifically, to account for the possibility of multiple payments, the respondents were asked to name the amount of money paid to the gangs during the month when they faced extortion. We then divide this number by 30 to make it correspond to day-to-day payments.

rate for each school-year in our sample. Notably, some of the schools also participated in the Program for Adult Literacy and Education (*Programa de Alfabetización y Educación Básica de Adultos*, PAEBA), the purpose of which was to provide school-level education for adults without a school degree. For these schools, we additionally calculate the dropout rate among adults.

Homicides and robberies.—The data on gang-related homicides come from the PNC and cover the period from 2003 to 2014. For each observation, we obtained information about the time and day it occurred, whether the perpetrator was a member of a gang, and the address of occurrence. Using these addresses, we manually geocoded the data to obtain the latitude and longitude of the homicides carried out by gang members.The PNC also shared with us the data on gang-related homicides in 2000, but these data are available only at the municipality level.

The data on robberies come from the Metropolitan Planning Office for San Salvador (*Oficina de Planficación del Área Metropolitana de San Salvador*, OPAMSS). They cover the period from 2014 to 2015 and contain information on the time, date, and location of all robberies, including their latitude and longitude.

Nighttime light density.—Annual data on nighttime light density (or luminosity) come from the Defense Meteorological Satellite Program-Operational Linescan System (DMSP-OLS) and spans the period from 1992 to 2013.[23] In particular, we use the DMSP-OLS data, representing the average stable lights from cities, towns, and other sites with persistent lighting. The data are provided by the National Centers for Environmental Information (NCEI). If for a particular year, the data were available from more than one satellite, we take the average of the two.

Notably, the resolution of the data on nighttime light density is 30 arc seconds$\times$30 arc seconds (i.e., approximately 1 kilometer$\times$1 kilometer). Therefore, the data are not sufficiently precise to be used in the regression discontinuity design.

IV Gang control and socioeconomic development: Regression discontinuity analysis

To estimate the effects of gang presence on socioeconomic development, we begin with performing a spatial regression discontinuity design, focusing on San Salvador municipality for which we have data on the boundaries of the locations controlled by the gangs.

[23]The data and a detailed description of it are available here: DMSP-OLS (accessed on May 4, 2020).

IV.A Empirical strategy: Regression discontinuity

We estimate the effect that gangs have on socioeconomic development in the neighborhoods they control. The main outcome variables come from the 2007 census. For each census tract, we calculate the distance from its centroid to the boundary of gang territory (in tens of meters) and perform a spatial regression discontinuity design, using this distance as the forcing variable (Specification 1):

$$y_{ic} = \alpha_0 + \alpha_1 \, distance_c + \alpha_2 \, gang \; territory_c distance_c + \alpha_3 \, gang \; territory_c + \varepsilon_{ic}, \tag{1}$$

where, depending on the specification, i denotes individuals, dwellings, or households, and and c denotes census tracts. *gang territory* is a dummy variable for whether the location is controlled by the gangs, *distance* represents the distance to the boundary of gang territory, and y—the outcome variable of interest. As a baseline, standard errors in parentheses are clustered by 30 meter bins denoting distance to the boundary of gang territory, separately for locations inside and outside of gang territory.[24] In the main regression tables, we also report Conley standard (in brackets) to allow for spatial correlation within a 100 meter radius.

The coefficient of interest is α_3, which represents the effect of living in a gang-controlled neighborhood. The two assumptions for interpreting this effect as causal are as follows. First, it should be the case that prior to the arrival of the gangs, locations close to the boundary of gang territory had similar socioeconomic conditions, regardless of which side of the boundary they were on. In Subsection IV.C, we validate this assumption using data from the 1992 census, geographic information, and incarceration statistics prior to 1997.[25] In particular, we show

[24]This size of the bins comes from estimating the optimal bandwidth for each of the outcome variables from the 2007 census, following Imbens and Kalyanaraman (2012); Calonico, Cattaneo, and Titiunik (2014); Calonico, Cattaneo, and Farrell (2018, 2020). 30 meters is the average value of the optimal bandwidth for the variables from the 2007 census. In the Appendix, we show that the estimates do not change if we divide the map of San Salvador into 300×300 meter grid cells and include fixed effects for each of the grid cells in the regression specification (Table A9). Thus, the results are not driven by the comparison of gang and non-gang areas in different parts of the city. We also show that the results are robust to performing a two-dimensional regression discontinuity design in latitude and longitude instead of distance to the boundary of gang territory (Table A10 in the Appendix).

[25]Note that, similarly to most regression discontinuity designs, the identification strategy does not require that all of the treatment group (i.e., gang territory) had similar socioeconomic conditions to the control group (i.e., non-gang areas) prior to treatment. For instance, it is possible that, even before the arrival of the gangs, areas deep inside of gang territory were poorer than neighborhoods far away from gang territory. As long as locations close to the boundary of gang territory had similar socioeconomic conditions, this fact would not violate the identification assumptions. In other words, our identification strategy relies on the fact that treatment status is as good as random for places that are only 10-50 meters from each other, but some ended up controlled by the gangs, and some did not. Given how close these locations are to each other, it is highly unlikely that there were pre-existing differences between them, which is confirmed by the results in Subsection IV.C.

that before the arrival of the gangs, locations on either side of the current boundary had similar geographic and socioeconomic characteristics as well as the same number of incarcerated individuals. The second assumption is that residents of gang territory did not selectively migrate from those areas to neighboring locations that were part of the control group. Subsection IV.C provides a detailed discussion of this assumption, showing that no more than 14.2% of the results can be driven by selective migration.

IV.B Main results

Table 1 presents the results of estimating Specification (1) using data from the 2007 census. It shows that, after experiencing gang rule, individuals living in gang-controlled neighborhoods have significantly worse dwelling conditions, lower levels of education, and are less wealthy than their peers that live on the other side of the boundary. For instance, individuals living inside gang territory are estimated to have 20 percentage points lower probability of owning a car, 15 percentage points lower probability of having a high school degree, and 5 percentage points lower probability of their houses' walls being made of concrete than individuals living less than 50 meters away but not under the control of gangs.[26] The results for the other measures of socioeconomic development present the same pattern.

Figure 2 illustrates the findings from Table 1 for the first principal components of the dwelling, household, and individual characteristics. The vertical axis represents the average value of the outcomes variables; the horizontal axis—distance (in meters) to the boundary of gang territory. Areas to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. For all the outcome variables, there is a clear discontinuity at the boundary of gang-controlled neighborhoods.[27]

Overall, the results suggest that gangs have had a significant negative effect on socioeconomic development in the neighborhoods they control. To estimate the total monetary cost of this effect, we consider a variable that potentially aggregates all the effects of living under gang control into one—household income, the data for which comes from our 2019 survey. Figure 3 presents the regression discontinuity plot for this variable. The results suggest that residents of gang-controlled neighborhoods earn approximately $350 less each month than individuals on

[26] In the individual-level regressions, the sample consists of the entire population. The results are very similar if, instead, we perform the analysis for the adult population.

[27] In the Appendix, we illustrate the results for all the other outcome variables from Table 1. In particular, Figure A1 presents the results for the dwelling characteristics, Figure A2—for the household characteristics, and Figure A3—for the individual characteristics.

the other side of the boundary. Given that the average income in our sample is $625, this discontinuity implies a reduction in income of more than 50%. Table A2 in the Appendix presents the regression estimates for household income and the other socioeconomic characteristics from the 2019 survey.

IV.C Addressing identification challenges

In this subsection, we analyze the assumptions that need to be satisfied for the estimates from Table 1 to represent the causal effect of gang control on socioeconomic development. In particular, we show that, before the arrival of the gangs, the areas to either side of the boundary of gang territory had similar geographic and socioeconomic characteristics. We also show that the results are unlikely to be driven by selective migration of individuals.

Geography and socioeconomic development before the arrival of the gangs.—To ensure that areas on the other side of the boundary are the appropriate counterfactual for the gang-controlled neighborhoods, we check that, before the arrival of the gangs, those locations did not have any pre-existing differences in geography, socioeconomic development, or crime.

First, we estimate Specification (1) for potentially important neighborhood characteristics (e.g., elevation, access to the waterways, road density, etc.) and the socioeconomic characteristics from the 1992 census (e.g., dwelling conditions, having a TV, etc.).[28] Columns 1-24 of Table 2 present the results. There are no discontinuities in any of the variables, confirming the notion that initially the locations on opposite sides of the boundary were not different from one another. Figures A5-A8 in the Appendix illustrate the results for the neighborhood, dwelling, household, and individual characteristics, respectively.

Next, we estimate Specification (1) for the level of crime prior to the arrival of the gangs, measured by the number of people incarcerated in different parts of the city. We geocode the addresses of the individuals who have been incarcerated prior to 1997 and calculate the number of incarcerations per square kilometer for each 10 meter, denoting distance to the boundary of gang territory (separately for each side of the boundary). Columns 25-30 of Table 2 present the results of the estimation for different types of crimes, showing that locations on both sides of the boundary had similar levels of crime prior to the arrival of the gangs.[29]

[28] Some neighborhood characteristics (e.g., elevation or access to the waterways) are time-invariant. Other neighborhood characteristics potentially change in time. For all the variables except for road density, we use the data either from before the arrival of the gangs or soon after their arrival. A detailed description of the data is available in the Appendix. The only exception is road density, which reflects 2020 infrastructure.

[29] In these specifications, we are unable to report the Conley standard errors. The reason is that the unit of analysis

Selective migration: In-sample migration.—Another assumption that needs to be satisfied for our estimates to be interpreted as causal is that there has been no selective migration of individuals across the regression discontinuity threshold. In particular, selective migration can affect our results in two ways. The first one is what we will refer to as in-sample migration: individuals moving from a neighborhood on one side of the boundary to an area on the other side of the boundary, while remaining in the municipality of San Salvador and, consequently, in our sample. The second one is what we will refer to as out-of-sample migration: individuals moving from a location in San Salvador to a different municipality in El Salvador or abroad.

First, we consider in-sample migration. To show that this type of migration is not driving our results, we take advantage of the survey that we conducted in San Salvador, where, among other questions, we asked individuals whether they have lived in the same neighborhood their entire life. 77% of respondents answered in the affirmative.[30] This information allows us to compare the results for the full sample and for the subsample of respondents for whom we know the *ex-ante* treatment status (i.e., that they lived in the location before the arrival of the gangs). In the absence of in-sample migration, the two sets of results would be quite similar, whereas, if the results are determined by in-sample migration, the discontinuities would only appear in the full sample.

When the sample is limited to individuals who have always lived in the same neighborhood, the results of the regression discontinuity analysis practically do not change. Figure 4 illustrates this fact by showing the regression discontinuity plots for the two samples. The outcome variable is household income. The left-hand side of the figure presents the results for the full sample, the right-hand side—for the subsample of never-movers. The two plots are quite similar, suggesting that the results are not driven by selective in-sample migration. Table A2 in the Appendix presents the regression estimates for the socioeconomic characteristics from the 2019 survey, both for the full sample and for the sample of never-movers.[31]

In the 2007 census, individuals were also asked whether they have lived in the same municipality their entire life. Since individuals who answered in the affirmative could still have moved within the municipality, this question is less precise at determining the *ex-ante* treatment

is a 10 meter, denoting distance to the boundary of gang territory, and each bin includes incarcerations from different parts of the city.

[30] Thus, most inhabitants of San Salvador do not change their place of residence. In contrast, in the United States, only 32% of the population has never changed their place of residence, according to the data from a 2000 survey of 5% of the United States population.

[31] Figure A9 in the Appendix illustrates the results for the other socioeconomic characteristics from the 2019 survey.

status of the respondents. However, coincidentally, the share of population that has always lived in San Salvador municipality is equal to 77%, the same number as the share of population that has always lived in the same neighborhood according to the 2019 survey. Thus, it appears that, in this context, individuals primarily move across municipalities and not within the same municipality. Under this assumption, we estimate Specification (1) for the variables from the 2007 census for the subsample individuals who have always lived in the same municipality. Appendix Table A3 presents the results, which are very similar to those presented in Table 1, confirming that in-sample migration is not likely to be driving the results.

Selective migration: Out-of-sample migration.—Another type of selective migration that can potentially affect the interpretation of our results is out-of-sample migration—individuals moving from San Salvador to a different municipality or abroad. In particular, if rich, educated individuals who initially lived in gang-controlled neighborhoods were more likely to move out of San Salvador than poor and uneducated individuals from the same areas, it could imply that the results in Table 1 are partly determined by this change in the composition of the population. To directly address this concern, one would need to know the current whereabouts of all the individuals who lived in gang-controlled locations before the arrival of the gangs as well as their levels of wealth and education at that time. Such data are nonexistent. However, below we present a number of tests to show that selective out-of-sample migration is highly unlikely to be driving our results.[32]

First, we calculate the rates of selective out-of-sample migration from gang-controlled neighborhoods that would be required to generate the discontinuities from Table 1. For each of the binary household-level characteristics, we define a household to be "rich" if it has that characteristic and "poor" if it does not.[33] The only exception is the variable for not having a bathroom, which is defined in the opposite way. Similarly, for each of the individual-level characteristics, we define an individual to be "educated" if they have that characteristic and "uneducated" if they do not. We assume that outside of gang territory, the probability of moving out

[32]It should be noted that while the presence of gang activity has displaced thousands of people in El Salvador, most of the displaced individuals are from areas of the country which are actively contested (see Sviatschi, 2020). The situation is different in San Salvador, where the boundaries of gang territory have remained quite stable after they were initially formed. Moreover, our results would only be affected if rich, educated individuals from gang-controlled neighborhoods were more likely to move out of San Salvador than poor and uneducated residents of the same areas. If individuals from both these groups were similarly likely to migrate, our results would remain valid. Similarly, given that prior to the arrival of the gangs the level of socioeconomic development was the same in gang and non-gang areas, our results would also not be affected if migration status was solely determined by individuals' wealth, regardless of whether they live in gang territory or not.

[33]For instance, in the case of car ownership, a "rich" household is one that owns a car, and a "poor" household is one that does not.

of San Salvador is the same for all individuals and that in gang-controlled neighborhoods, poor and uneducated individuals have the probability β of migrating out of sample.[34] Then, for β equal to 0%, 10%, and 20%, we calculate the share of rich households and educated individuals from gang territory that needed to move out of San Salvador to generate the discontinuities for each of the outcome variables.[35] Table A4 in the Appendix presents the results of these calculations. Even if we unrealistically assume $\beta = 0\%$ (i.e., that poor and uneducated individuals from gang areas do not have a chance to move out of San Salvador), on average, the rate of out-of-sample migration for rich, educated individuals would have to be as high as 50% to generate the discontinuities from Table 1. For higher values of β, this rate is even higher.

Can the rate of out-of-sample migration for rich individuals be that high? We estimate this rate using a proxy for out-of-sample migration: whether a household has a family member who moved abroad in 1997-2007. We take advantage of the fact that before the 2010s, in the vast majority of cases, Salvadoran families sent only one member of their household abroad at the same time, and migration of entire families was very uncommon.[36] For instance, according to United States Customs and Border Protection, in 2012, the number of apprehensions of individuals in family units constituted less than 3% of all apprehensions of Salvadoran citizens at the Southwest border of the United States. As a result, by considering the share of households in gang-controlled neighborhoods in San Salvador that have a family member who moved abroad, we are able to estimate the extent of out-of-sample migration. In addition, by looking at the correlation between the probability of a family member moving abroad and the first principal component of the household characteristics, we are able to address the question of whether individuals from rich households are more likely to migrate out of San Salvador.

Table A5 in the Appendix presents the results of the estimation. On average, approximately 6% of the households have a member of the family who moved abroad in 1997-2007. This rate does not change at the boundary of gang territory. We also find that rich households both inside and outside of gang territory are more likely to have a family member living abroad. However, the correlation between wealth and out-of-sample migration inside and outside of gang territory are not statistically different from one another. Moreover, although rich house-

[34] If rich, educated individuals from non-gang areas are more likely to migrate out of sample, that would make the required rates of selective out-of-sample migration from gang territory even higher.

[35] In Subsection A.III of the Appendix, we provide more details on how the calculations were performed.

[36] The two main reasons for this are the high risks associated with migrating out of the country and the economic costs of paying an intermediary for help in crossing the borders. For a description of the journey, see, for instance, Amnesty International (accessed on April 1, 2020) or The Atlantic (accessed on April 1, 2020).

holds are more likely to have a family member move abroad, the magnitude of that effect is much smaller than the rates of selective out-of-sample migration from Table A4 that are required to generate the discontinuities. In gang territory, an increase in the first principal component of the household characteristics from zero to one (i.e., the difference between the poorest and richest household) increases the probability of the household having a family member move abroad by only 7.1%, whereas the estimates from Table A4 suggest that, even under the unrealistic assumption of $\beta = 0\%$, the rate of out-of-sample migration for rich households needs to be at least 50% to explain the discontinuities. Therefore, out-of-sample migration can account for no more than $100 \times 7.1/50 = 14.2$ percent of the effects in Table 1.[37,38]

Stability of the boundaries of gang territory.—Another potential concern is that the boundaries of gang territory may not have remained stable between the time they were formed soon after the emergence of the gangs and 2015 when EDH published the map of the gang boundaries. To address this concern, we contacted the PNC, asking whether the boundaries have remained stable and inquiring to see the maps of gang territory for other years. We were confidentially shown the 2018 map of gang-controlled areas, which was almost exactly the same as the map published by EDH.[39] Multiple PNC officials also confirmed that the boundaries of gang territory have had no significant changes since they were initially formed in the late 1990s and early 2000s. Informal conversations with residents of San Salvador similarly suggest that the boundaries have remained stable for nearly two decades.

To provide additional evidence that the boundaries of gang territory did not change in time, we take advantage of the following fact. Both MS-13 and 18th Street consider outsiders a threat to their security because they can be police informants or members of a rival gang. Thus,

[37] 14.2% should be interpreted as the upper bound for the share of the results that can be explained by out-of-sample migration for the following reasons. First, the 7.1% number assumes that there is no selective out-of-sample migration outside of gang territory. If there is selective out-of-sample migration from non-gang areas, as suggested by the results in Table A5, then this number should be lower. Second, it is possible that some households with a family member abroad have increased their wealth because of that fact (e.g., because of receiving remittances). If that is the case, the results from Table A5 would overestimate the probability of individuals from rich households migrating out of sample. Finally, the 50% number required to generate the discontinuities in Table 1 is calculated under the assumption that poor individuals are unable to migrate out of sample at all. If poor individuals also have a chance of migrating out of sample, this number should be higher.

[38] We also perform a test in the spirit of McCrary (2008) to check whether, at the boundary of gang territory, there is a discontinuous change in population density for various groups of the population. If individuals from gang-controlled neighborhoods were more likely to move from San Salvador to a different municipality or abroad, we would expect to see a decrease in population density at the boundary of gang territory. The results in Table A6 demonstrate that there are no discontinuous changes in household and population density at the boundary of gang territory. We also find no heterogeneity by age and gender. Moreover, the signs of all the coefficients are positive (albeit not stastistically significant), which is consistent with the notion that the gangs restrict individuals' mobility, making it difficult for them to change their place of residence.

[39] For confidentiality reasons, we are not able to present the 2018 map in the paper.

a particularly large number of gang-related homicides take place at the boundaries of gang territory (both between the gangs and the state and between the two gangs) because of outsiders attempting to enter gang neighborhoods without permission (e.g., see Martínez, 2016a).[40] Leveraging the aforementioned, we consider the data on all gang-related homicides that were committed in San Salvador in 2003-2014 and split it into two subsamples: those that took place in the first six years of the sample period (2003-2008) and those that took place in the latest six years of the sample period (2009-2014). Then, for each of the homicides, we identify whether it took place in a gang-controlled location and calculate the distance to the closest boundary of gang territory (either between the gang and the state or between the two gangs). Panel A of Appendix Figure A10 presents the number of gang-related homicides that took place in 2003-2008 by 10-meter bins on either side of the boundary of gang territory; Panel B of Figure A10 provides a similar illustration for gang-related homicides in 2009-2014. In both cases, the number of gang-related homicides was particularly high in areas close to the boundaries of the gang neighborhoods from the EDH map, confirming the notion that the map correctly identifies the boundaries of gang territory in the two periods.[41] In turn, the fact that the highest number of gang-related homicides took place in the same locations both in 2003-2008 and 2009-2014 suggests that the boundaries of gang territory have remained quite stable during this time period.

Finally, we note that if the EDH map does not accurately reflect which neighborhoods are controlled by the gangs, it would result in the magnitudes of the estimated effects to be biased downwards (i.e., against finding an effect). For instance, if, in reality, the gangs controlled more neighborhoods than suggested by the map, then, under the assumption that the gangs have a homogenous effect on socioeconomic development in all the areas they control, that would underestimate the living conditions in the control group. That would lead to the difference in living conditions between the gang and non-gang areas being underestimated. Similarly, if the gangs actually controlled fewer neighborhoods than suggested by the map, then the living

[40]This notion has also been confirmed by our own on-the-ground experience. For instance, when we were conducting the pilot of the 2019 survey, one of the local enumerators told us the following: "We have to be very careful not to call attention when entering the gang areas. The gangs have armed members watching the boundaries and controlling who comes in or out, and this is where most killings happen. If they think we are from the police or a rival gang, we will be in trouble. Once we are inside gang territory, we will be fine." Moreover, while conducting the pilot, we witnessed from afar a confrontation between MS-13 and 18th Street gang members in one of the streets marking the border between MS-13 and 18th Street territory.

[41]It should be noted that, as shown in Figure A10, there are multiple gang-related homicides outside of gang territory. We provide a detailed discussion of this fact in Section V. Also, as we show in Section IV.D, the results in Table 1 are robust to excluding observations from neighborhoods close to the regression discontinuity cutoff. Thus, while the location of the gang-related homicides allows us to validate the boundaries of gang territory from the EDH maps, the results in Table 1 are not driven by areas with the highest numbers of gang-related homicides.

conditions in the treatment group would be overestimated, which would also lead to a smaller difference between the treatment and control groups. Thus, the estimates presented in Table 1 should be interpreted as the lower bound of the effect of gang control.

IV.D Robustness checks

Excluding areas close to the boundary of gang territory.—To show that the results are robust to potential inaccuracies in the location of the boundaries of gang territory and are not driven by outlier areas near the boundary, we perform a "donut hole" regression discontinuity design and estimate Specification (1), excluding observations within 100 meters of the regression discontinuity cutoff.[42] The results are presented in Table A8 and are similar to those in Table 1.

Controlling for 300×300 meter fixed effects.—A potential concern is that the results in Table 1 might be driven by the comparison of gang controlled locations in one part of San Salvador to non-gang areas in a different part of the city. To ensure that the identifying variation actually comes from comparing neighboring census tracts, we perform the following analysis. We divide the map of San Salvador municipality into 300×300 meter grid cells and record the grid cell corresponding to each census tract.[43] On average, each grid cell contains 1.5 census tracts. We then estimate Specification (1), including fixed effects for each of the grid cells. Thus, we rely on the within-grid-cell variation in treatment status to measure the effect of gang control on socioeconomic development. Table A9 presents the results, showing that the estimates are very similar to those presented in Table 1.

Regression discontinuity using latitude and longitude.—We show that the results are robust to using a two-dimensional regression discontinuity design with latitude and longitude as the forcing variables. Specifically, we estimate Specification (1), replacing distance to the boundary of gang territory with latitude and longitude, normalized to have the mean of zero.[44] The results are presented in Table A10 in the Appendix.

Excluding 10% of the top observations from non-gang areas.—We show that the results are not driven by a small number of wealthy individuals living outside of gang territory. In particular, we exclude 10% of the observations from non-gang areas that have the highest values of the first

[42] The results are robust to the choice of alternate "donut hole" cutoff. For instance, the results are very similar if we exclude observations within 50 meters or 150 meters of the boundary of gang territory.

[43] We use the coordinates of the census tracts' centroids to assign the census tracts to the grid cells.

[44] Since our analysis focuses on one city, there is little variation in latitude and longitude. As a result, if one does not subtract the mean from those variables, their interactions with the dummy for gang territory would be collinear with that dummy.

principal component of the dwelling, household, and individual characteristics.[45] As reported in Table A11 in the Appendix, the estimates remain statistically significant.

Different bandwidth.—We also that our findings are robust to alternative choices of bandwidth by presenting the regression discontinuity plots for larger and smaller distance bins than in the baseline specification. Figure A13 in the Appendix illustrates the results for the first principal components of the dwelling, household, and individual characteristics, using 60 meter distance bins; Figure A14 illustrates the same results using 20 meter bins.[46]

Under-reporting of wealth.—A potential concern is that residents of gang-controlled neighborhoods might be more likely to underreport their wealth compared to residents of non-gang areas (e.g., to evade taxation by the gangs). We address this concern in three ways, showing that the results are highly unlikely to be driven by selective underreporting of wealth.

First, the census data on the dwelling characteristics were recorded by the enumerators based on what they observed and not self-reported by the respondents. Thus, the discontinuities in the dwelling characteristics cannot be determined by selective under-reporting of wealth.

Second, we consider a non-self-reported measure of individuals' wealth: rent paid for housing. Specifically, we analyze the data on the housing offers in various parts of San Salvador, which provides us with the landlords' assessment of individuals' ability to pay.[47] We then estimate Specification (1) with monthly housing rent as the outcome variable, additionally controlling for observable housing characteristics (i.e., the number of rooms, the number of bathrooms, square meters, etc.). Table A12 in the Appendix presents the results.[48] They suggest that housing rent is approximately $200 lower in gang-controlled locations, confirming the notion that residents of those areas are poorer than residents of non-gang neighborhoods.

[45] To implement this analysis, we rank households and individuals according to the first principal components of the household and individual characteristics, respectively. We then exclude 10% of the observations with the highest values of the first principal component. When more than 10% of the observations had the values of the first principal component higher or equal to the value of the 90th percentile, we exclude a random subset of observations for which the first principal component is exactly equal to the 90th percentile (all observations with higher values are always excluded). The estimates do not depend on the subsample of observations that are excluded. In particular, we perform 1,000 iterations of this procedure and for each variable report the most concervative results, i.e., when they are least significant.

[46] For brevity, we only report the results for the first principal components of the dwelling, household, and individual characteristics. The results for the other variables from Table 1 are similar.

[47] The data were scraped from OLX (accessed on April 8, 2020). It should be noted that we cannot observe whether a particular property was rented out or not. However, after two months, the vast majority of the offers were no longer available. It should also be noted that some of the cheapest properties may be rented out on the informal market and not appear on OLX. If there are more such properties in gang-controlled neighborhoods, our estimates provide a lower bound on the actual effects of gang control.

[48] Appendix Figure A12 illustrates the results from Table A12, presenting the regression discontinuity plots for the residuals of housing rent and log housing rent after subtracting the effects of all the controls.

Finally, in Section VI, we validate the results of the regression discontinuity design by performing a difference-in-differences analysis using nighttime light density data, which are collected via satellite from space and cannot be underreported. In particular, we show that, after 1997, areas that became exposed to gang activity experienced significantly lower growth in luminosity, confirming the notion that the gangs have had a negative effect on socioeconomic development.

Estimating the effects separately for MS-13 and 18th Street.—We show that MS-13 and 18th Street have had similar effects on socioeconomic development in the neighborhoods they control. In particular, we estimate Specification (1), replacing the dummy for gang territory with dummies for the areas controlled by MS-13 and for the areas controlled by 18th Street. The results are presented in Table A13 in the Appendix and are very similar for both gangs.

Excluding gang areas within 150 meters of the rival gang.—To show that the negative effects on socioeconomic development are present not only in areas where the two gangs, which have an adversarial relationship, are particularly close to each other, we estimate Specification (1), excluding gang-controlled neighborhoods that are located within 150 meters of the rival gang's territory.[49] The results are presented in Table A14 in the Appendix.

"Islands" of gang territory.—As shown in Figure 1, most gang-controlled neighborhoods are located close to each other in the east of city. However, there are also smaller "islands" of gang territory in other parts of San Salvador. We check whether those "islands" have been affected in the same way as the main gang areas. Specifically, we estimate Specification (1), replacing the dummy for gang territory with dummies for the "islands" and for the rest of gang territory. The results are presented in Appendix Table A15 and suggest that both types of gangs territory are similarly affected.

Estimating the effects separately for men and women.—We verify that both male and female residents of gang territory have been affected. In particular, we estimate Specification (1) for the individual characteristics from the 2007 census, separately for women and men. The results are presented in Table A16 in the Appendix, showing that both men and women are affected.

[49] The results are robust to changing this cutoff.

V MECHANISMS

V.A Restrictions on mobility

We show that a major factor driving lower socioeconomic development in gang-controlled neighborhoods is that both MS-13 and 18th Street restrict individuals' labor choices by not allowing them to freely move across the boundaries of gang territory.

There are multiple reasons why gangs restrict individuals' mobility. The main reason is security. Both MS-13 and 18th Street need to prevent rival gangs and police informants from entering their territory, a task that would be difficult to implement without creating restrictions on who can enter and leave the neighborhood. Thus, as was described in Section II, the gangs instituted a system of checkpoints, checking the identification cards of individuals attempting to cross the boundary of their territory (International Crisis Group, 2018). In addition to improving the gangs' security, the system of checkpoints also facilitates the extortion of individuals and businesses. An individual or firm entering a gang-controlled neighborhood are required to pay a "toll" when passing the checkpoint.[50,51] Finally, the restrictions on mobility help MS-13 and 18th Street to maintain control over the residents of their neighborhoods by making it difficult for those individuals to migrate to a different part of the country and escape from gang influence.

To document the presence of restrictions on individuals' mobility, we estimate Specification (1) for the mobility questions from the survey that we conducted in San Salvador. Table 3 presents the results. We find that individuals living in gang-controlled neighborhoods are 11 percentage points more likely to work in the neighborhood where they live and 50 percentage points more likely to work in gang territory. They are also less likely to have been in places outside of San Salvador: the share of individuals who have ever been to the beach or visited Santa Ana municipality, which are both 30-60 kilometers away, discontinuously decreases at the boundary of gang territory. Finally, individuals living in gang-controlled areas acknowledge that there are restrictions on their mobility, as evidenced by them being significantly less likely

[50] Payment of the "toll" is a necessary but not sufficient condition. In addition to paying the toll, an individual or firm also need to get permission to enter from the gang controlling that neighborhood.

[51] For instance, International Crisis Group (2017) describes how "[t]ransport firms and their workers in particular have become targets of systematic intimidation and assassination, forced to pay up for crossing gang-controlled territory".

to say that there is freedom of movement where they live.[52,53]

The consequence of these mobility restrictions is that residents of gang-controlled neighborhoods often cannot work outside of gang territory, being forced to accept low-paying jobs in small firms because of their inability to work in other parts of the city. This fact is confirmed by anecdotal evidence from the field. For instance, while we were conducting the survey in San Salvador, one of the respondents from a gang-controlled neighborhood told us the following story. Previously, he used to have a good job at a gas station. However, that gas station was located close to the territory of a rival gang. For this reason, the gang that controls his neighborhood told the man that he should find a different job or "face the consequences", and, as a result, the man left his job at the gas station.

To document the negative effects of the restrictions on individuals' mobility, we compare the labor market outcomes for residents of gang neighborhoods who are able to work outside of gang territory and those who are not. Table 4 presents the results. It shows that, while, on average, residents of gang-controlled neighborhoods earn less income and work in smaller firms than individuals from non-gang locations, these gaps are significantly smaller for individuals from gang territory who work in non-gang areas. In particular, we find that those people are as likely to work in firms with 100 or more employees as individuals living outside of gang-controlled locations. They also have a 40% smaller gap in household income compared to other residents of gang territory.[54]

It should be noted that, since the fact of working outside of gang territory is not likely to be entirely random, the results from Table 4 should be interpreted with caution. For instance, if better-educated residents of gang-controlled neighborhoods are more likely to get permission to work in non-gang areas, that could potentially result in an overestimation of the premium

[52]Figure 5 presents the regression discontinuity plots for the share of people working in the same neighborhood as they live, for the share of people working in gang territory, and the share of people who think there is freedom of movement where they live.

[53]In Appendix Table A17, we demonstrate that the results in Table 3 are not driven by the fact that poorer and less educated individuals have lower levels of mobility. In particular, for the questions in Columns 3-6 of Table 3, we show that the results are robust to controlling for individuals' income and education. We do not perform the same analysis for the questions in Columns 1 and 2 of Table 3 because the individuals' work location directly affects their income, meaning that those regressions would be affected by reverse causality.

[54]Note that household income is defined at the level of the household, whereas the individuals' work locations are defined at the individual level. Thus, if multiple people in the household work outside of gang territory, the effect on income is likely to be larger. For instance, if two people in the household work in non-gang areas, the gap in income would be $2 \times 167.64/430 \approx 80\%$ smaller, which is close to the results for the probability of working in a firm with 100 or more employees. Another potential reason why working outside of gang territory does not fully explain the gap in earnings is that income today depends on past work experience. Therefore, if residents of gang territory did not have good jobs in the past, they are likely to earn less than individuals who did, even if they now work in similar firms in non-gang areas.

of working outside of gang territory. However, the data suggest that there is considerable variation in the probability of working outside of gang territory across education levels, which is consistent with the notion that luck plays an important role in determining whether a resident of gang territory is allowed to work in a non-gang location (e.g., gang leaders in certain neighborhoods may be less willing than others to enforce restrictions on mobility; individuals might find ways to circumvent the gangs' restrictions). Moreover, as shown in Table 4, the results are robust to controlling for the individuals' level of education, suggesting that the results are not driven by more educated residents of gang-controlled neighborhoods being more likely to work in non-gang locations.[55,56] Overall, the findings suggest that working outside of gang territory is an important determinant of individuals' labor market outcomes.

Why do the gangs not loosen the restrictions on mobility, allow individuals to work in any part of the city and then "tax" the additional surplus? The first reason is security. Without restrictions on mobility, members of rival gangs and police informants would be able to enter gang-controlled neighborhoods, which would threaten the gang's long-term survival. The second reason is that the enforcement of such a tax scheme would require a lot more capacity than the existing system. In particular, it would require monitoring individuals' income and making sure each person pays the amount they are due—things that even national governments of many countries are unable to enforce. Furthermore, if the residents of gang territory had full freedom of movement, they may not choose to live in gang-controlled neighborhoods, which would further complicate tax collection. In contrast, in the existing system, the gangs only need to monitor the boundary of their territory and collect "toll" payments from individuals whom they allow to cross the boundary, a task that can be performed by junior gang members or collaborators, often women and children.

Notably, Salvadoran gangs are not the only ones to use restrictions on individuals' mobility as a tool of control and revenue extraction. The same techniques are used by gangs in Brazil and non-state armed actors in Colombia (Arjona et al., 2019; Magaloni, Franco Vivanco, and Melo, 2020).[57] Moreover, similar mobility restrictions existed in the past during feudalism

[55]The results are also robust to including dummies for all the years of education.

[56]In all the specifications in Table 4, we also control for whether an individual is currently employed. In the survey, unemployed individuals were asked to describe their most recent work experience. Thus, some unemployed respondents said that their most recent job was in a gang-controlled neighborhood, while others previously worked outside of gang territory.

[57]Recently, multiple media outlets have also argued that the institutionalized restrictions on individuals' mobility have allowed gangs and other non-state armed actors to effectively enforce lockdowns during the recent COVID-19 pandemic (e.g., see this article by Time).

and serfdom (Bloch, 2015; Dennison, 2011; Markevich and Zhuravskaya, 2018). For example, in the Russian empire, restrictions on peasant mobility existed and were enforced by the state until the second half of the 19th century.

V.B School dropout

While restrictions on individuals' mobility can account for a large part of the gap in labor market outcomes between gang and non-gang neighborhoods, they are less likely to be driving the differences in educational attainment. Instead, these differences are likely to be explained by higher dropout rates and lower participation in educational programs in gang-controlled neighborhoods. To determine whether the gap in schooling can, indeed, be driven by higher dropout rates in gang territory, we perform the following analysis. We use administrative data from the 2005-2017 annual censuses of schools, in which the schools reported the number of students that were enrolled at the beginning of the year and the number of students that dropped out and did not complete their grade. Using these data, we estimate Specification (1) with the outcome variable being the school dropout rate, and the unit of observation—a school in a year.

Table 5 presents the results of the estimation. Column 1 shows that, on average, the annual dropout rate in schools from gang territory was 2 percentage points higher than in schools outside of gang territory. The magnitude of the effect is almost the same both before and after 2007 (Columns 2 and 3) and for male and female students (Columns 4 and 5).[58] Using the results from Column 2 of Table 5 as the baseline (i.e., the difference in dropout rates before 2007), one can estimate that, during the period from 1997 to 2007, gang control resulted in a $2.1 \times 10 = 21$ percentage point gap in school completion between students from gang and non-gang areas. This estimate is fully consistent with the 14.6 percentage point difference in school completion for the entire population reported in Table 1.

It should be noted that, although school education is usually associated with children, during the period under consideration, gang control also affected the educational attainment of many adult Salvadorans. From 1980 to 1992, El Salvador was in a state of civil war. Therefore, during that period, a large part of the population was unable to get proper education: in 1992, only 31.4% of individuals in San Salvador had a high school degree (see Table 2). For this reason,

[58] Table A7 in the Appendix also presents the effect on the schools' average of the high school exit exam scores (PAES) in math, natural sciences, social sciences, and Spanish language and literature. Consistently with the results for the dropout rates, students in gang neighborhoods have lower test scores in all the subjects. Thus, not only more students drop out of school in gang territory, but the remaining students also perform worse in class than their peers from non-gang areas, potentially increasing the probability that they decide not to pursue further education.

it is not surprising that after the end of the civil war, the education of adults became an important priority for the government and was even explicitly mentioned in the Constitution, as well as in the the General Law of Education (chapter VII, articles 28 to 33). In 1994-1997, the government launched the Program for Adult Literacy and Education (*Programa de Alfabetización y Educación Básica de Adultos*, PAEBA), a policy designed to provide school-level education for the adult population. The program was very popular, and in 2000-2007 alone 726,000 people (approximately 12% of El Salvador's population) enrolled in PAEBA (Victoria Libreros and Carbajal, 2010).

Comparing the levels of educational attainment in 1992 and 2007 in gang and non-gang areas (Figures A3 and A7 in the Appendix), one can see that the share of population with a high school degree increased throughout San Salvador, but it increased much more is areas outside of gang territory. In addition to being driven by higher dropout rates among school-age children, this difference likely reflects differential enrollment in PAEBA among adults in gang and non-gang neighborhoods. We are unable to test this hypothesis directly because the implementation of PAEBA was largely community-based and was not centrally administered by any government agency. For instance, approximately 64% of classes were held in private houses the locations of which is unknown, making it impossible to compare enrollment in gang and non-gang areas (Victoria Libreros and Carbajal, 2010). However, PAEBA was also partly implemented by schools, which reported the completion rate of the program to the central government. We take advantage of this fact and use administrative data from the 2005-2017 annual school censuses to compare the dropout rates among adults in gang and non-gang areas. Column 6 of Table 5 presents the results, showing that adults from gang territory were significantly more likely to drop out of the program. Moreover, on average, the difference in the dropout rate between gang and non-gang neighborhoods was twice as large for adults than for school-age children, although the difference is not statistically significant.

Overall, the results presented in this subsection suggest that the differences in educational attainment between gang territory and non-gang areas are likely to be driven by differential rates of school completion in those locations. These results do not undermine the importance of the restrictions on individuals' mobility for labor market outcomes (as shown in Columns 3, 6, and 9 of Table 4, residents of gang neighborhoods have better labor market outcomes if they are able to work outside of gang territory even after controlling for the level of education), but they do indicate that even if those restrictions were to be eliminated, the gap in socioeconomic development would not fully disappear because of the differences in the level of education.

V.C Extortion and other violent crimes

We next consider alternative determinants of lower socioeconomic development in gang-controlled neighborhoods. In particular, we analyze whether the results in Table 1 can be explained by higher levels of extortion or other violent crimes in gang territory.

Extortion.—We begin with using geocoded data from the 2015 survey of firms conducted by the Salvadoran Foundation for Economic and Social Development (*Fundación Salvadoreña para el Desarrollo Económico y Social*, FUSADES) to analyze whether firms in different parts of San Salvador are differentially exposed to extortion and other types of gang activity. Specifically, we estimate Specification (1) for the probability that a firm has been extorted and for the probability that the firm has witnessed gang activity in the area where it is situated. Table 6 presents the results, showing that firms inside and outside of gang territory are equally likely to be extorted (Column 1) or to witness gang activity (Column 2).

Next, we address the possibility that, although firms on each side of the boundary of gang territory have the same probability of being extorted, the amount of money that the firms have to pay to the gangs might be different. To analyze this question, we obtained confidential internal records on all the extortion payments that a large Salvadoran firm has made to the gangs in 2012-2019.[59] The firm operates throughout San Salvador municipality and has had to pay extortion in all parts of the municipality. The data consist of 4,120 observations representing the amount of money paid to the gangs and the exact geocoordinates of the location where the payment was made. Column 3 of Table 6 presents the results of estimating Specification (1) for the size of the extortion payments, showing that they are the same in gang and non-gang areas.[60]

We also address the possibility that, while firms on each side of the boundary of gang territory are equally extorted, individuals may be extorted more in gang neighborhoods. In 2020, we conducted our own geocoded survey in which we asked individuals if they had ever had to pay extortion to the gangs and how much they paid. Columns 4 and 5 of Table 6 present the results of estimating Specification (1) for the probability that an individual has been extorted and for the amount of money paid in extortion, respectively. In both cases, there is no difference between gang and non-gang areas.

The results in Columns 1-5 of Table 6 are not surprising and confirm the notion that both

[59] The name of the firm is not mentioned because of security concerns.

[60] We have also verified that the frequency of these payments is the same across the boundary of gang territory, confirming the results from Column 1 of Table 6.

MS-13 and 18th Street operate not only in the areas they control but also in neighboring locations. The gangs protect the boundaries of their territory from outsiders because of security. If police informants or rival gang members were to enter those neighborhoods, that could pose a serious threat to the gang members living there. For this reason, both MS-13 and 18th Street control who is allowed to enter or leave their territory. Their territory is their stronghold, a place where they do not have to hide. However, when it comes to extortion, the gangs are able and willing to extort businesses and individuals outside of the neighborhoods they control. Notably, gang members and their collaborators do not face the mobility restrictions that other residents of their neighborhoods face. Therefore, for a gang to extort an individual or firm 50 meters away from an area it controls, the gang only needs to send a messenger (often children, who cannot be arrested) to contact the individual or firm. The victims then have to comply with the extortion demands or risk being killed by the gang.

Homicides and robberies.—We also show that neighborhoods on both sides of the boundary of gang territory have similar levels of gang-related homicides and robberies.We estimate Specification (1) with the number of gang-related homicides and robberies per square kilometer as the outcome variables.[61] Columns 6-8 of Table 6 present the results, showing that there are no differences in these crimes across the boundary of gang territory. In particular, Column 7 demonstrates that there was no discontinuity in the number of gang-related homicides not only in all the years in the sample but also in 2003-2007 (i.e., the years preceding the 2007 census).

Notably, the findings in Columns 6-8 of Table 6 do not contradict the results presented in Figure A10. Although Figure A10 shows that most gang-related homicides take place close to the boundaries of gang territory, often because of outsiders attempting to enter gang neighborhoods without permission, these homicides take place on both sides of the boundary. We also note that the results from Table 1 cannot be driven by the high number of gang-related homicides close to the boundary of gang territory because, as demonstrated in Table A8 in the Appendix, the results do not change if we exclude observations within 100 meters of the boundary.

Overall, the findings from Table 6 suggest that both firms and individuals on both sides of the boundary are equally likely to be extorted and face the same extortion amount. The number of gang-related homicides and robberies also does not change at the boundary of gang territory. All these results confirm the notion that the gangs are active not only in the locations they control

[61]The unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory, separately for gang and non-gang areas. The results are robust to changing the size of the bins.

but also in neighboring areas. Thus, it highly unlikely that the results in Table 1 are driven by extortion and other gang-related, violent crimes.[62]

V.D Public goods provision

Another potential determinant of lower socioeconomic development in gang neighborhoods is related to public goods provision. If neither the government nor the gangs are able and willing to provide public goods in those locations, it could have a significant impact on individuals' living conditions. To assess whether this mechanism is present, we perform the following analysis. First, we use data from Google Maps on the geolocation of schools and hospitals to estimate Specification (1) using the number of schools and hospitals per square kilometer as the outcome variables.[63,64] Second, we use data from the 2019 survey, where individuals were asked to rate on a scale from 1 = "extremely unsatisfied" to 7 = "extremely satisfied" their satisfaction with the availability and quality of health services, education centers, roads, and electricity service. Table 7 presents both sets of results, showing that there is no discontinuity in any of these variables.[65] In addition, as was presented in Table 2, we also do not find any differences in road density and in the share of urban territory. All these results suggest that the lower levels of socioeconomic development of gang-controlled neighborhoods are not likely to be driven by differences in public goods provision.

The fact that we find no differences in public goods provision across the boundary of gang territory is not surprising. In an effort to limit violence, the government has been willing to invest in "peace zones" in gang-controlled neighborhoods, implementing social, educational, and job training programs, while, in exchange, the gangs promised to reduce the number of homicides by half, an agreement by which they temporarily abided (Dudley, 2013).[66] However,

[62] In Appendix Section A.IV, we present additional evidence in support of this notion. In particular, we show that firms on both sides of the boundary of gang territory have similar profits, revenue, and costs, which implies that firms in gang-controlled areas do not have higher costs or lower profits because of extortion or other gang-related activities. We also demonstrate that the number of firms per square kilometer does not change at the boundary of gang territory. This result also confirms the notion that the firms' "operation costs" on both sides of the boundary are very similar because if they were different, more firms would choose to locate in places with lower costs.

[63] Google Maps has the most reliable and up-to-date geocoded data on the schools, hospitals, and other establishments in San Salvador. Administrative records are not always up to date and sometimes do not have the correct geolocation of the observations (e.g., some of them are outside of El Salvador). However, if we use the data from the administrative records, the results are very similar.

[64] In this analysis, the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory, separately for locations inside and outside of gang territory. The results are robust to changing the size of the bins.

[65] In the Appendix, Figure A15 illustrates the results for the number of schools and hospitals per square kilometer; Figure A16 visualizes the results for individuals' satisfaction with the availability and quality of public goods in their neighborhood.

[66] The gangs' have been among the primary beneficiaries of the government's social programs. For example, the

even after the gangs reneged on their promise, the politicians did not stop providing public goods in those areas, partly because the rollback of those programs would have potentially undermined the legitimacy of the government and increased support for the gangs (Zoethout, 2016). Moreover, such a move could have been costly for incumbent politicians, reducing their reelection prospects and potentially endangering their lives (Córdova, 2019).

We also analyze whether the gangs themselves provide help to the residents of their territory. For instance, anecdotal evidence has suggested that, instead of involving the police or other government officials, individuals sometimes resort to gangs to resolve disputes (e.g., see International Crisis Group, 2018). We test this hypothesis by analyzing whether residents of gang territory are more likely to seek help from informal leaders of the community when they have a problem with public goods provision, a financial problem, or a security, civic, or legal dispute. The survey could not explicitly ask about the gangs because that could have potentially endangered both the enumerators and the respondents. Therefore, the term "informal leader of the community" is used as a proxy for "gang leader".[67] Table A18 in the Appendix presents the results, showing that respondents from gang-controlled areas are not more likely to seek help from the informal leader of the community than individuals living outside of gang territory. Thus, we do not find empirical evidence supporting the hypothesis that residents of gang neighborhoods get help from the gangs when they have problems. However, as shown is Table A18, they are more likely not to seek help from anyone, possibly out of fear that the gangs might punish them for complaining about there problems.

V.E Occupational structure and hours worked

We show that the differences in socioeconomic development cannot be explained by higher levels of unemployment in gang-controlled neighborhoods. In particular, we estimate Specification (1) for the variables from the 2007 census, focusing on the subsample of employed individuals (i.e., individuals who were in employment the week before the census).[68] Table A19 in the Appendix presents the results. If anything, the differences in socioeconomic conditions are even

construction and repair of roads in gang-controlled neighborhoods likely allowed the gangs to collect more "toll" revenue from trucks and transport firms, passing through their territory (International Crisis Group, 2017). In addition, by allowing the government to provide public goods, increase the welfare of the local population, gangs have potentially been able to extort more from the individuals living on their territory.

[67] When conducting the pilot of the survey, we ascertained that the respondents associate the term "informal leader of the community" with the gangs.

[68] For the household characteristics, we consider the employment status of the head of the household.

larger for employed individuals than for the full sample.[69] These findings are consistent with the notion that due to restrictions of their mobility, residents of gang-controlled neighborhoods are often unable to get well-paying jobs in large firms.

We also demonstrate that the differences in socioeconomic development cannot be explained by higher levels of informal employment in gang territory. Table A20 in the Appendix presents the results of estimating Specification (1) for the variables from the 2007 census, focusing on the subsample of formally employed individuals, which excludes domestic employees, unpaid workers, and self-employed individuals. For all the outcome variables, the discontinuities remain large and statistically significant.

In addition, we use the data from the 2019 survey to document that there are no underlying differences in the number of hours worked or in the individuals' willingness to work. In the survey, the respondents were asked to name the number of hours that they currently work as well as the number of hours they would choose to work if offered an hourly wage of $5, $10, and $20. Table A21 in the Appendix presents the results of estimating Specification (1) for these outcome variables, showing that individuals living on either side of the boundary of gang territory work the same number of hours and have similar willingness to work.

V.F Summary and discussion

The evidence presented in Section V suggests that restrictions on individuals' mobility can explain a significant part of the differences in labor market outcomes between residents of gang and non-gang areas. Over time, the differences in income were likely to accumulate, resulting in the wealth gaps reported in Table 1. We also show that the education gaps in Table 1 are largely driven by higher school dropout rates in gang neighborhoods compared to non-gang areas. These differences in educational attainment may have further increased the income gap between gang and non-gang areas, although restrictions on individuals' mobility remain important even after controlling for the level of education. Out-of-sample migration may also explain a small part of the results in Table 1 (i.e., out-of-sample migration can account for no more than 14.2% of the effects).

We also investigate a number of other plausible determinants of lower socioeconomic development in gang-controlled neighborhoods but do not find evidence in their support. In par-

[69] Notably, there is no discontinuity in the probability of being employed. The results of estimating Specification (1) suggest that residents of gang territory are only 0.4 percentage points less likely to be employed than individuals from non-gang areas with the standard error of 1.1 percentage points.

ticular, we show that gang and neighboring non-gang areas have similar levels of extortion and other violent crimes because, unlike other residents of gang territory, gang members do not face restrictions on their mobility and are able to operate in locations on both sides of the boundary. Similarly, the results in Table 1 are not driven by differences in public goods provision or occupational structure. These findings do not imply that the aforementioned factors generally do not affect socioeconomic development (e.g., if the Salvadoran government were to prevent the gangs from extorting individuals and businesses in certain areas, that would likely improve the well-being of the residents of those areas).[70] Instead, our results suggest that, while these factors may be important in other contexts, they are not responsible for the discontinuities in Table 1.

VI Gang control and nighttime light density: Difference-in-differences analysis

In this section, we use data for all of El Salvador to perform a difference-in-differences analysis, comparing the evolution of nighttime light density in areas that were more and less exposed to gang activity after 1996. This analysis complements the findings from the regression discontinuity design in the following ways. First, it allows us to show that gangs have affected socioeconomic development not only in San Salvador but also in other part parts of El Salvador. Second, since the data on nighttime light density are available for all the years from 1992 to 2013, we are able to confirm that the divergence in the rates of luminosity growth occured right after the gang members were deported from the United States to El Salvador. In particular, between 1992 and 1997, locations that would later have high levels of gang presence experienced the same growth in luminosity as areas that would later have low levels of gang activity. Finally, since the data on nighttime light density are collected via satellite from space, unlike survey data, these data cannot be selectively underreported or misreported (e.g., if individuals want to evade taxation by the gangs).[71]

[70] Under certain circumstances, gang presence may also be welfare-improving. For instance, in rural areas where the state is not present and one gang has a monopoly on power, gang presence may result in more provision of public goods (i.e., compared to neighboring areas, where neither the state nor the gangs are present). Survey evidence from Mexico confirms this logic: areas where one cartel has a monopoly on power tend to have more public goods provision than areas where multiple cartels compete with each other (Magaloni et al., 2020).

[71] It should be noted that the resolution of the nighttime light density data is not sufficiently fine for us to be able to use the maps of gang-controlled neighborhoods in San Salvador and perform a spatial regression discontinuity design with nighttime light density as the outcome variable.

VI.A Empirical strategy: Difference-in-differences

We perform a difference-in-differences analysis that exploits two sources of variation: the timing of the deportation of the gang members from the United States—which led to the emergence of gangs in El Salvador—and the geographic differences in exposure to organized crime. Our hypothesis is that prior to 1997—the year when the first wave of deportations from the United States took place—locations that would later have different levels of gang activity experienced similar rates of economic development. At the same time, after 1997 we expect to see higher rates of growth in areas with low levels of organized crime.

Unlike for San Salvador, at the national level, a map of gang-controlled areas is not available. Instead, we proxy exposure to gang activity at the national level by the presence of homicides committed by the gangs.[72] Specifically, we use geo-coded data for the exact locations of gang-related homicides in 2003-2004, the earliest years for which the data are available. We then divide the map of El Salvador into grid squares of approximately 5 by 5 kilometers and calculate the distance from each grid square to the nearest homicide.[73] A grid cell is assumed to have gang presence if a person was killed by a gang member within the boundaries of that cell.

It should be noted that this definition of gang presence is different from the one used in the regression discontinuity design. In the context of San Salvador, we used the term "gang territory" to refer to locations where the gangs are not only active but where they have significant control over the area. In the difference-in-difference analysis, we use the term "gang presence" to refer to larger locations (i.e., grid squares or municipalities) where gangs are known to be active. This second definition is strictly broader than the first one because both MS-13 and 18th Street are active in parts of the country that they do not control. For instance, in Table 6, we document that in San Salvador the gangs are active not only in their territory but also in neighboring non-gang areas. Overall, the difference-in-differences estimates should be interpreted as documenting the difference between areas with little or no gang activity and places with at least some gang presence, whereas the regression discontinuity estimates present the difference between neighborhoods with full gang control and locations without full gang control but some gang presence. Consequently, it should be noted that the mechanisms behind the difference-

[72] This characterization is based on the fact that both MS-13 and 18th Street rely on violence not only when fighting for territorial control but also to get extortion payments and enforce contracts, making homicides inherent to most types of gang activity.

[73] The exact size of the grid squares is 0.045 by 0.045 decimal degrees. The results are robust to using grid squares of a different size. To be consistent with the regression discontinuity design, we measure distance in tens of meters.

in-differences results may also be different from those we document in Section V. For instance, while in Section V we show that extortion and other violent crimes are not driving the gaps in living standards in San Salvador, it is plausible that gang-related crimes do play a role in the difference-in-differences analysis.[74]

The outcome variable of interest is nighttime light density (or luminosity) which recent studies have found to be a good proxy for development at the local level (Chen and Nordhaus, 2011; Henderson, Storeygard, and Weil, 2012). In particular, for each of the grid cells, we calculate the average level of luminosity in each of the years from 1992 to 2013. Figure A17 in the Appendix provides a visualization of nighttime light density in 1997, the grid cells, and the locations of the gang-related homicides from 2003-2004.

We then estimate the following event study model (Specification 2) to measure the effect of gang presence on socioeconomic development.

$$luminosity_{i,t} = g_i + \gamma_t + \mathbf{\Theta}'_t \, gang\ presence_i + \varepsilon_{i,t}. \tag{2}$$

luminosity represents nighttime light density in grid square i at time t. The data are in percentage terms, normalized to be equal to 100 percent both in areas with and without gang presence in 1995—the year before the change in the United States immigration policy. *gang presence* is a dummy for whether grid square i has had a homicide committed by the gangs in 2003-2004; g_i and γ_t represent grid square and year fixed effects, respectively. Standard errors are clustered by grid square. The coefficients of interest are $\mathbf{\Theta}'_t$, which represent the differences in luminosity growth between locations with and without gang presence.

We also measure the average effect of exposure to gang activity on nighttime light density, by estimating the following model (Specification 3).

$$luminosity_{i,t} = g_i + \gamma_t + \mathbf{\Gamma}_i \, t + \beta \, gang\ presence_i \times \mathbb{1}\{Year > 1997\}_t + \varepsilon_{i,t}. \tag{3}$$

The main threat to identification is that, as shown in Figure A17, the gangs were primarily attracted to large urban areas, which were already well illuminated and, hence, had less capacity for growth in nighttime light density. Moreover, Figure A18 in the Appendix demonstrates that

[74] It should also be noted that, given the difference in definitions, the difference-in-differences estimates may suggest that the effect of gang presence is larger or smaller than the regression discontinuity estimates, depending on whether areas with gang activity but no gang control are more similar to locations with no gang presence or places with full gang control. In the former case, the difference-in-differences estimates would be smaller than the regression discontinuity estimates, in the latter case—larger.

all locations that in 1995 had luminosity above a certain threshold ended up being exposed to gang activity. To address this concern, in the main specification, we limit the sample of grid cells to those that had below-average nighttime light density in 1995, the year before the change in the United States immigration policy was announced.[75]

In addition, to address the remaining concerns about the identification, we exploit the fact that, after being deported, many gang members who were born in El Salvador returned to their municipality of birth (Sviatschi, 2020). Thus, we use the birth locations of known gang leaders as an instrumental variable for whether the municipality became exposed to gang activity.[76] In particular, we estimate Specification (3) at the level of the municipalities instead of the grid cells, using the following equation as the first stage to predict gang presence after 1997.

$$\textit{gang presence}_i \times \mathbb{1}\{Year > 1997\}_t = g_i + \gamma_t + \Gamma_i\, t + \varphi\, \textit{birth location}_i \times \mathbb{1}\{Year > 1997\}_t + \varepsilon_{i,t}, \quad (4)$$

where *birth location* is a dummy for whether one of the gang leaders was born in this municipality.[77] The assumption behind this approach is that municipalities where a gang leader was born started experiencing lower rates of luminosity growth after 1997 only because of having a higher probability of being exposed to gang activity.

VI.B Difference-in-differences results

Figure 6 presents the results of estimating the event study model from Specification (2).[78] It shows that before 1997 locations that became exposed to gang activity had the same growth in nighttime light density as places with no gang presence. This result is particularly important because it complements the findings from the regression discontinuity design, suggesting that between 1992 and 1997 areas with and without gang presence did not have differential rates of economic growth. However, after the gang members were deported from the United States to El Salvador, the grid cells with gang activity experienced significantly lower lunimosity growth.

The magnitude of the effect is quite large. By 2010, thirteen years after the deportations,

[75] When the locations with high nighttime light density are not excluded, as expected, the no pre-trends assumption does not hold: well illuminated areas were already experiencing lower growth in luminosity before the arrival of the gangs.

[76] The data are only available at the level of the municipality; the precise addresses of birth are not available.

[77] At the municipality level, the data on gang-related homicides are also available for 2000. Therefore, in addition to using the data for 2003-2004 (i.e., like in the grid-level analysis), we define a municipality to have gang presence if it had a gang-related homicide in 2000. The results are robust to using data only for 2003-2004.

[78] The regression coefficients are reported in Table A22 in the Appendix, which also replicates the results of the event study at the municipality level.

areas with high gang presence had experienced nearly 120 percentage points lower growth in nighttime light density than places with low gang presence. According to Henderson, Storeygard, and Weil (2012), a one percentage point change in luminosity corresponds to approximately a 0.28 percentage point change in GDP. Thus, in 1998-2010, areas with low gang activity had nearly $120 \times 0.28 = 33.6$ percentage points higher growth in GDP than areas with gang presence.

Table 8 presents the results of estimating Specification (3), confirming that after 1997 areas with gang presence experienced lower growth in nighttime light density. It also presents the IV estimates, where exposure to gang activity after 1997 is predicted using a dummy variable for whether one of the gang leaders was born in that municipality, i.e., Specification (4). The first stage coefficients are reported in the lower part of the table, and, as demonstrated by the F-statistic, the instrumental variable accurately predicts exposure to gang activity after 1997. Notably, the results of the IV analysis are very similar to those presented in the OLS regressions, suggesting that the OLS results are not likely to be driven by omitted variable bias.

Overall, the results of the difference-in-differences analysis confirm the findings of the regression discontinuity design, showing that areas with gang presence experienced lower rates of economic growth after 1997. They also confirm the notion that this divergence took place right after the gang members were deported from the United States to El Salvador.

VII Concluding remarks

In this paper, we exploit a natural experiment that took place in El Salvador in the 1990s when, after a shift in American immigration enforcement, many Salvadorans with criminal records were deported from the United States. We document that today, the gangs established by those individuals—MS-13 and 18th Street—significantly limit socioeconomic development in El Salvador. In particular, residents of gang territory have worse dwelling conditions (e.g., lower probability that the walls of the house are made from concrete), lower probability of owning durables (e.g., a car, a TV, etc.) and earn significantly less income than individuals living just 50 meters away but not under the rule of gangs. These differences did not exist before the arrival of the gangs and are not driven by selective migration of individuals or violence.

We document a novel mechanism through which gangs affect economic development. Partly for security reasons, partly to maintain control over the local population, both MS-13

and 18th Street limit the mobility of the individuals living on their territory. As a result of these restrictions on mobility, residents of gang-controlled areas often cannot work outside of the neighborhood where they live, being induced to accept low-paying jobs in small firms because of their inability to work in other parts of the city. This problem is not unique to El Salvador. Restrictions on individuals' mobility also exist in Brazil, Colombia, Honduras, Guatemala, and other countries where gangs, cartels, or other non-state armed actors control parts of the country.

Our results have broad policy implications. First of all, they highlight the magnitude of the effect of criminal organizations on socioeconomic development in developing countries, suggesting that improvements in the capacity of those states to provide security can significantly improve economic growth. Second, our results emphasize the importance of freedom of movement for socioeconomic development. Notably, these findings are likely to be relevant not only to other situations where non-state actors limit individuals' mobility, but also to mobility across country borders. Finally, our findings inform about the consequences of deporting individuals with criminal records to a country with low state capacity.

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VIII FIGURES

Figure 1: Gang territory in San Salvador

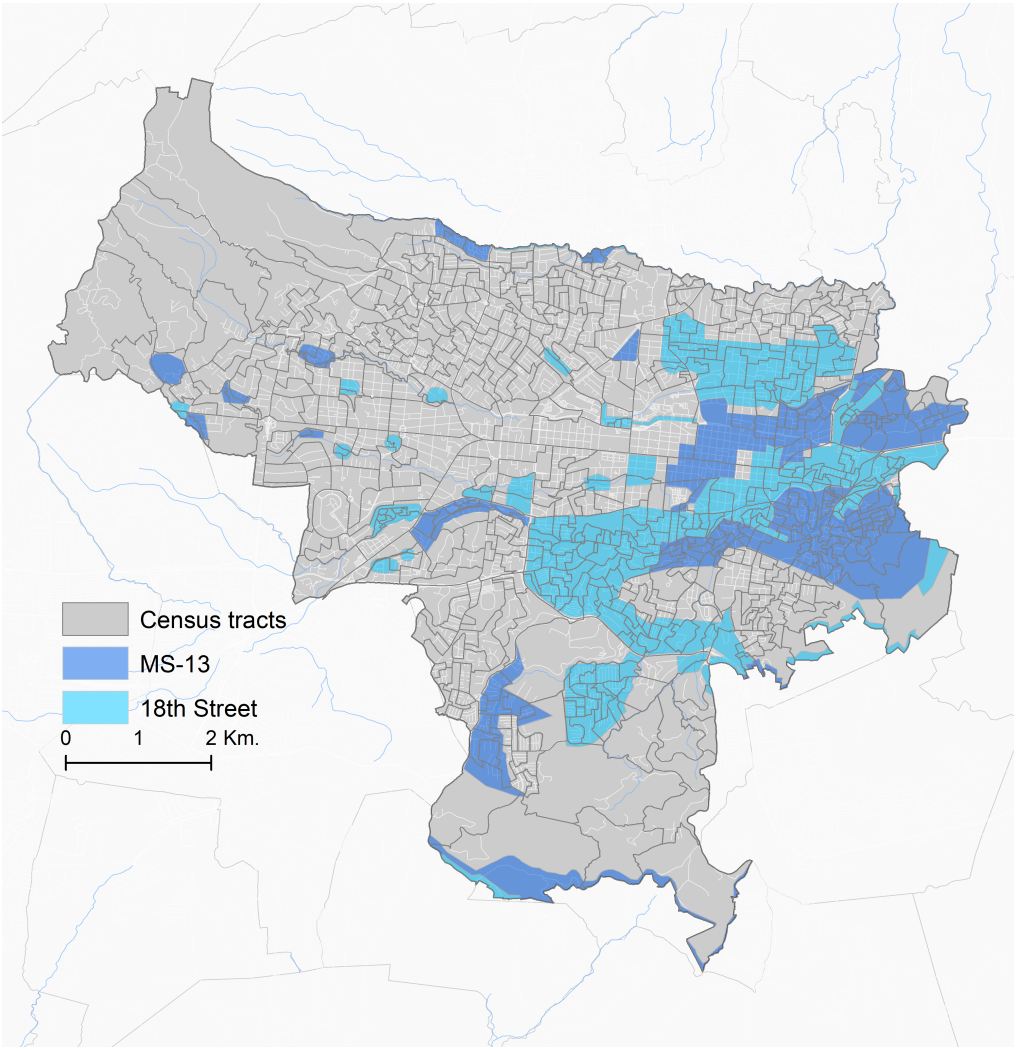
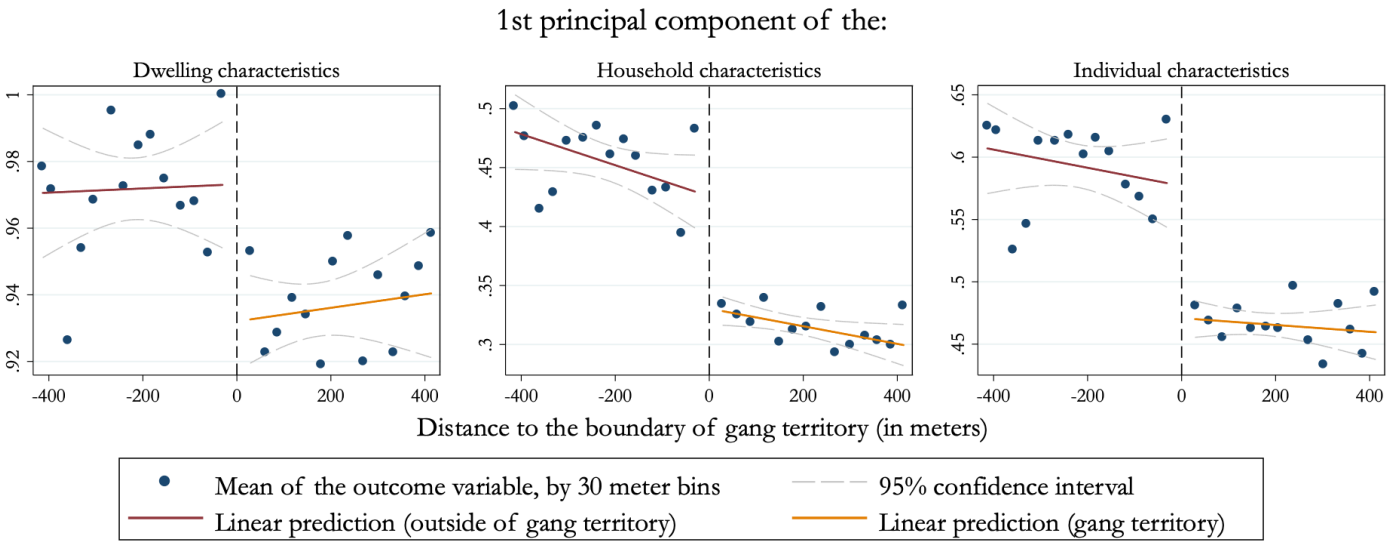
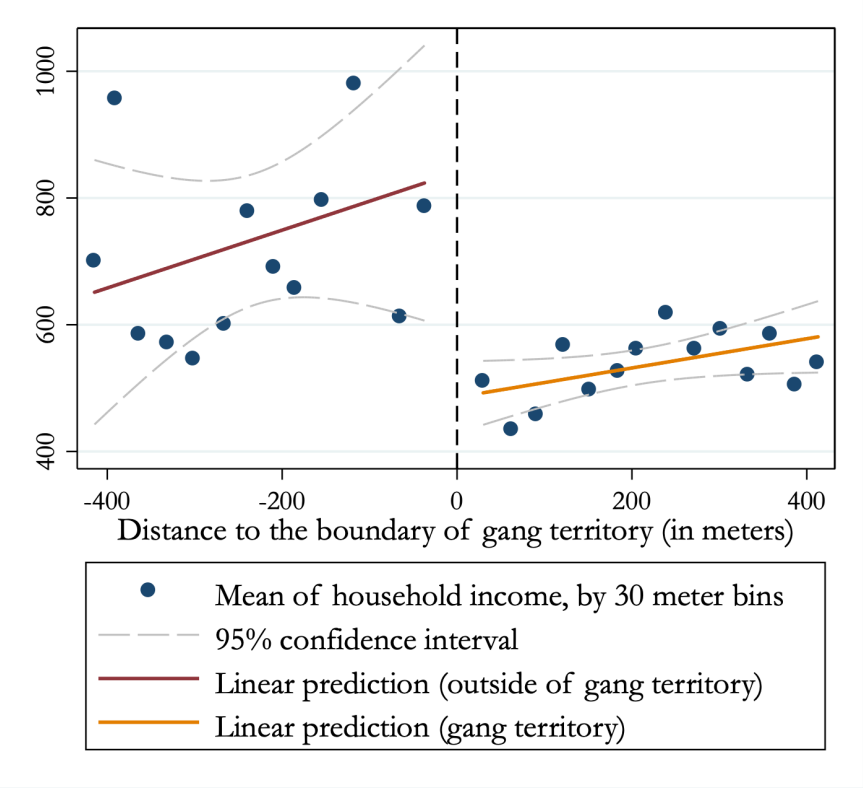


Figure 2: Socioeconomic conditions after 10 years of gang control



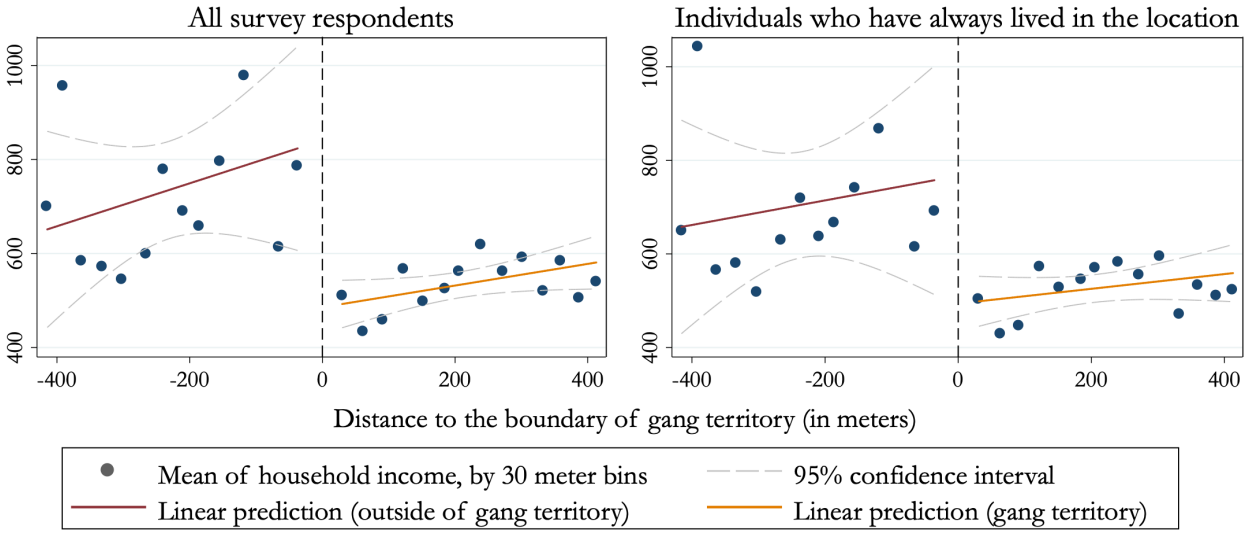
Note: By 2007, socioeconomic conditions had become significantly worse in gang-controlled areas. The figure illustrates the results for the 1st principal components of the dwelling, household, and individual characteristics from Table 1. All the variables come from the 2007 census. The unit of observation is a dwelling, a household, and an individual, depending on the specification. All the variables are normalized to vary between zero and one with higher values representing better outcomes. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure 3: Household income after 22 years of gang control



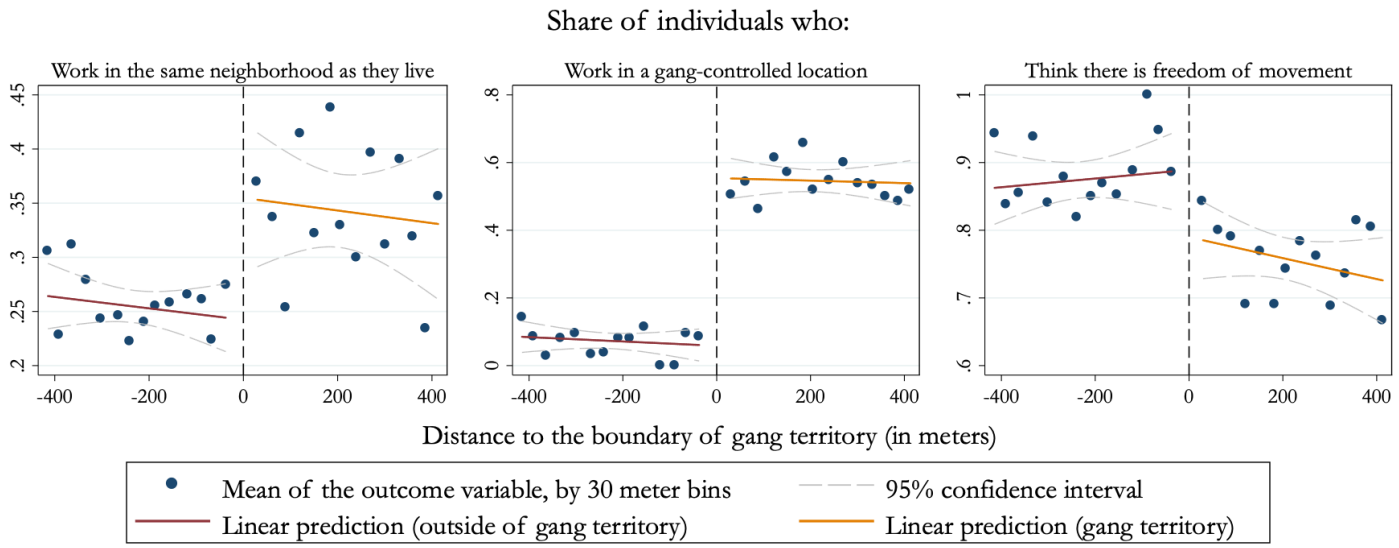
Note: Residents of gang territory earn $350 less income per month than individuals who do not live under gang control. The outcome variable comes from the 2019 survey. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure 4: In-sample migration is not driving the results



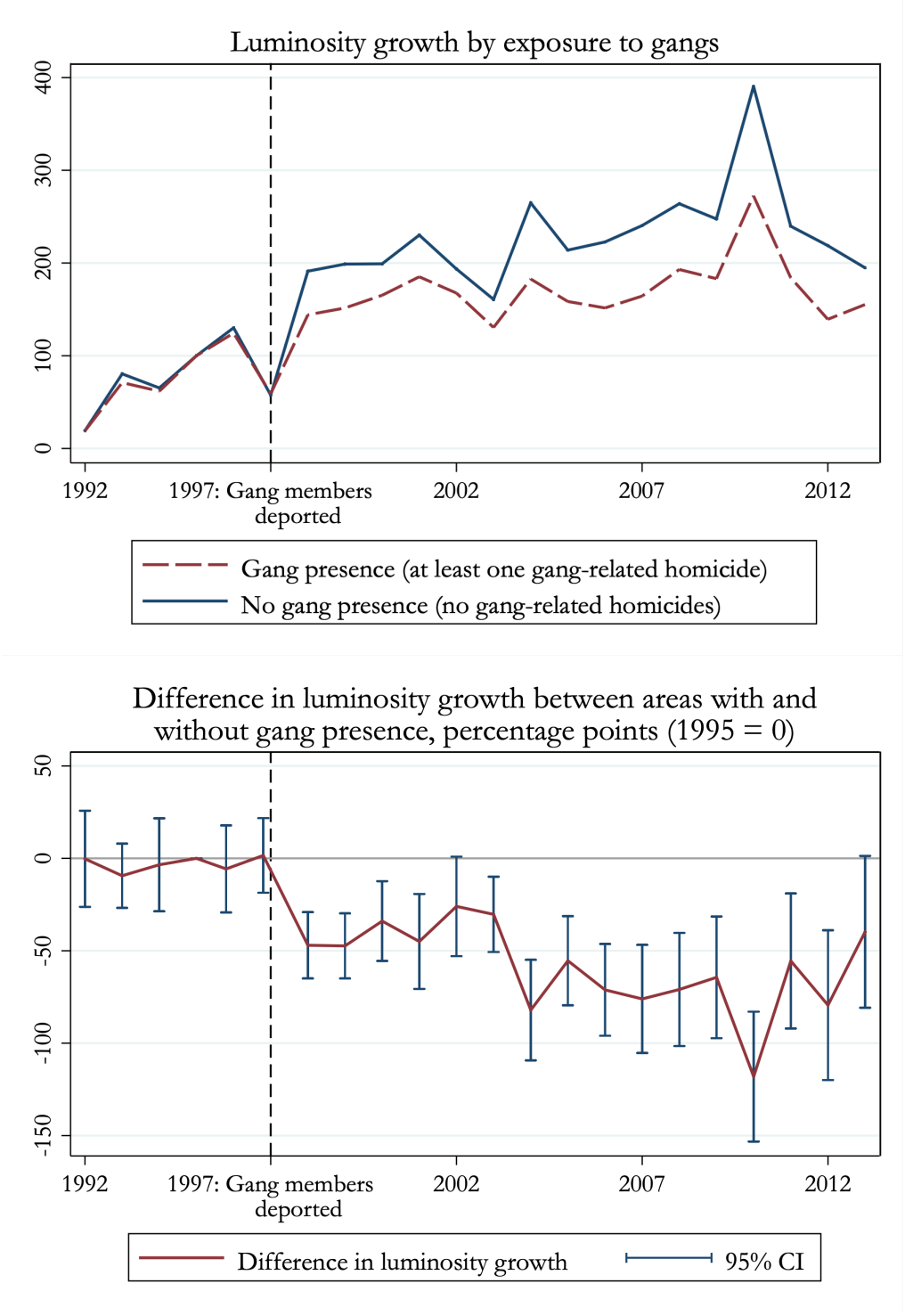
Note: The figure illustrates the results for household income from Table A2. The left-hand side of the figure presents the results for the full sample (Panel A of Table A2), the right-hand side—for the subsample of individuals who have lived in the same location all their life (Panel B of Table A2). The results are very similar. The vertical axis represents the average value of household income; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure 5: Gang control and mobility constraints



Note: The figure illustrates that residents of gang territory are more likely to work in a gang-controlled location and think that there are restrictions on the freedom of movement. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure 6: Gang presence and nighttime light density



Note: The first part of the figure illustrates the growth in nighttime light density in grid cells with and without gang presence. The data are in percentage points, normalized to be equal to 100 percent in 1995, one year before the announcement of the change in the United States immigration policy. The second part of the figure presents an event study graph for the average percentage point difference in nighttime light density between grid cells with and without gang presence.

IX TABLES

Table 1: Socioeconomic conditions after exposure to gang control

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.046	0.025	-0.049	-0.076	0.005	-0.127
	(0.015)***	(0.009)**	(0.020)**	(0.020)***	(0.002)***	(0.028)***
	[0.017]***	[0.010]**	[0.027]*	[0.027]***	[0.003]**	[0.038]***
Mean of dep. var.	0.932	0.028	0.941	0.108	0.005	0.180
Observations	72,252	60,820	62,316	62,316	62,316	59,917
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.012	-0.199	-0.129	-0.020	-0.167	-0.660
	(0.006)**	(0.044)***	(0.033)***	(0.006)***	(0.034)***	(0.193)***
	[0.005]**	[0.057]***	[0.040]***	[0.008]**	[0.045]***	[0.203]***
Mean of dep. var.	0.033	0.428	0.696	0.952	0.346	3.089
Observations	59,237	60,186	60,309	60,525	60,161	62,316
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.031	-0.146	-0.117	-0.036	-0.086	-0.097
	(0.007)***	(0.028)***	(0.025)***	(0.011)***	(0.019)***	(0.019)***
	[0.008]***	[0.034]***	[0.030]***	[0.013]***	[0.024]***	[0.023]***
Mean of dep. var.	0.928	0.448	0.207	0.952	0.377	0.521
Observations	208,913	203,423	203,423	60,820	58,434	203,423

Note: *** p<0.01, ** p<0.05, * p<0.1. After experiencing gang control, gang-controlled areas have worse socioeconomic conditions than neighboring areas that were not under the control of gangs. The table presents the results of estimating Specification (1) for the variables from the 2007 census. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction).

Table 2: Geographic and socioeconomic characteristics before the arrival of the gangs

	Neighborhood characteristics					
	Urban territory	Road density	Has access to the waterways	Elevation	Territory used for coffee production	Tree coverage
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.011	-0.522	0.018	0.506	0.009	-0.004
	(0.064)	(0.951)	(0.065)	(16.286)	(0.019)	(0.026)
	[0.053]	[1.843]	[0.095]	[17.354]	[0.023]	[0.026]
Mean of dep. var.	0.812	17.83	0.327	720.39	0.049	0.028
Observations	477	477	477	477	477	477
	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Shared bathroom
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.015	-0.003	-0.032	-0.036	-0.007	0.021
	(0.036)	(0.028)	(0.047)	(0.039)	(0.017)	(0.032)
	[0.035]	[0.030]	[0.046]	[0.030]	[0.013]	[0.029]
Mean of dep. var.	0.813	0.010	0.816	0.182	0.030	0.142
Observations	64,899	64,899	64,899	64,899	64,899	64,899
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a blender	Number of rooms
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.004	-0.049	-0.030	0.009	0.014	-0.069
	(0.009)	(0.051)	(0.054)	(0.019)	(0.032)	(0.170)
	[0.007]	[0.043]	[0.049]	[0.019]	[0.034]	[0.172]
Mean of dep. var.	0.034	0.285	0.320	0.860	0.625	2.670
Observations	64,899	64,899	64,899	64,899	64,899	64,899
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(19)	(20)	(21)	(22)	(23)	(24)
Gang territory	-0.000	-0.014	-0.019	-0.005	-0.016	-0.013
	(0.011)	(0.028)	(0.017)	(0.031)	(0.030)	(0.018)
	[0.009]	[0.028]	[0.017]	[0.031]	[0.026]	[0.018]
Mean of dep. var.	0.904	0.314	0.112	0.863	0.525	0.380
Observations	234,749	227,281	227,281	64,899	64,899	227,281
	Number of incarcerations per km^2 prior to 1997:					
	All crimes	Homicide	Robbery	Sex crimes	Assault	Other violent crimes
	(25)	(26)	(27)	(28)	(29)	(30)
Gang territory	1.234	1.464	-0.316	-1.648	0.315	-1.212
	(12.917)	(1.297)	(4.016)	(1.278)	(3.886)	(1.787)
Mean of dep. var.	86.72	4.670	22.64	6.588	20.86	9.711
Observations	86	86	86	86	86	86

Note: *** p<0.01, ** p<0.05, * p<0.1. Before the arrival of the gangs, locations on either side of the boundary of gang territory had similar geographic and socioeconomic characteristics. The table presents the results of estimating Specification (1) for the neighborhood chracteristics and the variables from the 1992 census. The unit of observation is a census tract, dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction). In Columns 25-30, the Conley standard errors are not reported because there the location of the observations is not defined (the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory).

Table 3: Gang control and restrictions on individuals' mobility

	Works in the same neighborhood where they live	Works in gang territory	Has been to Santa Ana municipality	Has been to the beach	Has always lived in this location	Freedom of movement where they live
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	0.111	0.495	-0.277	-0.064	0.172	-0.097
	(0.031)***	(0.039)***	(0.043)***	(0.031)**	(0.045)***	(0.039)**
	[0.050]**	[0.042]***	[0.052]***	[0.032]**	[0.055]***	[0.039]**
Mean of dep. var.	0.302	0.334	0.495	0.872	0.772	0.811
Observations	2,071	1,738	2,314	2,314	2,314	2,314

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the mobility questions from the 2019 survey. Santa Ana is a neighboring municipality, which is approximately 60 kilometers away from San Salvador. The sea is approximately 30 kilometers away from San Salvador. The unit of observation is an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction).

Table 4: Consequences of low labor mobility

	Household income			Works in a firm with $\geq$ 100 employees			Works in a firm with $\geq$ 200 employees		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lives in gang territory	-352.60	-429.99	-235.09	-0.123	-0.210	-0.105	-0.115	-0.187	-0.102
	(112.22)***	(127.82)***	(112.56)**	(0.019)***	(0.022)***	(0.023)***	(0.028)***	(0.025)***	(0.030)***
	[84.97]***	[98.80]***	[81.33]***	[0.042]***	[0.046]***	[0.041]***	[0.035]***	[0.038]***	[0.035]***
Lives in gang territory, works in non-gang territory		167.64	85.39		0.182	0.129		0.152	0.110
		(32.69)***	(30.23)***		(0.026)***	(0.025)***		(0.027)***	(0.026)***
		[37.08]***	[38.73]**		[0.025]***	[0.024]***		[0.024]***	[0.023]***
Has a high school degree			89.11			0.124			0.088
			(19.90)***			(0.021)***			(0.018)***
			[26.78]***			[0.020]***			[0.019]***
Has a university degree			445.46			0.148			0.132
			(76.96)***			(0.029)***			(0.027)***
			[62.62]***			[0.032]***			[0.030]***
Mean of dep. var.	625.00	634.70	638.90	0.169	0.169	0.170	0.133	0.132	0.132
Observations	2,314	1,738	1,707	2,071	1,738	1,707	2,071	1,738	1,707

Note: *** p<0.01, ** p<0.05, * p<0.1. The table shows that the discontinuity in income and firm size is significantly smaller or nonexistent for individuals living in gang territory but working outside of gang territory. All the variables come from the 2019 survey. For household income, the unit of observation is a household; for the other variables—an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary, and a dummy for whether the individual is currently employed (in the survey, unemployed individuals were asked to describe their most recent work experience). Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory, separately for each side of the boundary. Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction).

Table 5: Gang control and dropout rates

Subsample:	Dropout rate					
	All obs.	Year $\leq$ 2007	Year $>$ 2007	Male	Female	All obs.
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	0.019 (0.004)*** [0.007]***	0.021 (0.008)** [0.009]**	0.018 (0.004)*** [0.007]**	0.021 (0.006)*** [0.008]***	0.019 (0.003)*** [0.006]***	
Gang territory $\times$ Standard program						0.019 (0.004)*** [0.007]***
Gang territory $\times$ Program for adults						0.038 (0.018)** [0.017]**
Mean of dep. var.	0.020	0.021	0.019	0.023	0.016	0.020
Observations	3,199	684	2,515	3,088	3,186	3,377

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results for estimating Specification (1) for the dropout rates for schools in San Salvador. The data come from the annual census of schools. In Columns 1-5, the unit of observation is a school in a year. In these results, omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. In Column 6, the unit of observation is the type of program (standard or for adults) in a school in a year. In these results, omitted controls include a dummy for the program being for adults and linear trends in distance to the boundary of gang territory, separately for each type of program on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction).

Table 6: Extortion and violence

	Firm was extorted	Witnessed gang activity in area	Amount firm paid in extortion	Person was extorted	Amount person paid in extortion	Gang homicides (per km^2): All years	Gang homicides (per km^2): Year $\leq$2007	Robbery (per km^2)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gang territory	-0.066	-0.036	0.261	0.017	-1.501	3.238	-0.101	1.867
	(0.065)	(0.061)	(2.022)	(0.036)	(7.028)	(2.537)	(1.114)	(8.415)
	[0.074]	[0.068]	[2.588]	[0.035]	[6.449]			
Observations	512	493	4,120	1,957	252	86	86	86
Mean dep. var	0.246	0.738	6.226	0.200	8.447	9.241	3.348	26.18

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for extortion and other gang-related violent crimes. In Columns 1-2, the unit of observation is a firm in the 2015 survey of firms conducted by FUSADES. In Column 3, the unit of observation is an instance when a firm had to make an extortion payment to the gang. These data come from confidential internal records of one of the larger firms in El Salvador. In Columns 4-5, the unit of observation is an individual in our own 2020 survey. In Columns 6-8, the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory, weighted by the size of the area of the distance bins. These data come from official police records. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction). In Columns 6-8, the Conley standard errors are not reported because there the location of the observations is not defined (the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory).

Table 7: Public goods provision in gang-controlled locations

	Number per km^2:		On a scale from 1 to 7, satisfaction with the availability and quality of:			
	Schools	Hospitals	Health services	Education centers	Roads	Electricity service
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	0.325	-0.271	0.173	-0.019	0.299	-0.083
	(1.689)	(0.692)	(0.172)	(0.173)	(0.338)	(0.125)
			[0.189]	[0.170]	[0.302]	[0.098]
Mean of dep. var.	5.786	1.805	4.080	4.696	4.263	5.873
Observations	86	86	2,314	2,314	2,314	2,314

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results for estimating Specification (1) for the variables related to public goods provision. The questions about the satisfaction with the availability and quality of public goods come from the 2019 survey. For those variables, the unit of observation is an individual. The data on the number of schools and hospitals come from Google Maps. For those variables, the unit of observation is a 10 meter bin, denoting distance to gang territory, separately for each side of the boundary. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary). Standard errors in brackets are adjusted to allow for spatial correlation within a 100 meter radius (Conley correction). In Columns 1-2, the Conley standard errors are not reported because there the location of the observations is not defined (the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory).

Table 8: Gang presence and nighttime light density

	Nighttime light density (in percentage points relative to 1995)							
	Grid-level analysis		Municipality-level analysis					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\mathbb{1}\{\text{Year} > 1997\} \times$								
$\times$ Gang presence	-19.75 (2.14)*** [5.55]***	-30.65 (11.64)*** [11.64]***	-22.18 (4.00)*** [5.12]***	-19.59 (4.68)*** [4.55]***	-26.22 (5.07)*** [5.79]***	-23.50 (9.43)** [7.29]***		
$\times$ Gang leader born in municipality							-14.47 (3.03)*** [3.34]***	-14.61 (5.96)** [4.56]***
Observations	20,592	14,190	2,288	1,782	2,288	1,782	2,288	1,782
Grid cells/ municipalities	936	645	104	81	104	81	104	81
IV analysis (2SLS)					✓	✓		
Coefficient for excluded instrument					0.552 (0.055)*** [0.050]***	0.622 (0.058)*** [0.045]***		
F-stat, excluded instrument					(100.21) [121.36]	(113.13) [189.54]		
Excluding areas with above average luminosity in 1995		✓		✓		✓		✓

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (3) for nighttime light density, measured in percentage points to the level in 1995, one year before the change in the United States immigration policy. It also presents the results of the IV estimation, where in the first stage gang presence after 1997 is predicted using a dummy for whether there was a gang leader born in that munnicipality, i.e., Specification (4). In 1995, the outcome variable is equal to 100 percent for both gang and non-gang locations. Omitted controls include year dummies, grid cell or municipality fixed effects, and separate time trends for each grid cell or municipality. Standard errors in parentheses are clustered by grid cell or municipality, depending on the regression specification. Standard errors in brackets are adjusted to allow for spatial correlation within a 50 kilometer radius and 5 temporal lags (Conley correction). The first-stage F-statistics in parentheses correspond to the standard errors clustered by grid cell or municipality; the first-stage F-statistics in brackets—to the Conley standard errors.

A DATA

In this section of the Appendix, we describe the secondary data sources used in the project, explain the sampling procedure for the 2019 survey, and provide further details about the primary data listed in Section III.

A.I Additional data sources

Urban territory.—The data on urban density come from New York University's Atlas of Urban Expansion. The raster map presents the urban areas in the Greater San Salvador region in 1999.[79] We transform the data into a binary raster, equal to one when the location is classified as urban. Then, for each of the census tracts from the 2007 census, we calculate the share of census tracts' territory that is urban.

Waterways.—The map of the waterways in El Salvador comes from the Humanitarian OpenStreetMap Team.[80] Then, for each of the census tracts from the 2007 census, we created a dummy variable for whether the census tract contains a part of the waterway.

Road density.—The map of the roads in El Salvador comes from the Humanitarian OpenStreetMap Team and reflects the roads that existed in the country in March 2020.[81] We then transform the feature-based map into a binary raster file with the resolution of 1 meter$\times$1 meter, where we replace the lines for roads with grid cells equal to one. After that, for each of the census tracts from the 2007 census, we calculate road density, measured in kilometers per square kilometer.

Elevation.—The data on elevation at the resolution of 3 arc seconds (approximately 90 meters) come from the CGIAR-Consortium for Spatial Information (CGIAR-CSI).[82] For each of the census tracts from the 2007 census, we calculate the average elevation inside the census tract.

Territory used for coffee production—The map of land use in 1998 (including coffee production) comes from the Ministry of Environment and Natural Resources (*Ministerio de Medio Ambiente y Recursos Naturales*, MARN). We convert the feature-based map into a binary raster, equal to one for areas that are used for coffee production. Then, for each of the census tracts from the

[79]The San Salvador profile can be accessed here: Atlas of Urban Expansion: San Salvador (accessed on May 4, 2020).

[80]The map of the waterways in El Salvador can be accessed here: Humanitarian Data Exchange: El Salvador Waterways (accessed on May 4, 2020).

[81]The map of the roads in El Salvador can be accessed here: Humanitarian Data Exchange: El Salvador Roads (accessed on May 4, 2020).

[82]The elevation map for El Salvador can be accessed here: CGIAR-CSI (accessed on May 4, 2020).

2007 census, we calculate the share of census tracts' territory that is used for coffee production.

Tree coverage.—The data on tree coverage in 2000 come from Global Forest Watch.[83] The raster file presents the share of territory covered by trees in each 30 meter×30 meter grid cell. For each of the census tracts from the 2007 census, we calculate the average level of tree coverage inside of the census tract.

High school exam scores.—The data on the schools' average high school exit exam scores (*Prueba de Aprendizaje y Aptitudes para Egresados de Educación Media*, PAES) come from the Ministry of Education. PAES results are reported for math, natural sciences, social sciences, and Spanish language and literature. The data cover the period from 1999 to 2017, but exclude the results for 2002-2004 because in those year the Ministry of Education applied a non-disclosed curve to the test scores, preventing comparison with the other years.

Locations of schools, hospitals, and other establishments.—The data on the locations of schools, hospitals, and other establishments in San Salvador come from Google Places API.[84] In August 2019, we scraped the data from Google Places API to identify all the establishments in San Salvador. In total, we obtained a dataset with 7,732 establishments. For each observation, Google provides a classification of the type of establishment (e.g., school, hospital, pharmacy, etc.).

Housing rent.—To obtain information on housing rent, in August-September 2018, we scraped the data from the most popular website for rent listings in El Salvador, OLX.[85] We focused on non-commercial listings in which the entire apartment was being rented out (i.e., not a room in the apartment). The listings included the data on the latitude and longitude of the location, the rent requested by the landlord, as well as information about the apartment such as the number of bedrooms, the number of bathrooms, the number of square meters, and whether the apartment is being rented out by an agency. In total, the dataset contains 1,537 observations.

It should be noted that we cannot observe whether a particular apartment was rented out or not. However, after two months, the vast majority of offers were no longer available.

It should also be noted that, on average, the properties listed on OLX are larger and more expensive than the overall pool of properties in San Salvador. In particular, many of the cheapest properties may be rented out on the informal market and are not listed online. If there are more

[83]The data on tree coverage for El Salvador can be accessed here: Global Forest Watch (accessed on May 4, 2020).

[84]We use the data on the locations of schools and hospitals from Google Places API instead of government records. The primary reason is the accuracy of the data. For instance, in the shapefile the government has provided to us, some of the schools are located outside of El Salvador. However, if we use the data from government records, the results are qualatively very similar.

[85]The Salvadoran version of the website can be accessed here: OLX.

such properties in gang-controlled neighborhoods, our estimates would provide a lower bound on the actual drop in housing rent at the boundary of gang territory.

Gang leaders' municipalities of birth.—The data on the gang leaders' municipalities of birth come from *El Faro*, an investigative newspaper. We use the data from their investigative reports, focusing on the gang leaders who were deported from the United States and had been later convicted for committing crimes in El Salvador. Overall, the sample consists of 33 gang leaders both from MS-13 and 18th Street. We then manually match the names of the gang leaders and the crimes they commited to the criminal records from the Ministry of Justice and Public Security of El Salvador, which contain information on the offendent's municipality of birth.

A.II Further details about the primary data sources

2019 survey.—For the 2019 survey, the following sampling procedure was applied. Given the uncertainty about their treatment status, census tracts within 15 meters of the boundary of gang territory were excluded from the analysis. Then, separately for places inside and outside of gang territory, we split the census tracts into 30 meter bins, denoting distance to the boundary (i.e., 15-44 meters to the boundary, etc.). After that we randomly selected 10 census tracts from each bin and surveyed 8-10 people in each of them.[86] If there were fewer that 10 census tracts in that bin, we surveyed individuals in all the census tracts that were available. In total, the survey includes 2,314 respondents.

To ensure the safety of the enumerators, if the survey team was denied entry into some of the gang-controlled neighborhoods, those census tracts were replaced by other ones from the same bin. If it was not possible to interview 10 individuals in a census tract (e.g., because after repeated attempts nobody answered the door), additional people were interviewed in other census tracts in the same bin.

Gang boundaries.—The map of gang-controlled neighborhoods that we use in this study is based on data from 2015. To the best of our knowledge, maps of gang-controlled areas for earlier years are nonexistent. However, according to multiple sources in the police department as well as conversations with the local population, the boundaries of gang territory in San Salvador have remained stable since the late 1990s and early 2000s when the police managed to prevent the gangs from expanding their influence over new territories. This stability of the boundaries

[86] In areas within 250 meters of the boundary, we surveyed 10 individuals per census tract. In locations further away from the boundary, we surveyed 8 individuals per census tract.

is consistent with the fact that, while the police managed to stop the expansion of the gangs' influence, it is still unable to regain control over those locations. If changes to the boundaries do occur, it tends to be a product of turf wars (i.e., MS-13 and 18th Street taking over each other's territory), but not because of the state regaining control over gang territories or the other way round.

The data on the gang-controlled neighborhoods in San Salvador come from *El Diario de Hoy* and are presented in Figure 1. However, to accurately calculate distance to the boundary of gang territory, we also complement these data with confidential maps from the police on the gang-controlled neighborhoods outside of San Salvador municipality. Since the regression discontinuity design focuses on the census tracts inside of San Salvador, this never affects the the treatment status of the census tract (i.e., whether or not it is located inside of gang territory). However, for the locations outside of gang territory, it does sometimes affect the distance from them to the boundary of gang territory (i.e., if that location is closer to a gang-controlled location outside of San Salvador). It should be noted that, even with the extended map of gang territory, we are unable to perform the regression discontinuity design outside of San Salvador because the map additionally includes only a small number of locations in the Greater San Salvador area.

1992 and 2007 censal cartography.—It should be noted that the boundaries of the census tracts in the 1992 and 2007 censuses were not the same. Therefore, we are not able to perform a difference-in-differences analysis at the level of the census tracts. However, in both cases, the size of the census tracts was quite similar, allowing us to accurately measure the distance from the census tract to the boundary of gang territory. Thus, the distance between a particular location and the boundary of gang territory is very similar, regardless of whether we use the 2007 or 1992 census tracts.

It should also be noted that, although the General Directorate of Statistics and Censuses (DIGESTYC) digitized a map the 1992 census tracts, it did not fully finish that work. Specifically, the 1992 map does not have the boundaries of 18.9% of the census tracts in the North-West of San Salvador. However, the vast majority of those neighborhoods are located more than 420 meters away from gang territory and, therefore, would not be included in the analysis in any case. In particular, nearly all of gang territory (except for a few small "islands") and the neighborhoods right next to it are included in the 1992 map. Thus, it is highly unlikely that our estimates would change if all the census tracts were included.[87]

[87]DIGESTYC also told us that the work on digitizing the map of the census tracts had to stop because of the lack

A.III Calculating the rates of selective out-of-sample migration that would generate the results

Table A4 in the Appendix presents the rates of selective out-of-sample migration from gang territory that are required to generate the discontinuities from Table 1. These calculations were performed in the following way. First, it should be noted that we focus on the binary outcome variables. For these variables, a household/individual is defined to be "rich" or "educated" if for them the value of the outcome is equal to one (i.e., they have a car, a high school degree, etc.). The only exception is the outcome variable for not having a bathroom, for which the status is defined in the opposite way.

We use the example of the share of households with a computer to show how these rates were calculated. From the regression output, we get the predicted share of households with a computer for observations zero meters away from the boundary of gang territory, separately for locations inside and outside of gang territory. We denote those numbers as *G* and *NG*, respectively. We further denote the number of "rich" households (i.e., those that have a computer) in gang-controlled areas *before any migration took place* as x and the share of "poor" households (i.e., those that do not have a computer) as $1 - x$. Next, we assume that a fraction α of the "rich" households and a fraction β of the"poor" households migrated out of sample. Thus, in the data, we observe the following relationship.

$$\frac{(1-\alpha)x}{(1-\alpha)x + (1-\beta)(1-x)} = G. \tag{5}$$

Then, assuming different values of β, we calculate the value of α that would make this relationship hold if, in the absense of migration, there would not have been any difference in the outcome variable between gang and non-gang locations (i.e., $x = NG$). The results of the calculation are presented in Table A4.

A.IV Business establishments' location, profits, revenue, and costs

We analyze whether firms in gang-controlled neighborhoods have higher costs of operating a business (e.g., due to extortion, damage to property, or other types of gang activity) or lower profits than firms outside of gang territory. To address this question, we use the data from the supplement to the 2005 economic census of firms, in which approximately 6,000 San

of funding and that there was no specific reason why some census tracts were digitized and some were not.

Salvador-based firms were asked to provide the data on their revenue and costs.[88] In addition to using these data, we calculate the profits of the firms as the difference between these two variables. We then estimate Specification (1) using the log of the firm's profits, revenue, and costs as the outcome variables. Columns 1-3 of Table A23 present the results, showing that there are no differences in these variables across the boundaries of gang territory.[89] These findings confirm the notion that businesses in gang-controlled neighborhoods do not face higher costs or lower profits due to extortion or other gang-related activities.

We also provide further validation of this notion by looking at the number of firms per square kilometer in gang and non-gang areas. Standard economic theory predicts that, everything else equal, if the "operating costs" in one location are higher than in another one, more firms would choose to locate in the former. Therefore, if firms in gang-controlled neighborhoods are more exposed to extortion or other gang-related crimes, we would expect to see a drop in the number of firms at the boundary of gang territory. To perform the analysis, we use Google Maps data on the locations of all the business establishments (i.e., cafes, restaurants, grocery stores, etc.) in San Salvador.[90] We then estimate Specification (1) using the number of business establishments per square kilometer as the outcome variable. Columns 4-7 of Table A23 present the results, showing that there are no differences in the number of business establishments.

Overall, our findings suggest that, at the boundary of gang territory, there is the same number of firms on both sides of the boundary, and those firms have the similar profits, revenue, and costs. These results confirm the notion that both MS-13 and 18th Street are active not only in the locations they control but also in neighboring areas. However, it should be noted that firms further away from the boundary of gang territory, on average, are larger and have higher revenue and profits than firms close to the boundary. This fact highlights the importance of restrictions on individuals mobility. In the absence of these restrictions, residents of gang territory would likely benefit from the opportunity to work in those firms, whereas, in the current state of the world, only residents of non-gang areas can work there.

[88] The costs of the firm are calculated as the sum of all operating expenses (including the costs of production) and payments to workers.

[89] We have also verified that there are no differences in the number of the firms' employees or the amount paid in wages.

[90] We use Google Maps data because they provide the most complete and up-to-date list of all the firms operating in San Salvador. However, we have verified that the results are very similar if we instead use the data from the 2005 economic census of firms.

B TABLES

Table A1: Summary statistics of the variables used in the estimation

	Mean	SD	Observations	Source
Panel A: 2007 census				
Walls made of concrete, 2007	0.932	0.252	72,252	2007 census
Bare floor, 2007	0.028	0.165	60,820	2007 census
Has sewerage infrastructure, 2007	0.941	0.236	62,316	2007 census
Use electricity for lighting & cooking, 2007	0.108	0.311	62,316	2007 census
No bathroom, 2007	0.005	0.069	62,316	2007 census
Has internet, 2007	0.180	0.384	59,917	2007 census
Has a motocycle, 2007	0.033	0.180	59,237	2007 census
Has a car, 2007	0.428	0.495	60,186	2007 census
Has a phone, 2007	0.696	0.460	60,309	2007 census
Has a TV, 2007	0.952	0.214	60,525	2007 census
Has a computer, 2007	0.346	0.476	60,161	2007 census
Number of rooms, 2007	3.089	1.649	62,316	2007 census
Can read and write, 2007	0.928	0.259	208,913	2007 census
Has high school degree, 2007	0.448	0.497	203,423	2007 census
Has university degree, 2007	0.207	0.405	203,423	2007 census
1st principal component of the:				
Dwelling characteristics, 2007	0.952	0.176	60,820	2007 census
Household characteristics, 2007	0.377	0.182	58,434	2007 census
Individual characteristics, 2007	0.521	0.296	203,423	2007 census
Has always lived in San Salvador, 2007	0.767	0.422	225,467	2007 census
Household density (per km^2), 2007	3651.7	3381.2	477	2007 census
Population density (per km^2), 2007	13131.6	11965.3	477	2007 census
Family member moved abroad, 1997-2007	0.061	0.239	62,316	2007 census
Panel B: 1992 census				
Walls made of concrete, 1992	0.813	0.390	64,899	1992 census
Bare floor, 1992	0.100	0.299	64,899	1992 census
Has sewerage infrastructure, 1992	0.816	0.388	64,899	1992 census
Use electricity for lighting & cooking, 1992	0.182	0.386	64,899	1992 census
No bathroom, 1992	0.030	0.170	64,899	1992 census
Shared bathroom, 1992	0.142	0.349	64,899	1992 census
Has a motocycle, 1992	0.034	0.182	64,899	1992 census
Has a car, 1992	0.285	0.451	64,899	1992 census
Has a phone, 1992	0.320	0.467	64,899	1992 census
Has a TV, 1992	0.860	0.347	64,899	1992 census
Has a blender, 1992	0.625	0.484	64,899	1992 census
Number of rooms, 1992	2.670	1.706	64,899	1992 census

Can read and write, 1992	0.904	0.294	234,749	1992 census
Has high school degree, 1992	0.314	0.464	227,281	1992 census
Has university degree, 1992	0.112	0.316	227,281	1992 census
1st principal component of the:				
Dwelling characteristics, 1992	0.863	0.301	64,899	1992 census
Household characteristics, 1992	0.525	0.228	64,899	1992 census
Individual characteristics, 1992	0.380	0.270	227,281	1992 census
Panel C: 2019 survey				
Has high school degree, 2019	0.508	0.500	2,275	2019 survey
Has university degree, 2019	0.180	0.384	2,275	2019 survey
Household income, 2019	625.05	632.84	2,314	2019 survey
Works in a firm with $\geq$100 employees, 2019	0.169	0.375	2,071	2019 survey
Works in a firm with $\geq$200 employees, 2019	0.133	0.340	2,071	2019 survey
Has always lived in location, 2019	0.772	0.419	2,314	2019 survey
Works in neighborhood where lives, 2019	0.302	0.459	2,071	2019 survey
Works in gang territory, 2019	0.334	0.472	1,738	2019 survey
Has been to Santa Ana, 2019	0.495	0.500	2,314	2019 survey
Has been to the beach, 2019	0.872	0.335	2,314	2019 survey
Freedom of movement in area, 2019	0.811	0.392	2,314	2019 survey
Satisfaction with availability and quality:				
Health services, 2019	4.080	1.815	2,314	2019 survey
Education centers, 2019	4.696	1.589	2,314	2019 survey
Roads, 2019	4.263	1.761	2,314	2019 survey
Electricity service, 2019	5.873	1.024	2,314	2019 survey
Would seek help from informal leader for:				
Public goods provision, 2019	0.220	0.415	2,314	2019 survey
A security, civil, or legal issue, 2019	0.090	0.287	2,314	2019 survey
A financial problem, 2019	0.013	0.115	2,314	2019 survey
Would seek help from nobody for:				
Public goods provision, 2019	0.084	0.277	2,314	2019 survey
A security, civil, or legal issue, 2019	0.046	0.209	2,314	2019 survey
A financial problem, 2019	0.115	0.319	2,314	2019 survey
Hours worked, 2019	8.613	3.098	2,071	2019 survey
Hours would work for a wage of:				
\$5 per hour, 2019	7.596	4.223	2,314	2019 survey
\$10 per hour, 2019	8.280	2.788	2,314	2019 survey
\$20 per hour, 2019	8.245	2.933	2,314	2019 survey
Panel D: Google Maps				
Number of establishments per km^2:				
All establishments, 2019	133.41	22.39	85	Google Maps
Schools, 2019	5.898	4.360	85	Google Maps

Hospitals, 2019	1.896	2.175	85	Google Maps
Cafes & restaurants, 2019	9.970	5.379	85	Google Maps
Grocery stores, 2019	5.504	3.923	85	Google Maps
Pharmacies, 2019	1.839	2.060	85	Google Maps
Panel E: Data on housing rent (OLX)				
Housing rent, 2018	1008.8	614.2	1,537	OLX
Log housing rent, 2018	6.731	0.653	1,537	OLX
1 room in apartment, 2018	0.113	0.317	1,537	OLX
2 rooms in apartment, 2018	0.187	0.390	1,537	OLX
3 rooms in apartment, 2018	0.528	0.499	1,537	OLX
4 rooms in apartment, 2018	0.110	0.312	1,537	OLX
5 rooms in apartment, 2018	0.040	0.197	1,537	OLX
6 rooms in apartment, 2018	0.010	0.102	1,537	OLX
7+ rooms in apartment, 2018	0.012	0.108	1,537	OLX
1 bathroom in apartment, 2018	0.157	0.364	1,537	OLX
2 bathrooms in apartment, 2018	0.176	0.381	1,537	OLX
3 bathrooms in apartment, 2018	0.446	0.497	1,537	OLX
4 bathrooms in apartment, 2018	0.141	0.348	1,537	OLX
5 bathrooms in apartment, 2018	0.053	0.224	1,537	OLX
6 bathrooms in apartment, 2018	0.019	0.136	1,537	OLX
7+ bathrooms in apartment, 2018	0.008	0.092	1,537	OLX
Square meters, 2018	189.38	264.65	1,537	OLX
Rented out by agency, 2018	0.491	0.500	1,537	OLX
Panel F: Other RDD variables				
Urban territory, 1999	0.812	0.298	477	NYU Atlas of Urban Expansion
Road density (km per km^2), 2020	17.83	8.80	477	Humanitarian OpenStreetMap
Has access to waterway	0.327	0.470	477	Humanitarian OpenStreetMap
Elevation	720.4	87.83	477	CGIAR SRTM
Territory used for coffee production	0.028	0.132	477	Ministry of the Environment and Natural Resources
Tree coverage, 2000	0.048	0.116	477	Global Forest Watch
Gang homicides per km^2, 2003-2011	5.450	5.629	85	PNC
Robberies per km^2, 2014-2015	25.99	15.37	85	OPAMSS
Business has been extorted, 2015	0.246	0.431	512	FUSADES
Gang activity in the location, 2015	0.738	0.440	493	FUSADES
Panel G: Difference-in-differences variables				
Luminosity (grid level), 1992-2013	4.743	7.765	20,592	DMSP-OLS
Gang presence (grid), 1992-2013	0.110	0.313	20,592	PNC
Luminosity (municipality), 1992-2013	10.18	14.07	2,288	DMSP-OLS
Gang presence (municipality), 1992-2013	0.538	0.499	2,288	PNC
Gang leaders' municipality of birth	0.163	0.370	2,288	El Faro

Table A2: Socioeconomic characteristics from the 2019 survey

	Has a high school degree	Has a university degree	Household income	Works in a firm with $\geq$ 100 employees	Works in a firm with $\geq$ 200 employees
	(1)	(2)	(3)	(4)	(5)
Panel A: All survey respondents					
Gang territory	-0.311***	-0.254***	-352.60***	-0.123***	-0.115***
	(0.057)	(0.062)	(112.22)	(0.019)	(0.028)
Mean of dep. var.	0.508	0.180	625.0	0.169	0.133
Observations	2,275	2,275	2,314	2,071	2,071
Panel B: Respondents who have lived in the same location their entire life					
Gang territory	-0.281***	-0.173***	-271.05**	-0.114***	-0.104**
	(0.061)	(0.056)	(118.14)	(0.033)	(0.041)
Mean of dep. var.	0.474	0.149	602.3	0.155	0.123
Observations	1,757	1,757	1,787	1,589	1,589

Note: *** p<0.01, ** p<0.05, * p<0.1. After years of gang control, gang-controlled areas have worse socioeconomic conditions than neighboring areas that were not under the control of gangs. The table presents the results of estimating Specification (1) for the variables from the 2019 survey. Panel A presents the results for the full sample; Panel B—for the subsample of respondents who have always lived in the same location. For household income, the unit of observation is a household; for all the other variables—an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A3: Socioeconomic conditions after exposure to gang control, subsample of individuals who have always lived in San Salvador

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.046***	0.025**	-0.058**	-0.074***	0.005***	-0.129***
	(0.015)	(0.009)	(0.023)	(0.018)	(0.002)	(0.030)
Mean of dep. var.	0.932	0.028	0.934	0.104	0.005	0.178
Observations	72,252	60,820	38,987	38,987	38,987	37,204
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.019***	-0.220***	-0.140***	-0.023***	-0.174***	-0.710***
	(0.007)	(0.043)	(0.033)	(0.006)	(0.036)	(0.183)
Mean of dep. var.	0.036	0.426	0.682	0.955	0.345	3.046
Observations	36,736	37,385	37,471	37,599	37,349	38,987
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.026***	-0.145***	-0.116***	-0.036***	-0.091***	-0.095***
	(0.006)	(0.029)	(0.027)	(0.011)	(0.018)	(0.020)
Mean of dep. var.	0.931	0.444	0.200	0.952	0.374	0.519
Observations	156,959	153,280	153,280	60,820	36,204	153,280

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the subsample of individuals who have always lived in San Salvador. For the dwelling characteristics, none of the observations are excluded because all the dwellings have always been located in San Salvador. For the household characteristics, we limit the sample to those observations for which the head of the household has always lived in San Salvador. All the variables come from the 2007 census. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A4: Rates of out-of-sample migration for rich households and educated individuals from gang territory required to generate the discontinuities

	Household characteristics					
	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has a motocycle	Has a car	Has a phone
	(1)	(2)	(3)	(4)	(5)	(6)
β—out-of-sample migration rate for poor households and uneducated individuals from gang territory						
$\beta = 0\%$	57.4%	57.0%	72.6%	57.0%	28.8%	55.9%
$\beta = 10\%$	61.6%	61.3%	74.4%	61.3%	35.9%	60.3%
$\beta = 20\%$	65.9%	65.6%	77.3%	65.6%	43.0%	64.8%

	Household characteristics			Individual characteristics		
	Has a phone	Has a TV	Has a computer	Can read and write	Has a high school degree	Has a university degree
	(7)	(8)	(9)	(10)	(11)	(12)
β—out-of-sample migration rate for poor households and uneducated individuals from gang territory						
$\beta = 0\%$	47.8%	36.4%	51.6%	39.4%	44.7%	50.5%
$\beta = 10\%$	53.0%	42.8%	56.5%	45.5%	50.2%	55.5%
$\beta = 20\%$	58.2%	49.1%	61.3%	51.5%	55.7%	60.4%

Note: The table presents the rates of out-of-sample migration for rich households and educated individuals from gang territory required to generate the discontinuities from Table 1 under different assumptions about the migration rate for poor households and uneducated individuals from gang territory. All the variables come from the 2007 census. The unit of observation is a household or an individual, depending on which characteristics are being considered.

Table A5: Estimating the actual rates of out-of-sample migration

	Family member moved abroad in 1997-2007		
	(1)	(2)	(3)
Gang territory	-0.003	-0.002	-0.010
	(0.005)	(0.004)	(0.007)
1st principal component of the household characteristics	0.063***	0.061***	
	(0.008)	(0.008)	
1st principal component of the household characteristics ×			
× Non-gang territory			0.055***
			(0.010)
× Gang territory			0.071***
			(0.012)
Mean dep. var	0.056	0.062	0.056
Observations	36,204	58,434	36,204
p-value for equal coefficients inside and outside of gang territory			0.313
Household head has always lived in San Salvador	✓		✓

Note: The table presents the results of estimating the rates of out-of-sample migration from San Salvador. All the variables come from the 2007 census. The unit of observation is a household. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to the boundary of gang territory (separately for each side of the boundary).

Table A6: McCrary density test

Subsample	Household density, per km^2	Population density, per km^2:					
	All obs.	All obs.	Male	Female	Age 16-25	Age 26-40	Age >40
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gang territory	264.99	1,317.30	664.23	653.08	268.15	315.63	160.05
	(384.97)	(1,429.95)	(645.80)	(784.44)	(251.17)	(355.78)	(390.66)
Mean of dep. var.	3651.66	13131.64	6026.93	7104.71	2344.41	3087.13	3939.25
Observations	477	477	477	477	477	477	477

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for household and population density, measured in households and individuals per square kilometer, respectively. The unit of observation is a census tract. The household count, population count, and the size of the census tracts come from the 2007 census. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Observations are weighted by the size of the census tracts areas. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A7: Gang control and exam scores

	Math		Natural sciences		Social sciences		Languages & literature	
Subsample:	All obs.	Year $\leq$ 2007	All obs.	Year $\leq$ 2007	All obs.	Year $\leq$ 2007	All obs.	Year $\leq$ 2007
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gang territory	-0.835**	-0.801**	-0.652**	-0.603**	-0.666***	-0.686**	-0.712***	-0.649**
	(0.337)	(0.331)	(0.248)	(0.250)	(0.234)	(0.278)	(0.240)	(0.252)
Mean of dep. var.	5.434	5.511	5.776	5.901	6.432	6.382	6.151	5.960
Observations	1,284	436	1,284	436	1,284	436	1,284	436

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results for estimating Specification (1) for the average exam scores in San Salvador schools. The data come from the schools' administrative records in 1999-2001 and 2005-2017. The unit of observation is a school in a year. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A8: Excluding observations within 100 meters of the boundary of gang territory

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.064***	0.053***	-0.090***	-0.096***	0.001	-0.166***
	(0.020)	(0.011)	(0.027)	(0.018)	(0.003)	(0.026)
Mean of dep. var.	0.936	0.026	0.943	0.116	0.004	0.194
Observations	50,348	42,432	43,405	43,405	43,405	41,867
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.030***	-0.271***	-0.190***	-0.032***	-0.224***	-0.933***
	(0.008)	(0.053)	(0.057)	(0.009)	(0.048)	(0.263)
Mean of dep. var.	0.034	0.455	0.707	0.954	0.361	3.173
Observations	41,346	42,052	42,105	42,249	42,001	43,405
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.037***	-0.195***	-0.154***	-0.056***	-0.118***	-0.128***
	(0.010)	(0.033)	(0.030)	(0.013)	(0.024)	(0.023)
Mean of dep. var.	0.930	0.463	0.222	0.955	0.387	0.532
Observations	145,474	141,698	141,698	42,432	40,792	141,698

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the variables from the 2007 census after excluding observations within 100 meters of the boundary of gang territory. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A9: Controlling for 300×300 meter fixed effects

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.052*	0.023***	-0.073***	-0.097***	0.006***	-0.160***
	(0.030)	(0.007)	(0.026)	(0.025)	(0.002)	(0.028)
Mean of dep. var.	0.932	0.028	0.941	0.108	0.005	0.180
Observations	72,252	60,820	62,316	62,316	62,316	59,917
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.010*	-0.224***	-0.135***	-0.019	-0.190***	-0.641***
	(0.006)	(0.047)	(0.032)	(0.011)	(0.037)	(0.207)
Mean of dep. var.	0.033	0.428	0.696	0.952	0.346	3.089
Observations	59,237	60,186	60,309	60,525	60,161	62,316
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.031***	-0.137***	-0.101***	-0.040**	-0.100***	-0.089***
	(0.006)	(0.031)	(0.032)	(0.017)	(0.021)	(0.023)
Mean of dep. var.	0.928	0.448	0.207	0.952	0.377	0.521
Observations	208,913	203,423	203,423	60,820	58,434	203,423

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the variables from the 2007 census, controlling for 300×300 meter fixed effects. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include 300×300 meter fixed effects and a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A10: Two-dimensional regression discontinuity in latitude and longitude

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.051***	0.009*	-0.006	-0.075***	0.004***	-0.139***
	(0.007)	(0.005)	(0.015)	(0.008)	(0.001)	(0.011)
Mean of dep. var.	0.932	0.028	0.941	0.108	0.005	0.180
Observations	72,252	60,820	62,316	62,316	62,316	59,917
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.006**	-0.253***	-0.172***	-0.023***	-0.196***	-0.792***
	(0.002)	(0.021)	(0.017)	(0.003)	(0.016)	(0.088)
Mean of dep. var.	0.033	0.428	0.696	0.952	0.346	3.089
Observations	59,237	60,186	60,309	60,525	60,161	62,316
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.025***	-0.158***	-0.139***	-0.028***	-0.102***	-0.107***
	(0.004)	(0.012)	(0.012)	(0.006)	(0.009)	(0.009)
Mean of dep. var.	0.928	0.448	0.207	0.952	0.377	0.521
Observations	208,913	203,423	203,423	60,820	58,434	203,423

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the variables from the 2007 census, using latitude and longitude as the forcing variables. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in latitude and longitude (demeaned), separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A11: Excluding 10% of the observations with the highest values of the 1st principal components from non-gang areas

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.041**	0.023**	-0.046**	-0.027*	0.005**	-0.060***
	(0.016)	(0.010)	(0.022)	(0.016)	(0.002)	(0.022)
Mean of dep. var.	0.929	0.030	0.939	0.081	0.005	0.143
Observations	69,157	57,725	59,701	59,701	59,701	57,302
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.002	-0.158***	-0.109***	-0.016***	-0.117***	-0.463**
	(0.006)	(0.044)	(0.034)	(0.006)	(0.031)	(0.181)
Mean of dep. var.	0.028	0.402	0.682	0.950	0.316	2.980
Observations	56,622	57,571	57,694	57,910	57,546	59,701
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.025***	-0.097***	-0.038*	-0.032**	-0.053***	-0.053***
	(0.007)	(0.027)	(0.022)	(0.012)	(0.017)	(0.018)
Mean of dep. var.	0.924	0.421	0.169	0.949	0.359	0.498
Observations	199,604	194,114	194,114	57,725	55,819	194,114

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) after excluding 10% of the observations with the highest levels of the first principal component from non-gang areas. For the dwelling characteristics, we use the first principal component of the dwelling characteristics; for the household characteristics—the first principal component of the household characteristics; for the individual characteristics—the first principal component of the individual characteristics. When more than 10% of observations had the first principal component less than or equal to the value of the 10th percentile, we exclude a random subset of observations for which the first principal component is exactly equal to the 10th percentile. The estimates do not depend on which subsample of observations are excluded. In particular, we perform 1,000 iterations of this procedure, and for each variable report the most concervative results, i.e., when they are least significant. All the variables come from the 2007 census. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A12: Housing rent

	Log of housing rent	Housing rent
	(1)	(2)
Gang territory	-0.191***	-203.20***
	(0.052)	(56.33)
Number of rooms in the apartment:		
2 rooms	0.210***	19.93
	(0.053)	(30.79)
3 rooms	0.296***	87.65**
	(0.059)	(42.09)
4 rooms	0.189**	33.14
	(0.070)	(73.21)
5 rooms	0.134	2.46
	(0.107)	(124.27)
6 rooms	0.383***	330.19**
	(0.089)	(148.86)
7+ rooms	0.365***	378.31*
	(0.124)	(194.71)
Number of bathrooms in the apartment:		
2 bathrooms	0.507***	209.67***
	(0.073)	(49.22)
3 bathrooms	0.718***	350.97***
	(0.062)	(46.61)
4 bathrooms	0.836***	473.41***
	(0.066)	(82.91)
5 bathrooms	0.992***	650.37***
	(0.080)	(130.00)
6 bathrooms	1.095***	1,028.51***
	(0.113)	(213.85)
7+ bathrooms	0.979***	786.86***
	(0.160)	(233.44)
Square meters	0.140***	190.59***
	(0.018)	(22.68)
Square meters squared	-0.003***	-4.29***
	(0.000)	(0.61)
Rented out by an agency	0.269***	242.29***
	(0.034)	(15.55)
Mean dep. var	6.731	1,008.81
Observations	1,537	1,537

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for housing rent requested by landlords, controlling for the characteristics of the apartments that are being rented out. The unit of observation is an apartment. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A13: Estimating the effects separately for MS-13 and 18th Street

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
MS-13	-0.050***	0.023**	-0.057**	-0.077***	0.006***	-0.137***
	(0.017)	(0.010)	(0.025)	(0.021)	(0.001)	(0.030)
18th Street	-0.043**	0.026**	-0.044**	-0.076***	0.005*	-0.121***
	(0.017)	(0.010)	(0.021)	(0.022)	(0.003)	(0.030)
Mean of dep. var.	0.932	0.028	0.941	0.108	0.005	0.180
Observations	72,252	60,820	62,316	62,316	62,316	59,917
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
MS-13	-0.014**	-0.234***	-0.157***	-0.023***	-0.191***	-0.796***
	(0.006)	(0.048)	(0.035)	(0.006)	(0.037)	(0.192)
18th Street	-0.011*	-0.179***	-0.113***	-0.018***	-0.153***	-0.582***
	(0.006)	(0.047)	(0.036)	(0.006)	(0.036)	(0.210)
Mean of dep. var.	0.033	0.428	0.696	0.952	0.346	3.089
Observations	59,237	60,186	60,309	60,525	60,161	62,316
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
MS-13	-0.035***	-0.173***	-0.140***	-0.036***	-0.099***	-0.115***
	(0.007)	(0.029)	(0.026)	(0.012)	(0.020)	(0.020)
18th Street	-0.028***	-0.131***	-0.104***	-0.035**	-0.078***	-0.087***
	(0.008)	(0.030)	(0.026)	(0.013)	(0.020)	(0.021)
Mean of dep. var.	0.928	0.448	0.207	0.952	0.377	0.521
Observations	208,913	203,423	203,423	60,820	58,434	203,423

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) with the dummy for gang territory replaced with two dummies for areas controlled by MS-13 and areas controlled by 18th Street. All the variables come from the 2007 census. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A14: Excluding areas within 150 meters of the rival gang

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	-0.040**	0.025**	-0.059***	-0.073***	0.004***	-0.119***
	(0.015)	(0.010)	(0.020)	(0.019)	(0.001)	(0.026)
Mean of dep. var.	0.942	0.027	0.938	0.121	0.003	0.206
Observations	60,352	50,887	52,080	52,080	52,080	50,089
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
Gang territory	-0.012**	-0.183***	-0.115***	-0.019***	-0.154***	-0.579***
	(0.005)	(0.042)	(0.031)	(0.006)	(0.030)	(0.190)
Mean of dep. var.	0.001	0.076	0.038	0.003	0.051	0.066
Observations	49,412	50,319	50,447	50,621	50,285	52,080
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
Gang territory	-0.029***	-0.145***	-0.112***	-0.034***	-0.079***	-0.095***
	(0.007)	(0.027)	(0.023)	(0.011)	(0.017)	(0.018)
Mean of dep. var.	0.932	0.474	0.230	0.957	0.396	0.539
Observations	174,962	170,398	170,398	50,887	48,760	170,398

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) after excluding gang-controlled neighborhoods that are located within 150 meters of the rival gang. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. All the variable come from the 2007 census. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A15: "Islands" of gang territory

	Dwelling characteristics		Household characteristics			
	Walls made of concrete	Bare floor	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet
	(1)	(2)	(3)	(4)	(5)	(6)
"Island" of gang territory	-0.028**	0.023**	-0.083**	-0.063***	0.005***	-0.099***
	(0.013)	(0.009)	(0.038)	(0.020)	(0.001)	(0.029)
Rest of gang territory	-0.056***	0.027**	-0.027	-0.085***	0.005	-0.144***
	(0.020)	(0.010)	(0.028)	(0.022)	(0.003)	(0.029)
Mean of dep. var.	0.932	0.028	0.941	0.108	0.005	0.180
Observations	72,252	60,820	62,316	62,316	62,316	59,917
	Household characteristics					
	Has a motorcycle	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(7)	(8)	(9)	(10)	(11)	(12)
"Island" of gang territory	-0.010*	-0.208***	-0.124***	-0.016***	-0.161***	-0.676***
	(0.006)	(0.048)	(0.030)	(0.005)	(0.036)	(0.186)
Rest of gang territory	-0.014**	-0.194***	-0.132***	-0.022***	-0.170***	-0.651***
	(0.005)	(0.047)	(0.037)	(0.007)	(0.035)	(0.201)
Mean of dep. var.	0.033	0.428	0.696	0.952	0.346	3.089
Observations	59,237	60,186	60,309	60,525	60,161	62,316
	Individual characteristics			1st principal component of the:		
	Can read and write	Has a high school degree	Has a university degree	Dwelling characteristics	Household characteristics	Individual characteristics
	(13)	(14)	(15)	(16)	(17)	(18)
"Island" of gang territory	-0.039***	-0.188***	-0.144***	-0.025**	-0.083***	-0.123***
	(0.007)	(0.027)	(0.025)	(0.010)	(0.019)	(0.019)
Rest of gang territory	-0.025***	-0.119***	-0.100***	-0.042***	-0.087***	-0.081***
	(0.007)	(0.032)	(0.028)	(0.014)	(0.020)	(0.022)
Mean of dep. var.	0.928	0.448	0.207	0.952	0.377	0.521
Observations	208,913	203,423	203,423	60,820	58,434	203,423

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) with the dummy for gang territory replaced with dummies for the "islands" of gang territory and for the other gang-controlled locations. All the variables come from the 2007 census. The unit of observation is a dwelling, household, or individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A16: Effect on the individual characteristics, by gender

	Can read and write		Has a high school degree		Has a university degree		1st principal component	
Subsample:	Female	Male	Female	Male	Female	Male	Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gang territory	-0.038***	-0.023***	-0.129***	-0.169***	-0.097***	-0.144***	-0.087***	-0.111***
	(0.008)	(0.005)	(0.024)	(0.032)	(0.020)	(0.032)	(0.017)	(0.022)
Mean of dep. var.	0.915	0.943	0.431	0.468	0.186	0.233	0.504	0.542
Observations	114,686	94,227	111,492	91,931	111,492	91,931	111,492	91,931

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the individual characteristics from the 2007 census, separately for men and women. The unit of observation is an individual. The sample consists of the entire population. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A17: Restrictions on individuals' mobility, controlling for income and education

	Has been to Santa Ana municipality		Has been to the beach		Always lived in this location		Freedom of movement where they live	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Gang territory	-0.258***	-0.191***	-0.066**	-0.026	0.155***	0.116**	-0.088**	-0.092**
	(0.039)	(0.042)	(0.032)	(0.039)	(0.043)	(0.050)	(0.040)	(0.043)
Gang territory ×								
× Income (in thousands)	0.196***	0.158***	0.066***	0.049***	-0.025	-0.010	-0.032	-0.049
	(0.025)	(0.023)	(0.016)	(0.015)	(0.023)	(0.023)	(0.036)	(0.034)
× Has high school degree		0.124***		0.081***		-0.059**		0.045**
		(0.020)		(0.012)		(0.023)		(0.021)
× Has university degree		0.118**		-0.001		-0.043		0.033
		(0.054)		(0.033)		(0.059)		(0.040)
Non-gang territory ×								
× Income (in thousands)	0.136***	0.088***	0.035***	0.016	-0.035*	0.000	-0.009	-0.017
	(0.034)	(0.024)	(0.011)	(0.008)	(0.021)	(0.017)	(0.016)	(0.016)
× Has high school degree		0.142***		0.086***		-0.047		-0.000
		(0.045)		(0.021)		(0.035)		(0.025)
× Has university degree		0.132***		0.031		-0.156***		0.044*
		(0.030)		(0.019)		(0.044)		(0.025)
Mean of dep. var.	0.495	0.495	0.872	0.872	0.772	0.772	0.811	0.811
Observations	2,314	2,275	2,314	2,275	2,314	2,275	2,314	2,275

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the mobility questions from the 2019 survey, controlling for income and education. The other mobility-related questions from Table 3 are excluded because the individuals' work location directly affects income. Santa Ana is a neighboring municipality, which is approximately 60 kilometers away from San Salvador. The sea is approximately 30 kilometers away from San Salvador. The unit of observation is an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A18: Informal public goods provision

	Would seek help from informal leader of the community if a problem with:			Would not seek help from anyone if a problem with:		
	Public goods provision	Security, civil, or legal dispute	Finance	Public goods provision	Security, civil, or legal dispute	Finance
	(1)	(2)	(3)	(4)	(5)	(6)
Gang territory	0.055	-0.059	-0.012	0.052**	0.045***	0.059*
	(0.059)	(0.044)	(0.010)	(0.022)	(0.012)	(0.029)
Mean of dep. var.	0.220	0.090	0.013	0.084	0.046	0.115
Observations	2,314	2,314	2,314	2,314	2,314	2,314

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the probability of seeking help from an informal community leader or not seeking help from anyone to solve problems with public goods provision, finance, and security, civil, and legal disputes. The term "informal community leader" is used as a proxy for "gang leader" because, for security reasons, the survey could not directly mention gangs. The unit of observation is an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A19: Socioeconomic conditions after exposure to gang control, subsample of employed individuals

	Household characteristics				
	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet	Has motocycle
	(1)	(2)	(3)	(4)	(5)
Gang territory	-0.046**	-0.073***	0.005**	-0.148***	-0.016**
	(0.022)	(0.019)	(0.002)	(0.031)	(0.007)
Mean of dep. var.	0.940	0.104	0.004	0.207	0.039
Observations	41,158	41,158	41,158	39,813	39,365
	Household characteristics				
	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(6)	(7)	(8)	(9)	(10)
Gang territory	-0.217***	-0.128***	-0.016**	-0.179***	-0.656***
	(0.045)	(0.033)	(0.006)	(0.039)	(0.198)
Mean of dep. var.	0.465	0.683	0.959	0.388	3.066
Observations	39,987	40,041	40,195	39,982	41,158
	Individual characteristics			1st principal component of the:	
	Can read and write	Has a high school degree	Has a university degree	Household characteristics	Individual characteristics
	(11)	(12)	(13)	(14)	(15)
Gang territory	-0.018***	-0.174***	-0.179***	-0.091***	-0.124***
	(0.004)	(0.032)	(0.032)	(0.020)	(0.022)
Mean of dep. var.	0.967	0.623	0.333	0.388	0.634
Observations	91,114	88,820	88,820	38,827	88,820

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the variables from the 2007 census for the subsample of employed individuals. For the household characteristics, we limit the sample to those observations for which the head of the household is employed. The unit of observation is a household or an individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population of employed individuals. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A20: Socioeconomic conditions after exposure to gang control, subsample of formally employed individuals

	Household characteristics				
	Has sewerage infrastructure	Use electricity for lighting and cooking	No bathroom	Has internet	Has motocycle
	(1)	(2)	(3)	(4)	(5)
Gang territory	-0.045**	-0.073***	0.004***	-0.148***	-0.015*
	(0.020)	(0.020)	(0.001)	(0.034)	(0.008)
Mean of dep. var.	0.947	0.121	0.003	0.246	0.043
Observations	28,250	28,250	28,250	27,360	26,983
	Household characteristics				
	Has a car	Has a phone	Has a TV	Has a computer	Number of rooms
	(6)	(7)	(8)	(9)	(10)
Gang territory	-0.214***	-0.119***	-0.010*	-0.168***	-0.676***
	(0.047)	(0.033)	(0.005)	(0.040)	(0.209)
Mean of dep. var.	0.520	0.726	0.969	0.451	3.226
Observations	27,464	27,488	27,602	27,469	28,250
	Individual characteristics			1st principal component of the:	
	Can read and write	Has a high school degree	Has a university degree	Household characteristics	Individual characteristics
	(11)	(12)	(13)	(14)	(15)
Gang territory	-0.009***	-0.165***	-0.190***	-0.089***	-0.122***
	(0.002)	(0.031)	(0.035)	(0.020)	(0.022)
Mean of dep. var.	0.987	0.739	0.415	0.414	0.706
Observations	63,563	62,244	62,244	26,610	62,244

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the variables from the 2007 census for the subsample of formally employed individuals. For the household characteristics, we limit the sample to those observations for which the head of the household is employed. The unit of observation is a household or an individual, depending on which characteristics are being considered. In the individual-level regressions, the sample consists of the entire population of formally employed individuals. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A21: Hours worked

	Hours worked	Number of hours would work for a wage of:		
		$5 per hour	$10 per hour	$20 per hour
	(1)	(2)	(3)	(4)
Gang territory	0.050	-0.371	0.155	0.336
	(0.421)	(0.341)	(0.239)	(0.203)
Mean of dep. var.	8.613	7.596	8.280	8.245
Observations	2,071	2,314	2,314	2,314

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the number of hours worked and for individuals' willingness to work. All the variables come from the 2019 survey. The unit of observation is an individual. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

Table A22: Event study for nighttime light density

	Nighttime light density	
Unit of observation:	Grid cell-year	Municipality-year
	(1)	(2)
Gang presence ×		
× Year = 1992	-0.25	12.73
	(13.27)	(8.25)
× Year = 1993	-9.41	1.42
	(8.87)	(5.81)
× Year = 1994	-3.47	7.26
	(12.83)	(5.46)
× Year = 1996	-5.72	-4.74
	(12.01)	(4.30)
× Year = 1997	1.57	-3.20
	(10.30)	(4.34)
× Year = 1998	-47.02***	-17.32***
	(9.15)	(4.97)
× Year = 1999	-47.36***	-20.78***
	(8.98)	(5.07)
× Year = 2000	-33.94***	-17.76***
	(11.01)	(5.17)
× Year = 2001	-44.98***	-28.94***
	(13.10)	(7.36)
× Year = 2002	-26.00*	-19.47***
	(13.73)	(7.07)
× Year = 2003	-30.30***	-14.70***
	(10.41)	(5.20)
× Year = 2004	-82.10***	-31.56***
	(13.89)	(6.69)
× Year = 2005	-55.40***	-27.22***
	(12.31)	(6.28)
× Year = 2006	-71.17***	-30.24***
	(12.67)	(5.85)
× Year = 2007	-76.05***	-35.15***
	(14.93)	(6.67)
× Year = 2008	-70.94***	-33.11***
	(15.62)	(7.43)
× Year = 2009	-64.39***	-32.30***
	(16.80)	(7.80)
× Year = 2010	-118.08***	-49.80***
	(17.93)	(12.05)
× Year = 2011	-55.51***	-29.23***
	(18.65)	(8.73)
× Year = 2012	-79.42***	-16.42
	(20.68)	(10.64)
× Year = 2013	-39.75*	-19.70*
	(20.95)	(11.12)
Observations	14,190	1,782
Grid cells/ municipalities	645	81
Excluding areas with above average luminosity in 1995	✓	✓

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (2) for nighttime light density, measured in percentage points to the level in 1995, one year before the change in the United States immigration policy. In 1995, the outcome variable is equal to 100 percent for both gang and non-gang locations. Omitted controls include year dummies and grid cell or municipality fixed effects. Standard errors in parentheses are clustered by grid cell or municipality, depending on the regression specification.

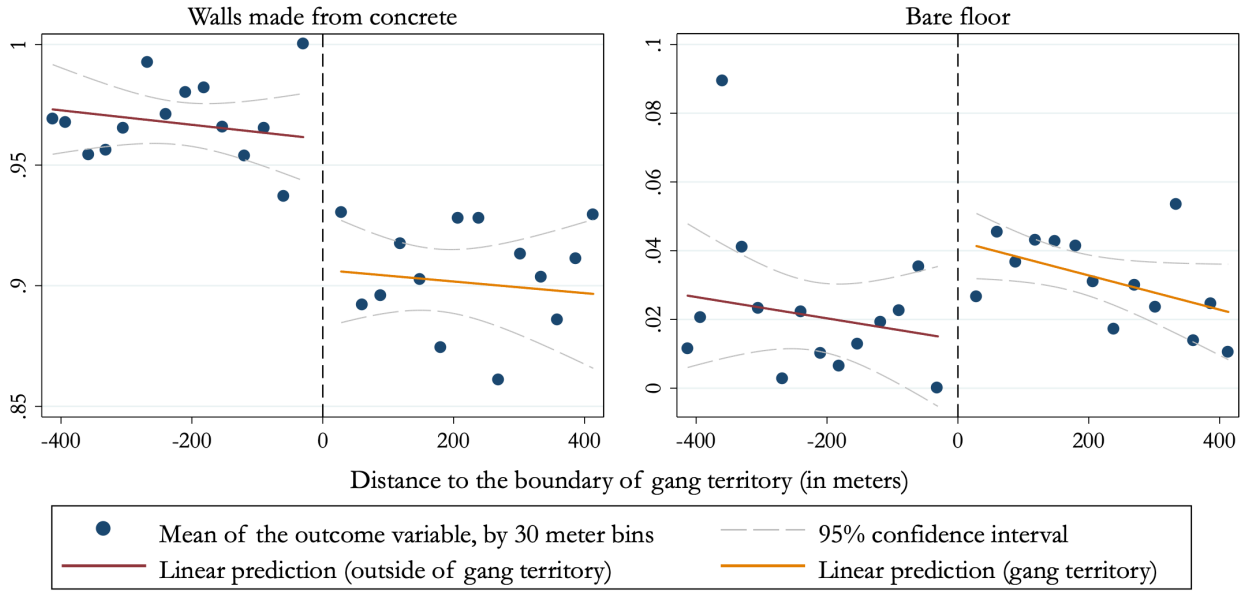
Table A23: Firms' location, profits, revenue, and costs

	Log of the firm's:			Firms per km^2, 2005 census:		Firms per km^2, Google Maps:			
	Profits	Revenue	Costs	All firms	Opened after 1997	All firms	Cafes & restaurants	Grocery stores	Pharmacies
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Gang territory	-0.198	-0.027	0.094	-5.774	-13.846	3.449	-1.022	0.646	-0.073
	(0.362)	(0.332)	(0.330)	(102.74)	(50.057)	(16.138)	(1.542)	(0.702)	(0.445)
Mean of dep. var.	9.767	10.97	10.44	234.30	120.60	129.70	9.620	5.277	1.717
Observations	5,631	6,118	6,083	156	156	86	86	86	86

Note: *** p<0.01, ** p<0.05, * p<0.1. The table presents the results of estimating Specification (1) for the number of business establishments, their profits, revenue, and costs. The results in Columns 1-5 are based on the supplement to the 2005 economic census. In Columns 1-3, the unit of observation is a firm; in Columns 4-5—a sector, the analogue of the census tract in the economic census. The data on the number of business establishments in Columns 6-9 come from Google Maps. In these regressions, the unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory, weighted by the size of the area of the distance bins. Omitted controls include a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary. Standard errors in parentheses are clustered by 30 meter bins, denoting distance to gang territory (separately for each side of the boundary).

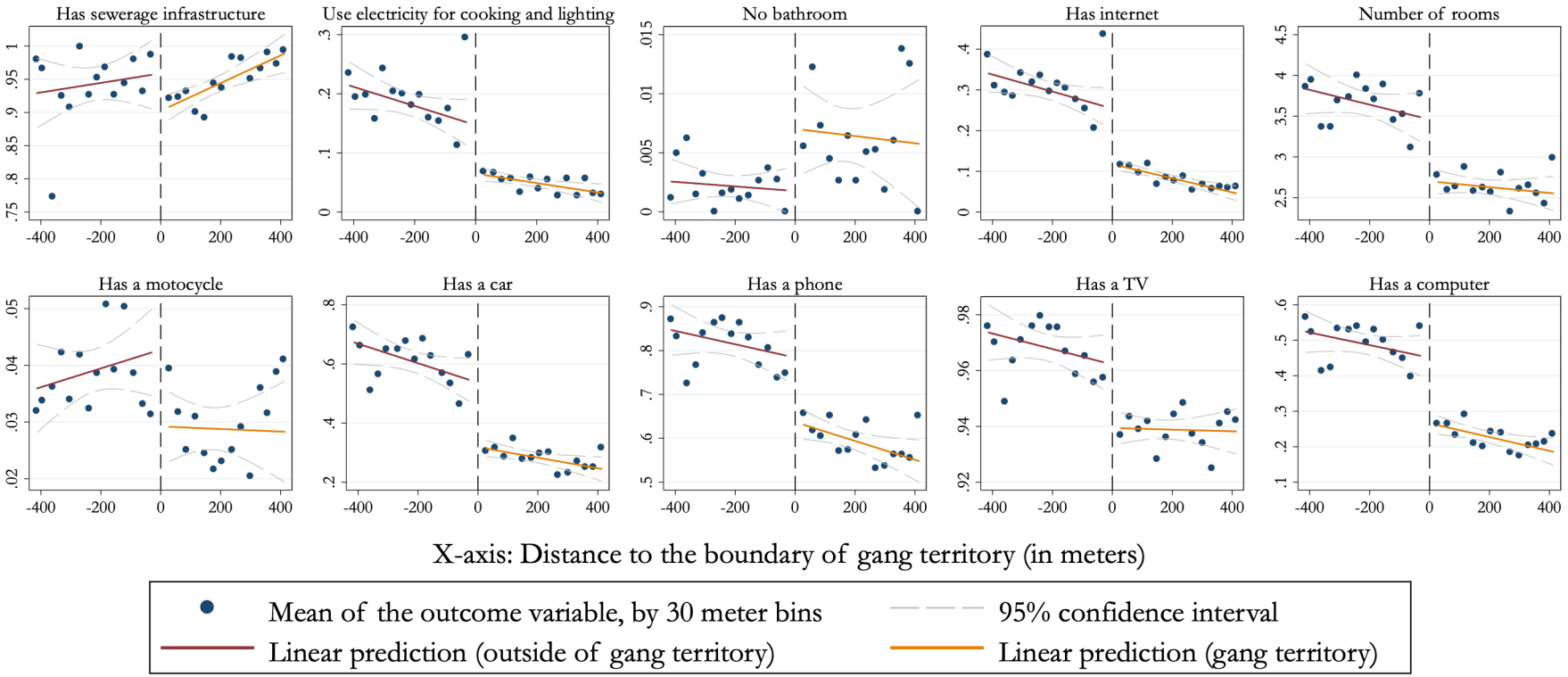
C FIGURES

Figure A1: Socioeconomic conditions after 10 years of gang control: Dwelling characteristics



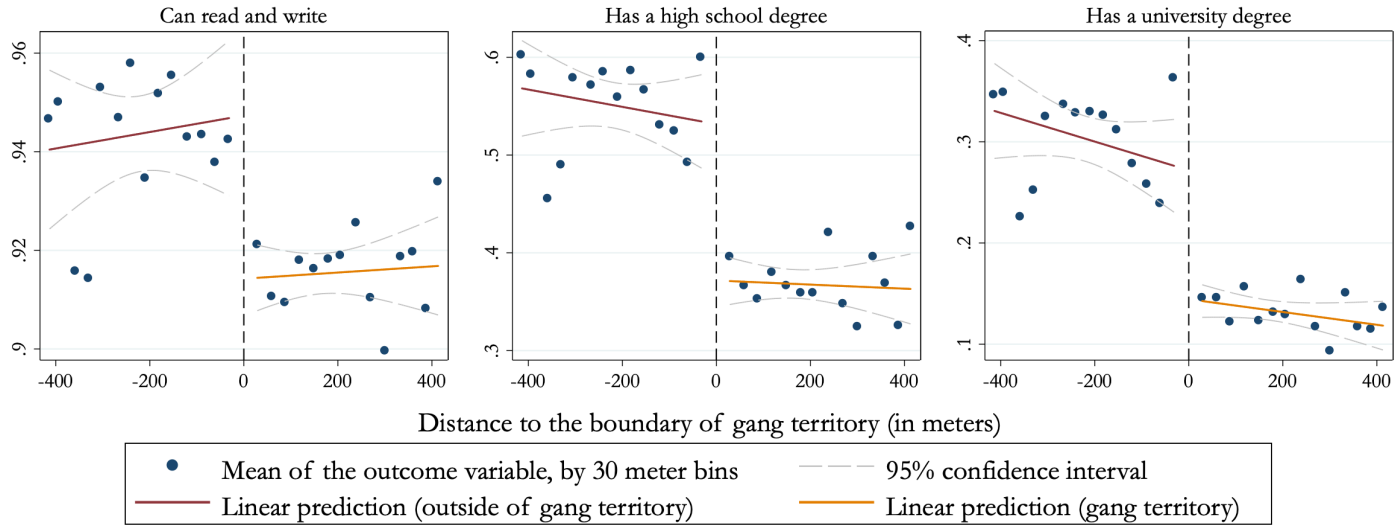
Note: The figure illustrates the results for the dwelling characteristics from Table 1. All the variables come from the 2007 census. The unit of observation is a dwelling. All the variables represent the share of dwellings that have the outcome variable (walls from concrete and a bare floor). The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A2: Socioeconomic conditions after 10 years of gang control: Household characteristics



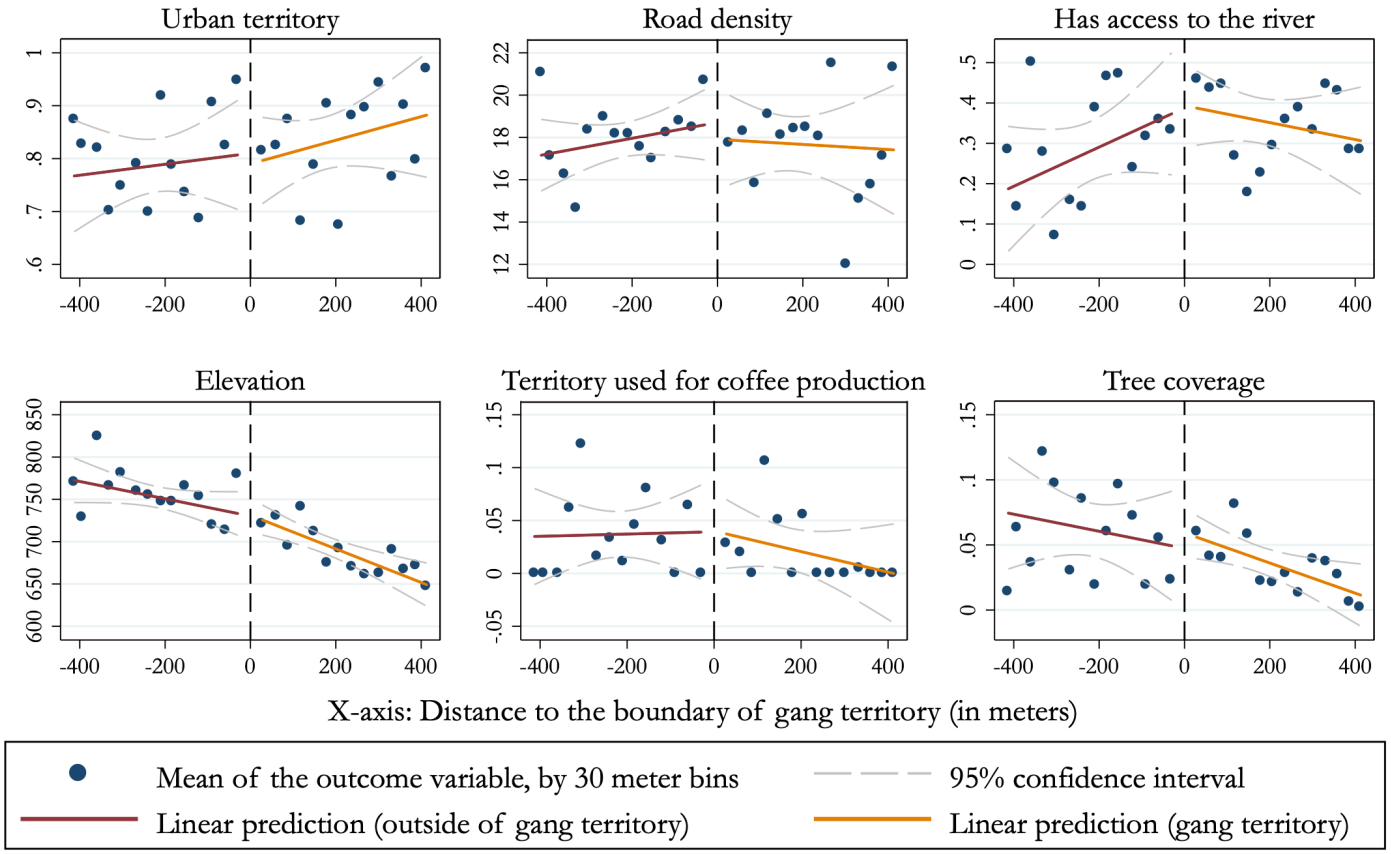
Note: The figure illustrates the results for the households characteristics from Table 1. All the variables come from the 2007 census. The unit of observation is a household. All the variables except "Number of rooms" represent the share of households that have the outcome variable (a car, a tv, etc.); "Number of rooms" is the number of rooms in the apartment or house where the household lives. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A3: Socioeconomic conditions after 10 years of gang control: Individual characteristics



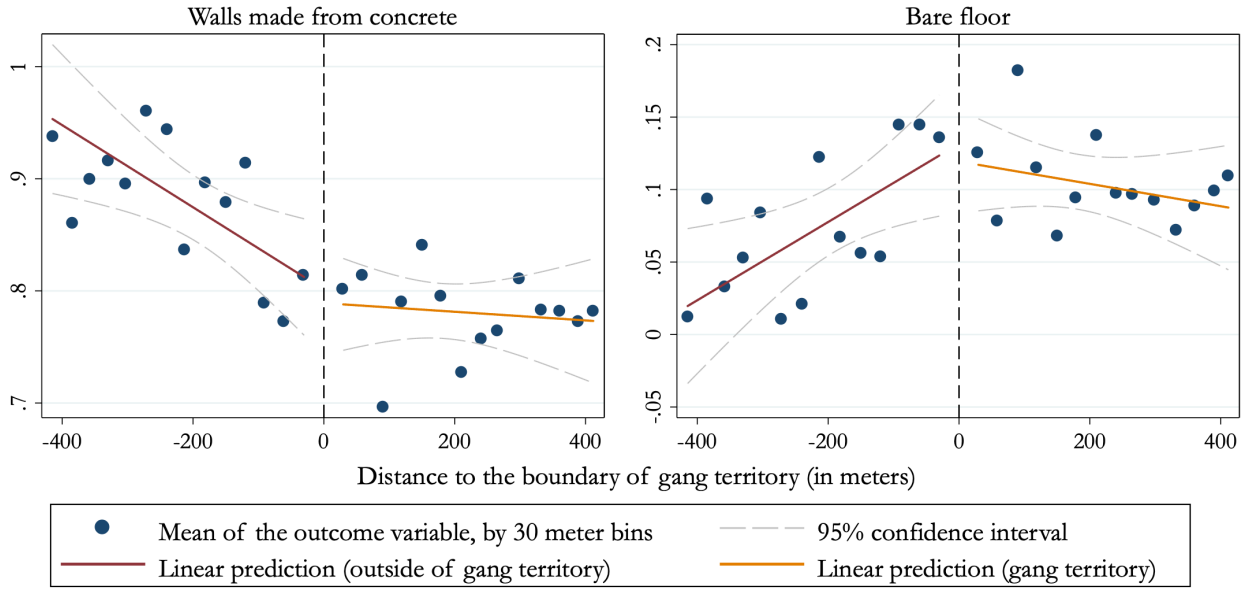
Note: The figure illustrates the results for the individual characteristics from Table 1. All the variables come from the 2007 census. The unit of observation is an individual. All the variables represent the share of individuals that have the outcome variable (can read and write, have a high school degree, etc.). The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A4: Socioeconomic conditions before the gangs' arrival: Neighborhood characteristics



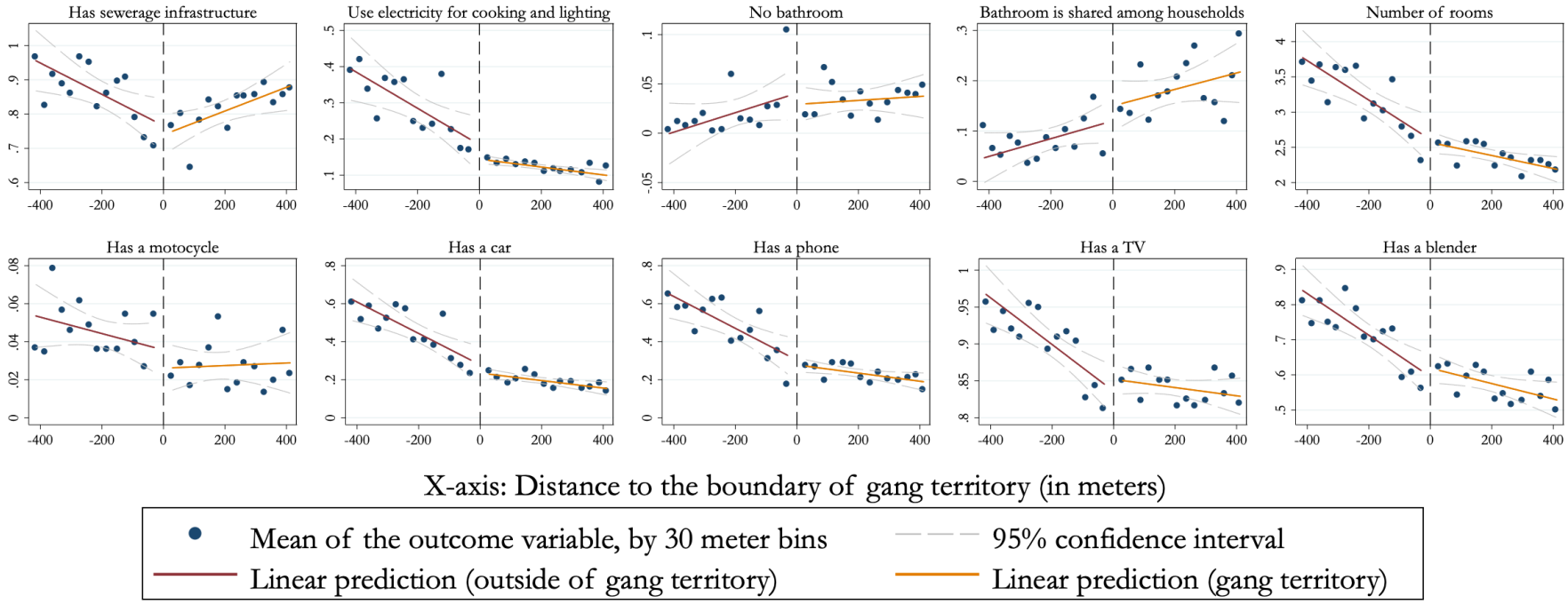
Note: The figure illustrates the results for the neighborhood characteristics from Table 2. The unit of observation is a census tract. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A5: Socioeconomic conditions before the gangs' arrival: Dwelling characteristics



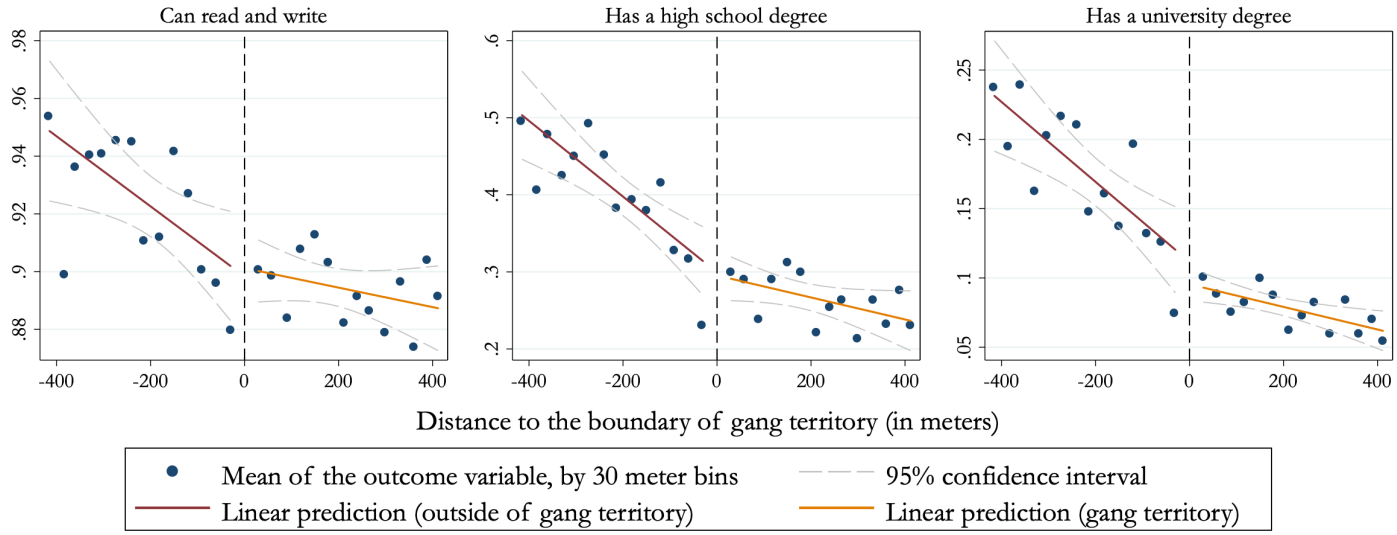
Note: The figure illustrates the results for the dwelling characteristics from Table 2. All the variables come from the 1992 census. The unit of observation is a dwelling. All the variables represent the share of dwellings that have the outcome variable (walls from concrete and a bare floor). The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A6: Socioeconomic conditions before the gangs' arrival: Household characteristics



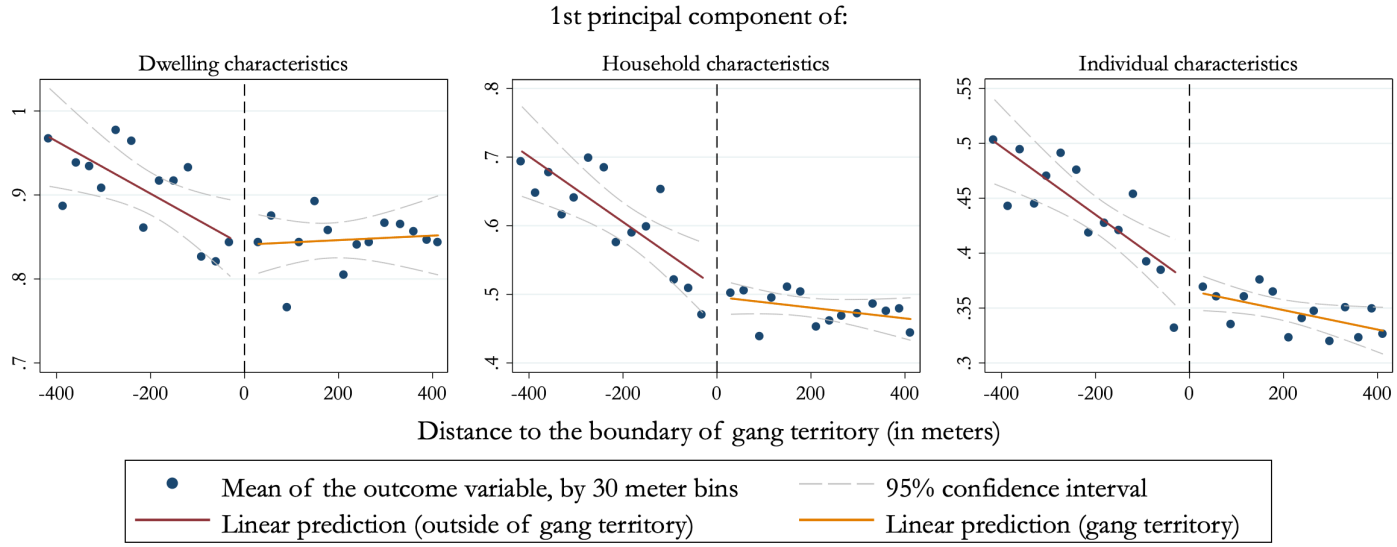
Note: The figure illustrates the results for the households characteristics from Table 2. All the variables come from the 1992 census. The unit of observation is a household. All the variables except "Number of rooms" represent the share of households that have the outcome variable (a car, a tv, etc.); "Number of rooms" is the number of rooms in the apartment or house where the household lives. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A7: Socioeconomic conditions before the gangs' arrival: Individual characteristics



Note: The figure illustrates the results for the individual characteristics from Table 2. All the variables come from the 1992 census. The unit of observation is an individual. All the variables represent the share of individuals that have the outcome variable (can read and write, have a high school degree, etc.). The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A8: Socioeconomic conditions before the gangs' arrival: 1st principal components of the dwelling, household, and individual characteristics

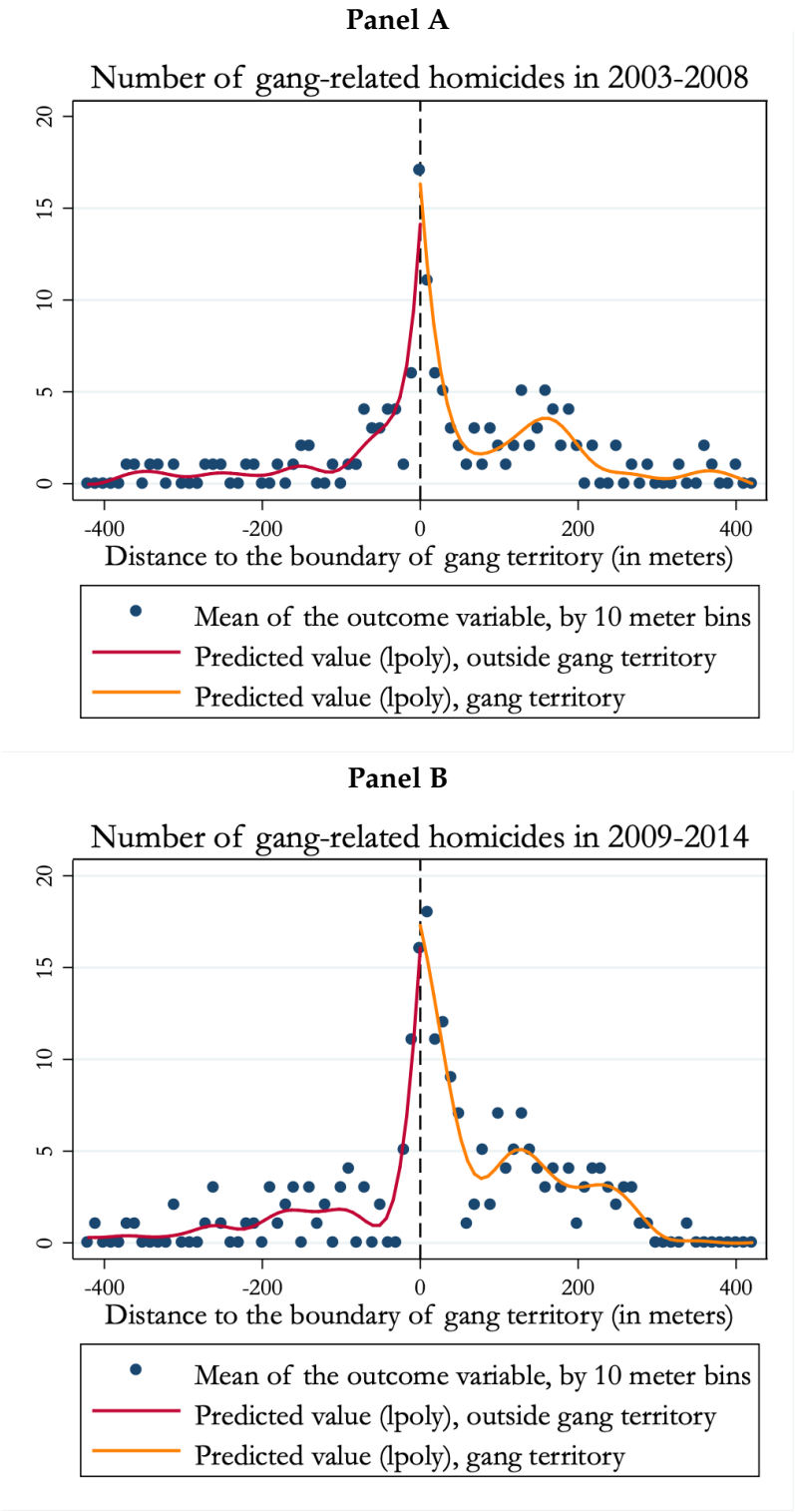


Note: The figure illustrates the results for the 1st principal components of the dwelling, household, and individual characteristics from Table 2. All the variables come from the 1992 census. The unit of observation is a dwelling, a household, and an individual, depending on the specification. All the variables are normalized to vary between zero and one with higher values representing better outcomes. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A9: IN-SAMPLE MIGRATION IS NOT DRIVING THE RESULTS: 2019 SURVEY

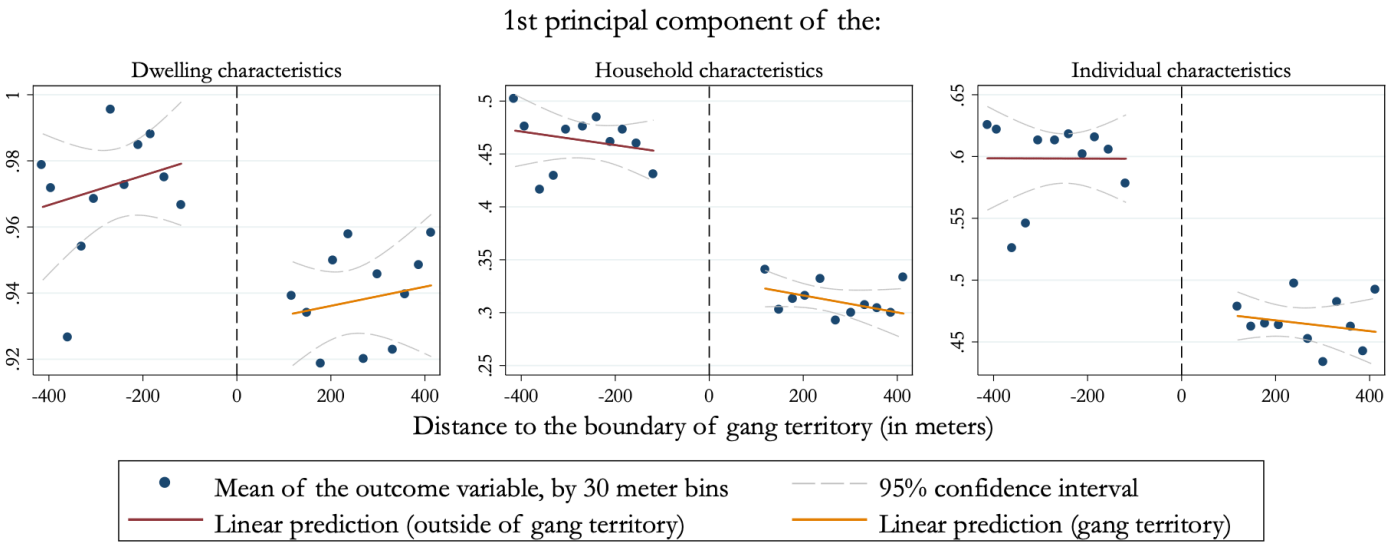
Note: The figure illustrates the results from Table A2. The left-hand side of the figure presents the results for the full sample (Panel A of Table A2), the right-hand side—for the subsample of individuals who have lived in the same location all their life (Panel B of Table A2). The results are very similar. The vertical axis represents the average value of household income; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A10: Gang-related homicides, by distance to the boundary of gang territory



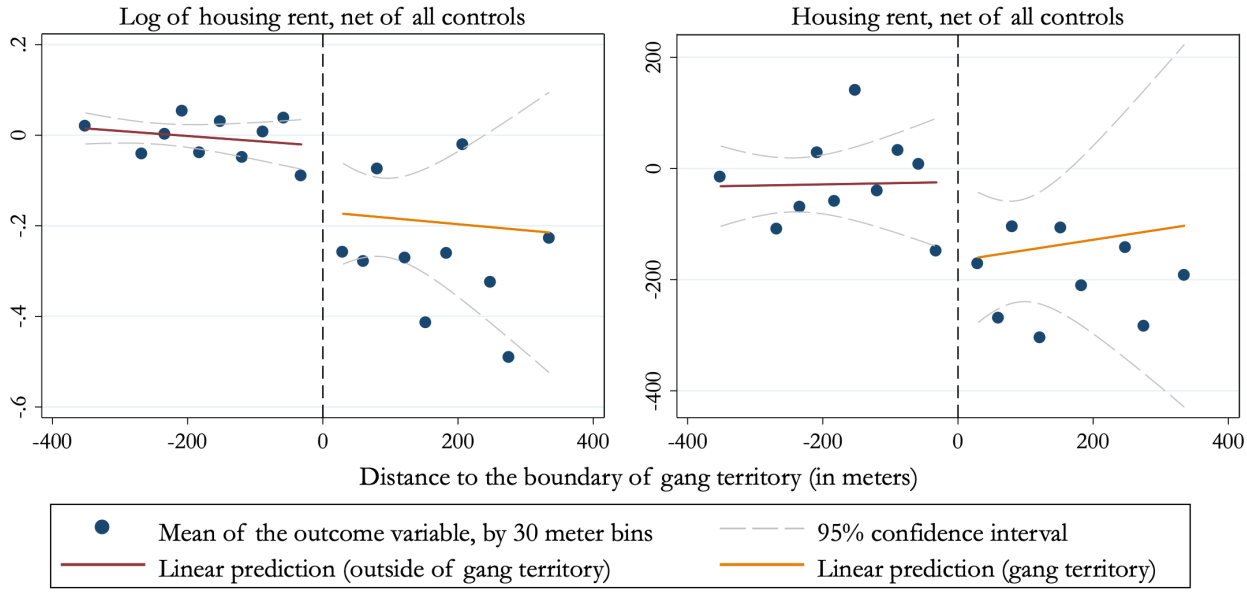
Note: The figure illustrates the number of gang-related homicides in 2003-2008 (Panel A) and 2009-2014 (Panel B), by distance to the boundary of gang territory. In both cases, the largest number of the homicides took place right at the boundary of gang territory. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 10 meter bin.

Figure A11: Excluding observations within 100 meters of the boundary of gang territory



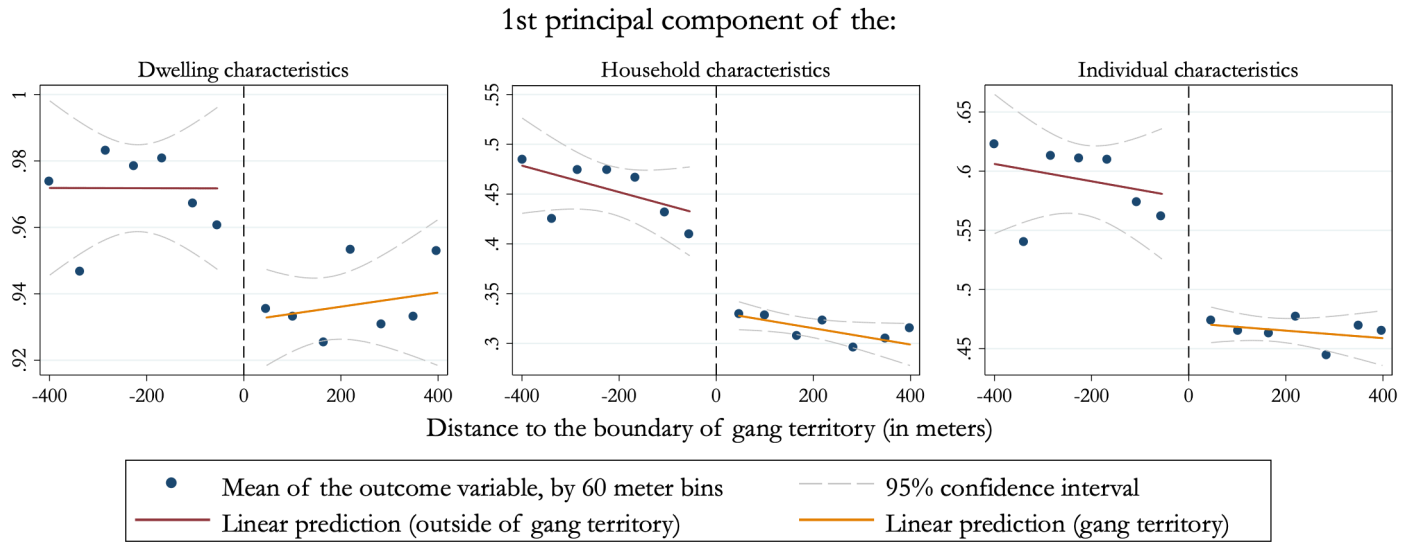
Note: The figure illustrates the regression discontinuity plots for the 1st principal components of the dwelling, household, and individual characteristics from the 2007 census after excluding observations within 100 meters of the boundary of gang territory. The unit of observation is a dwelling, a household, and an individual, depending on the specification. All the variables are normalized to vary between zero and one with higher values representing better outcomes. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A12: Housing rent



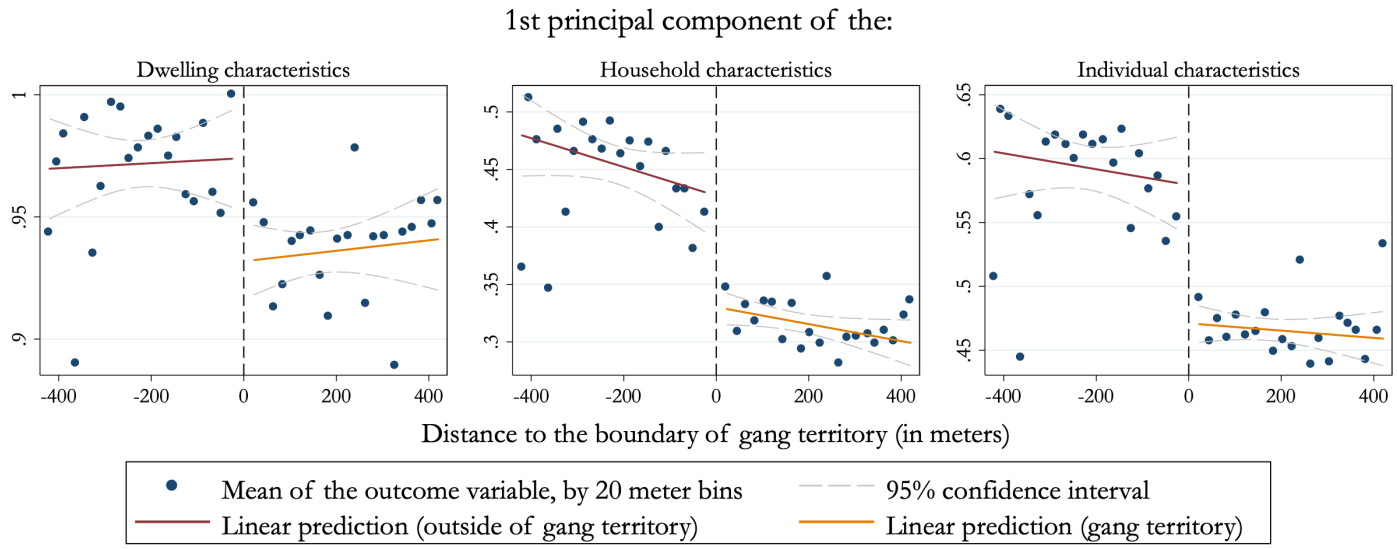
Note: The figure illustrates the regression discontinuity plots for the residual of housing rent and log housing rent after subtracting the effects of all the control. The unit of observation is an apartment listing. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. Omitted controls include dummies for the number of rooms, dummies for the number of bathrooms, a quadratic polynomial in square meters, a dummy for whether the apartment is being rented out by an agency rather than an individual, and a linear trend in distance to the boundary of gang territory, separately for locations on each side of the boundary.

Figure A13: Alternative bandwidth: 60 meter bins



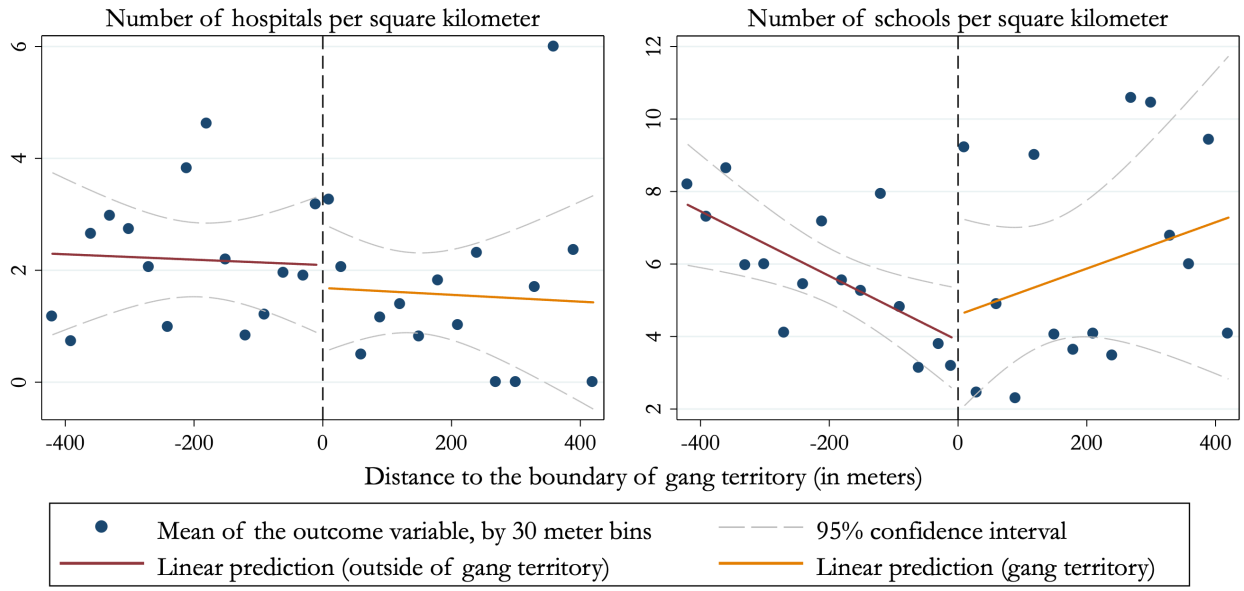
Note: The figure illustrates the regression discontinuity plots for the 1st principal components of the dwelling, household, and individual characteristics from the 2007 census, using a larger bandwidth than in the baseline specification: the dots represent the average value of the outcome variable for 60 meter bins. The unit of observation is a dwelling, a household, and an individual, depending on the specification. All the variables are normalized to vary between zero and one with higher values representing better outcomes. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs.

Figure A14: Alternative bandwidth: 20 meter bins



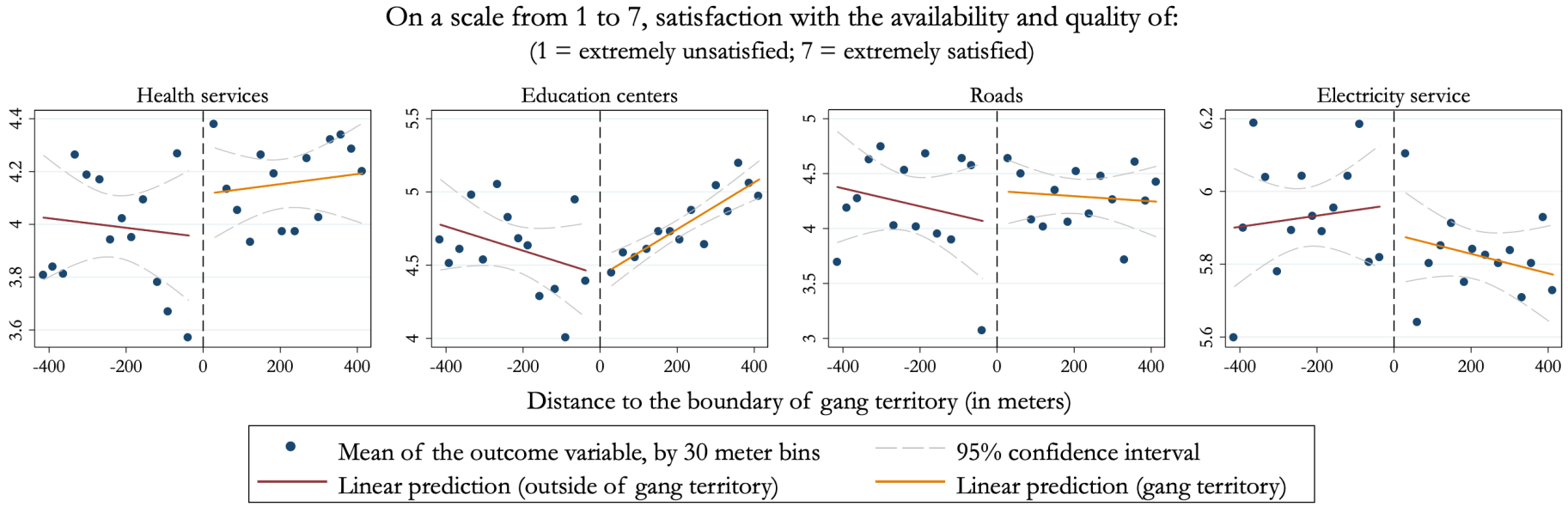
Note: The figure illustrates the regression discontinuity plots for the 1st principal components of the dwelling, household, and individual characteristics from the 2007 census, using a narrower bandwidth than in the baseline specification: the dots represent the average value of the outcome variable for 20 meter bins. The unit of observation is a dwelling, a household, and an individual, depending on the specification. All the variables are normalized to vary between zero and one with higher values representing better outcomes. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs.

Figure A15: Availability of public goods



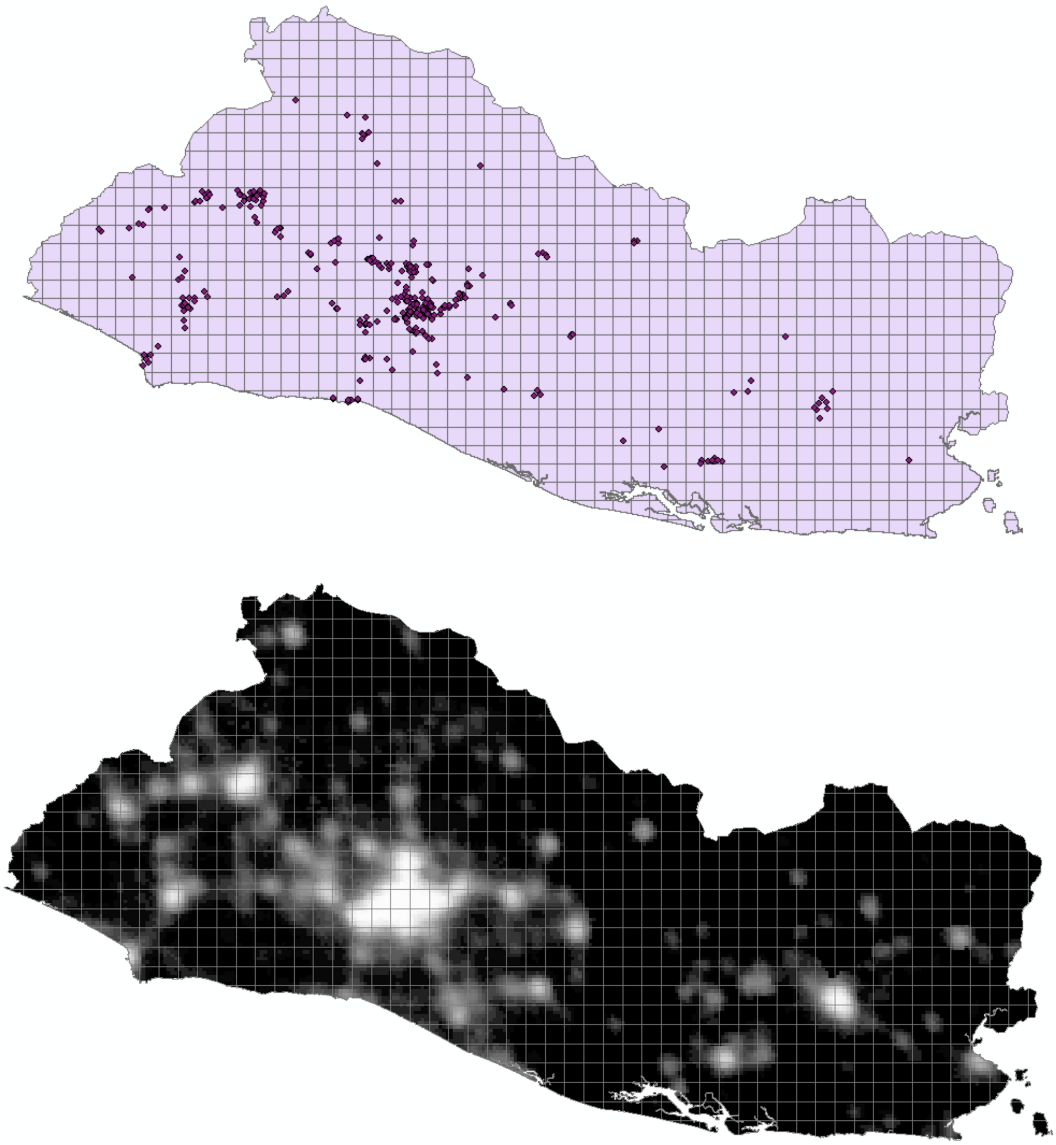
Note: The figure presents the regression discontinuity plots for the number of hospitals and schools per square kilometer. The unit of observation is a 10 meter bin, denoting distance to the boundary of gang territory. The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A16: Satisfaction with the availability and quality of public goods



Note: The figure presents the regression discontinuity plots for the questions about satisfaction with the availability and quality of public goods from the 2019 survey. The unit of observation is an individual. For all the questions, the respondents were asked to rate the availability and quality of public goods on a scale from 1 (extremely unsatisfied) to 7 (extremely satidfied). The vertical axis represents the average value of the outcomes variable; the horizontal axis—distance (in meters) to the boundary of gang territory. Neighborhoods to the left of the dashed line are located outside of gang territory; areas to the right are controlled by the gangs. The dots represent the average value of the outcome variable in that 30 meter bin.

Figure A17: Grid squares, gang homicides in 2003-2004, and nighttime light density



Note: The top part of the figure presents the locations of the gang-related homicides in 2003-2004. The bottom part of the figure presents the map of nighttime light density in 1995, one year before the change in the United States immigration policy. Both parts of the figure also present the boundaries of the grid cells used in the analysis.

Figure A18: Grid squares, gang homicides in 2003-2004, and nighttime light density