Crime in the time of covid-19

How Colombian gangs responded to the pandemic

Christopher Blattman
David Cerero
Gustavo Duncan
Sebastian Hernandez
Benjamin Lessing
Juan Felipe Martinez
Juan Pablo Mesa-Mejía
Helena Montoya
Santiago Tobon

Innovations for Poverty Action -
Universidad de Chicago - Universidad EAFIT

About the covid-19 essay series

In response to the covid-19 global pandemic, the EDI programme commissioned a series of essays written by EDI researchers. Essays highlight the relevance of EDI research to the covid-19 crisis, in many cases referring to ongoing EDI research. They illustrate how an understanding of the relationship between institutions and economic development might help to gauge the impact of the crisis and to formulate a response. For more information, please visit: www.edi.opml.co.uk

EDI publications represent the views of the authors, and are not necessarily held or endorsed by the programme or its partner organizations.
Crime in the time of COVID-19. How Colombian gangs responded to the pandemic

Christopher Blattman  David Cerero  Gustavo Duncan  Sebastian Hernandez
Benjamin Lessing  Juan F. Martínez  Juan Pablo Mesa-Mejía  Helena Montoya
Santiago Tobón

Innovations for Poverty Action – The University of Chicago – Universidad EAFIT

September 2020

Funded by:

For research assistance we thank Angie Mondragón, Maria A. Rodríguez-Uribe and Sofía Jaramillo from Innovations for Poverty Action; Peter Deffebach and Zachary Tausanovitch from The University of Chicago; and Nelson Matta Colorado from the newspaper El Colombiano. For support on implementing the project and providing access to information we thank the Secretaría de Seguridad y Convivencia of the Medellín Mayor’s Office, the Instituto Nacional Penitenciario y Carcelario (INPEC) and the Ministerio de Justicia of the Colombia Government. Funding for this project was provided by the UK Foreign, Commonwealth & Development Office, awarded through the Crime and Violence Initiative at J-PAL; the UK aid from the UK Government, awarded through Economic Development and Institutions (EDI) (Oxford Policy Management, University of Namur, Paris School of Economics, and Aide à la Décision Économique working in partnership); and the National Science Foundation (NSF), awarded through the University of Chicago.
Executive Summary

Since the COVID-19 outbreak, scholars and journalists have spread anecdotes of gangs and criminal organizations coming to the aid of citizens, governing in place of the state. They report gang activities that range from enforcing lockdowns to providing goods and services to the poor and hungry. This is especially true in Latin America where thousands of gangs exert authority over civilians in large swaths of territory. Some argue that organized crime is stepping in where states have failed, seizing the chance to consolidate its position.\(^2\)

But just how widespread is the kind of gang involvement that captures headlines? Are these anecdotes typical of how gangs are responding to COVID-19? Only systematic data can answer these questions and help assess whether the pandemic will ultimately strengthen organized crime’s grip on Latin American cities.

We have spent four years studying criminal groups in Medellín, Colombia, a city with one of the highest concentrations of organized criminals in the world. If gangs respond to COVID-19 anywhere, it should be Medellín. Almost every low- and middle-income neighborhood in the city has a local gang that resolves disputes, polices the community, and often taxes businesses. As soon as the pandemic broke out, anecdotes about gang responses surfaced in Medellín. We set out to collect systematic data on gang and state governance before and during the pandemic.

Despite the headlines, gang involvement in pandemic response is exceptional and mostly idiosyncratic. Surveying every low- and middle-income neighborhood in Medellín, we find:

- Most welfare support to civilians came from state authorities rather than the gangs.
- Overall, state authorities played by far the largest role in enforcing quarantine rules.
- A small number of gangs, however, were highly involved in providing welfare and enforcing quarantine rules in their territories.
- These rare gang pandemic responses were relatively idiosyncratic. Whereas normal pre-pandemic gang rule is associated with a range of neighborhood characteristics, pandemic gang rule is not. Moreover, gang enforcement of pandemic lockdown or provision of services is almost uncorrelated with pre-pandemic levels of gang rule. We speculate that personal choices of the gangs and their leaders may have dominated in the first weeks of COVID-19.

1. Context

After five decades of civil war and drug trafficking conflicts, Colombia has made significant improvements in security across the country.\(^3\) However, urban gangs remain a threat to state authority in poor and historically underserved areas. In Medellín, Colombia’s second largest city,

\(^2\) For more information on this, see reports from The Economist and Insight Crime.
\(^3\) For more information see this report.
gangs established their power and control in response to a historic lack of government presence and services, as well as the city’s geographic significance to drug trade routes.

Today, a majority of poor and middle-income neighborhoods in Medellín are governed to varying degrees by criminal gangs. There are roughly 350 local youth gangs called combos, managed, and controlled by larger, mafia-like organizations called razones. In their neighborhoods, both the state and combos provide services such as resolving disputes, enforcing contracts, policing, and preventing crime, managing markets, and taxing businesses. Combos also monopolize local illegal markets, especially retail drug sales, prostitution, and loansharking.

In Medellín’s urban core, the state is relatively strong and well-organized, and the city government provides a variety of public services to all corners of the city. However, in certain areas of the city’s peripheries, state presence is weak and gang rule is relatively strong.

Prior to the outbreak of COVID-19, we measured and mapped this gang rule, as part of a broader project on understanding and countering gang rule. We first qualitatively interviewed dozens of gang leaders and members, as well as hundreds of citizens and community leaders. Then, between October and December 2019, we systematically measured the extent and perceived legitimacy of combo rule relative to state governance, using a representative survey at the neighborhood level.

Figure 1 presents some of the results of this survey: citizens’ perceptions of how responsive the local combo is to their requests compared to the state. All of the highlighted neighborhoods have some gang presence. As the figure makes clear, though, how intensively gangs choose to govern varies enormously. In blue areas, citizens found the state far more responsive; in red, the gangs.

In neighborhoods in the north-east, center-east, and extreme west of Medellín, combos are the dominant service providers. These are some of the poorest neighborhoods of the city, and those to the far east and west are also typically steeply sloped hillside settlements. The state has made efforts to provide services there (e.g., cable cars connecting hilltops to the Metro and other services below) but these are also areas with historically poorer policing, less infrastructure, and they remain more distant in travel time from many municipal services.

---

4 A working paper will be available in Fall 2020, by professors Christopher Blattman and Benjamin Lessing from the University of Chicago, and Gustavo Duncan and Santiago Tobón from EAFIT University. That paper describes the broader nature and reasons for gang rule, its determinants, and studies an experiment designed to counter gang rule.
Figure 1: Criminal Governance Survey, state governance (relative to combo governance)

Source: self-made

Note: Shaded regions correspond to neighborhoods sampled in our Criminal Governance Survey. The colors reflect the values of the Relative State Governance Index for each neighborhood. The warmer colors (range of reds) indicate the neighborhoods where the index values are higher (the combo governs more than the state) and the cold colors (range of blues) indicate neighborhoods where the index values are lower (the state governs more than the combo).
Table 1: Criminal Governance Survey, pre-pandemic governance situations

<table>
<thead>
<tr>
<th>No.</th>
<th>Households</th>
<th>Businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Someone refuses to pay a big debt</td>
<td>Someone does not want to pay a debt</td>
</tr>
<tr>
<td>2</td>
<td>There is domestic violence</td>
<td>Businesses in this sector are robbed</td>
</tr>
<tr>
<td>3</td>
<td>Two drunks fight on the street</td>
<td>Someone disturbs a business</td>
</tr>
<tr>
<td>4</td>
<td>Kids fight on the street</td>
<td>It is necessary to prevent a theft</td>
</tr>
<tr>
<td>5</td>
<td>Someone does home improvements that affects neighbor</td>
<td>You have to react to a robbery</td>
</tr>
<tr>
<td>6</td>
<td>Someone is making noise and neighbors can’t sleep</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Someone is smoking marijuana near children</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Someone is mugged on the street</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>A car or motorbike is stolen</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Someone is threatening someone else</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>It is necessary to prevent a theft</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>You have to react to a robbery</td>
<td></td>
</tr>
</tbody>
</table>

Source: self-made

We also collected data on gangs’ involvement in aspects of day-to-day life in their communities, which are shown in Table 1 (and summarized in a “Combo Governance Index”), as well as how civilians perceive them (summarized in a “Combo Legitimacy Index”). Not surprisingly, these dimensions are positively correlated, with higher-governing gangs perceived as more legitimate, as shown in Figure 2.

Figure 2: Criminal Governance Survey, relationship between pre-pandemic combo governance and combo legitimacy

Source: self-made
1.1. The pandemic in Colombia

We can think of gang rule as a “pre-existing condition” in many Latin American cities, including Medellin. It has troubled officials and the public for years but takes on increased importance with the onset of the COVID-19 pandemic. As in other parts of Latin America and indeed the world, journalists in Medellín have documented gang responses to COVID-19, including distribution of hand sanitizers, food, and medicines, as well as gang-mandated curfews. Examples include El Universo, Revista Semana, The Telegraph and Caracol Radio Medellín.

In terms of the pandemic, Colombia has been among the top-5 most affected countries in Latin America, with 800 cases per 100,000 people.\(^5\) In Medellín there have been 37,049 reported cases, which several academics estimate that would put about 40% of the total workforce at risk of unemployment and could cause an increase in the percentage of poor households, from 5.7 to 20 percent.\(^6\)

2. Research approach

In April 2020, four weeks after a government-mandated lockdown in Medellin, we conducted phone interviews with community leaders in every low- and middle-income neighborhood in Medellin. Note that all these neighborhoods have a strong combo presence, and all these combos govern in normal times to some degree.

We interviewed roughly 4 leaders per neighborhood, asking questions about: lockdown enforcement, citizen compliance, provision of services from the government and combo members, changes in supply and prices of basic goods, changes in illegal gang activities, such as extortion and drug retailing, and changes in crime and security perceptions. We also conducted 32 qualitative interviews to community leaders and extracted open ended commentaries from our survey respondents.

From the responses to these questions, we created indices of COVID-19-related governance, one by the state and one by the combos. These indices measure each actor’s respective degree of participation in 1) enforcing social distancing and related quarantine measures (“lockdown enforcement”) and 2) provision of information, emergency relief and welfare, and other services (“service provision”). Respondents provided the frequency of intervention of state and gang response in a variety of situations, which we scaled from 0 to 1 (0=Never, 0.33=Occasionally, 0.66=Frequently, 1=Always).

We also merged our data with other sources of information. These additional data include our governance and legitimacy measures of “normal” pre-pandemic gang and state rule, as well as administrative data for neighborhood demographics, socioeconomic status and geographic characteristics.

\(^5\) According to the Coronavirus Impact Dashboard of the Interamerican Development Bank
\(^6\) See full document here.
3. Main findings

3.1. Most information, services, and welfare provision came from the state, not gangs

During the quarantine, community leaders reported greater services from police and municipal officials than criminal groups. As Figure 3 reveals, although state and gang involvement in coordinating assistance and quarantine measures is modest, the state outperforms combos.

Combos outperformed state officials on only one dimension: helping elderly and people with disabilities in their daily tasks (though note that neither the state nor the gang did this very often). State officials, in turn, excelled at providing information to prevent the spread of the disease.

All of the neighborhoods in our sample have an active combo, strong enough to provide at least some governance (according to our pre-pandemic survey), so the generally weak provision of COVID-19-related services is not driven by the absence of gangs.

Supporting these quantitative results, qualitative evidence from our interviews overwhelmingly suggests that gangs have been passive during the pandemic, or at most made small adjustments to the ways they perform illegal activities. Typical interview responses include:

“The members of gangs have done nothing, really the guys in the combo have not been seen.” (COVID-19 Survey, 2020)

“Illegal groups have not been seen much in the territory, nor have they sent messages to the community in the face of this coronavirus emergency.” (COVID-19 Survey, 2020)

“They have been very quiet and passive with the situation, many of them come from very poor families so they are surely struggling to focus on themselves and their families.” (COVID-19 Survey, 2020)
3.2. The authorities also played a larger role than gangs in lockdown enforcement

The state was also more likely to actively enforce social-distancing, quarantine, and lockdown rules than combos. We asked how frequently citizens failed to comply with different measures, and how likely it was for either the state or the local combo to intervene when each violation happened. Examples include: crowds of people in stores, parties, lack of mask-wearing, and businesses failing to check customers’ identification cards to see if they were allowed to circulate that day (a restriction called “pico y cédula”\(^7\)). Overall, in situations of noncompliance, the state was reported to be the main enforcer of the quarantine.

---

\(^7\) A government-imposed measure to reduce congestion on the streets, in which individuals can only go out to run errands on certain days, determined by the last digit of their ID (cédula).
Community leaders reported that police and municipal officials intervened more frequently in all “violation” situations, whereas combos intervened only rarely across situations. A partial exception is price gouging by stores and pharmacies, though even there, state involvement appears significantly more common.

Again, qualitative evidence reinforces the idea that police and municipal officials were primary in enforcing the lockdown rules, as in the following examples:

“The police have been very vigilant, the helicopter is always passing [overhead] reminding people that they must be in their houses, those of the quadrant make people enter and they have made appeals. We have a very good relationship with the quadrant officers, they have helped us a lot, they even brought yogurt and milk for the children.” (COVID-19 Survey, 2020)

“There are very few Police officers for such large neighborhoods, but when they see people on the street they automatically scold them and make them enter their houses and if they do not obey they make them a summons.” (COVID-19 Survey, 2020)
“They [combo members] have not been around, they allow officials to articulate to reach vulnerable places without Territorial problems, to help them collectively.” (COVID-19 Survey, 2020)

“The [police] helicopter also passed by warning that they are going to issue fines and even jail anyone on the street.” (COVID-19 Survey, 2020)

3.3. A small number of gangs were highly involved in providing COVID-19-related welfare services and enforcing quarantine rules

Citywide averages hide substantial variation. While combo enforcement of lockdown is low on average, Figure 5 reveals that a handful of neighborhoods (darkly shaded) have higher levels of combo lockdown enforcement. (Recall that 0.33=rarely and 0.66=sometimes, and so even these areas of “high” combo involvement indicates a relatively limited role for organized crime.)

Figure 5: COVID-19 Survey, combo lockdown enforcement

Source: self-made

Note: Shaded regions correspond to neighborhoods sampled in our Criminal Governance Survey. The colors reflect the values of the Combo Lockdown Enforcement Index for each neighborhood. The darker reds indicate the neighborhoods where the index values are higher (the combo enforced the lockdown rules more).
Figure 6 shows the activities in which combos exerted enforcement of pandemic rules, comparing the neighborhoods by those above and below the median of our Combo Enforcement Index. The combos that enforce quarantine rules the most, principally do it by controlling business and pharmacy’s prices and by ensuring that people follow stay-home orders based on ID-number (‘pico y cédula’).

Note that the highest quartile of combo involvement is consistent with “rare” combo involvement, about 0.33. In contrast, the highest quartile of state involvement is 0.58.

**Figure 6: COVID-19 Survey, Combo Lockdown Enforcement Index, above and below the median**

Similarly, Figure 7 shows the type of assistance that was provided by the combos that intervened the most and the least according to the Combo COVID-19 Governance Index. When combos do intervene, they seem to work more on providing help to elderly, medical assistance for those in need and helping spread some information about the virus.

Qualitative evidence supporting the idea of gangs providing support to the community is quite scarce (consistent with its overall rarity). Nonetheless, a few examples, specially from our open-ended survey answers, suggest that when gang intervenes, they help on the activities stressed above:
“They [members of the combo] were giving groceries to the poorest families from where they stay [central location of the combo], where they have the places.” (COVID-19 Survey, 2020)

“They are the ones that deliver the groceries and the aid given by organizations.” (COVID-19 Survey, 2020)

“They have been aware and are very aware of the grandparents.” (COVID-19 Survey, 2020)

Figure 7: COVID-19 Survey, Combo COVID-19-related Governance Index, above and below the median

3.4. Surprisingly, pre-pandemic gang rule does not predict gang pandemic responses

We regressed our main COVID-19 gang governance indexes on pre-pandemic governance and legitimacy measures as well as on neighborhood characteristics. Table 3 reports results in standard deviation (SD) terms, where the estimate indicates the SD change in the outcome when there is a 1 SD change in the covariate. (For comparison, we also regress our 2019 survey
outcomes on neighborhood characteristics to see if predictors of governance are consistent before and during the pandemic, in Appendix Table A2.)

To our surprise, we see little correlation between gang’s pre-pandemic and pandemic pandemic-specific governance. Although pandemic responses of combo are positively correlated with pre-pandemic combo governance and negatively correlated with pre-pandemic state governance, these coefficients are small in magnitude and not statistically different from zero. This implies that the gangs who govern in normal times were not more likely to respond to the pandemic in its first weeks.

Table 4: COVID-19 Survey, potential predictors of gang responses

| Source: self-made |

Moreover, gang responses to the pandemic are not consistent with patterns of governance prior to the pandemic. Pre-pandemic combo governance tended to be higher in more established neighborhoods with more youth, more immigrants, lower wealth, and lower elevations (See Appendix Table A2). None of these correlations hold for pandemic governance: most of the
covariates are not statistically significant, and we also see more enforcement and service provision in middle-income neighborhoods compared to low-income ones (the opposite of the pre-pandemic response).

Overall, we have few systematic correlates of pandemic gang rule. One possibility is that idiosyncratic factors drove the rare instances where gangs responded.

Qualitative evidence seems to suggest that their degree of involvement depends a lot on the gang understanding of the gravity situation, which could be idiosyncratic and subjective even within the gang. For example:

“*These days the coordinator came and gathered some families from the neighborhood and gave them some groceries and some cars took other groceries to homes for people who could not attend.*” (COVID-19 Survey, 2020)

“*Until now they [combo leaders] have not given any type of instruction that has to do with what happens with all this quarantine, but we have been very aware that there will not be looting in business.*” (COVID-19 Survey, 2020)

3.5. Residents were less compliant with the quarantine rules in places ruled by gangs

We measure compliance as the frequency with which our survey respondents reported that citizens followed the quarantine rules. Table 5 lists the questions and compliance rates. Overall compliance is less than 50%, meaning that the rules were followed by the communities but not perfectly, principally because of the presence of street vendors.

**Table 5: COVID-19 Survey, lockdown compliance and enforcement**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (1)</th>
<th>Standard Deviation (2)</th>
<th>Min (3)</th>
<th>Median (4)</th>
<th>Max (5)</th>
<th>Obs. (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citizen lockdown compliance index</td>
<td>0.494</td>
<td>0.179</td>
<td>0.00</td>
<td>0.50</td>
<td>1.00</td>
<td>1,195</td>
</tr>
<tr>
<td>When there is more than 10 people gathered in a party</td>
<td>0.514</td>
<td>0.305</td>
<td>0.00</td>
<td>0.67</td>
<td>1.00</td>
<td>1,183</td>
</tr>
<tr>
<td>When businesses and pharmacies increase prices</td>
<td>0.497</td>
<td>0.317</td>
<td>0.00</td>
<td>0.67</td>
<td>1.00</td>
<td>1,176</td>
</tr>
<tr>
<td>When people gathered on the street do not distance themselves 1 meter</td>
<td>0.431</td>
<td>0.311</td>
<td>0.00</td>
<td>0.33</td>
<td>1.00</td>
<td>1,188</td>
</tr>
<tr>
<td>When there are crowds of people inside a business</td>
<td>0.547</td>
<td>0.302</td>
<td>0.00</td>
<td>0.67</td>
<td>1.00</td>
<td>1,190</td>
</tr>
<tr>
<td>When people do not follow stay-home orders based on their ID number</td>
<td>0.503</td>
<td>0.259</td>
<td>0.00</td>
<td>0.67</td>
<td>1.00</td>
<td>1,174</td>
</tr>
<tr>
<td>When there are street vendors, bars and restaurants open</td>
<td>0.367</td>
<td>0.320</td>
<td>0.00</td>
<td>0.33</td>
<td>1.00</td>
<td>1,192</td>
</tr>
<tr>
<td>When there are people buying too much of the same product</td>
<td>0.504</td>
<td>0.300</td>
<td>0.00</td>
<td>0.67</td>
<td>1.00</td>
<td>1,168</td>
</tr>
<tr>
<td>When people on the street are not wearing facemasks</td>
<td>0.496</td>
<td>0.282</td>
<td>0.00</td>
<td>0.33</td>
<td>1.00</td>
<td>1,192</td>
</tr>
</tbody>
</table>

Source: self-made

Similar to our analysis for combo and state governance during the pandemic, we analyzed drivers of citizen compliance with the rules of the quarantine (column 6 of Table 4). Compliance was lower in places with higher pre-pandemic gang rule, and also in more established communities with a higher youth share in the population. In contrast, citizens were more compliant in middle versus low-income neighborhoods. Interestingly, there is only a small positive correlation with the Mayor’s COVID-19 Governance Index.
The qualitative evidence echoes these patterns:

“In the Francisco Antonio Zea neighborhood, most people are quarantining, except for street vendors, who are distressed because they live off their daily sales. We managed to coordinate some aid with the Mayor’s Department of Social Inclusion, which sent them some groceries, and we also managed to get them to put them on a list to send them subsidies. Thanks to that, several street vendors are staying at their homes.” (COVID-19 Survey, 2020)

“The community in this neighborhood has adopted few preventive measures, some people are seen around wearing masks, but people do not seem to measure the risk.” (COVID-19 Survey, 2020)

3.6. During the first month of lockdown, illegal activities remained the same, with the exception of drug retailing where prices increased due to supply constraints

Finally, we asked community leaders if the frequency and amount of extortion increased or decreased during the pandemic, as well as whether the price and quantity of drugs sold in the neighborhood have changed.

During quarantine, the price of the drug primarily increased. Changes on the available quantity of drugs is not so clear, as shown by Table 5. In 24% percent of our sample quantity allegedly increased; while in a similar proportion of neighborhood it decreased and stayed the same.

Half of respondents declared that both the level and monthly frequency of extortion to households and to business remained the same as shown by Table 2. In very few cases, between 10% to 20% extortion was reduced.
While our quantitative evidence shows that extortion has stayed the same, our qualitative evidence is mixed on suggesting that some gangs have ceased the collection of “vacunas”:

“Collections [of extortions] have ceased.” (COVID-19 Survey, 2020)

“[Referring to the combos] They continue as with extortion.” (COVID-19 Survey, 2020)

“Illegal groups have not been seen much in the territory, nor have they sent messages to the community in the face of this coronavirus emergency. Of course, they continued to collect the weekly extortion.” (COVID-19 Survey, 2020)

However, combo members state that “the collection was suspended, obvious to closed businesses that they are almost 90% cannot be charged, those who are open are asked for a voluntary contribution.” (COVID-19 Survey, 2020)
4. Conclusions

Anecdotes of governing gangs and criminal organizations stepping in to help terrified civilians deal with COVID-19 rightly raise concerns that the pandemic could end up strengthening organized crime vis-à-vis the state. At least in Medellín, however, intensive gang involvement in enforcing lockdowns and providing aid to civilians is the exception, not the rule. Most gangs—including those with high levels of pre-pandemic governance over civilians—only became marginally involved in COVID-19 response. Most citizens perceived the state and its officials as the principal enforcer of regulations and provider of emergency relief and guidance. However, while the state outperformed most gangs, its absolute level of responsiveness in low-income communities was still low.\(^8\)

Thus, contrary to the idea that COVID-19 and similar emergency situations offer gangs a golden opportunity to consolidate power, our results suggest that the real opportunity is the state’s. Citizens look to state officials to explain and enforce measures, to help them comply with new and sometimes confusing measures, to obtain emergency relief, and to communicate reliable information. Many if not most gangs are neither equipped to do much of this work, nor do they have the experience, resources, or know-how. Therefore, citizens do not appear to expect this pandemic governance of gangs.

For governments such as Medellín’s, which has struggled to reassert a positive presence in many low-income neighborhoods ruled by gangs, providing and enforcing basic COVID-19 measures when nobody else can or will constitute a kind of low-hanging fruit.

In short, pandemics like COVID-19 seem to create the need for forms of governance that truly only states are equipped to provide. If states are able to respond quickly, even if only partially, they may be able to visibly and memorably outperform gangs at a moment of dire need and concern on the part of low-income and marginalized citizens. While that may not eliminate or even curb criminal governance in the short run, it can be an important first step toward inclusion and equality.

---

\(^8\) Where the state should seek to improve its response and how this could be translated into long term governance gains is out of the scope of this report and is a topic we have been working on a larger study, to be released in Fall 2020.
### 5. Appendix

**Table A1: COVID-19 Survey, potential predictors of gang responses, excluding governance and legitimacy indexes as predictors**

<table>
<thead>
<tr>
<th>Sample Mean (SD)</th>
<th>Combo</th>
<th>State</th>
<th>Citizen Complianc</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lockdown Enforcement</td>
<td>Service Provision</td>
<td>Lockdown Enforcement</td>
</tr>
<tr>
<td></td>
<td>Estimate (SE) [p-value]</td>
<td>Estimate (SE) [p-value]</td>
<td>Estimate (SE) [p-value]</td>
</tr>
<tr>
<td>0.000 (1.000)</td>
<td>-0.019 (0.056)</td>
<td>-0.034 (0.051)</td>
<td>-0.063 (0.047)</td>
</tr>
<tr>
<td>Average elevation of the neighborhood (in 100 meters)</td>
<td>0.000 (1.000)</td>
<td>0.006 (0.043)</td>
<td>0.046 (0.043)</td>
</tr>
<tr>
<td>0.000 (1.000)</td>
<td>0.010 (0.584)</td>
<td>-0.023 (0.005)</td>
<td>0.692 (0.005)</td>
</tr>
<tr>
<td>Total population</td>
<td>0.000 (1.000)</td>
<td>0.081** (0.031)</td>
<td>0.035 (0.031)</td>
</tr>
<tr>
<td>Proportion of population with no education</td>
<td>-0.000 (1.000)</td>
<td>0.015 (0.059)</td>
<td>0.028 (0.059)</td>
</tr>
<tr>
<td>-0.000 (1.000)</td>
<td>0.041 (0.853)</td>
<td>-0.003 (0.400)</td>
<td>0.200 (0.400)</td>
</tr>
<tr>
<td>Proportion of population between 0 and 14 years old</td>
<td>0.000 (1.000)</td>
<td>0.029 (0.084)</td>
<td>0.059 (0.082)</td>
</tr>
<tr>
<td>-0.000 (1.000)</td>
<td>0.111 (0.212)</td>
<td>0.060 (0.470)</td>
<td>0.354 (0.531)</td>
</tr>
<tr>
<td>Proportion of population who immigrated five years ago</td>
<td>-0.000 (1.000)</td>
<td>0.001 (0.029)</td>
<td>0.027 (0.026)</td>
</tr>
<tr>
<td>-0.000 (1.000)</td>
<td>0.002 (0.037)</td>
<td>0.006 (0.026)</td>
<td>0.028 (0.026)</td>
</tr>
<tr>
<td>Median estrato (census)</td>
<td>-0.000 (1.000)</td>
<td>0.125* (0.073)</td>
<td>0.038 (0.063)</td>
</tr>
<tr>
<td>-0.000 (1.000)</td>
<td>0.143** (0.073)</td>
<td>0.038 (0.063)</td>
<td>0.176*** (0.072)</td>
</tr>
</tbody>
</table>

Source: self-made
Table A2: Criminal Governance Survey, potential predictors of governance and legitimacy measures

<table>
<thead>
<tr>
<th>Sample Mean (SD)</th>
<th>Combo Governance Estimate (SE [p-value])</th>
<th>Combo Legitimacy Estimate (SE [p-value])</th>
<th>State Governance Estimate (SE [p-value])</th>
<th>State Legitimacy Estimate (SE [p-value])</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average elevation of the neighborhood (in 100 meters)</td>
<td>0.000</td>
<td>-0.073** [0.009]</td>
<td>-0.003 [0.034]</td>
<td>0.038 [0.261]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.029]</td>
<td>[0.031]</td>
<td>[0.026]</td>
<td>[0.034]</td>
</tr>
<tr>
<td>Years of antiquity of the neighborhood</td>
<td>-0.000</td>
<td>0.061** [0.012]</td>
<td>0.013 [0.282]</td>
<td>0.051*** [0.070]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.024]</td>
<td>[0.031]</td>
<td>[0.023]</td>
<td>[0.028]</td>
</tr>
<tr>
<td>Total population</td>
<td>0.000</td>
<td>0.002 [0.032]</td>
<td>-0.010 [0.026]</td>
<td>-0.002 [0.052]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.023]</td>
<td>[0.020]</td>
<td>[0.018]</td>
<td>[0.026]</td>
</tr>
<tr>
<td>Proportion of population with no education</td>
<td>0.000</td>
<td>-0.034 [0.052***]</td>
<td>-0.034 [0.028]</td>
<td>-0.014 [0.052]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.021]</td>
<td>[0.030]</td>
<td>[0.029]</td>
<td>[0.028]</td>
</tr>
<tr>
<td>Proportion of population between 0 and 14 years old</td>
<td>-0.000</td>
<td>0.216* [0.093***]</td>
<td>-0.057 [0.017]</td>
<td>-0.017 [0.068]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.043]</td>
<td>[0.054]</td>
<td>[0.044]</td>
<td>[0.054]</td>
</tr>
<tr>
<td>Proportion of population who immigrated five years ago</td>
<td>-0.000</td>
<td>0.068* [0.044]</td>
<td>0.028 [0.024]</td>
<td>-0.024 [0.052]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.022]</td>
<td>[0.030]</td>
<td>[0.021]</td>
<td>[0.028]</td>
</tr>
<tr>
<td>Median estrato (census)</td>
<td>-0.000</td>
<td>-0.070 [0.072***]</td>
<td>0.040 [0.029]</td>
<td>0.049 [0.056]</td>
</tr>
<tr>
<td>(1.000)</td>
<td>[0.043]</td>
<td>[0.043]</td>
<td>[0.037]</td>
<td>[0.049]</td>
</tr>
</tbody>
</table>

Source: self-made
About EDI

Institutions matter for growth and inclusive development, but there is little evidence on how positive institutional change can be achieved. The Economic Development and Institutions (EDI) research programme addresses this knowledge gap by working with some of the finest economic thinkers and social scientists across the globe to inform new pathways to inclusive, sustainable economic growth.

Policy engagement is a critical focus for EDI research. We engage with policymakers and influencers throughout the design and development of our research programmes. EDI Research Insights and Policy Briefs are published at various stages of research to distil evidence and synthesise key findings for general and policy-focused audiences.

This project was funded with UK aid from the UK government. For more information, please visit: www.edi.opml.co.uk

EDI publications represent the views of the authors, and are not necessarily held or endorsed by the programme or its partner organizations.