

# State Repression, Exit, and Voice: Living in the Shadow of Cambodia's Killing Fields\*

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## Abstract

What is the political legacy of state repression? Using local variation in state repression during the Khmer Rouge genocide in Cambodia, we investigate the effects of repression on political beliefs and behavior. We find that past state repression decreases votes for an authoritarian incumbent while enhancing electoral competition and support for democratic values four decades later. At the same time, individuals become more cautious in their interactions with the local community: they exhibit less trust, participate less in community organizations, and engage less with local government. Our theoretical model suggests that these opposing forces arise because experiencing repression bolsters preferences for pluralism while also heightening the perceived cost of dissent. Consequently, citizens are more likely to support the opposition in elections (*voice*) but engage less in civil society (*exit*) to avoid publicly revealing their political views. Exploring channels of persistence, we demonstrate that repression cultivates a lasting fear of violence as a societal threat, and that genocide memorials and remembrance ceremonies maintain the collective memory of the atrocities.

**Keywords:** State repression, Political beliefs and behavior, Collective memory, State-society relations

**JEL codes:** D7, N4, O1

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# 1 Introduction

Over a billion people live in countries with a history of state repression, having suffered mass killing or political persecution.<sup>1</sup> While slow democratic progress in these countries may be attributed to the lasting impact of repression, it remains unclear how political atrocities, like Stalin’s reign of terror or the Chinese Cultural Revolution, continue to shape citizens’ political beliefs and behavior in the long run. Exposure to past repression could heighten support for pluralism, to prevent the concentration of power that instigated the violence, or foster a culture of silence and distrust, leading citizens to be cautious in expressing political views after witnessing the cost of dissent.

Drawing on evidence from one of history’s most severe episodes of state-led repression, the genocide under the Khmer Rouge in Cambodia, we estimate the effects of political violence on political behavior four decades later. From 1975 to 1979, the Khmer Rouge killed between 1.7 and 3 million people, or over 20% of the population (Kiernan, 2008). Four decades after the genocide, Cambodia has become an electoral democracy, but the Cambodia People’s Party (CPP) and its leader, Hun Sen, have held power since the introduction of multiparty elections in 1993, with widespread corruption and frequent civil rights violations being prevalent (Norén-Nilsson, 2016a).<sup>2</sup>

We begin our analysis by developing a simple model that links past repression to political participation. Citizens have preferences for or against the long-term, authoritarian incumbent, with preference against the incumbent defined as support for pluralism or a multi-party system. People partake in two political activities: (i) participate in or *exit* from civil society, where *exit* is interpreted as abstaining from civic engagement, and (ii) vote for or against the incumbent, where a vote against the ruler is an expression of *voice*.<sup>3</sup> We assume that it is costly to openly oppose the sitting ruler and dissent is more easily observed in public civic activities than when people vote. The model predicts that civic engagement declines if the experience of state repression raises the perceived cost of dissent. However, if repression also shifts preferences in favor of more pluralism, citizens *exit* and exert *voice* simultaneously: they engage less in civil society but are more likely to turn out and vote for the opposition, given the anonymity of voting.

These hypotheses are challenging to examine because the Khmer Rouge may have targeted regions based on pre-genocide political views, potentially confounding estimates of post-repression beliefs and behavior. We address this issue by exploiting the regime’s goal of creating an agrarian collectivist society, which led to the forced relocation of people to labor camps in agriculturally productive regions to increase rice production. Eventually, these areas became known as Killing Fields, as laborers were either executed or succumbed to starvation and overwork (Chandler, 2008; Kiernan, 2008).

To investigate how the repression of forced labor continues to affect the local population today, we approximate the regime’s labor allocation strategy using exogenous variation in rice productivity and demonstrate that it consistently predicts the intensity of state repression. We establish causality by exploring local rainfall variation during the genocide that temporarily increased rice productivity. Next,

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<sup>1</sup>State repression encompasses harassment, arrests, torture, mass killing, and genocide carried out by the incumbent government, with the objective of eliminating undesirable opponents (see, e.g., Davenport, 2007; Besley and Persson, 2011).

<sup>2</sup>Cambodia is classified as a closed anocracy by Polity IV, an authoritarian regime by the Economist Intelligence Unit, and ranks as one of the most corrupt countries (150 of 180) according to Transparency International’s corruption perceptions index (Polity IV: <https://www.systemicpeace.org>, EIU: <https://www.eiu.com/n/campaigns/democracy-index-2022/>, TI: <https://www.transparency.org/en/cpi/2022>, accessed in May 2023).

<sup>3</sup>While the notion of *voice* is inspired by Hirschman (1970, 1978), we adopt a more recent characterization of *exit* as withdrawing from political activities, not just leaving a location (see, e.g., Herbst, 1990; Scott, 2009; Clark et al., 2017).

we show that our productivity-derived measure of repression robustly predicts the Khmer Rouge’s production targets and the subsequent genocide casualties, which is supported by geo-coded data on the numbers of victims and mass graves. By using rainfall shocks relative to local historical averages, we exploit a random event arguably uncorrelated with other contemporaneous drivers of political behavior. Importantly, as laborers were relocated from all parts of Cambodia and survivors returned home, demographics were comparable across the country after the genocide, enabling us to isolate the impact of repression.<sup>4</sup> Consequently, our estimates capture the effects of additional exposure to political violence under the Khmer Rouge, with people closer to affected areas facing marginally more repression.

Using unique commune- and individual-level data from several historical and contemporary sources, we estimate the impact of increased exposure to state repression on citizens’ exercise of *exit* and *voice*. We find that past repression leads to the use of *voice* through political mobilization, enhanced political competition, and stronger preferences for pluralism. Communes experiencing relatively more killings during the Khmer Rouge era show a higher opposition vote share against the authoritarian incumbent in local and national elections between 2012 and 2017. Specifically, a 0.1 standard deviation increase in violence (equivalent to eight additional Khmer Rouge mass graves containing 50 victims each) is associated with a 5 percentage point higher opposition vote share in the 2013 elections. These communes also display more intense electoral competition, marked by smaller incumbent winning margins and fewer instances of the incumbent securing an absolute majority. Election survey data further reveal that individuals in these areas hold stronger democratic values and are better informed politically.

At the same time, our analysis reveals that repression increases *exit* from civil society, leading citizens to exercise more caution in their interactions with the local community. Survey data indicate that individuals display lower levels of trust and reduced membership and participation in community organizations, and make fewer community contributions, in communes more affected by state repression. People in these areas also exhibit less support for the local state and are more likely to avoid state interactions.

Citizens’ use of *exit* and *voice* has tangible consequences for local decision-makers’ ability to extract rents from public office. Corruption is rampant in Cambodia, especially in the natural resource sector, which has one of the highest deforestation rates globally due to political patronage and bribery. There is evidence of local officials earning rents by granting concessions that permit the exploitation of public lands.<sup>5</sup> Theoretically, increased political competition (*voice*) should discipline policymakers and restrict rent-seeking, while a less vibrant civil society (*exit*) weakens the public’s ability to monitor officials. Our findings show that the electoral accountability effect dominates, as areas with more historical killings experience fewer land concessions granted and lower deforestation rates.

We perform various robustness tests to evaluate the sensitivity of our findings. Using US Army maps from the early 1970s that cover all of Cambodia, we demonstrate that rainfall during the Khmer Rouge era is orthogonal to key predetermined characteristics such as population density, geographic proximity, state infrastructure, and underlying productivity. Crucially, placebo checks show that our findings are

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<sup>4</sup>Although the Khmer Rouge were more likely to single out previous government supporters, suspected dissidents, and educated individuals, this selection process occurred throughout Cambodia. Laborers were relocated from their homes, and survivors returned to their previous residences after the regime’s fall (Desbarats, 1995; Rice and Tyner, 2017; Tyner, 2017a).

<sup>5</sup>From 2001 to 2014, Cambodia’s annual forest loss rate rose by 14.4%, marking the fastest acceleration of tree cover loss globally (see <https://www.earthobservatory.nasa.gov> and <https://www.globalforestwatch.org>, accessed in May 2023). Local and central government officials have facilitated land annexation and seizure for resource extraction (see, e.g., Le Billon, 2002; Global Witness, 2007; Un and So, 2011; Scurrah and Hirsch, 2015).

clear outliers when compared to the effect of rain in the same months vital for rice production under the Khmer Rouge across all other years from 1951 to 2017. We also combine different measures into single indices to address concerns about false positives and multiple hypothesis testing when using individual-level survey data. Along with several other tests, these findings substantiate the reliability and significance of our results.

To understand the continued use of *exit* and *voice* 40 years after the genocide, we investigate two complementary channels of persistence. First, we show that although the incidence of violence today is the same across locations with varying levels of Khmer Rouge exposure, people in areas more heavily affected by repression perceive violence as a greater societal threat to modern Cambodia. This fear of violence supports the idea that repression has left a lasting mark on people's minds long after the Khmer Rouge disappeared, explaining the sustained impact of the atrocities on political beliefs and behavior.

Building on the observation that the general effects on *exit* and *voice* are similar for both Khmer Rouge survivors and those born later, we argue that a second key mechanism involves public genocide memorials and remembrance ceremonies that strengthen the link between past repression and the present. Our hypothesis draws on the insight that a society's collective memory, or shared experiences, influences citizens' beliefs and behavior (Nora, 1989; Halbwachs, 1992; Dessí, 2008; Assmann, 2011; Fouka and Voth, 2022). Collective memory emerges when individuals without firsthand experience of an event identify with those who experienced it, transmitting memory through channels like memorials and commemorative rituals. Genocide memorials and mass graves serve as constant reminders of the Khmer Rouge's atrocities, illustrating how visible memories in public life intensify the collective memory of state repression in contemporary Cambodia. Our results show that locations with greater exposure to the regime's repression are more likely to have constructed memorials commemorating victims.

We also examine the significance of commemorative rituals, specifically the Day of Anger, and find that these ceremonies amplify the effects of state repression. The Day of Anger is an annual national outdoor event involving community members, survivors, and school children in remembrance ceremonies featuring dramatic reenactments of the Khmer Rouge period. To address the empirical challenge that event participation may correlate with potential outcomes, we exploit exogenous variation in local rainfall on the Day of Anger as a source of variation in attendance. The idea is that people are less likely to attend in rain, and events are often canceled due to bad weather. Our analysis reveals that rain-free Days of Anger in genocide-affected locations increase the estimated effects on voting behavior, political beliefs, and civic participation, suggesting that the transmission of collective memory through commemorative ceremonies can reinforce the impact of state repression.<sup>6</sup>

Finally, we present evidence inconsistent with several alternative explanations for the increase in *exit* and *voice*. Among other factors, we show that contemporary population, age, education, assets, market access, and differential migration patterns just after the genocide are uncorrelated with our measure of state repression. This suggests that economic effects of forced labor, altered demographics, or selective migration are less likely to rationalize our findings.

This paper advances economic research on state repression. While existing work focuses on the political causes of repression or one-sided violence (Besley and Persson, 2011; Yanagizawa-Drott, 2014;

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<sup>6</sup>This finding also aligns with work arguing that recurrent rituals, such as the Day of Anger, reaffirm social commitments and political norms (Durkheim, 1912; Turner, 1985; Etzioni, 2000; Chwe, 2001).



Rogall, 2021), less is known about its political consequences. A related influential literature examines the effects of two-sided violence, such as interstate or civil war; however, the consequences of repression could be quite different. A key distinction between the two forms of violence concerns the symmetry between the parties involved. Two-sided violence entails mutual aggression engaging both sides of the conflict, potentially strengthening social cohesion within each group. In fact, past studies show that two-sided conflict fosters cooperation and trust due to increased pro-sociality toward in-group members (see, e.g., Bellows and Miguel, 2009; Blattman, 2009; Voors et al., 2012; Bauer et al., 2016).<sup>7</sup> Conversely, the victims of one-sided violence (the citizens) cannot deter the act of the perpetrator (the state), leaving them more vulnerable.<sup>8</sup> By providing some of the first rigorous evidence on the political consequences of state repression, we demonstrate that repression induces a culture of silence and distrust, as people have no other means to fight back but to avoid settings where they risk revealing their political beliefs.<sup>9</sup>

This study is also related to work examining the long-term consequences of conflict on trust (Nunn and Wantchekon, 2011), anti-Semitism (Voigtländer and Voth, 2012), and social structure (Acemoglu et al., 2011).<sup>10</sup> Furthermore, it connects to evidence emphasizing the persistence of political preferences and behavior generated through the experience of political ideology (Alesina and Fuchs-Schündeln, 2007). We add to these literatures by documenting how state repression influences people’s political beliefs and behavior across generations.<sup>11</sup> Additionally, our paper complements research on memory-based norms and salience (Bordalo et al., 2012, 2020), where the memory of repression becomes more salient through genocide memorials and remembrance ceremonies. It also relates to studies linking shared collective experiences, such as the Day of Anger, to political attitudes (Madestam and Yanagizawa-Drott, 2011; Madestam et al., 2013; Depetris-Chauvin et al., 2020).

More broadly, our findings contribute to the discussion of how state-society relations shape political development. If successful development requires a balance between the state and civil society (Acemoglu and Robinson, 2018; Dell et al., 2018) or a coevolution between democratic institutions and civic culture (Besley and Persson, 2019), the loss of trust and diminished civic engagement provide an explanation for the poor democratic performance in countries with a repressive past.

The next section provides background information on the Khmer Rouge era and the contemporary political setting in Cambodia, while Section 3 presents a theoretical framework. Section 4 introduces our data, and Section 5 discusses the empirical strategy. Section 6 reports our results, Section 7 discusses channels of persistence, and Section 8 concludes.

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<sup>7</sup>Similarly, see Fontana et al. (2021) and Tur-Prats and Valencia Caicedo (2023) for the political effects of the Italian and Spanish civil wars, respectively.

<sup>8</sup>Nunn (2021) reaches a similar conclusion through a different argument, connecting group-level competition, conflict, and prosocial behavior. In the absence of a group dimension, individual success determines one’s fate, explaining why traits like distrust and silence develop when facing a state aggressor alone.

<sup>9</sup>A related literature explores interstate effects of state aggression. For example, see Lupu and Peisakhin (2017), Rozenas et al. (2017), and Rozenas and Zhukov (2019) on the Soviet Union’s aggression and contemporary attitudes in Ukraine; Dell and Querubin (2017) on the US intervention in Vietnam and its impact on Vietnamese politics; and Cannella et al. (2021) on Nazi-occupied Italy and post-war political participation.

<sup>10</sup>See also Lowes and Montero (2021) for the lasting effect of colonial violence and Chen and Yang (2019) and Xue (2021) for work examining the causes of political distrust.

<sup>11</sup>Our work connects to the climate-conflict literature, as our productivity-derived measure of repression predicts deaths (see, e.g., Miguel et al., 2004; Burke et al., 2009; Dell, 2012; Ciccone, 2013; Hsiang et al., 2013; Harari and Ferrara, 2018; McGuirk and Nunn, 2021; Rogall, 2021).

## 2 Background

In April 1975, the Khmer Rouge seized control of Cambodia, ending a five-year civil war in which the US had supported the previous regime, primarily through heavy bombing of the country.<sup>12</sup> The four years that followed marks one of history's worst genocides, with between 1.7 and 3 million people—or more than 20% of the population—dying, an era that ended when Vietnam invaded Cambodia and defeated the Khmer Rouge in early 1979 (Kiernan, 2008).<sup>13</sup> This section briefly details qualitative evidence that roots Cambodia's current status to the Khmer Rouge's impact on society.

### 2.1 Life Under the Khmer Rouge

After seizing power, the Khmer Rouge quickly established an agrarian socialist system by collectivizing the economy and banning money, markets, and private property (Chandler, 2008). The regime aimed to rapidly develop the country through successive four-year plans that prioritized boosting rice production to generate a surplus that could finance industrialization (Chandler et al., 1988; Twining, 1988). Internal party documents reveal an obsession with increasing rice productivity as the key to transforming the economy, with Khmer Rouge cadre repeatedly emphasizing the goal of raising rice production to “*three tons per hectare*” (Chandler et al., 1988).<sup>14</sup> To achieve this, the Khmer Rouge immediately displaced large portions of the population and coerced them to live and work in labor camps across the country, ranging in size from several villages to entire communes.<sup>15</sup>

To meet labor and production targets, the Khmer Rouge established a hierarchical military command to govern the camps (Heder and Tittmore, 2004). Each province, district, and commune had committees in charge of political, security, and economic decisions, respectively. Party archives reveal that provincial committees were responsible for organizing production, prioritizing locations with higher productivity: “*attack wherever [we are] strongest*” (Chandler et al., 1988, p. 20). To accomplish this, the committees mobilized work brigades (*kong chalat*) for specific projects such as rice field harvesting, deploying them as needed within the province (Rice and Tyner, 2017; Tyner, 2017a).

Life in the camps was fully controlled by the Khmer Rouge, who oversaw mandatory “livelihood meetings” designed to indoctrinate residents with communist ideology and encourage them to confess political and ideological sins, as well as inform on other camp members. Those who expressed the wrong ideas or were accused of differing opinions faced execution (Chandler, 1988; Thion, 1993). The regime created a pervasive system of rewards for informing on neighbors, friends, and family members, further eroding trust within the community (Yimsut, 2011; Bennett, 2015).<sup>16</sup>

Despite the extensive planning, rice production remained low as the Khmer Rouge cadres lacked farming experience and familiarity with local conditions (Vickery, 1999; Ledgerwood and Vijghen, 2002).

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<sup>12</sup>The US bombing of Cambodia from 1965 to 1973, which totaled 2.7 million tons of ordnance—more than the Allies unloaded in all of World War II—was a significant factor in the Khmer Rouge's rise to power (Owen and Kiernan, 2006; Chandler, 2008).

<sup>13</sup>Estimates of the death toll during the Khmer Rouge regime vary, with Kiernan (2008) suggesting a national toll of 1.67-1.87 million and other estimates reaching as high as 3 million (see discussion in Heuveline, 1998).

<sup>14</sup>By comparison, pre-Khmer Rouge productivity averaged one ton per hectare.

<sup>15</sup>Supporters of the old regime, former state officials, Khmer Rouge dissidents, and the educated were labeled “new people”, while farmers who had lived in the insurgency areas made up the “base.” Although the base were initially treated slightly better, both groups were forced to work in the camps (Twining, 1988; Kiernan, 2008; Tyner, 2017a).

<sup>16</sup>The Khmer Rouge were notorious for their extensive monitoring, with some observers describing their surveillance as having the “eyes of a pineapple” that saw in all directions and left no escape (Marston, 1997).

Unsuccessful harvests led to further purges of not only laborers but also local Khmer Rouge cadres who did not meet production targets. By the end of 1978, the explosion of violence had completely upended collectivized agriculture across Cambodia (Hiebert, 2017). With the Khmer Rouge defeated in early 1979, displaced people began to return to their pre-1975 villages (Desbarats, 1995; Kiernan, 2008). Left in the rice fields were the remains of those who had been executed or died of starvation and overwork (Chandler, 1988; Kiernan, 2008)

## 2.2 Contemporary Cambodia

Cambodia has been an electoral democracy since 1993, but the Cambodian People's Party (CPP) has won all but one election during this time. Hun Sen has led the party since 1985, making him Asia's longest-serving prime minister (Baaz and Lilja, 2014; Strangio, 2014; Norén-Nilsson, 2016b).

Despite annual economic growth of over 7% since the mid-1990s and claims by Hun Sen and the CPP to act as guarantors of peace and stability, Cambodia ranks as one of the most corrupt countries in the world.<sup>17,18</sup> Political patronage controls business, military, and state affairs, with Sen and the CPP at the center of power (Un, 2015; Norén-Nilsson, 2016b). This is particularly evident in the natural resource sector, which has one of the highest deforestation rates globally due to corruption and bribery.<sup>19</sup> Moreover, key elements of democracy such as civil liberties, a free press, and the rule of law have been repeatedly compromised since the introduction of multiparty elections, with dissenting voices being harassed, intimidated, and jailed (Norén-Nilsson, 2016b).<sup>20</sup>

In response to Sen's authoritarian rule, the two largest opposition parties formed an alliance in 2012, creating the Cambodia National Rescue Party (CNRP). While the CPP and CNRP share many policy elements, the CNRP prioritizes anti-corruption and legal reform more strongly than the CPP (Norén-Nilsson, 2016a). After the CNRP's near-victory in the 2013 election, it faced increasing repression from the current government and was dissolved by Cambodia's Supreme Court in November 2017, paving the way for the CPP to win all 125 seats in the National Assembly in July 2018.<sup>21</sup>

## 2.3 The Killing Fields Today

Mass graves from the Khmer Rouge era continue to shape Cambodia's political culture. Annual ceremonies are held at many of the more than 300 known grave sites spread across the country to commemorate the violence (see Figure 1a). The CPP capitalized on these sites in the 1980s to legitimize the new

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<sup>17</sup>While Sen has been credited as the engineer of the military offensives and political deals that eventually led to the breakup of the Khmer Rouge in the mid-1990s, he was initially part of the Khmer Rouge before he defected to Vietnam during the internal purges in 1977 (Strangio, 2014; Giry, 2015).

<sup>18</sup>See e.g., <http://www.worldbank.org/en/country/cambodia/overview> and <https://www.transparency.org/en/cpi/2022>, accessed in May 2023.

<sup>19</sup>Between 2001 and 2014, Cambodia's annual forest loss rate increased by 14.4%, making it the fastest acceleration of tree cover loss in the world (see <https://www.earthobservatory.nasa.gov> and <https://www.globalforestwatch.org>, accessed in May 2023). Local authorities, together with central government officials, have been instrumental in the annexation and seizure of land subsequently made available for resource extraction (see, e.g., Le Billon, 2002; Global Witness, 2007; Un and So, 2011; Scurrah and Hirsch, 2015).

<sup>20</sup>See also <https://www.hrw.org/world-report/2021> and <https://www.amnesty.org/en/location/asia-and-the-pacific/south-east-asia-and-the-pacific/cambodia/>, accessed in May 2023.

<sup>21</sup>CNRP leaders Sam Rainsy and Kem Sokha were charged with "defamation" and "treason" in 2015 and 2017, respectively, and were subsequently banned from holding public office ever again. In March 2023, Sokha was accused of conspiring to overthrow the government and sentenced to 27 years of house arrest (Mydans, 2023).

government, while both the CPP and the opposition have used them more recently for political meetings during elections (Bennett, 2015; Tyner, 2017b). In many locations, memorials have been erected to honor the dead, leaving them as visible reminders of past repression. Hun Sen has stated that “*the remains of those killed during Democratic Kampuchea will not be cremated because they remain the only evidence of the Khmer Rouge regime*” (Bennett, 2015, p. 224). In Section 7, we discuss how the mass graves, memorials, and the commemorative ceremonies provide a transmission mechanism of the effect of the Khmer Rouge’s repression.

### 3 Theoretical Framework

This section presents a simple framework to structure the empirical analysis. The purpose is to highlight how citizens’ preferences for pluralism and the cost of expressing these beliefs may depend on their experience of state repression and how this in turn affects political participation.

We consider a post-conflict society ruled by an elected authoritarian incumbent, where (i) stronger preferences for pluralism are equivalent to backing the opposition and (ii) it is costly to openly express preferences against the incumbent. This reflects the political reality in Cambodia, where supporting the opposition CNRP represents a vote for democracy, pluralism, and resistance to the ruling authoritarian party CPP led by Hun Sen. Additionally, they highlight the significant costs of political dissent such as harassment, threats, and imprisonment, faced by opposition supporters.

People take political action by participating in civil society and voting in elections. Preferences for pluralism not only capture the backing of political but also civil rights, as in supporting the diversity of groups that exert influence.<sup>22</sup> A key ingredient is that these preferences are more easily observed when people participate in civil society than when they vote anonymously.<sup>23</sup> Inspired by Hirschman’s (1970, 1978) work on *exit* and *voice*, we confine citizens’ political activities to participating in or exiting civil society and to voting for or against the incumbent, where a vote against the incumbent is an expression of *voice*.<sup>24</sup> We first present the basic model and then study how the experience of state repression changes political participation as mediated by its effect on the support for pluralism and the cost of dissent.

Suppose citizens engage in two independent political activities,  $A \in \{V, P\}$ , with  $V$  for voting and  $P$  for civil society participation. Each activity yields strictly concave utility  $A^\alpha$  at cost  $A$ ,<sup>25</sup> where the utility is influenced by individuals’ support for pluralism. Authoritarian-aligned citizens have weaker preferences for pluralism and gain less from political engagement, while opposition supporters favor pluralism and benefit more from signaling democratic preferences. In particular, benefit function  $B(\theta)$  increases in the support for pluralism  $\theta$ , where  $\theta$  is distributed over  $[0, \bar{\theta}]$ , with  $B'(\theta) > 0$  and  $\theta_I \in (0, \bar{\theta})$

<sup>22</sup>This view of pluralism aligns with liberal democracy, including majority rule and individual liberty, and differs from the electoral democracy present in Cambodia today (see, e.g., Plattner, 2010; Bidner et al., 2015; Mukand and Rodrik, 2020).

<sup>23</sup>This captures the idea that preferences are more likely disclosed via continuous public civic activities than a single (secret) vote. While there are reports of voter secrecy being breached in Cambodia, the most common influence tactics include patronage exchange, pre-election harassment of opposition supporters, and flawed voter registries on election day (see European Union Election Observation Mission, 2008; Committee for Free and Fair Elections in Cambodia, 2013, 2017 for evidence on the electoral process and Norén-Nilsson, 2016b, 2017 for the prevalence of patronage.)

<sup>24</sup>Unlike Hirschman, the decision is over two separate activities: (i) exiting or engaging in civic work and (ii) voting for or against (*voice*) the long-term ruler. Additionally, following recent research (Herbst, 1990; Scott, 2009; Clark et al., 2017), we define *exit* as withdrawal from various political activities involving interactions with state and civic associations.

<sup>25</sup>Costs include the transaction cost of going to the polls or the opportunity cost of engaging in civic work.

denoting the incumbent's preferences. We assume that extreme positions in  $\theta$  (closer to  $\bar{\theta}$ ) are more likely to be revealed to the authorities than weaker preferences and model the likelihood of detection as a probability function  $p_A(\theta)$ .<sup>26</sup> When preferences are revealed, individuals risk harassment by the state. We denote these costs of dissent by the linear parameter  $c$ . Citizens choose  $V$  and  $P$  by maximizing

$$A^\alpha \times [B(\theta) - p_A(\theta)c] - A, \quad (1)$$

which yields

$$A^* = (\alpha [B(\theta) - p_A(\theta)c])^{\frac{1}{1-\alpha}}, \text{ for } A \in \{V, P\}. \quad (2)$$

The optimal intensity of activities  $V$  and  $P$  depends on individuals' support for democracy  $\theta$  and the expected cost of dissent  $p_A(\theta)c$ . For simplicity, we assume that  $B(\theta) > p_A(\theta)c$  for all values of  $\theta < \theta_I$ ; namely, citizens with less pluralistic sentiments than those held by the incumbent always participate in civil society and vote because the benefits dominate the costs.<sup>27</sup> As preferences are more likely to be revealed through repeated public civic engagement than when citizens cast a single (secret) vote, we also assume that voters' beliefs are unknown to the authorities,  $p_V(\theta) = 0$ . That is, for a given pair  $(\theta, c)$ , an individual is always more likely to vote than to participate in civil society. The same results are obtained under the more general assumption that  $p_P(\theta)$  first-order stochastically dominates  $p_V(\theta)$ .<sup>28</sup>

To derive the fractions of incumbent and opposition supporters and the subsequent incumbent winning margin, we assume that every citizen with  $V^* > 0$  votes.<sup>29</sup> Individuals with preferences  $\theta \leq \theta_I$  vote for the incumbent, while citizens with stronger democratic sentiments, above  $\theta_I$ , back the opposition. Combined, this yields the following winning margin for the incumbent:

$$\int_0^{\theta_I} f(\theta) d\theta \geq \int_{\theta_I}^{\bar{\theta}} f(\theta) d\theta \quad (3)$$

$$\Leftrightarrow 2F(\theta_I) - F(\bar{\theta}) \geq 0. \quad (4)$$

Citizens with preferences  $\theta \in [0, \theta_I]$  vote for the incumbent, with the remainder supporting the opposition (see [Besley et al., 2010](#) for a similar formulation of the winning margin).

We now study the consequences of state repression on subsequent political outcomes. Suppose first that individuals who experienced state repression perceive the cost of dissent to be higher,  $c' > c$ . This captures the presumption that exposure to political violence increases awareness of the severity of state punishment.<sup>30</sup> The higher cost unambiguously decreases participation in civil society  $P^*$ .<sup>31</sup> Since  $\theta$  is unchanged and  $p_V(\theta) = 0$ , voting and the opposition vote share are unaffected by an increase in the cost

<sup>26</sup>Both  $B(\theta)$  and  $p_A(\theta)$  are continuous and increasing in  $\theta$ . While  $B(\theta)$  is a concave function,  $p_A(\theta)$  represents the probability density function of having one's preferences revealed and is bounded by zero and unity.

<sup>27</sup>Moreover, absent any cost of dissent, each individual has an incentive to act as long as  $A^\alpha B(\theta) > A$ . Under this condition, the model circumvents the voter paradox that a rational voter should abstain due to the near-zero probability of being pivotal.

<sup>28</sup>The more general framework also captures the idea that if voters are intimidated by the incumbent party, stronger supporters of the opposition are more easily detected.

<sup>29</sup> $V^*$  can also be interpreted as the propensity to vote.

<sup>30</sup>Alternatively,  $c$  could be a random variable where the variance of  $\mathbb{E}[c]$  decreases in the experience of repression. That is, people exposed to political violence have more accurate and higher expectations about the cost of dissent. The experience of repression may further negatively affect emotions and perceptions of fear, implicitly increasing the cost of opposition (see, e.g., [Young, 2018](#), for a discussion). Note that we do not distinguish between perceived and actual cost of dissent in our model. In practice, both may be at play (where cumulative exposure to violence also increases the actual psychological cost of dissent).

<sup>31</sup>Specifically,  $dA^*/dc = -\frac{\alpha}{1-\alpha} (\alpha [B(\theta) - p_A(\theta)c])^{\frac{\alpha}{1-\alpha}} \times p_A(\theta) < 0$  for all  $B(\theta) > p_A(\theta)c$  and  $p_A(\theta) > 0$ .



of dissent. The outcome is depicted in Figure 2, which displays the location of every citizen depending on their support for pluralism and the cost of opposing the incumbent. In particular, citizens with strong pluralistic sentiments *exit* civil society, shown as a move from the lower-right to the upper-right quadrant.

**Prediction 1. Exit:** *If state repression increases the cost of dissent, the opposition vote share is unaffected and people exit civil society.*

The second prediction reflects the idea that individuals who suffered under state repression have stronger preferences for pluralism  $\theta$ . The effect of a change in  $\theta$  on voting and engagement in civil society in turn depends on the cost of dissent  $c$ . To see this, suppose that the marginal benefits outweigh the expected costs,  $B'(\theta) > p'_A(\theta)c$ , which then causes the opposition vote and participation in civil society to increase.<sup>32</sup> This change is depicted as a move from the lower-left to the lower-right quadrant in Figure 2. If dissent  $c$  is very costly, the inequality switches sign, dampening the increase in civil society participation while leaving voting unaffected (because of the secret ballot). This implies that support for the opposition increases in  $\theta$  even if  $c$  is high, while civic engagement decreases, which is illustrated in Figure 2 as a move from the upper-left to the upper-right quadrant.

**Prediction 2. Voice:** *If state repression increases support for pluralism, the opposition vote share increases and the effect on civic participation is ambiguous.*

One additional result follows. If state repression increases the support for pluralism, it also affects the incumbent's winning margin by enlarging the mass of voters in the interval  $(\theta_I, \bar{\theta})$ . This intensifies political competition as elections become closer, lowering the probability of an incumbent win,  $\mathbb{I}[2F(\theta_I) - F(\bar{\theta}) > 0]$ .<sup>33</sup>

**Corollary 2.1.** *If state repression increases support for pluralism, political competition increases.*

If the experience of state repression affects both the cost of dissent  $c$  and citizens' preferences  $\theta$ , two countervailing forces are at work. The increase in the cost of dissent unambiguously decreases civic engagement. However, with stronger pluralistic sentiments, the overall effect depends on  $B'(\theta)d\theta - p'_A(\theta)cd\theta - p_A(\theta)dc$ .<sup>34</sup> As before, the assumption that preferences are anonymous when voting results in a surge in the opposition vote share even when  $c$  is high,  $B'(\theta)d\theta \geq 0$ . The combination of a higher likelihood of detection,  $p'_P(\theta)cd\theta$ , and a higher cost of dissent,  $p_P(\theta)dc$ , instead draws down participation in civil society.<sup>35</sup> In Figure 2, these changes are depicted as a move from the lower-left to the upper-right corner, where people simultaneously choose *exit* and *voice*. The fact that citizens simultaneously *exit* civil society and exert more *voice* implies that the political environment becomes less personal but increasingly competitive under our third and final prediction.

<sup>32</sup>Specifically,  $dA^*/d\theta = \frac{\alpha}{1-\alpha} [B(\theta) - p_A(\theta)c]^{\frac{\alpha}{1-\alpha}} \times [B'(\theta) - p'_A(\theta)c]$ . If the expression in the last parentheses is larger (smaller) than zero, the optimal  $A^*$  increases (decreases) in  $\theta$ .

<sup>33</sup>Note that strategic incumbent behavior can weaken the predicted increase in political competition. To see this, suppose that the support for pluralism and subsequent competition increases as stated in Corollary 2.1. To maximize the likelihood of reelection, the ruler moves the bliss point to  $\theta'_I > \theta_I$ . This increases the mass of voters below  $\theta'_I$ , which reduces the winning margin. As a result, our empirical estimates of the effect of state repression on citizens' preferences will be downward biased since the incumbent's strategic behavior partly reverses the predicted increase in the opposition vote share.

<sup>34</sup>Specifically,  $dA^* = \frac{\alpha}{1-\alpha} [B(\theta) - p_A(\theta)c]^{\frac{\alpha}{1-\alpha}} \times \{[B'(\theta) - p'_A(\theta)c]d\theta - p_A(\theta)dc\}$ .

<sup>35</sup>Formally, we assume that  $B'(\theta)d\theta < p'_P(\theta)cd\theta + p_P(\theta)dc$ .



**Prediction 3. Exit and Voice:** *If state repression increases support for pluralism and the cost of dissent, the opposition vote share increases and people exit civil society.*

In the empirical analysis, we apply this framework to examine the impact of state repression on political beliefs and behavior in Cambodia.

## 4 Data

We extract information from several sources to collect data on violence, voting outcomes, political beliefs, civic participation, community and individual characteristics before and after the genocide, land concession policy and resource extraction, and rainfall. The following subsections present these sources and describe how they are used.

**Violence Data** We obtain information on the magnitude and dispersion of state repression (violence) using data from the Cambodian Genocide Database held at Yale University.<sup>36</sup> These data comprise 309 geo-coded locations with 18,953 mass graves containing 974,734 bodies, which we aggregate by commune to identify localities that were targeted by the Khmer Rouge (see Figure 1a). To capture violence in the post-Khmer Rouge period, we measure local variation in violent incidents using three geo-coded international event-based datasets aggregated by commune: the Armed Conflict Location and Event Data Project (ACLED, [Raleigh et al., 2010](#)), the Global Database on Events, Location, and Tone (GDELT, [Leetaru and Schrodt, 2010](#)), and the Uppsala Conflict Data Program (UCDP, [Sundberg and Melander, 2013](#)).

**Election Data** Our voting outcomes include results from the national election in 2013 and the communal (local) elections in 2012 and 2017. The national election data were obtained from the Open Development Cambodia website.<sup>37</sup> Information on the communal elections was digitized and translated from the official website of the National Election Committee.<sup>38</sup> We have election data for the entire country at the commune level.

**Political Beliefs and Civic Participation** To study whether state repression affects citizens' views on democratic principles, engagement in civil society, and political beliefs more generally, we use two rounds of the nationally representative Asia Foundation Election Survey.<sup>39</sup> The interviews were conducted in 2003 and 2014 and include information on public sentiments and sociodemographic variables. Guided by our theory, we distinguish sets of questions that help us identify *exit* and *voice* and create the following four broad categories: support for pluralism, voter informedness, local civic participation, and trust.<sup>40</sup> Following [Anderson \(2008\)](#), we standardize each question within the four categories and sum

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<sup>36</sup>See <https://gsp.yale.edu> for further details about the violence data.

<sup>37</sup>See <https://opendevelopmentcambodia.net> for additional information.

<sup>38</sup>See <https://www.nec.gov.kh> for details. Since the opposition alliance, CNRP, was formed after the 2012 elections, we combine the votes of the parties later included in the CNRP (the “Sam Rainsy Party” and “Human Rights Party”) in the 2012 commune elections to match the alliance appearing in 2013 and 2017. As CNRP was dissolved by Cambodia’s Supreme Court in November 2017, we focus on the three most recent elections in which opposition candidates were permitted to run.

<sup>39</sup>The data were provided by the Asia Foundation (<https://asiafoundation.org>).

<sup>40</sup>We restrict our survey usage to questions that reflect the channels under examination, excluding general inquiries like “How interested are you in politics?” or “How often do you discuss politics with friends?” applicable to both incumbent and opposition supporters. See Appendix B for the complete list of questions and Appendix Table A.8 for their summary statistics.

the standardized outcomes, weighting each question by the inverse of the covariance matrix of the standardized outcomes.<sup>41,42</sup> The four indices address concerns of multiple hypothesis testing and aggregate changes in preferences that individual questions only measure imperfectly.<sup>43</sup>

**Pre-Genocide Demographic Data** To capture pre-genocide demographics, we digitize the US Army map series L7016 1970–1973, covering all of Cambodia at a scale of 1:50,000.<sup>44</sup> The topographic maps were derived from early satellite imagery used during the American bombing campaign and contain comprehensive commune information on population density (residential buildings), state infrastructure (such as commune offices, post offices, and schools), and agricultural productivity.<sup>45</sup> We measure pre-Khmer Rouge productivity by determining each commune’s area covered by forests, rice fields, or inundation, and supplement this with FAO’s Global Agro-Ecological Zones database for potential crop yields.<sup>46</sup> We also include information on the location and quantity of 113,716 bombings during the 1965–1973 US bombing campaign.<sup>47</sup> The commune-level pre-genocide characteristics help us reduce residual variation and improve the precision of our estimates.

**Post-Genocide Demographic Data** To capture post-genocide demographics, we use the 1996–2016 Cambodia Socio-Economic Survey (CSES), which contains demographic indicators for up to 400,000 individuals from 14 nationally representative survey rounds. These individual-level data allow us to address alternative hypotheses based on population, age, education, gender, assets, consumption, and migration. From the associated village survey, we extract commune-level variables on state investment and public infrastructure. The data on infrastructure are supplemented with information on market access from Open Development Cambodia from 2012.<sup>48</sup> To measure human capital investments, we include variables on classes, teachers, students, and parents from the school census available for the period 1997–2002. We obtain population statistics from the 1962, 1998, and 2008 censuses to complement the CSES data. Finally, we use information on light density measured by satellites at night for 1992–2013, available from the National Centers for Environmental Information at the National Oceanic and Atmospheric Administration (NCEI-NOAA) to capture local economic activity.<sup>49</sup>

**Land Concession Policy and Resource Extraction Data** We obtain geo-coded data on economic land concessions granted by the Cambodian government between 2001 and 2015 from the Cambodian League for the Promotion and Defense of Human Rights (LICADHO),<sup>50</sup> data from the Hansen et al. (2013) satellite-derived deforestation rate measure for the years 2000–2018, and village-level data on

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<sup>41</sup>By considering the covariance between individual questions, we obtain a more accurate measure than methods employing an equally weighted average. We present standardized scores for all main outcome categories, except for our election results.

<sup>42</sup>To capture if people perceive violence as a threat to society in present-day Cambodia, we also standardize a survey question where respondents were asked about the biggest problem facing Cambodia and their commune, respectively.

<sup>43</sup>Similar to Cantoni et al. (2017), we present results for individual questions with estimated  $p$ -values and false discovery rate-adjusted  $p$ -values in Appendix Table A.8, computed using the Anderson (2008) procedure.

<sup>44</sup>The maps were provided by the Cambodian Genocide Program at Yale University (<https://gsp.yale.edu>).

<sup>45</sup>Figure A.2a contrasts a map and a pre-Khmer Rouge satellite image, illustrating the level of detail. With the ability to display features as small as a single home, these maps accurately represent the natural and human-made demographics of that time.

<sup>46</sup>The FAO data can be accessed via <http://gaez.fao.org>.

<sup>47</sup>The ordnance data were provided by the Cambodian Genocide Program at Yale University (<https://gsp.yale.edu>).

<sup>48</sup>See <https://opendevelopmentcambodia.net> for further details.

<sup>49</sup>The NCEI-NOAA data are available via <https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html>.

<sup>50</sup>For details on the LICADHO data, see [https://www.licadho-cambodia.org/land\\_concessions/](https://www.licadho-cambodia.org/land_concessions/).

illegal logging and resource overuse from CSES.<sup>51</sup> These indicators, aggregated at the commune level, allow us to investigate the links between *exit*, *voice*, and natural resource extraction.

**Rainfall Data** Historical rainfall data are obtained from the APHRODITE Water Resources project at 0.25-degree resolution covering the period 1951–2007 together with data from NOAA Climate Prediction Center for the years 2002–2017, allowing us to construct a long panel of rainfall in Cambodia.<sup>52</sup> The daily rainfall data are aggregated by commune.

Summary statistics for the main outcomes, rainfall, and other variables are provided in Appendix Tables A.1–A.3 and A.8.

## 5 Empirical Strategy

Identifying the effect of state repression on political outcomes is challenging, as it requires the variation in repression to be uncorrelated with other determinants of political beliefs and behavior. For instance, the Khmer Rouge may have targeted urban and economically developed areas with a more pluralistic outlook, potentially confounding our analysis (in fact, Figure 3 shows a positive relation between pre-Khmer Rouge population density, Killing Fields victims, and support for the opposition CNRP).

Our empirical strategy addresses this problem by leveraging the regime’s desire to establish an agrarian collectivist society. We present individual accounts of people forcibly relocated to more productive regions and demonstrate that these labor movements were part of the Khmer Rouge’s strategy for boosting rice production, which eventually led to increased repression and political violence in the receiving areas. We then approximate the regime’s labor allocation using exogenous variation in rice productivity and show that it consistently predicts the intensity of state repression.

### 5.1 Khmer Rouge Production Plans and Forced Relocation

In an effort to create a self-sufficient agrarian socialist society, the Khmer Rouge immediately began reallocating people across Cambodia to increase rice production. Numerous survivor accounts describe how individuals were relocated and organized into large labor brigades to meet production targets. These movements often occurred close to the year’s end (December–March) to assist with harvests. The Documentation Center of Cambodia (DC-Cam) houses records of personal testimonies that, among other aspects, reveal the coercive allocation of work tasks.<sup>53</sup> For example, Son Laut, a farmer in the Sann Kor commune in central Cambodia, was assigned to work in a female mobile unit by the local Khmer Rouge cadre in 1975. She recounts: “*If we could not complete the assigned task, we would be punished. Half of our body would be buried in the earth. [...] I had to build a hundred meters of rice dikes per day. After that, they sent me to harvest rice at Chong Dak, located in Koh Commune*” (DC-Cam, 2023). Mobile units even included children; in 1976, eight-year-old Tai Sé was selected to join the special children’s unit: “*During the harvesting period [the Khmer Rouge] sent the young pioneer unit to Chamkar Leur,*

<sup>51</sup>See <http://earthenginepartners.appspot.com/science-2013-global-forest> for forest change data.

<sup>52</sup>The APHRODITE’s Water Resources project data are available from <http://www.chikyu.ac.jp/precip/english>, and the NOAA data can be obtained from <ftp://ftp.cpc.ncep.noaa.gov/fews/S.Asia/data/>.

<sup>53</sup>The center holds the world’s largest archive on the Khmer Rouge period with 155,000+ documents and 6,000 photographs. See <https://dccam.org/homepage> for details.

where they remained until 1978” (DC-Cam, 2023). People not only assisted with the harvest but also with subsequent production. Chhuon Sopheak, who lived in the Battambang Province in northwestern Cambodia, recalls: “[They] often transferred me to work in other villages after harvesting time. I carried both paddy and husked rice from the mill to the granary” (DC-Cam, 2023).

Kiernan’s (2008) comprehensive account of life under Pol Pot, partly based on interviews with survivors, echoes these experiences. He characterizes the country as a “gigantic workshop of indentured agrarian labor” (Kiernan, 2008, p. 164), with many people being relocated at the end of the year: “Hong Var and her two daughters, Somaly, seven, and Panita, three, were sent from Takeo to Region 5’s Phnom Srok district in December. They lived there for four months until rice supplies ran low” (Kiernan, 2008, p. 226). Similarly, in January 1976, “Van [a mechanic] was finally sent to the nearby Region 5 Worksite to bring in the harvest, then dig irrigation works” (Kiernan, 2008, p. 229). Early in the regime, these movements were quite organized: “Savy, working near Sisophon at the end of 1976, saw the first contingent arrive. Trains brought in over two thousand Southwest Zone people to Region 5 alone. They came in whole families, even bringing their parents” (Kiernan, 2008, p. 237).

A common theme in the testimonies is that people were relocated around harvest time to areas with favorable rice harvests. For instance, Sisophon, Chong Dak, and Chamkar Leur were all relatively more productive locations than neighboring areas. The focus on productive regions is also evident in confidential Khmer Rouge leadership documents from 1976, outlining the party’s Four-Year Plan, including rice production increases across Cambodia (Chandler et al., 1988). These files offer unique insight into the regime’s priorities, highlighting its emphasis on areas where forced labor was most essential. The documents instruct provincial committees to achieve production targets by concentrating on communes with higher productivity. This strategy explicitly involved employing additional labor, as failure was attributed to “a lack of forces” (Chandler et al., 1988, p. 15).<sup>54</sup>

We illustrate the Khmer Rouge’s goal of reallocating people to locations with higher productivity by plotting the relationship between areas targeted for production and estimated 1975/1976 rainfall.<sup>55</sup> As higher productivity is associated with less wet-season rain (a claim we substantiate in Section 5.2), Figure 4a shows that areas predicted to have higher productivity (due to less wet-season rain) also have higher targeted production according to the Khmer Rouge documents.

The rice fields ultimately turned into killing fields due to inhumane working conditions, production failures, and political terror. Long work hours and high production quotas, coupled with insufficient food rations, led to widespread exhaustion and death (Tyner, 2017a). Despite extensive planning, the Khmer Rouge’s efforts to increase rice production were hampered by cadres’ lack of farming experience and unfamiliarity with local conditions (Vickery, 1999; Ledgerwood and Vijghen, 2002). Unsuccessful harvests prompted further purges in the labor camps, targeting not only laborers but also local Khmer Rouge cadres who failed to meet production goals. By late 1978, the surge of violence had completely disrupted Cambodia’s collectivized agriculture (Hiebert, 2017).

<sup>54</sup>Chandler et al. (1988) notes that the unpublished text on agricultural production targets is “one of the most revealing documents from the DK [Democratic Kampuchea] era” (Chandler et al., 1988, p. 36). See Figure A.1 for national targets.

<sup>55</sup>To estimate the relationship between predicted and actual rice production in 1975/1976, we use information on targeted additional production for 1977. Since the explicit goal was to attain higher yields in locations that were especially productive, areas targeted for increased productivity in 1977 serve as a suitable proxy for rice production during the prior 1976 season.

## 5.2 Rice Production and State Repression

We use the relationship between prolonged heavy rainfall during the wet season (September to mid-November) and labor-intensive harvesting and rice processing in subsequent months to predict rice yields and labor allocation to communes. Cambodia is among the most climate-vulnerable countries in the world, with droughts and heavy floods having a strong negative impact on yields (Eckstein et al., 2021). Excessive rain during the wet season affects rice productivity, as sand-filled floods damage leaves and submerge crops, reducing plant density and resulting in lower yields (Javier, 1997).<sup>56</sup> To construct the productivity shock, we contrast rainfall in the 1975–1977 wet seasons to the historical distribution in 1951–2017 to obtain a standardized measure of productivity.<sup>57</sup>

To approximate the local labor allocation decisions of the regime’s provincial committees, which targeted more productive communes, we create a binary indicator for clarity. Communes with standardized rainfall below the province mean are defined as non-rainy and produced relatively more rice than expected, while those with rainfall above the province mean produced less due to excessive flooding. As discussed in Section 5.1, we expect that more people were, at the margin, sent to work in the productive (non-rainy) communes within each province, resulting in increased repression in these areas. To ease interpretation, we define exposure to state repression as follows (a thorough discussion of the underlying assumptions is provided in Section 5.5):

$$State\ Repression_c = \mathbb{I} \left[ z_c^{KR} \leq z_p^{KR} \right], \quad (5)$$

where  $State\ Repression_c$  is a dummy variable equal to one if the standardized commune-level rainfall  $z_c^{KR}$  was below the standardized province-level rainfall  $z_p^{KR}$  during the Khmer Rouge period (1975–1977), indicating that the commune had above-average productivity within the province in those years.<sup>58</sup>

Our measure consistently predicts higher modern-day rice yields and increased production during the Khmer Rouge era. Figure 4b confirms the association between rainfall and rice yields, while Appendix Table A.5 establishes a robust relationship between wet-season rainfall and productivity using the definition in equation (5): a productive commune experiences an approximate 6% of a standard deviation increase in rice production. A similar relationship emerges in the confidential party files, where a modified version of our productivity measure predicts higher production targets by the Khmer Rouge (Figure 4a).<sup>59</sup> This suggests that exceptionally low rainfall during the genocide had a comparable impact on rice productivity as observed today, corroborating the regime’s strategy of allocating more people to produc-

<sup>56</sup>As Nesbitt (1997b) explains, “Heavy rains in September and October are essential for rice farmers. These flood the fields to a depth that will kill weeds but allow the rice to flower and set seed. Too much rain causes flooding...The wet season in Cambodia generally stops abruptly sometime in November, and the fields dry quickly, thereby reducing the possibility of planting a second crop. Rice matures at different times over the next few months and is harvested by hand”(Nesbitt, 1997b, p. 16).

<sup>57</sup>To recover the effect of productivity shocks on population movement during the Khmer Rouge reign, we start in 1975, as shocks in prior years have little predictive power on contemporaneous yields, and end in 1977, as the violence had completely destroyed collectivized agriculture by 1978 (Hiebert, 2017). We use average rainfall in 1975–1977 to remain agnostic about the importance of a given wet-season shock.

<sup>58</sup>Equation (5) also controls for a second-order polynomial in the commune’s latitude and longitude to account for non-linear relationships in geographic proximity. Specifically, we regress  $z_c^{KR}$  on the province fixed effects and the polynomial and predict  $z_p^{KR}$  using this regression. The results are similar if we exclude the polynomial. Controlling for standardized province-level rainfall is akin to accounting for non-random exposure to exogenous rainfall shocks as in Borusyak and Hull (2022).

<sup>59</sup>As rice production information is aggregated at a higher level (zones and regions) in the Khmer Rouge leadership documents (extracted from Chandler et al., 1988), we collapse the data to the provincial level and calculate the spatial overlap between provinces and regions.



tive areas.<sup>60</sup> In Appendix A.1, we offer additional details on the construction of the indicator and confirm that the results are robust to the methods used for aggregating rainfall and measuring productivity.<sup>61</sup>

### 5.3 State Repression and Violence

We predict the intensity of repression across Cambodia under the Khmer Rouge using our indicator variable in equation (5). Figure 1b illustrates the variation in predicted state repression among the country’s provinces. Communes color-coded in dark gray denote more productive areas, assumed to be targets of the Khmer Rouge’s repression. We validate this assumption by estimating

$$Violence_c = \delta State\ Repression_c + \Gamma'_c + X'_c + \gamma_p + \varepsilon_c, \quad (6)$$

where  $Violence_c$  is a measure of political violence in commune  $c$ ,  $State\ Repression_c$  is defined as above,  $\Gamma'_c$  is a second-order polynomial in latitude and longitude to compare similarly situated communes,  $X'_c$  is a vector of predetermined commune characteristics, and  $\gamma_p$  represents the province fixed effects. We report standard errors clustered at the province level and corrected for spatial dependence. If equation (5) captures the regime’s labor allocation mechanism, we expect  $\delta > 0$  as more productive communes receive, on the margin, a larger workforce, resulting in increased state repression and, subsequently, greater violence.<sup>62</sup>

Table 1 reports estimates from specification (6), demonstrating that our measure of state repression consistently predicts a rise in violence. The coefficients are similar with and without predetermined commune controls, statistically significant (at the 1% level), and quantitatively meaningful. In communes experiencing relatively higher state repression, 389 additional bodies (with a mean of 408) and 8 more mass graves (with a mean of 7) were uncovered, and there is a 63% higher probability of having a genocide memorial commemorating those who perished in the Killing Fields. To address concerns related to multiple hypothesis testing and to capture the broader average effect, we follow Anderson (2008), standardize each violence measure, and sum the standardized outcomes, weighting each estimate by the inverse of the covariance matrix of the standardized outcomes. The standardized effect across all outcomes indicates that violence increased by 0.135 standard deviations ( $t=4.35$ ).

We validate our identification strategy by demonstrating that our measure of state repression is uncorrelated with key pre-genocide characteristics, is an outlier in the placebo distribution of rainfall shocks from 1951 to 2017, and does not predict violence just before or after the Khmer Rouge’s reign. First, we examine whether communes predicted to experience less state repression serve as valid counterfactuals for those expected to face more repression, using our pre-genocide commune-level characteristics. If the strategy is valid, there should be no correlation between the variation in repression and other

<sup>60</sup>The resemblance between present-day yields and those recorded under the Khmer Rouge can be attributed to the fact that farming practices have largely remained unchanged since the 1970s. Consequently, rice productivity in Cambodia is currently the lowest in Asia (Javier, 1997; FAO, 2002). Furthermore, the production shocks observed between 1996 and 2016 are similar in magnitude to those experienced during the Khmer Rouge period.

<sup>61</sup>Appendix Section A.1 demonstrates that our findings are consistent regardless of how we aggregate rainfall, with only wet-season rain significantly predicting productivity. Moreover, atrocities decline monotonically with wet-season precipitation, and alternative measures of productivity, both continuous and binary, produce similar predictions.

<sup>62</sup>While it may seem counterintuitive to kill laborers, the camps served the dual purpose of increasing production and promoting the Khmer Rouge ideology, either by changing beliefs or by eliminating dissidents. When the unrealistic production targets were not met, the political agenda became the regime’s primary concern, and violence intensified (see Section 2 for details).



pre-genocide determinants of later political outcomes. Table 2 indicates that all pre-1975 commune characteristics, such as state infrastructure, population density, geographic proximity, and underlying productivity, are uncorrelated with state repression, lending credibility to our identification strategy.

Second, we conduct a series of placebo tests using wet-season rainfall from alternative three-year periods. These placebos are drawn from the same spatially correlated distribution as rainfall during the wet seasons of 1975-1977. If wet-season rainfall in the Khmer Rouge era has a causal effect, then rainfall in any other period should be uncorrelated with our measure of state repression, except by chance. To test this, we employ two complementary procedures. First, we rerun each regression for the outcomes shown in Table 1, replacing the repression indicator from the Khmer Rouge period with a dummy for all other three-year periods in 1951-2017, yielding 64 placebo wet seasons.<sup>63</sup> Second, we randomly assign state repression within each province, allocating 50% of the communes to experience more repression using 10,000 draws.<sup>64</sup>

Figure 6 demonstrates that the estimates from the Khmer Rouge period (the red line) are clear outliers in the cumulative distributions of the placebos. Each graph also displays the fraction of placebo coefficients with a larger magnitude than the actual estimate (for one- and two-tailed tests). Only 1.7% of the placebo estimates of wet-season productivity's impact on the number of dead bodies are more positive than the actual estimate, and 3.2% of the estimates are larger in absolute magnitude when using the 10,000 random draws. Likewise, with the 64 placebo wet seasons, 1.4% of the estimates are more positive, and 4.4% are larger in absolute magnitude.<sup>65</sup> This pattern remains consistent across other outcomes. When examining the standardized index, the true average effect has a greater absolute value than any of the 64 placebo wet season shocks.

In our final validation, we concentrate on the years surrounding the Khmer Rouge period and investigate whether the effects truly result from wet-season rainfall during the genocide, rather than 1970s weather conditions influencing violence for reasons unrelated to the Khmer Rouge. Appendix Figure A.4 presents estimates of wet-season rain for the time windows 1969–1971, 1972–1974, 1975–1977 (the Khmer Rouge period), 1978–1980, and 1981–1983, plotted against the standardized violence index. Reassuringly, there are no indications of pre-trends, and post-genocide rainfall lacks predictive power. Collectively, these tests strengthen our confidence that the productivity-derived measure of state repression accurately captures the regime's labor allocation rule and the resulting violence.

## 5.4 Main Specifications

Having demonstrated that productivity-induced state repression during the Khmer Rouge era significantly predicts violence, we proceed to estimate the repression's impact on political beliefs and behavior. To examine voting behavior and the use of *voice*, we run the regression

<sup>63</sup>We create 64 placebo wet seasons using overlapping time windows from 1951 to 2017, excluding the Khmer Rouge period (1975-1977).

<sup>64</sup>A priori, the random distribution of more repression (non-rainy) and less repression (rainy) communes during the Khmer Rouge era (1975-1977) remains uncertain. Thus, we adopt a 50-50 split. However, the results remain unchanged if we use the actual distribution determined by equation (5).

<sup>65</sup>Plotting the distribution of the *t*-statistics from the placebo wet-season shocks and comparing them to the actual estimate's *t*-statistic leads to similar conclusions, with 1.4% of the placebo *t*-statistics having a larger absolute value than the actual statistic.

$$y_c = \delta \text{State Repression}_c + \Gamma'_c + X'_c + \gamma_p + \pi_y + \varepsilon_c, \quad (7)$$

where  $y_c$  represents the vote shares of the incumbent and the opposition, turnout, the likelihood of the incumbent having an absolute majority, and the incumbent's winning margin in the national election in 2013 and the communal elections in 2012 and 2017.  $\pi_y$  represents the election-year fixed effects included when we study communal elections, and the remaining variables are defined as before. Considering our theoretical framework, if state repression leads to an increase in the use of *voice*, we expect the vote share of the opposition and turnout to rise,  $\delta > 0$ , while the incumbent vote share, the likelihood of the incumbent having an absolute majority, and the incumbent's winning margin will decline,  $\delta < 0$ .

To quantify citizens' beliefs, civic engagement, and local state interactions, we use the election survey and the socioeconomic data (CSES). We match commune identifiers for survey participants with our measure of state repression, allowing us to estimate a regression nearly identical to equation (7). This estimation uses respondent outcomes ( $y_i$ ), a second-degree polynomial in latitude and longitude ( $\Gamma'_c$ ), individual and commune characteristics as defined in Table 2 ( $x'_i$  and  $X'_c$ , respectively), province or zone fixed effects ( $\gamma_{pz}$ ),<sup>66</sup> and survey-year fixed effects ( $\pi_y$ ):

$$y_i = \theta \text{State Repression}_c + \Gamma'_c + X'_c + x'_i + \gamma_{pz} + \pi_y + \varepsilon_i. \quad (8)$$

We apply equation (8) to test the prediction that state repression results in *exit* through a decrease in trust, civic participation, community contributions, the amount of taxes paid, and the likelihood of working for the government  $\theta < 0$ . An increase in variables measuring support for pluralism and voter informedness,  $\theta > 0$ , confirms the use of *voice*.

To investigate whether state repression influences policymaking and rent extraction, we use equation (7) and examine land concession permits granted by the local government, deforestation rates, illegal logging, and resource overuse. The effect of increased citizens' use of *exit* and *voice* is ambiguous. Although heightened political competition may curb rent seeking, resulting in lower extraction rates,  $\delta < 0$ , a less active civil society could weaken the public's capacity to monitor officials,  $\delta > 0$ .

## 5.5 Discussion of Assumptions

Our empirical strategy allows us to estimate the causal effect of local variation in state repression if we are willing to assume that the productivity shock affects political participation only through the experience of repression. We discuss four potential areas of concern.

The first concern relates to the interpretation of state repression. We examine the significance of the Khmer Rouge's repressive behavior within the context of labor camps and Killing Fields. If we attribute all changes in political participation exclusively to casualties, we could study the effect of the number of killings using an instrumental variable approach. While this approach provides a quantifiable measure of repression, it neglects the potential consequences of pervasive insecurity, fear, and distrust in the camps. Due to the lack of precise information on labor camp locations, we would only measure their impact in

<sup>66</sup>To ensure meaningful variation within each geographical unit, we replace the 24 province fixed effects with 4 agro-ecological zone fixed effects when using the Asia Foundation Election Survey. Appendix Table A.14 shows that the results are qualitatively similar when using province fixed effects.

instances where people died, overlooking the accompanying consequences of insecurity and fear. As a result, we focus on the reduced-form estimate to credibly measure the combination of these channels.

Second, as demonstrated in Section 5.1, the Khmer Rouge targeted more productive areas to increase rice production, which eventually suffered from repression and violence. A competing explanation for this result, in line with the work by Rogall (2021), is that locations affected by heavy rainfall were less accessible, leading the Khmer Rouge to send fewer people there and consequently resulting in reduced repression and violence. However, when we interact the productivity shock with pre-genocide measures capturing the size of the local road network or distance to Phnom Penh, we find no heterogeneity with respect to accessibility. This makes it unlikely that access considerations alone can explain our findings.

Third, forced labor may have contributed to infrastructure development or generated income that independently affects political behavior today. However, there is scant evidence of any lasting economic impacts resulting from the regime's efforts. The immediate effect of temporarily raising local food production is also unlikely to have played a role, as the rice was expropriated by the central government for export purposes (Kiernan, 2008). Despite large-scale attempts, production remained low during the genocide, and most infrastructure investments were ill-conceived and subsequently failed. Consequently, few productive remnants were left after the Khmer Rouge's fall from power. We further validate this premise in Section 7.4, showing that there is no significant relation between our measure of repression and contemporary assets, consumption, poverty indicators, market access, or public infrastructure.

The final concern is that differences in survivor demographics, rather than exposure to state repression, drive the observed outcomes. We can isolate the experience of political violence because victims were relocated from all parts of Cambodia, and survivors returned home after the genocide. Although previous government supporters, suspected dissidents, and the educated were more likely to be targeted, similar selection occurred throughout the country. Laborers were displaced from their places of origin, with survivors returning to their previous homes following the regime's fall. This implies that demographics were comparable across Cambodia post-genocide, but that people living closer to the affected areas experienced the repression more directly. Section 7.4 demonstrates that our variation is uncorrelated with population, age, gender ratios, and education status. Consistent with the notion that survivors returned to all parts of the country, we also show that there was no differential in-migration to shocked and non-shocked communes immediately after the genocide. These findings suggest that we measure the effect of additional exposure to political violence under the Khmer Rouge, not their overall legacy in Cambodia. That is, we estimate the impact of an area experiencing state repression up close, as opposed to not, in a country ruled by the Khmer Rouge.

## 6 Results

We now examine how variation in past state repression influences citizens' political participation through *exit* and *voice*, and how these forces subsequently shape policymaking. Figure 5 illustrates the connection between our empirical strategy, theoretical framework, and final outcomes.

## 6.1 Citizens' Use of Exit and Voice

This section presents results consistent with our theory, demonstrating that citizens' use of *exit* and *voice* increases in locations with greater exposure to the Khmer Rouge repression, as they become more likely to support the opposition in elections (*voice*) while engaging less in civil society (*exit*).

**Political Mobilization and Political Competition** First, we study the impact of repression on citizens' use of *voice*. If the experience of state repression increases the use of *voice*, our theory predicts stronger mobilization for the opposition and higher levels of competition. To investigate this link, we examine information from the 2013 national election and the 2012 and 2017 communal elections.

Table 3 reports the results on political mobilization (columns 1–6) and political competition (columns 7–10), based on equation (7). Across all specifications, we find increased political mobilization, indicating greater use of *voice*. The first two columns show that the state repression boosted the vote share for the opposition CNRP. Column 2 implies that in the 2013 national election, the CNRP received a 4.9 percentage point (*ppt*) larger share of the votes in communes more affected by the repression compared to less affected communes (significant at the 1% level), which corresponds to an approximately 13% increase from a mean of 37.5. We see a similar, albeit smaller, effect using data from the two most recent communal elections, with the CNRP gaining about 6% overall.<sup>67</sup> The higher CNRP share is explained by less support for the long-term incumbent CPP and by increased turnout. The CPP is down 4.2 (2) *ppt* in the national (local) vote, and turnout rises by around 4% across all elections (columns 3–6).

The second implication of our theoretical framework is that political competition intensifies if state repression leads citizens to exercise more *voice*. To investigate this aspect of the model, we create two separate measures, included in columns 7–10. The first variable captures the likelihood of the long-term incumbent CPP obtaining an absolute majority in the commune, and the second variable measures the winning margin of the CPP over the opposition CNRP. The estimates provide further evidence that repression can have lasting effects on future political behavior. Columns 7–8 reveal that the Khmer Rouge repression significantly lowers the probability of the long-term incumbent securing more than 50% of the votes. The coefficients on the dummy variables in column 8 suggest a decrease in the likelihood of the CPP ruling with an absolute majority by 7 to 15 *ppt*. Similarly, due to the repression, the CPP's winning margin declines by approximately 6% to 8% overall (columns 9–10).<sup>68</sup>

The fact that our findings remain qualitatively similar across various elections and legislative bodies alleviates concerns that the results are driven by specific election years, assemblies, or politicians. Another potential concern is that, although individual votes are unobserved, residents in communes with strong opposition support might fear repercussions from the central government and consequently refrain from voting. In this scenario, our estimates provide a lower bound on the true effect of state repression on *voice*. To assess the validity of the findings, we also run tests with placebo wet-season shocks, similar to those for the violence variables in Figure 6. As shown in the Appendix (Figures A.6–A.8), the Khmer Rouge estimates are clear outliers when drawn from a distribution with the same spatial correlation patterns. Collectively, these findings support the claim that state repression genuinely caused an increase in the use of *voice*, as evidenced by political mobilization and higher levels of political competition.

<sup>67</sup>The communal election results are similar if we analyze each election year separately.

<sup>68</sup>The results are the same if we use the simple rather than absolute difference to calculate the winning margin.

**Political Beliefs** Next, we investigate the relationship between citizens’ exercise of *voice* and their political beliefs, examining how the experience of state repression influences support for pluralism. Using survey data from the nationally representative Asia Foundation Election Survey in 2003 and 2014, we explore questions related to *voice* (political beliefs) and *exit* (civic participation and trust, discussed below). To address concerns about false positives and multiple hypothesis testing, and to facilitate interpretation in terms of *exit* and *voice*, we construct *z*-score index variables for each of the four subcategories of attitudes and behaviors we examine. Support for pluralism and voter informedness represent *voice*, while local civic participation and trust capture *exit*.<sup>69</sup>

The first row of Table 4 presents the estimates of equation (8), revealing that state repression increased the support and understanding of democratic ideals.<sup>70</sup> Respondents residing in communes more affected by repression during the Khmer Rouge era demonstrate significantly higher support for democratic ideas (the top row of columns 1 and 2, significant at the 1% level).<sup>71</sup> According to the estimates, pluralistic sentiments increase by 4.4 % of a standard deviation. Furthermore, the repression contributes to more informed citizens, both in general and with regard to election-related issues and democratic processes.<sup>72</sup> As shown in the top row of column 4, voter informedness rises by 7.0% of a standard deviation. Columns 1–4 suggest that the local population residing in areas that experienced greater repression during the Khmer Rouge era are both better informed about and stronger backers of democratic principles, in line with the notion that the use of *voice* increases.

**Trust and Civic Participation** We now examine the impact of state repression on citizens’ use of *exit*. Our theory posits that when state repression raises the perceived cost of dissent, people trust others less and avoid activities that could expose their political views, effectively withdrawing from civil society.

The remaining columns of Table 4 investigate this claim, corroborating the hypothesis that citizens grow more cautious in their interactions within the local community, as evidenced by reduced participation in community organizations and lower levels of trust. Individuals living in communes more affected by the repression report a 7.4% of standard deviation decrease in civic participation when asked about their involvement in local associations and in taking local action (top row of column 6).<sup>73</sup> Similarly, the top row of column 8 reveals a decrease in trust (assessed both generally and locally) by 12% of a standard deviation, precisely estimated at the 99% confidence level.<sup>74</sup>

Our findings consistently support the theorized consequences of a higher perceived cost of dissent. Although we lack a direct measure linking these costs to exposure to state repression, we partly address this link in Section 7, where we demonstrate that violence is perceived as a greater threat to present-day Cambodia in communes more affected by the genocide.

<sup>69</sup>Following Cantoni et al. (2017), we also provide results on individual questions in each category, along with false discovery rate-adjusted *p*-values (see Appendix Table A.8).

<sup>70</sup>The results in Table 4 are qualitatively and quantitatively similar if we exclude the pre-genocide commune characteristics (results not reported for brevity).

<sup>71</sup>We include questions addressing preferences for democracy versus a strong leader, voting against the government, and the equality between the government and the people. See Appendix B for the full set of questions.

<sup>72</sup>Specific questions cover topics such as media consumption frequency, knowledge of local National Assembly representatives’ names, and awareness of the representative’s last visit to the respondent’s area. See Appendix B for the full set of questions.

<sup>73</sup>Specific questions include (among others) the number of civic associations a respondent is a member of, their level of activity during meetings, and the impact of local government on the respondent’s life. See Appendix B for the complete set of questions.

<sup>74</sup>Trust is assessed specifically in terms of trust in the neighborhood and trust in general. For further details, see Appendix B.

**State Avoidance** To further explore the idea that state repression pushes citizens away from politically charged settings, we examine measures capturing interactions with the community and local state authorities. We expect that individuals less active in civil society, on the margin, provide lower support to their community. Historically, numerous instances from Southeast Asia show people withdrawing from society to avoid relationships with a coercive state (Scott, 2009).<sup>75</sup> One potential consequence of avoiding interactions with the state is decreased tax compliance. To capture these aspects, we evaluate the willingness to contribute to public goods through community charity, inter-household transfers, local tax payments, and the propensity to work for the government.<sup>76</sup> These variables serve as alternative measures of civic engagement and indicators of the strength of state-society relations.

The top row of column 2 in Table 5 shows increased exposure to state repression results in a 22 USD PPP decrease, equivalent to a 7% reduction in yearly community contributions (including charity and inter-household transfers) from a mean of 314 USD PPP (significant at the 1% level).<sup>77</sup> Column 4 displays a similar 10% overall decline in tax revenues.<sup>78</sup> Columns 5–8 examine contrasting aspects of state interaction in employment: working for the government versus the foreign private sector.<sup>79</sup> Respondents are 0.8 *ppt* or 7% less likely to work for the government (column 6, top row) and 2.2 *ppt* more likely to be employed in the foreign private sector (column 8, top row).

It is worth considering whether we are capturing the valuation of a local service rather than willingness to contribute to a public good, or that tax revenues or employment opportunities vary due to differences in local economic growth or fiscal capacity. However, as discussed in Section 7.4, communes affected more or less by state repression are similar in terms of state infrastructure and several economic indicators. The results in Table 5 also remain consistent when scaled by the monetary value of household consumption.<sup>80</sup>

**Persistence in Exit and Voice** Our individual-level data also allow us to investigate whether the effect of state repression on beliefs, civic participation, and state avoidance is transmitted across generations of Cambodians. In Table 4, we divide the sample into those who were alive during the Khmer Rouge period (born before 1979) and those born afterward (after 1978). Overall, the results are consistent for both younger and older respondents. Younger individuals residing in communes that experienced more repression under the Khmer Rouge are slightly more politically informed and less impacted in terms of their civil society engagement compared to older cohorts. However, both groups display lower trust and express stronger support for democratic principles, though the effect is smaller for younger cohorts. Regarding state avoidance, the second and third rows of Table 5 indicate that the results vary little between birth cohorts, although older individuals contribute even less to the community. By contrast, those born after the Khmer Rouge era are more likely to be employed in the foreign private sector.

Lastly, to ensure that our findings are not driven by influential questions included in our *z*-score index variables or spurious correlations, we undertake two approaches. First, we run regressions where we

<sup>75</sup>Similarly, Herbst (1990) shows how African citizens evade state interactions by choosing subsistence farming over market-place participation, or by shifting from the formal to the informal sector to escape political authorities.

<sup>76</sup>Local property taxes are the largest tax share, generating local revenue despite limited budget autonomy. Most funds are allocated to salaries and councilor allowances (Smoke, 2015, 2017).

<sup>77</sup>Table 5 regressions include pre-genocide controls; excluding them yields similar estimates (not reported for brevity).

<sup>78</sup>Riel to USD PPP conversion: World Bank's International Comparison Program rates (1 USD PPP  $\approx$  1,340 riel in 2012).

<sup>79</sup>Employment in the domestic private sector represents the intermediate category and is not reported for brevity.

<sup>80</sup>Additionally, increased political competition should suggest that communes with a history of state repression are more efficient at collecting the same type of tax, not less.



drop every individual question within each subcategory. Appendix Figure A.5 plots the distribution of coefficients, demonstrating that the results are not driven by a particular question. Second, we conduct placebo regressions for all outcomes and compare the distribution of placebo average effects with the average effect observed for the Khmer Rouge period (1975–1977). As in previous analyses, the actual estimates remain outliers in the placebo distributions (see Appendix Figures A.9 and A.10).

In summary, this section’s results corroborate Prediction 3 of our model, suggesting state repression not only amplifies the use of *voice* but also fosters *exit* through diminished trust and reduced interactions with civil society and the local state. Furthermore, the effects are generally consistent for individuals who lived through the Khmer Rouge era and those born afterward, indicating that state repression can leave a long-lasting imprint on society. In Section 7, we examine potential reasons for this persistence.

## 6.2 Policymaking, Rent Extraction, and Natural Resources

Ultimately, we are interested in understanding if citizens’ use of *exit* and *voice* in response to state repression influences policy outcomes. Given the similarity of the policy platforms between the long-term incumbent CPP and the opposition CNRP, it is not immediately clear to what extent citizens’ involvement will lead to substantial policy differences. However, the opposition’s anti-corruption focus stands in stark contrast to the corruption and political patronage characterizing CPP’s rule. The influence of *exit* and *voice* on corruption and policymakers’ ability to extract rent is theoretically ambiguous. On the one hand, increased political competition through electoral accountability (*voice*) can discipline policymakers.<sup>81</sup> On the other hand, a less vibrant civil society (*exit*) can weaken the public’s ability to monitor or exert pressure on government officials.

We examine rent-extraction activities in the natural resource sector to explore the impact of state repression on corruption. Corruption is pervasive in Cambodia, but the natural resource sector, including deforestation and illegal logging, is especially susceptible to it due to collusion between government officials and private businesses (see, e.g., PLCN, 2019). Between 2001 and 2014, Cambodia’s annual forest loss rate increased by 14.4%, making it the fastest acceleration of tree cover loss globally. Commune policymakers, the target of local-level *exit* and *voice*, have played a crucial role in annexing and seizing land for resource extraction (see e.g., Le Billon, 2002; Global Witness, 2007; Un and So, 2011; Scurrah and Hirsch, 2015). In light of this, we study land concessions granted by the local government and deforestation as a form of natural resource extraction. Focusing on concessions and deforestation rates is suitable for our purpose, as they involve decisions made by local (commune) policymakers and, unlike most corruption indicators, provide observable and quantifiable proxies for corruption levels.

To better understand the ambiguous relationship between citizens’ use of *exit* and *voice* and rent extraction, we revisit our theoretical framework. We assume that the incumbent extracts a fraction  $\mu$  of available rents from a natural resource, which increases people’s support for political change if they prefer the resource to be shared equally among the population. We modify the benefit function to  $B(\theta + \mu)$  and explore three cases: when state repression raises support for pluralism  $\theta$ , dissent cost  $c$ , or both.<sup>82</sup>

<sup>81</sup>An informed electorate with robust democratic values can also limit elected officials’ rent-seeking activities (Pande, 2011).

<sup>82</sup>Adding rents to  $\theta$  in the benefit function makes  $\mu$  more decisive for marginal incumbent supporters than opposition backers.

First, if state repression increases support for pluralism  $\theta$ , it reduces the incumbent's winning probability and scope for rent seeking  $\mu$ , as previously indifferent voters now back the opposition.<sup>83</sup> To maximize the likelihood of reelection, the incumbent extracts less rent in response to the narrower winning margin.

Second, if state repression increases the cost of dissent  $c$ , participation in civil society declines. With rent extraction in the benefit function, reduced civic participation enables the incumbent to extract more rent due to less monitoring by the public.<sup>84</sup> However, a second-order effect from the incumbent's win margin partly counteracts this. When determining the extraction level, the incumbent therefore balances gains from less monitoring against potential electoral vote losses due to political competition.<sup>85</sup>

Lastly, when state repression simultaneously raises citizens' preferences for pluralism and the cost of dissent, the incumbent must trade off decreased rents from a tighter win margin against increased rents from a less active civil society. As the higher dissent cost partially triggers a win-margin effect, we anticipate a negative overall impact on rent extraction, leading to the following theoretical conclusion.

**Corollary 2.2.** *If state repression heightens support for pluralism, rent extraction declines. Conversely, if state repression raises the cost of dissent, rent extraction increases when reduced civic participation outweighs the surge in political competition. Lastly, if state repression boosts both support for pluralism and the cost of dissent, rent extraction diminishes if the combined win-margin effects surpass the impact of decreased civic participation.*

To test these predictions, we first examine the effect of state repression on a policy measure sanctioning resource extraction before analyzing its impact on actual extraction rates. In 2001, a new law permitted the government to grant land concessions for commercial production if the land lacked public interest. Subsequently, a significant share of these concessions was allocated to Cambodian business groups, political elites, and foreign investors, with up to 70% of the land initially designated for conservation converted into concessions by 2012 (Neef et al., 2013; Milne, 2015).<sup>86</sup> Considering the limited land remaining for conservation purposes and the significant allocation of concessions to vested interests, the land concession policy serves as a suitable proxy for policymakers' collusive links with private businesses. Our analysis investigates whether a commune was granted a concession between 2001 and 2015. We combine this data with satellite measurements of deforestation and forest loss rates from 2000 to 2018, and survey data on illegal logging and resource overuse occurrences between 1996 and 2016.<sup>87</sup>

Table 6 displays estimations of equation (7), revealing that the Khmer Rouge repression led to fewer communes granting concessions and reduced natural resource exploitation rates. Column 2 indicates that, on average, communes more affected by repression are 5.1 ppt less likely to grant an economic concession (significant at the 1% level), representing a decrease of 16% from a mean of 0.32. Column 4 shows that the forest loss rate, calculated as the change in tree cover between 2000 and 2018, decreased

<sup>83</sup>With rent extraction, the incumbent's vote share is given by the mass of voters below  $\theta_I$ :  $\int_0^{\theta_I - \mu} f(\theta) d\theta - \int_0^{\theta_I} f(\theta) d\theta \Rightarrow -\int_{\theta_I - \mu}^{\theta_I} f(\theta) d\theta$ . Examining a  $\theta$  increase, consider a voter indifferent between the incumbent and opposition under  $\theta_I$ . From the win probability, we know that  $F(\theta_I) = F(\theta_I + \mu)$  only holds for  $\mu = 0$ . Thus, any  $\mu > 0$  leads to a lower vote share.

<sup>84</sup>We now have  $P^* = (\alpha [B(\theta + \mu) - p_P(\theta)c])^{1/(1-\alpha)}$ . Totally differentiating this expression with respect to  $\mu$  and  $c$ , and estimating the slope of the iso-curve for a given value of  $P^*$ , yields  $d\mu/dc = p_P(\theta)/B'(\theta + \mu)$ . The incumbent can extract more rent as the cost of dissent increases, as long as the benefit from pluralism increases in  $\theta$  and  $\mu$ .

<sup>85</sup>Essentially, the incumbent balances higher  $\mu$  benefits,  $d\mu/dc = p_P(\theta)/B'(\theta + \mu)$ , against electoral vote losses,  $\int_{\theta_I - \mu}^{\theta_I} f(\theta) d\theta$ .

<sup>86</sup>By late 2012, economic land concessions encompassed over half of Cambodia's total arable land (ADHOC, 2013).

<sup>87</sup>Hansen et al. (2013) define forest loss as "a stand-replacement disturbance or the complete removal of tree cover canopy at the Landsat pixel scale" (p. 850).

by 0.627 log points in communes subjected to greater repression during the Khmer Rouge period.<sup>88</sup> The CSES survey data also reports a lower likelihood of illegal logging or resource overuse. Column 8 demonstrates a 5.1 *ppt* reduction in the probability of illegal overuse, amounting to a 16% decrease overall.<sup>89</sup> These estimates align with Corollary 2.2 predictions: less rent extraction occurs when the electoral accountability effect prevails over the diminished ability of civil society to monitor government officials. Finally, Appendix Figure A.11 provides evidence that our state repression indicator is an outlier in the distribution computed for the placebo estimates.

In summary, we find that the legacy of state repression increases citizens' use of *voice* and *exit*: 1) *voice* in the form of more votes in favor of the opposition over the long-term incumbent, higher turnout, tighter political competition, and more pluralistic sentiments; and 2) *exit* in the form of fewer interactions with civil society and the local state, a lower level of community contributions and annual taxes collected, and less societal trust. These forces, in turn, limit policymakers' ability to extract resources, as evidenced by fewer land concessions and less natural resource exploitation.

### 6.3 Robustness

We now assess the robustness of our empirical results by examining their sensitivity to changes in the baseline econometric specifications.

First, in Appendix Section A.1, we demonstrate the reliability of our rainfall measures. We establish that only wet-season rain significantly affects productivity and that the severity of atrocities decreases monotonically with increased wet-season precipitation. We then show that alternative measures of productivity (both continuous and binary) yield similar predictions. Specifically, in Appendix Tables A.5–A.7, we consider three alternative formulations of productivity: a continuous standardized measure, a standard deviation change based on the continuous measure, and a standardized variable derived from commune-level variation alone.<sup>90</sup> Essentially, all of the more than 100 additional coefficients produce qualitatively similar results, with most being comparable in magnitude and significance level. Furthermore, we confirm that the findings on violence do not depend on how we scale the casualty indicators. Overall, these tests suggest that the results are robust to variations in the construction of our productivity-derived measure of state repression and the measurement of violence.

Second, we provide evidence that our findings are not influenced by larger urban areas that may have held pluralistic views even before the Khmer Rouge came to power, or by specific communes that could potentially be influential. Although our measure of state repression is uncorrelated with significant pre-genocide commune-level characteristics such as population density (Table 2), there is a possibility that the effects are spurious due to population outliers. In Appendix Tables A.9–A.13, we limit the sample by excluding communes with a pre-genocide population above the 99th, 95th, or 90th percentile of the distribution.<sup>91</sup> Our results remain robust, indicating that outliers in relation to population size

<sup>88</sup>The results are qualitatively similar if we control for forest cover in 2000.

<sup>89</sup>These findings support recent Cambodian NGO reports linking illegal extraction to collusion with local authorities, further emphasizing the connection between rent-seeking activities and resource extraction (see, e.g., PLCN, 2019).

<sup>90</sup>We first establish that the different measures predict rice productivity (Table A.5) and then revisit our findings using the alternative measures (Table A.7).

<sup>91</sup>Going from the full sample to the 90th percentile is equivalent to retaining 1,621 communes (all), 1,605 communes (99th percentile), 1,540 communes (95th percentile), and 1,459 communes (90th percentile) in the remaining sample.

are unlikely to drive the findings. Additionally, we assess the robustness of our estimates by running regressions in which we iteratively remove each of Cambodia’s communes. Appendix Figure A.12 displays the distribution of the coefficients in relation to the point estimate of the full sample, suggesting that the results are not determined by a specific commune.

Third, throughout the paper, we have presented findings with standard errors clustered at the province level and corrected for spatial dependence using the procedure developed by Conley (1999). These two methods consistently yield similar standard errors, and the main conclusions remain unchanged. To further evaluate the sensitivity of the results to spatial correlation, we also conducted placebo and randomization inference tests, utilizing the same spatially correlated distribution as our proxy for state repression (Figure 6 and Appendix Figures A.6–A.11). Once again, the  $p$ -values are comparable to those obtained using standard inference adjustments.

## 7 Channels of Persistence

Our results demonstrate that state repression has a significant, robust, and persistent impact on citizens’ use of *exit* and *voice*. In this section, we explore two complementary channels through which repression may shape political beliefs and behavior. First, we hypothesize that the repression instilled a lasting fear of violence as a societal threat, persisting even in present-day Cambodia. Second, we posit that memorials and commemorative ceremonies for Khmer Rouge victims serve as crucial transmission mechanisms reinforcing the political legacy of repression. This conjecture is rooted in the well-established concept that a society’s collective memory, or shared experiences, influences citizens’ beliefs and behavior (see e.g., Nora, 1989; Halbwachs, 1992; Dessí, 2008; Assmann, 2011; Fouka and Voth, 2022). Collective memory emerges when individuals without firsthand experience of an event identify with those who experienced it, transmitting memory through channels such as genocide memorials and commemorative rituals. In this context, memorials and commemorations create a “connective structure” (Assmann, 2011), continuously linking the political repression of the Khmer Rouge era to the present.

### 7.1 Perception of Violence

When fear of violence dominates a society, civic engagement may decline as people hesitate to express political views publicly, wary of potential harassment or backlash. This presents a plausible mechanism linking state repression, which we argue has generated a lasting fear of violence, to the political participation observed in the present. To empirically examine this link, we explore two datasets. First, we utilize the Asia Foundation Election Survey from 2003 and 2014 to capture citizens’ perceptions of the most significant national and local (commune) problems facing Cambodia. Second, we measure commune-level variation in actual violence using three international event-based datasets that collectively cover the post-Khmer Rouge period (1979–2020). By combining information on perceived and actual violence, we aim to determine whether perceptions change because state repression altered the weight people place on the risk of violence affecting society, because these areas experienced more violence in the aftermath of the genocide, or due to a combination of both factors.

In Table 7, column 1, we assess the impact of Khmer Rouge’s repression on citizens’ perception of violence as a problem. Respondents were asked about the biggest problems facing Cambodia and their communes. We combine the national and local problems into a standardized index and estimate the

effect of state repression using equation (8). The top row of column 1 indicates that individuals living in communes that experienced higher levels of repression are 9.1% of a standard deviation more likely to perceive violence as the most pressing issue (significant at the 1% level).<sup>92</sup> The middle and lower rows present the same results for younger and older respondents, suggesting that the experience of repression is transmitted across both groups.

In columns 2–4, we examine whether the pattern holds for other issues. Although economic issues (such as the economy, poverty, and underdevelopment) were the most commonly listed problems, we find no significant differences in these or any other domains between communes more or less affected by repression.<sup>93</sup> This indicates that a distinguishing characteristic of these areas, even today, is that people across all age groups perceive violence as a more pressing societal problem.

To differentiate between perceived and actual violence, we employ geo-referenced data on violent events at the commune level from three alternative sources. Column 5 uses the GDELT database (covering the years 1979–1999), column 6 employs the UCDP database (1989–2012), column 7 utilizes the ACLED database (2010–2020), and column 8 combines all three sources. Each dependent variable is an indicator variable, taking a value of one if a violent event was recorded within the commune. Applying equation (7), we find no relation between past state repression and contemporary violence.

In summary, although the incidence of violence today is the same across communes with varying levels of Khmer Rouge exposure, people in areas heavily affected by the repression perceive violence as a greater societal threat. This enduring fear of violence offers an explanation for the ongoing influence of the repression on political beliefs and behavior.

## 7.2 Genocide Memorials

Next, we examine the role of collective memory as a transmission channel of state repression. Genocide memorials serve as an example of how the memory of repression continues to impact contemporary Cambodia. These public memorials act as constant reminders of the Khmer Rouge’s atrocities, illustrating how the visibility of past memories in public life amplifies the awareness of state repression in present-day Cambodia. Following the regime’s fall in 1979, human remains were collected and stored in memorial *stupas* (Buddhist shrines) near the Killing Fields. These memorials, still standing today, range from simple wooden structures housing several skulls to dedicated spaces within existing buildings, where visible remains are displayed inside large structures at the heart of the villages (Bennett, 2015, 2019; Jarvis, 2015; Fleischman, 2017).

Qualitative evidence from Bennett (2015) and Fleischman (2017) supports the notion that memorials act as persistent and intergenerational transmitters of the memory of the Khmer Rouge atrocities. Through their studies of mass graves and genocide memorials, which include interviews with people living near the sites, respondents express the importance of preserving the human remains as evidence for younger generations, emphasizing the reality of the horrors committed by the Khmer Rouge. One respondent shared that the remains should be kept as evidence for the younger Khmer generation “to show them it was real: that there was the Khmer Rouge, that Khmer killed Khmer,” (Bennett, 2015, p.

<sup>92</sup>In Appendix Table A.8, we present individual national and local results with adjusted *p*-values for false discovery rates.

<sup>93</sup>Institutional issues encompass corruption, crime, and immigration problems, while education and health issues include education/schools, health care, and HIV/AIDS.

224). Another stated, “even though I was not born in that era, this event obviously happened in Khmer Society ... Khmer killed Khmer”. In Fleischman’s (2017) work, respondents similarly report that “we just kept it [the remains] as evidence for a new generation to understand ... just as evidence to know ... how cruel they [were] to their own people, to let the new generation understand about the government, of that leader, especially to understand, just know that, in that period they killed many, many people” (Fleischman, 2017, p. 190).

To quantify the case-study evidence, we return to our empirical framework. Column 1 of Table 8 reproduces our earlier result on the genocide memorials. Estimating equation (6), we find that communes more heavily affected by the Khmer Rouge repression are 2.2 *ppt* more likely to have a memorial (precisely estimated at the 99% confidence level). This effect corresponds to a 63% increase relative to less affected communes, suggesting that the presence of memorials (in addition to the mass graves) is a possible transmission mechanism of the effect of the Khmer Rouge’s repression.

### 7.3 The Day of Anger

The use of mass graves and memorial sites for political events and annual ceremonies honoring Khmer Rouge victims (Bennett, 2015, 2019) exemplifies another aspect of collective memory through which past repression still shapes political beliefs and behavior. In the 1980s, the long-term incumbent CPP exploited these sites to legitimize the new government by “put[ing] the dead to work in the name of the newly constructed state” (Bennett, 2015, p. 213). Leading up to the 2013 elections, both the CPP and the opposition CNRP held meetings at these locations. Furthermore, the sites host religious festivals and ceremonies, such as *Pchum ben* or the Festival of Hungry Ghosts, to honor the dead.

The annual event *tvea chong komhung*, or “Day of Anger,” held on May 20, is particularly significant in commemorating the victims of Khmer Rouge crimes (Guillou, 2013; Bennett, 2015; Fleischman, 2017).<sup>94</sup> During this day, Buddhist monks, community members, survivors, and school children participate in ceremonies that include speeches, songs, and dramatic reenactments of the Khmer Rouge period and the violence that was inflicted. These commemorative ceremonies and rituals help transmit the collective memory of the genocide. Periodic rituals like the Day of Anger serve as “focal points” (Halbwachs, 1992) that reinforce the memory of the violence. This interpretation aligns with recent work on memory-based norms and salience (Bordalo et al., 2012, 2020), where the memory of the Khmer Rouge repression becomes more salient through ceremonies such as the Day of Anger.<sup>95</sup>

To validate this channel, we examine the mediating impact of the Day of Anger. This commemoration is well suited for testing the mechanism in question, as it focuses on the violence and its victims, and its fixed date allows us to assess whether a successful celebration influences subsequent political beliefs and behavior. To address the empirical challenge that event participation is likely to be correlated with the underlying preferences we aim to measure, we exploit exogenous variation in local (commune) rainfall on the Day of Anger.<sup>96</sup> As the Day of Anger is held outdoors, the basic idea is that people are less

<sup>94</sup>The term *tvea chong komhung* literally translates to “anniversaries for holding on to anger.” Alternative English names for May 20 include “Day of Hatred” and “Day of Maintaining Rage” (Jarvis, 2015; Fleischman, 2017).

<sup>95</sup>In the language of Bordalo et al. (2020), the memory of the Khmer Rouge becomes more accessible as the current context—remembrance ceremonies, memorials, and mass graves—echoes people’s past experiences of repression. Thus, by making these memories more salient, the ceremonies and memorials also influence contemporary political beliefs and behavior.

<sup>96</sup>This approach is similar to Madestam et al. (2013), who use daily rainfall to generate variation in Tea Party rally participation.



likely to attend if it rains. Conditional on the likelihood of rain, rainfall is a random event, arguably uncorrelated with other factors affecting political outcomes.<sup>97</sup> Specifically, we count the number of rainy days on May 20 in the five years preceding our main outcomes of interest (with rainy days defined as those with rainfall exceeding the historical average on May 20) and interact this variation with our measure of state repression: *State Repression* × *Rainy Days of Anger*.<sup>98</sup> Our hypothesis is that rain-free Days of Anger make the memory of Khmer Rouge violence more salient and amplify the impact of repression.

In the remainder of Table 8, we examine the effect of an additional rainy Day of Anger on voting behavior (columns 2–5) and political beliefs and civic engagement (columns 6–9), finding evidence that the Day of Anger reinforces the impact of state repression. We estimate a negative and significant interaction term for variables measuring CNRP’s vote share, turnout, and voter informedness, while we find a positive and significant interaction term for CPP’s vote share, political competition, civic participation, and trust. The effect of state repression on support for the opposition CNRP is 5.6 *ppt* in the absence of Day of Anger rainfall. By contrast, the impact is 2.9 *ppt* for voters exposed to local Day of Anger rainfall and state repression (the total effect is shown at the bottom of Table 8). This means that an additional rainy Day of Anger reduces the effect of Khmer Rouge repression by 2.6 *ppt* (significant at the 1% level). In other words, a non-rainy, well-attended Day of Anger increases the impact of repression on support for the opposition.

The effects observed are also substantial for other voting variables and factors related to political beliefs and civic participation. For instance, one additional rainy Day of Anger lessens the negative impact of state repression on civic participation by 3% of a standard deviation (significant at the 10% level). The standalone effect of the Day of Anger is ambiguous, suggesting that the commemoration primarily matters in areas scarred by repression. These findings indicate that collective remembrance ceremonies, like the Day of Anger, reinforce memories of state repression and serve as a channel that amplifies the genocide’s influence. Notably, this mechanism aligns with and explains why the effects of repression persist beyond the generation that survived the Khmer Rouge era.

## 7.4 Alternative Hypotheses

Although our measure of state repression is uncorrelated with key predetermined demographic characteristics, there are alternative explanations for our results on citizens’ *exit* and *voice*. Mediating factors such as altered demographics, changes in assets and consumption (due to forced labor or post-Khmer Rouge investments in public infrastructure), and differences in migration patterns could drive the observed changes in political beliefs and behavior. In this section, we present evidence that contradicts these alternative hypotheses.

First, we examine whether the age distribution changed after the Khmer Rouge rule. As a benchmark, we compare post-Khmer Rouge data with national statistics on age from the 1962 census to capture the

<sup>97</sup> Although we lack information on actual attendance, we know the commemoration always occurs on May 20, allowing us to isolate its effect from the general impact of rainfall.

<sup>98</sup> We estimate the following:  $y_c = \delta \text{State Repression}_c + \varphi \bar{R}_c + \sigma \text{State Repression}_c \times \bar{R}_c + \Gamma'_c + X'_c + \gamma_p + \mu_c + \varepsilon_c$ , where  $\bar{R}_c$  is the number of rainy *Days of Anger* in the years preceding the outcome of interest in commune  $c$ ,  $\mu_c$  is a set of decile dummies controlling for the likelihood of rain on the *Day of Anger* in the commune (to exploit weather variation across communes with a similar rain probability), and  $\sigma$  tests whether commemorative ceremonies reinforce the effect of state repression.

distribution in Cambodia before the genocide.<sup>99</sup> Figure A.13a contrasts the 1962 distribution with the 1978 age distribution for survivors, using CSES survey data from 1996 to 2016 across communes with varying levels of repression. As expected, young (below age 10) and middle-aged citizens (age 35 and older) were more likely to have lost their lives during the Khmer Rouge regime, but there appears to be no correlation with our measure of repression. In fact, when we test for the difference between the age distributions using the current population in Figure A.13b, we find no systematic relation between age and residing in a commune that was differentially affected by the repression.<sup>100</sup>

These results are corroborated in Table 9 across various socioeconomic, demographic, and infrastructure outcomes. Specifically, we test if the state repression measure significantly predicts these variables using our primary specifications, equations (7) and (8). Columns 1–4 show that the estimates on contemporary population density, gender ratio, age, and education are close to zero and insignificant (Appendix Table A.15 confirms these results across the age distribution and Table 2 presents similar findings using the Asia Foundation Election Survey).<sup>101</sup> In columns 5, 6, and 9, we assess a Malthusian argument (where genocide raised living standards by redistributing productive assets from victims to survivors) by examining individual assets and consumption alongside a commune-level poverty indicator. As before, the estimated effects are indistinguishable from zero.<sup>102</sup>

To investigate differential population movements just after the genocide, we analyze individual in-migration in 1979 to current communes of residence in column 7 of Table 9. The results show no significant difference in in-migration rates across communes affected more or less by the repression, consistent with the idea that survivors returned to all parts of the country.<sup>103</sup> Relatedly, Appendix Table A.16 demonstrates that people who never moved exhibit similar sociodemographic characteristics irrespective of the exposure to repression.<sup>104</sup> Lastly, columns 8 and 10 present two standardized indices at the commune level. Market access encompasses variables measuring distance to crucial business outlets and service functions, while school access captures quality indicators like student-teacher ratios, enrollment rates, and distance to the nearest school (see Appendix Table A.19 for individual variable estimates). The estimated coefficients are close to zero and insignificant.<sup>105</sup>

In summary, none of the examined characteristics can be systematically and significantly attributed to our measure of state repression. This makes it less likely that the economic effects of forced labor, subsequent infrastructure investments, survival bias, or migration rationalize our findings. Instead, the results reinforce the idea that people’s political preferences and behavior changed as a result of experiencing state repression, and due to the persistent and pervasive reminders of past political violence.

<sup>99</sup>Unfortunately, 1962 data are only available at the country level, preventing any comparison with present-day communes.

<sup>100</sup>Similarly, there is no significant difference when examining the link for women and men separately (Appendix Figure A.14).

<sup>101</sup>Population density and gender ratio are aggregated at the commune level using the 1998 and 2008 population censuses, while age and education are individual-level outcomes from the CSES survey.

<sup>102</sup>Appendix Tables A.16 and A.17 provide additional supporting evidence.

<sup>103</sup>Appendix Table A.18 displays the same finding across respondent age at the time of the Khmer Rouge.

<sup>104</sup>Unfortunately, we cannot investigate migration with respect to political beliefs and civic participation because the survey data on attitudes and civic activities lack this information.

<sup>105</sup>Appendix Table A.20 reveals similar conclusions when investigating nighttime lights as a local economic activity measure and additional market access proxies.

## 8 Conclusion

Drawing on evidence from one of history's most severe episodes of state repression, the genocide in Cambodia under the Khmer Rouge, we find that past repression diminishes an authoritarian incumbent's vote share, while enhancing electoral competition and support for democratic values four decades later. However, individuals become more cautious in their interactions with the local community: they exhibit less trust, participate less in community organizations, and engage less with local government. The results align with a theoretical model in which experiencing repression bolsters people's support for pluralism but makes them more wary of publicly expressing these views. We explore mechanisms of persistence, demonstrating that state repression fosters an enduring fear of violence as a societal threat, while the collective memory of the genocide, shaped by the tangible presence of memorials and recurring remembrance ceremonies, continues to influence political beliefs and behavior today.

These findings contribute to the policy debate on democratization, deepening our understanding of political participation in societies with a history of repression. In particular, the results augment the ongoing discussion on the role of state-society relations in shaping political development (see, e.g., Migdal, 1988, 2001). Acemoglu and Robinson (2018) and Dell et al. (2018) argue that a balanced relationship between the state and civil society, in which both entities complement each other, fosters development. Similarly, Besley and Persson (2019) emphasize a reciprocal interaction between democratic institutions and civic culture, wherein a larger share of citizens in civil society supporting democracy reinforces democratic reforms. Given our evidence on citizens' withdrawal from civil society and disengagement with local government, these hypotheses elucidate the slow democratic progress in countries with a history of repression. Future research should investigate the extent to which the effects on citizens' use of *exit* and *voice*, and the resulting imbalance among society's actors, influence political development in other contexts marked by a repressive past.

Lastly, this paper shows that the experience of political violence, the presence of the Killing Fields, genocide memorials, and recurrent commemorative ceremonies such as the Day of Anger, have significantly influenced political behavior. It would be valuable to contrast the experience and memory of repression with the strategic political use of these memories to evoke fear. This exploration would provide additional insight into how the legacy of repression continues to shape societies transitioning from past repression.

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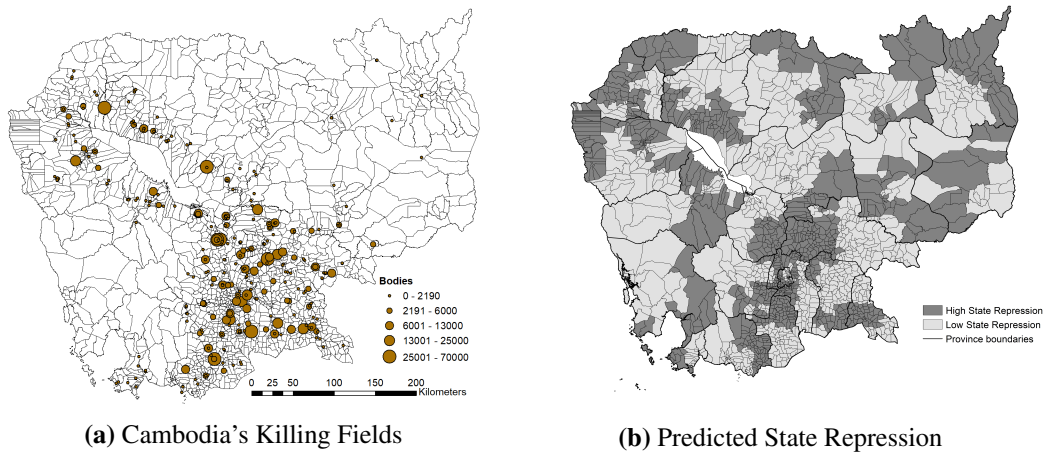


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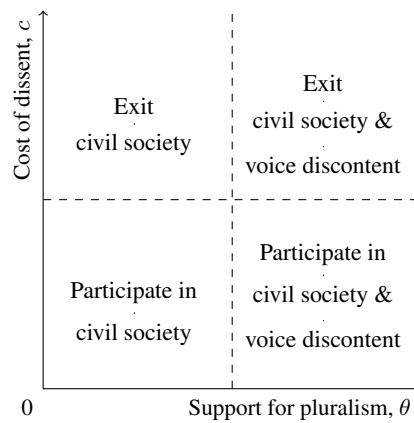
## 9 Figures and Tables

**Figure 1: The Killing Fields and Predicted State Repression**



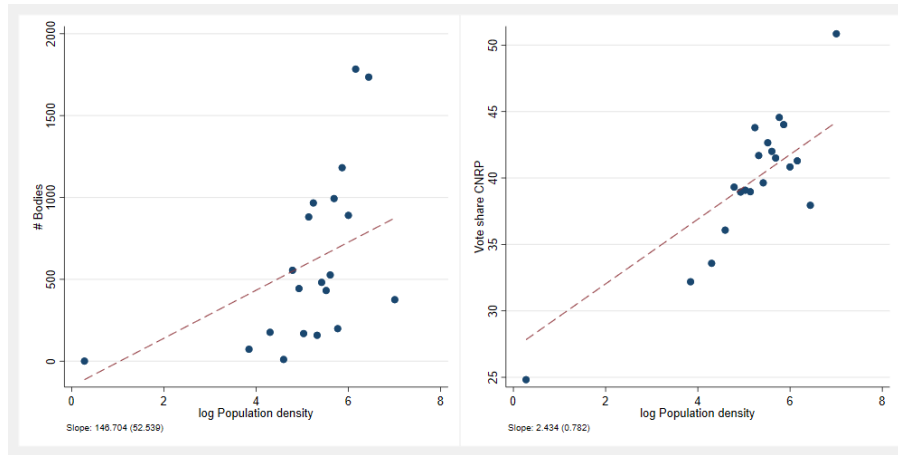
*Notes:* Panel (a) depicts the location of Killing Fields across Cambodia. There are 309 sites with a mean number of 61 mass graves and 3,154 bodies. Circle sizes represent the number of bodies found. Panel (b) shows the geographic variation in predicted state repression during the Khmer Rouge period (1975-1977) using equation (5). Dark gray communes indicate areas predicted to have experienced higher levels of state repression.

**Figure 2: Citizens' Activity Space**



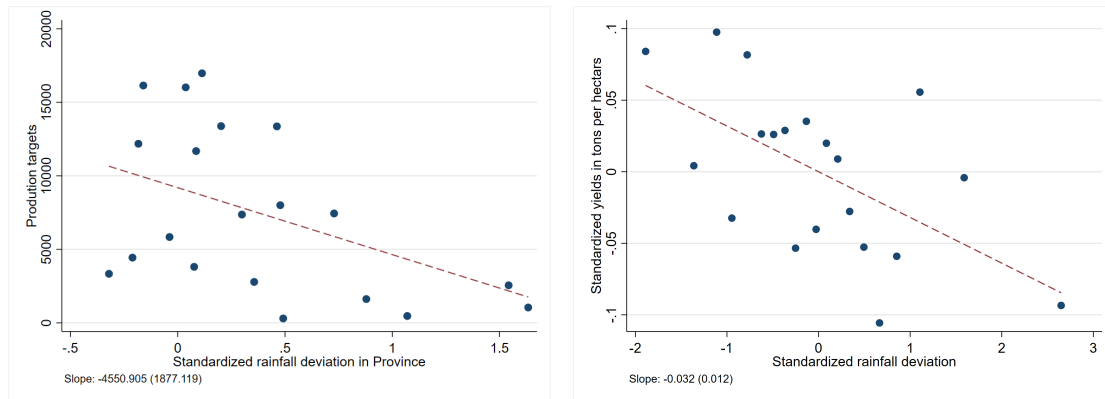
*Notes:* The figure shows citizens' political activity space with the location of every individual depending on her support for pluralism and the cost of opposing the incumbent.

**Figure 3: Associations Between Economic Development, Violence, and Support for the Opposition**



*Notes:* The figure shows that the indicator of violence during the Khmer Rouge era (number of dead bodies) and support for the opposition 40 years later (CNRP vote share) both exhibit a positive association with pre-Khmer Rouge population density.

**Figure 4: Predicted Rice Yields, Targeted Increases, and Contemporaneous Production**

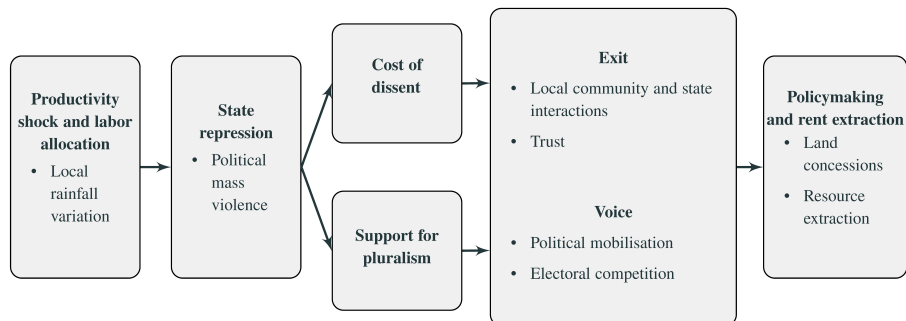


**(a) Targeted Production Increases**

**(b) Contemporaneous Rice Yields**

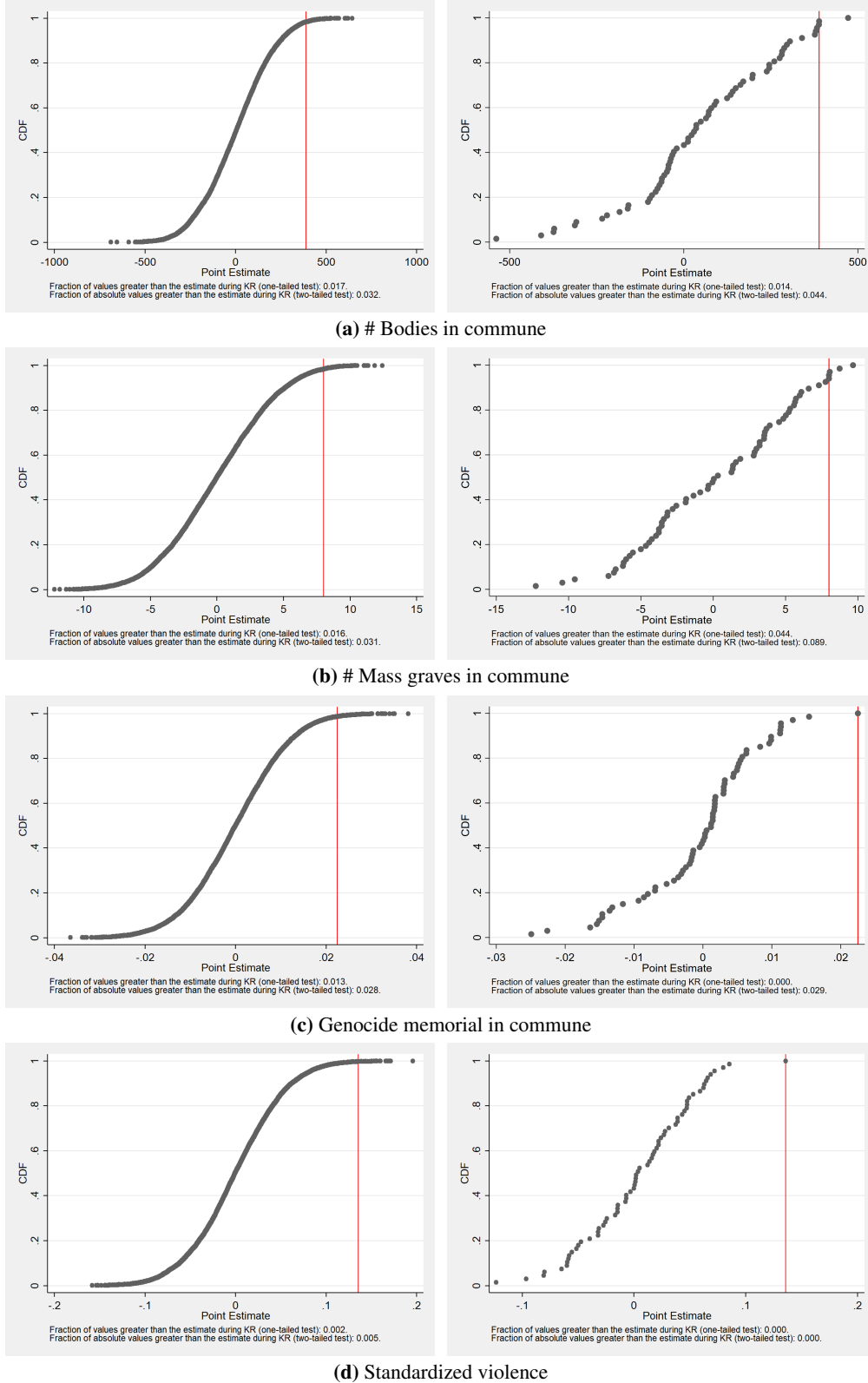
*Notes:* Panel (a) displays the association between predicted rice yields and targeted production during the Khmer Rouge era. Panel (b) plots standardized rice yields as a function of standardized rainfall during the wet season from 1996-2016.

**Figure 5: Empirical Strategy: Structure of Investigation**



*Notes:* The figure illustrates how the empirical strategy and data are linked to the theoretical framework and final outcomes.

**Figure 6: Placebo Estimates for the Incidence of Violence**



*Notes:* The graphs show the main effect of state repression during the Khmer Rouge era compared to the cumulative distribution of estimates of an alternative production shock in placebo years. The red line indicates the estimated coefficient in the period 1975-1977. Under every graph, two statistics denoting the  $p$ -value of a one- and two-sided test are presented. The randomization procedure (left) assigns 50% of the communes within a province to above-average standardized productivity using 10,000 draws. In the placebo estimations (right), assignment is based on the within-province above-average standardized productivity in the wet season in all three-year windows from 1951-2017. Province fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions.

**Table 1: Incidence of Violence**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	#Bodies		#Mass graves		Genocide memorial		Standardized violence	
State Repression	377.914*** (171.222) [141.584]	388.624*** (150.530) [138.740]	8.501*** (3.529) [2.909]	8.001*** (3.188) [2.847]	0.020*** (0.011) [0.008]	0.022*** (0.010) [0.008]	0.127*** (0.045) [0.033]	0.135*** (0.043) [0.031]
Pre-genocide commune characteristics		Yes		Yes		Yes		Yes
Mean	407.873	407.873	7.094	7.094	0.035	0.035		
Observations	1,621	1,621	1,621	1,621	1,621	1,621	1,621	1,621

*Notes:* The unit of observation is a commune. *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). '#Bodies' is the number of dead bodies recovered after the genocide, '#Mass graves' is the number of mass graves recovered after the genocide, and 'Genocide memorial' is a dummy variable equal to 1 if the commune has a memorial commemorating the genocide. 'Standardized violence' is the standardized index of '#Bodies', '#Mass graves', and 'Genocide memorial', accounting for the covariance between these variables. 'Mean' denotes the mean in communes without state repression. Province fixed effects and a second-degree polynomial in latitude and longitude are included in all regressions. The pre-genocide commune characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 2: Exogeneity Test**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Less state repression (non-productive communes)		More state repression (productive communes)			Exogeneity test		
	Mean	S.D.	Mean	S.D.	$\beta$	s.e.	T-Stat	p-value
<i>Pre-genocide commune characteristics</i>								
Commune with commune office	0.383	0.486	0.386	0.487	0.001	0.029	0.048	0.961
Commune with post office	0.017	0.131	0.016	0.125	-0.003	0.005	-0.529	0.597
Commune with school	0.670	0.471	0.705	0.456	0.026	0.025	1.046	0.296
Commune with telephone	0.004	0.061	0.006	0.078	0.002	0.003	0.579	0.563
log Population density	5.189	1.521	5.096	1.576	-0.024	0.133	-0.182	0.856
log Rice field area	5.691	2.841	6.239	2.430	0.392	0.349	1.123	0.261
log Area partially inundated	3.250	3.246	2.894	3.085	-0.125	0.247	-0.504	0.614
log Area covered by dense forests	4.081	3.941	3.911	3.594	-0.281	0.469	-0.599	0.549
log Commune area	3.864	1.619	3.814	1.152	-0.134	0.114	-1.173	0.241
log Distance to Phnom Penh	4.448	1.450	4.549	0.937	-0.067	0.069	-0.967	0.334
log Distance to closest road	0.397	1.416	0.387	1.465	0.032	0.116	0.272	0.786
log Distance to province capital	2.440	2.851	2.810	2.125	-0.003	0.103	-0.032	0.974
log Bomb load 1965-1973	4.932	3.356	4.630	3.188	0.095	0.236	0.402	0.688
log Potential yields (Rice)	1.013	0.014	1.015	0.013	0.000	0.000	0.850	0.395
log Potential yields (Banana)	0.397	0.660	0.401	0.586	0.019	0.028	0.680	0.496
log Potential yields (Coconut)	-0.157	1.660	-0.400	2.068	-0.021	0.092	-0.234	0.815
log Potential yields (Maize)	0.857	0.048	0.861	0.043	-0.000	0.001	-0.255	0.799
<i>Individual characteristics, Asia Foundation Election Survey 2003 and 2014</i>								
Brick House	0.892	0.311	0.887	0.317	0.011	0.023	0.480	0.636
Education	2.369	1.298	2.244	1.192	-0.131	0.112	-1.173	0.253
Ethnicity	0.038	0.335	0.088	0.592	0.041	0.042	0.968	0.344
Income	2.990	1.839	3.003	1.829	-0.085	0.128	-0.664	0.513
Interview circumstance	1.125	1.220	1.163	1.198	0.111	0.059	1.874	0.074
Male	0.488	0.500	0.501	0.500	0.013	0.017	0.779	0.445
Urban	0.497	0.500	0.506	0.500	0.009	0.062	0.146	0.885
Year of birth	1969.798	15.256	1970.949	14.963	0.288	0.620	0.464	0.647
<i>Individual characteristics, Cambodia Socio-Economic Survey 1996-2016</i>								
Male	0.480	0.500	0.481	0.500	-0.001	0.002	-0.432	0.666
Urban	0.338	0.473	0.230	0.421	0.021	0.055	0.377	0.706
Year of birth	1979.462	19.389	1980.076	19.591	-0.058	0.208	-0.277	0.782
Years of education	5.532	5.337	5.010	5.142	-0.033	0.070	-0.047	0.635

*Notes:* The unit of observation is a commune (survey respondent) for the commune (individual) characteristics. 'Commune with commune office' is a dummy variable equal to 1 if there was a commune office in the commune, 'Commune with post office' is a dummy variable equal to 1 if there was a post office in the commune, 'Commune with school' is a dummy variable equal to 1 if there was a school building in the commune, 'Commune with telephone' is a dummy variable equal to 1 if the commune had access to a telephone, 'log Population density' is defined as the log of the number of buildings divided by the total area of the commune, 'log Rice field area' is defined as the log of the area used for growing rice in the commune, 'log Area partially inundated' is defined as the log of the area that is seasonally flooded in the commune, 'log Area covered by dense forests' is defined as the log of the area covered by dense forests in the commune, 'log Commune area' is defined as the log of the total area of the commune, 'log Distance to Phnom Penh' is defined as the log of the distance to the capital Phnom Penh from the commune, 'log Distance to closest road' is defined as the log of the distance to the closest road from the commune, 'log Distance to province capital' is defined as the log of the distance to the commune's provincial capital, 'log Bomb load 1965-1973' is defined as the log of the total sum of bombs dropped on the commune between 1965 and 1973, 'log Potential yields (Rice)' is defined as the log of the potential low-input rice yields as defined by the FAO, 'log Potential yields (Banana)' is defined as the log of the potential low-input banana yields as defined by the FAO, 'log Potential yields (Coconut)' is defined as the log of the potential low-input coconut yields as defined by the FAO, 'log Potential yields (Maize)' is defined as the log of the potential low-input maize yields as defined by the FAO, 'Brick House' is a dummy variable equal to 1 if the respondent lives in a solid brick house, 'Education' is an indicator variable measuring the education of the respondent in the following categories: Never went to school (=0), literacy training (=1), incomplete primary school (=2), complete primary school (=3), lower secondary school (=4), higher secondary school (=5), and vocational training (=6), 'Ethnicity' is a dummy variable equal to 1 if the respondent is of Khmer ethnicity, 'Income' is an indicator variable measuring the family income of the respondent in the following categories: earns below 10\$ (=0), between 11 and 25\$ (=1), 26 and 50\$ (=2), 50 and 100\$ (=3), 100 and 150\$ (=4), 150\$ and 200\$ (=5), or more (=6) in monthly income, 'Interview circumstance' is an indicator variable that denotes whether the respondent was alone (=0), with children (=1), with spouse (=2), other adults (=3), or a local official (=4), 'Male' is a dummy variable equal to 1 if the respondent is male, 'Urban' is a dummy variable equal to 1 if the respondent lives in an urban area, 'Year of birth' is variable measuring the respondent's year of birth, and 'Years of education' is the completed years of education of the respondent. The pre-genocide commune characteristics are derived from the US Army map series L7016 covering Cambodia in 1970-1973 and digitized by the authors, except for 'log Bomb load 1965-1973', which is taken from the Cambodian Genocide Database, and 'Potential yields', which is extracted from FAO for the indicated varieties. Individual characteristics are obtained from the indicated surveys. The data sources are described in Section 4.



**Table 3: Voting Behavior**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
			Political mobilization				Political competition			
	Vote share CNRP		Vote share CPP		Turnout		Absolute majority for CPP		Margin:  ICPP-CNRP	
	National election in 2013									
State Repression	4.766*** (1.530) [1.049]	4.872*** (0.798) [0.573]	-4.054*** (1.463) [0.979]	-4.201*** (0.792) [0.593]	3.351** (1.767) [1.583]	2.870** (1.422) [1.212]	-0.151*** (0.055) [0.031]	-0.155*** (0.035) [0.025]	-2.223* (1.276) [1.341]	-1.723 (1.061) [1.250]
	Communal elections in 2012 and 2017									
State Repression	1.882*** (1.053) [0.720]	2.102*** (0.623) [0.469]	-1.794** (1.108) [0.724]	-2.018*** (0.740) [0.548]	3.514* (2.157) [2.077]	3.034** (1.582) [1.320]	-0.061** (0.032) [0.024]	-0.069*** (0.023) [0.019]	-2.280** (1.484) [1.040]	-2.390*** (1.002) [0.837]
Pre-genocide commune characteristics		Yes		Yes		Yes		Yes		Yes
Observations national election	1,621	1,621	1,621	1,621	1,621	1,621	1,621	1,621	1,621	1,621
Mean national election	37.512	37.512	54.782	54.782	77.274	77.274	0.593	0.593	27.889	27.889
Observations commune elections	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230	3,230
Mean commune elections	33.683	33.683	61.664	61.664	75.427	75.427	0.782	0.782	31.053	31.053

Notes: The unit of observation is a commune. *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). Every cell constitutes a separate regression of the productivity measure on the dependent variable in the header using commune-level data. 'Vote share CNRP' is the vote share of the opposition alliance Cambodia National Rescue Party in the national election in 2013 and the communal elections in 2017 and computed as the combined votes of the 'Sam Rainsy Party' and the 'Human Rights Party' in the communal elections in 2012. 'Vote share CPP' is the vote share of the long-term incumbent Cambodia People's Party. 'Turnout' is the electoral turnout. 'Absolute majority for CPP' is a dummy variable equal to 1 if the Cambodia People's Party gained more than 50% of the votes, and 'Margin: |ICPP-CNRP|' is calculated as the absolute value of the vote share of the Cambodia People's Party minus the vote share of the Cambodia National Rescue Party and a variation of the competitiveness measure developed by Besley et al. (2010). 'Mean' denotes the mean in communes without state repression. Province fixed effects and a second-degree polynomial in latitude and longitude are included in all regressions. Election-year fixed effects are included in all communal election regressions. The pre-genocide commune characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 4: Political Beliefs and Civic Participation**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Support for pluralism		Voter informedness		Local civic participation		Trust	
	All							
State Repression	0.039*** (0.009) [0.012]	0.044*** (0.008) [0.012]	0.073*** (0.024) [0.023]	0.070*** (0.024) [0.021]	-0.071*** (0.022) [0.022]	-0.074*** (0.020) [0.018]	-0.118*** (0.032) [0.029]	-0.120*** (0.033) [0.028]
	Alive during the Khmer Rouge period							
State Repression	0.045*** (0.009) [0.012]	0.052*** (0.009) [0.012]	0.061** (0.030) [0.027]	0.057** (0.031) [0.027]	-0.073*** (0.024) [0.025]	-0.085*** (0.022) [0.022]	-0.113*** (0.034) [0.033]	-0.121*** (0.035) [0.032]
	Born after the Khmer Rouge period							
State Repression	0.026 (0.012) [0.016]	0.020 (0.013) [0.019]	0.096*** (0.034) [0.035]	0.104*** (0.027) [0.030]	-0.018 (0.033) [0.022]	-0.011 (0.030) [0.021]	-0.110*** (0.052) [0.040]	-0.119*** (0.054) [0.045]
Individual characteristics		Yes		Yes		Yes		Yes
Observations all	1,999	1,999	1,999	1,999	1,999	1,999	1,999	1,999
Observations alive during KR	1,321	1,321	1,321	1,321	1,321	1,321	1,321	1,321
Observations born after KR	681	681	681	681	681	681	681	681

Notes: The unit of observation is a survey respondent. *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). Every cell constitutes a separate regression of the productivity measure on the dependent variable in the header using individual-level data. The row names define the sample used: 'All' includes the full sample, 'Alive during the Khmer Rouge period' includes respondents born before 1979, and 'Born after the Khmer Rouge period' includes respondents born after 1978. 'Support for pluralism', 'Voter informedness', 'Local civic participation', and 'Trust' are standardized indices based on the individual variables displayed in Table A.8. Zone fixed effects, survey-year fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions. Individual characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 5: Community and State Avoidance**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Annual community contributions		Annual taxes paid		Working for the government		Working for the foreign private sector	
	All							
State Repression	−19.227*** (10.127) [4.907]	−22.371*** (11.755) [7.675]	−4.789*** (1.995) [1.725]	−4.007*** (1.668) [1.232]	−0.008*** (0.002) [0.003]	−0.008*** (0.003) [0.002]	0.020*** (0.004) [0.005]	0.022*** (0.005) [0.005]
	Alive during the Khmer Rouge period							
State Repression	−22.037*** (11.524) [5.785]	−26.661** (14.228) [11.408]	−3.505* (2.108) [1.852]	−2.064 (1.977) [1.404]	−0.008** (0.003) [0.003]	−0.008** (0.004) [0.003]	0.007*** (0.001) [0.001]	0.008*** (0.002) [0.001]
	Born after the Khmer Rouge period							
State Repression	−13.056*** (10.820) [3.799]	−14.217*** (10.940) [2.914]	−6.011*** (1.668) [1.662]	−4.698*** (1.296) [1.458]	−0.006** (0.002) [0.003]	−0.003 (0.003) [0.003]	0.040*** (0.009) [0.011]	0.039*** (0.009) [0.010]
Individual characteristics	Yes		Yes		Yes		Yes	
Observations all	27,339	23,071	27,339	23,071	154,312	135,478	154,312	135,478
Mean all	296.016	314.450	35.635	40.466	0.096	0.107	0.082	0.091
Observations alive during KR	21,152	16,894	21,152	16,894	96,295	77,485	96,295	77,485
Mean alive during KR	325.481	356.629	41.369	49.226	0.123	0.148	0.030	0.034
Observations born after KR	6,187	6,177	6,187	6,177	58,017	57,993	58,017	57,993
Mean born after KR	186.377	186.636	14.297	13.922	0.049	0.049	0.170	0.170

*Notes:* The unit of observation is a survey respondent. *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). Every cell constitutes a separate regression of the productivity measure on the dependent variable in the header using household-level data. The row names define the sample used: 'All' includes the full sample, 'Alive during the Khmer Rouge period' includes respondents born before 1979, and 'Born after the Khmer Rouge period' includes respondents born after 1978. 'Annual community contributions' is the amount of household cash or in-kind transfers to charity and inter-household transfers over the last 12 months in Cambodian riel converted to USD PPP terms using conversion rates published by the World Bank's International Comparison Program database (1 USD PPP  $\approx$  1,340 riel in 2012). 'Annual taxes paid' is the amount of property and income taxes paid by the household in Cambodian riel converted to USD PPP terms using conversion rates published by the World Bank's International Comparison Program database (1 USD PPP  $\approx$  1,340 riel in 2012). 'Working for the government' is a dummy variable equal to 1 if the (adult) survey respondent is a paid government employee and 0 otherwise, and 'Working for the foreign private sector' is a dummy variable equal to 1 if the (adult) survey respondent is a paid private-sector employee working for a foreign-owned firm and 0 otherwise. 'Mean' denotes the mean in communes without state repression. Province fixed effects, survey-year fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions. Individual characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 6: Policy Making and Resource Extraction**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Land concession		log Forest loss		Illegal logging		Illegal overuse	
State Repression	−0.069*** (0.029) [0.025]	−0.051*** (0.024) [0.021]	−0.949*** (0.230) [0.189]	−0.627*** (0.164) [0.135]	−0.037* (0.023) [0.019]	−0.034** (0.017) [0.016]	−0.051*** (0.027) [0.018]	−0.051*** (0.018) [0.017]
Pre-genocide commune characteristics	Yes		Yes		Yes		Yes	
Survey-year fixed effects					Yes		Yes	
Mean	0.317	0.317	4.237	4.237	0.252	0.252	0.304	0.304
Observations	1,621	1,621	1,621	1,621	3,027	3,027	3,027	3,027

*Notes:* The unit of observation is a commune. *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). 'Land concession' is a dummy variable equal to 1 if the commune granted an economic land concession permit between 2001 and 2015. 'log Forest loss' is defined as the log of the hectares of forest lost between 2000 and 2018 as calculated by Hansen et al. (2013). 'Illegal logging' ('Illegal overuse') is a dummy variable equal to 1 if illegal logging (illegal overuse) takes place in a village as reported in the Cambodia Socio-Economic Survey. 'Mean' denotes the mean in communes without state repression. Province fixed effects and a second-degree polynomial in latitude and longitude are included in all regressions. The pre-genocide commune characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 7: Perception of Violence**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Perceived problems facing Cambodia				Presence of violent events			
	Violence	Economic issues	Institutional issues	Health and education issues	GDELТ	UCDP	ACLED	GDELТ + UCDP + ACLED
All								
State Repression	0.091*** (0.039) [0.034]	-0.020 (0.013) [0.013]	0.009 (0.012) [0.011]	-0.016 (0.018) [0.015]	-0.003 (0.016) [0.016]	-0.016 (0.018) [0.014]	-0.011 (0.009) [0.009]	-0.025 (0.020) [0.018]
Alive during the Khmer Rouge period								
State Repression	0.097* (0.058) [0.051]	-0.021 (0.016) [0.016]	0.005 (0.014) [0.012]	-0.018 (0.024) [0.017]				
Born after the Khmer Rouge period								
State Repression	0.094* (0.056) [0.054]	-0.019 (0.015) [0.014]	0.020 (0.022) [0.017]	-0.019 (0.022) [0.023]				
Pre-genocide commune characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual characteristics	Yes	Yes	Yes	Yes				
Observations	1,999	1,999	1,999	1,999	1,621	1,621	1,621	1,621
Observations alive during KR	1,321	1,321	1,321	1,321				
Observations born after KR	681	681	681	681				
Mean					0.148	0.070	0.052	0.222

*Notes:* The unit of observation is a survey respondent (commune) in columns 1-4 (5-8). *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). In columns 1-4, every cell constitutes a separate regression of the productivity measure on the dependent variable in the header using individual-level data. The row names define the sample used: 'All' includes the full sample, 'Alive during the Khmer Rouge period' includes respondents born before 1979, and 'Born after the Khmer Rouge period' includes respondents born after 1978. Columns 1-4 contain standardized responses to the question: "In your view, what is the biggest problem facing Cambodia/her or his Commune (local)?" 'Violence' is a standardized index (across national and local) assessing whether the respondent perceives violence as the biggest problem facing Cambodia/her or his Commune today. 'Economic issues' is a standardized index across national and local issues over the variables the economy (general), poverty, unemployment, underdevelopment, housing shortages, crisis, lack of land for farming, and water problems. 'Institutional issues' is a standardized index across national and local issues over the variables corruption, crime, problem of immigration, deforestation, troubles with Thais, lack of freedom, leaders, and opposition. 'Health and educational issues' is a standardized index across national and local issues over the variables education/schools, health care, HIV/AIDS, and drugs. In columns 5-8, the data is aggregated at the commune level. 'GDELТ' is a dummy variable equal to 1 if an event was recorded in the 'Global Database of Events, Language and Tone' database (-10 on the Goldstein scale) in the period 1979-1999. 'UCDP' is a dummy variable equal to 1 if an event was recorded in the 'Uppsala Conflict Data Program' database (violence against organized actors or civilians) in the period 1989-2012. 'ACLED' is a dummy variable equal to 1 if an event was recorded in the 'Armed Conflict Location & Event Data' database (violence against civilians) in the period 2010-2020. 'GDELТ+UCDP+ACLED' is a dummy variable equal to 1 if an event was recorded in the GDELТ database (-10 on the Goldstein scale) or in the UCDP database (violence against organized actors or civilians) or in the ACLED database (violence against civilians) in the period 1979-2020. 'Mean' denotes the mean in communes without state repression. Zone (columns 1-4) or province (columns 5-8) fixed effects, survey-year fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions. Individual characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 8: Genocide Memorials and the Day of Anger**

	(1) Genocide memorial	(2)	(3)	(4)	(5) Day of Anger	(6)	(7)	(8)	(9)
		Voting Behavior: national election in 2013			Political Beliefs and Civic Participation				
		Vote share CNRP (Opposition)	Vote share CPP (Incumbent)	Turnout	Absolute majority for CPP	Voter in- formedness	Support for pluralism	Local civic participation	Trust
State Repression	0.022*** (0.010) [0.008]	5.661*** (1.154) [0.827]	-4.940*** (1.235) [0.994]	5.895*** (1.469) [0.899]	-0.186*** (0.047) [0.030]	0.137*** (0.053) [0.036]	0.066*** (0.022) [0.018]	-0.120*** (0.033) [0.031]	-0.257*** (0.040) [0.035]
Rainy Days of Anger		0.423 (0.941) [0.801]	-0.920 (1.072) [0.894]	3.844 (1.602) [1.112]	0.001 (0.054) [0.037]	0.035** (0.015) [0.014]	0.008 (0.012) [0.009]	0.004 (0.017) [0.014]	-0.084*** (0.022) [0.015]
State Repression × Rainy Days of Anger		-2.698*** (1.108) [0.880]	2.519** (1.151) [0.995]	-4.935*** (1.567) [1.186]	0.102*** (0.035) [0.026]	-0.038** (0.020) [0.016]	-0.010 (0.010) [0.010]	0.032* (0.019) [0.017]	0.081*** (0.020) [0.016]
Pre-genocide commune characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual characteristics									
Observations	1,621	1,621	1,621	1,621	1,621	1,999	1,999	1,999	1,999
Mean	0.035	37.512	54.782	77.274	0.593				
$\beta$ : State Rep + State Rep × Rainy DoA		2.964 (0.869)	-2.421 (0.882)	0.960 (1.453)	-0.084 (0.034)	0.099 (0.036)	0.056 (0.014)	-0.089 (0.019)	-0.176 (0.027)

Notes: The unit of observation is a commune (survey respondent) in columns 1-5 (6-9). *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). 'Rainy Days of Anger' is the number of rainy Days of Anger in the commune in the past 5 years, where a day is considered rainy if there was significant rain (above the historical mean). The past 5 years correspond to 2009-2013 for columns 2-5 (as the national election took place on July 28, 2013) and 1998-2003 (the 2003 survey was carried out in February 2003) or 2010-2014 (the 2014 survey was carried out in late May and June 2014) for columns 6-9. 'State Repression × Rainy Days of Anger' is the interaction between the dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977) and the number of rainy Days of Anger in the past 5 years. 'Genocide memorial' is a dummy variable equal to 1 if the commune has a memorial commemorating the genocide. 'Vote share CNRP' is the commune vote share of the opposition alliance Cambodia National Rescue Party, 'Vote share CPP' is the commune vote share of the long-term incumbent Cambodia People's Party, 'Turnout' is the commune electoral turnout, 'Absolute majority for CPP' is a dummy variable equal to 1 if the Cambodia People's Party gained more than 50% of the votes in the commune. 'Voter informedness', 'Support for pluralism', 'Local civic participation', and 'Trust' are standardized indices based on the individual variables displayed in Table A.8. 'Productive + Productive × Rainy DoA' corresponds to the sum of the coefficients of 'State Repression' and 'State Repression × Rainy Days of Anger'. 'Mean' denotes the mean in communes without state repression. Province (columns 1-5) or zone (columns 6-9) fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions. Individual characteristics are defined in Table 2. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

**Table 9: Alternative Hypotheses**

	(1) Population census	(2) Sex ratio	(3) Age	(4) Years of education	(5) log Farm value	(6) log Con- sumption per capita	(7) Migration in 1979	(8) Market access	(9) Poverty gap	(10) School access
State Repression	0.015 (0.038) [0.032]	-0.003 (0.003) [0.003]	0.006 (0.100) [0.109]	-0.094 (0.067) [0.058]	-0.043 (0.277) [0.223]	-0.002 (0.016) [0.014]	0.004 (0.011) [0.012]	0.012 (0.026) [0.023]	-0.004 (0.004) [0.005]	-0.000 (0.023) [0.018]
Pre-genocide commune characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Survey-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean	4.889	0.948	26.671	5.612	7.820	8.328	0.078		0.119	
Observations	3,184	3,184	427,827	393,423	80,228	89,022	80,105	4,435	1,470	1,593

Notes: The unit of observation is a commune (survey respondent) in columns 1, 2, and 8-10 (columns 3-7). *State Repression* is a dummy variable equal to 1 if the commune experienced above-average standardized province productivity during the wet season in the Khmer Rouge period (1975-1977). 'log Population density' is the log of the total population per commune divided by commune area, 'Sex ratio' is the number of men over the number of women, 'Age' is the age of every individual in the Cambodia Socio-Economic Survey 1996-2016, 'Years of education' is the completed years of education for all individuals above age 5, 'log Farm value' is the log of the reported monetary household farm value (in Cambodian riel), 'log Consumption per capita' is the log of the monetary value (in Cambodian riel) of total household consumption over the last twelve months divided by the household size, and 'Migration in 1979' is a dummy variable equal to 1 if an individual who was alive during the genocide returned to the current residence in 1979 (and has not migrated since). 'Market access' is a standardized index of eight variables: distances to food shops, banks, agricultural stores, markets, general stores, and electricity and water coverage, as well as provision of public medical services (none of the individual variables are predicted by productivity during the Khmer Rouge period (1975-1977) as shown in Table A.19). 'Poverty gap' is the ratio by which the mean commune income of the poor falls below the poverty line, and 'School access' is a standardized index of seven variables: distance to the nearest school, whether the commune has a school, school income per capita, school enrollment rates, the number of teachers, the teacher-student ratio, and the mean number of classes (none of the individual variables are predicted by productivity during the Khmer Rouge period (1975-1977) as shown in Table A.19). 'Mean' denotes the mean in communes without state repression. Province fixed effects, a second-degree polynomial in latitude and longitude, and pre-genocide commune characteristics as defined in Table 2 are included in all regressions. The data sources are described in Section 4. Standard errors clustered by 24 provinces are shown in parentheses and corrected for spatial dependence within 1 degree in brackets. Symbols reflect the significance level for spatially corrected standard errors: \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .