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? Exploiting local variation in state repression during the Khmer Rouge genocide in Cambodia, we examine the effects of repression on political beliefs and behavior. We find that past state repression reduces increases electoral competition and support for democratic values four decades later. At the same time, people become more cautious in their interactions with the local community: they are less trusting, participate less in community organizations, and interact less with local government. Our findings are consistent with a theoretical model in which experiencing repression increases one's preferences for pluralism but also raises the perceived cost of dissent. These opposing forces imply that citizens are more likely to support democratic values in elections (voice) but engage less in civil society (exit) to avoid publicly revealing their political views. Examining channels of persistence, we show that repression fosters a lasting fear of violence as a threat to society and that genocide memorials and remembrance ceremonies keep the memory of the atrocities alive.

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

JEL codes: D72, D74, N4, O1

1 Introduction

Over a billion people live in countries with a history of state repression, having suffered mass killing or political persecution.[1] Democratic progress in these countries has often been slow, and one reason may be their legacy of repression: political atrocities of the past—such as Stalin's reign of terror or the Chinese Cultural Revolution—continue to cast a shadow on citizens' political participation. State repression induced a culture of silence and distrust where citizens are careful in publicly expressing their political beliefs, even if state repression increased the support for democratic values.

We use evidence from one of history's most severe episodes of state-led repression, the genocide under the Khmer Rouge in Cambodia, to estimate the effects of political violence on political behavior four decades later. From 1975 to 1979, the Khmer Rouge ruled over a highly repressive regime, involving forced labor, displaced people, and killings in a scale never seen before (Kiernan, 2008). Forty years later, Cambodia is an electoral democracy, but power has been in the hands of the Cambodia People's Party (CPP) and its authoritarian leader, Hun Sen, since the introduction of multiparty elections in 1993. While the CPP portrays itself as the guarantor of stability, keeping Cambodia from slipping back into violence (Strangio, 2014; Giry, 2015), corruption is widespread and civil rights violations are common (Norén-Nilsson, 2016a).[2]

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. We define preference against the incumbent as support for a multi-party system, i.e. pluralism. People can participate in two political activities: (i) partake 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*.[3] 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. Yet, If repression also changes 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 if voting is anonymous.

Examining these hypotheses empirically is challenging, because state repression may target groups in the population based on their political views; in that case, these characteristics may confound the estimation of the effects on post-repression beliefs and behavior. To recover unbiased estimates, we exploit the Khmer Rouge's desire to create an agrarian collectivized society

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without money and possessions. The Khmer Rouge relocated large swaths of its population, including farmers, to labor camps near temporarily more productive rice fields. These areas became known as Killing Fields as laborers were executed or died of starvation and overwork (Chandler, 2008; Kiernan, 2008).

We validate the premise that the Khmer Rouge responded to local variation in productivity in two steps. First, we document a strong link between local variation in rainfall and productivity. Second, using geo-coded data on genocide casualties, we document that the estimated productivity during the Khmer Rouge's era consistently predicts the number of victims and mass graves.

By using rainfall shocks relative to a local historical average, we exploit a random event that is uncorrelated with other drivers of political behavior, past or present, as well as the potentially selective targeting of state repression against certain groups in the population. Importantly, workers on the Killing Fields were relocated from all parts of Cambodia, but those who survived returned home after the genocide.[4] Demographics are thus comparable across more or less productive areas after the genocide, yet people living closer to the camps were (marginally) more exposed to the repression. This allows us to capture the effect of additional exposure to state repression.

Using unique commune- and individual-level data from a large number of historical and contemporary sources, we estimate the effect of additional exposure to state repression on *exit* and *voice* up to 40 years later. Our results show that past state repression leads to the use of *voice* in the form of political mobilization, higher levels of political competition, and stronger preferences in support of pluralism. A 0.1 standard deviation increase in violence (or 8 additional Khmer Rouge mass graves containing 50 victims each) is associated with a 5 percentage point higher opposition vote share in the 2013 elections. Election survey data confirms that individuals in these areas are more supportive of democratic values and are more politically informed.

At the same time, our analysis also indicates that repression increases *exit* from civil society, as citizens are more cautious in their interactions with the local community. Election survey data show that individuals in communes affected by state repression exhibit less trust, lower levels of membership and participation in community organizations, and make fewer community contributions. Individuals in these places are also less supportive of the local state and are more likely to avoid local state interactions, as captured by lower tax transfers and a reduction in the likelihood of working for the government.

Citizens' dual use of *exit* and *voice* has tangible consequences for local decision makers' ability to extract rents from public office. With local officials earning rents from granting concessions that permit the exploitation of public lands, Cambodia has one of the world's highest deforestation rates today. Our theoretical model predicts that while increased political competition (*voice*) disciplines policy makers and restricts rent seeking, a less vibrant civil society

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[4]Although previous government supporters, suspected dissidents, and educated individuals were more likely to be singled out, the same selection occurred throughout the country. Laborers were moved from their places of origin, with survivors returning to their previous homes following the regime's fall (Desbarats, 1995; Rice and Tyner, 2017; Tyner, 2017a).

(*exit*) weakens the public's ability to monitor the officials, increasing rent extraction. We find that the electoral accountability effect dominates, as there are fewer land concessions granted and lower deforestation rates measured in areas with past state repression.

We conduct several robustness tests to assess the reliability and sensitivity of our findings. Using US Army maps from the early 1970s covering all of Cambodia, we show that the rainfall during the Khmer Rouge period is orthogonal to key predetermined characteristics such as population density, geographic proximity, state infrastructure, and underlying productivity. We also compare the effect of rainfall during sensitive months for rice production under the Khmer Rouge to the effect of rain in the same months in all other years in 1951–2017: the distribution of placebo estimates shows that our findings are clear outliers. We further combine different measures into single indices to reduce concerns about false positives and multiple hypothesis testing when using individual-level survey data.

In the next part of the paper, we aim to shed light on the channels through which past state repression continues to affect citizens' use of exit and voice. Since the effects of repression are similar for those who were alive under the Khmer Rouge and for those born afterwards, we hypothesize that collective memory formation plays a crucial role. We begin by showing that even though the incidence of violence today is the same, people living in areas with a history of state repression perceive violence as a bigger threat. This fear of violence today corroborates the idea that the repression has left a permanent mark on people's minds long after the Khmer Rouge disappeared, explaining why the atrocities continue to impact political beliefs and behavior.

We then study how such a collective memory is transmitted across generations.[5] We find that areas with a history of state repression were more likely to construct memorials to commemorate the genocide at which commemorative ceremonies reinforce the impact of state repression. We study the Day of Anger, an annual national outdoor event where community members, survivors, and school children participate in remembrance ceremonies that include dramatic reenactments of the Khmer Rouge period. To resolve the empirical challenge that participation in the event is likely to be correlated with preferences, we exploit exogenous variation in local (commune) rainfall on the Day of Anger as a source of variation in attendance: people are less likely to attend if it rains and events are often canceled due to bad weather. We find that rain-free Days of Anger communes with a history of state repression increase its estimated effects on voting behavior, political beliefs, and civic participation. This suggests that the transmission of collective memory through commemorative ceremonies can reinforce the impact of state repression.[6]

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[5]We build on the well-established insight from sociology and economics that a society's shared experiences or its collective memory influence citizens' beliefs and behavior (Nora, 1989; Halbwachs, 1992; Dessí, 2008; Assmann, 2011; Fouka and Voth, 2021). A collective memory emerges when those without firsthand experience of an event identify with those who experienced it, where the memory is transmitted through a variety of channels, like memorials and commemorative rituals. In our setting, the existence of genocide memorials and recurrent ceremonies commemorating the repression offer two complementary mechanisms of the effect of the Khmer Rouge's political violence.

[6]The finding also aligns with work arguing that recurrent rituals, such as the Day of Anger, reconfirm social commitments and political norms (Durkheim, 1912; Turner, 1985; Etzioni, 2000; Chwe, 2001).

Last, we provide evidence incompatible with several alternative explanations of the increase in exit and voice. Among other things, we show that contemporary population, age, education, assets, market access, and differential migration patterns just after the genocide are uncorrelated with our productivity shock. This makes it less likely that economic effects of the camps, altered demographics, or selective migration rationalize our findings.

This paper advances economic research on state repression. While work exists on the political causes of repression or one-sided violence (Besley and Persson, 2011; Yanagizawa-Drott, 2014), we know less about its political consequences. A related influential literature has focused on the effects of two-sided violence, such as interstate or civil war, but the consequences of repression could be very different. A key distinction between the two forms of violence concerns the symmetry between the parties involved. Two-sided violence is an act of mutual aggression that engages both sides of the conflict, where war might strengthen social cohesion within each group. Indeed, past studies show that two-sided conflict fosters cooperation and trust because of increased pro-sociality toward in-group members (see, e.g., Bellows and Miguel, 2009; Blattman, 2009; Voors et al., 2012; Bauer et al., 2016).[7] Conversely, the victims of one-sided violence (the citizens) cannot deter the act of the perpetrator (the state), leaving them more vulnerable.[8] By providing some of the first rigorous evidence on the political consequences of state repression, we show that repression induces a culture of silence and distrust as people have no other means to fight back but to shun settings where they risk revealing their political beliefs.[9]

Our findings add 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 lower civic engagement offer an explanation for the poor democratic performance in countries with a repressive past. As such, our paper further relates to work examining the long-term consequences of conflict on trust (Nunn and Wantchekon, 2011) or social structure (Acemoglu et al., 2011), and to papers emphasizing the persistence of political preferences and behavior generated via the experience of political ideology (Alesina and Fuchs-Schündeln, 2007) or economic fluctuations (Giuliano

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[7]Similarly, see Tur-Prats and Valencia Caicedo (2020) and Fontana et al. (2021) for the political effects of the Spanish and Italian civil wars, respectively.

[8]Nunn (2021) reaches a similar conclusion using a different argument, relating group-level competition, conflict, and prosocial behavior. Prosocial psychology arises as it strengthens a group's position in intergroup conflict (such as civil war) even if it is individually costly. In the absence of the group dimension, individuals' fate is instead determined by their own success, rationalizing why traits like distrust and silence develop as they are more beneficial when facing a state aggressor alone.

[9]A related literature studies how state aggression can have an interstate effect. See, for example, Lupu and Peisakhin (2017), Rozenas et al. (2017), and Rozenas and Zhukov (2019) on the relation between the Soviet Union's aggression in the 1930s and 1940s and attitudes toward Russia in contemporary Ukraine; Dell and Querubin (2017) on the US military intervention in Vietnam and subsequent Vietnamese political and civic activities; and Cannella et al. (2021) on the link between the Nazi annexation of northern Italy during World War II and political participation in post-war Italy.

and Spilimbergo, 2014).[10] We contribute to this literature by documenting how state repression affects people's political beliefs and behavior across generations.[11]

Finally, our paper complements research on memory-based norms and salience (Bordalo et al., 2012, 2020), where the memory of the repression is made more salient through genocide memorials and remembrance ceremonies. The paper also connects 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).

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.

2 Background

The Khmer Rouge seized control of Cambodia in April 1975, ending a five-year civil war in which the US had supported the previous regime, primarily through heavy carpet bombing of the country.[12] The four years that followed marked one of history's worst genocides, with 1.7–3 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).[13] Today, Cambodia is an electoral democracy plagued by rampant corruption and deforestation. In this section, we provide qualitative evidence that roots Cambodia's current status to the Khmer Rouge's impact on society.

2.1 Life under the Khmer Rouge

Immediately after taking power, the Khmer Rouge banned money, markets, and private property to collectivize the economy and create an agrarian socialist society (Chandler, 2008). They displaced large parts of the population and forced people to live and work in labor camps across the country. In the camps, which ranged in size from containing several villages to entire communes, supporters of the old regime, former state officials, Khmer Rouge dissidents, where living with farmers who had lived in the insurgency areas and initially enjoyed (marginally) better conditions. Yet, both groups had to work in the camps to plant and harvest rice and were under constant surveillance by the Khmer Rouge (Twining, 1988; Kiernan, 2008; Tyner, 2017a).

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[10]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.

[11]Our work is also linked to the climate and conflict literature insofar as our rainfall-induced productivity measure 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).

[12]Chandler (2008) argues that the bombings were the most important factor explaining the rise of the Khmer Rouge. From 1965 to 1973, the US dropped 2.7 million tons of ordnance on Cambodia, more than the Allies unloaded in all of World War II (Owen and Kiernan, 2006).

[13]There is some disagreement over the exact number of people who died during the Khmer Rouge regime. Kiernan (2008) estimates a national toll of between 1.67 and 1.87 million people, whereas other estimates reach as high as 3 million (see the discussion in Heuveline, 1998).

The Khmer Rouge controlled every aspect of life in the camps. People were required to attend mandatory "livelihood meetings" that served as propaganda sessions about communist ideals and as confessions, with people admitting past political and ideological sins and informing on other camp members. Those who either expressed the wrong ideas or were accused of differing opinions ran the risk of being executed (Chandler, 1988; Thion, 1993). The Khmer Rouge created a system where neighbors were rewarded for informing on neighbors, friends for informing on friends, and children for informing on parents (Yimsut, 2011; Bennett, 2015).[14]

The Khmer Rouge built these camps to increase the production of rice and fulfill successive four-year production quotas set by the leadership. Rice production was to be centrally collected and distributed evenly across the country, with the goal of generating an export surplus that could finance industrialization (Chandler et al., 1988; Twining, 1988).[15] To succeed, the country and the camps were governed through a hierarchical military command (Heder and Tittemore, 2004). Each province, district, and commune had committees in charge of political, security, and economic decisions, respectively. Internal Khmer Rouge documents describe how provincial committees were responsible for organizing production, focusing on locations where productivity was higher: "*attack wherever [we are] strongest*" (Chandler et al., 1988, p. 20). To achieve this goal, the committees deployed work brigades to undertake specific projects, such as harvesting the fields (Rice and Tyner, 2017; Tyner, 2017a).

Despite the planning, rice production remained low as Khmer Rouge cadres lacked farming experience and were unfamiliar with local conditions (Vickery, 1999; Ledgerwood and Vijghen, 2002). As the harvests failed, people were pushed even harder, leading to further purges, not only of laborers but also of local Khmer Rouge cadres for not meeting the production targets. By the end of 1978, the explosion of violence had completely upended collectivized agriculture across Cambodia (Hiebert, 2017). When Vietnam defeated the Khmer Rouge in early 1979, displaced people returned back to the villages they had lived in before 1975 (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. Apart from one brief period in which it shared power with another party, the Cambodian People's Party (CPP) has won all elections. The party has been headed by Hun Sen since 1985, making Sen the longest serving prime minister in Asia (Baaz and Lilja, 2014; Strangio, 2014; Norén-Nilsson, 2016b).

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[14]The Khmer Rouge were said to have the "eyes of a pineapple," with eyes everywhere seeing in all directions from which there was no escape (Marston, 1997).

[15]Internal party documents reveal detailed accounts of how agriculture would lead the transformation of the economy. Specifically, they show an obsession with raising productivity, with Khmer Rouge cadre repeating the mantra of increasing rice production to "three tons per hectare." By comparison, per-Khmer Rouge productivity averaged one ton per hectare (Chandler et al., 1988). Appendix Figure A.1, extracted from the internal Khmer Rouge documents, displays a complete four-year production plan for the whole country.

Sen was initially part of the Khmer Rouge before he defected to Vietnam during internal purges in 1977. In Vietnam, he joined the Vietnamese coalition that liberated Cambodia from the Khmer Rouge in 1979. He purports to act as the guarantor of peace and stability, and Sen has explicitly pointed to the horrors of the Khmer Rouge during electoral campaigns.[16] Although its economy has grown over 7% annually since the mid-1990s, Cambodia ranks as one of the most corrupt countries in the world, and political patronage governs business, military, and state relations, with the CPP at the center of power (Un, 2015; Norén-Nilsson, 2016b).[17] Moreover, key elements of democracy such as civil liberties, a free press, and the rule of law have been repeatedly compromised since multiparty elections were introduced in 1993 (Norén-Nilsson, 2016b).

In response to Sen's authoritarian rule, the Cambodia National Rescue Party (CNRP) was formed as an alliance of the two largest opposition parties in 2012. While the policy platforms of the CPP and CNRP share many elements, the CNRP has made a strong appeals to combat corruption and improve the legal system (Norén-Nilsson, 2016a). After its surprise near-win in the 2013 election, repression against its members increased and the CNRP was officially dissolved by Cambodia's Supreme Court in November 2017, leading the CPP to capture all 125 seats in the National Assembly in the July 2018 national election.[18]

2.3 The Killing Fields Today

Mass graves tracing back to the Khmer Rouge have shaped post-Khmer Rouge political culture. To memorialize the violence, annual ceremonies are held at many of the more than 300 known grave sites spread across the country (Figure 3a). Already in the early 1980s, the CPP exploited the sites to legitimize the new government: "*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). More recently, the sites have been used for political meetings by the CPP and the opposition during elections (Bennett, 2015; Tyner, 2017b). In many locations, memorials have also been constructed to commemorate the dead, leaving them as salient markers of past repression. 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 political violence.

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

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[16]In the 2013 elections, CPP trucks drove around the country showing films including documentary footage of the Khmer Rouge era and the 1984 Hollywood blockbuster *The Killing Fields* (Norén-Nilsson, 2016a).

[17]See also http://www.worldbank.org/en/country/cambodia/overview and https://www.transparency.org/en/cpi/2021, accessed in May 2022.

[18]It's party leaders Sam Rainsy and Kem Sokha were charged with "defamation" and "treason" in 2015 and 2017, respectively, and banned from ever taking on a public office again.

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. 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.[19] A key ingredient is that these preferences are more easily observed when people participate in civil society than when they vote anonymously.[20] 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.[21] 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 that citizens engage in two independent political activities $A \in \{V, P\}$, where V is voting and P is participating in civil society. Each activity yields strictly concave utility A^{α} at a cost A, and each activity's utility is either weakened or strengthened depending on individuals' support for pluralism. Those aligned with the authoritarian incumbent have weaker preferences for pluralism and obtain a lower benefit from engaging politically.[22] By contrast, citizens backing the opposition favor pluralism and obtain a larger benefit when signaling their preferences for democracy. In particular, there is a benefit function $B(\theta)$ that increases in the support for pluralism θ, where θ is distributed over the interval $[0, \bar{\theta}]$, with $B'(\theta) > 0$ and $\theta_I \in (0, \bar{\theta})$ denoting the incumbent's preferences. We assume that extreme positions in θ (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 $p_A(\theta)$.[23] 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

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

which yields

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

The optimal intensity of activities V and P depends on individuals' support for democracy θ 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.[24] 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 (θ, 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 $p_V(\theta)$.[25]

To derive the fractions of incumbent and opposition supporters and the subsequent incumbent winning margin, we assume that every citizen with $V^* > 0$ votes.[26] Individuals with preferences $\theta \leq \theta_I$ vote for the incumbent, while citizens with stronger democratic sentiments, above θ_I, back the opposition. Combined, this yields the following winning margin for the incumbent:

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

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

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.[27] The higher cost unambiguously decreases participation in civil society P^*.[28] Since θ is unchanged and $p_V(\theta) = 0$, voting and the opposition vote share are unaffected by an increase in the cost of dissent. The outcome is depicted in Figure 1, which displays the location of every citizen depending on their support for pluralism

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[24]Moreover, absent any cost of dissent, every individual has an incentive to take action 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.

[25]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.

[26]V^* can also be interpreted as the propensity to vote.

[27]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).

[28]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 $p_A(\theta) > 0$.

Figure 1: Citizens' Activity Space
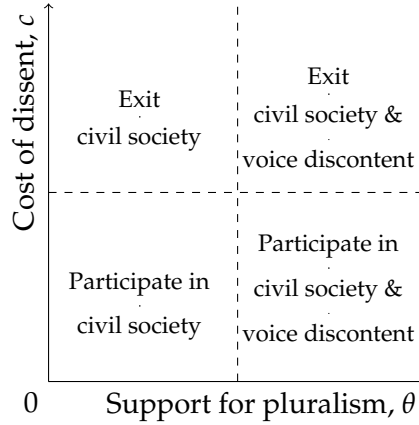
Notes: The figure shows citizens' political activity space with the location of every individual depending on her or his support for pluralism and the cost of opposing the incumbent.

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 θ. The effect of a change in θ 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.[29] This change is depicted as a move from the lower-left to the lower-right quadrant in Figure 1. 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 θ even if c is high, while civic engagement decreases, which is illustrated in Figure 1 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, $\mathbb{I}\left[2F(\theta_I) - F(\bar{\theta}) > 0\right]$.[30]

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

[30]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 θ'_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.

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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 θ, 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 again depends on the first order conditions.[31] 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.[32] In Figure 1, 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.

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 investigate which prediction best explains how the experience of state repression affects subsequent political beliefs and behavior.

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 the 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.[33] 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 3a). In addition to the individual variables, we also combine the outcomes to construct a standardized index of violence. 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).

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[31]Specifically, $dA^* = \frac{\alpha}{1-\alpha} \left[B(\theta) - p_A(\theta)c \right]^{\frac{\alpha}{1-\alpha}} \times \left\{ \left[B'(\theta) - p'_A(\theta)c \right] d\theta - p_A(\theta)dc \right\}$.

[32]Formally, we assume that $B'(\theta)d\theta < p'_P(\theta)cd\theta + p_P(\theta)dc$.

[33]See https://gsp.yale.edu for further details about the violence data.

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.[34] Information on communal elections was digitized and translated from the official website of the National Election Committee.[35] 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.[36] The interviews were conducted in 2003 and 2014 and focus on public sentiment and political beliefs. Guided by our theory, we distinguish sets of questions that help us identify exit and voice and create the following four broad categories: voter informedness, support for pluralism, local civic participation, and trust.[37] Following Anderson (2008), we standardize each question within the four categories and sum the standardized outcomes, weighting each question by the inverse of the covariance matrix of the standardized outcomes.[38,39] The four indices address concerns of multiple hypothesis testing and aggregate changes in preferences that individual questions only measure imperfectly.[40]

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.[41] The topographic maps were derived from early satellite imagery used during the American bombing campaign and contain comprehensive information on population density (number of homes), state infrastructure (e.g. schools, post offices, roads) , and agricultural productivity (e.g. rice fields).[42] To measure the underlying productivity before the Khmer Rouge, we derive the area of each commune that is covered by forests, rice fields, or inundation. This information is complemented with FAO's Global Agro-Ecological Zones database to obtain measures of

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[34]See https://opendevelopmentcambodia.net for additional information.

[35]See https://www.nec.gov.kh for further details. Since the opposition alliance, the CNRP, was formed after the 2012 elections, we aggregate 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 the latter two elections.

[36]The data were provided by the Asia Foundation (https://asiafoundation.org).

[37]We limit our use of the survey to questions that capture the channels we are testing. For example, we exclude general queries such as "How interested are you in politics?" or "How often do you discuss politics with friends?" that could apply both to supporters of the long-term incumbent and the opposition. The full list of questions is provided in Appendix B, and their summary statistics can be found in Appendix Table A.8.

[38]By accounting for the covariance between individual questions, we obtain a more accurate measure than alternative procedures that use an equally weighted average. Except for our election results, we present standardized scores for all our main outcome categories.

[39]To capture people's perceptions of violence as a threat to society today, we also standardize a survey question where respondents were asked about the biggest problem facing Cambodia and their commune, respectively.

[40]Similar to Cantoni et al. (2017), we provide the results on the individual questions with the estimated p-values and p-values adjusted for false discovery rates in Appendix Table A.8; the latter are computed using the procedure outlined in Anderson (2008).

[41]The maps were provided by the Cambodian Genocide Program at Yale University (https://gsp.yale.edu).

[42]Figure A.2a provides a comparison between a map and a pre-Khmer Rouge satellite image above the same area to depict the level of detail. Since features as small as a single home can be shown at this scale, the maps provide an accurate representation of natural and human-made demographics at the time.

potential crop yields.[43] We also include information on the location and quantity of 113,716 bombings during the 1965–1973 US bombing campaign.[44] 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 more than 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.[45] 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.[46]

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),[47] data from the Hansen et al. (2013) satellite-derived deforestation rate measure for the years 2000–2018, and village-level data on illegal logging and resource overuse from CSES.[48] These indicators, aggregated at the commune level, allow us to investigate the links between exit, voice, policy making, and 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.[49] The daily rainfall data are aggregated by commune.

Summary statistics of the main outcomes and rainfall are presented in Table A.4, with the remaining variables reported in Appendix Tables A.5, A.6, and A.8.

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[43]The FAO data can be accessed via `http://gaez.fao.org`.

[44]The ordnance data were provided by the Cambodian Genocide Program at Yale University.

[45]See `https://opendevelopmentcambodia.net` for further details.

[46]The NCEI-NOAA data are available via `https://ngdc.noaa.gov/eog/dmsp/downloadV4composites.html`.

[47]For details on the LICADHO data, see `https://www.licadho-cambodia.org/land_concessions/`.

[48]See `http://earthenginepartners.appspot.com/science-2013-global-forest` for forest change data.

[49]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/`.

5 Empirical Strategy

To identify the effect of state repression on political beliefs and behavior it is necessary that the variation in repression to be uncorrelated with other determinants of political beliefs and behavior. Figure 2 suggests that the Khmer Rouge targeted urban and more economically developed areas that were less supportive of the regime. If people in these locations expressed stronger support for pluralism before the Khmer Rouge came to power, differences in preferences today cannot be fully attributed to the experience of state repression.

Figure 2: Correlations between violence and political beliefs
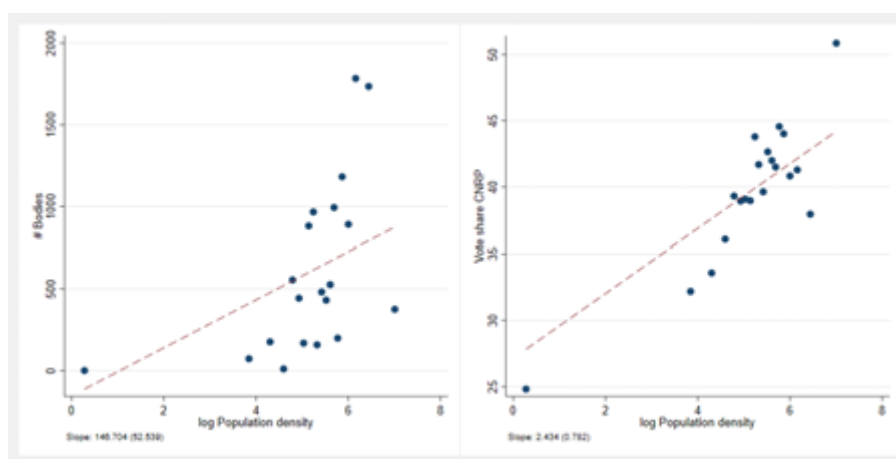
Notes: The figure illustrates how correlations between indicators of violence during the Khmer Rouge and vote shares for the opposition are correlated with pre-genocide population density. Here, population density likely captures differential preferences that existed before the Khmer Rouge came to power.

Our empirical strategy addresses this problem by exploiting the regime's desire to build an agrarian collectivist society: We provide historical evidence that the Khmer Rouge sent forced labor to more productive regions. We then exploit this focus on productivity and approximate the regime's allocation of labor using exogenous variation in rice productivity and show that it consistently predicts the intensity of state repression.

5.1 Khmer Rouge and productivity

The Khmer Rouge's explicit aim was to create an agrarian society that maximizes rice production using forced labor. Confidential party documents provide detailed information on the amount of rice to be produced (see Appendix Figure A.1) and how provincial committees were to meet these targets by concentrating on places where productivity was higher in a given season. This explicitly included using additional labor, as failure was linked to "*a lack of forces*"

([Chandler et al., 1988](), p. 15).[50] To achieve this goal, the committees deployed work brigades to harvest the fields ([Rice and Tyner, 2017](); [Tyner, 2017a]()).

Despite the planning, rice production remained low as Khmer Rouge cadres lacked farming experience and were unfamiliar with local conditions ([Vickery, 1999](); [Ledgerwood and Vijghen, 2002]()). As the harvests failed, people were pushed even harder, leading to further purges, not only of laborers but also of local Khmer Rouge cadres.

5.2 Rice productivity and state repression

To determine which communes suffered from more state repression, and thus mimic the local cadres' allocation of labor, we exploit local rainfall shocks during the genocide that predict variation in rice yields. Cambodia is one of the most climate-vulnerable countries in the world, with droughts and heavy floods having a strong negative effect on yields: "*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 in the lower fields (...) The wet season in Cambodia generally stops abruptly some time 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). We use this relationship between excessive rain during the wet season (September – mid-November) and labor intensive harvesting in the periods thereafter to predict rice yields and subsequent labor assignment to communes.

To construct productivity, we compute the rain distribution of each commune in three-year wet-season windows in the period 1951–2017 (e.g., 1951–1953, 1954–1956, ...). The windows allow for a comparison with productivity during the harvests of 1975–1977, when the labor camps were active.[51] We contrast rainfall in the wet seasons of 1975–1977 relative to the historical distribution to obtain a standardized measure z and construct a binary indicator: communes with standardized rainfall above the province mean are defined as rainy and communes below the province mean count as non-rainy. Non-rainy communes produced relatively more rice than expected, while rainy communes produced relatively less rice as their fields flooded.

Based on historical evidence, we expect that, on the margin, more people were sent to work in more productive communes. To approximate the regime's decision rule and for ease of interpretation, we define the exposure to state repression as

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

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[50]While the relocation of labor to more productive areas is well documented and intuitive (as the return to sending people elsewhere is lower), there are no data that allow us to empirically verify such movement. However, it is difficult to reconcile the much larger death toll (shown in Table 1) in locations experiencing higher productivity with an alternative account according to which fewer or no people were shifted to the work camps in response to labor needs in the harvest period.

[51]To recover the effect of the productivity shocks on the movement of people 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 as it permits us to be agnostic about the importance of a given wet-season shock.

where *State Repression$_c$* is a dummy variable equal to one if the commune-level rainfall z_c^{KR} was smaller than the province-level rainfall z_p^{KR}; i.e. the commune was more productive during the Khmer Rouge period 1975–1977.[52]

To verify that we capture meaningful variation, we assess how the definition in equation (5) predicts contemporary rice production.[53] Figure 3b highlights the unconditional negative association between excessive rainfall and yields. Appendix Table A.1 shows that our productivity measure captures the negative relation between wet-season rainfall and productivity quite well. In particular, a productive commune experiences an increase in rice production of around 6% of a standard deviation using either year-to-year variation or a three-year average.[54]

In Appendix Section A.1, we provide a detailed account of how our indicator of state repression is constructed and show that the results are robust to the way in which we measure productivity. First, across all shock definitions, only rainfall during the wet-season significantly predicts productivity (Table A.2). Second, regardless of how we aggregate rainfall, atrocities decrease monotonically in (standardized) wet-season precipitation (Figure A.3), and only during the Khmer Rouge period (Figure A.4). Finally, we report point estimates for all outcomes and alternative (continuous and binary) measures of rainfall and show the same qualitative results as our preferred specification (Table A.7).

An alternative way rainfall could affect state repression is via accessibility. Rogall (2021) shows that rainfall induced accessibility of roads leads to fewer violence, and in our case, fewer camps. However, interacting the amount of rainfall with the size of the road network or distance to Phnom Penh, does not suggest a heterogeneity with respect to accessibility.

5.3 State repression

Figure 3c displays the resulting variation in state repression within the country's various provinces. Communes color coded in dark gray denote places which were more productive, and which we assume to have been targeted by the Khmer Rouge's repression. We validate this assumption estimating

$$Violence_c = \delta State\ Repression_c + \Gamma'_c + X'_c + \gamma_p + \varepsilon_c, \tag{6}$$

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[52]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 (2021).

[53]There is no information on actual rice production or other measures of economic performance from the Khmer Rouge period. However, present-day yields should still provide a useful test of our measure since farming practices have remained essentially unchanged since the 1970s, with rice productivity in Cambodia currently being the lowest in Asia (Javier, 1997; FAO, 2002). Also, the production shocks during the years for which we estimate actual production, 1996–2016, are similar in magnitude to those experienced during the Khmer Rouge period.

[54]Our pre-genocide commune-level data suggest that Cambodia had approximately 2.6 million hectares of rice in 1970. The country currently has 3.1 million hectares of land producing 9.3 million tons of rice, and an increase in the total production of 0.06 standard deviations (roughly 0.15 tons per hectare) is worth approximately 199 million USD in May 2022 prices (427 USD per ton).

where *Violence_c* is a measure of political violence in commune *c*, *State Repression_c* is our measure of State Repression Γ'_c, is a second-order polynomial in latitude and longitude, X'_c is a vector of predetermined commune characteristics, and γ_p represent the province fixed effects. If we capture the regime's labor allocation mechanism, we expect $\delta > 0$ since more productive communes receive, on the margin, a larger workforce and subsequently more casualties.[55]

Table 1 reports estimates from specification (6) and shows that our measure of state repression consistently predicts an increase in violence. The coefficients are similar with and without the predetermined commune controls, statistically significant (at the 1% level), and quantitatively important. In communes with relatively more state repression, researchers exhumed 389 additional bodies (at a mean of 408) and 8 more mass graves (at a mean of 7). Communes are 63% more likely to commemorate those who died in the Killing Fields with a genocide memorial. To address concerns related to multiple hypothesis testing and to capture the broader average effect, we follow Anderson (2008) and 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 shows that violence increased by 0.135 standard deviations (*t*=4.35).

As a further validity check of our identification strategy, we conduct a series of placebo tests employing two complementary procedures: realized wet-season rainfall and randomization inference. If only wet-season rainfall in the Khmer Rouge era predicts state repression (cf. eq. (5)), then rainfall in any other period should be uncorrelated with our measures of violence, except by chance.

First, we rerun each regression for the outcomes shown in Table 1, replacing our measure of state repression from the Khmer Rouge period with a placebo measure of state repression for all other three-year periods in 1951–2017. This yields 64 placebo wet seasons in Figure 5 which presents the cumulative distributions of the placebos, together with the actual estimates from the Khmer Rouge period (the red line). Only one estimate on the number of bodies is more positive, and three are larger in absolute magnitude.[56] The same pattern emerges for the other outcomes. Studying the standardized index, the Khmer Rouge period emerges as clear outlier as no other season yields a larger (or more significant) relationship between state repression and violence.

Second, to increase the number of placebos, we randomly allocate commune productivity within each province, assigning 50% of the communes within a province to being more productive using 10,000 draws.[57] Only 1.7% of the placebo estimates of the effect of wet-season productivity on the number of dead bodies are more positive than the actual estimate, and

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[55]While it seems counterintuitive to kill the laborers, the camps served the dual purpose of raising production and promoting Khmer Rouge ideology either by changing beliefs or by killing the dissidents. When the (unrealistic) production targets failed, the political agenda became the regime's primary concern and the violence intensified (see Section 2 for details).

[56]Plotting the distribution of the *t*-statistics from the placebo wet-season shocks and comparing those to the *t*-statistic of the actual estimate yields similar conclusions (with 1.4% of the share of the placebo *t*-statistics being larger than the actual statistic, in absolute value).

[57]A priori, it is not clear what the random distribution of more productive (non-rainy) and less productive (rainy) communes during the Khmer Rouge period (1975–1977) should look like. Hence, we adopt a 50-50 split. However, the results are invariant to instead using the actual distribution as determined by equation (5).

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3.2% of the estimates are larger in absolute magnitude when using the 10,000 random draws. These tests strengthen our confidence that our measure of State Repression, derived from productivity, indeed captures the allocation rule of the regime.

5.4 Exogeneity

To validate whether our measure of state repression also caused changes in believes and attitudes, we assess the validity of our identification strategy using our pre-genocide commune-level characteristics. If our approach is valid, there should be no correlation between state repression and other contemporary determinants of later political outcomes. Specifically, we run the regression

$$y_c = \beta State\ Repression_c + \Gamma'_c + \gamma_p + \varepsilon_c, \tag{7}$$

where y_c is a characteristic of commune c, $State\ Repression_c$ is defined as above, Γ'_c is a second-order polynomial in latitude and longitude to ensure that we compare similarly situated communes, and γ_p represents the province fixed effects. We report standard errors clustered at the province level and corrected for spatial dependence at a one-degree window to account for spatially correlated weather. Table 2 shows that several commune characteristics measuring state infrastructure, population density, geographic proximity, and underlying productivity before the Khmer Rouge came to power in 1975 are uncorrelated with state repression, lending credibility to our identification strategy.

5.5 Main Specifications

Having established that productivity-induced state repression during the Khmer Rouge period significantly predicts violence, we turn to estimating its impact on political beliefs and behavior. To examine whether the experience of state repression affects citizens' political participation and their political beliefs, we estimate the following equations. First, to measure voting behavior and the use of voice, we run the regression

$$y_{c,t} = \theta State\ Repression_c + \Gamma'_c + X'_c + \gamma_p + \pi_t + \varepsilon_c, \tag{8}$$

where $y_{c,t}$ 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. π_t represents the election-year fixed effects included when we study communal elections. The remaining variables are defined as before. If state repression increases the use of voice, we expect the vote share of the opposition and turnout to increase, $\theta > 0$, and the incumbent vote share, the likelihood of the incumbent having an absolute majority, and the incumbent's winning margin to decrease, $\theta < 0$.

To quantify citizens' beliefs, civic engagement, and local state interactions, we employ election surveys and socioeconomic data (CSES). We match commune identifiers for survey participants with our measure of state repression, allowing us to estimate a variant of our commune-level regression (8) using respondent outcomes ($y_{i,t}$), a second-degree polynomial in latitude and longitude (Γ'_c), individual and commune characteristics as defined in Table 2 (X'_i and X'_c, respectively), geographic fixed effects (γ_{pz}), and survey-year fixed effects (π_y):

$$y_{i,t} = \theta State\ Repression_c + \Gamma'_c + X'_c + X'_i + \gamma_{pz} + \pi_t + \varepsilon_i. \tag{9}$$

We use equation (9) to test the prediction that state repression leads to exit via 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 the variables measuring support for pluralism and voter informedness, $\theta > 0$, confirms the use of voice.

5.6 Limitations

This allows us to estimate the causal effect of local variation in political mass violence if we are willing to assume that political participation only changes via the experience of state repression. We discuss four potential areas of concern: the interpretation of state repression, persistent infrastructure investments by the Khmer Rouge, survivorship bias, and reporting bias.

A key concern is the interpretation of state repression. We explore the importance of the Khmer Rouge's repressive behavior through the lens of labor camps and Killing Fields. If we attribute all changes in political participation to casualties alone, we could study the effect of the number of killings through an instrumental variable approach. While providing a quantifiable measure of repression, this approach would ignore the effects of insecurity, fear, and distrust that accompanied labor camps as well as the continued reminder of the experience through the presence of the Killing Fields, genocide memorials, and commemorative ceremonies.[58] As any of these channels would violate the exclusion restriction of the instrument, we focus on the reduced-form estimate of state repression to credibly measure their combined effect.[59]

Second, larger camps may have developed infrastructure or generated income that separately affects political behavior today. Yet, there is little evidence of any lasting economic effects of the camps.[60] Despite the large-scale effort, production remained low during the genocide, and most infrastructure investments were badly planned and subsequently failed, leaving few productive remains after the Khmer Rouge left power. We validate this premise in Tables A.16-A.20 where we report no differences in contemporary assets, consumption, poverty indicators, market access, public infrastructure or nighttime lights.

A third concern is that differential survivor demographics rather than the exposure to state repression drive the outcomes. Yet, we isolate the experience of political violence because victims were relocated from all parts of Cambodia and those who survived returned home after the genocide. While previous government supporters, suspected dissidents, and the educated were more likely to be singled out, the same selection occurred throughout the country. Laborers were moved from their places of origin, with survivors returning to their previous homes following the regime's fall. This means demographics were comparable across Cambodia af-

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[58]Similarly, if some camps produced insecurity and fear, but no dead, we would also violate the exclusion restriction.

[59]Though we find no evidence of lasting economic effects, these would further violate the exclusion restriction.

[60]Nor is the instant effect of temporarily raising local food production likely to have played a role as the rice was expropriated by the central government for export purposes (Kiernan, 2008).

ter the genocide but that people living closer to the camps had a more direct experience of the repression (Figures A.12a-A.13). In the analysis we validate that our variation is uncorrelated with population, age, gender ratios, and education status (Section 7.4). Consistent with the idea 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 just after the genocide (Table A.18). Together, these findings imply 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, rather than not, in a country ruled by the Khmer Rouge.

Finally, citizens might be unwilling to report their true beliefs and vote truthfully. First, we have no reason to believe that respondents systematically misreported their beliefs across multiple questionnaires and rounds conducted by different surveying institutes. In addition, taking a standardized index rather than the questions themselves is designed to elicit the underlying correlation—their beliefs—and to limit systematic error. Second, while the individual vote is unobserved, communes with extreme vote shares for the opposition might be afraid of repercussions from the central government.[61] Yet, citizens afraid to vote for the opposition introduces a bias against finding an effect; We would be underestimating the true impact of state repression on citizen's use of exit and voice.

6 Results

6.1 Citizens' use of Exit and Voice

In this section we present results that are consistent with our theoretical model in which experiencing repression increases one's preferences for pluralism but also raises the perceived cost of dissent. These opposing forces imply that 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.

Political Mobilization and Political Competition   We first study the impact of repression on citizen's use of voice. If state repression affects the support for pluralism, we expect to see an increased use of voice: citizens mobilize on behalf of the opposition resulting in higher levels of electoral competition. To investigate this link, we explore information from the national election in 2013 and the communal elections in 2012 and 2017.

Table 3 reports the results on political mobilization (columns 1-6) and political competition (columns 7-10). Throughout all specifications, we find increased political mobilization indicating an increased use of voice. The first two columns show that state repression increased the vote shares for the opposition (CNRP). State repression increased their vote shares by 4.9 percentage points in the 2013 national election (significant at the 1% level), or an approximately 13% increase from a mean of 37.5. We see a similar effect using data from the two most recent

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[61]Since the CNRP was a relatively new party in 2013 and their success was entirely unanticipated by the central government, citizens are unlikely to have acted strategically.

communal elections, with the CNRP gaining about 6% overall.[62] The higher CNRP share is explained by less support for the long-term incumbent CPP and an increase in turnout. In the national (local) vote, the CPP is down 4.2 (2) percentage points and turnout increases by around 4% across all elections (columns 3–6).

The second and related implication of our theoretical framework is that political competition intensifies if state repression leads citizens to exert more voice. To examine this prediction of the model, we create two separate measures included in columns 7–10. The first variable captures the likelihood that the long-term incumbent CPP attains an absolute majority in the commune, and the second variable measures the winning margin of the CPP over the opposition alliance CNRP. The estimates provide further evidence that political violence can have a persistent effect on future political behavior. Columns 7–8 demonstrate that state repression significantly reduces the probability that the long-term incumbent gains more than 50% of the votes. The coefficients in column 8 imply a decrease in the likelihood of the CPP ruling with an absolute majority by between 7 and 15 percentage points. Similarly, the CPP's winning margin decreases by approximately 6% to 8% overall due to the Khmer Rouge's repression (columns 9–10).[63]

The fact that our findings are qualitatively similar when examining several elections and different legislative bodies alleviates concerns that the results are driven by specific elections, assemblies, or politicians. To assess the validity of the findings, we run tests with placebo production shocks, similar to those for the violence variables depicted in Figure 5. As seen in the Appendix (Figures A.5–A.7), the Khmer Rouge estimates are clear outliers when drawn from a distribution with the same spatial correlation patterns. Taken together, these findings strengthen the claim that state repression truly caused an increase in the use of voice as captured by political mobilization and higher levels of political competition.

Political Beliefs   Next, we trace citizen's increased use of voice to their political beliefs using survey evidence from the nationally representative Asia Foundation Election Survey. We construct z-score index variables for each subcategory of attitudes and behavior we examine. Voter informedness and support for pluralism help us identify changing political beliefs, whereas local civic participation and trust capture exit.[64]

The first row of Table 4 presents the estimates of equation (9) and shows that state repression increased the knowledge and backing of democratic ideals. Respondents living in communes that suffered more under repression are significantly (at the 1% level) more informed both in general and about issues related to the elections and the workings of democracy.[65] State repression also increases voter informedness by 0.070 standard deviations and produces stronger

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[62]The communal election results are similar if we analyze each election year separately.

[63]The results are the same if we use the simple rather than absolute difference to calculate the winning margin.

[64]Following Cantoni et al. (2017), we also provide the results on the individual questions in each category together with *p*-values that are adjusted using the false discovery rate (see Appendix Table A.8).

[65]Specific questions ask (among other things) about the frequency of media consumption, whether the respondent knows the name of their local representative in the National Assembly, and whether they are aware of the representative's last visit to the respondent's area. See Appendix B for the full set of questions.

support for democratic ideas (columns 3 and 4).[66] According to the estimates, views favoring pluralistic sentiments increase by 0.044 standard deviations. Columns 1–4 suggest that the local population is both more informed about, and stronger backers, of democratic principles, in line with the notion that the state repression increases the use of voice.

Trust and Civic Participation   Next, we study the impact of repression on citizen's use of exit. If state repression increases the perceived cost of dissent, people trust others less and abstain from activities that risk revealing their political views; they exit civil society.

When asked to assess the extent of their participation in local associations and in taking local action, individuals report a 0.074 standard deviation decrease in civic participation (column 6).[67] Similarly, column 8 shows that state repression decreases trust (assessed in general and locally) by 12% of a standard deviation (precisely estimated at the 99% confidence level).[68]

The individual-level data also allow us to investigate whether the effect of state repression is transmitted across generations in terms of beliefs and civic participation. To do so, we split the sample into those alive during the Khmer Rouge period (born before 1979) and those born after (after 1978). The results in Table 4 are quite similar for older (second row) and younger (third row) respondents. Younger individuals are slightly more politically informed and less affected in terms of their civil society engagements than older cohorts. However, state repression influences both groups equally in terms of displaying lower trust and expressing stronger support for democratic principles.

State Avoidance   Historically, there are several examples from South East Asia where people have withdrawn from society to avoid relationships with a coercive state (Scott, 2009).[69] To test the idea that state repression leads citizens away from politically charged environments, we examine monetary contributions to the community and interactions with the local state in Table 5. Specifically, we assess the willingness to contribute and support the local government through community charity and inter-household transfers as well as via taxes to provide another measure of civic engagement and a proxy for the strength of the state-society relation.[70] The estimate in the top row of column 2 implies that state repression caused a 22 USD PPP de-

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[66]We include questions that inquire about whether democracy is preferred to a strong leader, if one can vote against the government, and if the government and the people are equals. See Appendix B for the full set of questions.

[67]Specific questions ask (among other things) about the number of civic associations a respondent is a member of, how active the respondent is during the meetings, and how the local government affects the respondent's life. See Appendix B for the full set of questions.

[68]Specifically, we assess trust in the neighborhood and trust in general. See Appendix B for further details.

[69]Similarly, Herbst (1990) reviews evidence from Africa showing how citizens escape from interactions with the state by leaving the marketplace for subsistence farming or by exiting the formal for the informal sector to escape political authorities.

[70]Local property taxes represent the largest share of the taxes. Although the commune council's budget is small and its budgetary autonomy is limited, property tax is one of the few charges that generate local revenue. Most available funds are spent on salaries/councilor allowances (Smoke, 2015, 2017). Also, tax evasion is easy in Cambodia.

crease, or 7% less yearly community contributions, from a mean of 314 USD PPP (significant at the 1% level). Column 4 presents a similar 10% overall decrease in tax revenues.[71]

Finally, columns 5–8 investigate polar opposites of interacting with the state in terms of employment: either working for the government or working in the foreign private sector.[72] Respondents are 0.8 percentage points or 7% less likely to work for the government (column 6, top row) and are 2.2 percentage points more likely to be employed in the foreign private sector (column 8, top row). The second and third row show that the results vary little by birth cohort, although older people contribute even less to the community, while those born after the Khmer Rouge era are more likely to be employed in the foreign private sector.[73]

Last, to ensure that our findings are not driven by spurious correlations, we run placebo regressions for all outcomes and plot the distribution of the placebo average effects against the average effect measured for the Khmer Rouge period (1975–1977). As before, the actual estimates are outliers in the placebo distributions (see Appendix Figures A.8 and A.9).

Overall, our results in this section confirm Prediction 3 of our model: state repression not only increases the use of voice but also leads to exit via lower trust and fewer interactions with civil society and the local state. Moreover, the effects are broadly similar for people who were alive during the Khmer Rouge era and those born later, suggesting that state repression can have a long-lasting impact on society. In Section 7, we investigate some of the possible reasons for this persistence.

6.2 Policy Making and Rent Extraction

We find that state repression increases citizens' use of exit and voice, which implies that state repression's impact on rent extraction is ambiguous. On the one hand, policy makers may be disciplined through electoral accountability, where citizen's use of voice increases political competition and thus the threat of being voted out. On the other hand, policy makers enjoy more freedom to extract rents if citizen's use of exit leads to a less vibrant civil society that exerts less social pressure on government officials.

To this purpose, we study land concessions granted by the local government and natural resource extraction in the form of deforestation. We focus on concessions and deforestation rates because deforestation, which is rampant in Cambodia, is a major source of illegal rent extraction by local businesses and political elites (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 in the world. Local authorities, together with central government officials,

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[71]The Cambodian riel is 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).

[72]Working in the domestic private sector is the intermediate category and is not reported for brevity.

[73]A potential concern is that we are capturing the valuation of a local service rather than the willingness to contribute to a public good or that tax revenues or employment opportunities vary because of differences in local economic growth or fiscal capacity. However, as we will see in Section 7.4, communes are similar in terms of state infrastructure and across several economic indicators. The results in Table 5 also remain unchanged when scaled by the monetary value of household consumption. Moreover, higher political competition should imply that communes with a history of state repression are more efficient at collecting the same type of tax, not less. That said, we cannot completely rule out these alternative explanations.

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).

Theoretical prediction   To guide our understanding of how citizens' use of exit and voice affect rent extraction, we return to our theoretical framework. Suppose that the incumbent extracts a fraction μ of the available rents from a natural resource. Rent extraction increases people's support for political change if they prefer the resource to be shared equally among the population. We capture this by modifying the benefit function to $B(\theta + \mu)$.[74] With this addition, we amend the predictions from our theoretical model for three cases: when state repression increases the support for pluralism θ, the cost of dissent c, or both.

First, if state repression raises the support for pluralism θ, voters who were previously indifferent now back the opposition, reducing the incumbents win probability.[75] Thus, to maximize the likelihood of reelection, the incumbent extracts less rents in response to the tighter winning margin.

Second, if state repression increases the cost of dissent c, we established that participation in civil society decreases. With rent extraction included in the benefit function, less civic participation implies that fewer people monitor the incumbent, enabling him to extract more rents.[76] However, this effect is partly mitigated by an indirect effect on the incumbent's win margin. When deciding about the level of extraction, the incumbent therefore balances the gains from fewer people monitoring with the (potential) losses from increased political competition.[77]

Finally, if the experience of state repression raises citizens' preferences for pluralism as well as the cost of dissent, both effects are at work. The decrease in rent extraction from increased political competition must be traded off against the increase in rent extraction following a less active civil society. Since the higher cost of dissent also induces an effect on the win margin, we expect the overall impact on rent extraction to be negative. We thus have the following theoretical result.

Corollary 2.2. *If state repression increases support for pluralism, rent extraction decreases. By contrast, if state repression increases the cost of dissent, rent extraction increases if the effect of less civic participation dominates the increase in political competition. Finally, if state repression increases support for pluralism and the cost of dissent, rent extraction decreases if the direct and indirect win-margin effect exceeds the effect coming from less civic participation.*

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[74]Rents are modeled as additive to θ within the benefit function to allow the level of μ to be more decisive for marginal incumbent supporters than for backers of the opposition.

[75]That is, with rent extraction μ, the incumbent's vote share is given by the mass of voters below $\theta_I - \mu$: $\int_0^{\theta_I - \mu} f(\theta)d\theta$. He thus loses $-\int_{\theta_I - \mu}^{\theta_I} f(\theta)d\theta$. To see the effect of an increase in θ, consider someone who is indifferent between voting for the incumbent and the opposition under θ_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.

[76]We now have $P^* = \left(\alpha \left[B(\theta + \mu) - p_P(\theta)c\right]\right)^{1/1-\alpha}$. Totally differentiating this expression with respect to μ and c, and estimating the slope of the iso-curve for a given value of P^*, yields $d\mu/dc = p_P(\theta)/B'(\theta + \mu) > 0$. As long as the benefit from pluralism $B(\theta + \mu)$ is strictly increasing in its arguments, he can extract more rents when state repression increases the cost of dissent c.

[77]Essentially, the incumbent trades off the benefit from a higher μ, $d\mu/dc = p_P(\theta)/B'(\theta + \mu)$, against the losses in electoral votes, $\int_{\theta_I - \mu}^{\theta_I} f(\theta)d\theta$.

Empirical results   To test these predictions, we first study the effect of state repression during the Khmer Rouge on a policy measure that sanctions resource extraction and then turn to the impact of the shock on actual extraction rates. In 2001, a new law allowed the government to grant land concessions for commercial production if the land was deemed not to have any public interest. A large share of the concessions have subsequently been given to Cambodian business groups, political elites, and foreign investors, with up to 70% of the land initially slated for conservation turned into concessions in 2012 (Neef et al., 2013; Milne, 2015).[78] In our analysis, we explore whether a commune granted a concession over the period 2001–2015. We combine this information with satellite data measuring deforestation or forest loss between 2000 and 2018 and survey data on the occurrence of illegal logging and resource overuse in the years 1996–2016.[79]

Table 6 presents estimations of equation (8). State repression causes fewer communes to award a concession and reduces the exploitation rate of natural resources. Column 2 implies that communes are 5.1 percentage points less likely to have granted an economic concession (significant at the 1% level), a decrease of 16% from a mean of 0.32.

Column 4 indicates that the forest loss rate, calculated as the change in tree cover between 2000 and 2018, decreased by 0.627 log points in communes with state repression the Khmer Rouge period. Similarly, state repression reduces the likelihood that illegal logging or illegal resource overuse was reported in the CSES survey data. Column 8 shows that the probability of illegal overuse was down 5.1 percentage points, or 16% lower overall.[80] Together, these estimates are in line with the predictions of Corollary 2.2: there is less rent extraction as the electoral accountability effect (decreasing rent extraction) dominates the effect from reduced participation civil society (increasing rent extraction). Last, Appendix Figure A.10 presents evidence indicating that our indicator of state repression is an outlier in the distribution computed for the placebo estimates.

To summarize, 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 affect policy makers by reducing their ability to extract rents in the form of natural resource exploitation.

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[78]By 2012, the economic land concessions covered more than half of Cambodia's total arable land (ADHOC, 2013).

[79]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).

[80]These results also confirm recent reports by Cambodian non-governmental organizations that illegal extraction often occurs in collusion with local authorities, further strengthening the link between rent-seeking activities and resource extraction (see, e.g., PLCN, 2019).

6.3 Robustness

We begin studying the robustness of our estimates by considering alternative formulations of how productivity drove the regime's decision to allocate labor, and thus state repression. In Appendix Table A.7, we explore a continuous standardized measure, a standard deviation change based on the continuous measure, and a standardized variable based on commune-level variation alone.[81] All of the more than 100 additional coefficients from four specifications yield qualitatively similar results, and most are comparable in magnitude and level of significance. We also show that the findings on violence do not depend on how we scale the casualty indicators. Taken together, the tests suggest that the results are insensitive to the construction of our measure of state repression and how we measure violence.

Second, we show that our findings are not driven by larger urban areas that might have held more pluralistic views even before the Khmer Rouge came to power. While our measure of state repression is uncorrelated with important pre-genocide commune-level characteristics, such as population density (Table 2), it is possible that the effects are affected by population outliers. In Appendix Tables A.9–A.13, we restrict the sample by excluding communes with a pre-genocide population above the 99th, 95th, or 90th percentile of the distribution.[82] Our results hold up well, suggesting that outliers in terms of population size are unlikely to drive the findings.

Third, we examine the robustness of our estimates to the removal of potentially influential areas by running regressions in which we iteratively drop each of Cambodia's communes. Appendix Figure A.11 plots the distribution of the coefficients relative to the point estimate of the full sample. In general, the results do not appear to be determined by a particular commune.

Fourth, 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). The two methods consistently produce standard errors that are similar, and the main conclusions remain the same. To further assess the sensitivity of the results to spatial correlation, we also conducted placebo and randomization inference tests in which we exploit the same spatially correlated distribution as our Khmer Rouge state repression (Figure 5 and Appendix Figures A.5–A.10). Again, the *p*-values are comparable to those using standard inference adjustments.

7   Channels of Persistence

Our results show that state repression has a robust, quantitatively important, and persistent effect on citizens' use of exit and voice. In this section, we highlight how a society's shared experiences—its collective memory—influences citizens' cultural identity (see e.g., Nora, 1989;

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[81]These different measures also predict rice productivity (Table A.1).

[82]Going from the full sample to the 90th percentile is equivalent of keeping 1,621 communes (all), 1,605 communes (99th percentile), 1,540 communes (95th percentile), and 1,459 communes (90th percentile) in the remaining sample.

Halbwachs, 1992; Dessí, 2008; Assmann, 2011; Fouka and Voth, 2021). A collective memory emerges when those without firsthand experience of an event identify with those who had such an experience. We hypothesize that Cambodia's collective memory manifests itself in a continued fear of violence, perpetuated by memorials and commemorative ceremonies providing a "connective structure" linking the political repression of the Khmer Rouge with the present.

7.1 Perception of Violence

A collective memory implies that repression has left a permanent mark on people's minds, even after the Khmer Rouge were long gone. To examine this link empirically, we explore two sets of data. First, we use the Asia Foundation Election Survey from 2003 and 2014 to capture citizens' perceptions about the biggest problems facing Cambodia. Second, we measure commune variation in actual violence via three international event-based data that together cover the post-Khmer Rouge period (1979–2020). By combining information on perceived and actual violence, we seek to understand whether perceptions change because the Khmer Rouge atrocities changed the weight people put on the risk of violence or because these areas were more violent in the aftermath of the genocide, or both.

In column 1 of Table 7, we begin by identifying the impact of the Khmer Rouge's repression on citizens' perception of violence as a problem. Respondents were asked about the biggest problem facing Cambodia and the commune. We group the national and local problem into a standardized index and estimate the effect of state repression using equation (9). The top row of column 1 shows that individuals are 0.09 standard deviations (significant at the 1% level) more likely to view violence as the biggest problem if they live in communes with past state repression.[83] The middle and lower rows present the same result for the younger and older respondents, indicating that the experience of repression is transmitted across the two groups.

In columns 2–4, we investigate if the pattern is the same for other issues. While economic issues (including the economy, poverty, and underdevelopment) were the most common problem listed, there is no significant difference in this or any other domains.[84] This suggests that a defining feature setting these areas apart even today is that all people (both young and old) perceive violence as a more pressing problem in society.

Finally, we examine the occurrence of actual violence, employing geo-referenced violent events at the commune level from three alternative data sources. Column 5 uses the GDELT database (covering the years 1979–1999), column 6 uses the UCDP database (1989–2012), column 7 uses 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. Using equation (8), we find no significant relation between past state repression and contemporary violence.

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[83] In Appendix Table A.8, we provide the individual national and local results together with p-values adjusted for false discovery rates.

[84] Institutional issues include corruption, crime, and problems with immigration, while education and health issues include education/schools, health care, and HIV/AIDS.

In sum, even though the incidence of violence is the same across communes, people put more weight on violence as a threat to society in areas heavily affected by state repression. A collective memory increasing the fear of violence today offers an explanation as to how the genocide continues to impact political beliefs and behavior.

7.2 Genocide Memorials

The society's fear of violence—its collective memory—is upheld by the presence of mass graves and memorials linking the repression of the Khmer Rouge to today. Following the regime's fall in 1979, human remains were collected and stored in memorial *stupas* (Buddhist shrines) in villages adjacent to the Killing Fields. Still standing today, some of the memorials are simple wooden structures holding several skulls, while others are dedicated spaces in existing buildings showing visible remains inside of large structures in the center of the villages (Bennett, 2015, 2019; Jarvis, 2015; Fleischman, 2017).

The notion that the memorials provide a persistent and intergenerational transmitter of the memory of the Khmer Rouge atrocities is supported by qualitative evidence presented by Bennett (2015) and Fleischman (2017). In their studies of the mass graves and the genocide memorials, partly based on interviews with people living near the sites, they recount respondents stating that the human 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*" and "*even though I was not born in that era, this event obviously happened in Khmer Society ... Khmer killed Khmer*" (Bennett, 2015, p. 224). Similarly, in Fleischman's (2017) work, respondents 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 of Table 8, where column 1 reproduces our earlier result on the genocide memorials. We find that communes more heavily affected by the Khmer Rouge repression are 2.2 percentage points 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 linking past state repression to today's political believes and behavior.

7.3 The Day of Anger

Another channel linking the repression of the Khmer Rouge to the present are commemorative ceremonies at mass graves and memorial sites in memory of the Khmer Rouge victims (Bennett, 2015, 2019). These sites host various religious festivals and ceremonies, such as *Pchum*

ben or the Festival of Hungry Ghosts, honoring the dead, and people often visit the memorials during local holidays.[85]

Of particular importance is *tvea chong komhung* or the "Day of Anger," held annually on May 20 to commemorate the victims of the Khmer Rouge crimes (Guillou, 2013; Bennett, 2015; Fleischman, 2017).[86] During the Day of Anger, Buddhist monks, community members, survivors, and school children participate in the ceremonies, which include speeches and songs as well as dramatic reenactments of the Khmer Rouge period and the violence that was inflicted. Similar to memorials, recurring commemorative ceremonies and rituals convey the collective memory of the genocide. In particular, periodic rituals like the Day of Anger serve as "focal points" (Halbwachs, 1992) that reinforce the memory of the violence. This interpretation also aligns with recent work on memory-based norms and salience (Bordalo et al., 2012, 2020), where the memory of the Khmer Rouge repression is made more salient through ceremonies such as the Day of Anger.[87]

To validate this channel, we investigate the mediating impact of the Day of Anger. The commemoration is well suited to test the mechanism we have in mind as it has a clear focus on the violence and its victims. In addition, because the date is fixed, it allows us to check whether a successful celebration affects subsequent political beliefs and behavior. To resolve the empirical challenge that participation in the event is likely to be correlated with the underlying preferences we intend to measure, we exploit exogenous variation in local rainfall on the Day of Anger.[88] Because the Day of Anger is held outdoors, the basic idea is that people are less likely to attend if it rains. Conditional on the likelihood of rain, rainfall is a random event, arguably uncorrelated with other factors that affect political outcomes.[89] Specifically, we count the number of rainy days on May 20 in the five years preceding our main outcomes of interest (where rainy is defined as rainfall exceeding the historical average on May 20) and interact this variation with Khmer Rouge repression.[90] Our hypothesis is that unexpected rain-free Days of Anger make the memory of the Khmer Rouge repression more salient and increases its impact.

In the remainder of Table 8, we study the effect of one additional rainy Day of Anger by amending equation (8) to measure voting behavior (columns 2–5) and equations (9) to capture political beliefs and civic engagement (columns 6–9). Specifically, we add the number of rainy Days of Anger *Rainy Days of Anger$_c$*, an interaction term with state repression

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[85]The CPP also exploited the grave sites during the 1980s to legitimize the new government by "*put[ing] the dead to work in the name of the newly constructed state*" (Bennett, 2015, p. 213), and both the CPP and the CNRP held meetings at the sites during the political campaigns leading up to the 2013 elections.

[86]*Tvea chong komhung* literally means "anniversaries for holding on to anger." Other English names given to May 20 is the "Day of Hatred" or the "Day of Maintaining Rage" (Jarvis, 2015; Fleischman, 2017).

[87]In the language of Bordalo et al. (2020), the memory of the Khmer Rouge is made more accessible as the current context—the remembrance ceremonies as well as the memorials and mass graves—is similar to people's past experience of the repression. Thus, by making these memories more salient, the ceremonies and the memorials also shape current political beliefs and behavior.

[88]This is similar in spirit to Madestam et al. (2013), who use daily rainfall to generate variation in outdoor participation in the Tea Party rallies in the United States.

[89]Although we lack information on actual attendance, we know that the commemoration always occurs on May 20, allowing us to isolate the effect of the Day of Anger from the general impact of rainfall.

[90]To exploit weather variation across communes with similar likelihoods of rainfall on the Day of Anger, we also control for the rain probability flexibly by including dummy variables corresponding to deciles in the historical rain probability distribution in the week before and after May 20th.

State Repression$_c$ × Rainy Days of Anger$_c$, and a set of decile dummies controlling for the likelihood of rain on the Day of Anger in the commune μ_c to the respective equations.

We find support for the idea that the Day of Anger reinforces the effect of the Khmer Rouge repression. We estimate a negative and significant interaction term for the variables measuring the CNRP's vote share, turnout, and voter informedness and a positive and significant interaction term for the CPP's vote share, political competition, civic participation, and trust. Specifically, the effect of state repression on support for the CNRP (the opposition) is 5.6 percentage points in absence of Day of Anger rainfall, while the impact is 2.9 percentage points for voters exposed to local Day of Anger rainfall and state repression (the total effect is shown at the very bottom of Table 8). That is, an additional rainy Day of Anger reduces the effect of the Khmer Rouge's repression by 2.6 percentage points (significant at the 1% level). Alternatively, a non-rainy and thus more successful and well-attended Day of Anger increases the impact of repression on the support for the opposition.

The responsiveness is also sizable in terms of other voting variables as well as measures capturing political beliefs and civic participation. For example, one more rainy Day of Anger lowers the negative impact of state repression on civic participation by 3% of a standard deviation (significant at the 10% level). We also note that the effect of the Day of Anger alone is ambiguous, suggesting that the commemoration mainly matters in locations scarred by the Khmer Rouge repression. Together, these findings imply that ceremonies of collective remembrance, such as the Day of Anger, reinforce the memory of the Khmer Rouge state violence and offer a possible channel that amplifies the effect of the genocide.

In sum, we find evidence that state repression created a collective memory - a fear of violence-which is perpetuated and transmitted across generations at mass graves, genocide memorials, and commemorative ceremonies. In areas more exposed to the Khmer Rouge repression, violence is more likely to be perceived as a threat to society despite having the same incidence of violence today as the rest of Cambodia. Moreover, the physical presence of mass graves and genocide memorials, together with recurrent commemorative ceremonies like the Day of Anger, reinforce the connection between the past—the experience of political violence—and the present. Importantly, these channels are consistent explain why the effects of the repression extending beyond the generation who survived the Khmer Rouge era.

7.4   Alternative Hypotheses

While our measure of state repression is uncorrelated with demographic characteristics in the Asia Foundation Election Survey, the Cambodia Socio-Economic Survey (Table 2) and our pre-genocide commune covariates, there remain complementary explanations for our results on citizens' exit and voice. Mediating factors such as altered demographics, changes in assets and consumption (as a direct effect of the camps or because of post-Khmer Rouge investments in public infrastructure), and differences in migration patterns could explain the observed changes in political beliefs and behavior. In this section, we find no evidence consistent with alternative these hypotheses.

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

to capture the age distribution in Cambodia before the genocide.[91] Figure A.12a contrasts the 1962 distribution with the age distribution in 1978 for survivors using CSES survey data from 1996–2016 across communes affected by state 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 state repression. In fact, when we test for the difference between the age distributions using the current population in Figure A.12b, we find no systematic relation between age and currently residing in communes with a history of state repression.[92]

These results are corroborated in Table 9 across a range of socioeconomic-, demographic-, and infrastructure-related outcomes. Columns 1–4 indicate that the state repression is not a significant predictor of contemporary population density, the gender ratio, age, and education. All estimates are close to zero in magnitude and insignificant and hold when estimated flexibly across the age distribution.[93] In columns 5, 6, and 9, we assess a Malthusian argument (where the genocide raised the standard of living by redistributing productive assets from the victims to the survivors) by examining individual assets and consumption together with a commune-level poverty indicator. As before, the estimated effects are indistinguishable from zero.[94]

To investigate differential population movements just after the genocide, in column 7 of Table 9 we study individual in-migration in 1979 to the current commune of residence. The column indicates that in-migration rates do not differ significantly across communes, consistent with the idea that survivors returned to all parts of the country.[95] Related to migration, we also show that people who never moved have similar sociodemographic characteristics (Appendix Table A.16).[96] Finally, in columns 8 and 10, we present two standardized indices aggregated at the commune level. Market access is based on variables measuring distance to important business outlets and the existence of service functions, while school access captures important quality indicators such as the student-teacher ratio, enrollment rates, and distance to the nearest school (see Appendix Table A.19 for the estimates on the individual variables). The estimated coefficients are close to zero and insignificant.[97]

In summary, none of the characteristics we examine can be systematically and significantly explained by our measure of state repression. This makes it less likely that the economic effects of the camps, subsequent infrastructure investments, survival bias, or migration rationalize our findings. Instead, the results lend more support to the notion that people's political

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[91]Unfortunately, the data from 1962 are only available at the country level, thus preventing any comparison with present-day communes.

[92]Similarly, we find no significant difference when probing this link separately for women and men as shown in Appendix Figure A.13.

[93]Population density and the 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. Results on the age distribution shown in Table A.15.

[94]Appendix Tables A.16 and A.17 provide additional evidence in support of the same conclusion.

[95]Appendix Table A.18 shows the same finding differentiated across respondent age at the time of the Khmer Rouge.

[96]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.

[97]Appendix Table A.20 shows similar conclusions when investigating night-time lights as a measure of local economic activity and additional proxies for market access.

preferences and behavior changed as a result of experiencing state repression, and because violence is still perceived as a threat to society, where the Killing Fields' presence together with commemorative ceremonies continue to remind the local population of past political violence.

8 Conclusion

Using evidence from one of history's most severe episodes of state repression, the genocide in Cambodia under the Khmer Rouge, we find that experiencing repression increases people's support for democratic values but makes them more cautious in publicly expressing these views. Past repression reduces an authoritarian incumbent's vote share and increases electoral competition and support for democratic values four decades later. However, people become more cautious in their interactions with the local community: they are less trusting, participate less in community organizations, and interact less with local government. We investigate mechanisms of persistence and show that repression fosters a lasting fear of violence as a threat to society. This collective memory is transmitted across generations by genocide memorials and remembrance ceremonies, keeping the memory of the atrocities alive, explaining why the effects of political violence extend beyond the Khmer Rouge era.

The findings are relevant for the policy debate on democratization, contributing to our understanding of political participation in post-repression societies. In particular, the results add to the ongoing discussion of how state-society relations shape political development (see, e.g., Migdal, 1988, 2001). Acemoglu and Robinson (2018) and Dell et al. (2018) argue that an even balance between the state and civil society, where the two complement each other, is more conducive to development. Similarly, Besley and Persson (2019) emphasize a two-way interaction between democratic institutions and civic culture, where a larger share of citizens in civil society supporting democracy reinforces democratic reforms. Considering our evidence on citizens' exit from civil society and their disengagement with the local state, these hypotheses explain the slow democratic progress in countries with a history of repression.

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9 Figures and Tables

Figure 3: The Killing Fields and Predicted Rice Yields

(a) Cambodia's Killing Fields   **(b)** Rice yields   **(c)** State Repression
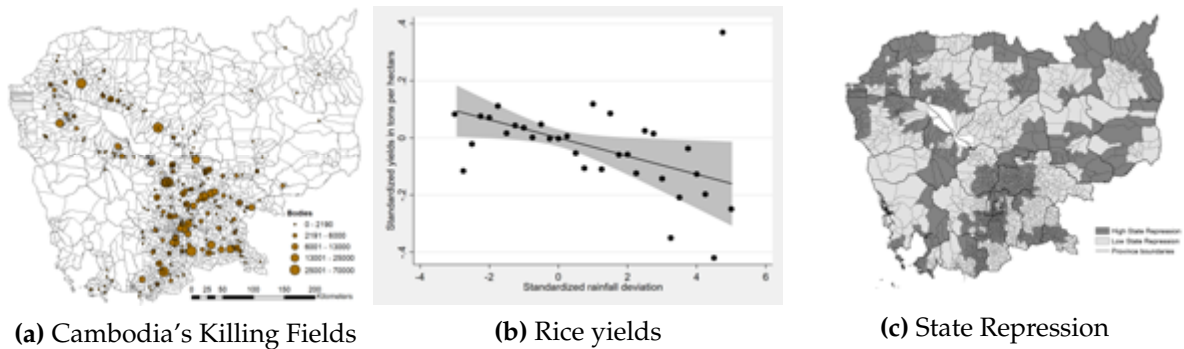
Notes: Panel (a) depicts the location of Killing Fields across Cambodia. There are 309 sites with a mean number of 61 mass graves and 3,154 bodies. The sizes of the circles reflect the number of bodies. Panel (b) plots standardized rice yields as a function of standardized rainfall during the wet season over the period 1996-2016 with 95% confidence intervals. The x-axis bin size is 0.25 standard deviations. Panel (c) shows the geographic variation in state repression during the Khmer Rouge period (1975-1977) using equation (5). Communes color coded in gray denote places expected to have grown more rice.

Figure 4: Empirical Strategy: Structure of Investigation
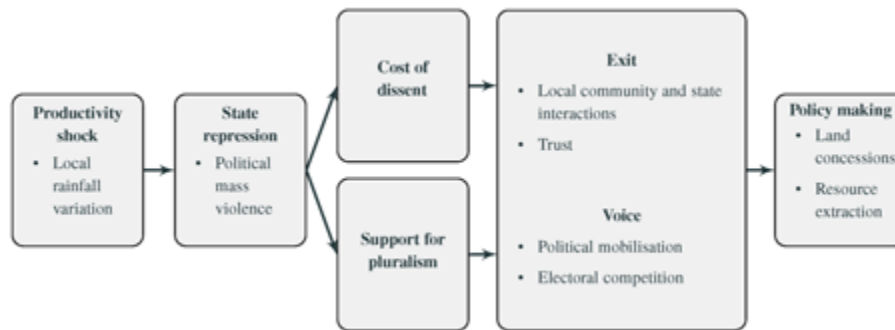
Notes: The figure illustrates how the empirical strategy and data are linked to the theoretical framework.

Figure 5: Placebo Estimates for the Incidence of Violence
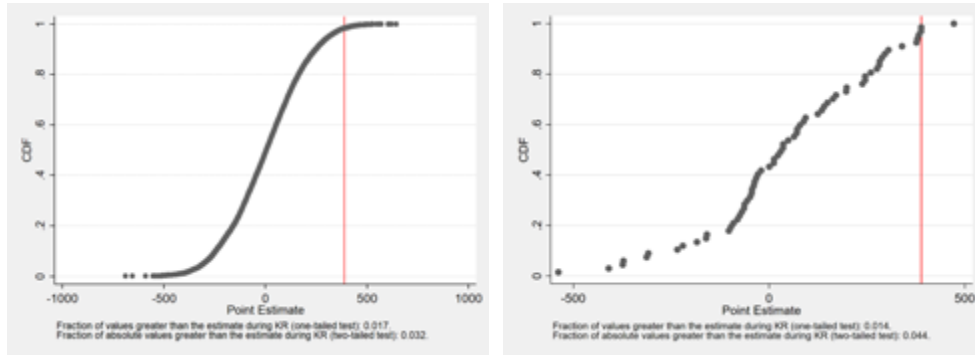
(a) # Bodies in commune
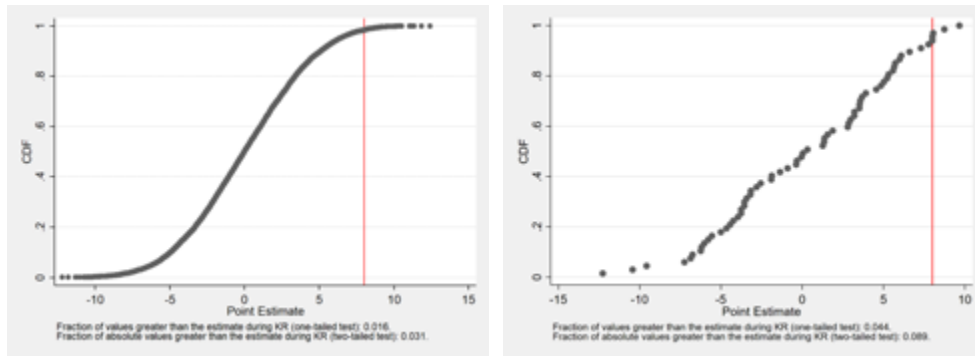
(b) # Mass graves in commune
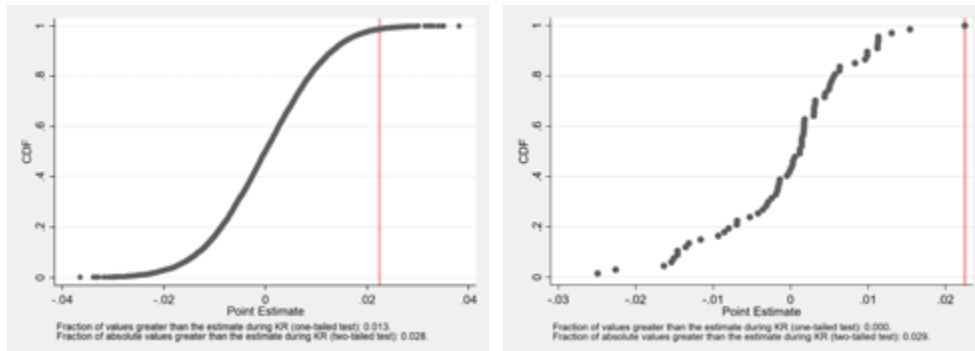
(c) Genocide memorial in commune
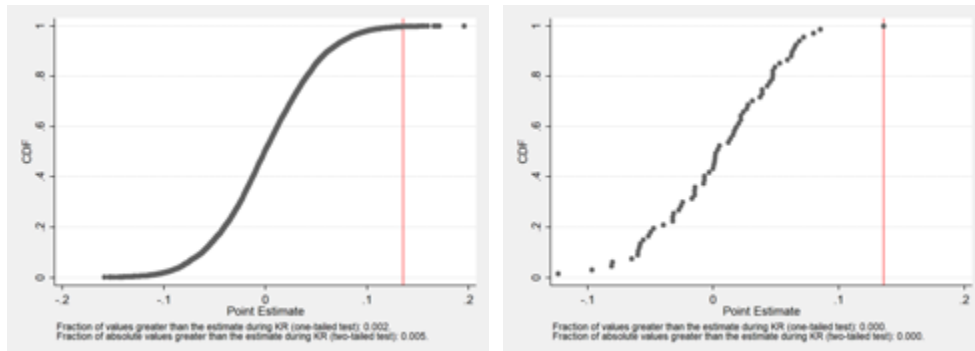
(d) Standardized violence

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***	388.624***	8.501***	8.001***	0.020***	0.022***	0.127***	0.135***
	(171.222)	(150.530)	(3.529)	(3.188)	(0.011)	(0.010)	(0.045)	(0.043)
	[141.584]	[138.740]	[2.909]	[2.847]	[0.008]	[0.008]	[0.033]	[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)
	Control		Treatment		Exogeneity test			
	Mean	S.D.	Mean	S.D.	β	s.e.	T-Stat	p-value
Pre-genocide commune characteristics								
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
Individual characteristics, Asia Foundation Election Survey 2003 and 2014								
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
Individual characteristics, Cambodia Socio-Economic Survey 1996-2016								
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: |CPP-CNRP|	
					National election in 2013					
State Repression	4.766***	4.872***	−4.054***	−4.201***	3.351**	2.870**	−0.151***	−0.155***	−2.223*	−1.723
	(1.530)	(0.798)	(1.463)	(0.792)	(1.767)	(1.422)	(0.055)	(0.035)	(1.276)	(1.061)
	[1.049]	[0.573]	[0.979]	[0.593]	[1.583]	[1.212]	[0.031]	[0.025]	[1.341]	[1.250]
					Communal elections in 2012 and 2017					
State Repression	1.882***	2.102***	−1.794**	−2.018***	3.514*	3.034**	−0.061**	−0.069***	−2.280**	−2.390***
	(1.053)	(0.623)	(1.108)	(0.740)	(2.157)	(1.582)	(0.032)	)(0.023)	(1.484)	(1.002)
	[0.720]	[0.469]	[0.724]	[0.548]	[2.077]	[1.320]	[0.024]	[0.019]	[1.040]	[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: |CPP-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)
	Voter informedness		Support for pluralism		Local civic participation		Trust	
				All				
State Repression	0.073***	0.070***	0.039***	0.044***	−0.071***	−0.074***	−0.118***	−0.120***
	(0.024)	(0.024)	(0.009)	(0.008)	(0.022)	(0.020)	(0.032)	(0.033)
	[0.023]	[0.021]	[0.012]	[0.012]	[0.022]	[0.018]	[0.029]	[0.028]
				Alive during the Khmer Rouge period				
State Repression	0.061**	0.057**	0.045***	0.052***	−0.073***	−0.085***	−0.113***	−0.121***
	(0.030)	(0.031)	(0.009)	(0.009)	(0.024)	(0.022)	(0.034)	(0.035)
	[0.027]	[0.027]	[0.012]	[0.012]	[0.025]	[0.022]	[0.033]	[0.032]
				Born after the Khmer Rouge period				
State Repression	0.096***	0.104***	0.026	0.020	−0.018	−0.011	−0.110***	−0.119***
	(0.034)	(0.027)	(0.012)	(0.013)	(0.033)	(0.030)	(0.052)	(0.054)
	[0.035]	[0.030]	[0.016]	[0.019]	[0.022]	[0.021]	[0.040]	[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. 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. 'Voter informedness', 'Support for pluralism', '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***	−22.371***	−4.789***	−4.007***	−0.008***	−0.008***	0.020***	0.022***
	(10.127)	(11.755)	(1.995)	(1.668)	(0.002)	(0.003)	(0.004)	(0.005)
	[4.907]	[7.675]	[1.725]	[1.232]	[0.003]	[0.002]	[0.005]	[0.005]
					Alive during the Khmer Rouge period			
State Repression	−22.037***	−26.661**	−3.505*	−2.064	−0.008**	−0.008**	0.007***	0.008***
	(11.524)	(14.228)	(2.108)	(1.977)	(0.003)	(0.004)	(0.001)	(0.002)
	[5.785]	[11.408]	[1.852]	[1.404]	[0.003]	[0.003]	[0.001]	[0.001]
					Born after the Khmer Rouge period			
State Repression	−13.056***	−14.217***	−6.011***	−4.698***	−0.006**	−0.003	0.040***	0.039***
	(10.820)	(10.940)	(1.668)	(1.296)	(0.002)	(0.003)	(0.009)	(0.009)
	[3.799]	[2.914]	[1.662]	[1.458]	[0.003]	[0.003]	[0.011]	[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 ≈ 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 ≈ 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 parenthesis 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***	−0.051***	−0.949***	−0.627***	−0.037*	−0.034**	−0.051***	−0.051***
	(0.029)	(0.024)	(0.230)	(0.164)	(0.023)	(0.017)	(0.027)	(0.018)
	[0.025]	[0.021]	[0.189]	[0.135]	[0.019]	[0.016]	[0.018]	[0.017]
Pre-genocide commune characteristics		Yes		Yes		Yes		Yes
Survey-year fixed effects					Yes	Yes	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	GDELT	UCDP	ACLED	GDELT + UCDP + ACLED
				All				
State Repression	0.091***	−0.020	0.009	−0.016	−0.003	−0.016	−0.011	−0.025
	(0.039)	(0.013)	(0.012)	(0.018)	(0.016)	(0.018)	(0.009)	(0.020)
	[0.034]	[0.013]	[0.011]	[0.015]	[0.016]	[0.014]	[0.009]	[0.018]
		Alive during the Khmer Rouge period						
State Repression	0.097*	−0.021	0.005	−0.018				
	(0.058)	(0.016)	(0.014)	(0.024)				
	[0.051]	[0.016]	[0.012]	[0.017]				
		Born after the Khmer Rouge period						
State Repression	0.094*	−0.019	0.020	−0.019				
	(0.056)	(0.015)	(0.022)	(0.022)				
	[0.054]	[0.014]	[0.017]	[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 (national)/your 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. 'GDELT' 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. 'GDELT+UCDP+ACLED' is a dummy variable equal to 1 if an event was recorded in the GDELT 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)	(6)	(7)	(8)	(9)
					Day of Anger				
		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 participa-tion	Trust
State Repression	0.022***	5.661***	−4.940***	5.895***	−0.186***	0.137***	0.066***	−0.120***	−0.257***
	(0.010)	(1.154)	(1.235)	(1.469)	(0.047)	(0.053)	(0.022)	(0.033)	(0.040)
	[0.008]	[0.827]	[0.994]	[0.899]	[0.030]	[0.036]	[0.018]	[0.031]	[0.035]
Rainy Days of Anger		0.423	−0.920	3.844	0.001	0.035**	0.008	0.004	−0.084***
		(0.941)	(1.072)	(1.602)	(0.054)	(0.015)	(0.012)	(0.017)	(0.022)
		[0.801]	[0.894]	[1.112]	[0.037]	[0.014]	[0.009]	[0.014]	[0.015]
State Repression × Rainy Days of Anger		−2.698***	2.519**	−4.935***	0.102***	−0.038**	−0.010	0.032*	0.081***
		(1.108)	(1.151)	(1.567)	(0.035)	(0.020)	(0.010)	(0.019)	(0.020)
		[0.880]	[0.995]	[1.186]	[0.026]	[0.016]	[0.010]	[0.017]	[0.016]
Pre-genocide commune characteristics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual characteristics						Yes	Yes	Yes	Yes
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				
β: Productive + Productive × Rainy DoA		2.964	−2.421	0.960	−0.084	0.099	0.056	−0.089	−0.176
		(0.869)	(0.882)	(1.453)	(0.034)	(0.036)	(0.014)	(0.019)	(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)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Population census		Cambodia Socio-Economic Survey						School census	
	log Population density	Sex ratio	Age	Years of education	log Farm value	log Con-sumption per capita	Migration in 1979	Market access	Poverty gap	School access
State Repression	0.015	−0.003	0.006	−0.094	−0.043	−0.002	0.004	0.012	−0.004	−0.000
	(0.038)	(0.003)	(0.100)	(0.067)	(0.277)	(0.016)	(0.011)	(0.026)	(0.004)	(0.023)
	[0.032]	[0.003]	[0.109]	[0.058]	[0.223]	[0.014]	[0.012]	[0.023]	[0.005]	[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		
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 standard-ized 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 house-hold 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 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: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.