

# The backlash effect of state coercion: Protest resilience under visible, costly, and targeted repression

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## Abstract

The impact of state repression on protests is puzzling. While in some cases repression can deter street mobilization, other times it backfires, increasing protest occurrence. It is unclear *which* repressive actions are associated with deterrence or incitement of protest activity, and why. Using novel data on protest and repression in Chile, I study the effect of repressive actions on the occurrence of protest events. Through two-way fixed-effects models and the use of an instrumental variable, I find that police beatings and rubber bullet shots increase subsequent protest activity. Conversely, other repressive acts, such as the use of water cannons or arrests, neither incite nor discourage protests. I argue that repression backfires when it is visible, costly, and targeted: when is visible, costs are perceived and, when directed at individuals rather than a group of protesters, repression may be deemed inappropriate. These results help to understand why repression backfires, and also question whether repression is effective in reducing contentious activities in democratic contexts.

*Keywords: police repression, protests, state coercion, mobilization dynamics*

# Introduction

Protests have been an important channel for people to communicate their demands and to make themselves heard. Despite the resurgence of protests in recent years<sup>1</sup> and that public demonstrations are regarded as a basic political right in most democratic countries, protest mobilization keeps encountering severe repression from the state. Coercion and brutality from law enforcement agents toward protesters are not novel practices. However, even in consolidated democracies, repression has become more aggressive in recent years<sup>2</sup>, to the point that systematic violations of civil and human rights at the hands of law enforcement officials have become a regular practice in the context of street mobilization. This can inhibit the will to protest and ultimately deter people from collective action, diminishing protest activity, but it can also have a backlash effect and increase mobilization, and potentially cause protesters to resort to more violent practices (Rasler, 1996; Sullivan, Loyle, and Davenport, 2012).

Despite this array of connections between repression and dissent, it is still unclear whether specific forms of repression, such as arrests or physical constraints, have particular effects on mobilization, and if this diversity of connections between state coercion and protest can be explained by the type of coercive strategy that is being used. The analysis of the repressive behavior of law enforcement officials based on typologies was identified as a key topic for social movements research more than a decade ago (Davenport, 2007). There have been significant efforts in that regard (e.g. García-Ponce and Pasquale, 2015; Curtice and Behlendorf, 2021; Bautista et al., 2020), nevertheless, empirical research has not been able to capture the diversity in the types of repression carried out during contemporary protests in democratic contexts, and whether they have different effects on the occurrence of protests. It is important to inspect not only which forms of repression deter protest but also the ones that increase it, especially considering that when attacks on demonstrators backfire, the political

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<sup>1</sup>According to ACLED data, we can see a remarkable increase in protest event occurrence since 2015.

<sup>2</sup>Along with protests increase, ACLED data also shows a big increment of violence against civilians perpetrated by state forces. Unfortunately, there are no statistics regarding violence against protesters, specifically.

regime could result severely damaged (Smithey and Kurtz, 2018). In such cases, the government in power may even be unable to overcome the crisis of legitimacy caused by repression when it is considered inappropriate or unjust.

Assessing the effect of different forms of repressive actions is challenging for multiple reasons. Firstly, when measuring state repression, most sources only consider broad categories based on dichotomous classifications, such as police presence/no presence, or lethal versus non-lethal.<sup>3</sup> Secondly, it is difficult to have a temporal segmentation of repressive events and get to know precisely *when* each form of repressive action takes place. This prevents researchers from establishing potential relationships between forms of repression and dynamics of protest mobilization. Since the literature has found different directions on the effect of repression on protests, examining specific forms of repression can shed a light on whether these conflicting results are explained by grouping different repressive actions. Additionally, this has prevented scholarship from developing comprehensive theories to explain why and when repression works, and to understand, for instance, what types of dangers and threats deter protests.

Building on the fact that repression can be regarded as an act of strategic communication in the public sphere (Koopmans, 2005), I argue that repressive acts possess three dimensions that can explain their potential effect on protest occurrence: visibility, costs, and targeting. Scholarship has regarded these characteristics as key to understanding the relationship between protest and dissent, but they have not yet been linked to concrete forms of coercion. I argue that most forms of police repression in democracies can be categorized based on these three aspects, and that, depending on their classification, we can expect specific outcomes on mobilization. I expect repressive actions that are visible and non-targeted to have the potential to cause more backlash, increasing protest mobilization, but repressive actions that are not visible, or that are highly targeted to specific groups of protesters, will not stimulate the subsequent occurrence of protests. Conversely, violent and life-threatening forms of repression will

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<sup>3</sup>For instance, Earl, Soule, and McCarthy (2003) distinguished six forms of police repressive tactics through categories such as the use of physical force and use of weapons, without distinguishing the level of physical force being used, nor the type of weapon.

have a deterring effect on mobilization, since they increase the costs of mobilization. I test these hypotheses through an analysis of the *Estallido Social*, a protest cycle in Chile that began in October 2019 and lasted until the start of the COVID-19 pandemic. Due to the development of protests over several months, in multiple cities across the country, and the various types of repression that were used to deter protesters, this case serves as an appropriate setting for studying the effects of state coercion on protest dynamics.

Using novel data provided by the Chilean Institute of Human Rights (INDH) on police repression during the previously mentioned period of street protests, along with protest occurrence information obtained from the Armed Conflict Location and Event Database (ACLED), I find that certain types of repressive actions caused an increase in protest activity: protests surged on the day following repressive events that comprised beatings and the shooting of rubber bullets. To assess the causality of these findings, I use CCTV cameras' locations as an instrumental variable for the occurrence of beatings and shootings. The effect of both types of repressive actions on protest occurrence remains significant in these models. Even when these results support recent findings related to how mobilization reacts to repression (e.g. Curtice and Behlendorf, 2021; Ellefsen, 2021; Aytaç, Schiumerini, and Stokes, 2018; Smithey and Kurtz, 2018), in the sense that repression sometimes can cause backlash and produce more contentious activities, they also offer new evidence regarding *which* forms of state repression produce a backlash, showing that not all forms of repression have the same effect and that, in fact, most coercive techniques commonly used in democratic regimes do not dissuade protests.

Additionally, my results challenge previous findings regarding protest deterrence when the costs and risks associated with participation increase (see Opp and Roehl, 1990; Digrazia, 2014), showing that this association might be too simplistic. Being beaten up by the police or being a victim of non-lethal crowd control weapons carries great risks for protesters, and sometimes even fatal consequences. Nevertheless, such acts increase protest activity, which shows that costs and potential risks are not key factors in explaining dissuasion, but on the contrary, that they take a secondary place

when it comes to repressive actions that are visible and non-targeted, not dissuading protests despite the harmful potential of the repressive action. In this sense, it is necessary to review the long-standing theory of the inverted U-shape relationship between repression and mobilization that affirms that, after a given threshold, police repression will deter mobilization (Gurr, 1970; Lichbach, 1987). I do not find evidence that shows that specific forms of police repression represent a hindrance to protesting.

This paper adds to the literature on social movements and state coercion by presenting a new approach through the stipulation of how different types of repressive actions can cause particular reactions to dissent and protest. I intend to move beyond previous research, which has focused on police strategies and how they affect protest (e.g. Earl and Soule, 2010), highlighting instead concrete repressive tactics that entail different degrees of visibility, costs, and targeting against those who protest on the streets. Latin America has been going through a series of struggles with police brutality, along with political crises which, for the most part, have exacerbated law enforcement violence against civilians. Understanding which repressive tactics backfire can contribute to the comprehension of persisting conflict in democratic contexts. As Gurr (1970) states, “the public order is most effectively maintained (...) when means are provided for individuals to work towards the attainment of their aspirations” (p. X). If the exercise of inalienable political rights encounters repression, it can severely undermine governance and overall democratic quality.

## Repression: Between protest coercion and backfire

Extensive scholarship has been devoted to unveiling the relationship between contentious activities and state repression. Even though repression is not the only state response to protests, it is undeniably central to understanding social movements and their behavior (della Porta, 2012). The conundrum about why repression sometimes works to dissuade protests, but other times it backfires, causing protest to increase instead –a phenomenon known as the *coercion-protest paradox* (Pearlman, 2013)– is at the center of the research regarding the effect of state repression on mobilization.<sup>4</sup> More than a decade ago, Earl and Soule (2010) identified that most conceptualizations of protest policing are simplistic and not very sensitive to the various strategies used by police agents. There continues to be little research on, for example, whether protest dynamics react differently to specific repressive strategies and crowd control mechanisms. The research developed by Khawaja (1993) on the effect of repression in the West Bank is, to my knowledge, the first piece of scholarship that studied the effect of different forms of state repression beyond arrests.<sup>5</sup> The author finds that most forms of repression positively affected collective action, and only home-to-home searches significantly decreased it. However, he recognizes that these results are likely to be applicable only in environments conducive to resistance, where continued repression will not succeed in suppressing collective action and violence, given the strength of the organizational structure in such environments.

More recently, Moss (2014) also assessed how challengers respond to repression, identifying seven repressive tactics ranging from dis-attention to physical confinement and bodily harm. Even when the tactics identified by the author are specific to the context of Jordan in the post-1989 Liberalization period, focusing on activists' tactical adaptations to different repertoires of repression, this classification represents a progress towards the construction of typologies, since it considers varieties of repression that have been overlooked by the literature, such as different forms of physical

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<sup>4</sup>See Davenport (2005a) and Earl (2011) for an extensive review.

<sup>5</sup>Khawaja (1993) considered forms of individualized repression such as the use of tear gas, shootings, dispersion by force, and arrests, among others, and also collective punishment such as curfews, military checkpoints, and raids.

confinement and bodily harm (e.g., kidnapping, imprisoning, among others). In order to subsequently establish the link between theories that explain when repression works and when it does not, and specific types of repression, in the following sections I argue that visibility, costs, and targeting can explain the potential impact of police repression on mobilization. These characteristics are relevant not only because they theoretically summarize key aspects for understanding the impacts of repression, but also because they serve as cornerstones to classifying forms of state repression in democratic regimes.

## **The visibility of the repressive action**

Visibility refers to the strategic processes between actors with unequal material and symbolic resources that make or prevent something from becoming public (Jiménez-Martínez, 2021). The categorization of the repressive act according to its level of visibility is based on the distinction between covert and overt repression. As Earl (2003) established, repression can be categorized as overt when it is intended to be obvious to both protesters and the general public. Within these overt forms of repression, Davenport (2005b) mentions actions aimed at restricting the behavior of citizens through the imposition of negative sanctions, and actions that physically damage citizens through violations of personal integrity. Repression not only comprises violent and visible forms of coercive tactics executed by state agents but also entails indirect and covert forms of repressive actions conducted by either state or non-state agents (Heuer and Hierman, 2022). Therefore, examining coercive tactics in regards to their visibility would help us understand, for instance, why sometimes less visible forms of state coercion could be preferred in order to prevent the backlash of repression (Carey, 2010), and how individuals react to different strategies of repression based on what they see and perceive.

Arguably, visibility precedes cost-benefit calculations. Without it, costs are not perceived, and therefore, people cannot update their preferences of mobilization accordingly (Christensen and Garfias, 2018). Since repression works as a

communicative act targeted not only at currently engaged protesters but also at the general (usually inactive) population, visible acts of repression can incite more protest activity from both protesters and non-protesters (Sharp, 1973). As Earl (2003) suggests, when repression becomes obvious to both protesters and the wider public, it can stimulate more mobilization. Protesters may engage in further contentious activities when repression does not manage to dissuade protest behavior, whereas non-protesters may newly engage in further contentious activities when they become aware of the levels of repression, which relates to the visibility of the repressive actions. In this way, challengers are able to rebel against harsher forms of repression by making their grievances public (Moss, 2014). If uncommitted individuals or groups are unable to get information about state repression, they cannot experience preference changes. In such cases, increased mobilization after repression is unlikely (Sutton, Butcher, and Svensson, 2014).

During protests, there are forms of repression that cannot be carried out in private spaces, meaning that they will be noticeable to protesters and bystanders. One of the most typical forms of repression under this category is the use of crowd control devices and non-lethal weapons, which may include rubber bullets, tear gas, and water cannons aimed at crowd control. Given that the visibility of these repressive actions is higher, they are also more likely to be reported in the media, reaching people that initially were not aware of these repressive responses by the state. If these actions become visible enough, private citizens could actually observe rises and falls in coercive repression (Earl, 2003), granting meaning to these repressive events, which could lead to preference changes. It has been argued that when the police are perceived as “overreacting”, there is a process of solidarity between those who are the direct target of repression, and more moderate (and usually larger) forces (della Porta, 1997). This may be one of the reasons why the triggers of mobilization are found in visible or excessive measures (Josua and Edel, 2015), pointing to a possibility of an increase in protest activity after highly visible repressive events.

If, when protests reach their maximum information-revealing potential, the



likelihood of cascading into a successful uprising rises (Garfias and Magaloni, 2018), I expect that repressive actions with higher visibility to both protesters and bystanders increase subsequent protest activity (*Hypothesis 1*). Traditional forms of repressing protests, such as crowd control measures, involve a degree of visibility that allows citizens to see and assess the circumstances in which they took place. On the contrary, more covert and non-visible forms of repressive actions will not have an impact (*Hypothesis 2*). For repression to backfire, information about the event or situation needs to be communicated to receptive audiences (Hess and Martin, 2006). However, there could be certain actions that are unlikely to be carried out in public, especially repressive actions that are more targeted to specific individuals. Law enforcement agents could prefer other locations instead, such as police stations or mobile checkpoints, in an effort to minimize the risk of dissent and potential backlash (Esberg, 2021). If the repressive actions are not publicly displayed, they would lack mobilization potential.

## **The costs and benefits of mobilization**

In the context of state repression, costs have been widely studied within the repression-concession continuum (e.g. Klein, Cuesta, and Chagalj, 2022; Shadmehr and Boleslavsky, 2022). When given a choice to concede or repress, the regime opts for whichever strategy is “cheapest” (Lachapelle, 2021). Understanding the costs of mobilization is therefore useful for comprehending when repression can deter contentious activities. According to the resource mobilization theory (Gamson, 1975; Tilly, 1978), cost-benefit calculations are made when individuals decide to participate in collective action, which becomes more likely if the potential benefits are greater than the potential costs. But repression increases the feeling of relative deprivation (Gurr and Moore, 1997) and overall sense of disadvantage, and when these feelings are sensed collectively, they can ultimately drive the group members to do something about it (Van Zomeren et al., 2004).

Since repression can change people’s behavior by affecting the parameters considered

in the cost-benefit decisions about dissent and their perceived risks (Young, 2019), we can expect that more violent forms of repression increase the perception of danger, and therefore, dampen protest activity. But, at the same time, more violent (and therefore, more costly) forms of repression have a greater potential to generate outrage, which could induce people to adopt a confrontational stance toward authorities, becoming potential supporters of the collective cause (Khawaja, 1993, 67). This is one of the reasons why several authors have concluded that repression makes people angry, an emotional response that could encourage citizens to join the protests (della Porta, 2013; Jasper, 2014), especially when these repressive events generate public outrage (Hess and Martin, 2006).

The re-examination of the resource mobilization theory and the emphasis it places on costs has led to the recognition that popular rebellion, rather than resulting from a decline in the costs of dissent, can be the context in which individuals accept costs that they previously had not accepted (Pearlman, 2013). The uprisings of the Arab Spring were key to questioning the role of costs in protest participation. As Pearlman (2013) states, what those uprisings held in common was that repression generated indignation that gave energy and courage protesters, propelling people into the streets. This dynamic has also been identified in the case of the Catalan independence movement, where the backlash effect of repression caused an increase in the positive attitudes towards the social movement prerogatives (Balcells, Dorsey, and Tellez, 2021). In these contexts, if repression is considered unjustified and persons are integrated into networks that potentially encourage protests, micromobilization processes promoting protests could be set in motion (Opp and Roehl, 1990).

Previous research has referred to the “strength” or the “severity” of repression, in an attempt to capture the difference in repressive acts. Of special importance has been the study of styles of repression –for instance, diffused versus selective, or reactive versus preventive (della Porta and Fillieule, 2004). Recent qualitative assessments have shown that sustained mobilization can be explained by emotional mechanisms produced by repression, such as guilt, when participants feel that they had not contributed enough to

the movement, and moral commitment and solidarity when witnessing clashes between protesters and police officers (Mok, 2022). For a repressive event to backfire, an audience must perceive the event to be unjust, which may elicit anger and, ultimately, escalation (Hess and Martin, 2006; Honari, 2018). Therefore, it is not possible to account for the costs of repression and their effect on mobilization, without considering the justification and proportionality of the repressive act. In an attempt to take these two elements into account, I expect more violent and life-threatening forms of repression to have a deterring effect on subsequent mobilization, as long as they occur within the framework of the legitimate use of force, such as arrests or use of crowd control weapons (*Hypothesis 3*).

## **Targeted vs. indiscriminate repression**

Targeting has been widely explored as an aspect of political violence in armed conflicts in contrast to indiscriminate violence (Gutiérrez-Sanín and Wood, 2017). Since the purpose of the control in repressive actions is to prevent or diminish direct and non-institutional challenges to social, cultural, and/or political power, state coercion often has a bigger degree of targeting compared to, for instance, diffuse systems of social or political control (Earl, 2011). Della Porta (2012) identified the importance of “selection” to understand the different strategies of protest policing in Italy and Germany from 1950 to 1990. According to the author, the distinction between “selective” and “diffuse” is based on the range of groups subject to repression. Selective police targeting is opposed to more escalating tactics since it only targets more violent groups. On the contrary, indiscriminate repression targets the mass public, regardless of its involvement with the opposition (Brockett, 1993). If state violence is targeted and carried out through selective imprisonment, torture, and murder of a select group of dissidents, repression is not likely to have the effect of igniting mass rebellion (Christensen and Garfias, 2018).

By targeting dissidents, repression aims to diminish the capacity and will of individuals to engage in collective action (Kobayashi, Song, and Chan, 2021). But since repression also works as a communicative act aimed not only at currently engaged

protesters but also at the general (usually inactive) population, state coercion also has the potential to incite more protest activity from both protesters and non-protesters (Sharp, 1973). Therefore, targeting is the third aspect of repression that contributes to understanding its impact on mobilization. As Sullivan (2016) summarizes, repression that indiscriminately affects the general population can increase support for the movement, and therefore, cause an escalation of conflict. Conversely, if coercion targets only movement participants and their supporters, it can effectively deter support, leading to de-escalation.

Following my previous argument that repressive actions with higher visibility increase subsequent protest activity, I state that among the visible repressive actions, those that appear to be more indiscriminate (in the sense of affecting large portions of not only protesters but also bystanders) are the ones that will cause a greater increase in subsequent protest activity (*Hypothesis 4*). When the government directs repression at clandestine mobilization activities or fringe groups, it is more likely to undermine their organizational capacity, diminishing subsequent challenges. On the contrary, when repression is directed towards overt collective challenges (e.g., an ongoing demonstration), the challenger can publicize abuses and “deliver the necessary incentives to promote further challenges” (Sullivan, 2016). When using certain crowd dispersion techniques, the target of the law enforcement officers is less likely to be specific “troublemakers” individuals, and more likely to be an anonymous collective, focusing their coercive measures on indiscriminately dispersing the entire crowd (Waddington, 1997). An example of this could be the use of water cannons to disperse crowds of people. This can increase the uncertainty about the aims of the intervention, which can subsequently provoke protest escalation (della Porta, 1997). Since these crowd dispersion techniques aim at large portions of protesters, increasing the risks of being affected by them, they can increase willingness to engage in collective action (Ayanian and Tausch, 2016).

## Context: The Chilean Social Outburst

The so-called *Estallido Social* (“social outburst”) that began in Chile in October 2019 could be categorized, in Tarrow’s words, as a “turbulent point in history” (Tarrow, 1994). The Chilean case represents an interesting puzzle to study police repression and its effects because the protests and riots that took place during the following months were characterized by their almost daily occurrence in both big and small cities and their high turnout. But, unfortunately, this period of social mobilization was marked by brutal repression carried out by law enforcement agents. This protest cycle allows tracing different repressive tactics and their effect on mobilization trends. The fact that protests unfolded for almost six months makes it possible to assess the repression-contention nexus, beyond particular and dispersed protest occurrences.

After the return of democracy following the 1989 Plebiscite that ended Augusto Pinochet’s dictatorship, multiple social movements developed in Chile, the most emblematic ones being the student movements of 2006 and 2011. Even when the student movement achieved significant political victories, such as the repeal of the General Education Law (*Ley General de Educación*, LGE), sustaining steady protest activities for almost entire academic years, neither the 2006 nor the 2011 movement had the same level of protest frequency and sustained turnout as the 2019 *Estallido*. What unfolded for almost six months was a real routine of protest activity with little to no organization. In Santiago, people gathered in Plaza Baquedano (later renamed *Plaza Dignidad* by the protesters and supporters of the movement) almost every afternoon, with Fridays being the most frequented day of the week for people attending the protest. Similar dynamics occurred in other cities. According to data provided by the national police *Carabineros*, over 4,300 protest events occurred across the country from October 18, 2019, to March 31, 2020.

The protests and riots started in the capital Santiago after the announcement of an increase in public transportation fares of 30 Chilean pesos, but they quickly spread to other cities. After the announcement of the tariff increase, students from several public high schools in the capital organized mass evasions of public transport, specifically in

subway stations (Baeza, 2019). During the following week, police officers were constantly monitoring the entrances of the stations, closing accesses to have greater control over the transit of pedestrians. The most critical stations were closed for several hours per day, especially during evenings, when most people get off work. On the afternoon of Friday, October 18, the situation escalated after thousands of people were not able to commute from their jobs to their homes. Barricades and the destruction of subway access gates occurred. During that night, multiple subway stations were set on fire.

As a response to the fires in the subway stations, president Sebastián Piñera declared a state of emergency and a subsequent curfew that started on October 19. Riots occurred in other parts of the country during that weekend, and the repressive actions of the police exacerbated the social unrest. Government support for police actions ultimately translated into more social unrest and discontent. Despite the constant pressure from the Government to “return to normality”, and the announcement of an action plan called “New Social Agenda” (*Nueva Agenda Social*) (Rogel, 2019), which, according to the Government, aimed to solve the main problems and struggles of the population, social unrest did not stop. The feeling that the Government’s measures were not aimed at structural reforms, coupled with high levels of repression, ultimately generated a constant state of skepticism and anger in the society. Protests and riots lasted until the COVID-19 outbreak in mid-March 2020.

According to data provided by *Carabineros*, more than five million people took part in the protests between October 2019 and March 2020.<sup>6</sup> This high turnout did not prevent demonstrators from being physically repressed. The level of repression exercised mostly by *Carabineros*, but also by other law enforcement institutions such as the military and the marines, was unprecedented for the democratic history of the country. International organizations such as Human Rights Watch and Amnesty International acted as observers

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<sup>6</sup>This data was provided as a response to a request through Transparency Law. Attendance is calculated based on a methodology used by *Carabineros*, which considers two different counting mechanisms: for low turnout protests, the calculation is according to the assessment of the police personnel present at each event; for protests with high turnout, the calculation is based on the use of drone images and geographic function application that divides the territory into polygons based on the density of the attendees and the area in square meters.

of what was happening on the streets, and continuously called out the disproportionate use of force against protesters and persistent non-compliance with protocols that resulted in thousands of people with eye injuries caused by rubber bullets (Amnesty International, 2020). The severity of the accusations against *Carabineros* and their practices caused considerable outrage in the population. Abuses were not limited to what happened on the streets while protesting, but also occurred in other places. The media informed about several cases of undressing in police stations, even of minors (INDH, 2019), along with other occurrences of gender-based violence such as rape threats (Rojas, 2019). Given that the frequency and participation levels of protests remained relatively stable over the next few months, despite the variety and intensity of repressive actions committed by *Carabineros* and other law enforcement institutions, it is worth examining the effect of these repressive actions and whether they were linked with an increase in protest activity.

# Research Design

## Variables and Measurement

Using data available in the Armed Conflict Location and Event Database (ACLED), I gathered information at the municipal level (lowest administrative unit) on the dependent variable *protest events occurrence*, which measures the number of protests that occurred within a specific municipality, in a specific date. ACLED database identifies different event types associated with social mobilizations, such as battles, explosions, protests, and riots, as well as their exact date and location, using national and international news as sources of information.<sup>7</sup> I considered all the events categorized as protests or riots<sup>8</sup> that occurred between October 18, 2019, and March 31, 2020, along with information on their place of occurrence (municipality) and date.

I supplemented this protest occurrence information with data on *repressive actions* by law enforcement officials provided by the Chilean Institute of Human Rights (INDH). The INDH is an autonomous public entity, and although it is publicly funded, it does not depend on any state power. During the 2019 protest cycle, they were a key actor in documenting and communicating wrongdoings by law enforcement officers. The INDH produced an extensive database containing all judicial actions from civilians who claim to have been subjected to any type of abuse, excessive violence, or violation of basic rights by state agents. The fact that this database was elaborated based on civil lawsuits decreases the risk of reporting bias since it is not at the discretion of the administrative

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<sup>7</sup>Events data sources like ACLED are sometimes criticized for their heavy reliance on media sources (Eck, 2012); however, its focus on desegregated data on events on a specific day in an exact location is useful to obtain contextually rich conclusions (Raleigh et al., 2010). Recent research has demonstrated that, for the specific case of Chile, ACLED data works well in reporting protest events (Steinert-Threlkeld, Chan, and Joo, 2022).

<sup>8</sup>ACLED (2019) defines protest as a public demonstration in which the participants do not engage in violence, though violence may be used against them. Conversely, riots are violent events where demonstrators or mobs engage in disruptive acts (e.g. rock-throwing, property destruction, etc.). I included both measures indistinctly since Chilean protest dynamics usually present a co-existence of them.



entity which cases to record and which not to.<sup>9</sup> The database included 22 types of repressive actions, of which I considered only those with more than 1% of occurrence from the total number of repressive actions, thereby working with only 8 repressive actions. For each of these actions, I measure the total number of repressive events under each category, by municipality, at a specific date. For details about the full set of categories and their distribution, see Appendix A.

Combining these two sources of information, 235 municipalities (from 346) presented at least one protest event or one action of repression during the mentioned period. Based on that, I constructed a time-series database comprising a total of 346 municipalities for each of the 166 days, getting a final data set of 57,436 observations. Table 1 summarizes the distribution of repressive actions and contentious events by region, month, type of repressive action, and type of contentious event for those observations that have at least one protest or repressive event.

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<sup>9</sup>Under-reporting is still possible, considering that not all those who were victims of police abuse decide to report and file a complaint. However, there is a certainty that the events comprised in this database did effectively occur at the time and the place that was reported.

Table 1: Distribution of repressive actions and contentious events

	Repressive actions	Contentious events
<b>Region</b>		
Metropolitan region	34.3 (937)	24.2 (591)
Other regions	65.7 (1,796)	75.8 (1,853)
<b>Type of Repressive Action</b>		
Shooting	46.0 (1,258)	
Beating	35.0 (956)	
Arrest	10.0 (274)	
Gassed	3.3 (91)	
Water impact	1.7 (47)	
Threats	1.5 (40)	
Hit by car	1.4 (37)	
Unauthorized entry/invasion	1.0 (30)	
<b>Month</b>		
October 2019	49.3 (1,364)	24.0 (586)
November 2019	33.3 (923)	41.2 (1,007)
December 2019	5.1 (140)	9.4 (231)
January 2020	5.3 (148)	8.6 (210)
February 2020	1.7 (48)	4.0 (98)
March 2020	5.2 (145)	12.8 (314)
Total (N)	2,733	2,446

Note: Entries in percentages with N in parenthesis. Only repressive actions with more than 1% of occurrences were considered.

The third source of information was provided by the Chilean Ministry of Transports and comprises the location of CCTV cameras across the country, which will serve as an instrumental variable. Even though the CCTV system is managed by a Ministry that does not oversee public security, surveillance through CCTV cameras is one key component of the monitoring system elaborated by the Department of Crime Prevention, which is part of the Ministry of Interior and Public Security. Security offices at the municipal level, as well as *Carabineros*, have access to this system. 575 cameras were identified throughout the country, along with their locations and the start date of their operation. The register also includes information on the exact date when the operation of a camera ceased, which allows capturing if a camera stopped working during the protest period. Therefore, I end up using the effective number of cameras in operation

for each day. I included information on the number of operating CCTV cameras in the contentious activity database for each specific location (at the municipal level) and date.

## Estimation

Taking advantage of the panel structure of the data on daily contentious activity and repressive actions at the municipal level, I estimate fixed-effects models to avoid possible omitted variable bias caused by invariant unaccounted time or spatial factors. Additionally, following the literature that highlights the importance of lagged variables in the study of social movements and protests (e.g. Beck and Katz, 1996; Earl and Soule, 2010; Opp and Roehl, 1990), and how they can be used to eliminate serial correlation of the errors (Beck and Katz, 2011), I included lagged explanatory variables of the dependent variable *protest events occurrence*, as well as lagged specifications for each of the eight types of repressive actions, since I am interested in how previous experiences with police repression affect subsequent protest occurrence.

The estimation of the two-way fixed-effects (TWFE) model with lagged variables on the right side of the equation has the following structure:

$$y_{i,t} = \alpha_i + \delta_t + \beta X_{i,t-n} + \rho Y_{i,t-n} + \epsilon_{i,t} \quad (1)$$

where  $X$  is a vector that includes the eight types of *repressive actions* in their lagged form, with an effect associated with municipality  $i$  at time  $t$  for each day.  $\rho Y_{i,t-n}$  is the vector for lagged *protest events occurrence*. Since the database presents the variable *protest events occurrence* for both time (daily) and place (municipalities), Equation (1) presents units  $i = 1, \dots, N$ , which are observed over periods  $t = 1, \dots, T$ , for a total of  $N \times T$ .

## Instrumental Variable

To assess the causal effect of different types of repressive actions on protest events occurrence, we need to rule out the possibility that the error term includes some unobserved attributes that determine both protest events occurrence and the different

types of repressive actions. Examples of such an attribute could be the news cycle, or public declarations from the government, just to name a few. If the repressive actions are correlated with the error term, it means that they are endogenous. Following Dunning (2012), if we encounter a situation where inferring the impact of an independent variable on a given dependent variable is difficult because of reciprocal causation or confounding, which may pose a problem for causal inference, one solution could be to find an instrumental variable that is correlated with the main independent variable (repressive actions) but that is not influenced by the dependent variable (protest events occurrence) or correlated with its other causes. In other words, the motivation for adding an instrumental variable to the estimation is that the requirement of the zero-covariance between  $X_i$  and  $u_i$  is violated when  $X_i$  is systematically related to unobserved causes of  $Y_i$ . Given that some variables included in  $X_{i,t-n}$  from Equation (1) could be correlated with the error term, a two-stage least-squares (2SLS) could be a good approach to solve such an issue, and to provide more robustness to the results.

An instrumental variable must be highly correlated with the explanatory variable while remaining uncorrelated with the errors (Belsley, Kuh, and Welsch, 1980). A variable  $Z$  can be referred to as an instrument when three conditions are met:  $Z$  has a causal effect on  $X$  (relevance),  $Z$  affects the outcome  $Y$  only through  $X$  (exclusion), and  $Z$  does not share common causes with the outcome  $Y$  (exogeneity) (Hernán and Robins, 2006). The first assumption was tested through a first-stage regression following Equation 2:

$$\text{Repressive Actions} = \gamma_0 + \gamma_1 Z + \gamma_2 W + \epsilon \quad (2)$$

where  $W$  are the exogenous control variables with a coefficient of  $\gamma_2$ , and  $\epsilon$  is the error term.  $Z$  is the vector for the number of active CCTV cameras at that date and geographical location (municipality). This IV works if we assume it does not influence the occurrence of protest events, which is related to the exclusion assumption. In this regard, the presence of CCTV cameras would only have to affect the occurrence of

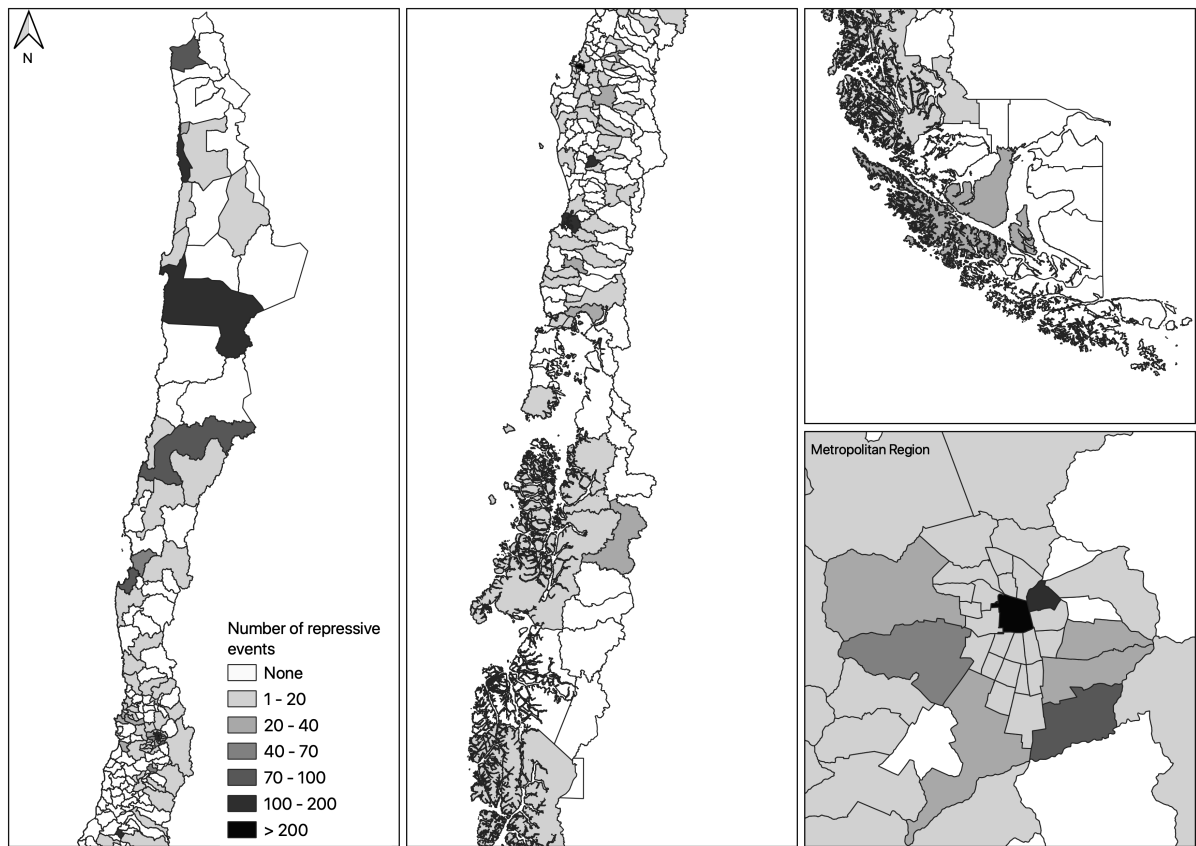
protest events through repressive actions. CCTV cameras allow the police to rapidly respond to crowd gatherings and emerging protests. Table C.2 of Appendix C indicates that the relationship between CCTV cameras and police repressive actions is positive, showing that police tend to carry out more repressive actions against those protests that occur in areas where there is video surveillance available. Additionally, one can assume that cameras' locations do not influence the occurrence of protest events, since cameras are usually in very high places, disguised near traffic lights, and with no signs pointing to their existence. This means that the location of the cameras is not a concern of the general population. Additionally, since the database on cameras' locations shows the date of installments of cameras, I rule out the possibility that there were new cameras installed exactly in the municipalities with more protests –because, in fact, there were no new cameras installed during the protest period.

Regarding the last assumption, exogeneity, it is necessary to establish that there is no relationship linking the location of CCTV cameras and protest events occurrence caused by variables that are not included in the models. Arguably, one can say that cameras are installed in big avenues where protests are likely to take place. However, the localities with more cameras are two socioeconomically well-off municipalities in the Metropolitan Region, which never had any protest events during the entire period. For instance, the municipality with the higher amount of cameras (Las Condes, an affluent locality in the eastern sector of Santiago) did not hold any protest events. This shows that, most likely, cameras' availability is more related to the socioeconomic status of a municipality, an effect that is accounted for by the TWFE models. It is not the case that municipalities with a higher concentration of CCTV cameras are the ones with bigger or more crowded streets (and therefore, with a greater propensity to concentrate protest events). There seems to be no other way in which the location or number of CCTV cameras directly affects the occurrence of protests.

# Results

Figure 1 shows the occurrence of repressive actions throughout the country, from October 18, 2019, until March 31, 2020. We can see a remarkable occurrence of repression in the Metropolitan Region, which is related to the greater proportion of protests concentrated in that area. How is the distribution of repressive actions related to subsequent protest activity?

Figure 1: Number of repressive actions by municipality



Note: The bottom right panel zooms into the Metropolitan Region, which includes the capital (Santiago).

As a baseline model, I estimated an OLS model to assess the relationship between the different types of repressive actions, using protest events occurrence as the dependent variable. Table B.1 of Appendix B shows the coefficients for this baseline model, which includes all eight types of repressive actions at time  $t$ . Shootings, being gassed by teargas, being impacted by a water cannon, beatings, and arrests are statistically significant in explaining protest events occurrence. Conversely, unauthorized entry/home invasion,

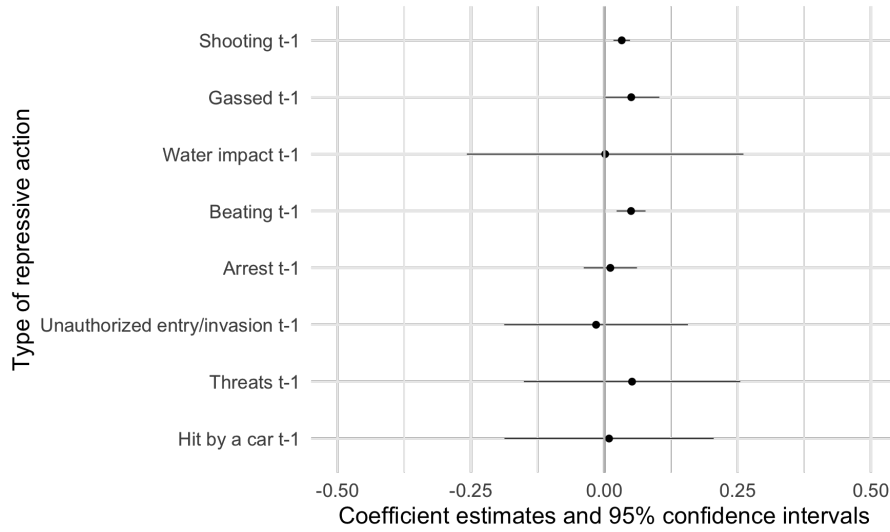
being under threat, and being hit by a car are not statistically significant. This model serves as a first approximation to assess the prevalence of specific types of repression and their strength. The results point to the relevance of the use of diverse non-lethal weapons when considering protest events occurrence as an independent variable, given that this baseline model shows that being attacked by rubber bullets, being gassed, or impacted with water cannons, is associated with a greater incidence of protest events. Additionally, we can see that none of the types of repression have a deterrent effect on protest occurrence.

Since I am interested in exploring how *previous* acts of repression affect subsequent protest events, I estimated new models with lagged independent variables for times  $t-1$  to  $t-3$ , that is, one, two, and three days before, respectively. Table B.2 of Appendix B shows the full TWFE panel linear models with lagged variables. Model 2 has lagged variables for  $t-1$ , controlling by  $t-2$ .<sup>10</sup> Figure 2 is based on the results of Model 2, showing the coefficients of each type of repressive action at time  $t-1$ , controlling for  $t-2$ . We see that only being shot by rubber bullets (shooting) and being beaten by the police (beating) possess statistical significance at 95%. Being gassed is only significant at 90%. However, not all visible forms of repression matter to explain subsequent protest occurrences, given that being impacted by a water cannon, arrests, and being hit by a car are not statistically significant. Therefore, *Hypothesis 1* is not fulfilled, since there seems to be another underlying commonality that is causing the effect of both shootings and beatings, beyond their visibility. Nevertheless, forms of covert repression such as home invasions and threats are not significant to explain subsequent protest occurrence, which would be consistent with *Hypothesis 2* which contended that less visible forms of repression would not have an impact.

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<sup>10</sup>Table B.2 shows from  $t-1$  to  $t-3$ , that is, the effect of repressive events that occurred one day, two days, and three days before. I decided to use Model 2 (which controls for  $t-2$ ) as the main model since adding repressive events at time  $t-3$  does not abruptly change the results obtained in the previous models.

Figure 2: Repressive actions and their effect on next-day protest occurrence



Note: TWFE models. Includes controls for repressive actions at time  $t-2$  and protest events at time  $t-1$  and  $t-2$ . Clustered standard errors at municipal level. Bars show 95% C.I.

*Hypothesis 3* stated that more violent and life-threatening forms of repression will have a deterring effect on mobilization, as long as they occur within a framework of the legitimate use of force. For this case, being shot by a rubber bullet and being a victim of a beating are arguably the most costly repressive actions of the ones considered here, which are also part of the legal framework of the use of force, since both repressive actions are carried with ammunition and police equipment: shotguns for pellets and rubber bullets, and police sticks, respectively, which are provided by the police itself, purchased with public money, under an institutional framework. Even when non-lethal weapons are presumably attractive to security forces because they spare the user from the traumatic psychological effects of committing violence, and minimize the public relations fallout associated with more violent methods (Smithey and Kurtz, 2018), we have to keep in mind that their actual consequences are far from being non-harmful. Hundreds of protesters in Chile lost one or both eyes due to rubber bullets. Chile became the country with the highest worldwide rate of ocular trauma caused by kinetic impact projectiles during protests (Rodríguez et al., 2021). Additionally, beatings can also represent high costs to the physical integrity of protesters. However, contrary to *Hypothesis 3*, these two repressive actions do not deter protest but, on the contrary, they



increase their occurrence. This puts into question the effectiveness of these widely used police repression tactics in decreasing mobilization by making participation more costly.

Regarding the targeting or indiscriminate application of the repressive action, *Hypothesis 4* indicated that more indiscriminate repressive actions will be more likely to cause an increase in subsequent protest activity, whereas more targeted ones are expected to be aimed at specific groups of “troublemakers” protesters. However, according to the results, we can see that the indiscriminate forms of repression such as water impact or the use of teargas, are not associated with an increase in protest events. On the contrary, targeted forms of repression such as beatings (which are carried out one-on-one) and the firing of pellets or rubber bullets (which requires a target at which to aim the shots) are the ones that increase protest activity. According to these results, it appears to be that repressive activities that entail the combination of high costs, while at the same time targeting protesters, the ones that generate an increase in protest occurrence.

To rule out the possibility that the results are driven by the fact that both shootings and beatings are the forms of repression that are more frequent, I estimated new models where I transform each of the eight repressive actions into binary indicators, therefore not measuring the total number of occurrences within a municipality at a given date, but only if the repressive action occurred or not. Appendix B contains the models with this binary specification of the repressive actions, showing that the results are consistent.

### **Instrumental Variable: CCTV cameras**

Since both shootings and beatings were the repressive actions with statistical significance that caused an increase in protest occurrence on the following day, I estimated 2SLS models to assess their actual causal effect on protest events occurrence. In the first stage, I used the instrument  $Z$  (CCTV cameras) to estimate the endogenous independent variables *shootings* (Equation 3) and *beatings* (Equation 4), controlling for the lagged version of *protest events*. Equations 5 and 6 present the second-stage (2SLS) estimation for the dependent variable *protest events occurrence*,

using the estimation of the independent variables obtained through the first-stage, controlling by  $X_{i,t-2}$ , the second lag of the repressive action. For all equations,  $\rho Y_{i,t-1}$  represents the lagged specification of protest events occurrence.

Stage 1 Equations:

$$Shootings_{t-1} = \gamma_0 + \gamma_1 Z_{t-1} + \rho Y_{i,t-1} + \epsilon \quad (3)$$

$$Beatings_{t-1} = \gamma_0 + \gamma_1 Z_{t-1} + \rho Y_{i,t-1} + \epsilon \quad (4)$$

Stage 2 Equations:

$$Protest\ Events_{i,t} = \alpha_i + \delta_t + \beta_1 \widehat{Shootings}_{i,t-1} + \rho Y_{i,t-1} + X_{i,t-2} + \epsilon_{i,t} \quad (5)$$

$$Protest\ Events_{i,t} = \alpha_i + \delta_t + \beta_1 \widehat{Beatings}_{i,t-1} + \rho Y_{i,t-1} + X_{i,t-2} + \epsilon_{i,t} \quad (6)$$

Before interpreting the results of the 2SLS model, it is necessary to assess the quality of the instruments. Appendix C presents the evaluation of the assumptions of the instrument, along with other robustness tests. Through them, the use of CCTV cameras proved to be relevant, exogenous, and not a direct cause of the outcome. Table C.1 shows that CCTV cameras are statistically significant in explaining the dependent endogenous variables *shootings* and *beatings*. Additionally, the convention suggests that an F-statistic greater than 10 is proof of a sufficiently convincing argument, which is fulfilled for both cases.

Regarding the results of the second stage, models 4 and 5 estimate the causal effect of *shootings* and *beatings*, respectively, during  $t-1$  using CCTV cameras as the IV. When the endogenous part of the independent variables is extracted through 2SLS models, their effect increases: an additional occurrence of shootings implies an increase of 1.1 protests on the following day, whereas an additional occurrence of beating against a demonstrator causes 3.8 more protests the following day. From these models, it is possible to state that the effect of shootings and beatings on protest events occurrence is relevant and consistent. Instead of deterring protest, both repressive actions have the opposite effect on mobilization, increasing their occurrence.

Table 2: 2SLS Models for the effect of repressive actions on protest events occurrence

	<b>Model 4</b>	<b>Model 5</b>
<i>Second Stage</i>		
Shootings <sub><i>t</i>-1</sub>	1.107*** (0.194)	
Beatings <sub><i>t</i>-1</sub>		3.881*** (1.128)
<i>First Stage</i>		
CCTV Cameras	0.369*** (0.006)	0.011*** (0.003)
Wald Test	9.363**	4.716*
Controls	✓	✓
FE Municipality	✓	✓
FE Time	✓	✓
N	56 744	56 744
F Statistic	1,105.949***	403.486***

Clustered SE at the municipal level. The dependent variable is protest events occurrence. Both models control for protest events at time  $t-2$ . \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

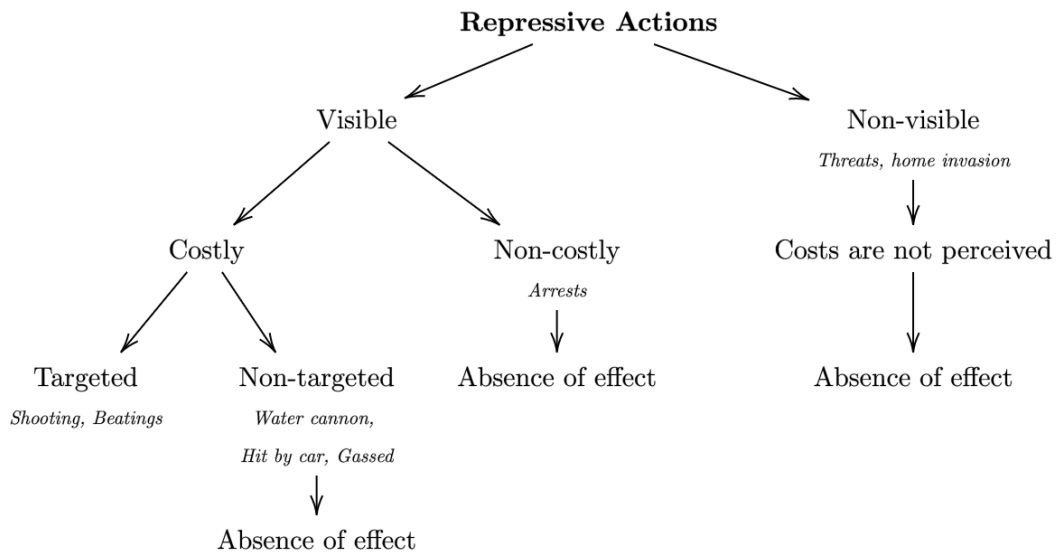
## Description of the mechanism

To understand the results (namely, that rubber bullets shooting and police beatings increase protest occurrence, whereas other forms of repression do not have an impact), it is necessary to bring back the three characteristics that I mentioned previously that serve to classify the potential impact of repressive events: visibility, costs, and targeting. I argued that one reason why police repression could spark protests instead of deterring them depended on the visibility of the repressive act: those repressive actions that are carried out in plain view so demonstrators and bystanders can see them, possess a greater potential to increase subsequent contentious activities, whereas more covert forms of repression will not have an impact.

Figure 3 summarizes this first path, where non-visible acts hinder the perception of costs and therefore, do not entail a mobilization effect able to produce subsequent protest

occurrence. Among those actions that are visible, they can be divided into costly and non-costly based purely on physical dangers. Those visible actions that are non-costly in terms of bodily harm or physical risks do not possess a mobilization effect. For instance, arrests are a form of repression that can carry serious consequences regarding judicial or legal proceedings, but that does not imply a major risk of bodily harm. Finally, those actions that are costly can be divided into targeted and non-targeted, based on whether they entail one-on-one action, or if they can be carried out without targeting specific demonstrators. The use of water cannons and tear gas does not require the targeting of specific individuals, since they can be directed at large groups of demonstrators. Being hit by a police car could be deemed as targeted, but in the context of street demonstrators, they are likely a consequence of negligence from the police officer that is driving, in an attempt to dissuade groups of demonstrators by throwing the car over them. Now, for a repressive action to have a positive impact on subsequent protest occurrences, it must be targeted, costly, and visible. The positive effect of the shooting of rubber bullets and beatings supports this claim.

Figure 3: Diagram of repressive actions based on visibility, costs, and targeting



Based on the literature, it was previously hypothesized that costly repressive actions would have a deterrent effect on protests. However, both forms of repression that increase

protest activity can be granted as highly costly, in terms of potential physical harm. Even when the use of rubber bullets and physically repressing demonstrators by beating them could be categorized as “non-lethal” forms of coercion, their consequences are far from innocuous. Rubber bullets are supposed to inflict only superficially, painful injuries, but in practice, we have seen they can cause significant morbidity and mortality, especially from penetrative injuries and head, neck, and torso trauma, including ocular trauma (Haar et al., 2017). For the case of Chile, just between October 18 and November 30, 2019, 259 patients sought medical care due to ocular trauma at the Eye Trauma Unit at Hospital Salvador, one of the biggest hospitals in the Metropolitan Region (Rodríguez et al., 2021). Additionally, the lack of control over the consequences entailed by the use of a repressive instrument, such as rubber bullets or other types of kinetic impact projectiles, can increase the feeling of injustice regarding the exercise of the repressive action. And, as such, when repression is exercised disproportionately, people will respond by decreasing their nonviolent protest behavior and will adopt violent behavior instead (Lichbach, 1987; Opp, 1994).

It is also worth noting that arrests do not seem to influence subsequent protests, despite also being visible and targeted, just like beatings and shootings. Nevertheless, one reason why shootings or beatings seem to influence protests can be related to the fact that, as was previously mentioned, arrests do not entail high risks in terms of bodily harm. It could also be the case that arrests are deemed more legitimate by the public. della Porta (2012) identified key dimensions within the classification of repressive forms, distinguishing between “hard” and “soft” dimensions, according to the degree of force involved, and “dirty” versus “lawful”, according to the degree of respect for legal and democratic procedures. Public repudiation of beatings by law enforcement officers may be an important factor explaining why this type of repression leads to more protests, especially when challengers frame repressive actions as illegitimate sanctions of dissident behavior, finding new incentives to mobilize against the system that sanctioned them (Francisco, 2004; Sullivan, Loyle, and Davenport, 2012). Even when shootings and beatings are allegedly developed within a specific legal framework of police repression,

based on the fact that such actions make use of equipment within the framework of the police institution and their duties, it could be that such actions do not possess the legitimacy of the public opinion, whereas a repressive form such as arrests, does.

Finally, since beatings and the use of non-lethal weapons, such as rubber bullets, can have devastating and arbitrary consequences, it comes with no surprise that when these repressive tactics take place, they become part of the news cycle rather promptly, which can cause further mobilization. This, added to the fact that there were neither reparations to the victims nor a robust response from Sebastian Piñera's government to deal with these calamities <sup>11</sup>, a continuous flow of information was generated regarding the cases and the victims, which may contribute to the sustained presence of these human rights violations in the public discussion. When protesting without facing repression becomes a rare possibility, it can also affect perceptions of how much the current regime respects basic political rights. Erosion of rights and state repression can represent structural threats that intensify existing grievances and create new ones, ultimately stimulating collective action (Almeida, 2019). Specific cases of serious injuries caused by the use of non-lethal weapons such as rubber bullets, tear gas, and water cannons, caused a great commotion in Chilean society. The case of Gustavo Gatica, a college student who was blinded by the shot of rubber bullets on November 8, 2019, or Fabiola Campillay, who was blinded after a police officer shot a tear gas can right to her face less than two meters away while she was waiting for the bus to go to work, are cases that are deeply engraved in the collective memory.

## External Validity

As I mentioned previously, the Chilean *Estallido Social* serves as a suitable case for studying protest dynamics and how they react to police repression. Despite the violence of police response to protests, repressive tactics that were used fall within the standard of state coercion in democracies. The use of police batons, hand-held chemical irritants

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<sup>11</sup>It was not until leftist President Gabriel Boric came to government that reparations to victims of human rights violations during the *Estallido Social* began to be implemented.

or chemical irritants launched at a distance (i.e., tear gas), kinetic impact projectiles, and water cannons, among others, are forms of repression that are categorized as “non-lethal” and are part of the United Nations (2020) guidelines on principles for the use of force. Additionally, protocols from *Carabineros* directly establish that the right to peaceful reunion without announcement nor weapons can only be restricted based on general dispositions of the police, which are part of the International Covenant on Civil and Political Rights<sup>12</sup> and the American Convention on Human Rights.<sup>13</sup> At the same time, these protocols establish that the use of force should be guided by international juridical instruments from the United Nations.<sup>14</sup>

Human Rights Watch (2020) recognizes abuses by security forces during the 2019 protests in Chile, identifying abuses during the process of detentions, such as brutal beatings and sexual abuse. Several other countries that experienced political turmoil during 2019-2020 also experienced similar forms of police misconduct (Amnesty International, 2021). For instance, in the U.S. in the context of the Black Lives Matter movement, security forces also misused firearms and less lethal weapons such as tear gas, resulting in unlawful killings and injured civilians. Human rights violations also occurred in Bolivia during the post-election period in 2019, where the National Police and Armed Forces severely repressed demonstrators. In the 2017/18 report, Amnesty International (2019) also documented police restrictions against public assemblies in France and Spain, resorting to emergency measures to ban public assemblies and to restrict freedom of movement to prevent individuals from participating in demonstrations. It is clear that Chile is not an exception when it comes to police abuses against demonstrators, nor in the tools used to repress.

Regarding the limitations of this study, it is unlikely that the results would apply to authoritarian cases or countries in danger of democratic backsliding. Despite the abuses, the Chilean national police are still under strict control of the Government, and it is an

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<sup>12</sup>Article 21.

<sup>13</sup>Article 15.

<sup>14</sup>Such as the “Code of Conduct for Law Enforcement Officials” ratified by the UN in 1979, and the “Basic Principles on the Use of Force and Firearms by Law Enforcement Officials” ratified in 1990.

institution that, even with recent episodes of abuse and corruption, still holds legitimacy. Although there are certainly high risks for demonstrators in terms of physical harm, other forms of repressing protests such as altered court proceedings and extrajudicial killings are still exceptional cases. This could be a reason why repression does not achieve protest deterrence in the case of Chile: because there is never a sufficiently generalized and high enough risk to discourage protests. Another limitation is related to the difference between protest occurrence versus protest size. This paper only examines protest occurrence and finds a backlash effect. However, other studies have found that state violence generates an n-shaped correlation with subsequent protest size (Steinert-Threlkeld, Chan, and Joo, 2022). Unfortunately, I do not have information about the size of the protest, only about their occurrence. In that regard, it could be possible that the protests that emerge after episodes of state violence are fringe protests, formed by more radical groups, or that are smaller in terms of turnout. There is no way to discern that with the data that I have. Nevertheless, the results obtained here present a good starting point for analyzing the effect of different police control strategies on protests.



## Conclusion

How can specific repressive actions increase the occurrence of protests when such crowd control mechanisms are supposed to do exactly the opposite? Tilly (1978) argued that state coercion increases the costs of collective action, and therefore, that repression has negative effects on mobilization. More recent studies have also shown that people engage less in street protests when their perceptions of violence and risk increase (Dave et al., 2020; Steinert-Threlkeld, Chan, and Joo, 2022). However, these findings have also been contested. In the literature on social movements, there is little consensus on whether state coercion and police repression work in preventing protest behavior, or if they backfire. Given that this association is very context-dependent, I examined how this relationship unfolds in the case of the Chilean protests that took place starting in October 2019, proposing a novel approach that distinguishes between different forms of police repression that are used in democratic regimes.

My main goal was to probe if repressive actions against demonstrators during protests inhibited or encouraged the occurrence of subsequent contentious events. Through the analysis of novel data and the use of causal inference methods, I have illustrated that, in the case of the 2019 Chilean social outburst, repression never deters protests and that, on the contrary, specific forms of repression have a backlash effect, increasing their occurrence. Particularly, the shooting of rubber bullets and police beatings of protesters are the two repressive actions that have a significant impact on increasing subsequent contentious events. This result is aligned with other studies that have shown how costly forms of repression can generate outrage and increase mobilization (Khawaja, 1993; della Porta, 2013; Jasper, 2014), making individuals accept the costs that they previously had not accepted (Pearlman, 2013). My results offer new evidence about the relationship between repression and dissent, pointing to the importance of considering other dimensions of the repressive actions, such as the visibility of the repressive act, or how targeted it is, and not only costs. The literature on the effect of repression on protests has focused on costs as a factor of deterrence, or as a factor of incitement if the costs produce outrage. The results of this research show that costly repression can also

produce a backlash.

The devastating effect of police repression and, particularly, rubber bullets, is not exclusive to Chile or Latin American Countries. There are documented cases of the fatal consequences of this type of ammunition in Northern Ireland (Rocke, 1983), Palestine (Jaouni and O'shea, 1997), and France (Lartizien et al., 2019), among others. But unfortunately, the study of the consequences of repression has always been a challenge for social movements researchers: not only is data on police repression scarce and hard to get but also there are a series of endogeneity problems associated with it since the likelihood of realized dissent is endogenous to repression and unobservable (Ritter and Conrad, 2016). I try to sort that difficulty by using an instrumental variable to distinguish the endogenous part of police repression and to conduct a more precise estimation of the causal effect of repression on protest occurrence. However, some difficulties remain, such as the under-reporting of protest events. Even when ACLED data suffers from minimal underreporting when compared to protest events obtained through pictures posted in social media for the case of Chile (Steinert-Threlkeld, Chan, and Joo, 2022), it would be challenging to replicate this study in other contexts, especially in countries where there is little media diversity, or where the state exerts control over media or social network sites.

In the future, it is necessary to consider a geographical perspective and to examine if there is a geographical variation of protest response to repression. Historically, conflict has had a regional development in Chile: the south is marked by the Mapuche conflict, while the center and the north are characterized by environmental issues, engaging people in conflict with both the government and private corporations. I would like to explore how geographical characteristics can affect how people respond to police violence. Additionally, I previously mentioned the relevance of more emotional reactions to state coercion, in the sense that sometimes repression generates outrage, and through such outrage, it can enhance mobilization. It would be valuable for future inquiries to explore this topic and to assess which forms of repression can generate outrage, and why. Finally, it would be interesting to examine how protest engagement

could foster other types of political participation, especially considering that a constituent process is under development in Chile for the elaboration of a new constitution, after the draft elaborated by the constitutional convention was rejected in September 2022. Given that other Latin American countries have also experienced long periods of social mobilization and unrest in the last years, a comprehensive analysis of the link between protest and political behavior in institutionalized arenas would contribute to a better theoretical understanding of the scope of the effects of contentious mobilization.

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Supplementary Information

The backlash effect of state coercion:

Protest resilience under visible, costly, and targeted repression

November 2022

# Appendix A Data and Variables

## Appendix A.1 Repressive acts during the Chilean social crisis

The repression faced by protesters during the so-called “social outburst” that took place from October 2019 to March 2020 caused great concern both in the national and international community. Reports elaborated by Amnesty International and Human Rights Watch provided valuable information regarding the police abuse and human rights violation that occurred during the initial months of protest. A longer-standing record was elaborated by the National Institute of Human Rights (*Instituto Nacional de Derechos Humanos*, INDH). The INDH is a Chilean organization founded in 2005, although officially constituted in 2010, in charge of the promotion and protection of human rights within the national territory. One of its functions is to “communicate to the government and different state organisms its opinion about situations regarding human rights inside the country”, about which INDH is entitled to both request and elaborate reports.

In the context of the *social outburst*, the INDH elaborated a first report containing information from October 17 to November 30, 2019, where they systematize, describe, and analyze the serious human rights violations within this period (INDH, 2019). Intending to contribute to the clarification of the truth and obtain justice and reparation for victims of human rights violations, the INDH made available to researchers, academics, and citizens in general, a database with the information contained in the legal actions filed by the INDH to denounce the events that occurred between October 2019 and March 2020, in the context of the social crisis (INDH, 2020).

### Appendix A.1.1 Conceptualizing Human Rights violations

The glossary that accompanies the database “Human Rights violations in the context of the social crisis” defines the concept of “human rights violation” as any action or omission that deprives the enjoyment of rights guaranteed, nationally or internationally, to a person or group of persons. This definition engages the responsibility of the State,

since “a State directly engages its international responsibility when its agents violate the human rights of persons under its jurisdiction”.

### **Appendix A.1.2 Acts denounced by victims**

The database in question was elaborated by a specific department within the INDH (Studies and Memory Unit), which coded and processed the content of all the briefs filed by the INDH in courts to denounce human rights violations in the context of the social mobilizations that occurred between October 2019 and March 2020. The final product combines information from three nested sources: the victims, the judicial actions (complaints and denounces), and the actual facts denounced.

Among the acts denounced in the database, which were later recoded to create the final four types of repressive acts, are the following, along with the descriptions. Each description is a construction based on the facts reported by the victims.

1. Asphyxia: the act of being subjected to the obstruction of the respiratory tract by one or more state agents, through the use of arms, plastic bags, or other elements.
2. Attack with animals: the act of being attacked by animals acting on the orders of agents of the state, such as dogs, horses, or others.
3. Beating: the act of being assaulted by one or more state agents, either with blows of the fist, kicks, or blunt objects.
4. Breaking of telephone: the act of having one’s cell phone destroyed by state agents, preventing the detainee from communicating or recording events.
5. Burned: the act of being the object of an attack with incendiary elements by agents of the state (e.g. to bring a detained person close to a burning barricade, causing burns on purpose).
6. Detention: the act of being retained and/or transferred by State agents from one place to another. This act is coded not to declare the legality of the illegality of the act, but to leave a record of the act.
7. Denial or obstruction of medical assistance: act in which one or more agents of the state impede, interrupt, or prevent the provision of medical assistance of the transfer of the victim to a health center.
8. Destruction of personal items: the act of destruction of objects or movable property of a personal nature, by state agents.
9. Follow-up: the act of being observed, investigated, and persecuted to their homes by state agents generally dressed in civilian clothes, with unknown objectives.

10. Gassing: the act of being sprayed directly or indirectly by pepper spray and/or other chemical agents such as tear gas.
11. Hit by car: the fact of being run over by vehicles operated by law enforcement officers, either on a roadway intended for vehicular traffic or in a pedestrian traffic area.
12. Home invasion: illegal or unauthorized entry to the victim's home.
13. Irregular interrogation: the act of being questioned by state agents, in a place not determined for these purposes, and without the presence of a defense attorney (e.g. in a police car, or jail cell).
14. Shooting: the act of receiving projectiles thrown directly at the body of the demonstrators.
15. Stigmatization: the act of being the object of disparagement or belittlement by an agent of the state.
16. Stone throw: the act of receiving projectiles from stones thrown directly at the body, by agents of the state.
17. Stripping: the act of being forced by state agents to take off one's clothes, totally or partially.
18. Threat, death threat, rape threat: the act of being the object of announcements of possible physical or psychological acts of violence, possible assassination or forced disappearance, or announcements of possible sexual crimes by agents of the state.
19. Touching: the act of being subjected to forced palpation by state agents in the genital area, or other areas of sexual connotation.
20. Unauthorized entering: the irruption of agents of the state into public and/or private institutions without following protocols of previous authorization, such as schools, universities, unions, or workplaces.
21. Water impact: the act of directly receiving water thrown by the water cannons operated by state agents.
22. Wetting with chemicals: the act of spraying the victims with water mixed with chemical elements that cause burns or other injuries.

Additional acts were included in the report as a type, but they were not in the database, such as rape or introduction of objects, robbery, electrical shock, and placement of tear gas bombs on clothes.

### Appendix A.1.3 Recodification of repressive acts

Water impact and wetting with chemicals were merged into the same category, home invasion and unauthorized entering.

Table A.1: Distribution of the total of repressive actions

Repression Type	Frequency	%
Shooting	1258	45.448
Beating	956	34.538
Detention	274	9.899
Gassed	91	3.288
Water impact	47	1.698
Threats	40	1.445
Hit by a car	37	1.337
Unauthorized entry/invasion	30	1.084
Asphyxia	7	0.253
Stripping	7	0.253
Obstruction medical assistance	4	0.145
Stone throwing	4	0.145
Touching	4	0.145
Stigmatization	3	0.108
Destruction personal items	2	0.072
Follow up	2	0.072
Attack with Animals	1	0.036
Burned	1	0.036

## Appendix B Models

### Appendix B.1 Non-lagged models

Table B.1: Models without lags

	Model 1
Shooting	0.095*** (0.023)
Gassed	0.134* (0.058)
Water Impact	0.455*** (0.054)
Beating	0.153*** (0.023)
Detention	0.070*** (0.020)
Unauthorized entry/invasion	0.032 (0.200)
Threat	0.011 (0.084)
Hit by car	0.150 (0.116)
N	57 436
R <sup>2</sup>	0.306
SE	Municipality
FE Municipality	✓
FE Date	✓

Clustered SE at the municipal level.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

### Appendix B.2 Lagged variables

Arguably, the occurrence of protest events at time  $t$  will be influenced by previous protests and repressive acts at time  $t-1$ . In this case, we would have to deal with a dynamic stochastic process. Taking Figure B.1, I am interested in capturing the effect

of repressive actions at time  $t-1$  and their effect on protest occurrence at time  $t$  (red line). To accurately capture this, I need to include lagged specifications of both variables in the final models.

Figure B.1: DAG

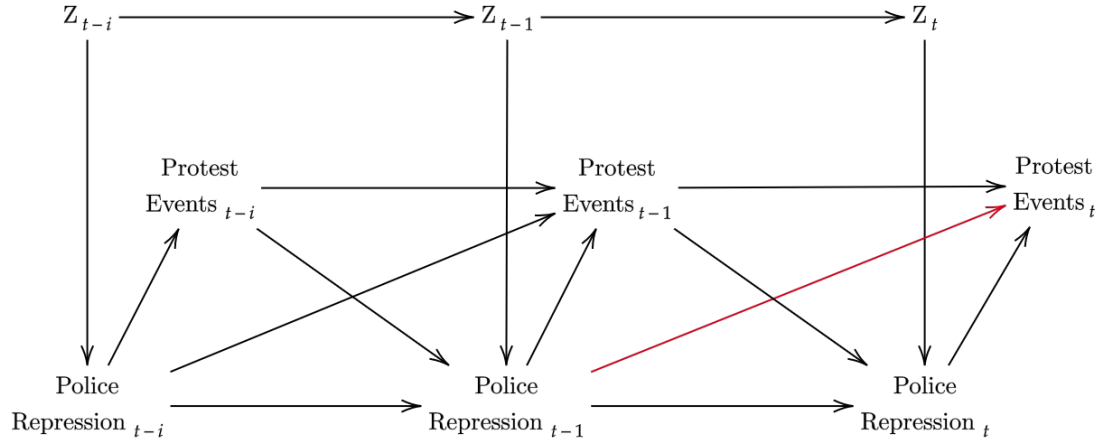


Table B.2 shows the coefficients for Models 2 and 3 presented in the paper. None of the  $t-2$  specifications of repressive acts is statistically significant to explain protest occurrence. No further lags were included in the final estimations for this reason.



Table B.2: Models with lags

	Model 1	Model 2	Model 3
Protest events <sub>t-1</sub>	0.226*** (0.027)	0.197*** (0.021)	0.179*** (0.019)
Shooting <sub>t-1</sub>	0.042*** (0.011)	0.033*** (0.008)	0.031*** (0.008)
Gassed <sub>t-1</sub>	0.059* (0.029)	0.050* (0.027)	0.042 (0.027)
Water impact <sub>t-1</sub>	-0.029 (0.143)	0.002 (0.132)	-0.041 (0.151)
Beating <sub>t-1</sub>	0.061*** (0.015)	0.050*** (0.014)	0.042*** (0.013)
Arrest <sub>t-1</sub>	0.033 (0.024)	0.011 (0.025)	-0.002 (0.022)
Unauthorized entry/invasion <sub>t-1</sub>	-0.011 (0.074)	-0.015 (0.088)	-0.011 (0.090)
Threats <sub>t-1</sub>	0.090 (0.097)	0.052 (0.103)	0.031 (0.103)
Hit by a car <sub>t-1</sub>	-0.002 (0.104)	0.009 (0.100)	0.026 (0.093)
Protest events <sub>t-2</sub>		0.122*** (0.015)	0.101*** (0.012)
Shooting <sub>t-2</sub>		0.015*** (0.006)	0.005 (0.007)
Gassed <sub>t-1</sub>		0.039* (0.022)	0.037 (0.023)
Water impact <sub>t-2</sub>		-0.140 (0.127)	-0.098 (0.111)
Beating <sub>t-2</sub>		0.020 (0.017)	0.009 (0.015)
Arrest <sub>t-2</sub>		0.024 (0.033)	0.014 (0.035)
Unauthorized entry/invasion <sub>t-2</sub>		-0.119 (0.101)	-0.107 (0.093)
Threats <sub>t-2</sub>		0.148 (0.138)	0.130 (0.141)
Hit by a car <sub>t-2</sub>		0.211 (0.150)	0.224 (0.148)
Protest events <sub>t-3</sub>			0.113*** (0.017)
Shooting <sub>t-3</sub>			0.007 (0.010)
Gassed <sub>t-3</sub>			0.012 (0.037)
Water impact <sub>t-3</sub>			-0.112 (0.114)
Beating <sub>t-3</sub>			0.026* (0.015)
Arrest <sub>t-3</sub>			0.028 (0.027)
Unauthorized entry/invasion <sub>t-3</sub>			0.135 (0.137)
Threats <sub>t-3</sub>			0.221*** (0.071)
Hit by a car <sub>t-3</sub>			0.036 (0.093)
N	57 090	56 744	56 398
R2	0.303	0.318	0.331
FE Municipality	✓	✓	✓
FE Day	✓	✓	✓

Clustered SE at the municipal level. \*p&lt;0.1; \*\*p&lt;0.05; \*\*\*p&lt;0.01

## Appendix B.3 Binary specification of repressive actions

Table B.3: Model with binary repressive actions

	Model 1
Protest events <sub><i>t</i>-1</sub>	0.184*** (0.018)
Protest events <sub><i>t</i>-2</sub>	0.110*** (0.014)
Shooting <sub><i>t</i>-1</sub>	0.183*** (0.050)
Gassed <sub><i>t</i>-1</sub>	0.272 (0.167)
Water impact <sub><i>t</i>-1</sub>	0.053 (0.173)
Beating <sub><i>t</i>-1</sub>	0.075** (0.030)
Arrest <sub><i>t</i>-1</sub>	0.120*** (0.038)
Unauthorized entry/invasion <sub><i>t</i>-1</sub>	0.375 (0.317)
Threats <sub><i>t</i>-1</sub>	0.138 (0.126)
Hit by a car <sub><i>t</i>-1</sub>	0.010 (0.122)
Shooting <sub><i>t</i>-2</sub>	0.125*** (0.033)
Gassed <sub><i>t</i>-2</sub>	0.250* (0.145)
Water impact <sub><i>t</i>-2</sub>	-0.089 (0.173)
Beating <sub><i>t</i>-2</sub>	0.023 (0.034)
Arrest <sub><i>t</i>-2</sub>	0.019 (0.051)
Unauthorized entry/invasion <sub><i>t</i>-1</sub>	-0.007 (0.192)
Threats <sub><i>t</i>-2</sub>	0.205 (0.160)
Hit by a car <sub><i>t</i>-2</sub>	0.272* (0.161)
N	56 744
R2	0.325
FE Municipality	✓
FE Day	✓

Clustered SE at the municipal level.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## Appendix C Instrumental Variable

One of the difficulties with assessing causality in the context of protests and police repression is that the error term may include some unobserved attributes that determine both *protest events occurrence* and *repressive actions*. If the different repressive actions are correlated with the error term, it means that they are endogenous. Following Dunning (2012), if we encounter a situation where inferring the impact of an independent variable on a given dependent variable is difficult given the strong possibility that reciprocal causation or confounding may pose a problem for causal inference, one solution could be to find an instrumental variable that is correlated with the main independent variable (types of repressive action) but that could not be influenced by the dependent variable *protest events occurrence* or correlated with its other causes. In other words, the motivation for instrumental variables estimation is that the requirement of the zero-covariance between  $X_i$  and  $u_i$  is violated when  $X_i$  is systematically related to unobserved causes of  $Y_i$  (Sovey and Green, 2011).

Given that some variables included in  $X_{i,t}$  are correlated with the error term, a two-stage least-squares (2SLS) could be a good approach to solve such an issue, and to provide more robustness to the results. An instrument that can address this endogeneity is CCTV cameras, which one can assume does not influence the occurrence of protest events (cameras are usually in very high places, disguised near traffic lights, and with no signs pointing to their existence) but it can influence police response to a protest and therefore, the propensity of committing violent acts.

### Appendix C.1 Relevance Criteria

An instrument in a 2SLS process needs to be relevant, meaning that  $X$  and  $Z$  are strongly enough related to each other so we do not run into the so-called weak instrument problem (Huntington-Klein, 2022). This means that an instrument  $Z$  must be something that causes  $X$ . This is the first stage. To test the relevancy of the instrument, a model

regressing  $Z$  into  $X$  can be estimated. This first stage allows getting the predicted independent variable based on the instrumental variable.

Table C.1 shows the effect of CCTV cameras on the two main independent variables, which serve as dependent variables in this first stage. According to the Wald test, the instrument is relevant for both models.

Table C.1: Relevance Criteria IV

	DV: Shootings	DV: Beatings
Protest events $_{t-1}$	0.459*** (0.118)	0.219*** (0.042)
CCTV Cameras $_{t-1}$	0.006* (0.003)	0.003*** (0.001)
N	57 090	57 090
R2	0.092	0.085
Wald Test	0.000***	0.000***

Clustered SE at the municipal level. \*p<0.1; \*\*p<0.05; \*\*\*p<0.01

This assumption can also be verified by the under-identification test, which is based on the Lagrange Multiplier (Bollmann et al., 2019). The under-identification procedure tests the hypothesis that there is no significant association between  $X$  and  $Z$ , i.e. the test checks if the exogenous instrument is significantly different from 0. If the hypothesis is rejected, then this condition is satisfied.

From Table C.1 we can see that CCTV cameras have statistical significance for all types of repression, in their  $t-1$  and  $t-2$  form. All models additionally control for the  $t-1$  and  $t-2$  versions of the variable *protest events*. Furthermore, the F-statistic shows that CCTV is a strong instrument for use of non-lethal weapons, beatings, and torture.

## Appendix C.2 Other assumptions

**Exclusion criteria:** the instrument  $Z$  must not cause the outcome directly; it has to be correlated with the outcome only through  $X$  ( $\text{cor}(Z, Y|X) = 0$ ). This means that

the presence of CCTV cameras affects protest occurrence, but only through repressive actions.

If there are ways in which the instrument can cause the outcome of protest occurrence, outside repressive actions, then the instrument would not meet the exclusion restriction. Therefore, it is necessary to question if there is another plausible node between CCTV cameras and protest events' occurrence.

Table C.2: Relationship between CCTV cameras and protest events (OLS model)

DV: Protest Events	
CCTV <sub><i>t</i>-1</sub>	0.048 (0.031)
Protest Events <sub><i>t</i>-1</sub>	0.254*** (0.027)
N	57 090
R <sup>2</sup>	0.296
FE Municipality	✓
FE Day	✓

Clustered SE at the municipal level.

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

**Exogeneity criteria:** the instrument  $Z$  must be a variable not correlated with the omitted variables ( $\text{cor}((Z, u) = 0)$ ). This means that  $Z$  cannot be an explanatory variable of the model for  $y$  because, in such case,  $Z$  would be correlated with the error term (Stock and Watson, 2011). Unfortunately, there is no concrete statistical tool to test this assumption.

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