Godfather Politicians and Organized Violence: The Good, The Bad, and The Bloody

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June 1, 2020

Abstract

Social order is compromised when mafias fight violently to resolve disputes. Ironically, a corrupt local politician – instead of an honest one – may serve as an impartial arbitrator ("*Godfather*") to safeguard local peace. This paper builds a model of politician-mafia interaction to show, both theoretically and empirically, that a rent-seeking local politician, with the power of the state, may provide credible commitment to enforce peaceful mafia negotiations. However, when such godfather politicians are eradicated, the local power vacuum leads to surges of local violence. The anti-corruption campaign in China since 2012 – an institutional shock to eradicate corrupt politicians – provides a unique natural experiment to corroborate our theory. A difference-in-differences test suggests that violence surged by 30% in regions with local officials eradicated due to collusion with mafias, compared to the regions without. We also conduct a series of robustness checks and placebo tests to confirm the link between the violence surge and the removal of corrupt local officials.

1. Introduction

Mafia fights distort social order, as is widely acknowledged in the literature (Hall, 2010; Barnes, 2017; Chimeli and Soares, 2017). To restore order and peace, conventional wisdom calls for an incorruptible hard-liner. However, mafias often outlast the hard-liners in reality, as the tragedy of Mayer Maria Gorrostieta of Mexico revealed (BBC, 2012).[1] Instead, a corrupt politician sometimes manages to entangle with mafias and arbitrates their conflicts in a peaceful manner. Moreover, the removal of such an arbitrator may even lead to chaos in the local community, as in the Philippines after Marcos stepped down due to corruption scandals. Why may bad politicians better serve as stabilizers in the community? Are the removals of such bad politicians systematically trigger more mafia violence? The tension between the conventional wisdom and the reality urges us to rethink the relationship between mafia and local politicians. This paper introduces a framework of mafia-politician interaction to address these questions: we discuss the power dynamics in mafia conflict resolution, and provides conditions under which bad politicians safeguard local peace amongst mafias while good politicians do not. Moreover, we use a natural experiment in China to corroborate the framework and test its predictions.

In the framework of mafia-politician interaction, we consider two local mafias involving in disputes of asset allocation over, for instance, the ownership of mines, oil rigs, lands, etc. The mafias may either initiate violent fights, or sit down for peaceful negotiations to save the costs of conflicts. Since mafias are often financially-constrained, it is impossible to make transfers in high-valued negotiations when the constraint binds. Violence thus becomes the only exit. In the meantime, a local politician, with the might of the state, can overwhelm either mafia in power and confiscate the asset. We show that a corrupt local politician may promise to serve as an impartial arbitrator ("*godfather*") of mafia disputes in exchange for some rents. Such a promise is credible when the godfather's preying incentives are restricted by limited confiscation gains, and when the

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[1] See: https://www.bbc.co.uk/news/world-latin-america-20381395

rampant local violence is detrimental to the godfather's own political career. Meanwhile, the peaceful arbitration ensures no violence, thus is preferred by the mafias. We further show that such arbitration may relax mafias' liquidity constraints, thus previously violent conflicts can now achieve peaceful resolutions. This, conversely, indicates that when such godfathers are removed, a local power vacuum of arbitrator is generated, and the mafias have to resort back to violence to settle disputes. The theory consequently suggests political turnovers that eradicate corrupt politicians may follow by a surge in local violence.

The anti-corruption campaign in China starting from 2012 provides a unique natural experiment to test our theory. The scale of the campaign – which aims to eradicate corrupt officials at all levels – is unprecedented since its inception: in the year of 2015 alone, more than 30 provincial or higher ranked officials were investigated, compared to an average of 6 similar-ranked officials investigated during 2008-2012. By the end of 2015, more than 100,000 people have been indicted for corruption (Economist 2015). By comparing the difference in violence intensity before and after the campaign between the regions where local officials were colluded with mafias (treatment group) and the regions without such collusion (control group), we may identify the impact of corrupt official removals on local violence using a difference-in differences approach.

To collect information of mafia violence, we build a database of all criminal cases involving organized violence from *China Judgment Online*, a governmental website publishing official judgment documents in China. We collect 503 cases in total, and identify 241 cases that concern mafia/gang fights based on explicit mentions.[2] Our baseline results show that, the intensity of mafia violence increases by 30% in treatment regions relative to the control regions. That is, after corrupt officials are taken down in the campaign, the local power vacuum does trigger more gang fights. We also conduct two robustness checks to ensure the results are robust with additional controls and are not driven by under-reporting of violent crimes. We then proceed to explore the regional variations of violence intensity, and show that more violence is observed in subsamples

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[2] We provide a detailed procedure of our data collection process in the Appendix.

with richer natural resources (coals and mineral mines), lower per capita income, and more inadequate education levels, which are all consistent with the theory.

Our theory features two additional predictions. First, it predicts godfather officials mainly involve in violent mafia conflicts, instead of petty crimes that are less liquidity constrained. Indeed, we find, in a placebo test, no significant changes of frequencies for petty crimes with non-violent activities, including thefts, prostitution, and gambling before and after the campaign. Second, the theory indicates that higher detection probability of corruption discourages godfather officials. Consistent with the theory, we find that regular political turnovers – the ones that do not center around anti-corruption – at neither county, prefectural, nor provincial levels witness the changes of violent crimes frequencies significantly.

The paper has four contributions. First, we contribute to the social order literature, pioneered by North (1990). While abundant literature has discussed the distortions of corruption, this paper joins the few (e.g., Acemoglu, 2003; Olson, 2003) to point out that corrupt officials may serve to preserve social order. We complement North et al. (2009, 2013), and show empirically that violence is the only credible force to reshape social order in an environment with incomplete institutions, markets and law enforcement, The arbitrator role in this paper reveals one possible path that corrupt officials pave for social order, and the eradication of whom may trigger unintended consequences. This also echoes existing literature that large-scale efforts to crackdown incumbent criminals may encourage rival traffickers' attempts to usurp territories, which eventually led to more violence (Dell, 2010, 2015; Dell et al., 2019). In the real world, the collapse of social order after the fall of the villain is not common, for instance, in post-Saddam Iraq after the Iraq War, and in post-Marcos Philippines, after Marcos stepped down due to corruption scandals. In this regard, the paper contributes to the understanding of social order, especially on the stabilizing role of a corrupt state.[3]

Second, we speak directly to the studies of mafias. Existing literature highlights the influence of mafia on local politics, including funding elections (Feo and De Luca, 2017;

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[3] On the survey of organized crimes worldwide, and the economic geography of crimes, see Hall (2010).

Daniele and Dipoppa, 2017), conducting violence before elections (Daxecker and Prins 2016, Carreri and Dube 2017, Alesina et. al 2018), and substituting for weak governments (Acemoglu et al. 2020). In comparison, we add to the literature by focusing on the impacts of a corrupt politician on local power dynamics among mafias. We are, to the best of our knowledge, the first paper to validate that the local government, as third-party involvement, may serve as a commitment device and as an arbitrator.[4] In this regard, the closest paper to ours is Chimeli and Soares (2017), where regulations deprived ordinary market resolutions in Brazil, which then led people to violence. Consistent with our theoretical framework, the Brazilian government responded by launching additional campaigns to end the violence. Existing research also reveals the rise of mafias and conflicts in regions rich in natural resources, such as Sicilian mafias for the sulfur mines (Buonanno et al., 2015), and Darfur armed groups for the Jebel Amer gold mines (Berman et al., 2017). This is consistent with our observations that violence surge was more severe in regions with rich coals and mineral mines, after their arbitrators were apprehended.

Third, our study adds a real-life application to the broad and predominantly theoretical self-enforcing contract literature. We echo Thomas and Worrall (1994) to emphasize the importance of promising keeping: in the arbitrator contract described in this paper, the incentives of two mafias and the local politician are interlocked, such that any unilateral deviation is non-profitable. In the veins of self-enforcing institution designs, we also echo Acemoglu, Egorov, Sonin (2008), Svolik (2012), and Fan (2019) that power is often the *de facto* commitment device. Moreover, we highlight, in this paper, that a peaceful agreement in the shadow of violence may be feasible because it has more lenient constraints on liquidity.

Lastly, the paper contributes to our understanding of the real-life policy response following the anti-corruption campaign. The surge of violence presents a new challenge to a central government that cares about both anti-corruption and social stability. Upon observing the surging violence, our theory suggests the Chinese central government shall

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[4] Among existing studies on the relationship between mafia and state, Barnes (2017) argues the collaborative relationship between local armed groups and the government is increasingly common. In addition to his definitions of "confrontation" and "alliance" relationship between mafias and government, this paper describes the role of an arbitrator for local government. Kugler (2005) found more law enforcement leads to more corruption. And Wedeman (2013) shows that local mafias may buy off local officials to evade illegal income.

initiate a collateral anti-violence campaign to restore order, as a remedy of a well-intended anti-corruption campaign which generated unexpected consequences. In reality, on January 24, 2018, the fourth year entering the still on-going anti-corruption campaign, the central government of China issued a notice on Launching the Special Criminal Syndicate Combat, which was a three-year campaign aiming to eradicate local mafias and local violence.[5]

The rest of the paper is organized as follows. In Section 2, we introduce our theory. In Section 3, we provide empirical support of our theory, using Chinese data. We conclude in Section 4.

2. Theory

The theory intends to address an important puzzle in mafia-politician interaction: how the involvement of a local politician solves the commitment problems that prevents local mafias from fighting to settle disputes. The analysis consists of three parts: in Section 2.1, we discuss the impossibility of negotiation between two mafias without external intervention. In Section 2.2, we show how a local politician may serve effectively as an arbitrator and secure local stability. In Section 2.3, we study the impact of political turnovers that eradicate local politicians.

2.1 Impossibility of negotiations

Consider two local mafias, A and B, with (normalized) power structure $(x, 1-x)$, where $0 < x < 1$ indicates the relative power distribution. There is an indivisible resource of value R, to both mafias. Such resource may be mines, oil rigs, ports, poppy fields, etc. The

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[5] This is in contrast with the conventional wisdom which suggests a strategic substitution between the two tasks under limited resource (e.g. Holmstrom and Milgrom 1991), i.e., the ruler may either increase the intensity of the anti-corruption campaign, or increase the career rewards/punishment, in order to achieve certain policy objective. However, when local power dynamics are considered, launching an anti-corruption campaign necessarily replaces some of the corrupt officers (who also maintained local peace as arbitrators) with good ones, under whose rule violence becomes the only means to resolve conflicts for the mafias, which may, in the end, calls for another campaign to the rescue.

resource has a default *de jure* ownership, which belongs to either A or B.[6] For instance, the mines may be discovered closer to the base of one of the mafias. Without loss of generality, we assume that the default ownership falls on A. However, without credible enforcement of such ownership, mafias may always fight for the resource, and the winner gets the *de facto* ownership. Mafia A wins the fight with probability x, and B, $(1 - x)$. The fight incurs a cost of K for both mafias. Moreover, such fight can be caught by the administration, with probability $0 < q < 1$, under which case all benefits of the resource are confiscated. Consequently, the expected payoffs from a fight are as follows:

A: $(1 - q)xR - K = \underline{U}_A$

B: $(1 - q)(1 - x)R - K = \underline{U}_B$

Of course, when $max\{(1 - q)xR, (1 - q)(1 - x)R\} = \overline{K} \leq K$, the high costs of conflicts prohibit any violence. In the following analysis, we assume that the costs are relatively small to the exploits, so that the cost alone is insufficient to prevent violence.

ASSUMPTION 1. $K < \overline{K}$

Under Assumption 1, the above conflict payoffs are always feasible, with violence as an outside option. Alternatively, suppose there is no liquidity constraint, the two mafias may attempt to resolve the conflict through negotiations for a payoff pair, $(yR, (1 - y)R)$, where any payoff pair that Pareto dominates the outside option are preferred by both mafias. Since the negotiation has no conflict losses, nor the risk of discovery, $R > (1 - q)(R - 2K)$, a peaceful deal under the shadow of violence is always possible. For simplicity, we assume the realized negotiation outcome leans towards mafia B, i.e., the party who does not have default ownership, thus has incentives to initiate a fight, such that $y = \frac{U_A}{R}$.[7]

However, the lack of external enforcement often makes it hard for mafias to borrow. Facing the liquidity constraint, (monetary) transfer in negotiations is sometimes impossible. To reflect such reality, we assume each mafia has liquidity/budget constraint

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[6] The setup of fighting over the resource with default ownership is well-founded in the literature. For instance, mafias in Los Angeles have their own turfs, and strong power deep within the turfs. Conflicts often occur on boundaries where the default ownership exists, but can be fought over (Brantingham et al., 2012).

[7] Changing the distribution of negotiation outcome (y) does not change our results qualitatively.

of M: any transfer cannot exceeds the upper bound of M, which then leads to the simple lemma as follows.

LEMMA 1 (Liquidity constraint). *When $M < \overline{R} = min\{\underline{U}_A, \underline{U}_B\}$, no negotiation is successful.*

Lemma 1 emphasizes that when the rents from the resource is significant, peaceful negotiations break down due to insufficient funds to complete the transfer. When the negotiations fail, mafias turn to violence to resolve the conflicts. Such violence is discouraged by the local government, if it chooses to safeguard the society with higher intensity $0 < q < 1$. However, a positive probability $(1 - q)$ remains that violence is realized and escaped from exposure. Therefore violent conflicts continues when the exploits are significant. To summarize, the impossibility of negotiations between mafias comes from liquidity constraints that prevents Pareto-improving transfers. Without such transfers, violence is the only means to resolve conflicts.

2.2 Value creation of local politician

Now suppose there is a local official/politician, who possesses the power of the state, thus can crack down any local mafias, at lower costs $\beta K, \beta < 1$. However, the local politician neither has the time or ability to look over the resource, nor to put it into profitable uses. A honest politician releases the resources back to the market for fair use, while a corrupt politician places it under personal use, at value $\alpha R, \alpha < 1$. Of course, such behavior may be discovered, with probability $0 < p < 1$. Alternatively, it may utilize its might to ask for a protection fee, r, and to arbitrate resource allocation. That is, to ensure the challenge from B is never successful. The protection fee, as part of the corruption deal, is also subject to investigation, with the same probability p. In the meantime, the local governance performance – local stability in particular – is under supervision of central government. Failures to deliver local stability is harmful to the official's career prospects. Denote the punishment of local violence, once observed by the superior government (with

probability q), as V. The local politician arbitrates conflicts for two reasons: First, self-exploitation of the resource is not particularly profitable; second, the violent resolutions induced by non-arbitration are detrimental for the politician's future career. From a social perspective, however, the key remaining questions are whether such arbitration lowers the needed transfer below the mafia's liquidity constraint, and how the politician can make the arbitrator commitment credible.

We summarize each player's payoff in each governing mode in the following table. If the local politician serves as an arbitrator, and peace is maintained (B does not initiate a challenge), the respective payoffs are seen in the second row. Alternatively, if B does initiate a challenge, such challenge is suppressed by the politician, and the payoffs are shown in the third row.

Local politician as godfather	Payoffs of A	Payoffs of B	Payoffs of politician
B does not challenge	$(1-p)R - r$	0	$(1-p)r$
B challenges	$(1-p)R - r$	$-K$	$(1-p)r - \beta K$

The above two scenarios assume the local politician honors the "arbitrator contract". As shown, the incentive compatibility constraint for B is automatically satisfied. To achieve this, we require the politician gains more from arbitrating than from preying on the asset itself. That is,

$$(1-p)r - \beta K \geq (1-p)\alpha R - \beta K$$

which gives: $\alpha \leq \frac{r}{R}$. Such no-preying constraint holds when the efficiency of exploitation is low. Moreover, for the politician, shirking is too costly when discovered. That is,

$$(1-p)r - \beta K \geq (1-p)(1-q)r - qV$$

which gives: $r \geq \frac{\beta K - qV}{(1-p)q}$. Such constraint holds when the punishment of corruption (V) is high, and when the cost of interference (β) is low. The above two conditions are due to the non-existence of credible commitment. Interestingly, it suggests that a stricter anti-corruption policy (a larger V) actually makes collusion between local politician and mafia

easier, since the violent fight among mafia becomes an undesirable alternative for the politician. Moreover, it suggests that a greater might from the state (a smaller β) also facilitates the collusion, since suppression becomes less costly. A remark is that even when the power of the state is overwhelming ($\beta = 0$), it may still be in the interests of the official to arbitrate, as long as self-exploitation is inefficient, and punishment from observed violence is severe.

Aside from the transfer liquidity constraint, the local official maximizes the rent received, r, subject to all the above conditions. Furthermore, A's incentive compatibility constraint is met. That is:

$$(1-p)R - r \geq \underline{U}_A$$

Consequently, the optimal rent $r^* = (1-p)R - \underline{U}_A = [1 - p - x(1-q)]R + K$, if all other constraints are met. Our next question is whether such rent is easier to achieve under the same budget constraint. If it is, then the arbitrator contract facilitates mafia negotiations by essentially loosening the budget constraint. The following proposition addressed the issue:

PROPOSITION 1. *If* $x \geq \frac{1}{2}$, *the arbitrator contract provides (weakly) more peace when* $R \geq \frac{2k}{p-q}$; *If* $x < \frac{1}{2}$, *the arbitrator contract provides (weakly) more peace when* $R \geq \frac{2k}{2x(1-q)-(1-p)}$.

PROOF. Without the government, the need for liquidity is $\overline{R} = min\{\underline{U}_A, \underline{U}_B\}$, where mafias resolve the conflict through negotiations peacefully. With the government, the need for liquidity is $r^* = (1-p)R - \underline{U}_A$. Therefore the need is eased when $r^* \leq \overline{R}$, which translates into: $R \leq R^* = \frac{\underline{U}_A + min\{\underline{U}_A, \underline{U}_B\}}{1-p}$. Lastly, we insert $\underline{U}_A = (1-q)xR - K$, and $\underline{U}_B = (1-q)(1-x)R - K$. Q.E.D.

Proposition 1 compares the feasibility of the arbitrator contract, versus the standard "investigator contract", where local official is non-corrupt, and strives to crack down any

illegal activities. In particular, the arbitrator contract is more lenient on liquidity, when the asset for exploitation is more valuable, which in turns makes a higher rent possible. When $M < r^*$, even the arbitrator contract is not feasible, and the region is in violence. When $r^* \leq M < \overline{R}$, only the arbitrator contract is feasible, and peace is realized. When $\overline{R} < M$, both contracts are feasible, and A should compare and decide. Moreover, the arbitrator contract is always feasible when the monitoring intensity of violence is greater than the anti-corruption intensity, that is:

COROLLARY 1. *When $q \geq p$, arbitrator contract always provides (weakly) more peace.*

PROOF. This is immediate from Proposition 1. If $x \geq \frac{1}{2}$, $R \geq \frac{2k}{p-q}$. But $p - q \leq 0$ when $q \geq p$. So the constraint is slack. Similarly, if $x < \frac{1}{2}$, $R \geq \frac{2k}{2x(1-q)-(1-p)}$. But $2x(1 - q) - (1 - p) < (1 - q) - (1 - p) \leq 0$. So the constraint is also slack. Q.E.D.

When both contracts are possible, the mafia with default ownership (i.e., mafia A) chooses its preferred contract. The next proposition shows the conditions under which the arbitrator contract is always preferred.

PROPOSITION 2. *When $\overline{R} < M$, the arbitrator contract is preferred if $\alpha \leq \frac{r^*}{R}$ and $V \geq \frac{\beta K}{q}$, that is, if preying incentives is small and punishment of instability is large.*

PROOF. When both contracts are feasible, the arbitrator contract can satisfy A's IC constraint as long as its two "promise-keeping" constraint is satisfied: $\alpha \leq \frac{r^*}{R}$ and $r \geq \frac{\beta K - qV}{(1-p)q}$. And the second constraint is slack when $V \geq \frac{\beta K}{q}$. Q.E.D.

To summarize, the existence of a local official enables an arbitrator contract which may have more lenient requirements on liquidity, thus is preferred when the liquidity

constraint makes intra-mafia negotiations impossible. Moreover, even when both the arbitrator contract and the regular investigator contract are feasible, the mafia with default ownership may still prefer an arbitrator, who can always outbid the offer in the investigator contract, when the cost advantage in violence is sufficiently large.[8]

2.3 Political turnover

As shown in Section 2.2, feasibility of the arbitrator contract hinges on the monitoring intensity of corruption and violence (p, q), as well as the punishment upon observing violence (V). When the superior government increases the investigation intensity p through political turnovers that remove corrupt officials – for instance, an anti-corruption campaign – the impacts on local politicians are twofold: first, more corrupt arbitrating officials are eradicated and replaced; second, more local officials switch their governing mode from an arbitrating godfather to a non-corrupt investigator. Both impacts break down the peaceful resolution of local mafia conflicts, which leaves the violent solution as the only outlet. Formally, we have the following core prediction of the model.

COROLLARY 2. *More local violence are observed after local political turnovers.*

There are other predictions generated by the model that echo existing findings in the literature. For instance, the model predicts more violence where R is higher, i.e., rent-seeking opportunity abounds (e.g. along river ports.). It is confirmed in the literature that connects resources and the rise of mafia (e.g. Buonanno 2015), and the prevalence of violence in African mines (Berman et al. 2017), and the armed group in South Asia (Staniland 2012). Another immediate prediction of the model suggests that worsened outside options (e.g. in deteriorating areas) lowers the opportunity costs of fighting, which leads to more violence. In the literature, Chimeli and Soares (2017) show the

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[8] In the model, we assume the local official to be the contract proposer. Alternatively, either mafia may propose a godfather contract. Given the large punishment of local instability, it is possible for the official to accept a negative rent godfather contract.

deprivation of ordinary market then generated a new illegal market maintained partially through violence. However, there is currently little empirical evidence that speaks to our core predictions, about the intensity of violence in local power dynamics. In the next section, we provide the empirical analysis to test Corollary 2, and provide supporting evidence to our theory.

3. Empirical Evidence

In this section we utilize the data from the juridical documents of criminal cases, to study the dynamics of violence intensity and to validate our theory. An ideal case in point should provide the details of violent crimes related with mafia fights under various investigation intensities. In Section 3.1, we introduce the background of the anti-corruption campaign in China since 2012, and argue that it is a good candidate for the empirical analysis. Specifically, we investigate the violent mafia crimes before and after the anti-corruption campaign, which induced significant local political turnovers. We introduce the data in Section 3.2, and report our results in Section 3.3. We also conduct robustness checks and placebo tests in Section 3.4 and 3.5.

3.1 Background

A nationwide anti-corruption campaign in China was launched in 2012, after the conclusion of 18th National Congress of the Communist Party of China. Though there are distinctive views on the objectives (Lu 2018), it is commonly acknowledged that the scale of the campaign was unprecedented. A highlighted target of the campaign was to "crack down on tigers and flies", which led to the arrests of over 120 high-ranking officials in execute branches, military, and state-owned enterprises. By the end of 2015, more than 100,000 people have been indicted for corruption (Economist 2015). Among the indicted officials, a sizeable proportion involved in "serving as umbrellas for local mafias", such as the officials and police officers in Huizhou in Guangzhou Province, who were involved in

serving as umbrellas for local mafia disputes (*People's Daily Online*, 2018)[9], and the standing committee member of Rucheng County in Hunan Province, who colluded with and provided long-term protections for local mafias (Judgment Document Online, 2017)[10]. The "umbrellas" usually provide protections for mafia's casinos and brothels, arbitrate conflicts, and bail out mafia members should they be caught by local police. Such anecdotal evidences implies the existence of godfather-officials in reality.
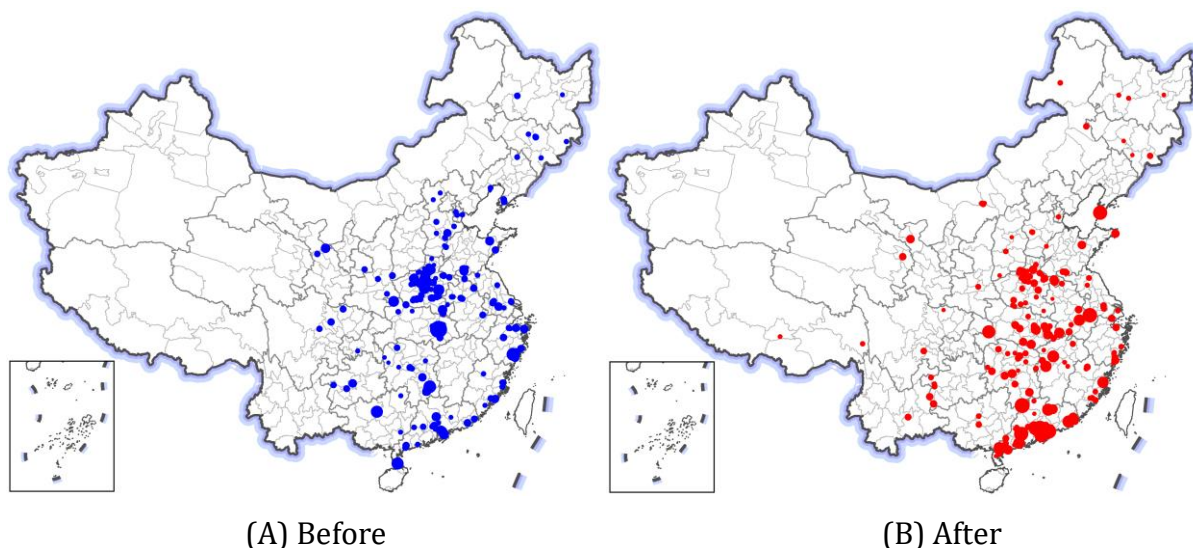
In conventional wisdom, the crack-down on corrupt officials should serve as a public good and rejuvenate local communities. However, after the anti-corruption campaigns, an unexpected surge on the number of mafia-related crimes was witnessed nationwide. As shown in Figure 1, the criminal cases – in both the number of cases and the individuals involved – related to mafia after the anti-corruption campaign (the red dots in the right panel A) were significantly greater than the cases before the campaign (the blue dots in the left panel B). The surged violence gradually attracted top-level attention, that in January 24, 2018, the CPC Central Committee and the State Council issued the notice on Launching the nationwide *Special Criminal Syndicate Combat*, which was a three-year campaign aiming to eradicate local mafias and local violence. In particular, it was highlighted in the notice that "the crackdown upon organized crime shall be combined with corruption combat and basic-level 'fly swatting'" (State Council, 2018). The correlation between corruption and local violence seems apparent, but the channel under which they interact still awaits empirical investigation.

Figure 1. Geographic distribution of mafia-related crimes

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[9] http://fanfu.people.com.cn/n1/2018/1011/c64371-30333802.html
[10] http://wenshu.court.gov.cn/website/wenshu/181107ANFZ0BXSK4/index.html?docId=aa862c3a15284a6697d8a8 2a00cc6f91

(A) Before   (B) After

Note: the data is collected from juridical documents, see Section 3.2 for more details. The red (blue) dots in the left (right) panel represent the mafia-related crimes after (before) the anti-corruption campaign. The size of a dot indicates the number of individuals involved in the case.

3.2 Data and Identification Strategy

To study the interactions between mafias and politicians, we build a database of all the criminal cases involving mafia, from the juridical documents in China, 2013-2017. The database is constructed as follows: for each criminal case, we determine whether it involves mafias by explicit mentions of "mafia" (*heishehui*), or "organized crime" (*youzuzhi fanzui*). We end up with 503 cases in total. Furthermore, we measure violent incidents by explicit mentions of "gang fights" (*bangpai xiedou*), which constitutes our dependent variable, *Violence*. *Violence* is coded as 1 if the word "gang fight" appears, and as 0 otherwise. Eventually, we identify 241 cases that involves gang fights during 2013-2017. We also collect the keywords of non-violent mafia activities from the documents, which includes property infringement, kidnapping, guns, prostitution, drugs, and gambling. A procedure of identifying the cases is included in the Appendix.

We use a DID approach to investigate how the collusion (and the lack of) between local officials and mafias influence mafia violence before and after the anti-corruption campaign. In the following econometric specification, i represents a particular mafia in the database, c corresponds to a county, and t represents the year that the violence

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took place. X represents the controls.

$$Violence_{i,c,t} = \alpha + \beta Post_{c,t} \times Collusion_c + \gamma X_{c,t} + \varepsilon_{i,c,t}$$

Our explanatory variable is the interaction of two dummies. The first dummy $Post_{c,t}$ is an anti-corruption campaign dummy: it takes value of 1 only after the campaign began in this province, which is defined as the year of first inspection by the Central Commission for Discipline Inspection (CCDI). The second dummy $Collusion_c$ is for the collusion between the mafia and local officials: it takes value of 1 if such collusion was found before the anti-corruption investigation. The second dummy is constructed by examining whether expression of "collusion" (*goujie*) appears in the juridical documents. The interaction term captures the variations in violence across regions that had prior patronage and those who had not. As described in the model, the local officials may either choose to serve as an investigator who actively cracks down crimes, or as a godfather who arbitrates mafia conflicts for rents, while maintaining local peace. An anti-corruption campaign either eradicate the corrupt godfather, or transform the local official's serving mode from a godfather to an investigator. As a consequence, violence in these regions is expected to rise after the anti-corruption campaign. Meanwhile, violence in regions ruled by investigators prior to the campaign shall not be impacted by the campaign, thus serving as a controlled group. Therefore, we expect the coefficient of the interaction β to be positive. We include a descriptive summary of the variables in Table 1.

Table 1. Statistical Summary

Variable	Source	Obs	Mean	S.D.
Dependent Variable				
Gang fights	A	2,409	0.100	0.300
Property infringement	A	2,409	0.122	0.327
Kidnapping	A	2,409	0.044	0.205
Gun-related crimes	A	2,409	0.037	0.190
Prostitution	A	2,409	0.006	0.079
Drugs	A	2,409	0.024	0.152
Gambling	A	2,409	0.100	0.300

Key Independent Variables

Collusion	A	2,409	0.034	0.182
Anti-corruption	B	2,409	0.570	0.495
Collusion×Anti-corruption	C	2,409	0.019	0.137

Control Variables

GDP (million)	D	1,276	3.182	3.930

Other Independent Variables

Turnover of provincial PS	E	2,281	0.281	0.449
Turnover of prefectural PS	E	2,281	0.326	0.469
Turnover of county PS	E	2,025	0.233	0.423

Source: A: Juridical Documents; B: CCDI; C: Author's calculation; D: Statistical Yearbooks; E: *Baidu Baike*

Before delving into the formal empirical analysis, we provide some suggestive evidence on the correlation between anti-corruption campaigns and mafia. Figure 2 shows the distribution of mafia, by the numbers of mafia and the numbers of criminals involved over time, respectively. A surge in the frequency of mafia cases is clear, following the initiation of the anti-corruption campaign.

Figure 2. The Dynamics of mafia over time
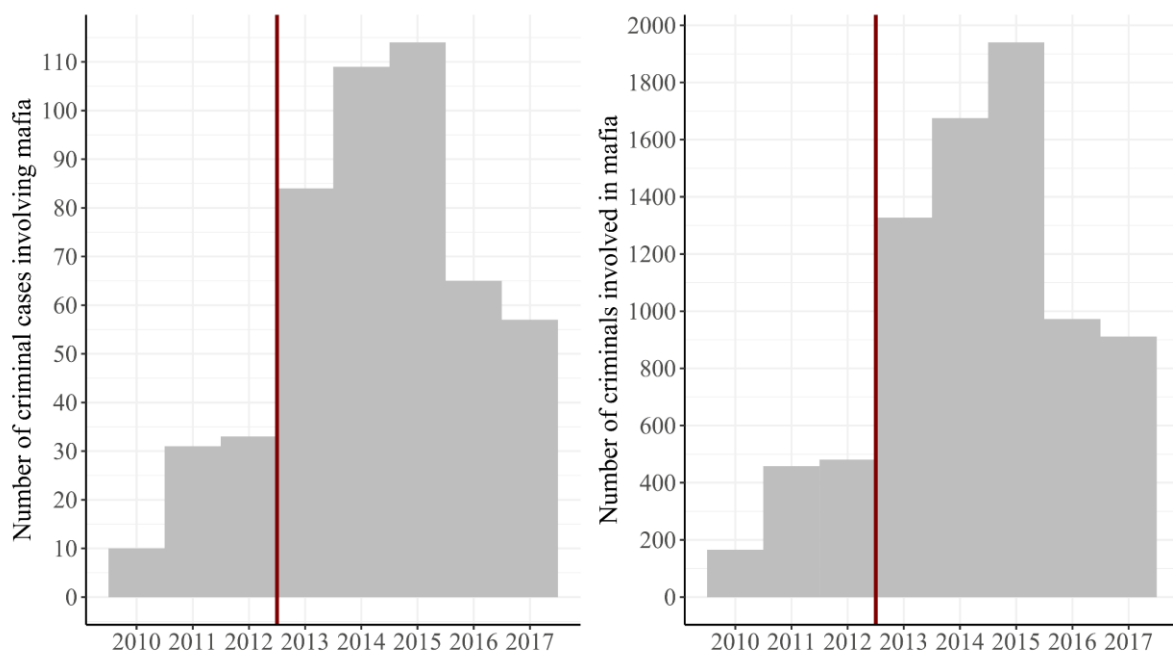
Notes: The left panel shows the distribution of mafia-related cases, the right panel shows the distribution of criminals involved in mafia activities, both on a yearly basis. The vertical red line

indicates the year that the anti-corruption campaign initiated.

Table 2 translates such intuition into a precise but preliminary calculation. We calculated the relative change in gang fights frequency before and after the anti-corruption campaign, in both regions whose officials were found colluded and non-colluded with local mafias, and performed the standard t test. We found that gang fights were significantly more frequent in the colluded regions and in post-campaign years.

Table 2. Comparing mafia fights between the treatment and the control group

	Before	After	Difference
Collusion	0.189	0.543	0.354***
	(0.065)	(0.074)	(0.101)
Non-collusion	0.045	0.124	0.079***
	(0.007)	(0.009)	(0.012)
Difference	0.144***	0.420***	0.276***
	(0.036)	(0.050)	(0.065)

Next, to prepare for the difference-in-difference analysis for our baseline result, we check whether the socio-economic status is balanced across colluded and non-colluded regions. Table 3 compares the pre-campaign covariates in the two regions. Differences in all variables are small and insignificant, which suggests the two regions are generally comparable.

Table 3. Balance test

Growth rate (%)	Collusion	Non-collusion	Difference	p-value
GDP	0.149	0.142	0.007	0.645
	(0.074)	(0.068)	(0.015)	
Population	0.004	0.009	-0.005	0.304
	(0.028)	(0.019)	(0.004)	
Fixed asset investment	0.215	0.255	-0.040	0.506
	(0.243)	(0.250)	(0.059)	
FDI	0.310	0.260	0.050	0.571
	(1.059)	(0.395)	(0.087)	
Fiscal income	0.264	0.233	0.031	0.471
	(0.187)	(0.189)	(0.042)	
Fiscal expenditure	0.240	0.204	0.036	0.304

| | (0.539) | (0.104) | (0.035) |

Notes: The first two columns specify the socioeconomic measures of the colluded and non-colluded regions. The third column calculates the difference, and the standard error from the *t* test (in parenthesis). The fourth column specifies the *p* values from the *t* test.

3.3 Results

Baseline. Our baseline results speak to the surge of violence in colluded regions, which is reported in Table 4. The first column shows that, after controlling for county and year fixed effects, the intensity of violence increases by 28% in the regions where local officials are found colluding with local mafias in the anti-corruption campaign, which is consistent with our model. To further control the time-varying confounders in each province，we add, in the second column, the provincial time trends. Our results remain robust. Moreover, the anti-corruption campaign may correlate with other socioeconomic activities at the provincial level. Therefore we add, in the third column, the province-by-year dummies: the estimate is slightly smaller in magnitude, but remains significant.

Table 4. Baseline Results

	Violence		
	(1)	(2)	(3)
Collusion×Anti-corruption	0.280***	0.309***	0.303***
	(0.085)	(0.076)	(0.080)
Anti-corruption	-0.028	-0.025	
	(0.039)	(0.039)	
Constant	0.111***	0.108***	0.095***
	(0.022)	(0.022)	(0.002)
Observations	2,409	2,409	2,370
R-squared	0.181	0.192	0.243
County fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Province time trend	NO	YES	NO
Province×year dummy	NO	NO	YES

Our identification strategy assumes no significant differences in violence among colluded and non-colluded regions prior to the anti-corruption campaign. To test the

assumption, we conduct a year-by-year estimate of the difference of violence between the controlled group and the treatment group, and report the results in Figure 3 below. We select the year before the anti-corruption campaign as reference group, and found almost no difference between the control and the treatment. However, after the campaign, the intensity of violence in the treatment group increases significantly. This exercise validates our DID specification.

Figure 3. Parallel trend
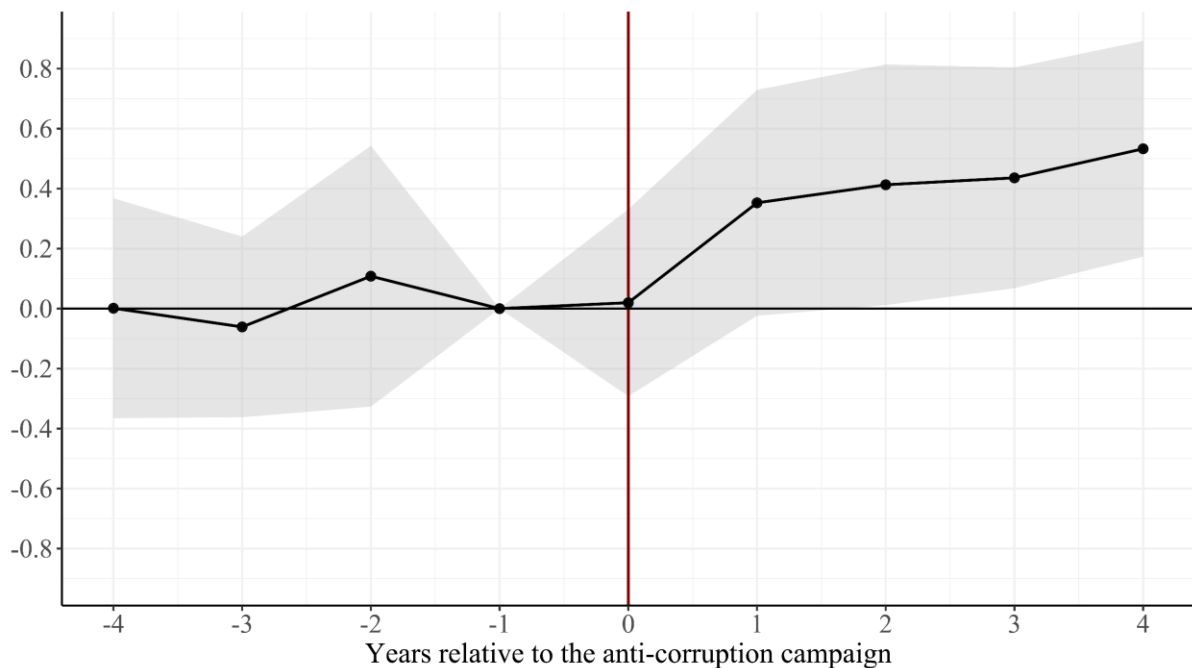
Notes: The points connected by a solid line indicate the estimated coefficients. The shaded area is the 95% confidence interval. And the red vertical line is the year when the anti-corruption campaign initiated. We set the previous year as the treatment group.

Comparing to the *initiation* of the anti-corruption campaigns, the fall of superior officers may be a larger shock to local officials in re-shaping their ruling patterns. Therefore, in Table 5, we substitute the explanatory variable with the interaction between collusion and the numbers of charged officials at provincial level, where the data are retrieved from CCDI. The results confirms the conjecture: in regions with official-mafia collusions, the fall of an additional provincial official leads to 33.5% of violence increase. The greater magnitude verifies that the fall of superior officers may be a greater and a more direct shock to local officials than the initiation of the anti-corruption campaign,

because it resembles an imminent and sizable risk facing corrupt local officials.

Table 5. The effect of fall of provincial officials on mafia

| | Violence | | |
	(1)	(2)	(3)
Collusion×Charged prov. officials	0.311***	0.309***	0.335***
	(0.102)	(0.103)	(0.096)
Charged prov. officials	-0.029*	-0.033*	
	(0.017)	(0.017)	
Anti-corruption	-0.007		
	(0.039)		
Constant	0.109***	0.105***	0.099***
	(0.022)	(0.003)	(0.000)
Observations	2,409	2,409	2,370
R-squared	0.180	0.190	0.240
County fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Province time trend	NO	YES	NO
Province×year dummy	NO	NO	YES

Regional variation. Our model also generates several comparatives statics in addition to the baseline predictions: 1. we predict a more significant surge of violence after the corruption campaign, in regions where rent-seeking opportunities abound, e.g., regions with richer natural resources; 2. Regions where individuals have better outside options, i.e., higher costs of mafia fights, tend to have a lower violence surge after anti-corruption campaign.

To test the first prediction, we collect the industrial output of coal and mining industries, and divide the nation into two subsamples: one with rich mineral resources, and one without.[11] In each subsample, we re-estimate our baseline. To test the second prediction, we proxy the outside option with per capita income in the region, and further divide and compare the nation between a higher-income subsample and a lower-income one.[12] Relatedly, higher education levels also associate with better outside options, higher valuation of life, thus lower crime rates (Lochner, 2004; Machin et al., 2011).

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[11] Data retrieved from the Third National Economic Census of China, in 2013.
[12] Data retrieved from provincial statistical yearbooks in 2013.

Therefore we also expect mafias in regions with lower education levels tend to resort to violence more often, upon removal of godfather officials as arbitrators. Similarly, we regress and compare two subsamples with higher and lower educational levels.[13] Figure 4 illustrates the results of these predictions, respectively. The results are all consistent with model predictions, where more violence observed in regions with richer natural resources, lower per capita income, and poorer education levels.

Figure 4. Heterogeneous effects across regions
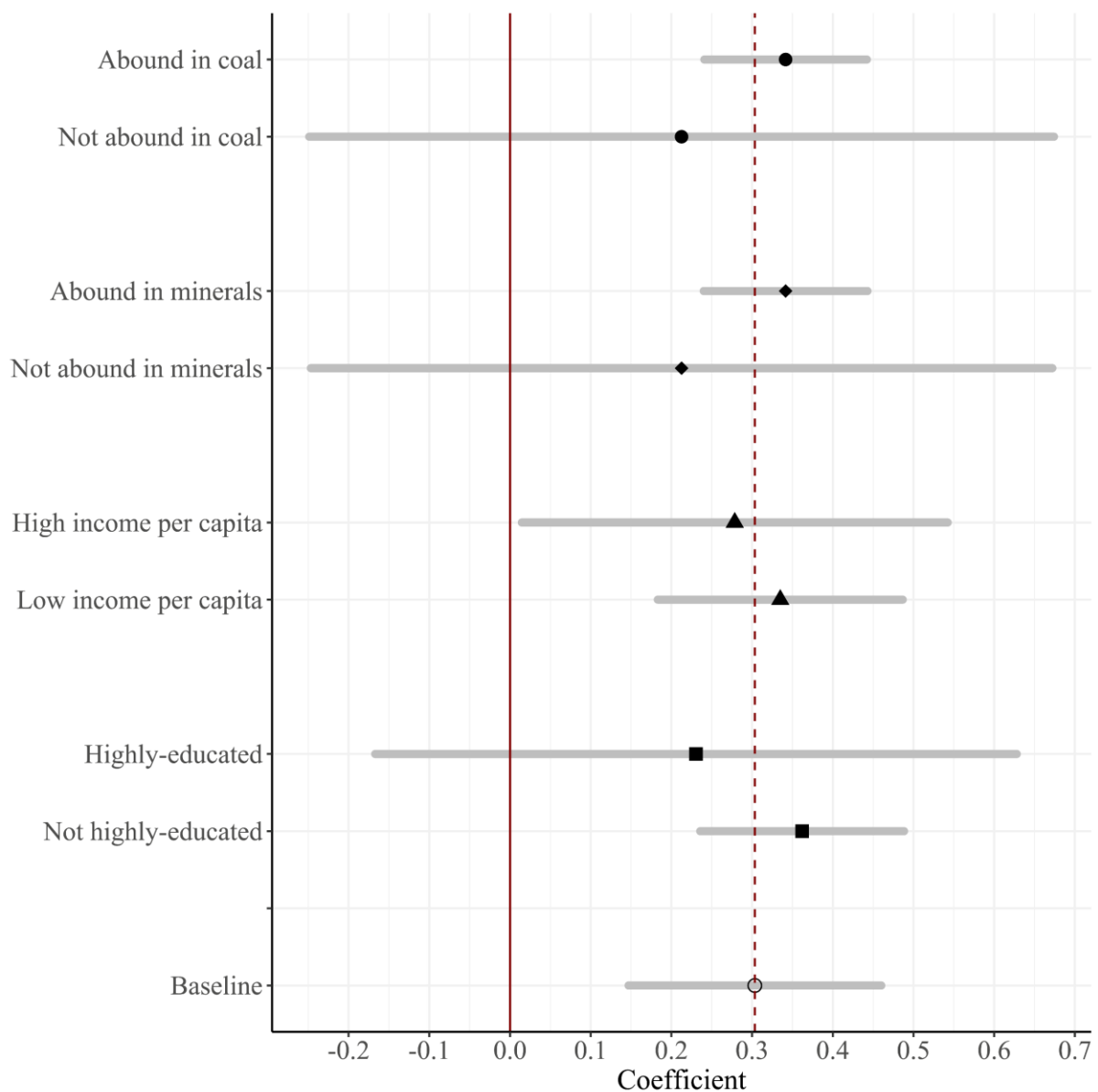
Notes: The grey lines correspond to 95% confidence interval.

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[13] Data retrieved from 2010 census. We calculate the average years of education of the population for each county in China.

3.4 Robustness Check

In this subsection, we conduct two robustness checks. First, to address the omitted variable bias concern, we include several controls associated with anti-corruption and mafia in the literature. Second, we deal with the potential measurement error of mafia cases by tracking the changes of reported criminal cases before and after the campaign.

Adding Controls. Our theory suggests that the collusion between the officials and mafias may be influenced by local economic conditions, which echoes the literature that corruption may have far-fetching impacts on economic development (Huntington, 1968; Shleifer and Vishny, 1993; Mauro, 1995). Existing empirical evidence from China also points to the change in governance and economic activities, along with the anti-corruption campaign (Wang, 2019). To address this issue, we add the local GDP and population growth – proxy for economic output, and government income and expenditure – proxy for government activities, as controls.[14] The results are reported in Table 6. Column 1-4 add the set of controls one at a time, while column 5 includes all of them simultaneously. Our main coefficient of interest, *Collusion×Anti-corruption*, preserves its significance across all specifications. The magnitude of the effects is also stable.

Table 6. More controls

	Violence				
	(1)	(2)	(3)	(4)	(5)
Collusion×Anti-corruption	0.252**	0.252**	0.317***	0.305***	0.264**
	(0.106)	(0.105)	(0.094)	(0.095)	(0.106)
GDP growth	0.011				-0.016
	(0.075)				(0.075)
Population growth		-0.557			-0.506
		(0.341)			(0.347)

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[14] The role of GDP growth is twofold: First, GDP growth increases the opportunity cost of mafia activities, which corresponds to an increased K in the model. We expect a decreased level of violence as a result. Second, GDP growth indicates a boom in local economy, which enlarges the pie for exploitation. This may increases the conflicts among mafias in fighting for additional resources. The two counter-balancing mechanisms may lead to the insignificance of GDP growth in the regression.

Log(fiscal income)			0.126**		0.166**
			(0.055)		(0.072)
Log(fiscal expenditure)				0.001	-0.015
				(0.012)	(0.015)
Constant	0.097***	0.099***	-1.368**	0.070	-1.632*
	(0.009)	(0.003)	(0.634)	(0.146)	(0.863)
Observations	1,055	1,074	1,255	1,255	1,055
R-squared	0.296	0.295	0.285	0.281	0.304
County fixed effects	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES
Province×year dummy	YES	YES	YES	YES	YES

Measurement Error. Our baseline results may have an alternative explanation: while the real violence hasn't changed much before and after the anti-corruption campaign, more cases that were previously covered up by local officials are now exposed during the campaign, which leads to more observed violence. Moreover, the current officials, intimidated by the campaign, no longer have the incentives to conceal previous cases, which naturally leads to a surge in the number of violent crime reports. To alleviate the concern, we replace the dependent variable with the number of organized crimes, which include both the violent and non-violent cases. If a local godfather-official does under-report criminal cases, we shall expect a surge of reported crimes. An insignificant result thus excludes the possibility of under-reporting. As we show in Table 7, the numbers of organized crimes in fact decrease significantly after the campaign. Moreover, it is possible that a local godfather-official under-reports all kinds of criminal cases. We repeat our exercise, while changing the dependent variable to the total number of criminal cases, which is shown in the second column of Table 7. Similarly, we do not find evidence of changes for generic criminal cases reported.

Table 7. Measurement error

	(1)	(2)
	No. of organized crimes	No. of crime cases
Collusion×Anti-corruption	-0.234***	-0.082
	(0.087)	(0.070)
Constant	0.022***	0.617***

		(0.000)	(0.000)
Observations		22,824	22,828
R-squared		0.254	0.791
County FE		YES	YES
Year FE		YES	YES
Province×year dummy		YES	YES

3.5 Placebo Tests

Non-violent crimes. Our theory suggests that violence is the last resolution when mafias are liquidity constrained that they cannot make transfers to avoid the fights. This, on the other hand, implies that the arbitration role of godfather-official is more effective in resolving serious conflicts. Petty crimes and crimes with high financial liquidity (drugs, prostitution, gambling) should not witness sizable changes before and after the anti-corruption campaign. Similarly, the godfather-official does not involve in businesses between the mafia and local citizens where no arbitration is needed, such as individual property infringement.

Based on the rationale, we conduct tests on the frequency of non-violent activities before and after the campaign. We find that, as shown in Table 8 below, the frequencies of non-violent activities, except for gun-related crimes, indeed have no significant variation before and after the anti-corruption campaign.

Table 8. Non-violent activities

	(1) No. of Criminals	(2) Property Infringement	(3) Kidnapping	(4) Guns	(5) Prostitution	(6) Drugs	(7) Gambling
Collusion×Anti-corruption	-2.871	-0.135	0.105	-0.186**	0.000	0.010	-0.174
	(1.962)	(0.108)	(0.066)	(0.077)	(0.000)	(0.032)	(0.116)
GDP growth	-9.099	-0.198	-0.326	0.073	-0.011	-0.082	-0.172
	(6.349)	(0.249)	(0.249)	(0.113)	(0.019)	(0.142)	(0.305)
GDP growth×Anti-corruption	14.411*	0.534*	0.522*	-0.151	0.002	0.198	0.162
	(7.357)	(0.291)	(0.287)	(0.173)	(0.017)	(0.132)	(0.365)

Constant	3.892***	0.139***	0.053***	0.042***	0.006***	0.026***	0.133***
	(0.437)	(0.017)	(0.014)	(0.008)	(0.001)	(0.010)	(0.020)
Observations	1,055	1,055	1,055	1,055	1,055	1,055	1,055
R-squared	0.335	0.346	0.367	0.334	0.310	0.260	0.369
County FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES
Province×year dummy	YES	YES	YES	YES	YES	YES	YES

In Figure 5, we present the parallel trends of each of the dependent variables in Table 8. Similarly, the anti-corruption campaign imposes no significant impacts on non-violent activities, except for gun-related crimes.

Figure 5. Parallel trends for non-violent activities
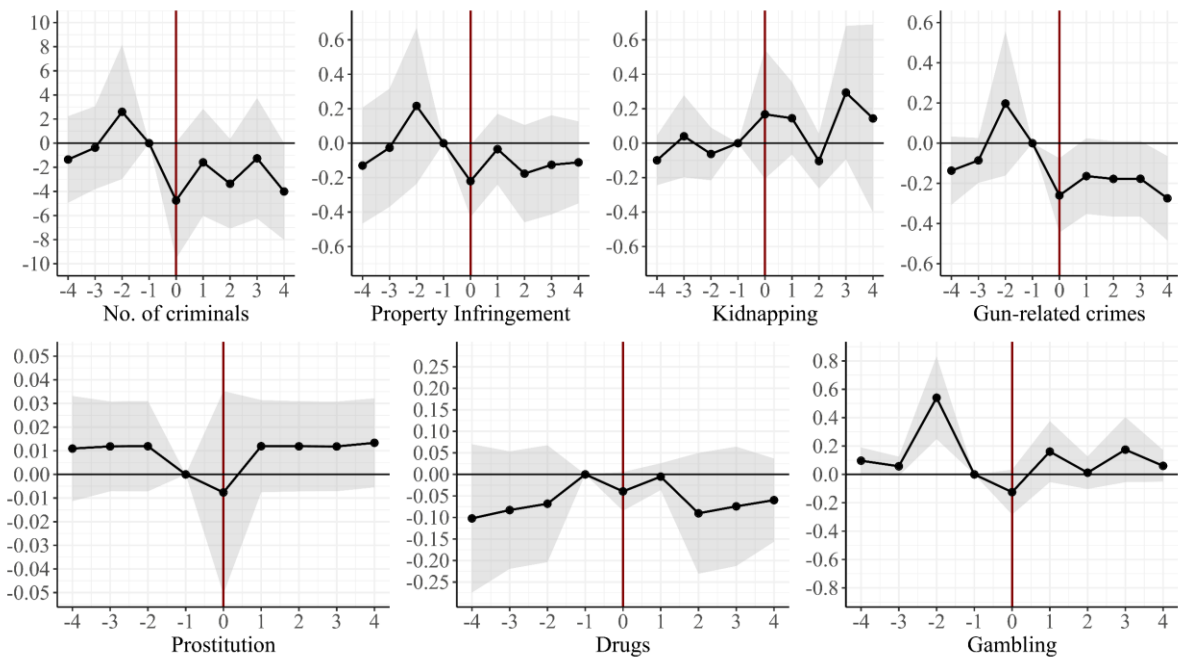
Choice of godfather. In the model, we emphasize the role of godfather as a strategic choice for local officials, while acknowledging the possibly profound impacts of personality. To provide further support that arbitration is a choice for local politicians, we look into regular political turnovers and evaluate their impacts on local violence. According to the model, without external changes of corruption detection probability,

regular political turnover shall not have an impact on local violence, since the choice of godfather and investigator does not depend on individual features. We collect the names and positions of party secretaries at county, prefectural and provincial levels from *Baidu Baike*, and construct the political turnover based on the records. Table 8 below tests how turnover of county, prefectural, and provincial officials may affect local violence. The dependent variable is again, *Violence*. The explanatory variable is a dummy of political turnover of the year, and its lagged term which captures the potential impacts after the turnover. We find no significant impact of regular political turnover on local violence, which supports our theory.

Table 9. Godfather: a choice rather than a type

	Violence		
	(1)	(2)	(3)
Turnover of County PS	-0.013		
	(0.021)		
Lag Turnover of County PS	0.019		
	(0.023)		
Turnover of Prefectural PS		-0.015	
		(0.017)	
Lag Turnover of Prefectural PS		-0.003	
		(0.018)	
Turnover of Provincial PS			-0.001
			(0.017)
Lag Turnover of Provincial PS			0.008
			(0.020)
Constant	0.112***	0.117***	0.112***
	(0.010)	(0.009)	(0.008)
Observations	1,657	1,977	2,008
R-squared	0.259	0.241	0.187
County FE	YES	YES	YES
Year FE	YES	YES	YES
Province×year dummy	YES	YES	NO

Falsification Test. The small number of treated observations in our sample (10 out

of 289) triggers concerns of spurious correlations due to noise. To address this concern, we compare the treatment effects we have estimated to the distribution of placebo treatment effects when collusion between the mafia and local officials is randomly assigned. Specifically, we randomly assign collusion to ten counties in our sample, i.e. the number of placebo treatment counties is the same as the number of actual counties, but the selection of counties are random. Then we estimate the placebo treatment effects according to the specification of Column 3 in the baseline analysis. Figure 6 plots the distribution of t-statistics from the placebo treatment effects for 5,000 times. The vertical lines mark the location of the t-statistic of the actual treatment effect. Among the 5,000 trials, we record only 3 instances when the corresponding t value exceeds the baseline. The share of the placebo t-statistics that is larger than the actual statistic ($P(t \leq T)$) can be interpreted as analogous to a p-value. It suggests the probability that a randomly assigned treated group will present an effect at the same or higher level of significance as the actual treated group. As such, we can reject the null that our result is indifferent to the placebo treatment effects at about the 1% level of significance.

Figure 6. Distribution of t-statistics from randomly assigned placebo tests
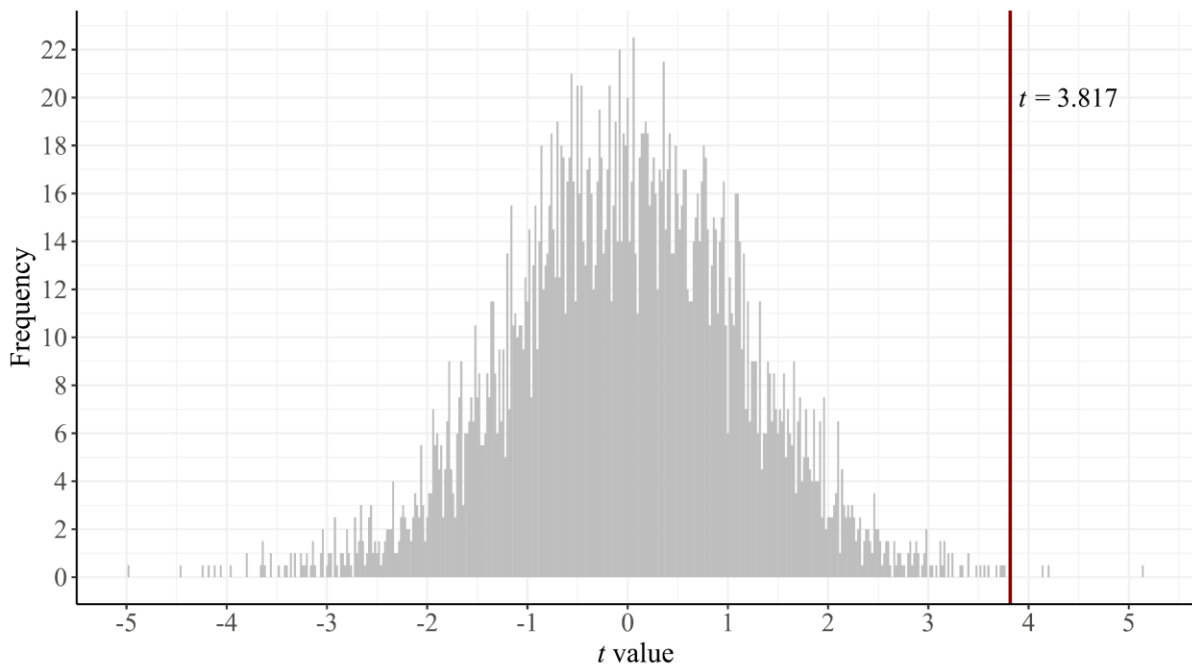
4. Conclusion

This paper studies how a corrupt politician may resolve violent conflicts among local mafias peacefully, and why an anti-corruption campaign that eradicate such corrupt politician may have unintended consequence of increasing local violence. The lack of formal commitment is one of the fundamental reasons for violent conflicts among local mafias. However, a corrupt godfather-official with the power of the state may serve as a peaceful arbitrator, in exchange for some rents. When the central government removes local godfathers, the generated power vacuum trigger surge in local violence, because the peaceful alternative is non-existent. Utilizing the unique setting of the anti-corruption in China starting from 2012, and a self-collected database of all the criminal cases involving mafia, from the juridical documents 2013-2017, we show that the intensity of violence increases by 34% in the regions where the local officials are found colluding with local mafias prior to the anti-corruption campaign. More broadly, we illustrate how social order can maintained out of power, in an institution-free environment. Echoing the literature (Acemoglu et al., 2008, Svolik 2012, North et al., 2013, Wang 2017, Yao 2018, Fan 2019), power itself is the ultimate commitment device. Furthermore, it is the threat of force – instead of the direct use of it – that contributes to long-lasting peace.

There is one final remark on the aftermath of the anti-corruption campaign. First, the surge of violence highlights the unintended policy consequences if the policy-maker fails to understand the interactions of the agents lower down the hierarchy, or among agents in and outside of the hierarchy. For instance, replacing collusive local officials with fresh blood does contribute to the anti-corruption campaign. However, better jobs from the new recruits also imply higher probabilities of local violence. Therefore, a stability-caring ruler may misjudge its policy objectives without taking local power dynamics into account. In the context of the paper, for a central ruler who becomes aware of the surge of local violence due to the power vacuum created by anti-corruption campaign, a collateral campaign to crack down local violence shall follow as remedy. As mentioned in the empirical analysis, in January 24, 2018, the CPC Central Committee and the State

Council of China issued the notice on Launching the Special Criminal Syndicate Combat, which was precisely a three-year campaign to eradicate local mafias and local violence.

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Appendix

Figure A1. Construction of Dataset