

Gang Crackdowns

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Abstract

What are the consequences of restoring state authority in territories governed by criminal organizations? Combining household surveys and administrative records with detailed maps of former gang-controlled areas, we study how El Salvador’s 2022 State of Exception, which ended two decades of gang territorial control, reshaped Salvadoran society. We find that the removal of gang control integrated previously segmented labor markets, improving mobility, employment outcomes, household income, and financial inclusion. Areas with greater pre-2022 gang exposure also experienced larger increases in business formation and property investment. However, the legacy of criminal governance persists through residence-based discrimination: employers remain less willing to hire otherwise identical applicants from former gang-controlled neighborhoods. Finally, although overall support for the crackdowns remains high, individuals who witnessed police abuse report substantially greater distrust of the police and the national government, suggesting that abuses of state authority may undermine the political sustainability of tough-on-crime policies.

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I INTRODUCTION

A defining feature of the state is its ability to exercise authority over its territory and maintain a monopoly on violence (Olson, 1993; Tilly, 1985). Yet in many developing countries, criminal organizations and other nonstate armed actors govern substantial territories, regulate mobility, extract payments from firms and households, and control access to labor markets (Sánchez de la Sierra, 2020; Lessing, 2021; Sviatschi, 2022b; Blattman et al., 2025; Brown et al., 2025; Melnikov, Schmidt-Padilla and Sviatschi, 2025). These forms of criminal governance can fragment national economies and limit the reach of state institutions. Restoring state authority over territories controlled by criminal organizations is therefore often considered a central objective for governments seeking to strengthen state capacity and promote economic development. However, we know remarkably little about what follows the successful dismantling of entrenched criminal governance and the reintegration of formerly controlled territories into the national economy. Do its economic and social costs dissipate once the state reestablishes territorial control, or do they endure after the structures that produced them have disappeared? And does reintegration itself create new barriers that continue to exclude residents of formerly gang-affected communities?

Governments around the world have sought to weaken or dismantle entrenched criminal organizations through a wide range of enforcement strategies, from targeted operations against the Medellín and Cali cartels in Colombia to militarized anti-drug campaigns in Mexico, the war on drugs in the Philippines, and the deployment of Pacifying Police Units in Brazil’s favelas. Nevertheless, across these settings, durable recoveries of state control have been rare, even when enforcement efforts achieved important tactical successes. Instead, existing campaigns have typically weakened particular organizations or generated localized improvements in security without fully dismantling criminal governance. In many cases, they have displaced illicit activity, fragmented criminal groups, or intensified competition over newly contested territories (Dell, 2015; Magaloni, Franco Vivanco and Melo, 2020; Phillips, 2015).

In this paper, we examine the consequences of a natural experiment in the restoration of state territorial authority, which took place in El Salvador in 2022. Before 2022, the Salvadoran state did not maintain a monopoly on violence across large parts of the country, with as much as 60 percent of the population living under the control of two major criminal organizations, MS-13 and 18th Street (Martínez, 2016). In these areas, gangs governed local communities through extortion, recruitment, and restrictions on residents’ mobility, severely constraining socioeconomic development (Brown et al., 2025; Melnikov, Schmidt-Padilla and Sviatschi, 2025). This equilibrium changed on March 27, 2022, when the Salvadoran government declared a “State of Exception,” granting the police and military sweeping powers to detain suspected gang members and their collaborators. During the following months, more than 90,000 people were arrested (Amnesty International, 2026; Human Rights Watch, 2026), equivalent to roughly 1.5 percent of El Salvador’s population. Although the measure was highly controversial, it achieved its immediate objective of

restoring state control over areas previously controlled by the gangs. Crucially, the 2022 crackdowns did not merely target the leadership of MS-13 and 18th Street. They extended to rank-and-file members, local cells, and support networks, dismantling the territorial and organizational structures through which the gangs exercised local governance.¹ As a result, the crackdowns represent not simply a weakening of specific criminal organizations, but a fundamental shift in territorial governance: criminal authority was dismantled and replaced by state authority. This paper examines the socioeconomic consequences of this transformation.

Before the 2022 crackdowns on crime, one of the main channels through which gangs constrained development in El Salvador was by restricting the mobility of individuals living in the areas under their control. To maintain territorial dominance, the gangs established a network of checkpoints that limited individuals' ability to move freely across the gang borders, preventing residents of gang-controlled neighborhoods from accessing better-paying jobs in large firms outside gang territory and effectively confining them to low-wage employment within their own communities (Melnikov, Schmidt-Padilla and Sviatschi, 2025). To estimate the effects of the crackdowns on individuals' mobility, we use detailed police data on the exact borders of the neighborhoods previously controlled by MS-13 and 18th Street in San Salvador, the capital of El Salvador. Taking advantage of the stability of these borders over at least two decades, we implement a spatial regression discontinuity design (RDD).

We find that, following the 2022 crackdowns, the dismantling of gang territorial control and borders substantially expanded residents' mobility. Residents of former gang neighborhoods became more likely to go out at night, leave their homes alone, and use public transportation, consistent with both improved security and the removal of gang-imposed restrictions on movement. Beyond these changes, we find a broader convergence in mobility between former gang and nongang areas. Before 2022, residents of gang-controlled neighborhoods were significantly less likely than those in neighboring nongang areas to visit parks, malls, restaurants, and cinemas, or to engage in recreational activities more broadly. They also reported less freedom of movement and identified gang borders as an obstacle to obtaining jobs in large firms elsewhere in the city. After the crackdowns, these disparities largely disappeared, with the mobility of residents from former gang areas converging with that of their peers from nongang neighborhoods. These results indicate that the crackdowns removed the internal borders that had fragmented the city and constrained residents' access to labor and consumer markets.

We also show that the removal of gang-imposed mobility barriers was followed by the integration of previously segmented labor markets. In particular, the improvements in mobility contributed to a convergence in labor market outcomes between residents of former gang and nongang areas.

¹By targeting both dominant criminal organizations simultaneously and at scale, the crackdowns also limited the scope for criminal activity to shift to rival gangs, for surviving groups to fragment, or for successor organizations to compete for control of vacated territories. At the same time, the government reasserted control over the prison system—previously, an important center of gang coordination, recruitment, and extortion—and subsequently constructed a mega-prison designed to incarcerate gang members under a centralized security regime.

Before 2022, individuals from gang-controlled neighborhoods were approximately 50 percentage points more likely to work within gang territory and 12 percentage points less likely to be employed by large firms with at least 100 workers. They also had lower levels of income and wealth. After the crackdowns, the sharp spatial segmentation of employment largely disappeared: residents of former gang and nongang areas became equally likely to work in former gang neighborhoods and in large firms employing 100 or more people. Economic disparities also narrowed. Although residents of former gang neighborhoods continue to earn lower incomes, the gap is now substantially smaller, and for some economic indicators—such as experiencing financial difficulties, having a bank account, or having digital access—it has fully closed. In contrast, for outcomes requiring greater savings, such as purchasing a car or making home improvements, as of 2023, we find little to no convergence.

Despite these improvements, the labor-market integration of individuals from former gang neighborhoods remains incomplete. Following the crackdowns, individuals from these areas became substantially more likely to report having recently experienced discrimination based on their place of residence, a pattern not observed before the crackdowns. This finding is corroborated by evidence from a CV experiment we conducted among employers in San Salvador. Individuals responsible for recruitment decisions in their firms were presented with successive pairs of CVs and asked to select the candidate they would prefer to consider for a position. When the CVs differed only in whether the applicant lived in a former gang or nongang neighborhood, employers chose the candidate from a nongang area 60% of the time. This preference cannot be explained by the socioeconomic characteristics of the neighborhoods listed on the CVs or by their distance from the firms, as the neighborhoods were deliberately selected to have similar characteristics and to be equidistant from the firms. These findings suggest that employers remain less willing to hire workers from former gang areas because of their perceived association with gangs, slowing the labor-market integration of residents of these communities.

This new barrier is also reflected in the changing policy priorities of residents of former gang neighborhoods. Following the crackdowns, these residents became 12 percentage points less likely than their counterparts in nongang areas to identify employment opportunities as one of the country’s three most pressing problems. Conversely, they became 10.4 percentage points more likely to name inequality of opportunity, poverty, and vulnerability among those problems.

Beyond restricting mobility, gangs routinely extorted households and businesses, recruited children into their ranks, and perpetrated violence, discouraging investment and displacing economic activity. These effects extended beyond the areas under their direct control: for instance, [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#) show that neighborhoods on both sides of former gang boundaries in San Salvador were similarly exposed to gang extortion and violence. To capture these broader effects, we therefore shift the analysis to municipalities across El Salvador, exploiting variation in their exposure to the gangs before 2022. Specifically, we conduct a difference-in-differences analysis comparing municipalities with above- and below-median pre-2022 gang exposure, mea-

sured using police records of gang presence.

We find that municipalities with greater pre-2022 gang exposure experienced more mass-arrest events during the initial phase of the crackdowns and larger subsequent reductions in violence and gang-related victimization. These improvements in security were accompanied by increases in household income per capita of approximately \$20–25 and adult labor income of approximately \$14 relative to less-exposed municipalities. At the same time, child labor declined, while the share of respondents under age 18 not attending school because of the need to work or financial constraints fell by approximately 10 percentage points. These patterns are consistent with the crackdowns improving households’ economic conditions and reducing child labor.

Municipalities with greater pre-2022 gang exposure also experienced larger increases in investment and business formation. Using the universe of official business registration records, we document greater growth in formal business openings in these areas. Complementary evidence from OpenStreetMap shows greater growth in medical establishments and community centers, pointing to an expansion of social infrastructure alongside increased private business activity. We also find evidence of greater property investment through the expansion of the short-term rental market. Using the universe of Airbnb listings in El Salvador, we find that, by 2025, municipalities with above-median pre-2022 gang exposure had experienced increases of approximately 65 percent in active listings and 170 percent in total host revenues relative to less-exposed municipalities. This revenue growth reflected both more reservations and higher average daily rates. Overall, these findings suggest that the reduction in gang activity encouraged business formation and investment in previously gang-exposed areas.

Finally, we use tax collection records to examine how the dismantling of gang-imposed barriers contributed to greater market integration and specialization across locations. Standard trade theory predicts that the removal of trade barriers allows each area to specialize in activities in which it has a comparative advantage. In our setting, areas with less pre-2022 gang exposure already hosted many large, productive firms, whereas more gang-affected areas had a relative abundance of inexpensive labor and real estate. Integration could therefore allow firms in less-exposed areas to serve larger markets, while enabling more-affected areas to supply more labor to these firms and attract investment in local real estate and other location-specific activities. Consistent with this pattern of specialization, we find that tax revenue from location-specific sectors—such as real estate, hospitality, and local administrative services—grew more in municipalities with greater pre-2022 gang exposure. Conversely, tax revenue from sectors serving broader markets, including retail, manufacturing, and finance, grew more in less-exposed municipalities. Tax revenue from both sector groups increased in both types of municipalities, suggesting that the removal of gang-imposed barriers generated broad economic gains alongside greater specialization across locations.

The restoration of state authority through gang crackdowns may involve an important trade-off. On the one hand, dismantling gang control can improve security, restore freedom of movement, and strengthen citizens’ confidence in the state’s ability to provide order. On the other hand,

the coercive methods used to achieve these gains may themselves undermine state legitimacy.² Although our 2023 survey cannot provide a comprehensive assessment of the human costs borne by detainees, particularly those wrongfully detained, it allows us to examine how respondents' experiences during the crackdowns relate to their support for the government's actions and their economic well-being. Police abuse may undermine trust in state institutions (Owens and Ba, 2021; Ang et al., 2025) and threaten the long-term durability of restored state authority.

Using our 2023 survey, we find that overall institutional trust is high: 73.9 percent of respondents trust the national government, and 71.9 percent trust the police. Moreover, respondents who know someone who was arrested but did not witness police abuse report levels of trust similar to those reported by respondents with neither experience, consistent with these arrests being perceived as legitimate. By contrast, the 19.5 percent of respondents who witnessed police abuse—including arrests perceived as unjustified, physical violence, and arbitrary seizures of property—express substantially greater dissatisfaction. Relative to respondents with neither experience, they are 36.2 percentage points more likely to distrust the police, 26.5 percentage points more likely to distrust the national government, and 14.5 percentage points more likely to disapprove of the president. This pattern suggests that, despite broad overall support for the crackdowns, abuses of state authority may undermine the sustainability of the government's security policies.

We also examine whether respondents who know someone who was arrested or who witnessed police abuse have worse labor-market outcomes or lower household incomes than those with neither experience. Our survey excludes individuals who remained incarcerated when it was conducted and therefore does not capture the severe costs they bore. Within the surveyed population, however, labor-market outcomes and household incomes do not differ systematically across these groups. Thus, although some households were adversely affected by the crackdowns, we find no evidence that respondents more directly exposed to arrests or police abuse were systematically excluded from the economic benefits that accompanied the crackdowns.

Our results highlight several policy implications. First, the effectiveness of El Salvador's crackdown may partly reflect the characteristics of the gangs it targeted. MS-13 and 18th Street relied heavily on local extortion and had relatively limited financial resources, lacking access to the large rents available to criminal organizations specializing in drug production or other forms of trafficking. These features may have limited their capacity to withstand sustained state pressure or to reestablish themselves afterward. Second, the intervention differed from enforcement strategies that primarily target specific organizations or their leaders. This distinction may be important because more narrowly targeted interventions can produce fragmentation, displacement, and competition over vacated markets. Third, the crackdown was part of a broader reassertion of state authority that included renewed control over prisons, limiting the gangs' ability to coordinate their activities from detention. Finally, as we show, improvements in security were followed by increased public and private investment in former gang-affected areas. The characteristics of Sal-

²The crackdowns have been criticized for enabling arbitrary detentions and other forms of police abuse

vadoran gangs and the complementarities among these changes may be crucial to dismantling criminal governance and preventing its return.

This paper contributes to several strands of the existing literature. First, it relates to research on policing, incarceration, and the consolidation of state authority. While prior studies generally find that increased police presence and incarceration reduce local crime (e.g., [Blesse and Diegmann, 2022](#); [Buonanno and Raphael, 2013](#); [Di Tella and Schargrodsky, 2004](#); [Draca, Machin and Witt, 2011](#); [Levitt, 1996](#); [Weisburd, 2021](#)), crime may be displaced to nearby lower-security areas, limiting the aggregate gains from localized interventions ([Blattman et al., 2021](#)). Evidence from large-scale campaigns against organized crime reveals further challenges. For instance, [Dell \(2015\)](#) shows that Mexico’s war on drugs intensified violence as rival groups contested the territories of weakened incumbents, and [Castillo, Mejía and Restrepo \(2020\)](#) show that enforcement-induced cocaine shortages increased violence where multiple cartels competed. Similarly, Rio de Janeiro’s Pacifying Police Units struggled to consolidate state authority and, in some neighborhoods, exacerbated violence ([Magaloni, Franco Vivanco and Melo, 2020](#)). More broadly, a related literature emphasizes the importance of the state’s ability to establish a monopoly on violence and displace alternative forms of armed governance ([Acemoglu, Robinson and Santos, 2013](#); [Besley and Persson, 2009](#); [Sánchez de la Sierra, 2020](#)). Against this backdrop, El Salvador’s crackdowns represent a rare instance of a sustained recovery of state territorial control, achieved through the nationwide dismantling of gang structures rather than through localized or temporary improvements in security. Thus, the Salvadoran crackdowns allow us to address a question that has been very difficult to study empirically: how does society change after the sustained recovery of state territorial control in areas previously governed by criminal organizations? Beyond the effects on crime, we examine mobility for both work and recreation, market integration, investment, and economic activity. We also contribute to research on institutional trust and state legitimacy ([Acemoglu et al., 2020](#); [Ang et al., 2025](#); [Owens and Ba, 2021](#)) by examining how experiences of police abuse relate to citizens’ support for the institutions exercising that authority.

Second, our work relates to the literature on the social and economic consequences of organized crime. Previous research has documented its historical roots and lasting effects on economic development ([Acemoglu, De Feo and De Luca, 2020](#); [Bandiera, 2003](#); [Buonanno et al., 2015](#); [Gambetta, 1996](#); [Pinotti, 2015a,b](#)), including distortions of firm entry, competition, and investment ([Daniele and Marani, 2011](#); [Le Moglie and Sorrenti, 2022](#); [Mirenda, Mocetti and Rizzica, 2022](#); [Slutzky and Zeume, 2024](#)), as well as its role in political capture ([Acemoglu, Robinson and Santos, 2013](#); [Alesina, Piccolo and Pinotti, 2019](#); [Daniele and Geys, 2015](#)). In Latin America, criminal organizations have also shaped labor markets, human capital accumulation, and firm activity ([Brown et al., 2025](#); [Castillo, Mejía and Restrepo, 2020](#); [Dell, 2015](#); [Melnikov, Schmidt-Padilla and Sviatschi, 2025](#); [Monteiro and Rocha, 2017](#); [Murphy and Rossi, 2020](#); [Rozo, 2018](#); [Sviatschi, 2022a,b](#); [Velásquez, 2020](#)). A related literature studies criminal governance, whereby criminal organizations impose and enforce rules governing residents’ social and economic lives ([Blattman et al., 2025](#);

Blattman and Miguel, 2010; Sánchez de la Sierra, 2020; Lessing, 2021; Lessing and Willis, 2019; Levitt and Venkatesh, 2000). Most of this evidence, however, has focused on the costs of criminal presence. Much less is known about what happens once entrenched criminal organizations are removed, and the state regains control over the territories they previously governed. In particular, which consequences of criminal governance are quickly reversed, and which legacies persist? Do residents of communities previously governed by criminal organizations face new barriers to social and economic integration? We complement the existing literature by addressing these questions and showing that some legacies of criminal governance can be quickly reversed, while other barriers continue to constrain socioeconomic development in former gang-affected communities.

The paper most closely related to ours is [Fenizia and Saggio \(2024\)](#), who show that dismissing Italian city councils infiltrated by the Mafia improved economic outcomes. Our setting differs in both the source of the criminal organizations' power and the intervention that removed it. Much of the Italian Mafia's influence runs through its ties to local politicians and to procurement-intensive sectors such as construction, generating distortions akin to those associated with state capture and crony capitalism. Salvadoran gangs, by contrast, were highly violent, territorial, and extractive organizations that exercised direct control over local residents' daily lives, operating border checkpoints, extorting households and businesses, and recruiting children. In turn, El Salvador's 2022 crackdowns dismantled the gangs' territorial structures nationwide, rather than focusing on their political connections. Thus, the economic effects documented in this paper primarily operate through the integration of previously segmented labor markets following the removal of gang-imposed barriers to mobility and investment. Taken together, the two papers show that restoring state authority can generate economic gains both by weakening organized crime's influence over local institutions and by dismantling its direct control over territory.

Third, our paper contributes to the literature on group-based employment discrimination. Existing studies have largely focused on discrimination based on salient group identities, such as race, gender, or nationality (e.g., [Bertrand and Mullainathan, 2004](#); [Goldin and Rouse, 2000](#); [Kline, Rose and Walters, 2022](#); [Lippens, Vermeiren and Baert, 2023](#); [Martínez de Lafuente, 2021](#)). We complement this literature by documenting labor market discrimination based on a characteristic that is not inherent to an individual's identity and can change multiple times over the course of their life: their place of residence. Prior research suggests that when employers are prevented from observing criminal histories, they statistically discriminate against demographic groups with higher average conviction rates ([Agan and Starr, 2018](#); [Doleac and Hansen, 2020](#)). Residence-based discrimination in El Salvador plausibly follows a similar logic: employers who cannot observe an applicant's individual ties to gangs may use the applicant's neighborhood as a proxy, viewing candidates from former gang areas as higher-risk hires. Although the crackdowns removed the gangs from these neighborhoods, such perceptions may persist and create new barriers to labor-market integration, consistent with research on statistical discrimination based on inaccurate beliefs ([Bohren et al., 2025](#); [Bohren, Imas and Rosenberg, 2019](#)). Methodologically, our use of hypothetical CVs to elicit

employers’ preferences relates to [Kessler, Low and Sullivan \(2019\)](#).

Finally, our paper contributes to the literature on how barriers to geographical mobility shape market integration and the spatial distribution of economic activity. Improvements in transportation connectivity can improve the flow of goods and workers and reorganize economic activity across locations ([Asher and Novosad, 2020](#); [Donaldson, 2018](#); [Donaldson and Hornbeck, 2016](#); [Faber, 2014](#)). Conversely, borders and checkpoints can restrict labor mobility and impose substantial economic costs ([Calì and Miaari, 2018](#); [Melnikov, Schmidt-Padilla and Sviatschi, 2025](#)). Evidence from the division and reunification of Germany and Berlin further shows how changes in borders reshape economic geography ([Ahlfeldt et al., 2015](#)). We study a distinct case: the sudden and lasting removal of internal borders imposed by criminal organizations rather than states. We show how their removal integrated previously segmented labor markets and fostered specialization across locations.

The rest of this paper is organized as follows. Section [II](#) describes the history of criminal groups in El Salvador and how the 2022 crackdowns dismantled their territorial structures. Section [III](#) examines how the removal of gang-imposed borders affected mobility and labor-market integration. It also documents the differences that persisted after the crackdowns, including the emergence of residence-based discrimination. Section [IV](#) analyzes the broader effects of the crackdowns on security, income, investment, and economic activity. Section [V](#) examines support for the crackdowns and whether their economic gains extended to respondents more directly exposed to enforcement. Section [VI](#) concludes.

II GANGS IN EL SALVADOR

In this section, we provide a brief overview of the history and organizational structures of Salvadoran gangs. We also describe how the 2022 crackdowns dismantled these structures and discuss the factors that made this possible. For a more detailed discussion of gang dynamics prior to the 2022 crackdowns, see [Sviatschi \(2022b\)](#) and [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#).

II.A Origins and Evolution of Salvadoran Gangs

El Salvador’s gang phenomenon traces its origins to the mass deportations of Salvadoran migrants from the United States in the mid-1990s. Following U.S. legislative reforms that broadened the grounds for deportation and intensified immigration enforcement, thousands of Salvadorans—many of whom had fled the country’s civil war during the 1980s—were forcibly returned after becoming involved in criminal networks in the United States, particularly in California ([Sviatschi, 2022b](#)). Among those deported were members of MS-13 (*Mara Salvatrucha*) and 18th Street (*Barrio 18*), two gangs that would come to dominate El Salvador’s criminal landscape over the next quarter century.

Upon returning to El Salvador, deported gang members quickly transplanted the organizational model they had developed in California to their new environment. Both gangs rapidly expanded their ranks by recruiting local youth, particularly adolescents, offering them identity, protection, and a sense of belonging (Cruz and Portillo Peña, 1998; Martínez and Martínez, 2018). According to the local authorities, by the end of 1996, MS-13 and 18th Street together had at least 20,000 members (Cruz and Portillo Peña, 1998). By the late 1990s, both groups had evolved into structured criminal organizations with defined hierarchies, territorial divisions, and internal codes of conduct (Dudley, 2020).

To protect themselves from the police and their rivals, and to prevent local residents from acting as informants, the gangs established a system of checkpoints to control movement into and out of their territories. The boundaries of gang-controlled areas were often delineated by natural barriers such as major roads and boulevards, marked with graffiti, and monitored by a network of junior members and local collaborators (*banderas*), who observed border activity and reported outsiders or unauthorized crossings (Boerman and Golob, 2020; ICG, 2018).

As a result of gang-imposed mobility restrictions, most individuals living in gang-controlled neighborhoods were unable to work outside gang territory—where the largest and best-paying firms were located—and were forced to accept low-wage employment within their own communities. Previous work shows that residents of gang-controlled areas were 50 percentage points more likely to work inside gang territory than their peers living just 50 meters away but outside gang control (Melnikov, Schmidt-Padilla and Sviatschi, 2025). They were also 12 percentage points less likely to be employed by firms with at least 100 workers, and their monthly household income was, on average, approximately \$350 lower.

A central feature of Salvadoran gangs' business model was their reliance on local extortion rather than on large international illicit markets. Unlike better-resourced criminal organizations that could redistribute illicit rents through employment, patronage, or social services, MS-13 and 18th Street had limited resources and provided relatively few material benefits to the communities they governed (Martínez et al., 2016). Instead, they extracted recurring payments from households, transport operators, and businesses, both within gang-controlled neighborhoods and in surrounding areas (Brown et al., 2025; Melnikov, Schmidt-Padilla and Sviatschi, 2025). Territorial control was essential to this model: it sheltered gang members from police and rival gangs, enabled them to regulate movement through checkpoints, and provided a base for extortion raids into nearby areas. The gangs used extensive violence to defend their territory and enforce payments (International Crisis Group, 2017). They also recruited children into their ranks, including as lookouts who monitored neighborhood boundaries (Castro et al., 2025).

II.B Historical Approaches to Combating Gang Activity

Successive Salvadoran governments have sought to eradicate gang violence and restore state authority in areas under criminal control. Historically, they have oscillated between two fundamentally different strategies for confronting gang activity: aggressive law enforcement crackdowns, known locally as “mano dura” (i.e., iron fist) policies, and direct negotiations or truces with gang leaders.

In the early 2000s, the Salvadoran authorities initially embraced punitive security measures. Policies such as “mano dura” (2003) and its intensified successor, “super mano dura” (2004), sought to dismantle gang structures through mass arrests, harsher sentencing, and expanded military and police patrols (Holland, 2013). Instead of weakening the gangs, however, these measures inadvertently strengthened them. Overcrowded prisons became sites of recruitment and coordination, reinforcing gang hierarchies and identities, and ultimately intensifying the very violence the government aimed to eradicate (e.g., see Lessing and Willis, 2019).

Conversely, recognizing the failures of purely punitive measures, governments periodically turned toward negotiation-based approaches. The most notable attempt was the 2012 gang truce brokered under President Mauricio Funes. Initially, this truce appeared promising, substantially reducing homicide rates in the short term (Dudley, 2013). However, due to limited transparency, allegations of corruption, internal gang rivalries, and insufficient institutional support, the truce rapidly unraveled (Van der Borgh and Savenije, 2019). More broadly, reductions in violence did not necessarily imply a weakening of the gangs’ organizational capacity or territorial control. Several accounts suggest that periods of negotiation and tacit accommodation allowed gangs to consolidate their internal structures and strengthen their presence in local communities (Dudley, 2020; International Crisis Group, 2020). A similar pattern emerged after the decline in homicides beginning in 2016: while violence fell, gang territorial control and predatory extraction persisted, and extortion payments increased (Brown et al., 2025). These episodes illustrate how homicide rates provide an incomplete measure of criminal control. Gangs may reduce visible violence while continuing to regulate mobility, extract rents, recruit members, and exercise territorial authority.

The repeated shifts between punitive and negotiation-based strategies reflected a deeper limitation of El Salvador’s pre-2022 approach: neither strategy durably dismantled the organizational and territorial foundations of gang control. Punitive campaigns often strengthened gang structures inside prisons, while negotiated reductions in violence left the gangs’ capacity to govern territory and extract rents largely intact. As a result, successive governments reduced particular manifestations of gang activity without restoring an effective state monopoly on violence in many parts of the country.

II.C The 2022 Crackdowns

The most recent chapter of El Salvador’s gang policy began with President Nayib Bukele’s ascent to power in 2019. Initially, while publicly a tough-on-crime policy stance, Bukele’s administration

reportedly engaged in informal negotiations with the gangs aimed at reducing violence ([International Crisis Group, 2020](#); [Martínez et al., 2020](#)). Investigative reporting and a subsequent U.S. Treasury assessment suggest that officials reached an understanding with gang leaders to reduce violence, resembling earlier truces ([Martínez et al., 2020](#); [U.S. Department of the Treasury, 2021](#)). Homicide rates fell sharply during this period, ushering in a period of relative calm.

However, this informal agreement collapsed in March 2022, when El Salvador experienced an unprecedented surge of violence: 87 gang-related murders over the span of just three days. In response, President Bukele declared a national state of emergency—the State of Exception (*Régimen de Excepción*)—marking a dramatic shift back to hardline enforcement ([González, 2024](#)). The declaration suspended several constitutional protections, granting law enforcement broad authority to conduct mass arrests of suspected gang members without warrants or adherence to due process ([Díaz Trujillo Portilla, 2024](#); [González, 2024](#)).

Since the declaration of the State of Exception, more than 90,000 people have been arrested as part of the gang crackdowns ([Amnesty International, 2026](#); [Human Rights Watch, 2026](#))—equivalent to roughly 1.5 percent of El Salvador’s population. In November 2024, President Bukele stated that approximately 8,000 detainees whom he described as innocent had been released—roughly 10 percent of those arrested by late 2024 ([Méndez Dardón and Thale, 2024](#); [Amnesty International, 2025](#)). Most others remain in prolonged pretrial detention ([Human Rights Watch, 2026](#)). It is not possible to determine precisely how many detainees were genuinely involved in gang activities and how many were wrongfully accused due to negligence, misconduct, or flawed intelligence. Civil society organizations have documented thousands of alleged arbitrary detentions, as well as police abuse, allegations of torture, and deaths in overcrowded prisons ([Cristosal, 2023](#); [Amnesty International, 2026](#)). These cases illustrate a central cost of the crackdowns: the government’s effort to prevent gang members from remaining at large also exposed people with no gang involvement to arrest and detention.

Beyond mass arrests, the crackdowns also targeted gang operations inside prisons. Before the intervention, prisons had served as important centers of gang organization, recruitment, communication, and extortion, allowing incarcerated leaders to coordinate criminal activity outside prison walls. The government subsequently tightened control over the prison system and constructed the *Centro de Confinamiento del Terrorismo* (CECOT) to incarcerate suspected gang members under a highly centralized security regime. Thus, the intervention sought not only to remove gangs from the streets but also to disrupt the prison-based organizational infrastructure that had allowed them to preserve territorial control.

II.D Why El Salvador’s Crackdown May Have Been Effective?

While El Salvador’s 2022 gang crackdowns were not the first tough-on-crime campaign in Latin America, they were unusually successful in dismantling criminal structures and substantially im-

proving security across the country. For instance, perhaps the most closely related policy—Mexico’s comparably ambitious, militarized “war on drugs”—failed to dismantle cartel networks. Instead, it altered the balance of power among them, intensifying competition over illicit markets and triggering a surge in violence (Castillo, Mejía and Restrepo, 2020; Dell, 2015). What, then, distinguishes El Salvador’s crackdowns from earlier approaches to fighting organized crime?

While it is difficult to draw definitive conclusions from a single case study, several factors can help explain the effectiveness of El Salvador’s 2022 crackdowns relative to previous tough-on-crime campaigns. First, unlike many other criminal organizations—such as drug cartels or the Italian Mafia—Salvadoran gangs operated with very limited financial resources (Martínez et al., 2016). As a result, although the gangs could withstand standard police and military operations, their limited financial resources made it difficult for them to resist sustained pressure from the state. Second, because Salvadoran gangs depended on the extortion of local residents and businesses as their main source of revenue, they were unpopular among the communities under their control—a fact reflected in the broad public support for the 2022 crackdowns. In contrast, drug cartels in other contexts often channel a part of their illicit profits into building local loyalty through employment, patronage, or social assistance, which can make repressive policies much more difficult to implement (Magaloni et al., 2020). The absence of large profits from lucrative illegal markets also meant that, unlike supply-side enforcement in drug markets (e.g., efforts to curb coca or poppy cultivation), the crackdowns did not create strong incentives for new criminal actors to fill the vacuum left by the gangs. While the value of extortion remained largely unchanged, the 2022 crackdowns sharply increased the costs of engaging in it, limiting incentives for organized crime to reemerge.

Finally, unlike Mexico’s war on drugs, in which mayors aligned with the federal government were more likely to coordinate drug enforcement (Dell, 2015), the Salvadoran government implemented a comprehensive, centrally coordinated operation aimed at swiftly incapacitating all major criminal organizations in the country. This nationwide strategy may have limited the displacement of criminal activity by reducing opportunities for rival groups to exploit the weakening of particular gangs and seize their territories and sources of revenue.

III DISMANTLING GANG BORDERS AND MARKET INTEGRATION

In San Salvador, the 2022 crackdowns changed two features that had previously constrained residents’ ability to move across the city. First, they sharply improved the overall security environment. Second, and distinct from these security improvements, they dismantled the gang-imposed mobility restrictions that had prevented residents of gang areas from crossing gang borders to access employment opportunities and amenities other parts of the city. Importantly, before 2022, individuals on both sides of gang boundaries were exposed to violence and extortion, whereas residents of gang areas were the ones whose mobility was most restricted. Thus, we do not expect the security improvements to differ discontinuously at the former gang boundaries, whereas the removal of

mobility restrictions should primarily benefit residents of former gang areas. In this section, we show that security improved substantially on both sides of the former gang borders and that the removal of barriers to individual mobility led to broad labor-market integration.

III.A RDD: Data

This section describes the main data sources used in the regression discontinuity analysis. Section A of the Appendix provides further details on these data sources.

Boundaries of former gang territory. The map delineating the boundaries of former gang-controlled neighborhoods in San Salvador was published in 2015 by the Salvadoran newspaper *El Diario de Hoy* (EDH), which created it using cartographic materials from the Ministry of Justice and Public Security and the National Civil Police (PNC) (EDH, 2015). Figure 1 presents this map. EDH validated the map’s accuracy by confirming that the neighborhoods identified as gang-controlled corresponded to areas its distribution teams could not freely access due to gang checkpoints. In our previous work, we independently verified the reliability of this map, finding it to be nearly identical to the version used internally by the PNC in later years (Melnikov, Schmidt-Padilla and Sviatschi, 2025).

In San Salvador, the borders of former gang-controlled areas were established in the late 1990s, shortly after the first wave of gang member deportations from the United States, and have remained relatively stable since then. Figure A.1 illustrates this fact using data from our 2023 survey, described in detail below. In the survey, respondents were asked whether their neighborhood had been under gang control 20 years earlier, in the early 2000s. As shown in the figure, respondents from former gang areas were significantly more likely to answer in the affirmative.

Cómo Vamos surveys. Some of the outcome variables used in this paper are drawn from the Cómo Vamos surveys—large-scale, representative surveys designed to measure socioeconomic conditions, social behaviors, perceptions of security, and related outcomes in the Metropolitan Area of San Salvador. The surveys were conducted by the Salvadoran Foundation for Economic and Social Development (*Fundación Salvadoreña para el Desarrollo Económico y Social*, FUSADES) with support from USAID in late 2021, several months before the 2022 gang crackdowns, and again in late 2022, approximately half a year after the crackdowns. The two waves followed the same structure and methodology, with respondents geolocated at the census-tract level.

The census tracts (*segmentos censales*) used in the Cómo Vamos surveys and our own surveys described below come from the 2007 Population and Housing Census, whose digital cartography we obtained from DIGESTYC. For each tract, we compute the distance from its centroid to the nearest boundary of former gang territory and use the centroid’s location to classify the tract as inside or outside that territory.

2023 survey. To measure outcomes not covered by the Cómo Vamos surveys (e.g., individuals’ labor market outcomes), we conducted our own survey in 2023, following the sampling procedure

used in our previous study (Melnikov, Schmidt-Padilla and Sviatschi, 2025). Specifically, to ensure coverage at different distances from the borders of former gang territory, we divided census tracts in San Salvador into 30-meter distance bins, separately for former gang and nongang areas. From each bin, we then randomly selected up to 10 census tracts and surveyed between 8 and 10 individuals per tract. As in our previous study, we conducted the survey in areas within 420 meters of the former gang boundaries. The final sample comprises 2,315 respondents.

For some parts of the analysis, we also draw on our 2019 survey (Melnikov, Schmidt-Padilla and Sviatschi, 2025).

CV experiment. To examine employers’ attitudes toward hiring individuals from former gang neighborhoods, in 2024, we conducted a CV experiment. Individuals responsible for recruitment decisions in 450 firms were presented with multiple pairs of CVs and asked to choose which candidate they would prefer to consider for a position in their firm. Following Kessler, Low and Sullivan (2019), the exercise was introduced as a market research study aimed at understanding employers’ hiring preferences, though its main purpose was to assess how employers respond when the only difference between two otherwise identical candidates is that one resides in a former gang-controlled neighborhood. To ensure that results were not driven by neighborhood characteristics or proximity to firms, the neighborhoods listed on the CVs were selected to have comparable socioeconomic profiles and to be approximately equidistant from the participating firms. A subsample of employers was additionally asked to evaluate the perceived competence of selected candidates and the potential risks associated with hiring them.

III.B RDD: Empirical Strategy

To analyze the effects of dismantling gang territorial control on individuals’ socioeconomic outcomes, we employ a spatial regression discontinuity design (RDD). Specifically, for each survey respondent, we compute the distance from the centroid of their census tract to the nearest boundary of former gang territory (measured in tens of meters) and use this distance as the RDD forcing variable. We then estimate the following regression specification separately for the periods before and after the 2022 crackdowns:

$$y_{ic} = \alpha_0 + \alpha_1 distance_c + \alpha_2 former\ gang_c \times distance_c + \alpha_3 former\ gang_c + \varepsilon_{ic} \quad (1)$$

Depending on the outcome variable, i indexes individuals or households; c indexes census tracts. y_{ic} represents the outcome variable of interest, $former\ gang_c$ is a binary indicator for whether the location was under gang control before 2022, and $distance_c$ is the distance to the nearest boundary of former gang territory. The coefficient of interest is α_3 , which represents the difference in the outcome between former gang and nongang areas at the boundary of former gang territory. In our baseline specification, we cluster standard errors by 30-meter bins denoting distance to the former

gang borders, separately for former gang and nongang areas.³

It should be noted that our use of the RDD differs from a conventional application in which a policy creates a discontinuity at a threshold. In our setting, the discontinuity predates the intervention: before 2022, socioeconomic outcomes differed sharply at the boundaries of gang territory (Melnikov, Schmidt-Padilla and Sviatschi, 2025). Instead, we examine how these preexisting differences changed after the crackdowns dismantled gang territorial control. Before 2022, α_3 captures the gap between former gang and nongang areas generated by gang control; after the crackdowns, it captures the extent to which this gap persisted once gang control was removed. Comparing the two estimates shows how much of the initial gap closed. A post-crackdowns estimate of α_3 close to zero indicates that outcomes on the two sides of the former boundaries converged.

It is also important to note that the RDD design captures the consequences of dismantling gang-imposed borders and the restrictions they placed on residents of gang-controlled neighborhoods, rather than the full effects of the crackdowns. As shown in Melnikov, Schmidt-Padilla and Sviatschi (2025), before 2022, gang violence and extortion did not discontinuously change at the boundaries of gang territory, because the gangs regularly conducted raids into neighboring nongang areas. In contrast, only residents of gang-controlled neighborhoods faced the full set of gang-imposed mobility restrictions. Thus, the RDD is well suited to identifying the effects of removing these territorial barriers, but not the broader gains from reduced violence and extortion, which extended to both sides of the former boundaries. To capture these broader effects, we complement the RDD with a municipality-level difference-in-differences analysis, which is described in Section IV.

III.C Territorial Recovery and Mobility

We begin the analysis by showing that the 2022 crackdowns substantially improved security throughout San Salvador. In our 2023 survey, approximately 88 percent of respondents report that gang presence in their neighborhood decreased after the State of Exception, and 52.7 percent say that the police are present in their neighborhood most of the time (Panel A of Table 1). Respondents also rate the security environment at an average of 8.7 on a scale from 0 to 10. As expected, none of these measures changed discontinuously at the former gang borders. Respondents in former gang and nongang areas are also equally likely to know someone who was arrested under the State of Exception or to have witnessed police abuse. Together, these findings are consistent with our interpretation that the RDD estimates primarily capture the effects of dismantling gang territorial control and the associated mobility restrictions.

In Panel B of Table 1, we use data from the C’omo Vamos surveys to show that the crackdowns also substantially improved perceived security and safety-related behavior across the city. Between 2021 and 2022, the share of respondents avoiding going out at night fell from 28.3 to 17 percent; the share avoiding leaving home alone declined from 7.8 to 2.7 percent; and the share considering

³This approach allows for correlated errors among observations at similar distances from the former gang boundaries, reflecting potential spillovers from gang activity before the crackdowns.

public transport insecure dropped from 63.1 to 27.3 percent. Unlike the results in Panel A, however, those in Panel B suggest that these changes differed across the former gang borders. Before 2022, respondents on both sides of the borders reported similar security perceptions, consistent with evidence in [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#) that MS-13 and 18th Street regularly raided neighboring nongang areas, exposing residents on both sides to violence and extortion. After the crackdowns, residents of former gang neighborhoods became 13.6 percentage points less likely than residents of nongang areas to avoid going out at night, 5.3 percentage points less likely to avoid leaving home alone, and 15.4 percentage points less likely to consider public transport insecure. [Figure A.2](#) presents the corresponding regression discontinuity plots for the average of these three outcomes, before and after the crackdowns. These differences emerged even though respondents on both sides of the former gang borders reported similar levels of neighborhood security after the crackdowns (Panel A of [Table 1](#)). They may reflect a stronger response to the crackdowns among residents of former gang areas, who were plausibly also freed from the pressure of gang-imposed rules and surveillance.

We next examine whether the 2022 crackdown’s removal of gang checkpoints increased residents’ mobility across neighborhood boundaries that had previously limited where they could work, shop, and socialize. [Table 2](#) presents the results. The estimates in Columns 1–12 use data from the *Cómo Vamos* surveys and focus on various measures of recreational mobility, including visits to malls, parks, bars, restaurants, and cinemas. The results show that, before the crackdowns, residents of former gang neighborhoods were significantly less likely to engage in recreational activities, but by the end of 2022, these differences had disappeared. [Figure A.3](#) presents the regression discontinuity plots for the average of the six outcome variables in [Table 2](#), before and after the crackdowns.

The closure of gaps in recreational mobility between former gang and nongang areas is difficult to explain solely by improvements in the socioeconomic conditions or transportation access of residents of former gang areas. For instance, before the crackdowns, residents of gang-controlled neighborhoods were 17.8 percentage points less likely than residents of neighboring areas to visit Cuscatlán Park, a public park located just outside gang territory. Within six months of the State of Exception, this gap had disappeared. Given the park’s proximity to gang territory, this rapid convergence is consistent with the removal of gang-imposed barriers to mobility.

We also present direct evidence indicating that the 2022 crackdowns helped dismantle the restrictions on individuals’ mobility previously imposed by the gangs. In Columns 13–18 of [Table 2](#), we use data from our 2023 survey to analyze how the crackdowns affected respondents’ perceptions of their freedom of movement and the importance of gang borders for their labor market outcomes. In addition to being asked about conditions in 2023, respondents were also asked the same questions retrospectively for the end of 2021, immediately before the 2022 crackdowns. When describing their experiences in 2021, only 32.9 percent of respondents reported having freedom of movement in their neighborhood, with residents of former gang areas being 13.5 percentage points less likely to do

so than their neighbors from nongang areas (Column 13).⁴ Likewise, 40.7 percent of respondents stated that, in 2021, gang borders prevented them from obtaining jobs in large firms in other parts of the city, with residents of former gang areas being 10 percentage points more likely to face these restrictions (Column 17). However, when describing conditions in 2023, 95 percent of respondents reported having freedom of movement, and only 5.1 percent indicated that gang borders continued to limit their labor market outcomes, with no differences across former gang and nongang areas. The top two panels of [Figure 2](#) present the regression discontinuity plots for the results reported in Columns 13–14 and 17–18 of [Table 2](#).

Overall, two patterns emerge from the findings of the 2023 survey. First, the 2022 crackdowns dismantled the long-standing restrictions on individuals’ mobility, leading to substantial improvements in freedom of movement for individuals throughout San Salvador. Residents of nongang neighborhoods were also affected because, although they did not live under gang territorial control, the network of gang-imposed checkpoints had still profoundly limited their ability to move between different parts of the city. Second, because residents of former gang-controlled areas had previously been much more constrained in their movements than individuals from nongang areas, the removal of these barriers had a larger effect on them, resulting in a convergence in mobility between the two groups.

III.D Labor Market and Socioeconomic Outcomes

The removal of gang-imposed mobility restrictions created conditions for the integration of previously segmented labor markets by allowing residents of former gang areas to access jobs at large firms elsewhere in the city. As we discuss in [section IV](#) below, the crackdowns also resulted in increased investment in former gang-affected areas, creating new job opportunities in those areas. We therefore examine whether labor market outcomes and socioeconomic conditions converged between former gang and nongang areas after the crackdowns. [Table 3](#) presents the results. In Columns 1–10, we compare the RDD estimates from the 2023 survey with those from our earlier 2019 survey (see [Melnikov, Schmidt-Padilla and Sviatschi, 2025](#)), focusing on where individuals work and the types of firms that employ them.

Before the crackdowns, gang-imposed mobility restrictions prevented residents of gang-controlled areas from working in nongang parts of San Salvador. As a result, compared with individuals from nearby nongang areas, they were 49.5 percentage points more likely to work within gang territory and 11.1 percentage points more likely to work in the same neighborhood where they lived. They

⁴The question about freedom of movement was also included in our 2019 survey (see [Melnikov, Schmidt-Padilla and Sviatschi, 2025](#)). In that survey, conducted when gang-imposed mobility restrictions had been in place in the city for approximately 20 years, roughly 80 percent of respondents reported having freedom of movement. Reassuringly, the estimated gap between gang and nongang areas was very similar, at approximately 10 percentage points. We interpret the difference in reported levels as reflecting a change in respondents’ understanding of what freedom of movement means once gang-imposed restrictions were lifted. Therefore, we view the retrospective comparison in the 2023 survey as more informative for assessing changes over time: the same respondents evaluated both periods using a common frame of reference.

were also 12.3 percentage points less likely to work in firms with at least 100 employees, and their monthly household income was approximately 350 USD lower. After the 2022 crackdowns, these differences substantially narrowed or disappeared. By 2023, residents of former gang neighborhoods were no longer more likely than their peers from nongang areas to work within former gang territory or in the same neighborhood where they lived. The bottom panel of [Figure 2](#) presents the corresponding regression discontinuity plots for working inside gang territory before and after the crackdowns (Columns 1 and 2 of [Table 3](#)). The gap in the likelihood of working in large firms had also closed (top panel of [Figure 3](#)), and the estimated gap in monthly household income narrowed from approximately 350 USD to 100 USD. The post-crackdown income gap is not statistically significant, although this may reflect limited statistical power to detect a difference of this size.

In Columns 11–18 of [Table 3](#), we use data from the *Cómo Vamos* surveys to further examine how the 2022 crackdowns affected other socioeconomic conditions in former gang neighborhoods. Consistent with the narrowing of the income difference, we find that although residents of former gang areas were 18.3 percentage points more likely than their peers from nongang areas to experience financial difficulties before the crackdowns, by the end of 2022, this disparity had disappeared. The middle panel of [Figure 3](#) presents the regression discontinuity plots for this outcome. The crackdowns also resulted in increased financial inclusion in former gang neighborhoods. In 2021, there was a 23.6 percentage point gap between gang and nongang areas in the likelihood of having a bank account. By the end of 2022, this gap had closed (bottom panel of [Figure 3](#)). Similarly, after the crackdowns, former gang and nongang areas converged in their access to basic digital technologies. While in 2021 former gang areas had a significantly lower digital access index—defined as the average of owning a smartphone, owning a computer, and having access to the internet—following the crackdowns, these differences disappeared.⁵

Finally, in Columns 17–18 of [Table 3](#), we examine a placebo outcome that should not change in the immediate aftermath of the crackdowns: the availability of sanitary services inside the respondents’ homes. Installing new plumbing is costly and slow, making it unlikely that residents of former gang neighborhoods would have had the time or resources to undertake such upgrades only half a year after the crackdowns. The results in Columns 17–18 of [Table 3](#) are consistent with this. At the end of 2022, individuals in former gang areas continued to have poorer sanitary services in their homes than residents of nongang neighborhoods. This finding indicates that the observed convergence in other socioeconomic conditions between gang and nongang areas reflects actual changes in those outcomes and is not an artifact of the sampling design.

III.E Migration

In addition to improving mobility and labor market conditions, the 2022 crackdowns could also have affected individuals’ decisions to move elsewhere within the city or abroad. Specifically, the

⁵We observe a similar pattern for each of the three components of the digital access index.

removal of gang territorial control and improvements in economic conditions could have reduced incentives to migrate. Conversely, the lifting of mobility restrictions may have made it easier for individuals to undertake such a move.

To examine this question, we use data from our 2023 survey to estimate Specification (1) for outcomes related to migration and migration intentions. [Table A.I](#) presents the results. Column 1 shows that approximately 90 percent of survey respondents continued to live in the same place as they had at the end of 2021, before the crackdowns, with no difference between former gang and nongang areas. Similarly, we find no differences in the probability of having a family member living abroad (Column 2), having a family member who moved abroad in the preceding six months (Column 3), or respondents' own intentions to migrate (Column 4). Finally, 91.6 percent of respondents reported that their desire to migrate had not increased relative to the end of 2021, again with no difference between former gang and nongang neighborhoods (Column 5).

Overall, the results provide no evidence that the 2022 crackdowns differentially affected migration or migration intentions in former gang and nongang neighborhoods. These findings are consistent with those of [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#), who show that, while the gangs were in control, migration patterns did not systematically differ across gang borders. They are also compatible with [Abreha, Johnson and Robertson \(2025\)](#), who find that U.S. border encounters with Salvadorans declined relative to those from other countries after the crackdowns. Because encounters with migrants from other Latin American countries rose sharply during that period, their results are consistent with the crackdowns preventing a comparable increase in encounters with Salvadorans.

III.F Robustness checks

This subsection examines the robustness of our post-crackdown estimates related to individuals' mobility and labor-market outcomes. The analysis focuses on six key outcomes: freedom of movement, the role of gang borders in restricting labor-market opportunities, employment within former gang territory, employment at a firm with at least 100 employees, employment at a firm with at least 200 employees, and household income.

Selective migration. First, despite the absence of differences in migration and migration intentions across the boundaries of former gang territories (see [Table A.I](#)), some respondents may have selectively relocated within San Salvador following the 2022 crackdowns. Such migration is unlikely to have been extensive, given that our 2023 survey was conducted only one year after the crackdowns and that 90 percent of respondents still lived at the same address as at the end of 2021. Nevertheless, to address this concern, we re-estimate Specification (1) restricting the sample to respondents who reported living at the same address as at the end of 2021. If selective migration were driving our results, the estimates for this subsample would differ meaningfully from those for the full sample.

As shown in [Figure A.4](#) and [Table A.II](#), the estimates for respondents who lived at the same address as at the end of 2021 are virtually identical to those for the full sample, which indicates that selective migration is highly unlikely to explain our results.

Historic center and the special economic zone. We also examine whether the improvements in mobility and labor-market conditions may be driven by place-based policies implemented by the Salvadoran government following the crackdowns. Most notably, in 2023, the government designated an area within San Salvador’s historic center, which had previously been controlled by gangs, as a special economic zone for culture, tourism, and development and established tax incentives for new private investment within it. The government also created a dedicated entity, the *Autoridad de Planificación del Centro Histórico de San Salvador* (APLAN), to oversee development within this special economic zone. Because these investments were part of the government’s broader effort to establish state control over former gang-controlled areas and reintegrate them into the formal economy, these policies do not pose a direct threat to identification. However, if investments in the historic center or the special economic zone are the primary drivers of our estimates, they could affect the interpretation of our results.

Our 2023 survey was conducted only four months after the special economic zone was announced and before APLAN issued the implementing regulations for the investment incentives. Nevertheless, we examine whether our results are driven by respondents who live or work in either the special economic zone or the broader historic center of San Salvador. We begin by estimating Specification (1) for indicators of employment in the historic center and the special economic zone.⁶ [Figure A.5](#) presents the estimates. Approximately 5.7 percent of respondents work in the broader historic center, and 1.8 percent work in the special economic zone, with no differences at the boundaries of former gang territory. These findings suggest that (i) residents of former gang areas did not disproportionately benefit from the newly created economic zone and that (ii) some residents of nongang areas began working in the historic center after the crackdowns, plausibly in response to increased investment in the area.

To directly assess whether investments in the historic center are driving our results for mobility and labor-market outcomes, we re-estimate Specification (1) after excluding respondents who live or work in either the special economic zone or the broader historic center. [Table A.III](#) presents the results, which are similar to the baseline estimates reported in [Tables 2](#) and [3](#).

Sensitivity to potential outliers. We next examine whether our estimates are driven by potential outliers. First, residents of neighborhoods immediately adjacent to former gang borders may have disproportionately benefited from the removal of gang checkpoints and the associated mobility restrictions. A related concern is that a small number of outlier observations near the regression discontinuity cutoff may disproportionately affect the estimates. To address these concerns, we re-estimate Specification (1) after excluding observations within 100 meters of

⁶Because the historic center was formerly gang-controlled, all respondents residing there are classified as residents of former gang areas.

the cutoff. Panel A of [Table A.IV](#) presents the results, which are similar to the baseline estimates reported in [Tables 2 and 3](#).

A separate concern is that the estimated differences—or lack thereof—between former gang and nongang areas may be driven by a small number of high-income households. We therefore re-estimate Specification (1) after excluding observations in the top decile of the sample household-income distribution. Panel B of [Table A.IV](#) presents the results. The estimates for the five non-income outcomes remain essentially unchanged relative to the baseline estimates. The estimated difference in household income declines in absolute magnitude from approximately \$100 to \$20 and remains statistically insignificant. Thus, among households outside the top decile of the income distribution, household income has almost fully converged across former gang and nongang areas. The reduction in the estimated difference also suggests that the baseline estimate partly reflects the greater prevalence of high-income households in nongang areas.

Estimating the effects separately for former MS-13 and 18th Street areas. As shown in [Figure A.6](#), formerly gang-controlled neighborhoods in San Salvador comprise areas previously controlled by two gangs: MS-13 and 18th Street. Although the two gangs had similar organizational structures, the post-crackdown convergence in mobility and labor-market outcomes may have been driven primarily by areas formerly controlled by one of them. To examine this possibility, we estimate Specification (1), replacing the indicator for former gang territory with separate indicators for areas formerly controlled by MS-13 and 18th Street. As shown in [Table A.V](#), the results are very similar for the two gangs. For all six outcomes, the estimates are small, statistically insignificant, and close to the baseline estimates.

Heterogeneity by gender. We also examine whether the crackdowns differentially affected the convergence in mobility and labor-market outcomes among men and women. To do so, we estimate Specification (1) for individual-level mobility and labor-market outcomes, replacing the indicator for former gang territory with its interactions with indicators for male and female respondents and controlling for the direct effect of gender. [Table A.VI](#) presents the results. For all outcomes, the estimates are small and statistically insignificant for both groups, consistent with post-crackdown convergence among both men and women.

III.G Persistent Legacies of Gang Control and New Barriers to Labor Market Convergence

The removal of gang territorial control eliminated the barriers that had restricted residents’ access to labor markets outside their neighborhoods. Nevertheless, reintegration remains incomplete. Some socioeconomic disparities persisted, particularly in outcomes that depend on accumulated wealth. Moreover, stigma attached to former gang neighborhoods outlasted gang control itself, giving rise to a new barrier to employment: residence-based discrimination.

Persisting differences between gang and nongang areas. Despite the substantial convergence documented in [Sections III.C and III.D](#), some differences between former gang and non-

gang areas persist. [Table 4](#) illustrates this fact. Following the crackdowns, residents of former gang areas remained more likely than their peers from nearby nongang neighborhoods to get around San Salvador by bus or on foot (Column 1) and less likely to use or own a car (Columns 2 and 3, respectively).⁷ These patterns are consistent with outcomes that require substantial savings, such as purchasing a car or improving one’s home, converging more slowly than those that depend primarily on access to labor markets. They also indicate that the convergence in mobility between former gang and nongang areas was driven by the dismantling of gang-imposed mobility restrictions rather than by improved access to private transportation.

Residence-Based Discrimination. We also document a barrier to formal employment that became more salient for residents of former gang-controlled neighborhoods after the crackdowns: residence-based discrimination. Both the *Cómo Vamos* surveys and our 2023 survey asked respondents whether, during the past year, they had faced labor market discrimination because of their place of residence. In 2021, only 4.6 percent of respondents reported this form of discrimination, with no difference across the boundaries of gang territory (Column 4 of [Table 4](#)). After the 2022 crackdowns, however, this share rose to 11.3 percent, and residents of former gang neighborhoods were 6.5 percentage points more likely than residents of nongang areas to report experiencing it (Column 5 of [Table 4](#)). One plausible explanation for the absence of a pre-crackdown gap is that severe mobility restrictions had limited residents’ ability to search for jobs outside gang territory and, consequently, their exposure to this form of discrimination. Thus, as gang-imposed mobility restrictions were dismantled, residence-based discrimination became a more salient barrier to formal employment.

To assess whether residents of former gang neighborhoods faced residence-based employment discrimination, in 2024, we conducted a CV experiment following the general methodology of [Kessler, Low and Sullivan \(2019\)](#). Employers were told that the survey would help identify candidates suitable for positions at their firms and that candidates with similar characteristics might later be referred to them. They were then presented with consecutive pairs of CVs and asked which candidate they would consider more suitable for a position at their firm. As shown in Column 6 of [Table 4](#), employers selected applicants from former gang areas 40 percent of the time—10 percentage points below the 50 percent benchmark implied by random choice. [Figure 4](#) illustrates this result. The difference cannot be explained by the socioeconomic characteristics of the neighborhoods listed on the CVs or their distance from the firms: the neighborhoods were selected to have similar characteristics across gang and nongang areas and to be approximately equidistant from the surveyed firms. A subset of employers was also asked to evaluate some of the CVs and gave lower ratings to applicants from former gang areas than to otherwise identical applicants from nongang parts of San Salvador (Column 7 of [Table 4](#)). Overall, these results suggest that employers

⁷The question about respondents’ means of transportation was asked in both the *Cómo Vamos* surveys and our 2023 survey. Therefore, to increase the precision of our estimates, we combine these two data sources. To account for potential differences arising from the timing of the surveys, these regression specifications also include a dummy variable indicating whether the observation comes from the *Cómo Vamos* surveys.

are less willing to consider applicants from former gang neighborhoods, plausibly because of their perceived association with the gangs.

We also find that this shift in employment barriers faced by residents of former gang-controlled neighborhoods is reflected in their policy priorities. Using data from the *Cómo Vamos* surveys, we examine which issues respondents identified as being among the top three problems facing the country. As shown in [Table A.VII](#), following the 2022 crackdowns and the removal of gang-imposed mobility restrictions, residents of former gang areas became less likely to list the availability of employment opportunities among the country’s top three problems. At the same time, they became more likely to identify inequality of opportunity, poverty, and vulnerability among their key concerns. A small share of respondents from former gang areas also became more likely to state that the country does not face any major problems, plausibly because the crackdowns addressed the issues they viewed as most important.

IV AGGREGATE EFFECTS OF RESTORING STATE AUTHORITY

The regression discontinuity analysis presented so far has primarily focused on the effects of dismantling the gangs’ system of territorial control. However, as shown by [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#), neighborhoods on both sides of the former gang borders were equally exposed to gang-related crimes, including homicides and extortion. Similarly, Panel A of [Table 1](#) shows that, following the 2022 crackdowns, security improved on both sides of these borders. Thus, while the RD setting provides valuable insights into the effects of eliminating gang borders and mobility restrictions, it is less suited to analyzing the socioeconomic consequences of reducing gang presence and associated crime. This distinction is particularly important for outcomes related to investment and economic activity, which may respond more to changes in overall gang presence than to the removal of gang borders.

IV.A Difference-in-Differences: Data

This section describes the main data sources used in the difference-in-differences analysis. Section [A](#) of the Appendix provides further details on these data sources.

Municipality-level gang presence. We measure pre-2022 municipality-level exposure to gang activity using data from the PNC, which produced a registry of all known and suspected MS-13 and 18th Street members across El Salvador. The registry identifies each listed individual’s municipality of residence, allowing us to characterize geographic variation in gang presence before the crackdowns. [Figure A.6](#) illustrates the geographic distribution of gang activity, which we use in the difference-in-differences analysis described in Section [IV](#).

ACLED. The Armed Conflict Location and Event Data project (ACLED) compiles georeferenced records of violence and protest events, drawing primarily on media reports. We use events recorded in El Salvador from January 2018 through June 2025 and focus on two outcomes: the

number of events classified as arrests and the number of all other events. We assign events to municipalities using their coordinates and calculate the average monthly count by municipality and year, excluding the pre-crackdowns months of 2022 (January—March). Because ACLED relies on media coverage, these outcomes are best interpreted as counts of salient, reported events rather than comprehensive measures of arrests or violent incidents.

EHPM Household surveys. We also use the Multipurpose Household Survey (EHPM), an annual, nationally representative survey of Salvadoran households conducted by DIGESTYC.⁸ Each annual sample covers approximately 20,000 households and includes information on all household members and the household’s municipality of residence. We use the 2017–2025 waves and aggregate the microdata to the municipality-year level. The 2020 wave, the fieldwork for which was interrupted by the pandemic, is excluded because the microdata available to us do not identify respondents’ municipality of residence. We focus on outcomes related to household and individual income, school attendance, and victimization.

Business registrations. We measure formal business openings using first-time registrations published by the CNR’s Commercial Registry (*Registro de Comercio*). A CNR registration is required for all firms and establishments to operate legally, and the published records identify each establishment’s name and address. Our dataset includes approximately 38,500 first-time registrations from 2017 to 2025, which we aggregate to the municipality-year level.

OpenStreetMap. We also use data from OpenStreetMap, a collaboratively edited map of businesses, public facilities, and amenities, to track changes in mapped establishments across El Salvador. Using OpenStreetMap’s edit history, we create annual municipality-level counts of medical establishments, community centers, and other private establishments from 2017 to 2024. Because coverage depends on contributor activity, these counts represent the stock of mapped establishments rather than a complete inventory of establishments.

AirDNA rentals. Data on Airbnb and Vrbo rentals come from AirDNA, which compiled information on the properties listed on these websites from public listing pages and reservation data shared by hosts and property managers. For each property and month, the data report revenue earned by the host, the number of nights reserved, and the average daily rate. The dataset covers 23,543 properties (approximately 22,000 listed on Airbnb) in El Salvador from January 2017 through June 2025. We assign each property to a municipality using its coordinates and aggregate the data to the municipality-year level.

Tax revenue. Data on municipal tax revenue covering the period from 2015 to 2024 comes from the General Directorate of Internal Revenue (*Dirección General de Impuestos Internos*, DGII) and is published through the Ministry of Finance’s Fiscal Transparency Portal. The records report tax revenue by municipality, tax type, and economic sector. We sum across tax types to construct inflation-adjusted annual tax revenue by municipality and sector.

⁸After DIGESTYC was dissolved in 2022 and its functions were transferred to the Central Reserve Bank, ONEC continued the survey using the same methodology.

IV.B Difference-in-Differences: Methodology

To examine the aggregate effects of the crackdowns on socioeconomic outcomes through reductions in gang presence and associated crime, we conduct a difference-in-differences analysis comparing municipalities with greater and lower pre-crackdown gang presence. To do so, we measure exposure to gang activity before the 2022 crackdowns using data from the PNC, which produced a registry of all known and suspected MS-13 and 18th Street members across El Salvador. Figure A.6 illustrates the corresponding variation in exposure to the two gangs. We then estimate the following event-study specification:

$$y_{i,t} = m_i + \tau_t + \sum_{t \neq 2021} \beta_t \times \text{gang presence}_{i,pre-2022} + \varepsilon_{i,t}. \quad (2)$$

Here, $\text{gang presence}_{i,2021}$ is a dummy for whether a municipality had above-median exposure to the gangs' activities in the years preceding the crackdowns. m_i represents municipality fixed effects; τ_t —year fixed effects. The coefficients of interest are β_t , which denote the time-specific differences in the outcome variable between areas with greater and lower exposure to gang activity, relative to the 2021 baseline. In the baseline specification, we report Conley standard errors, which account for spatial correlation of the error terms within a 5-kilometer radius.

IV.C Difference-in-Differences: Results

Crime and violence. We begin by validating our empirical design by showing that municipalities with above-median pre-2022 gang exposure experienced more arrests and larger reductions in crime following the crackdowns. We use event data from ACLED and the EHPM household surveys. In the ACLED data, we analyze the municipality-level monthly number of mass-arrest events and of all other recorded events. In the EHPM, we focus on whether respondents were victims of assault, bodily injury, or extortion—the three types of crime most commonly associated with gangs—during the 12 months preceding each survey. We then construct the first principal component of these three victimization outcomes, measured in standard-deviation units. Figure 5 presents the corresponding event-study estimates. In 2022, during the initial phase of the crackdowns, municipalities with above-median gang exposure experienced 0.124 more mass-arrest events per month—equivalent to approximately 1.5 additional events per year—than municipalities with below-median exposure. They also experienced a lasting decline in recorded events: in 2023–2025, municipalities with above-median pre-2022 gang exposure had 0.3 fewer conflict events per month.⁹ Survey-reported victimization similarly declined. After the crackdowns, respondents in municipalities with above-median gang exposure had a gang-related crime victimization index approximately 0.36 standard deviations lower than respondents in municipalities with below-median exposure.

⁹The data do not include the first three pre-crackdowns months of 2022. Despite this, violence remained elevated during the months immediately following the crackdowns. When the analysis is restricted to the second half of 2022, the estimated coefficient for that year becomes similar to those for 2023–2025.

Income. We then use data from the EHPM household surveys to examine how the decline in gang activity affected household and individual income. Figure 6 presents the corresponding estimates. Following the crackdowns, average household income per capita in municipalities with above-median pre-2022 gang exposure increased by approximately 20–25 USD relative to municipalities with below-median exposure, compared with a sample mean of 186 USD. Adults’ individual labor income similarly increased by approximately 14 USD, compared with a sample mean of 116 USD. These increases are smaller than the reduction in the RDD-based income gap between gang and nongang areas in San Salvador, reflecting the nationwide scope of the difference-in-differences analysis, differences in how income is measured, and, most importantly, the particularly large gains from removing binding mobility restrictions in gang-controlled neighborhoods.¹⁰

Notably, because the RDD estimates reported in Section III.D compare individuals living in adjacent neighborhoods, they cannot distinguish net income gains from a reallocation of opportunities across the former gang borders. The income gains in the top panel of Figure 6 indicate that the crackdowns did more than redistribute labor market opportunities and income from neighboring areas toward those previously subject to gang-imposed mobility restrictions. Instead, the dismantling of gang structures and the associated decline in crime improved average economic conditions in the more heavily exposed municipalities.

At the same time, the bottom-left panel of Figure 6 shows that labor income among respondents under age 18 began to decline in 2023. This pattern is consistent with a post-crackdown reduction in child labor, plausibly driven by improved household economic conditions, although the disruption of gang recruitment may also have contributed to this decline. The bottom-right panel provides support for this interpretation: following the crackdowns, in municipalities with above-median pre-2022 gang exposure, the share of respondents under age 18 who reported not attending school because they needed to work or their families lacked sufficient financial resources fell by approximately 10 percentage points relative to municipalities with below-median exposure.

Investment. Next, we examine how the crackdowns affected business investment, measured by the opening of new establishments. Using CNR records of business registrations (*matrículas de empresa*), we assign each business formally registered in El Salvador since 2017 to a municipality based on its registered address. The top-left panel of Figure 7 presents the results of estimating Specification (2) for this outcome. Consistent with gang violence and related criminal activity acting as a de facto tax on business investment, the results indicate that, following the crackdowns, municipalities with above-median pre-2022 gang exposure experienced more new business openings than municipalities with below-median exposure.

We complement this analysis using data from OpenStreetMap. Although these data do not

¹⁰First, average wages in San Salvador are higher than the national average. Second, the San Salvador surveys measured total household income rather than individual labor income or household income per capita. Finally, residents of fully gang-controlled neighborhoods faced particularly severe constraints on their labor market choices due to gang-imposed mobility restrictions. As a result, removing these restrictions plausibly had a larger effect on their incomes than the broader reduction in violence.

provide a comprehensive record of all new firm openings, they classify establishments by type, allowing us to examine which types of businesses expanded following the crackdowns. The top-right and bottom-left panels of [Figure 7](#) show that, in 2022–2024, municipalities with above-median pre-2022 gang exposure experienced greater growth in the number of medical establishments and community centers than municipalities with below-median exposure. These findings suggest that the crackdowns were accompanied by increased investment in social infrastructure, potentially reflecting government efforts to improve socioeconomic conditions in gang-affected communities. The bottom-right panel shows that private investment also increased, possibly with a one-year lag.

We also use commercial data licensed from AirDNA, which cover Airbnb and Vrbo listings in El Salvador, to examine how the crackdowns affected investment in the short-term rental market. The top panel of [Figure 8](#) shows that, following the crackdowns, municipalities with above-median pre-2022 gang exposure experienced an increase of approximately 0.5 log points in active Airbnb and Vrbo listings relative to municipalities with below-median exposure, equivalent to an increase of about 65 percent. Similarly, by 2025, the corresponding increase in total revenue earned by the property hosts had reached approximately 1 log point, or about 170 percent. The bottom panel of [Figure 8](#) shows that this revenue growth reflected both an increase in the number of reservations and higher average daily rates.

Overall, the results in [Figures 7 and 8](#) indicate that the crackdowns increased investment in areas with greater pre-crackdown gang exposure, both in the form of greater business formation and an expansion of the short-term rental market.

Economic activity. Finally, we examine how the 2022 crackdowns affected overall economic activity using tax collection records from the Ministry of Finance’s Fiscal Transparency Portal. To motivate this analysis, we consider three channels through which the crackdowns may have influenced economic activity in areas with greater and lower pre-2022 exposure to the gangs. First, the investment channel predicts that increased investment and business openings should increase production in areas previously affected by the gangs, although these effects may take time to materialize. Second, the income channel implies that rising incomes in these areas will increase residents’ demand for goods and services. This channel, however, does not determine where those goods and services will be produced: the additional demand may be met by firms located either within formerly gang-affected areas or in areas that were less exposed to gangs. Third, the trade channel highlights the consequences of removing gang-imposed mobility restrictions. Before the crackdowns, residents of gang-controlled areas were often unable to purchase goods and services elsewhere. Once the mobility restrictions were dismantled, however, they could have shifted their spending toward businesses in nongang areas, where more productive firms were located.

Trade theory suggests that, once mobility restrictions, which act as barriers to trade, are dismantled, each side would increase its exports of the goods and services in which it has a comparative advantage (e.g., [Bernhofen and Brown, 2004](#); [Donaldson, 2018](#); [Eaton and Kortum, 2002](#)). In the context of this paper, this implies that areas with less exposure to the gangs, which

already had many large, productive firms (e.g., retail malls, banks, hospitals), would begin selling more of their goods and services to residents of former gang areas. Conversely, residents of former gang-affected areas, which previously had a relative abundance of cheap labor and real estate, would supply more labor to firms, while their neighborhoods would attract investment in local businesses and property-based services, as shown in [Table 3](#) and [Figure 8](#).

Guided by this theoretical framework, when examining the effects of the crackdowns on overall economic activity, we distinguish between two types of economic sectors. The first consists of sectors that predominantly sell tradable goods and services, which can be produced by large firms located outside former gang-controlled areas and consumed by Salvadorans regardless of where they live. Among the sectors listed in the tax collection records, those that best fit this classification are retail, manufacturing, finance and insurance, logistics, and healthcare. The second type, by contrast, consists of location-specific sectors, which include real estate, accommodation and hospitality, local administrative services, and mining.

[Figure 9](#) presents the results from estimating Specification (2) for tax revenue from these two groups of sectors, expressed in standard deviations relative to pre-2022 values. As anticipated, the top panel shows that, following the crackdowns, municipalities with above-median pre-2022 gang exposure experienced a larger increase in tax revenue from location-specific sectors than municipalities with below-median exposure. For tradable, non-location-specific sectors, the pattern is reversed. The bottom panel of [Figure 9](#) suggests that both groups of municipalities experienced growth in tax revenue from both types of sectors, with the difference lying in the magnitude rather than the direction of this growth. This pattern suggests that the gains extended across sectors and municipalities.

V SUPPORT FOR THE CRACKDOWNS AND THE DISTRIBUTION OF ECONOMIC GAINS

The previous sections document gains in mobility, employment, income, and investment following the crackdowns. Despite these gains, the State of Exception—which suspended several constitutional protections and granted the government extraordinary new powers—remains highly controversial. Many observers have criticized it for enabling arbitrary detentions, weakening due-process safeguards, and facilitating other human rights abuses. The crackdowns imposed severe costs on individuals who were wrongfully detained or otherwise subjected to abuse, and by the end of 2024, the government had released approximately 8,000 detainees whom it described as innocent—roughly 10 percent of those arrested under the State of Exception by that time. A central question for the durability of restored state authority is whether the public regards the government’s actions as legitimate or instead views them as arbitrary and excessive. We therefore examine two related questions. First, we assess the extent of public support for the crackdowns and how respondents’ views vary with their experiences during the State of Exception. Second, we examine whether

respondents more directly exposed to the adverse consequences of the crackdowns shared in the economic gains documented in the previous sections.

Support for the Crackdowns. To assess support for the actions of the police and the government and how it varies with respondents' experiences during the crackdowns, we use our 2023 survey and classify respondents into three groups according to whether they knew someone who was arrested or witnessed police abuse. The first group consists of individuals who neither know anyone who was arrested nor witnessed police abuse (45 percent of the sample). These respondents were not directly exposed to either of the adverse experiences captured by our survey but benefited from improved security and the removal of gang-imposed mobility restrictions. The second group consists of individuals who know someone who was arrested but did not witness police abuse (35.5 percent of the sample). Because our definition of police abuse includes arrests that are perceived as arbitrary or unjustified, this group primarily comprises respondents who know someone who was arrested but do not consider that arrest unjustified. The third group consists of individuals who witnessed police abuse (19.5 percent of the sample), which is defined to include arrests perceived as unjustified, incidents of physical violence, and arbitrary seizures of property.

Figure 10 presents the mean values of three outcomes—distrust in the police, distrust in the national government, and disapproval of the president—across the three groups; Columns 1–3 of Table A.VIII report the corresponding differences between them. Among respondents least exposed to the crackdowns, dissatisfaction with the police and the government is low: approximately 20 percent distrust the police or the national government, and only 5 percent disapprove of the president. Knowing someone who was arrested during the crackdowns is also not associated with less favorable views: respondents in the second group report levels of distrust and disapproval similar to those in the first group. In contrast, dissatisfaction with the government is substantially higher among respondents who witnessed police abuse. Relative to the first group, these respondents are 36.2 percentage points more likely to distrust the police, 26.5 percentage points more likely to distrust the national government, and 14.5 percentage points more likely to disapprove of the president.

These findings have two implications. First, the similarity between the first two groups suggests that simply knowing someone who was arrested, in the absence of police abuse, is not associated with lower institutional trust or presidential approval. This pattern is consistent with respondents perceiving these arrests, rightly or wrongly, as legitimate. Second, witnessing an arrest perceived as arbitrary or another form of police abuse is associated with substantially higher dissatisfaction with the government. Such experiences may, therefore, threaten the long-term sustainability of the government's security policies. Overall, the results suggest that Salvadorans generally support the government's tough-on-crime policies when they perceive its actions as justified and directed at criminal actors, but that this support may quickly erode if law-enforcement officials are perceived as abusing their power.

The results presented in Figure 10 remain unchanged when we further divide respondents who

witnessed police abuse into two groups: those who knew someone who was arrested during the crackdowns and those who did not. As shown in [Figure A.7](#), the two groups report very similar levels of dissatisfaction with the government. These findings suggest that lower support for the government’s actions is associated with witnessing police abuse in general, rather than only with arrests involving people known to the respondent.

The pattern shown in [Figure 10](#) is similar on both sides of the former gang boundaries. As previously documented in Panel A of [Table 1](#), neither the probability of knowing someone who was arrested nor the probability of witnessing police abuse changes discontinuously at these boundaries. [Figure A.8](#) further shows that the relationship between respondents’ experiences during the crackdowns and their attitudes toward the government is similar in former gang and nongang areas. On both sides of the boundaries, respondents least exposed to the adverse aspects of the crackdowns report similar levels of government support, and knowing someone who was arrested is not associated with systematically different attitudes. By contrast, witnessing police abuse is associated with substantially greater distrust of the police and the national government, as well as greater disapproval of the president, in both former gang and nongang areas.

Distribution of Economic Gains. We next consider whether the crackdowns, while improving overall economic conditions, may have adversely affected the labor-market outcomes of individuals and households more directly affected by the government’s actions. [Figure A.9](#) presents the mean values of three key labor-market outcomes—employment at a firm with at least 100 employees, employment at a firm with at least 200 employees, and household income—across the three groups defined above. Columns 4–6 of Appendix [Table A.VIII](#) report the corresponding differences between the groups. The results show that respondents in all three groups have very similar labor-market outcomes and household incomes. As further shown in [Figure A.10](#), this pattern holds separately in former gang and nongang areas. Thus, although the crackdowns disrupted the lives of some individuals and households, we find no evidence that respondents who knew someone who was arrested during the crackdowns or witnessed police abuse had worse labor-market outcomes than respondents less directly exposed to the crackdowns.

Overall, our findings yield two main conclusions. First, Salvadorans exhibit high levels of support for the government’s security policies when enforcement is perceived as directed at criminal actors, but support is substantially lower among those who have witnessed law enforcement abuse its authority. Second, we find no evidence that the economic gains associated with the crackdowns bypassed individuals and households more directly exposed to enforcement, suggesting that these gains were widely shared within the population represented in our survey. One important caveat is that our survey excludes individuals who remained incarcerated when it was conducted; these individuals likely bore particularly severe economic and human costs as a result of the crackdowns.

VI CONCLUSION

This paper shows that El Salvador’s 2022 crackdowns on crime substantially changed social and economic conditions in former gang-controlled neighborhoods. The dismantling of gang territorial control eliminated long-standing barriers to individuals’ mobility, leading to sharp increases in freedom of movement and a rapid convergence in recreational and labor market mobility between residents of gang and nongang areas. These changes, in turn, narrowed the disparities in employment, income, and basic indicators of material well-being. At the same time, individuals from former gang areas now face a new barrier to employment: residence-based discrimination. Finally, we find that, while overall public trust in the government and police remains high, it is much lower among individuals who witnessed police abuse during the crackdowns, suggesting that police abuse may erode support for tough-on-crime policies.

We also highlight that the external validity of these findings depends on the institutional features of the Salvadoran case, including the gangs’ limited financial capacity, their reliance on local extortion, the comprehensive scope of the enforcement campaign, and the accompanying reassertion of state authority over prisons. The results should therefore not be interpreted as implying that similar crackdowns would necessarily generate comparable effects in settings dominated by wealthier or more fragmented criminal organizations.

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TABLES

Table 1: Security, Exposure to the Crackdowns, and Security Perceptions

<i>Panel A: Security and exposure to the crackdowns</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
	Gang presence decreased	Gang influence decreased	Perceived security (0–10 scale)	Police are present most of the time	Knows a person who was arrested	Witnessed police abuse
	2023	2023	2023	2023	2023	2023
Former gang neighborhood	0.011 (0.028)	0.003 (0.027)	0.111 (0.118)	0.067 (0.073)	0.053 (0.061)	-0.028 (0.045)
Mean dep. var	0.879	0.852	8.745	0.527	0.491	0.195
Observations	2,313	2,313	2,315	2,313	2,315	2,315
<i>Panel B: Security perceptions</i>						
	(7)	(8)	(9)	(10)	(11)	(12)
	Avoid going out at night		Avoid leaving the house alone		Consider public transport insecure	
	2021	2022	2021	2022	2021	2022
Former gang neighborhood	0.036 (0.068)	-0.136*** (0.037)	0.007 (0.040)	-0.053** (0.023)	0.001 (0.063)	-0.154*** (0.055)
Mean dep. var	0.283	0.170	0.078	0.027	0.631	0.273
Observations	848	880	848	880	658	604

Note: This table presents the results of estimating Specification (1) for the outcome variables related to security, exposure to the crackdowns, and security perceptions. The unit of observation is an individual. In Panel A, the outcome variables come from the survey we conducted in 2023. In Panel B, the outcome variables come from *Cómo Vamos* surveys conducted before and after the gang crackdowns. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 2: Individuals' Mobility, before and after the Crackdowns

	(1)	(2)	(3)	(4)	(5)	(6)
	Been to the mall during past year		Been to cafes, bars, and restaurants during past year		Been to the cinema during past year	
	2021	2022	2021	2022	2021	2022
Former gang neighborhood	-0.243*** (0.063)	0.032 (0.062)	-0.150* (0.079)	0.028 (0.059)	-0.120*** (0.036)	0.049 (0.040)
Mean dep. var	0.695	0.732	0.542	0.626	0.162	0.197
Observations	848	880	848	880	848	880
	(7)	(8)	(9)	(10)	(11)	(12)
	Been to a park during past year		Been to Parque Cuscatlán during past year		Participated in recreational activities during past year	
	2021	2022	2021	2022	2021	2022
Former gang neighborhood	-0.135** (0.060)	-0.034 (0.087)	-0.178*** (0.044)	0.072 (0.086)	-0.202*** (0.056)	-0.006 (0.054)
Mean dep. var	0.514	0.520	0.363	0.449	0.834	0.848
Observations	848	880	848	880	848	880
	(13)	(14)	(15)	(16)	(17)	(18)
	Freedom of movement where you live		Gang borders prevented you from getting jobs in large firms		Gang borders prevented you from getting jobs in large firms in other parts of the city	
	2021	2023	2021	2023	2021	2023
Former gang neighborhood	-0.135** (0.050)	0.002 (0.026)	0.088** (0.039)	-0.004 (0.020)	0.100** (0.041)	-0.004 (0.018)
Mean dep. var	0.329	0.950	0.428	0.064	0.407	0.051
Observations	2,315	2,315	2,313	2,313	2,313	2,313

Note: This table presents the results of estimating Specification (1) for the outcome variables related to individuals' mobility. The unit of observation is an individual. In Columns 1–12, the outcome variables come from Cómo Vamos surveys conducted before and after the gang crackdowns. In Columns 13–18, the outcome variables come from the survey we conducted in 2023. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 3: Economic Conditions, before and after the Crackdowns

	(1)	(2)	(3)	(4)	(5)	(6)
	Works in former gang territory		Works in neighborhood where they live		Works in a firm with ≥ 100 employees	
	2019	2023	2019	2023	2019	2023
Former gang neighborhood	0.495*** (0.039)	-0.035 (0.054)	0.111*** (0.031)	-0.042 (0.045)	-0.123*** (0.019)	0.030 (0.034)
Mean dep. var	0.334	0.480	0.302	0.429	0.169	0.184
Observations	1,738	2,200	2,071	2,315	2,071	2,315
	(7)	(8)	(9)	(10)	(11)	(12)
	Works in a firm with ≥ 200 employees		Household income		Have financial difficulties	
	2019	2023	2019	2023	2021	2022
Former gang neighborhood	-0.115*** (0.028)	0.048 (0.031)	-352.596*** (112.216)	-98.293 (74.666)	0.183*** (0.059)	0.006 (0.065)
Mean dep. var	0.133	0.139	625	631.5	0.328	0.295
Observations	2,071	2,315	2,314	2,133	848	877
	(13)	(14)	(15)	(16)	(17)	(18)
	Has bank account		Digital access index		Has sanitary service inside the home	
	2021	2022	2021	2022	2021	2022
Former gang neighborhood	-0.236*** (0.077)	-0.052 (0.090)	-0.172*** (0.045)	-0.019 (0.034)	-0.057** (0.025)	-0.074** (0.031)
Mean dep. var	0.448	0.455	0.646	0.665	0.935	0.923
Observations	848	880	847	877	848	880

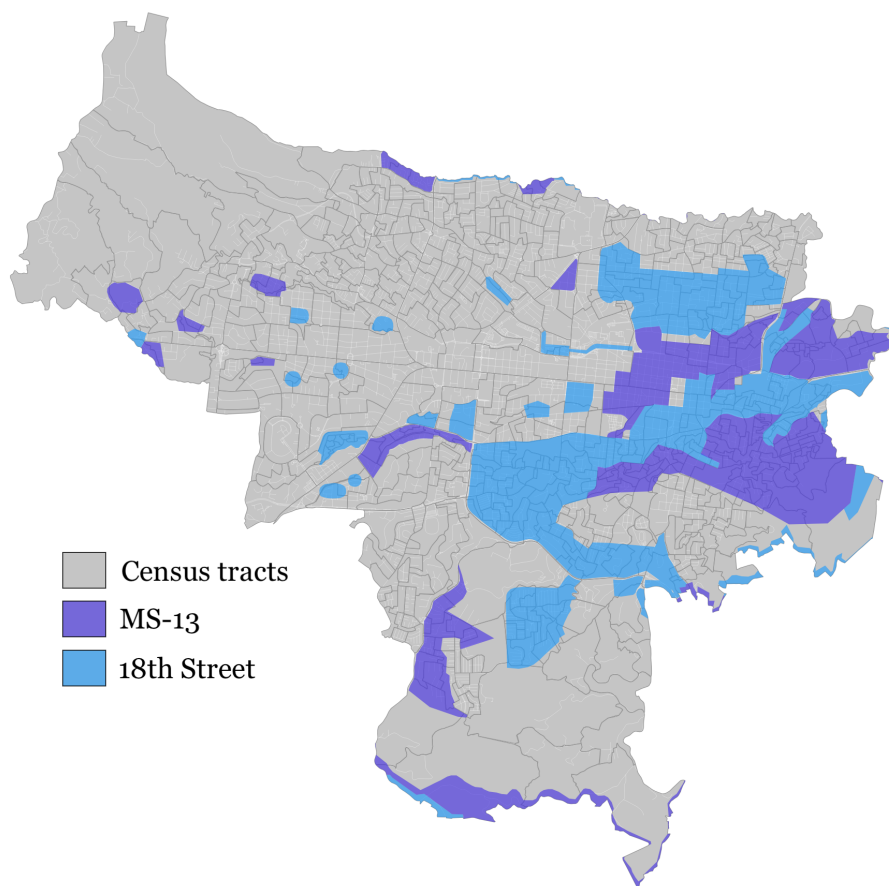
Note: This table presents the results of estimating Specification (1) for the outcome variables related to individuals' mobility. The unit of observation is an individual. In Columns 1–10, the outcome variables come from the surveys we conducted in 2019 and 2023. In Columns 11–18, the outcome variables come from Cómo Vamos surveys conducted before and after the gang crackdowns. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4: Differences between former Gang and Nongang Areas

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Use bus or walk	Use car	Own a car	Experienced address-based discrimination		Employer choice of CV	Employer evaluation of CV
	2022–23	2022–23	2023	2021	2022–23	2024	2024
Former gang neighborhood	0.084** (0.034)	-0.062* (0.033)	-0.070* (0.040)	0.017 (0.033)	0.065*** (0.017)		
CV with former gang address						-0.100*** (0.017)	-0.059* (0.035)
Mean dep. var	0.652	0.300	0.334	0.046	0.113		
Observations	3,193	3,193	2,315	848	3,195	1,726	188

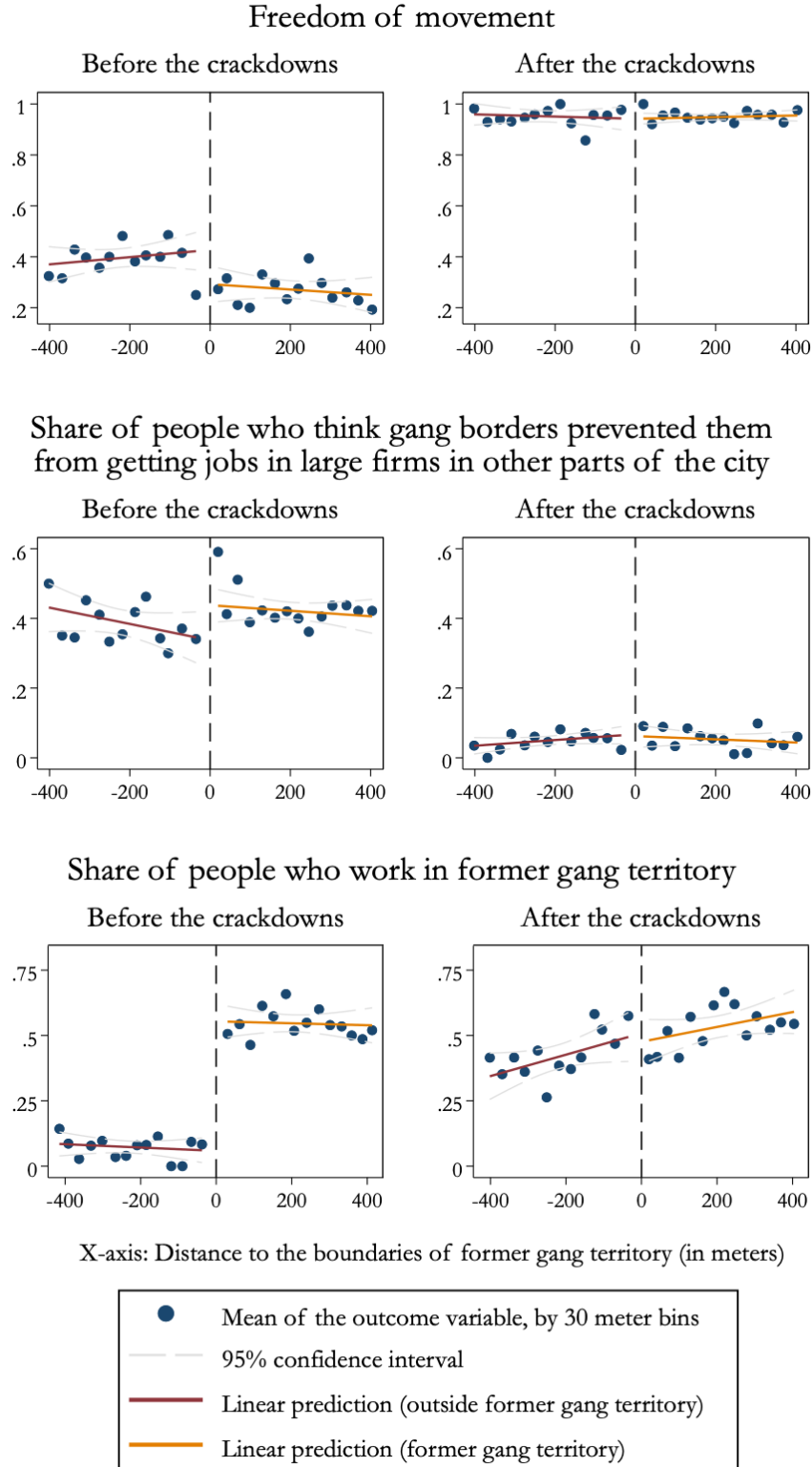
Note: This table presents the results of estimating Specification (1) for the outcome variables related to transportation and employment discrimination. The unit of observation is an individual. In Columns 1, 2, and 5, the outcome variables come from the combined sample of the survey we conducted in 2023 and the 2022 wave of the *Cómo Vamos* survey. In Column 3, the outcome variable comes from the survey we conducted in 2023. In Column 4, the outcome variable comes from the 2021 wave of the *Cómo Vamos* survey. In Columns 6 and 7, the outcome variables come from a CV experiment that we conducted with employers in 2024. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. In Columns 1, 2, and 5, we additionally include a dummy for whether the variable came from the *Cómo Vamos* survey. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 1: Former Gang Territory in San Salvador



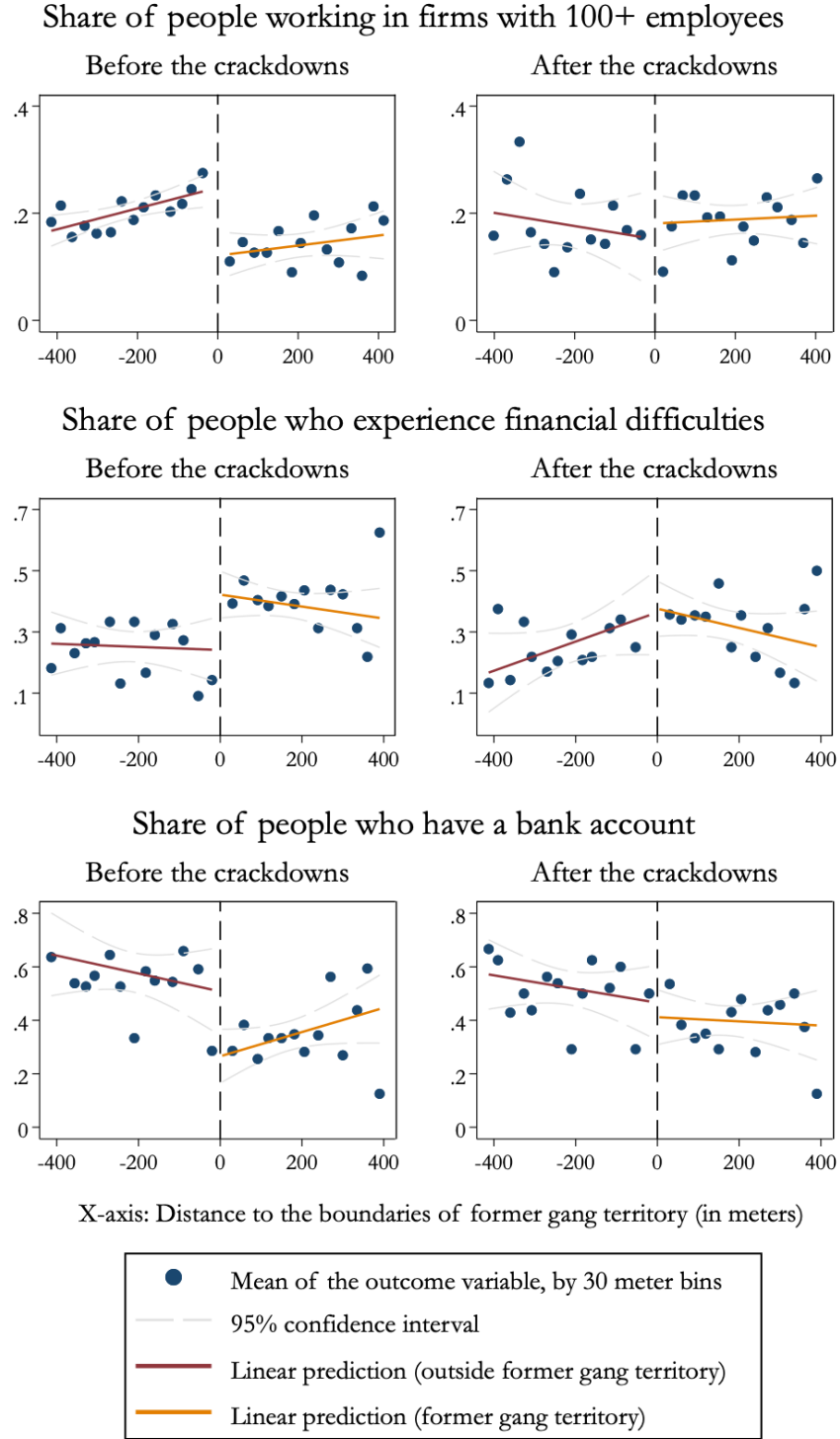
Note: This figure shows the map of San Salvador neighborhoods that were formerly controlled by gangs. The gray areas correspond to census tracts from the 2007 population census, which serve as the sampling units for the surveys used in this study.

Figure 2: Labor Mobility Restrictions, before and after the Crackdowns



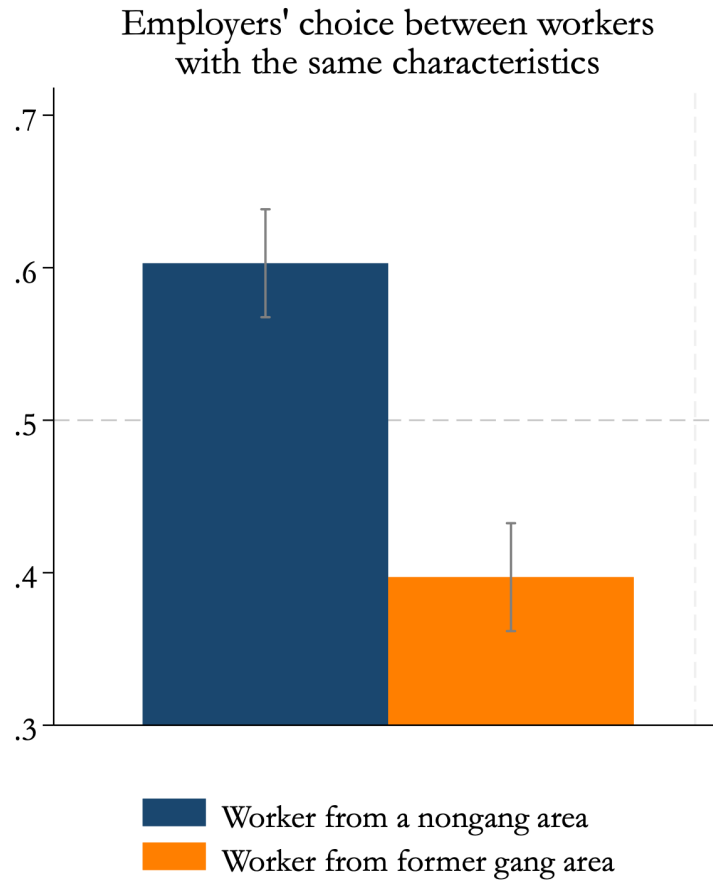
Note: This figure illustrates the results related to individuals' labor mobility. The outcome variables come from the surveys we conducted in 2019 and 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

Figure 3: Economic Outcomes, before and after the Crackdowns



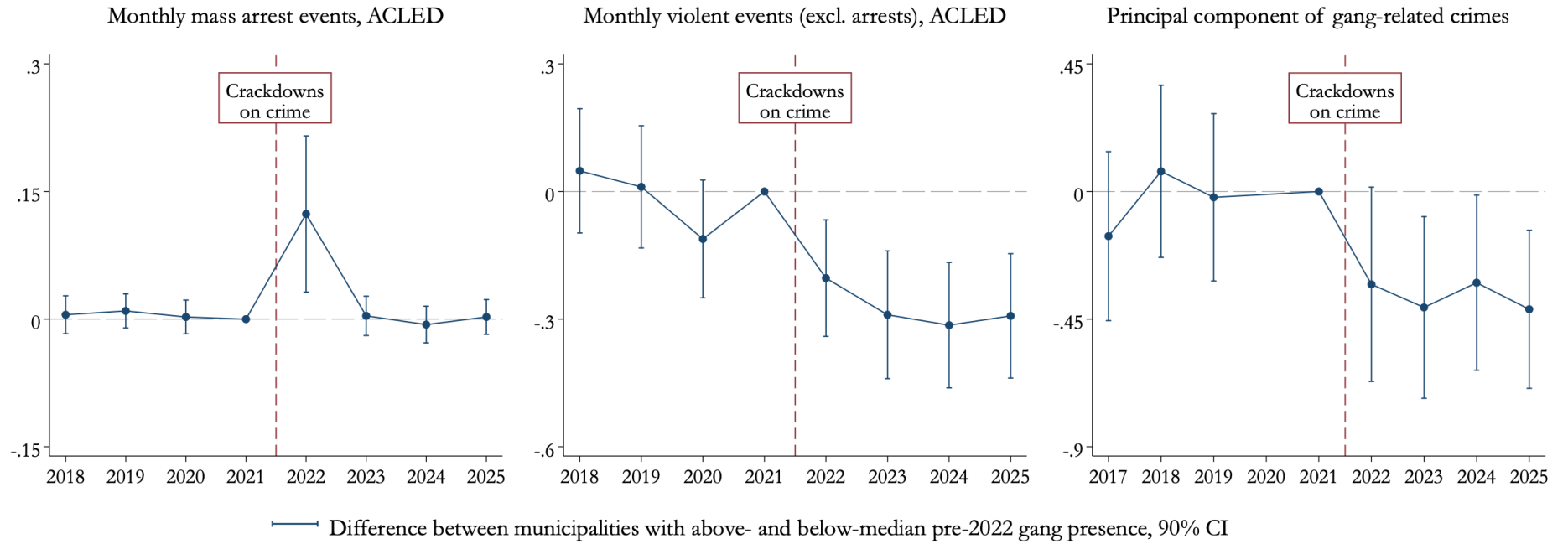
Note: This figure illustrates the results related to individuals' economic well-being. The outcome variables in the top panel come from the surveys we conducted in 2019 and 2023. The outcome variables in the two other panels come from *Cómo Vamos* surveys conducted before and after the gang crackdowns. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

Figure 4: Residence-based Discrimination



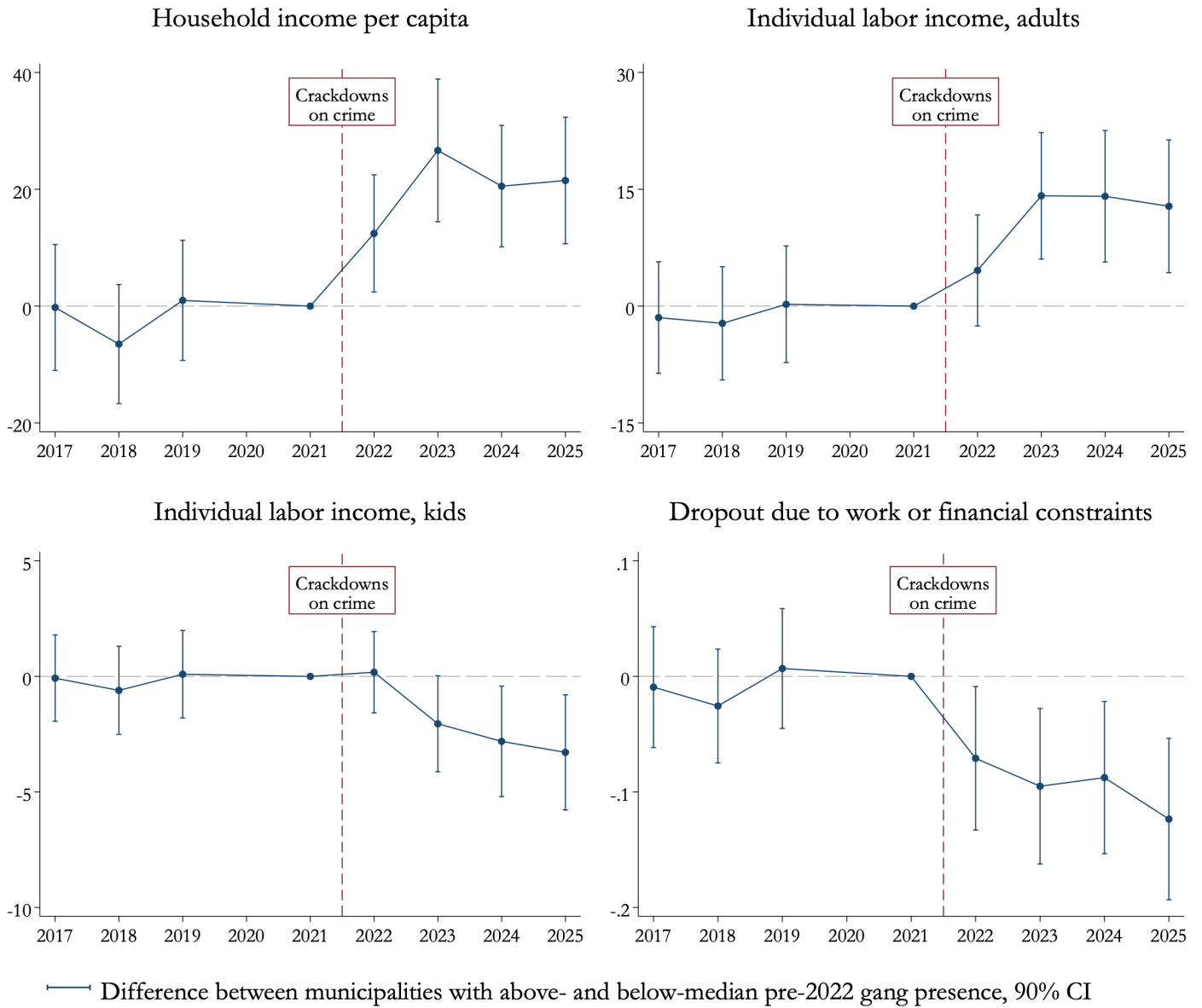
Note: This figure presents the results of the CV experiment conducted in 2024. The left panel shows the share of cases in which employers selected the CV of an applicant from a nongang neighborhood when choosing between two otherwise identical CVs. The right panel shows the corresponding share for applicants from former gang areas. The gray bars represent 95% confidence intervals, with standard errors clustered at the employer level.

Figure 5: Crime Reductions after the Crackdowns



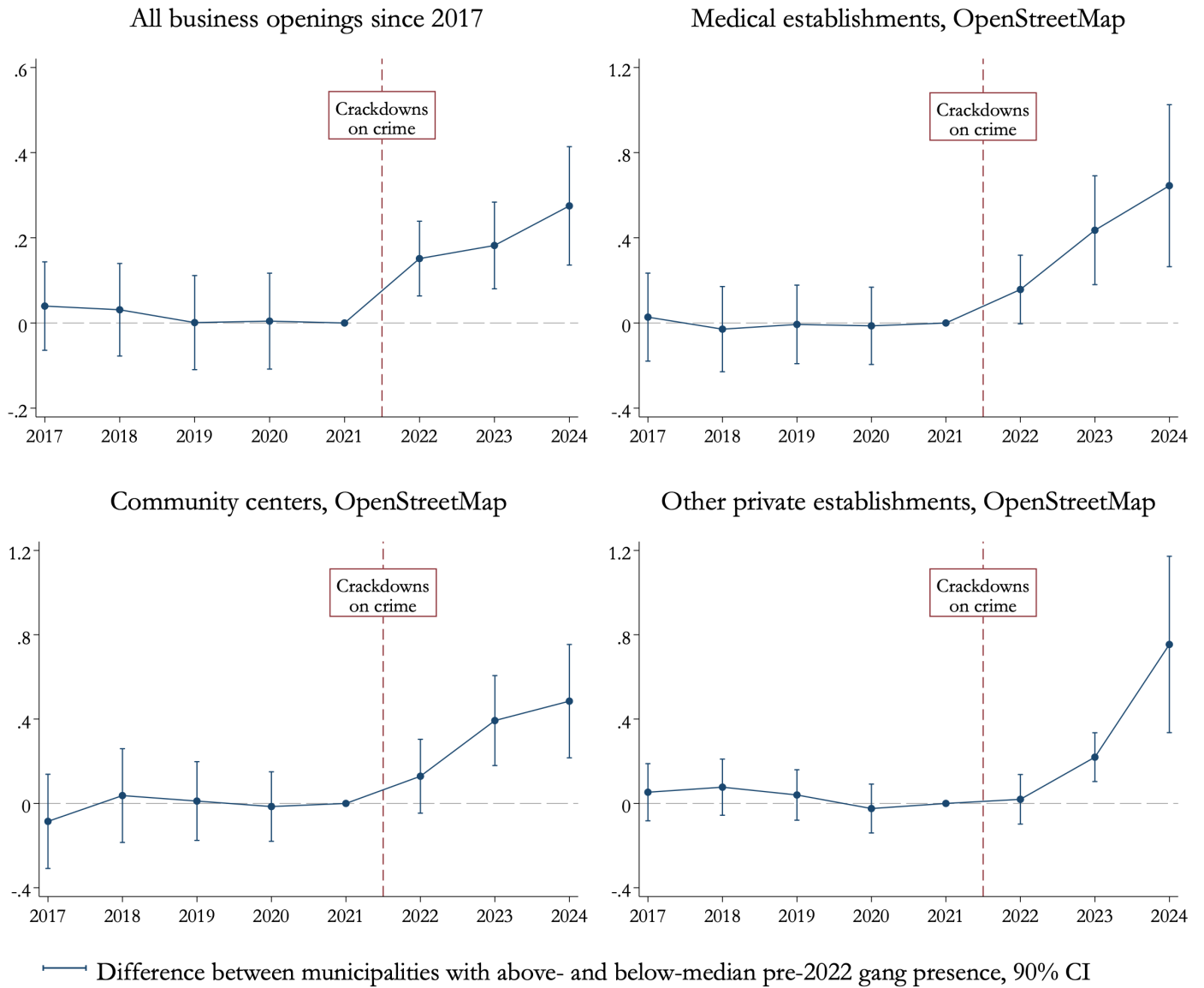
Note: This figure illustrates the results of estimating Specification (2) for crime-related outcomes. The outcome variables in the two left panels come from ACLED, which excludes January to March 2022; the outcome in the right panel comes from the EHPM household surveys, which do not identify municipalities in 2020. The unit of observation is a municipality. The figure reports 90% confidence intervals based on Conley (1999) standard errors with a 5-kilometer spatial correlation radius.

Figure 6: Household and Individual Income after the Crackdowns



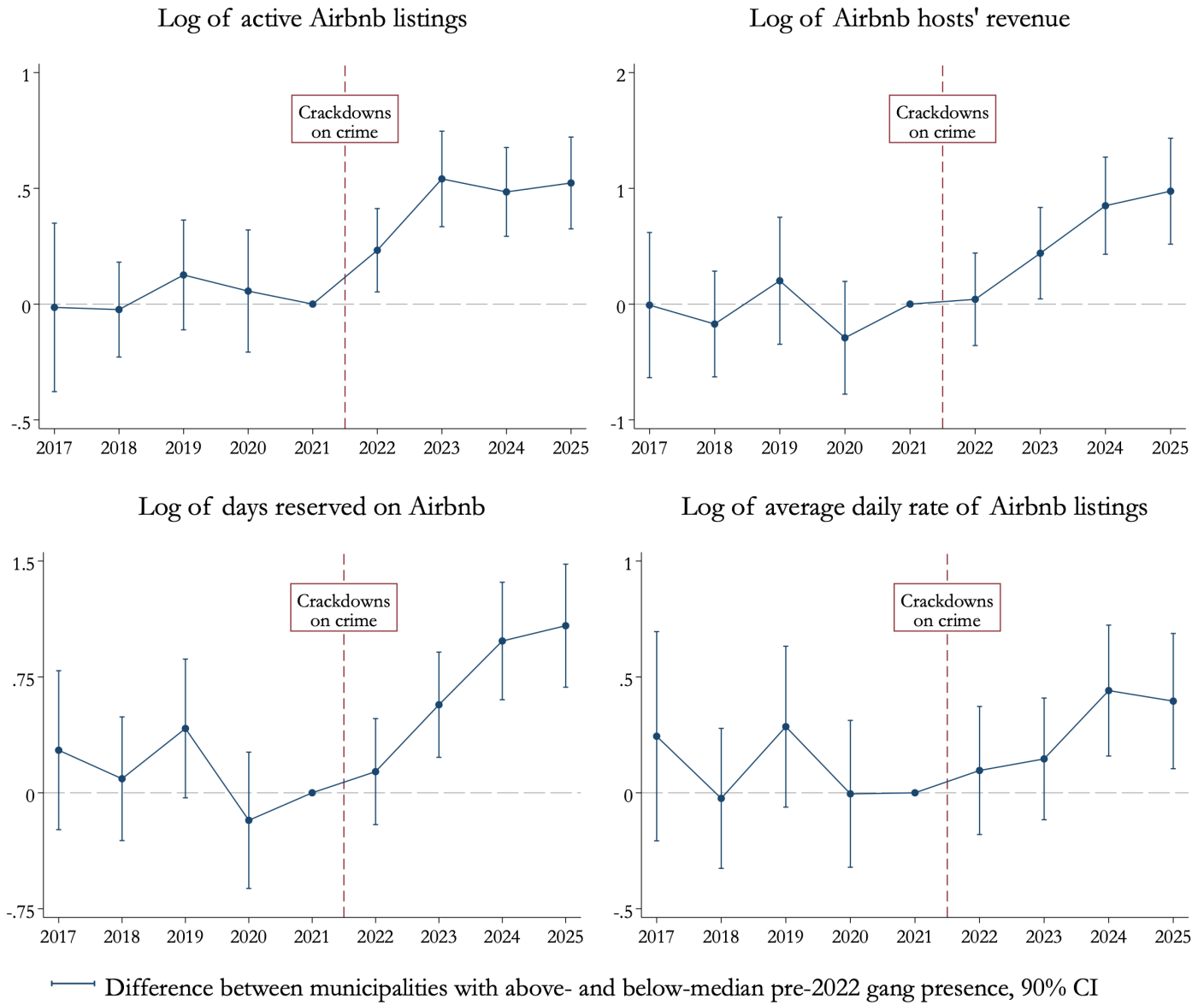
Note: This figure illustrates the results of estimating Specification (2) for household and individual income, as well as school dropout due to financial constraints. The outcome variables come from the EHPM household surveys, which do not identify municipalities in 2020. The unit of observation is a municipality. The figure reports 90% confidence intervals based on Conley (1999) standard errors with a 5-kilometer spatial correlation radius.

Figure 7: Business Openings after the Crackdowns



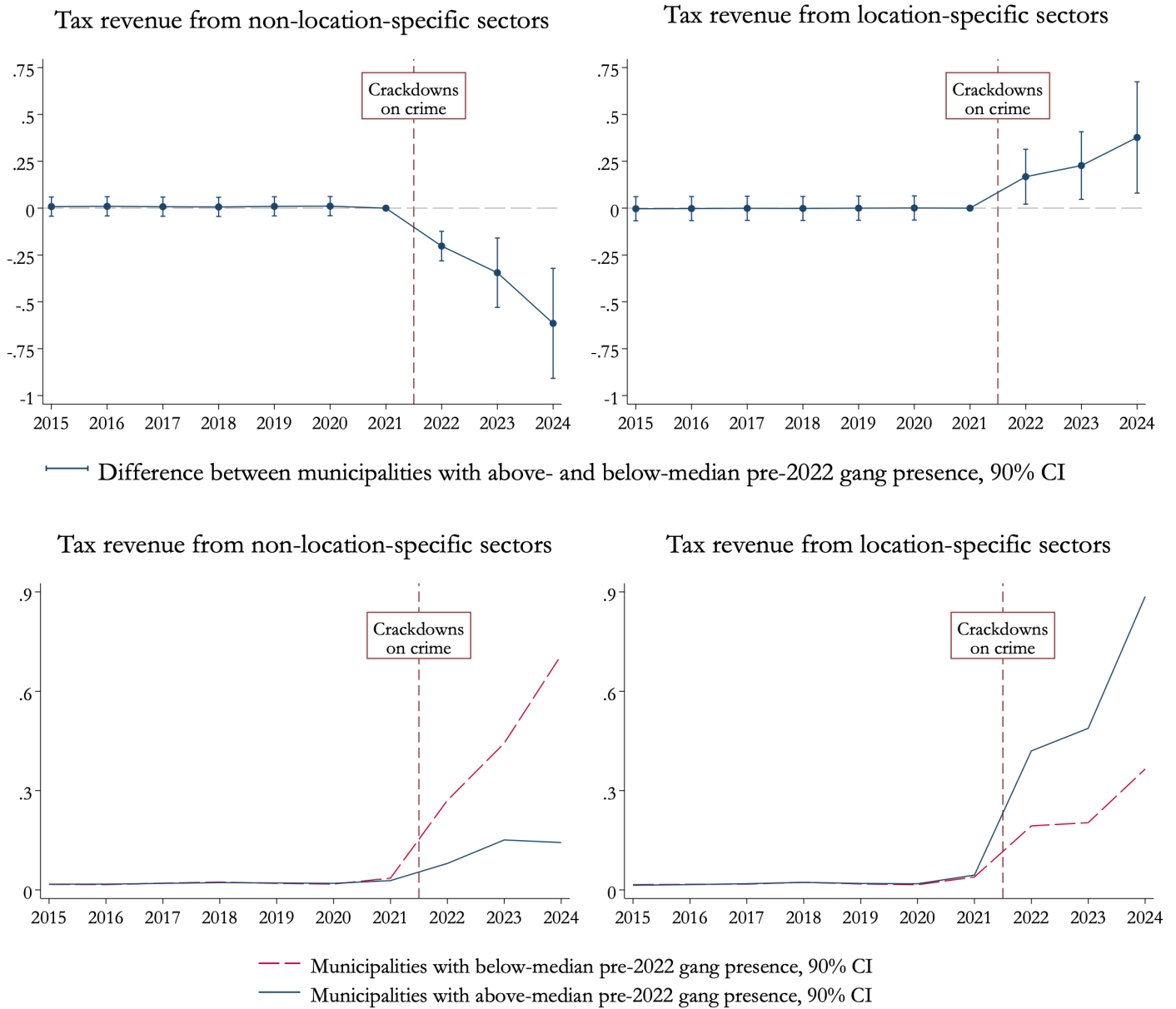
Note: The figure presents the results of estimating Specification (2) for business openings. The outcome variables come from the CNR business registry (top-left panel) and OpenStreetMap (remaining panels). The unit of observation is a municipality. The figure reports 90% confidence intervals based on Conley (1999) standard errors with a 5-kilometer spatial correlation radius.

Figure 8: Property investment after the Crackdowns



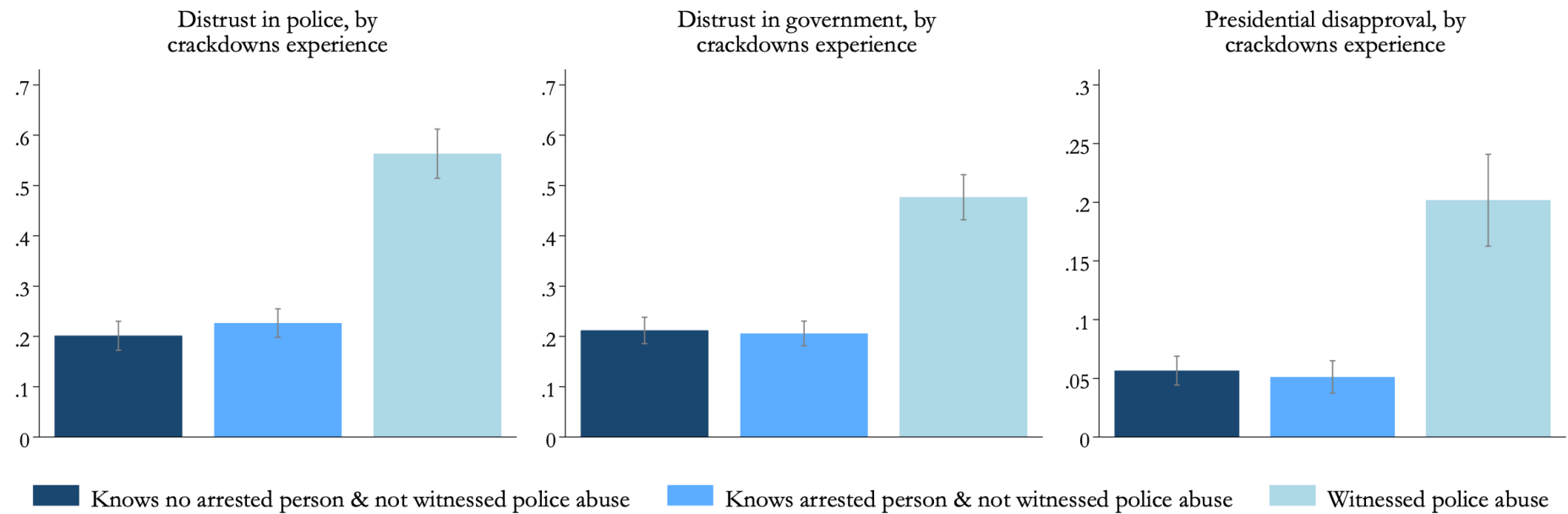
Note: The figure presents the results of estimating Specification (2) for Airbnb-related outcomes. The outcome variables come from AirDNA data on Airbnb and Vrbo listings. The unit of observation is a municipality. The figure reports 90% confidence intervals based on Conley (1999) standard errors with a 5-kilometer spatial correlation radius.

Figure 9: Tax Revenue after the Crackdowns, by Sector Type



Note: The figure presents the results of estimating Specification (2) for tax revenue, by sector type. The outcome variables come from the tax collection records of the Ministry of Finance, measured in standard-deviation units and normalized relative to pre-2022 levels. The top panel presents the event-study estimates; the bottom panel—the underlying data. The unit of observation is a municipality. The figure reports 90% confidence intervals based on Conley (1999) standard errors with a 5-kilometer spatial correlation radius.

Figure 10: Political views, by crackdown experience



Note: The figure illustrates individuals' political views, by experience during the crackdowns. The outcome variables come from the survey we conducted in 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—the respondents' experience during the crackdowns.

ONLINE APPENDIX

A DATA APPENDIX

This appendix provides additional information on the data described in Sections III.A and IV.A.

A.1 RDD Data Sources

Cómo Vamos surveys. The *Cómo Vamos* surveys were conducted by the Center for Research and Statistics of FUSADES for the El Salvador *Cómo Vamos* observatory, an initiative launched in 2018 with support from USAID to monitor the quality of life in the municipalities of the San Salvador Metropolitan Area. Each wave interviewed adults aged 18 and older in the urban area of the municipality of San Salvador using a three-stage probabilistic design: census tracts were selected first, eight dwellings were then selected within each tract, and one adult was interviewed in each dwelling. The 2021 wave comprises 1,229 face-to-face interviews conducted between November 30, 2021, and February 20, 2022, before the State of Exception was declared. The 2022 wave comprises 1,261 interviews conducted between October 18 and November 20, 2022. Consistent with our own surveys, we restrict the analysis to respondents living within 420 meters of the former gang borders, which yields samples of 848 respondents in 2021 and 880 respondents in 2022.

2023 survey. Our 2023 survey followed the sampling procedure described in Section III.A. We excluded census tracts whose centroids lay within 15 meters of a former gang border because their treatment status was uncertain; the closest eligible tracts were therefore 15–44 meters from a border. Within each 30-meter distance bin, we randomly selected up to 10 census tracts, including all eligible tracts when fewer than 10 were available. We aimed to survey 10 individuals per tract within 250 meters of a former gang border and 8 individuals per tract farther away. When the survey team could not reach the target number in a selected tract, it supplemented the sample with interviews in reserve tracts from the same 30-meter distance bin. In addition to labor market outcomes, the survey collected information on respondents’ mobility, perceptions of security, experiences during the State of Exception, migration and migration intentions, and experiences of discrimination. It also asked respondents whether they lived at the same address at the end of 2021. Several questions, including those on respondents’ means of transportation and residence-based discrimination, were also asked in the 2022 wave of the *Cómo Vamos* surveys.

Historic center and special economic zone. The boundaries of the historic center of San Salvador are defined in Article 2 of Legislative Decree 707 of 2023, which created the Planning Authority of the Historic Center of San Salvador (*Autoridad de Planificación del Centro Histórico de San Salvador*, APLAN) and established the tax incentives for investment in the area. The decree describes the perimeter as a sequence of street axes. We digitized this perimeter and the boundaries of the associated tourism-investment incentive zone as polygons and intersected them with the locations of the census tracts.

A.2 Difference-in-Differences Data Sources

ACLED. We exclude January–March 2022 from the ACLED analysis so that the 2022 outcomes reflect the post-crackdown period. The State of Exception began on March 27, following a late-March spike of 87 reported homicides. Thus, including March would risk attributing the violence

that precipitated the crackdowns to their aftermath, while including January and February would mix pre- and post-crackdown months. Because the number of observed months differs across years, we use the average monthly number of recorded events for each municipality-year.

EHPM household surveys. We use the EHPM microdata to construct measures of household and individual income, school attendance, and victimization. For household-level outcomes, we retain one observation per household before aggregating to the municipality-year level. To construct adult and child income measures, we restrict the sample to respondents aged 18 or older and those younger than 18, respectively, before aggregating to the same level. To measure gang-related victimization, we focus on the first principal component of three indicators for whether respondents experienced crimes commonly associated with gangs during the preceding 12 months: assault, bodily injury, and extortion.

OpenStreetMap. We use the *ohsome* API to access OpenStreetMap’s edit history and extract features classified as amenities, healthcare facilities, or offices. We assign mapped points to municipalities using their coordinates and mapped polygons using the coordinates of their centroids. Medical establishments include hospitals, clinics, and doctors’ offices; community centers include town halls and community centers. The category of other private establishments includes all private establishments after excluding schools, hospitals, clinics, community centers, courthouses, and police stations. It should be noted that a feature’s inclusion in the map reflects a contributor recording it, which may differ from the timing of the establishment’s opening.

Tax revenue. The DGII classifies taxpayers’ economic sector using El Salvador’s adaptation of the International Standard Industrial Classification, Revision 4. Tax collections are attributed to the municipality of the taxpayer’s registered head office, including when a firm operates establishments elsewhere. We classify real estate, hospitality, local administrative and support services, and mining as location-specific sectors. Manufacturing, wholesale and retail trade, transportation and storage, finance and insurance, and health services form the group of sectors serving broader markets.

B THEORETICAL FRAMEWORK

Consider a city with two types of locations, defined by the presence of criminal groups: gang (g) and nongang (ng) areas. In each area, a representative firm produces the same numeraire good. Before the crackdown, gang boundaries segment the product market, so that each firm can sell only to consumers in its own part of the city. After the crackdown, these boundaries are removed, and both firms can sell to consumers throughout the city.

The two firms are *ex ante* identical, but in the initial equilibrium they adopt technologies with different capital intensity. Specifically, let K_j denote the productivity of the technology adopted by firm $j \in \{g, ng\}$. The firm in the gang area avoids capital investment because of the threat of expropriation by gangs, and therefore uses a labor-intensive technology with $K_g = 1$. By contrast, because the firm in the nongang area does not face a comparable expropriation threat, it adopts the capital-intensive technology, with $K_{ng} = \bar{K} > 1$. Importantly, these technology choices are outcomes of the initial equilibrium rather than *ad hoc* assumptions. [Melnikov, Schmidt-Padilla and Sviatschi \(2025\)](#) discuss the conditions under which this equilibrium emerges.

To capture the idea that capital-intensive technologies allow firms to produce at lower cost,

assume that the marginal cost of firm j is

$$c_j = \frac{1}{K_j}.$$

Thus, in the initial equilibrium, the nongang firm is more productive with lower marginal costs:

$$c_g = 1 \quad \text{and} \quad c_{ng} = \frac{1}{\bar{K}} < 1.$$

Before the crackdowns, product markets are segmented. Each firm serves only its own local market and faces local inverse demand

$$P_j = a - q_j,$$

where q_j denotes the quantity produced by firm j . In the pre-crackdown equilibrium, each firm is a monopolist in its own local market and chooses q_j to maximize

$$\pi_j^0 = (a - q_j - c_j)q_j.$$

The resulting pre-crackdown output of firm j is

$$q_j^0 = \frac{a - c_j}{2}.$$

Now consider the effects of a large-scale government crackdown on crime that removes the barriers separating the two local product markets. We focus first on the short-run equilibrium, in which the technologies adopted by the two firms remain fixed. After the crackdown, both firms can sell to consumers throughout the city. The two firms therefore compete in quantities in an integrated citywide market, with inverse demand

$$P = 2a - Q, \quad Q = q_g + q_{ng}.$$

The Cournot equilibrium quantities are

$$q_g^1 = \frac{2a - 2c_g + c_{ng}}{3} \quad \text{and} \quad q_{ng}^1 = \frac{2a - 2c_{ng} + c_g}{3}.$$

Since $c_{ng} < c_g$, the nongang-area firm produces more in the integrated market: $q_{ng}^1 > q_g^1$. Moreover, the increase in output is larger for the nongang-area firm than for the gang-area firm. Relative to its pre-crackdown output, the change in output for the nongang-area firm is

$$q_{ng}^1 - q_{ng}^0 = \frac{2a - 2c_{ng} + c_g}{3} - \frac{a - c_{ng}}{2} = \frac{a - c_{ng} + 2c_g}{6}.$$

For the gang-area firm, the corresponding change is

$$q_g^1 - q_g^0 = \frac{2a - 2c_g + c_{ng}}{3} - \frac{a - c_g}{2} = \frac{a - c_g + 2c_{ng}}{6}.$$

The difference between these two changes is therefore

$$(q_{ng}^1 - q_{ng}^0) - (q_g^1 - q_g^0) = \frac{c_g - c_{ng}}{2} > 0.$$

As a result, market integration increases production relatively more for the more productive nongang-area firm.

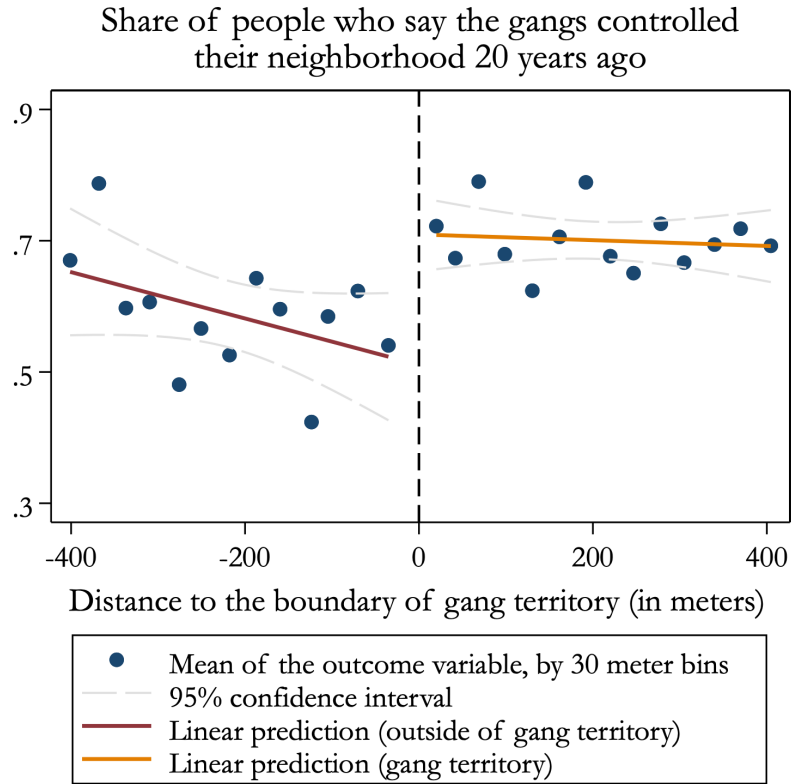
The same framework captures how the crackdowns changed investment incentives in former gang areas. Before the crackdowns, the firm located in the gang area did not adopt the capital-intensive technology because capital investment was exposed to expropriation risk. Once this risk is removed, the adoption of the capital-intensive technology becomes more profitable. In the notation above, this long-run adjustment increases the firm's technology parameter, reducing its marginal costs.

Overall, the theoretical framework generates two testable predictions:

1. In the short run, market integration shifts production of the numeraire good toward the initially more productive firm located in the nongang part of the city.
2. The removal of expropriation risk increases investment by the firm from the former gang area.

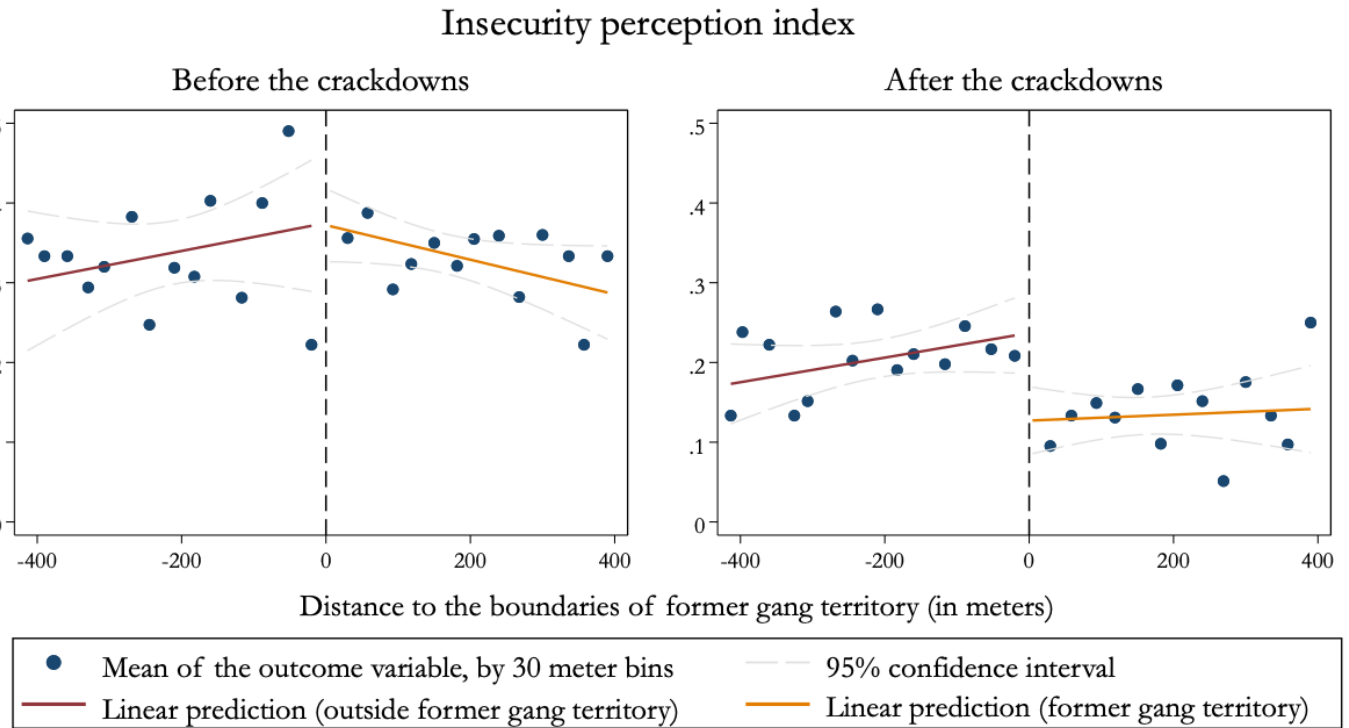
ONLINE APPENDIX FIGURES

Figure A.1: Persistence of Gang Borders



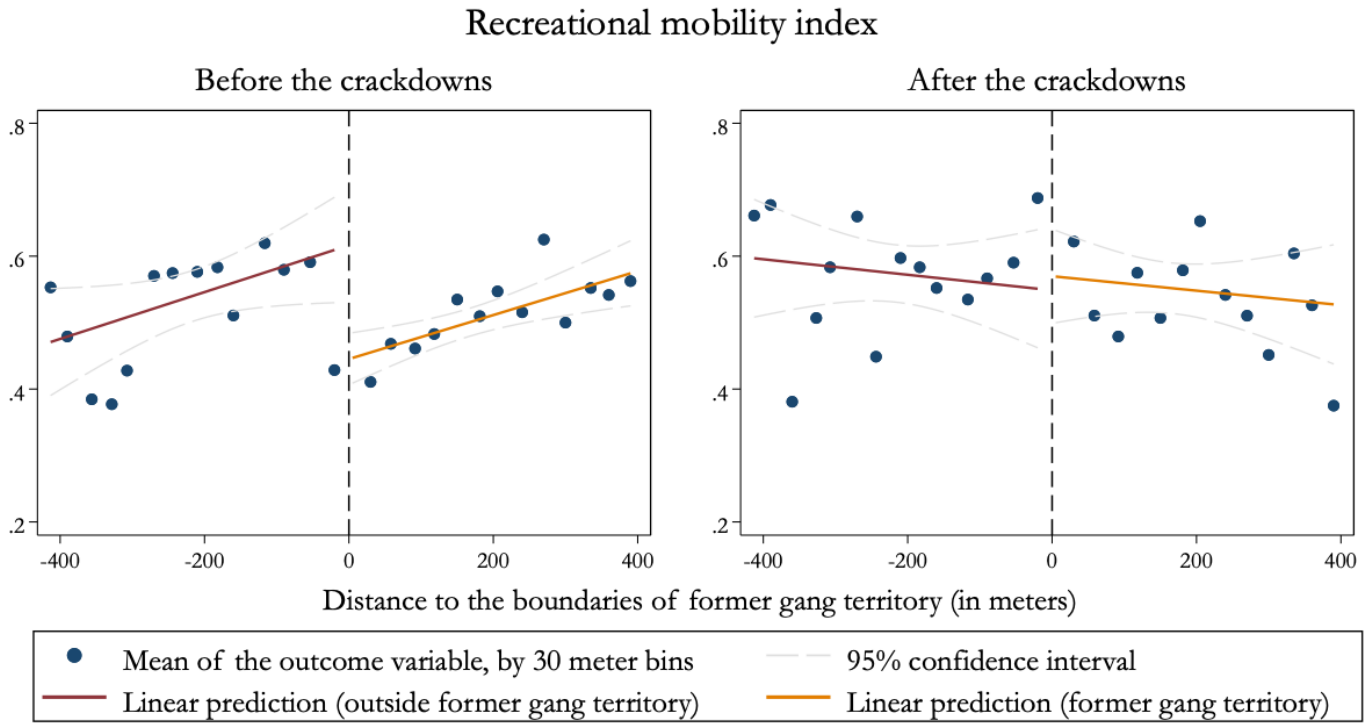
Note: This figure illustrates the stability of gang territorial boundaries. The outcome variable, derived from our 2023 survey, is a binary indicator equal to one if the respondent believes their neighborhood was under gang control twenty years earlier, in the early 2000s. The unit of observation is the individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of former gang territory. Areas to the left of the dashed line lie outside former gang territory, whereas those to the right were previously controlled by gangs. The dots display average values of the outcome variable, by 30-meter bins.

Figure A.2: Insecurity Perceptions, before and after the Crackdowns



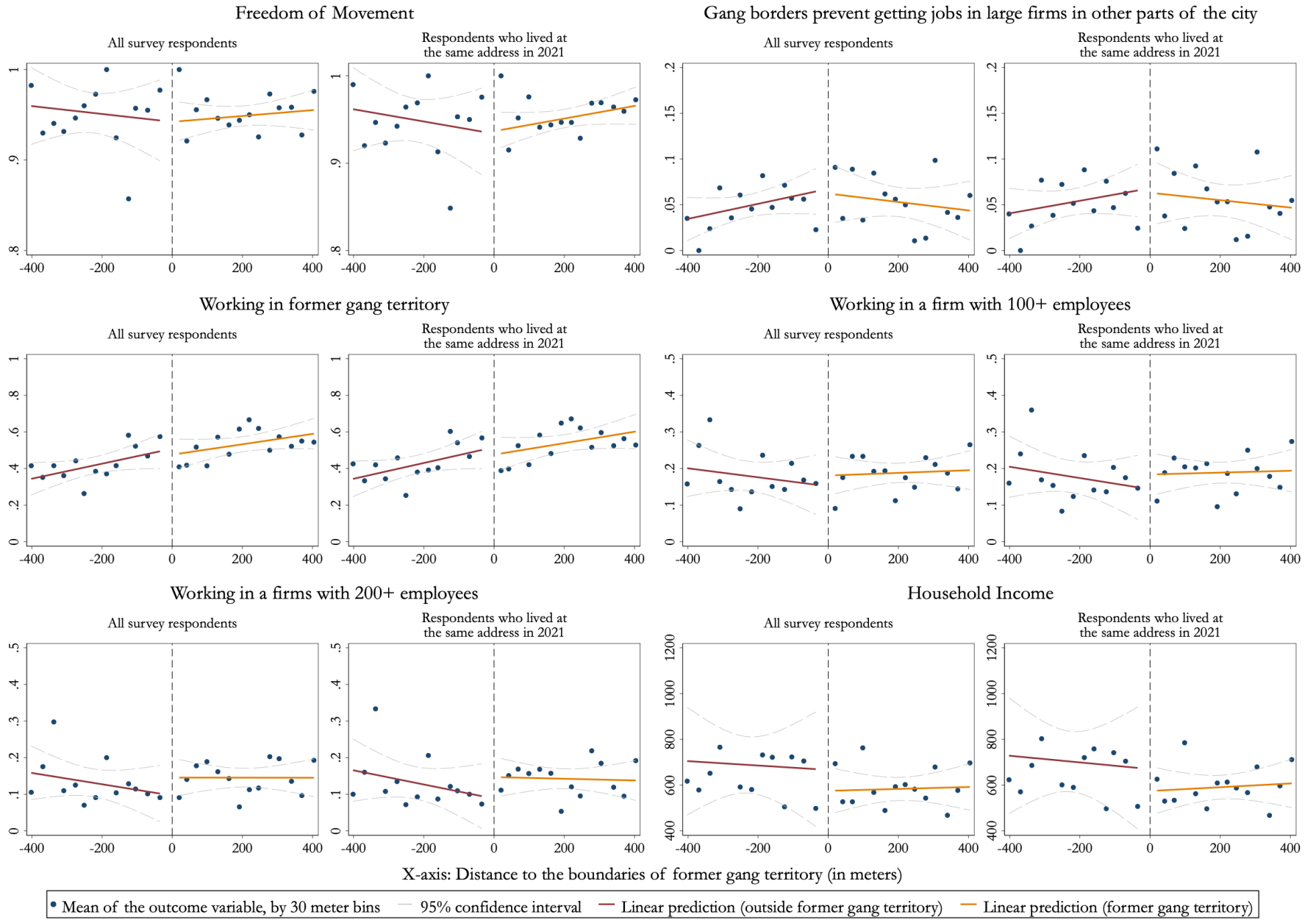
Note: This figure illustrates the results related to individuals' perceptions of insecurity. The outcome variable represents the average of the three outcomes in Panel B of [Table 1](#), before and after the crackdowns. The outcome variables come from *Cómo Vamos* surveys conducted before and after the gang crackdowns. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

Figure A.3: Recreational Mobility, before and after the Crackdowns



Note: This figure illustrates the results related to individuals' recreational mobility. The outcome variable represents the average of the six outcomes in the two top panels of [Table 2](#), before and after the crackdowns. The outcome variables come from *Cómo Vamos* surveys conducted before and after the gang crackdowns. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

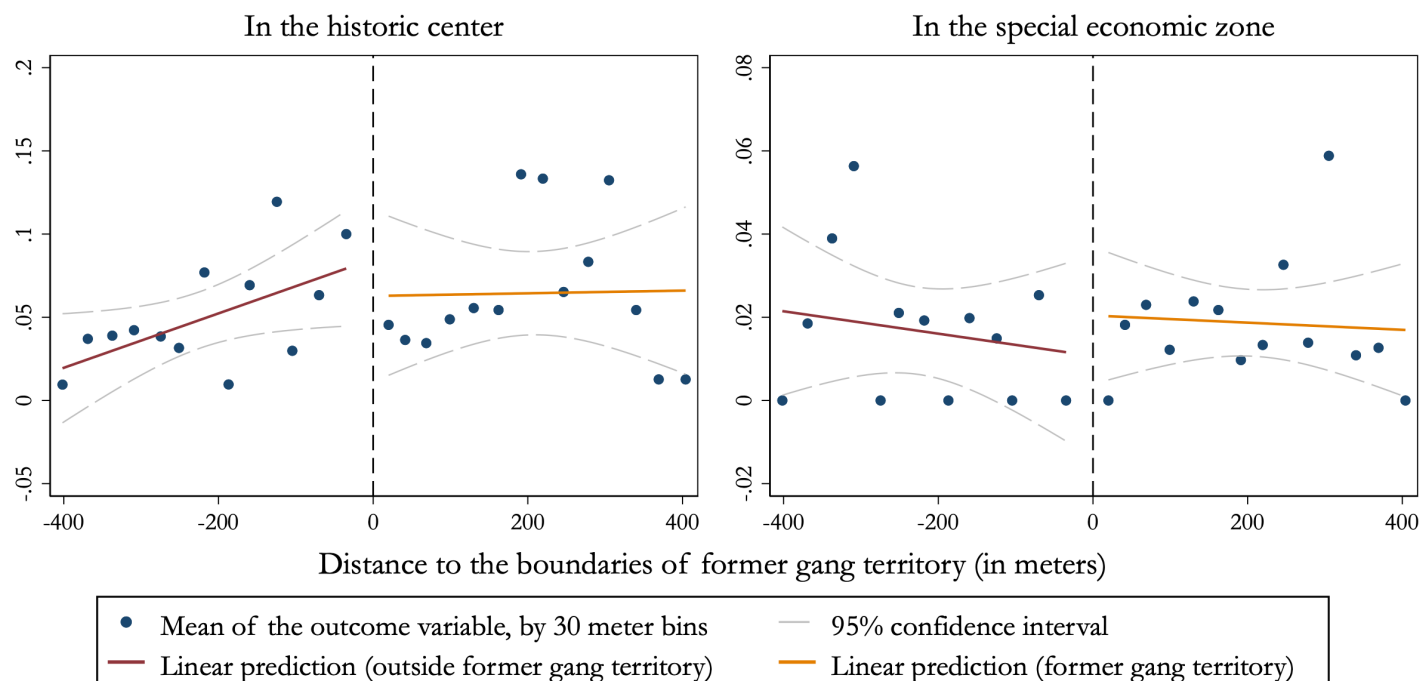
Figure A.4: 2023 survey RD plots, full sample and subsample of nonmovers



Note: The figure presents the regression discontinuity plots for mobility and labor market outcomes from our 2023 survey. For each outcome, the left-side panel presents the plot for the full sample; the right-side panel presents the plot for the subsample of respondents who lived at the same address in 2021. [Table A.II](#) presents the corresponding regression estimates. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

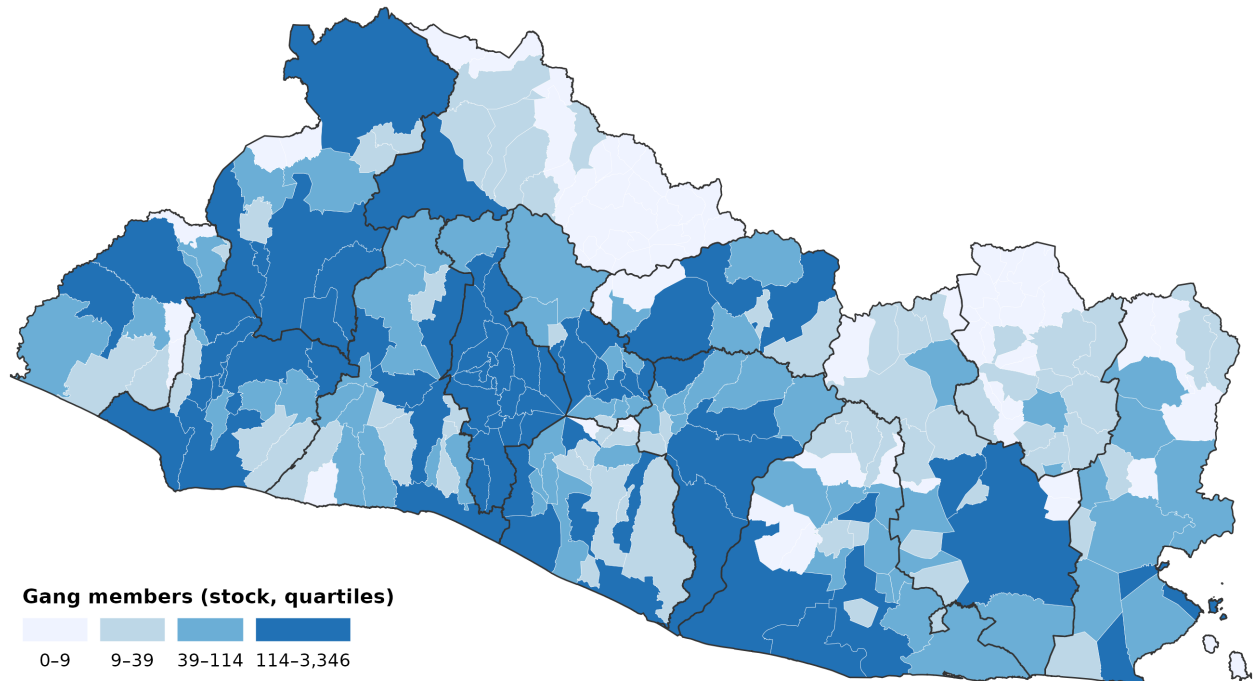
Figure A.5: Share of respondents working in the historic center and special economic zone

Survey respondents who work:



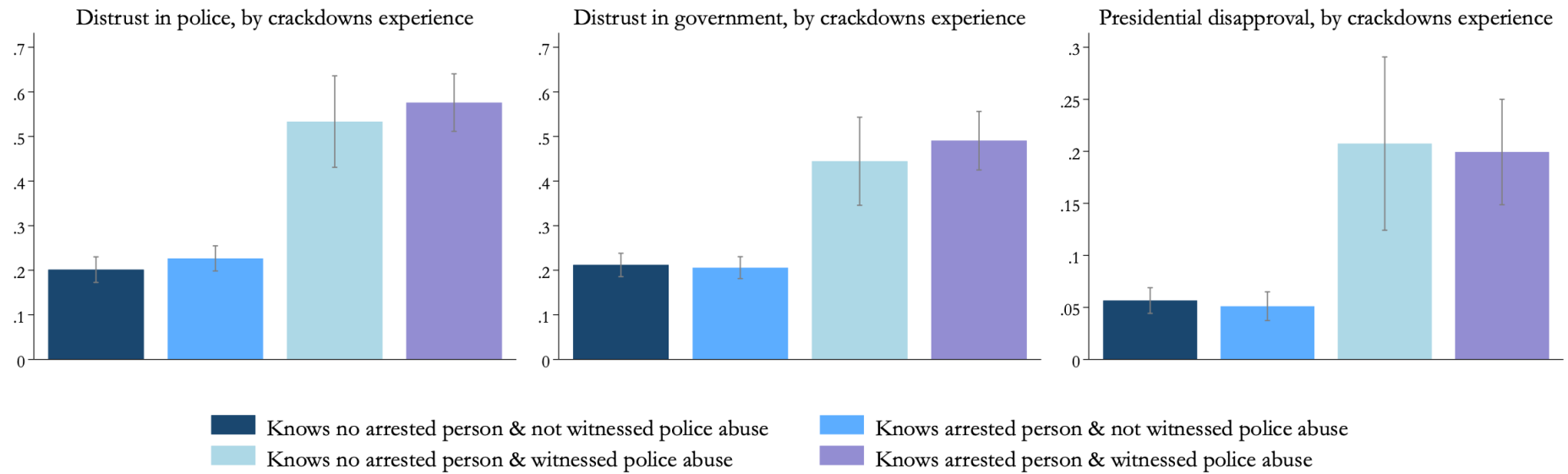
Note: This figure illustrates the results for the probability of working in the historic center and in the special economic zone. The outcome variables come from our 2023 survey. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—distance (in meters) to the boundaries of gang territory. Areas to the left of the dashed line are located outside of former gang territory; areas to the right were formerly controlled by the gangs. The dots represent the averages of the outcome variable, by 30-meter bins.

Figure A.6: Pre-2022 Distribution of Gang Members



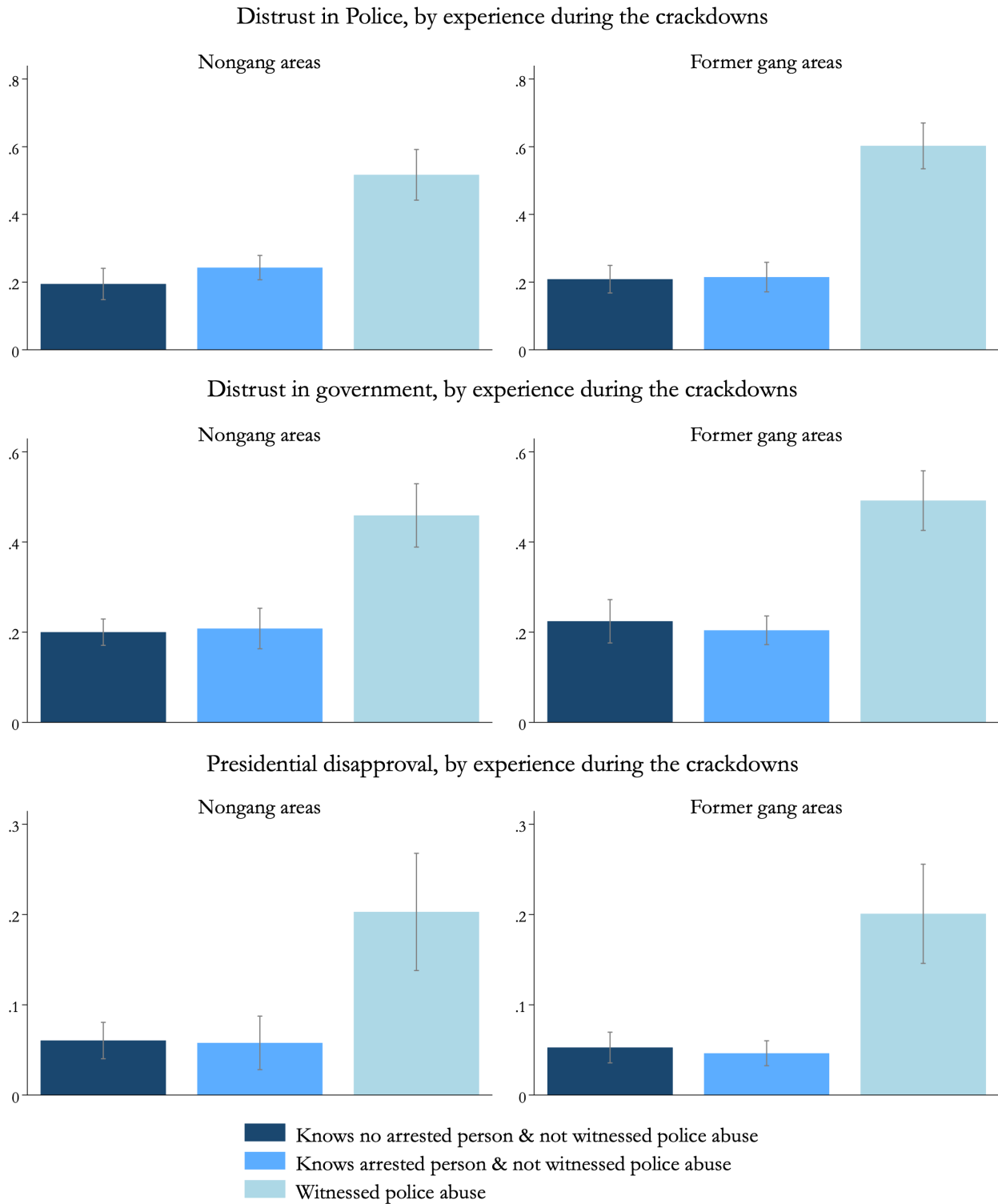
Note: The figure illustrates the distribution of known and suspected gang members across municipalities in El Salvador before the 2022 crackdowns.

Figure A.7: Political views, by detailed crackdowns experience



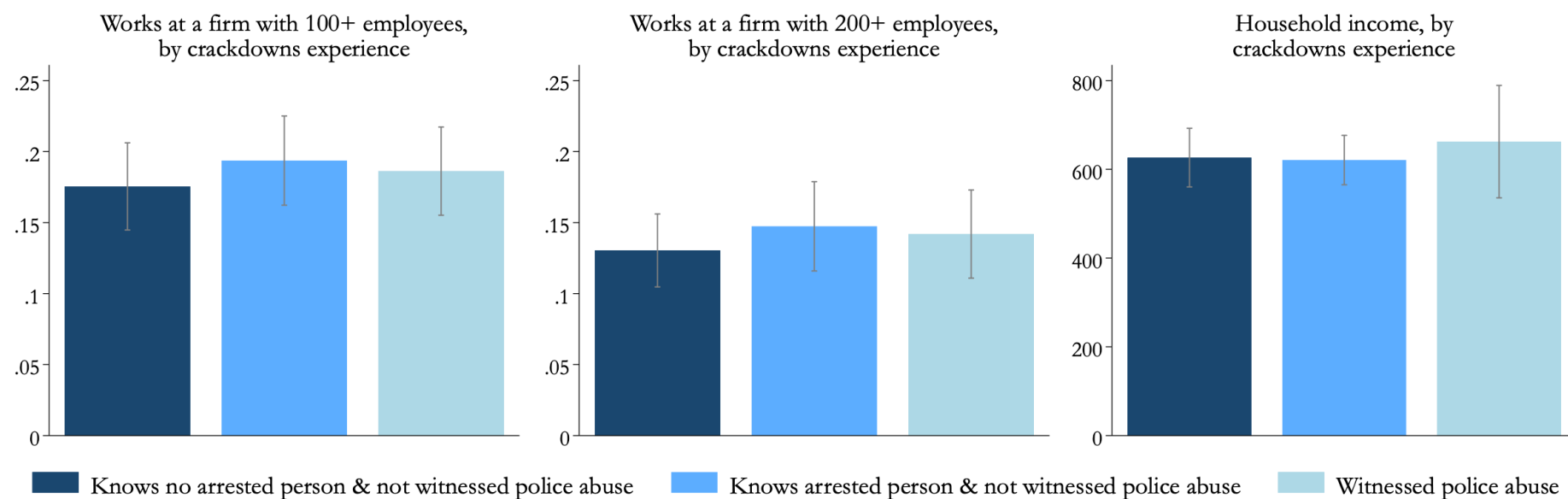
Note: This figure illustrates individuals' political views, by more detailed experience during the crackdowns. The outcome variables come from the survey we conducted in 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—the respondents' experience during the crackdowns.

Figure A.8: Political views, by former gang territory and crackdowns experience



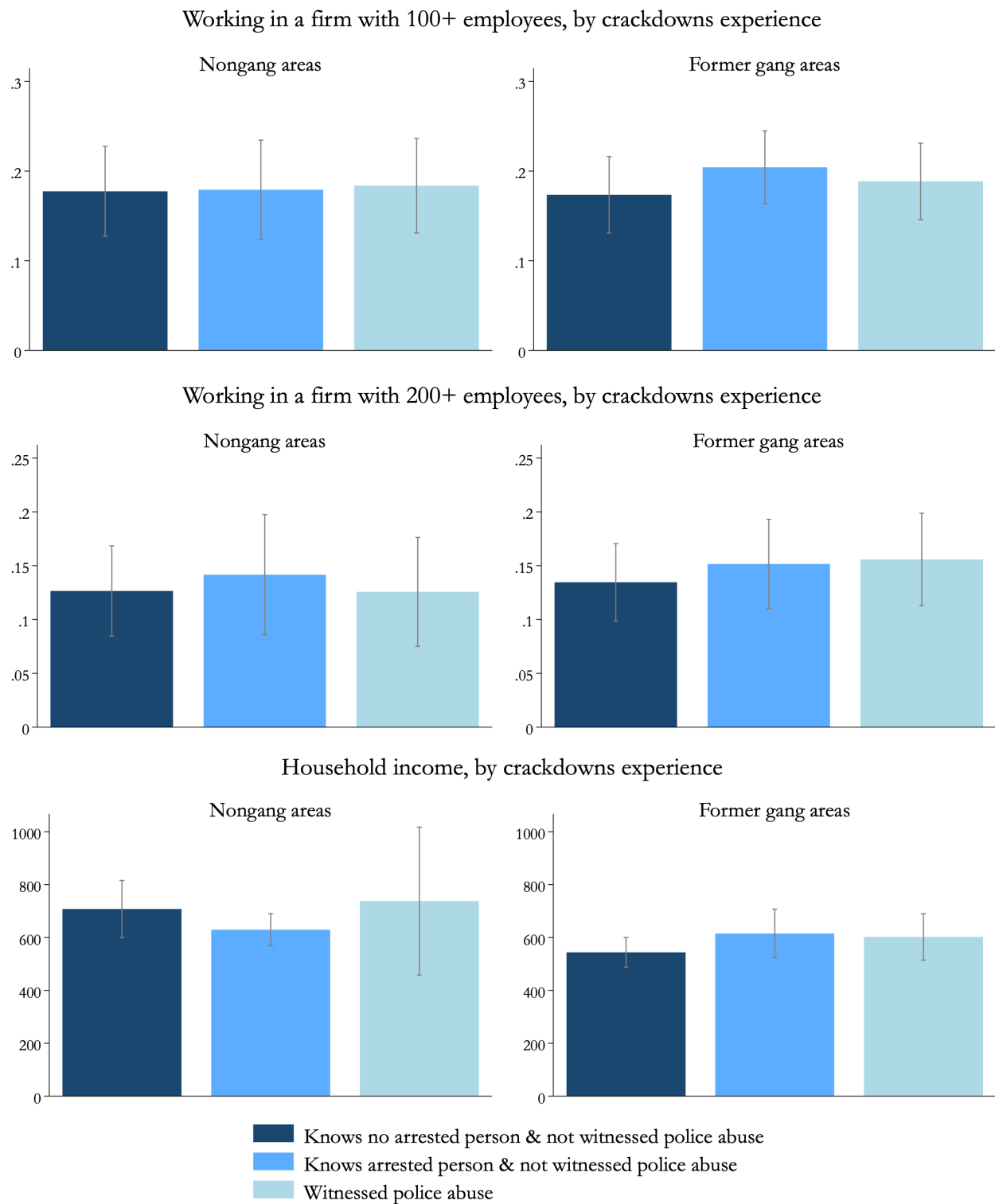
Note: This figure illustrates individuals' political views, by experience during the crackdowns, separately for former gang and nongang areas. The outcome variables come from the survey we conducted in 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—the respondents' experience during the crackdowns.

Figure A.9: Labor market outcomes, by crackdown experience



Note: This figure illustrates individuals' labor market outcomes, by experience during the crackdowns. The outcome variables come from the survey we conducted in 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—the respondents' experience during the crackdowns.

Figure A.10: Labor market outcomes, by former gang territory and crackdowns experience



Note: This figure illustrates individuals' labor market outcomes, by experience during the crackdowns, separately for former gang and nongang areas. The outcome variables come from the survey we conducted in 2023. The unit of observation is an individual. The vertical axis represents the average value of the outcome variable; the horizontal axis—the respondents' experience during the crackdowns.

ONLINE APPENDIX TABLES

Table A.I: Migration and Migration Intentions

	(1)	(2)	(3)	(4)	(5)
	Has lived in the same place since 2021	Has household member abroad	Household member migrated abroad in past 6 months	Considered moving abroad in past 6 months	Desire to migrate not increased since crackdowns
Former gang neighborhood	0.005 (0.016)	-0.019 (0.048)	0.023 (0.034)	-0.015 (0.034)	0.007 (0.025)
Mean dep. var	0.898	0.268	0.096	0.201	0.916
Observations	2,315	2,315	2,315	2,315	2,313

Note: This table presents the results of estimating Specification (1) for the outcome variables related to migration and migration intentions. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** p<0.01, ** p<0.05, * p<0.1.

Table A.II: Subsample: Respondents with same address in 2021

	(1)	(2)	(3)	(4)	(5)	(6)
	Freedom of movement where you live		Gang borders prevent you from getting jobs in large firms in other parts of the city		Works in former gang territory	
	All	Nonmovers	All	Nonmovers	All	Nonmovers
Former gang neighborhood	0.002 (0.026)	0.006 (0.028)	-0.004 (0.018)	-0.004 (0.020)	-0.035 (0.054)	-0.043 (0.062)
Mean dep. var	0.950	0.950	0.051	0.054	0.480	0.485
Observations	2,315	2,079	2,313	2,078	2,200	1,977
	(7)	(8)	(9)	(10)	(11)	(12)
	Works in a firm with ≥ 100 employees		Works in a firm with ≥ 200 employees		Household income	
	All	Nonmovers	All	Nonmovers	All	Nonmovers
Former gang neighborhood	0.030 (0.034)	0.039 (0.034)	0.048 (0.031)	0.057 (0.034)	-98.293 (74.666)	-102.284 (80.009)
Mean dep. var	0.184	0.184	0.139	0.137	631.5	642.0
Observations	2,315	2,079	2,315	2,079	2,133	1,910

Note: The table presents the results of estimating Specification (1) for outcomes related to individuals' mobility and labor market conditions, separately for the full sample and the subsample of respondents who lived at the same address at the end of 2021. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Columns 1 and 4 correspond to Columns 14 and 18 of Table 2; Columns 6, 8, 10, and 12 correspond to Columns 2, 6, 8, and 10 of Table 3. For each outcome, odd columns present estimates for the full sample of survey respondents, and even columns restrict the sample to individuals who lived at the same address at the end of 2021, before the 2022 crackdowns. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.III: Excluding the historic center and the special economic zone

	(1)	(2)	(3)	(4)	(5)	(6)
	Freedom of movement where you live	Gang borders prevent you from getting jobs in large firms in other parts of the city	Works in former gang territory	Works in a firm with ≥ 100 employees	Works in a firm with ≥ 200 employees	Household income
	2023	2023	2023	2023	2023	2023
<i>Panel A: Excluding respondents who live in the historic center</i>						
Former gang neighborhood	0.001 (0.026)	-0.005 (0.018)	-0.041 (0.054)	0.029 (0.034)	0.049 (0.031)	-100.822 (74.383)
Mean dep. var	0.951	0.051	0.479	0.185	0.139	636.2
Observations	2,243	2,241	2,129	2,243	2,243	2,065
<i>Panel B: Excluding respondents who work in the historic center</i>						
Former gang neighborhood	0.003 (0.028)	-0.011 (0.018)	-0.028 (0.050)	0.022 (0.035)	0.039 (0.031)	-111.243 (74.819)
Mean dep. var	0.952	0.052	0.455	0.186	0.141	638.5
Observations	2,190	2,188	2,075	2,190	2,190	2,015
<i>Panel C: Excluding respondents who live in the special economic zone</i>						
Former gang neighborhood	0.002 (0.026)	-0.005 (0.018)	-0.035 (0.054)	0.029 (0.034)	0.048 (0.031)	-97.762 (74.692)
Mean dep. var	0.950	0.050	0.480	0.184	0.138	632.2
Observations	2,305	2,303	2,191	2,305	2,305	2,126
<i>Panel D: Excluding respondents who work in the special economic zone</i>						
Former gang neighborhood	0.007 (0.026)	-0.007 (0.018)	-0.050 (0.055)	0.027 (0.035)	0.046 (0.031)	-103.145 (76.775)
Mean dep. var	0.951	0.051	0.474	0.184	0.138	633.2
Observations	2,276	2,274	2,161	2,276	2,276	2,096

Note: The table presents the results of estimating Specification (1) for outcomes related to individuals' mobility and labor market conditions, after excluding survey respondents who live or work in the historic center or in the special economic zone. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Columns 1 and 2 correspond to Columns 14 and 18 of Table 2; Columns 3–6 correspond to Columns 2, 6, 8, and 10 of Table 3. Panels A and B, respectively, exclude respondents who live and work in the historic center; Panels C and D, respectively, exclude respondents who live and work in the special economic zone. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.IV: Excluding Observations Close to the RD Threshold and Income Outliers

	(1)	(2)	(3)	(4)	(5)	(6)
	Freedom of movement where you live	Gang borders prevent you from getting jobs in large firms in other parts of the city	Works in former gang territory	Works in a firm with ≥ 100 employees	Works in a firm with ≥ 200 employees	Household income
	2023	2023	2023	2023	2023	2023
<i>Panel A: Excluding observations within 100 meters of the boundaries of former gang territory</i>						
Former gang neighborhood	0.006 (0.045)	-0.022 (0.025)	0.101 (0.084)	0.026 (0.059)	0.036 (0.061)	-103.745 (110.804)
Mean dep. var	0.950	0.051	0.481	0.181	0.137	632.3
Observations	1,856	1,854	1,772	1,856	1,856	1,702
<i>Panel B: Excluding observations in the top 10% of household income</i>						
Former gang neighborhood	-0.001 (0.025)	-0.006 (0.020)	-0.043 (0.054)	0.015 (0.033)	0.038 (0.034)	-19.992 (41.187)
Mean dep. var	0.948	0.054	0.490	0.173	0.129	460.0
Observations	2,105	2,103	1,998	2,105	2,105	1,923

Note: The table presents the results of estimating Specification (1) for outcomes related to individuals' mobility and labor market conditions, after excluding potential outliers. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Columns 1 and 2 correspond to Columns 14 and 18 of Table 2; Columns 3–6 correspond to Columns 2, 6, 8, and 10 of Table 3. Panel A excludes observations within 100 meters of the boundaries of former gang territory. Panel B excludes the top 10% of the observations with the highest household income. Respondents with missing household income are included in the estimation sample. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.V: Estimating the Effects Separately for MS-13 and 18th Street

	(1)	(2)	(3)	(4)	(5)	(6)
	Freedom of movement where you live	Gang borders prevent you from getting jobs in large firms in other parts of the city	Works in former gang territory	Works in a firm with ≥ 100 employees	Works in a firm with ≥ 200 employees	Household income
	2023	2023	2023	2023	2023	2023
Former MS-13 neighborhood	-0.001 (0.026)	-0.002 (0.019)	-0.042 (0.067)	0.053 (0.045)	0.060 (0.036)	-75.348 (86.301)
Former 18th Street neighborhood	0.004 (0.027)	-0.005 (0.019)	-0.032 (0.053)	0.018 (0.034)	0.043 (0.031)	-109.725 (71.352)
Mean dep. var	0.950	0.051	0.480	0.184	0.139	631.5
Observations	2,315	2,313	2,200	2,315	2,315	2,133

Note: The table presents the results of estimating Specification (1) with the indicator for former gang territory replaced by separate indicators for areas formerly controlled by MS-13 and by 18th Street (Barrio 18). The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Columns 1 and 2 correspond to Columns 14 and 18 of Table 2; Columns 3–6 correspond to Columns 2, 6, 8, and 10 of Table 3. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.VI: Estimating the Effects Separately for Men and Women

	(1)	(2)	(3)	(4)	(5)
	Freedom of movement where you live	Gang borders prevent you from getting jobs in large firms in other parts of the city	Works in former gang territory	Works in a firm with ≥ 100 employees	Works in a firm with ≥ 200 employees
	2023	2023	2023	2023	2023
Former gang neighborhood $\times$					
$\times$ Men	0.008 (0.026)	-0.015 (0.020)	-0.038 (0.061)	0.049 (0.035)	0.057 (0.034)
$\times$ Women	-0.002 (0.028)	0.005 (0.021)	-0.035 (0.058)	0.007 (0.040)	0.035 (0.033)
Mean dep. var	0.950	0.051	0.480	0.184	0.139
Observations	2,315	2,313	2,200	2,315	2,315

Note: The table presents the results of estimating Specification (1) separately for men and women. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. Columns 1 and 2 correspond to Columns 14 and 18 of Table 2; Columns 3–5 correspond to Columns 2, 6, 8, and 10 of Table 3. The coefficients for men and women are obtained by interacting gender with the indicator for former gang territory, additionally controlling for the direct effects of gender on all the respondents. Other omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.VII: Policy Preferences

	(1)	(2)	(3)	(4)	(5)	(6)
	Employment opportunities among top 3 problems		Inequality & vulnerability among top 3 problems		No major problems facing the country	
	2021	2022	2021	2022	2021	2022
Former gang neighborhood	0.048 (0.062)	-0.120** (0.056)	-0.019 (0.062)	0.104* (0.060)	0.001 (0.010)	0.025** (0.011)
Mean dep. var	0.517	0.428	0.623	0.618	0.007	0.018
Observations	848	880	848	880	848	880

Note: This table presents the results of estimating Specification (1) for the outcome variables related to individuals' policy preferences. The unit of observation is an individual. The outcome variables come from the Cómo Vamos surveys conducted before and after the gang crackdowns. Omitted controls include a linear trend in distance to the boundaries of former gang territory, separately for locations on each side of the boundaries. Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** p<0.01, ** p<0.05, * p<0.1.

Table A.VIII: Political views and labor market outcomes, by crackdown experience

	(1)	(2)	(3)	(4)	(5)	(6)
	Distrust in police	Distrust in government	Presidential disapproval	Works in a firm with ≥ 100 employees	Works in a firm with ≥ 200 employees	Household income
	2023	2023	2023	2023	2023	2023
Knows arrested person & not witnessed police abuse	0.025 (0.016)	-0.006 (0.016)	-0.005 (0.008)	0.018 (0.019)	0.017 (0.016)	-5.448 (40.783)
Witnessed police abuse	0.362*** (0.025)	0.265*** (0.027)	0.145*** (0.019)	0.011 (0.017)	0.012 (0.016)	36.004 (45.164)
Mean dep. var	0.281	0.261	0.083	0.184	0.139	631.5
Observations	2,315	2,315	2,315	2,315	2,315	2,133

Note: The table presents the relationship between respondents' experience during the 2022 crackdowns and their political views and labor market outcomes. The omitted baseline category consists of respondents who neither know anyone who has been arrested during the crackdowns nor witnessed police abuse. The unit of observation is an individual. The outcome variables come from the survey we conducted in 2023. The relationships in Columns 1–3 are illustrated in [Figure 10](#); the relationships in Columns 4–6 are illustrated in [Figure A.9](#). Standard errors in parentheses are clustered by 30-meter bins, denoting the distance to the boundaries of former gang territory (separately for each side of the boundaries). *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.