Kompromat: A Theory of Blackmail as a System of Governance*

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Abstract

Kompromat - widespread criminality combined with systematic blackmail - plays an important role in the governance of many non-democratic states. I model this phenomenon. Citizens have a preference for retribution, that is, for inflicting costly punishments on criminals. The state can manipulate this preference for its own benefit by tolerating crime while collecting evidence of crimes to use for blackmail. High levels of crime coexist with large expenditures on police. The rich but not the poor are allowed to commit crimes, increasing inequality. *Kompromat* regimes appear in states with low fiscal capacity and either very low or very high police capacity. When police capacity is high, investments in fiscal capacity and police capacity can be substitutes. States with initially similar capacities can diverge over time, and states that enter the *kompromat* regime can become stuck there. The possibility of *kompromat* qualifies previous claims that evolved retributive preferences increase material welfare.

1 Introduction

Some time in 1999, Ukrainian president Leonid Kuchma was secretly recorded in a conversation with the head of the State Security Service, Leonid Derkach, and the interior minister, Yuriy Kravchenko. The topic of the conversation was the upcoming elections, and the need to coerce the powerful directors of Ukraine's collective farms into supporting the government. Kuchma gave the following order to Derkach:

> "It's necessary for a tax worker to go to every collective-farm head in every village and say: Dear friend, you understand clearly how much material we have on you so that you could find yourself in jail tomorrow.... And there is probably more than enough material on every collective-farm head." (Darden 2001, p. 69)

Kuchma gave a similar order to Kravchenko:

> "This is the mechanism at work here. They have a case on virtually every collective-farm head.... Say, Guys, if you don't give, [expletive], the number [of votes], say it like that, that are needed, then tomorrow all of you will be where you should be." (Darden 2001, p. 69)

These quotes illustrate the role of widespread criminality and corruption combined with the systematic use of blackmail - in Russian, *kompromat*[1] - in the governance of non-democratic states like (at the time) Ukraine. Darden (2001, p. 68) explains the *kompromat* system as follows:

> "Blackmail, as an instrument of state control, relies on three basic elements. The first is a permissive attitude of state leaders towards corruption. In Ukraine, corruption and illegality among the elite were accepted, condoned, and even encouraged by the top leadership, resulting in a general atmosphere of impunity. The second element is extensive state surveillance. Even as the violation of the law is encouraged, the state - or rather the surveillance organs under the control of the president (including the tax ministry, interior ministry, and secret police) - continues to monitor such illegal activities. Using the surveillance organs, the state amasses a stockpile of files and criminal cases that document wrongdoing on the part of officeholders as well as private actors. When compliance with state directives is required, this information is used to blackmail the elite.... As long as consistent compliance with state directives is maintained, the state's role amounts to no more than surveillance, blackmail, and, in some cases, a cut of the proceeds."

Kompromat as a system of governance has been documented most extensively in Russia and other post-Soviet states, but *kompromat* appears to play a role in the governance of other non-democratic states as well.[2] For example, Darden (2008, p. 53) discusses the "dossier cell" established by Pakistani Prime Minister Zulfikar Ali Bhutto to collect information on crimes committed by members

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[1] *Kompromat* is short for "compromising material" in Russian. Strictly speaking, the word refers to documents and other records used for blackmail. I adopt the term *kompromat* as a simple way to refer to the entire system of governance that uses blackmail as a key component.

[2] For further details on the role of *kompromat* in the governance of post-Soviet states, see Darden (2008) and Ledeneva (2006, 2013).

of the Pakistani elite. A subsequent Pakistani government report describes the "pen pictures", that is, the written reports of crimes created by agents of the dossier cell. According to the report, "Many of the pen pictures reveal culpable offences by, or in connivance with, the subject, but no action appears to have been taken under the law against any of the persons involved." In other words, Bhutto expended resources to collect information about crimes, but did not use this information to punish the criminals or to deter crime. Instead, he kept the evidence secret, presumably for use in blackmail. Another example of *kompromat* comes from Hubbard et. al. (2018). They argue that the effective ruler of Saudi Arabia, crown prince Mohammed bin Salman, orchestrated the 2017 Saudi anti-corruption drive in order to extort up to 106 billion dollars and promises of political support from corrupt members of the Saudi elite.

Kompromat as a system of governance is puzzling because, at least at first glance, it seems unnecessarily complex. States that practice *kompromat* are clearly willing to use unsavory methods to extract resources from their citizens. Why, then, do *kompromat* states not simply use their power to extract resources from whomever they want, regardless of whether their targets have committed crimes? In this paper, I develop a simple model of *kompromat* that answers this question.

My model has two main assumptions. The first assumption is that, contrary to the claims of classic authors such as Hobbes (1651), Weber (1919), and Olson (1993), control over weapons and other instruments of violence is not sufficient for the state to exercise power effectively. In order for the state's power to be maximally effective, the state's violent punishments must be supported by citizens. Citizens can support violent state punishments in several ways. First, citizens may provide political support to politicians and other leaders who inflict punishments that are deemed appropriate, but not to politicians who inflict punishments that are deemed inappropriate. At the extreme, violent punishments that are deemed inappropriate may cause citizens to revolt against the leaders of the state. As an example, consider the 1916 Easter Rising, when an armed group of nationalist Irish rebels seized central Dublin and proclaimed independence from the British government. Most Irish citizens initially supported the government against the rebels, and as a result the government was quickly able to suppress the revolt and arrest the leaders. The government then summarily executed the leaders of the Rising. However, the executions were widely considered to be an overly harsh punishment for the rebels, who were generally believed to be brave but misguided. According to historians, the executions and not the Easter Rising itself turned Irish opinion against the British government, leading to an increase in support for the revolutionary party, Sinn Fein, and

helping to precipitate the Irish war of independence from 1919-1921 (Kee 1972). Thus, the British government's attempts to inflict punishments on the leaders of the Rising were constrained by lack of citizen support for punishments that were deemed overly harsh.[3]

Citizens can also help or hinder state punishments in other ways. Citizens may directly help the state to inflict violent punishments by providing the state with information about the targets of the state's violence. Akerlof and Yellen (1993) develop a model in which the police need information from the community in order to apprehend and punish criminals. Citizens may also support state violence by inflicting additional punishments, such shaming or ostracism, on the targets of state violence. Jackson and Xing (2019) develop a model in which community punishments such as shaming and ostracism complement violent state punishments.[4] A good empirical example of the need for citizen support for state violence comes from Berman, Shapiro, and Felter's (2011) study of the US army's counterinsurgency efforts in Iraq. They find that US counterinsurgency efforts were more effective in areas where the US used development spending to increase support for US forces among the Iraqi population.

The second assumption is that citizens are not motivated to support violent state punishments by purely material considerations. Citizens also get utility directly from state violence targeted at people who have committed crimes in the past, and this may motivate citizen support for state violence. In law and political philosophy, this motivation is often referred to as "retribution". A criminal justice system that values retribution is willing to inflict punishments on criminals independently of whether the punishment regime increases material welfare (e.g. Moore 1997). A criminal justice system motivated by retribution contrasts with a criminal justice system motivated by "deterrence", which seeks to maximize material welfare by preventing crime at minimum cost. The motivation

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[3]Immediately after the Easter Rising, the prominent Irish politician John Dillon made a speech in the British parliament explaining how Irish citizens had initially supported the British government, and how the executions of the leaders of the Rising had turned citizens against the government. He said:

"As a matter of fact, the great bulk of the population were not favourable to the insurrection, and the insurgents themselves, who had confidently calculated on a rising of the people in their support, were absolutely disappointed. They got no popular support whatever. What is happening is that thousands of people in Dublin, who ten days ago were bitterly opposed to the whole of the Sinn Fein movement and to the rebellion, are now becoming infuriated against the Government on account of these executions, and, as I am informed by letters received this morning, that feeling is spreading throughout the country in a most dangerous degree."

Dillon continued to explain that if the British government could prove that the leaders of the Rising had committed serious crimes, then it would be much easier to mobilize popular support for harsh punishments. He said:

"I do not come here to raise one word in defence of murder. If there be a case of cold-blooded murder, by all means try the man openly, before a court-martial if you like, but let the public know what the evidence is and prove that he is a murderer, and then do what you like with him. But it is not murderers who are being executed; it is insurgents who have fought a clean fight, a brave fight, however misguided." (Hansard HC Deb 11 May 1916)

[4]Acemoglu and Wolitizky (2020) also develop a model that discusses the relationship between state and community punishments.

4

of deterrence provides the foundation for essentially all economic models of the criminal justice system in the tradition starting with Becker (1968). In experimental and behavioral economics, motivations similar to retribution have been studied under the labels of "altruistic punishment" or "strong reciprocity" (Fehr and Gächter 2000, 2002). Like a retributive criminal justice system, an altruistic punisher is motivated to inflict punishments on people who have performed socially harmful actions, even if the punishment would reduce the material welfare of the punisher.

Given these two assumptions, consider a state that cares only about extracting the largest possible quantity of resources from its citizens. The state can extract resources through taxation. The state can also extract resources by demanding bribes and in-kind payments from citizens caught committing crimes. In both cases, the state's demands for payment are backed up by the threat of punishment against targets who refuse to pay. However, in the second case the state can credibly threaten a more severe punishment. The state can threaten a more severe punishment by threatening to reveal evidence of the target citizen's crimes, thereby mobilizing the retributive motivations of the larger society against the target citizen and increasing the state's power. Thus, the state can extract more resources by demanding bribes from criminals than it can by demanding taxes from innocent citizens. If the additional value that the state can extract from criminals is sufficiently large, the state may tolerate and even encourage crime. This is the *kompromat* regime.

Kompromat states spend a positive amount of money on police even though the police in these states do not deter crime. Instead, the function of the police is to gather evidence of crimes that can then be used to raise revenue through blackmail. This result differs sharply from the predictions of models of the criminal justice system in the tradition of Becker (1968), in which the only function of the police is to deter crime. This result also differs from important results in the theory of optimal taxation with externalities, which show that under fairly general conditions, the state's policies for deterring socially harmful actions are chosen independently of the state's policies for raising revenue (Cremer, Gahvari, and Ladoux 1998, Gauthier and Laroque 2009, Kaplow 2012). In some cases, *kompromat* states may even spend more on police than non-*kompromat* states. This result can help to explain the coexistence of high levels of crime with high levels of state spending on police and security services in many authoritarian states. When there is inequality between citizens, *kompromat* states may be more willing to tolerate crimes committed by the rich than crimes committed by the poor. The reason is that the poor do not have enough money to pay large bribes, and so tolerating crimes committed by the poor is not profitable for the state. Toleration of crimes committed by the

5

rich but not by the poor increases consumption inequality between the rich and the poor. This may help to explain high levels of inequality in authoritarian states.

I discuss the factors that favor the development of a *kompromat* regime using the concept of state capacity discussed by Besley and Persson (2009). I consider two components of state capacity. First, I consider Besley and Persson's concept of fiscal capacity, the ability to collect taxes. Second, I consider what I call "police capacity", the ability to detect crimes at low marginal cost. Police capacity is related to, although not exactly the same as, what Besley and Persson (2009) call "legal capacity," the state's ability to enforce contracts. A *kompromat* regime is more likely to appear in a state with low fiscal capacity, since states with low ability to collect taxes have more incentive to extract revenue through other methods such as *kompromat*. A more novel result is that a *kompromat* regime is less likely to appear when the state has moderate police capacity, but is more likely to appear when police capacity is either especially low or especially high. The prototypical *kompromat* state, Russia, appears to be a high police capacity *kompromat* state. Besley and Persson (2009) argue that fiscal capacity and legal capacity are complements, and therefore that a state that experiences an exogenous increase in one kind of capacity is more likely to invest in the other kind of capacity. I show in contrast that fiscal capacity and police capacity may be substitutes when police capacity is high. As a result, a state that experiences an exogenous increase in one kind of capacity may become less likely to invest in the other kind of capacity. This result implies that a state that experiences an exogenous decrease in fiscal capacity or increase in police capacity may continue to invest in police capacity but not fiscal capacity, thereby becoming stuck in the *kompromat* regime. I discuss the legacy of the Soviet Union, which has left Russia and other post-Soviet states with unusually low fiscal capacity and unusually high police capacity. This Soviet legacy may help to explain the importance of *kompromat* in post-Soviet states.

My model suggests new insights into the welfare consequences of retributive motivations. It has been argued that retributive motivations increase material welfare by increasing the level of cooperation that can be sustained in society (Gächter, Renner, and Sefton 2008), and that as a result retributive motivations are favored by evolution (Sethi and Somanathan 1996, Boyd et. al. 2003, Bowles and Gintis 2011). A key assumption in this argument is that information about crimes diffuses automatically throughout society. In contrast, I assume that a strategic actor, the state, chooses whether to broadcast information about crimes. My results suggest that retributive motivations do not always have positive welfare consequences. When the state is extractive and

has the ability to broadcast information about crimes to citizens, an increase in the strength of retributive motivations may increase socially wasteful police spending used for blackmail rather than crime deterrence. An increase in the strength of retributive motivations may also increase the crime rate by increasing the state's incentive to tolerate crime. These results suggest that evolved moral emotions such as the desire for retribution may have become maladaptive in modern autocratic states with access to media technology that can be used to broadcast information about crime. It may be necessary to develop new institutions to reconcile our evolved moral emotions with modern technological conditions.

My theory differs from previous theories of corruption (Becker and Stigler 1974, Besley and McLaren 1993, Mookherjee and Png 1995, Banerjee 1997, Acemoglu and Verdier 2000). In these previous theories, corruption is a kind of principal-agent problem that appears when a state attempts to implement its preferred policies by making use of self-interested bureaucrats. Because bureaucratic corruption interferes with the state's goals, the state would like to prevent corruption, but it may be unable to do so. In contrast, in my model corruption benefits the top leaders of the state, not just low-level bureaucrats, and corruption is not the result of a principal-agent problem.

My model contributes to a small literature studying the role of "behavioral" and other non-materially-directed motivations in explaining political phenomena. Here the most closely related model is Passarelli and Tabellini (2017), who show that motivations similar to retribution can help to explain riots and other forms of political unrest. In Passarelli and Tabellini's model, citizens' retributive motivations make it harder for the state to achieve its goals and reduces the state's utility. In contrast, in my model the presence of retributive motivations may increase the state's utility.

An alternative theory of state toleration of crime is that criminals form a special interest group that captures the state, leading to a situation in which the state simply chooses policies that maximize criminal welfare. Naim (2012) develops an argument of this type when he suggests that in states like Russia, "the national interest and the interests of organized crime are inextricably intertwined." Grossman and Helpman (1994) develop a formal model of a related idea in the context of trade policy. In their model, special interest bribes lead the state to choose policies that maximize a weighted average of special interest group welfare and social welfare. In the limit, the state's policy preferences become identical to the special interest group's policy preferences. Unconstrained maximization of criminal welfare cannot immediately explain state toleration of crime, because toleration of crime

7

reduces productivity and hence is inefficient. However, state toleration of crime could be explained if the state attempts to maximize criminal welfare subject to the constraint that if these efforts were discovered, they would lead to a citizen revolt. Coate and Morris (1995) model a related idea, again in the context of trade policy. They argue that citizens are uncertain about what trade policy maximizes social welfare, while they know that direct transfers to special interest groups do not increase social welfare. Thus, citizens may be more likely to vote against politicians who propose direct transfers to special interests than politicians who propose trade policies that indirectly benefit special interests. Similarly, it might be argued that citizens are uncertain about the optimal law enforcement policy, and so the state can use lenient law enforcement to maximize criminal welfare without provoking citizen unrest. A difficulty with this idea is that it does not explain why *kompromat* states continue to expend resources to investigate crimes. If the state simply wanted to maximize criminal welfare in a way that was hidden from the public, it could secretly give favored groups licenses to commit crimes, perhaps in exchange for bribes, and could then refrain from investigating those groups. In contrast, in my model the state continues to expend resources to investigate criminals, even though criminals would prefer not to be investigated. The state does not take criminal preferences into account when choosing how much to spend on investigation. Thus, in my model the interests of the state and of criminals remain partially opposed, even in a *kompromat* state.

The remainder of the paper is as follows. Section 2 provides further discussion and examples of how *kompromat* works in Russia, the prototypical *kompromat* state. Section 3 presents the model. Section 4 discusses the history of the Soviet state, whose legacy has left Russia and other post-Soviet countries with unusually low fiscal capacity and unusually high police capacity, making these countries especially likely to develop *kompromat* regimes. Section 5 concludes.

2 *Kompromat* in Russia

Two features that distinguish my model from other models of crime and corruption are, first, that in a *kompromat* regime the state expends substantial resources on police even though the police do not deter crime, and second, that corruption in a *kompromat* regime benefits the top leaders of the state and not just low-level bureaucrats. In this section, I provide some additional motivation for my model by discussing examples from Russia that illustrate these two features of *kompromat*.

Ledeneva (2006, p. 86) describes a particularly striking example of Russian police who fail to

deter crime in a quote from a Russian general who led a regional anticrime unit in the 1990s. The general says,

> "Organized crime would be easier to deal with if it didn't have protection (*krysha*) in governmental structures, if there was no corruption. We do in fact have all the information we need for a massive attack on criminal groupings: technical information, addresses, contacts, but they are protected from above. So all we can do is to collect *kompromat* and wait for a good moment."

In another episode, Ledeneva conducts an interview with a woman named Tatiana, who had been an accountant in a regional bank in Novosibirsk. Tatiana describes how she wound up working with organized criminal groups, because doing so was the only way to recover delinquent loans. At one point, her work with these criminal groups comes to the attention of the FSB (the state security service), who raid her office and arrest her. Ledeneva (2006, p. 168) asks Tatiana about the motivations of the FSB agents:

> **Interviewer**: Do you think they wanted to get hold of the criminal group through you?
> **Tatiana**: Of course not. Do you really think that FSB is interested in some bandits? They know them all by name. Moreover, the relatives of the regional leaders are engaged with them. What they were really after were the directors of other banks. They wanted *kompromat* on the leadership of the region and the city.

In both of these episodes, the Russian police expend real resources to investigate criminals and to collect evidence of crimes. However, the police do not use this evidence to punish the criminals or to prevent the criminals from committing future crimes. Instead, they hold the evidence in reserve to use for blackmail in the future. Meanwhile, the criminals continue to commit crimes undisturbed.

It is naturally more difficult to find examples of episodes in which top state officials benefit from blackmailing criminals, since these transactions are shrouded in secrecy. However, some evidence comes from Galeotti (2017), whose research builds on off-the-record and in some cases clandestine interviews with various Russian officials and underworld figures (see also Galeotti 2018 for further discussion). Galeotti (2017) argues that the Russian state and security services demand cash and favors from organized criminal groups. He writes (p. 2), "When the [Russian] state wanted something from the criminals, they were expected to comply." Two examples of this phenomenon are especially revealing. In one case, Galeotti discusses the Russian state's use of criminal hackers to increase its espionage capabilities. Galeotti writes (p. 6), "Moscow still depends, to a considerable extent, on recruiting cybercriminals, or simply calling on them from time to time, *in return for their continued freedom.*" In another case, Galeotti describes a Russian cigarette smuggling ring that was investigated by Estonian police. Galeotti writes (pp. 6-7), "The evidence suggests that the FSB

was facilitating the smuggling activity through an RBOC [Russia Based Organized Crime] group in return for a cut of the profits. *This was not for the enrichment of the officers concerned*, but to raise operational funds for active political measures in Europe that had no Russian 'fingerprints' on them. *RBOC's vulnerability to Moscow's pressure*, the advantages to be gained from cooperation, and the considerable assets the criminals hold, make them useful sources of *chernaya kassa* ('black account' funds)." I have added emphasis to both of these quotes to highlight that the Russian state appears to be using the threat of prosecution to demand cash and services from criminals, and that these bribes serve the interests of the central state and not just low-level bureaucrats.

There is also strong circumstantial evidence of contacts and transactions between Russian president Vladimir Putin and organized criminal groups. Although these contacts do not provide direct evidence of blackmail, they help to validate the claim that the very highest officials in the Russian state are aware of and tolerate serious crimes. Consider, for example, Bank Rossiya, one of whose founders, Yuriy Koval'chuk, has been described by the US Treasury Department as "personal banker for senior officials of the Russian Federation including Putin." (Dawisha 2014, p. 65) According to Dawisha, 18.6 percent of the original Bank Rossiya shares were owned by Russian mafia leader Gennadiy Petrov (Dawisha 2014, p. 69). In 2008, Petrov and Bank Rossiya deputy CEO Vladislav Reznik were arrested in Spain on charges of money laundering and other organized criminal activity. In 2010, Petrov was granted permission to return to Russia to visit his mother, a visit from which he did not return. Russia has not moved to arrest or extradite him, and he is presumably under the protection of the Russian state. This and other examples documented by Dawisha (2014) suggest that Putin is aware of, tacitly condones, and benefits from a wide variety of criminal activities in Russia.

3   Theory

3.1   Setup

I present the simplest possible model that illustrates the main features of *kompromat*. Society consists of a continuum of risk-neutral citizens with mass 1. There are n economic classes of citizens, each of which has equal mass $1/n$. Citizens in class i have potential legal income y_i, which can be thought of as a measure of the human capital of citizens in class i. Citizens undertake legal income generating activities, and can also choose whether to commit crimes. The actual legal income of a citizen in

class i depends on his human capital and on the prevalence of crime in society. Let $x_i \in [0, 1]$ be the fraction of citizens in class i who commit crimes. The actual legal income of a citizen in class i is $y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i$. Here m_i measures the strength of negative externalities due to crimes committed by citizens in class i. I assume that $\frac{1}{n} \sum_{i=1}^{n} m_i \leq y_i$ for all i, which implies that citizens can never have negative income. A citizen in class i who commits crimes gets criminal income k_i in addition to his legal income. Since each citizen takes the overall prevalence of crime as given, in the absence of some kind of law enforcement all citizens prefer to commit crimes. Total income in society is $\frac{1}{n} \sum_{i=1}^{n} (y_i - m_i x_i + k_i x_i)$. I assume that $k_i < m_i$ for all i, that is, that crime is socially harmful.

In addition to society, there is a state. The state has access to weapons that it can use to inflict violent punishments on citizens. However, unless the state can mobilize support from the larger society, the effectiveness of this punishment is limited. In the absence of support from the larger society, the state can inflict a violent punishment of up to $\tau(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i)$ on a citizen in class i, where $\tau \leq 1$. The maximum punishment is proportional to a citizen's legal income because punishments like prison time cause greater utility loss to citizens who have greater consumption opportunities outside of prison. The state can require citizens to pay taxes, and can punish any citizen who does not pay taxes. Because the maximum punishment is $\tau(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i)$, the tax rate on legal income t imposed on a citizen must satisfy $t \leq \tau$. Thus τ is also the maximum feasible tax rate. Following Besley and Persson (2009), I refer to τ as the "fiscal capacity" of the state.

The state can condition a citizen's tax rate on the citizen's legal income and also on whether the citizen has been caught committing a crime. Let t_{ic} be the tax rate on a criminal in income class i, and let t_{in} be the tax rate on a non-criminal in income class i, where these tax rates must satisfy $t_{ic} \leq \tau$ and $t_{in} \leq \tau$ for all i. It may be helpful to think of the additional rate charged to criminals $t_{ic} - t_{in}$ as a fine rather than a tax. Alternatively, $t_{ic} - t_{in}$ can be thought of as a Pigouvian tax, which may function to deter undesirable behavior rather than to raise revenue.

The assumption that both $t_{ic} \leq \tau$ and $t_{in} \leq \tau$ reflects the fact that in the absence of citizen support for state violence against criminals, the state must use its limited intrinsic capacity for violence both to extract revenue from citizens through taxation and to provide incentives for citizens to obey the law through fines and/or non-monetary punishments imposed on criminals. If the state chooses a high level of taxation on non-criminals, that is, if t_{in} is close to τ for some i, then the constraint implies that the fine $t_{ic} - t_{in}$ imposed on criminals in class i must be small. In this case, and if the state has no other way to punish criminals, then the incentive for citizens in class i to

11

obey the law will be weak.

The parameter τ does not take into account the power that the state can derive from mobilizing support from the larger society for state violence. The state can mobilize support from the larger society for violence against a target citizen by revealing evidence that the citizen has committed crimes, as discussed in the introduction. By mobilizing society's support, the state increases the severity of the punishments it can inflict. If the state reveals evidence that a target citizen has committed crimes, the state can inflict a punishment π on the citizen, in addition to the punishment τ. The parameter π measures the strength of citizens' retributive motivations, and also the state's technological ability to broadcast evidence of crimes to citizens. More concretely, let $\pi = r\beta$, where r measures the strength of citizens' retributive motivations and β measures the state's technological ability to broadcast information about crime. The state can inflict additional punishments on criminals only if both r and β are positive. There is reason to believe that retributive motivations are a deep feature of human psychology that have been instilled by biological evolution, and that existed even in the earliest human societies (e.g. Bowles and Gintis 2011). However, states have only recently acquired the ability to broadcast information widely. Thus, high π states are likely a modern phenomenon.

If the state detects that a citizen in income class i has committed a crime, the state can either reveal evidence of the crime to the larger society and inflict the punishment π on the citizen, or the state can demand a payment b_i in exchange for not revealing the evidence. For simplicity, I assume in my model that b_i consists of cash, but it could also consist of in-kind payments such as political support or other non-cash favors. Let A_i be an indicator of how the state chooses to treat criminals in class i, with $A_i = 1$ indicating that the state chooses to allow criminals in class i to escape additional punishment by paying b_i, and $A_i = 0$ indicating that the state inflicts the punishment π on criminals in class i. Because the payments b_i are enforced by the threat of punishment, the payment must satisfy $b_i \leq \pi$. In addition, citizens cannot pay amounts larger than their after-tax (legal and criminal) incomes. Thus, the payment must satisfy $b_i \leq (1 - t_{ic})(y_i - \frac{1}{n}\sum_{i=1}^{n} m_i x_i) + k_i$.

The symbol b_i stands for "bribe". The term "bribe" suggests a payment that is made in secret, and in fact, payments made by criminals to the state are often kept secret, presumably because in many cases the state would lose political support if it revealed that it was collecting large payments from criminals. However, secrecy is not a necessary feature of the payments b_i. Instead, as will be seen below, the key difference between the payment b_i and the tax/fine $t_{ic} - t_{in}$ is that the state only

ever chooses $t_{ic} - t_{in} > 0$ in order to deter crime. In contrast, in some cases the state may choose $b_i > 0$ not to deter crime, but rather to raise revenue. Some states may openly demand payments from criminals that are designed to raise revenue, instead of to deter crime. For example, Makowsky and Stratmann (2009) argue that traffic fines are chosen in part to increase revenue and not to deter traffic violations optimally.

In order to detect crimes, the state must spend money on police. To allow the state maximum flexibility, I suppose that the state can target police spending to investigate citizens of different classes with different intensities. To detect a crime committed by a citizen in class i with probability p_i, the state must pay a cost $(1/n)c(p_i, \lambda)$, where $c(0, \lambda) = 0$, $\lim_{p_i \to 0} c_1(p_i, \lambda) = 0$, $\lim_{p_i \to 1} c_1(p_i, \lambda) = \infty$, and c is non-decreasing and convex in p_i. The subscript on c stands for the partial derivative with respect to the numbered argument of c. Here λ is a cost shifting parameter which I interpret as the state's "police capacity". I assume that $c_{12}(p_i, \lambda) < 0$, that is, that higher police capacity reduces the marginal cost of crime detection, and that $\lim_{\lambda \to 0} c_1(p_i, \lambda) = \infty$ and $\lim_{\lambda \to \infty} c_1(p_i, \lambda) = 0$ for $0 < p_i < 1$. For most of the analysis, I assume that both the state's fiscal capacity τ and the state's police capacity λ are fixed. These parameters can be thought of as representing sunk costs of investment in state capacity incurred in prior periods, as in Besley and Persson (2009). In section 3.3 I consider the state's incentives to invest in future fiscal and police capacity. In section 4 I discuss how the present fiscal and police capacity of post-Soviet states have been affected by the historical legacy of the Soviet Union, and how this legacy has made post-Soviet states especially vulnerable to *kompromat*.

The state can be either "extractive" or "inclusive" in the terminology of Acemoglu and Robinson (2012). If the state is inclusive, then the state's utility is the sum of consumption in society, where consumption is equal to production after subtracting any costs of policing. That is, the state's utility is

$$U^I = \frac{1}{n} \sum_{i=1}^{n} [y_i - m_i x_i + k_i x_i - c(p_i, \lambda)]$$

On the other hand, if the state is extractive, then the state's utility is the sum of the state's consumption, which is just the state's revenue from taxes/fines and bribes, again net of any costs of

policing. That is, the state's utility is

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\begin{aligned}
U^E = \frac{1}{n} \sum_{i=1}^{n} \Bigg\{ & t_{in} \left[(1 - p_i) + p_i(1 - x_i)\right] \left(y_i - \frac{1}{n} \sum_{j=1}^{n} m_j x_j\right) \\
& + t_{ic} p_i x_i \left(y_i - \frac{1}{n} \sum_{j=1}^{n} m_j x_j\right) + A_i p_i x_i b_i - c(p_i, \lambda) \Bigg\}
\end{aligned}
$$

The first term in the curly brackets is the total amount of tax raised from citizens in class i who are not caught committing crimes. The second term is the total amount of tax raised from citizens in class i who are caught committing crimes. The third term is the amount of revenue raised from citizens in class i from payments b_i. The fourth term is the amount spent on investigating crimes committed by citizens in class i.

I make two additional assumptions on the state's utility function for the purpose of breaking ties. First, I assume that if the state is indifferent between imposing a non-monetary punishment on a criminal, and demanding a monetary payment from a criminal enforced by the threat of punishment, then the state chooses to demand the monetary payment. This assumption reflects Becker's (1968) argument that monetary punishments are preferable to non-monetary punishments because non-monetary punishments destroy value while monetary punishments merely transfer value. Second, I assume that if the state is indifferent between demanding a higher and a lower payment, then the state chooses the lower payment. This assumption can be justified if there are (infinitessimal) deadweight losses associated with taxation and other payments.

The timing of the game is as follows. First, the state decides how much to spend on police. Second, the state announces the tax rates on criminals and non-criminals, whether the state will accept a payment b_i from criminals in lieu of the punishment π, and if so, the amount of the payment. Third, the citizens choose whether to commit crimes. Fourth, the state collects taxes from every citizen, and if additional payments are demanded from criminals then the state also collects additional payments from each citizen who is caught committing a crime. Finally, the state inflicts a punishment on any citizen who does not pay the tax/fine, and inflicts an additional punishment on any citizen who is caught committing a crime and, if relevant, who does not pay b_i.

The state chooses $A_i, t_{in}, t_{ic}, b_i, x_i,$ and p_i to maximize its utility, subject to the following con-

straints. First, the tax rate is constrained by the state's fiscal capacity:

$$t_{in} \leq \tau$$

$$t_{ic} \leq \tau$$

Second, the size of the payment b_i is constrained by the severity of the additional punishment π and the ability of criminals to pay:

$$b_i \leq \pi$$

$$b_i \leq (1 - t_{ic})(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i) + k_i$$

I sometimes refer to the second of these constraints as the citizens' wealth constraint. Third, citizen's decisions about whether to commit crimes must maximize citizens' utility:

$$x_i = 1 \text{ if } p_i[A_i b_i + (1 - A_i)\pi + (t_{ic} - t_{in})(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i)] \leq k_i$$

$$0 \leq x_i \leq 1 \text{ if } p_i[A_i b_i + (1 - A_i)\pi + (t_{ic} - t_{in})(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i)] = k_i$$

$$x_i = 0 \text{ if } p_i[A_i b_i + (1 - A_i)\pi + (t_{ic} - t_{in})(y_i - \frac{1}{n} \sum_{i=1}^{n} m_i x_i)] \geq k_i$$

I refer to these constraints as the citizens' incentive compatibility constraints. Finally, the state's revenue net of expenditure on police must be non-negative:

$$\frac{1}{n} \sum_{i=1}^{n} \left\{ t_{in} \left[(1 - p_i) + p_i(1 - x_i)\right] \left(y_i - \frac{1}{n} \sum_{j=1}^{n} m_j x_j\right) \right.$$
$$\left. + t_{ic} p_i x_i \left(y_i - \frac{1}{n} \sum_{j=1}^{n} m_j x_j\right) + A_i p_i x_i b_i - c(p_i, \lambda) \right\} \geq 0$$

I sometimes refer to this constraint as the budget balance condition. In the absence of this condition the state could deter crime at arbitrarily low cost by setting $t_c = \tau$ and setting t_n to be an arbitrarily large negative number, making the cost of being caught committing a crime arbitrarily large.

A key assumption embedded in the model is that the state can commit to the payments $t_{ic} - t_{in}$ and b_i demanded from each class of criminals. Commitment is difficult for the state because the

15

state might be tempted to demand a larger payment from a criminal once the criminal has been caught committing a crime. One way in which the state could commit to a payment schedule is through a reputation effect. If the state consistently demands overly large payments from criminals, it is likely that this information would eventually spread throughout the community of potential criminals, who would then stop committing crimes, reducing the state's revenue. The state's desire to maintain its revenue would then allow the state to commit to a payment schedule low enough to incentivize citizens to commit crimes.

3.2 Results with homogeneous citizens

The main features of *kompromat* do not depend on the existence of economic inequality, and so I begin my analysis with the case in which there is only one economic class, that is, in which $y_i = y$ for all i. Because all citizens are identical, I suppress i subscripts. As a benchmark, I consider the case in which $\pi = 0$. This represents the situation in which the power of the state is derived exclusively from its control over the instruments of violence.

Proposition 1. *Suppose that all citizens have human capital y, and suppose that $\pi = 0$. Since $\pi = 0$, $b = 0$.*

Let $\bar{t}_n$ solve $\bar{t}_n = (1/y)c\left(k/[(\tau - \bar{t}_n)y], \lambda\right)$. If the state is inclusive, then

1. *If $y - c\left(k/[(\tau - \bar{t}_n)y], \lambda\right) \geq y - m + k$, then $t_c = \tau$, $t_n = \bar{t}_n$, $x = 0$, and $p = k/[(\tau - \bar{t}_n)y]$*

2. *If $y - c\left(k/[(\tau - \bar{t}_n)y], \lambda\right) < y - m + k$, then $t_c = 0$, $t_n = 0$, $x = 1$, and $p = 0$.*

Let $\bar{p}$ solve $\bar{p}^2 c_1(\bar{p}, \lambda) = k$. If the state is extractive, then

1. *If $\tau y - \bar{p}c_1(\bar{p}, \lambda) - c(\bar{p}, \lambda) \geq \tau(y - m)$, then $t_c = \tau$, $t_n = \tau - k/py$, $x = 0$, and $p = \bar{p}$*

2. *If $\tau y - \bar{p}c_1(\bar{p}, \lambda) - c(\bar{p}, \lambda) < \tau(y - m)$, then $t_c = t_n = \tau$, $x = 1$, and $p = 0$.*

Proof. Suppose first that the state is inclusive, and that the state chooses to deter crime. If $t_c < \tau$, then the state can reduce its expenditure on police while holding production constant by increasing t_c and reducing p to keep the expected cost of crime constant. Therefore, $t_c = \tau$. The least costly method of deterring crime is to set the expected cost of crime just equal to the expected benefit, so the state sets $p(t_c - t_n)y = k$. Finally, when the state is inclusive the state is indifferent between consuming itself and allowing citizens to consume, so by the tie-breaking rule the state chooses to

collect the minimum feasible amount of revenue. That is, the state chooses to satisfy the budget balance condition with equality, $t_n y = c(p, \lambda)$. Putting these conditions together yields that $t_c = \tau$, $t_n = \bar{t}_n$ where $\bar{t}_n$ solves $\bar{t}_n = (1/y)c\left(k/[(\tau - \bar{t}_n)y], \lambda\right)$, and $p = k/[(\tau - \bar{t}_n)y]$. The state's utility from deterring crime is $U_D^I = y - c\left(k/[(\tau - \bar{t}_n)y], \lambda\right)$. Now suppose that the state chooses to allow crime. Then the state sets $p = 0$ to minimize the cost of police. Since crimes are never detected, the state is indifferent between all values of t_c, so by the tie-breaking rule the state chooses $t_c = 0$. Because the state is inclusive, the state is indifferent between consuming itself and allowing citizens to consume, so by the tie-breaking rule the state chooses to collect the minimum feasible amount of revenue, that is, $t_n = 0$. The state's utility from allowing crime is $U_A^I = y - m + k$. The state chooses to deter crime if $U_D^I \geq U_A^I$.

Now suppose that the state is extractive, and that the state chooses to deter crime. If $\tau_c < \tau$, then the state can reduce its cost of policing and increase its revenue from criminals by increasing τ_c and changing p to keep the expected cost of crime constant. Thus, $t_c = \tau$. The state chooses t_n and p to solve

$$\max_{t_n, p} t_n y - c(p, \lambda)$$

subject to the constraints

$$t_n y - c(p, \lambda) \geq 0$$

$$t_n \leq \tau$$

$$p(\tau - t_n)y \geq k$$

The first two constraints do not bind whenever the state chooses to deter crime, so the first order conditions for this problem are

$$y = \mu p y$$

$$c_1(p, \lambda) = \mu(\tau - t)y$$

Here μ is the Lagrange multiplier on the third constraint. Solving yields that $t_n = \tau - k/py$ and $p^2 c_1(p, \lambda) = k$. In this case the state's utility is $U_D^E = \tau y - \bar{p} c_1(\bar{p}, \lambda) - c(\bar{p}, \lambda)$, where $\bar{p}$ solves $\bar{p}^2 c_1(\bar{p}, \lambda) = k$ and hence $\bar{p}$ does not depend on τ.

17

If the state chooses to allow crime, then the state maximizes its revenue by choosing $t_c = t_n = \tau$ and $p = 0$. In this case the state's utility is $U_A^E = \tau(y - m)$. The state chooses to deter crime if $U_D^E \geq U_A^E$. □

Because the state cannot inflict an additional punishment π on criminals, the only way for the state to deter crime is by imposing differential taxes t_c and t_n on criminals and non-criminals. If the state is inclusive, the state maximizes social welfare and so the state chooses to deter crime if the social cost of deterring crime $c(p, \lambda)$ is less than the social benefit $m - k$. The state maximizes the strength of crime-deterring incentives by imposing the maximum tax $t_c = \tau$ on criminals and the minimum tax t_n on non-criminals that allows the state to gather enough revenue to pay for the police. The state minimizes the cost of police by choosing the minimum probability of detection p that is consistent with deterring crime. This result is essentially the same as the result in Becker (1968). As the state's fiscal capacity τ decreases, the probability of detection p necessary to deter crime increases, and as police capacity λ decreases, the cost of detecting crime at any fixed level p also increases. If τ or λ are too small, then the cost of deterring crime is greater than the social benefit. In this case, the state does not spend any money on police ($p = 0$) and allows all citizens to commit crimes ($x = 1$).

If the state is extractive, the state still prefers to deter crime if the cost of doing so is sufficiently low, because by deterring crime the state increases the size of the tax base and hence the amount of tax revenue that the state can extract. This result is similar to Olson's (1993) argument that even an extractive state provides productivity-increasing public goods, in order to increase its tax revenue. For an extractive state, the cost of deterring crime includes both the direct cost of policing $c(p, \lambda)$ and the indirect cost of lost revenue from setting the tax on non-criminals t_n low enough that citizens prefer not to commit crimes. Choosing p and t_n as in the proposition maximizes the state's tax revenue net of these costs of policing. If the state's fiscal capacity τ or police capacity λ are too small, then the state does not recoup the costs of policing through increased tax revenue. In this case, the state imposes the maximum tax on both criminals and non-criminals, does not devote any resources to policing, and allows all citizens to commit crimes.

Figure 1 shows regions in (τ, λ) space in which the state deters or allows crime. The lower curve, marked I, is the locus where an inclusive state is just indifferent between deterring and allowing crime. The upper curve, marked E, is the locus where an extractive state is just indifferent between

18

deterring and allowing crime. States in regions above their respective curves deter crime, while states in regions below their respective curves allow crime. Extractive states are more likely than inclusive states to allow crime because an inclusive state internalizes all of the negative externalities caused by crime, while an extractive state does not.

Figure 1 about here

When $\pi = 0$, if the state chooses $p > 0$, then the state chooses a tax on criminals that reduces crime to the socially optimal level of 0. This is true for both inclusive and extractive states. This observation is related to separability results in the theory of optimal income taxation with externalities (Cremer, Gahvari, and Ladoux 1998, Gauthier and Laroque 2009, Kaplow 2012). These papers show that under fairly general conditions, the state optimally chooses the efficient Pigouvian tax to control externalities, and separately chooses an income tax to raise revenue. In other words, policies for controlling externalities can be analyzed separately from policies for revenue generation. In the present context, the state's criminal justice institutions can be analyzed separately from its public finance institutions. As will be seen below, however, this separability property may fail when $\pi > 0$.

Next I consider what happens if $\pi > 0$, reflecting the assumptions that the larger society helps the state to inflict punishments and that the larger society, motivated by retribution, provides more help when state punishments are targeted at criminals.

Proposition 2. *Suppose that all citizens have human capital y, and suppose that $\pi > 0$.*

Let $\hat{t}_n$ solve $\hat{t}_n = (1/y)c\left(k/[(\tau - \hat{t}_n)y + \pi]\right)$. If the state is inclusive, then

1. *If $y - c\left(k/[(\tau - \hat{t}_n)y + \pi]\right) \geq y - m + k$, then $t_c = \tau$, $t_n = \hat{t}_n$, $x = 0$, and $p = k/[(\tau - \hat{t}_n)y + \pi]$.*

2. *If $y - c\left(k/[(\tau - \hat{t}_n)y + \pi]\right) < y - m + k$, then $t_c = 0$, $t_n = 0$, $x = 1$, and $p = 0$.*

If the state is extractive, then there exists $\hat{\tau}^E$ such that $\hat{\tau}^E$ is increasing in π and such that:

1. *If $\tau \geq \hat{\tau}^E$, then $t_c = \tau$ and $x = 0$. In this case, if $c_1(k/\pi, \lambda) < \pi^2/k$, then $t_n = \tau$, and $p = k/\pi$. If $c_1(k/\pi, \lambda) \geq \pi^2/k$, then $t_n = \tau - (k - p\pi)/py$ and $p = \bar{p}$, where $\bar{p}$ solves $\bar{p}^2 c_1(\bar{p}, \lambda) = k$.*

2. *If $\tau < \hat{\tau}^E$, then $t_c = t_n = \tau$, $b = \min\{\pi, (1 - \tau)(y - m) + k\}$, $x = 1$, and $p = \min\{k/b, \hat{p}\}$, where $\hat{p}$ solves $c_1(\hat{p}, \lambda) = b$.*

Proof. Suppose first that the state is inclusive. Then the proof follows the same steps as in the proof of proposition 1, except that the state sets the expected cost of crime just equal to the expected benefit by setting $p[(t_c - t_n)y + \pi] = k$.

Now suppose that the state is extractive. As in the proof of proposition 1, if the state chooses to deter crime, then the state maximizes the strength of crime-deterring incentives by setting $t_c = \tau$ and also inflicting the maximum feasible additional punishment π on criminals. The state then chooses t_n and p to solve

$$\max_{t_n, p} t_n y - c(p, \lambda)$$

subject to the constraints

$$p[(\tau - t_n)y + \pi] \geq k$$

$$t_n \leq \tau$$

$$t_n y - c(p, \lambda) \geq 0$$

The third constraint does not bind whenever the state chooses to deter crime. Thus the first order conditions are

$$y = \nu p y + \rho$$

$$c_1(p, \lambda) = \nu(\tau - t_n)y + \nu\pi$$

Here ν is the Lagrange multiplier associated with the first constraint and ρ is the Lagrange multipler associated with the second constraint. The second constraint binds if $c_1(k/\pi, \lambda) < \pi^2/k$, in which case $t_n = \tau$ and $p = k/\pi$. Otherwise, solving yields that $t_n = \tau - (k - p\pi)/py$ and that p solves $p^2 c_1(p, \lambda) = k$.

If the state chooses to allow crime, then the state maximizes its tax revenue by choosing $t_c = t_n = \tau$. The state then solves

$$\max_{p, b} \tau(y - m) + pb - c(p, \lambda)$$

subject to the constraints

$$pb \leq k$$

$$b \leq \pi$$

$$b \leq (1 - \tau)(y - m) + k$$

$$t_n y + pb - c(p, \lambda) \geq 0$$

The fourth constraint does not bind if the state chooses $p > 0$. If $b < \pi$ and $b < (1-\tau)(y-m)+k$, then the state can reduce its cost of crime detection while holding everything else constant by reducing p and increasing b in a way that keeps pb constant. Thus, one of the second and third constraints must bind, and so $b = \min\{\pi, (1-\tau)(y-m)+k\}$. The first order condition with respect to p is

$$c_1(p, \lambda) = (1 - \theta)b$$

Here θ is the Lagrange multiplier associated with the constraint $pb \leq k$. If the constraint binds, then $p = k/b$. Otherwise, $c_1(p, \lambda) = b$.

Finally, let U_D^E be the utility of an extractive state that chooses to deter crime, and let U_A^E be the utility of an extractive state that chooses to allow crime. Using the envelope theorem, I can calculate:

$$\frac{dU_D^E}{d\pi} = 1 \text{ if } \rho = 0$$

$$\frac{dU_D^E}{d\pi} = \frac{1}{\pi} c_1\left(\frac{k}{\pi}, \lambda\right) \text{ if } \rho > 0$$

$$\frac{dU_A^E}{d\pi} = p \text{ if } \theta = 0 \text{ and } \pi \leq (1-\tau)(y-m)+k$$

$$\frac{dU_A^E}{d\pi} = \frac{k}{\pi^2} c_1\left(\frac{k}{\pi}, \lambda\right) \text{ if } \theta > 0 \text{ and } \pi \leq (1-\tau)(y-m)+k$$

$$\frac{dU_A^E}{d\pi} = 0 \text{ if } \pi > (1-\tau)(y-m)+k$$

If $\pi \leq (1-\tau)(y-m)+k$, then $\theta = 0$ if and only if $c_1(k/\pi, \lambda) < \pi$. In addition, $\rho > 0$ only if $\pi > k$. Finally, $\rho > 0$ if and only if $c_1(k/\pi, \lambda) \geq \pi^2/k$. Therefore, $\pi \leq (1-\tau)(y-m)+k$ and $\rho > 0$ implies that $\theta > 0$, which together with $p < 1$ implies that $dU_D^E/d\pi > dU_A^E/d\pi$ for all π. In addition, $dU_D^E/d\tau = y$ and $dU_A^E/d\tau \leq y - m$ with equality when $b = \pi$. Therefore, $dU_D^E/d\tau > dU_A^E/d\tau$.

Finally, $U_D^E < U_A^E$ when $\tau = 0$. Putting these results together yields that there exists $\hat{\tau}^E$ such that $U_A^E > U_D^E$ if and only if $\tau > \hat{\tau}^E$, and such that $\hat{\tau}^E$ is increasing in π. $\qquad\square$

If the state is inclusive, then the law enforcement regime is qualitatively similar for $\pi = 0$ and $\pi > 0$. In both cases, if deterring crime is socially optimal, then the state imposes the maximum feasible punishment on criminals and spends the minimum amount on policing necessary to deter crime. If the cost of deterring crime is greater than the social benefit, then the state does not deter crime and spends nothing on police.

If the state is extractive and has high fiscal capacity (large τ), then the law enforcement regime is also qualitatively similar for $\pi = 0$ and $\pi > 0$. In both cases the state chooses the tax on non-criminals to maximize revenue net of policing costs, subject to the constraint that citizens must prefer not to commit crimes. The state also imposes the maximum feasible punishment on criminals.

If the state is extractive and has low fiscal capacity (small τ), however, then the law enforcement regime is qualitatively different for $\pi = 0$ and $\pi > 0$. When $\pi = 0$ and τ is small, the state spends nothing on policing. However, when $\pi > 0$ and τ is small, the state spends a positive amount on policing even though the police do not deter crime ($x = 1$). This is the *kompromat* regime.

The inefficiency of police spending in the *kompromat* regime contrasts with the result from proposition 1 that when $\pi = 0$, the state chooses a level of policing that reduces crime to the socially optimal level of 0 whenever the state chooses to spend money on police at all. Police spending is inefficient in the *kompromat* regime because the state uses the police to gather revenue from bribes rather than to deter crimes. Thus, in the *kompromat* regime, the state's criminal justice institutions cannot be analyzed separately from its revenue generation institutions. The failure of separability of criminal justice and public finance is a defining feature of *kompromat*.

Proposition 2 shows how the interests of criminals and the interests of the state partially conflict under a *kompromat* regime. Citizens who are caught committing crimes in the *kompromat* regime have consumption $(y - m) + k - b$, while citizens who are not caught committing crimes have consumption $(y - m) + k$. Thus, criminals prefer not to be caught, and criminals would prefer that the state spend less money investigating crimes. However, the state does not take criminals' preferences over the level of investigation into account when choosing the level of investigation p. This result shows that *kompromat* cannot be explained merely as a way for the state to maximize criminal welfare, as in Grossman and Helpman's (1994) and Coate and Morris's (1995) models of

state capture by a special interest group.

Next I consider how the political regime changes with changes in the state's police capacity λ. The most interesting case occurs when the state is extractive, π is sufficiently large, and the citizens' wealth constraint binds, that is, when $(1-\tau)(y-m)+k < \pi$. Binding wealth constraints on criminals are likely to be important empirically. For example Becker (1968) argues that binding wealth constraints are the reason why the state imposes non-monetary punishments such as imprisonment on criminals. Proposition 3 describes how changes in λ can affect the political regime under these conditions:

Proposition 3. *Suppose that the state is extractive. Then there exist π and τ such that $(1-\tau)(y-m)+k < \pi$ and such that*

1. *For sufficiently small λ, the state allows crime $(x=1)$.*

2. *For sufficiently large λ, the state allows crime $(x=1)$.*

3. *There are intermediate values of λ for which the state deters crime $(x=0)$.*

Proof. Let p_A be the value of p chosen by a state that allows crime and let p_D be the value of p chosen by a state that deters crime, and define U_A^E and U_D^E as in the proof of proposition 2. Using the envelope theorem, I can calculate:

$$\frac{\partial U_D^E}{\partial \lambda} = -\frac{\partial}{\partial \lambda} c(p_D, \lambda)$$
$$= -\frac{\partial}{\partial \lambda} \int_0^{p_D} c_1(p, \lambda) dp$$

and

$$\frac{\partial U_A^E}{\partial \lambda} = -\frac{\partial}{\partial \lambda} c(p_A, \lambda)$$
$$= -\frac{\partial}{\partial \lambda} \int_0^{p_A} c_1(p, \lambda) dp$$

Suppose that the wealth constraint binds. From proposition 2, for sufficiently large λ a state that deters crime chooses $p_D = k/\pi$, while a state that allows crime chooses $p_A = k/[(1-\tau)(y-m)+k]$, where $(1-\tau)(y-m)+k < \pi$ if the wealth constraint binds. Thus, if the wealth constraint binds and for sufficiently large λ, $p_A > p_D$. In this case, we have

23

$$\frac{\partial U_A^E}{\partial \lambda} = -\frac{\partial}{\partial \lambda} \int_0^{p_A} c_1(p, \lambda) dp$$

$$= -\frac{\partial}{\partial \lambda} \int_0^{p_D} c_1(p, \lambda) dp - \frac{\partial}{\partial \lambda} \int_{p_D}^{p_A} c_1(p, \lambda) dp$$

$$= \frac{\partial U_D^E}{\partial \lambda} - \frac{\partial}{\partial \lambda} \int_{p_D}^{p_A} c_1(p, \lambda) dp$$

$$> \frac{\partial U_D^E}{\partial \lambda}$$

The last inequality follows from the assumption that $c_1(p, \lambda)$ is decreasing in λ.

Choose λ^* and π such that $p_A > p_D$ for all $\lambda \geq \lambda^*$ and for all τ, and such that $U_D^E > U_A^E$ for sufficiently large τ. Note that for sufficiently small τ, $U_D^E < U_A^E$, since $U_D^E = 0$ for sufficiently small τ. Therefore, by the intermediate value theorem, there exists τ^* such that $U_D^E = U_A^E$ when $\tau = \tau^*$ and $\lambda = \lambda^*$. Let $\tau = \tau^*$. Since $\partial U_A^E/\partial \lambda > \partial U_D^E/\partial \lambda$ for all $\lambda \geq \lambda^*$, $U_A^E > U_D^E$ for all $\lambda > \lambda^*$. In addition, since $\partial U_A^E/\partial \lambda > \partial U_D^E/\partial \lambda$ at $\lambda = \lambda^*$, there exists $\lambda^{**} < \lambda^*$ such that $U_A^E < U_D^E$ for $\lambda^{**} < \lambda < \lambda^*$. Finally, as λ approaches zero, the cost of deterring crime approaches infinity, so $U_A^E > U_D^E$ for sufficiently small λ. This completes the proof. □

Figure 2 shows how the political regime depends on τ and λ. The horizontal dashed line in the top panel of figure 2 shows a value of τ such that the wealth constraint binds. The bottom panel of figure 2 shows the optimal levels of policing p_D and p_A for states that deter or allow crime, respectively, for the value of τ depicted by the dashed line and for all values of λ.

Figure 2 about here

Consider first the p_D curve. For very small λ it is impossible for the state to deter crime without violating the balanced budget constraint. When λ gets large enough, it becomes possible for the state to deter crime by setting t_n just large enough to gather tax revenue sufficient to cover the cost of policing. This point is the beginning of the p_D curve at the left of the bottom panel of figure 2. As λ increases, the state increases t_n in order to increase its revenue, while increasing p_D just enough to keep citizens indifferent between committing crimes and not committing crimes. For these values of λ, the p_D curve is upward sloping. When λ gets sufficiently large, $t_n = \tau$ and the state relies only on the additional punishment π to deter crime. At this point, the state chooses $p_D = k/\pi$, and further increases in λ do not affect p_D, so the p_D curve is flat for sufficiently large λ.

Now consider the p_A curve. For $\lambda = 0$, $p_A = 0$, since $\lim_{\lambda \to 0} c_1(p, \lambda) = \infty$. As λ increases, the state increases p_A in order to increase its bribe revenue, always maximizing revenue by demanding the maximum bribe $b = (1 - \tau)(y - m) + k$ that is compatible with the wealth constraint. For small values of λ, the incentive compatibility constraint does not bind and p_A curve is upward sloping. When λ gets sufficiently large, the incentive compatibility constraint begins to bind, implying that $p_A = k/[(1 - \tau)(y - m) + k]$. At this point, further increases in λ do not affect p_A and so the p_A curve is flat for sufficiently large λ. Notice that for sufficiently large λ, the p_A curve is therefore above the p_D curve.

Finally, consider the top panel of figure 2. The solid curve in the top panel is the locus in (τ, λ) space where an extractive state is just indifferent between allowing and deterring crime. Above the curve, the state prefers to deter crime, while below the curve, the state prefers to allow crime. The cost of deterring crime becomes infinitely large as λ approaches zero, so the curve must be downward sloping for sufficiently small λ. On the other hand, for sufficiently large λ, the state spends more on police if it allows crime than if it deters crime, as indicated by the fact that $p_A > p_D$ for λ sufficiently large. This implies that $\partial U_A^E / \partial \lambda > \partial U_D^E / \partial \lambda$ for λ sufficiently large, where U_D^E is the utility that the state achieves by deterring crime and U_A^E is the utility that the state achieves by allowing crime. Intuitively, a reduction in the marginal cost of policing is more beneficial for a state that spends more on police. Therefore, for sufficiently large λ the curve is upward sloping, as depicted in the figure.

Using the top panel of figure 2, it is possible to understand how the political regime changes as police capacity increases. Suppose that τ is fixed at the level depicted by the dashed line in figure 2, and consider how the political regime changes as λ increases from left to right. For small λ on the line segment marked A, the state chooses to allow crime. Because the state has low police capacity, it is too expensive for the state to purchase a police force large enough to deter crime, and so the state only purchases a small police force that occasionally manages to extract bribes from criminals. I refer to this regime as a low police capacity *kompromat* state. This regime describes law enforcement institutions in weak states, such as many states in Africa.

Moving to the right along the dashed line, the state enters the line segment marked B. In this regime, the state has sufficient police capacity that it prefers to purchase a police force that is large enough to deter crime, in order to increase the size of the tax base and hence the state's tax revenue. This regime may describe law enforcement in strong, relatively well-governed autocratic states, such

as Singapore under Lee Kwan Yew or Germany under Bismarck.

The most interesting regime is on the line segments marked C and D. In this regime, the state has very high police capacity, and chooses to spend more on police than would be necessary to deter crime completely. However, the police do not deter crime and instead demand bribes from criminals in order to increase the state's revenue. Because police demand bribes from criminals, and because the size of the bribe is limited by citizens' wealth constraints, the expected punishment for crime is lower than it would be if the police inflicted the non-monetary punishment π on criminals. As a result, crime is not deterred, even though the probability that criminals are caught is high. I refer to this regime as a high police capacity *kompromat* state. On the line segment marked C, all citizens strictly prefer to commit crimes despite large expenditures on police, explaining the "atmosphere of impunity" in *kompromat* states noted in the introduction. High police capacity *kompromat* states are likely to appear when τ is low and λ is very high. In section 4 below, I argue that the legacy of the Soviet Union has endowed Russia and other post-Soviet states with unusually low fiscal capacity and unusually high police capacity, which explains why the phenomenon of *kompromat* is most often associated with these states.

3.3 Persistence of *kompromat* over time

So far I have assumed that there is only one period, and that during this period, fiscal capacity τ and police capacity λ are fixed. Suppose now instead that there are two periods. In the first period, the state has exogenously fixed fiscal and police capacities τ^1 and λ^1. However, the state can invest in the first period to increase its fiscal and police capacity in the second period. The cost of achieving fiscal capacity $\tau^2 \geq \tau^1$ in period 2 is $T(\tau^2 - \tau^1)$ and the cost of achieving legal police $\lambda^2 \geq \lambda^1$ in period 2 is $L(\lambda^2 - \lambda^1)$, where T and L are increasing and convex functions. Suppose that the state is extractive. Then the state's utility in the first period is

$$
\begin{aligned}
U^{E1} =& t_n^1[(1 - p^1) + p^1(1 - x^1)](y - mx^1) + t_c^1 p^1 x^1(y - mx^1) + A^1 p^1 x^1 b^1 - c(p^1, \lambda^1) \\
& - T(\tau^2 - \tau^1) - L(\lambda^2 - \lambda^1)
\end{aligned}
$$

That is, the state's first period utility is its revenue net of any costs of policing and also of any investment in increasing fiscal and police capacity in period 2. The state's utility in the second

period is its revenue net of the cost of policing:

$$U^{E2} = t_n^2[(1-p^2) + p^2(1-x^2)](y-mx^2) + t_c^2 p^2 x^2(y-mx^2) + A^2 p^2 x^2 b^2 - c(p^2, \lambda^2)$$

For simplicity I assume that the state does not discount the future, so that the state's total utility is just $U^{E1} + U^{E2}$.

The first order conditions for investing in state capacity are:

$$T'(\tau^2 - \tau^1) = \frac{dU^{E2}}{d\tau^2}$$
$$L'(\lambda^2 - \lambda^1) = \frac{dU^{E2}}{d\lambda^2}$$

The following proposition implies that, for some parameter values, investments in fiscal and police capacity can be substitutes:

Proposition 4. *If $\pi > 0$, then there exist τ^2, λ^2, $\bar{\tau}^2$, $\underline{\tau}^2$, $\bar{\lambda}^2$, and $\underline{\lambda}^2$ such that $\bar{\tau}^2 > \underline{\tau}^2$, $\bar{\lambda}^2 > \underline{\lambda}^2$, and*

$$\frac{dU^{E2}(\tau^2, \bar{\lambda}^2)}{d\tau^2} < \frac{dU^{E2}(\tau^2, \underline{\lambda}^2)}{d\tau^2}$$
$$\frac{dU^{E2}(\bar{\tau}^2, \lambda^2)}{d\lambda^2} < \frac{dU^{E2}(\underline{\tau}^2, \lambda^2)}{d\lambda^2}$$

In words, an increase in second period police capacity λ^2 can reduce the incentive to invest in fiscal capacity, and an increase in second period fiscal capacity τ^2 can reduce the incentive to invest in police capacity.

Proof. From the proof of proposition 2, in period 2, if the state chooses to deter crime, then the state solves

$$\max_{t_n, p} t_n y - c(p, \lambda^2)$$

subject to the constraints

$$p[(\tau^2 - t_n)y + \pi] \geq k$$

$$t_n \leq \tau^2$$

$$t_n y - c(p, \lambda^2) \geq 0$$

The third constraint does not bind whenever the state chooses to deter crime. Solving and using the envelope theorem yields:

$$\frac{dU_D^{E2}}{d\tau^2} = y$$
$$\frac{dU_D^{E2}}{d\lambda^2} = -c_2(p_D^2, \lambda^2)$$

Here U_D^{E2} is the state's utility in period 2 if the state deters crime, and p_D^2 is the optimal level of policing in period 2 if the state deters crime.

If the state does not deter crime in period 2, then from the proof of proposition 2, the state solves

$$\max_{p,b} \tau^2(y - m) + pb - c(p, \lambda^2)$$

subject to the constraints

$$pb \leq k$$

$$b \leq \pi$$

$$b \leq (1 - \tau^2)(y - m) + k$$

$$t_n y + pb - c(p, \lambda^2) \geq 0$$

The fourth constraint does not bind if the state chooses $p > 0$. By assumption, the third constraint binds, so the second constraint does not bind. Solving and using the envelope theorem yields:

$$\frac{\partial U_A^{E2}}{\partial \tau^2} = \frac{c_1(p_A^2, \lambda^2)}{b}(y - m)$$
$$\frac{\partial U_A^{E2}}{\partial \lambda^2} = -c_2(p_A^2, \lambda^2)$$

Here U_A^{E2} is the state's utility in period 2 if the state allows crime, and p_A^2 is the optimal level of policing in period 2 if the state allows crime. Notice that $c_1(p, \lambda^2) \leq b$ at the solution to the state's problem, since otherwise it would be possible to increase net revenue by reducing p while continuing to satisfy all the constraints. Thus, $\partial U_A^{E2}/\partial \tau^2 < y$.

If the state chooses to deter crime in period 2, then $dU^{E2}/d\tau^2 = dU_D^{E2}/d\tau^2 = y$. If the state chooses to allow crime in period 2, then $dU^{E2}/d\tau^2 = dU_A^{E2}/d\tau^2 < y$. Figure 2 and proposition 3 show that an increase in λ^2 can cause the state to move from deterring crime to allowing crime by moving the state from the non-*kompromat* regime to the high police capacity *kompromat* regime, thereby reducing $dU^{E2}/d\tau^2$. This establishes the first part of the proposition.

If the state chooses to deter crime in period 2, then $dU^{E2}/d\lambda^2 = dU_D^{E2}/d\lambda^2 = -c_2(p_D^2, \lambda^2)$. If the state chooses to allow crime in period 2 then $dU^{E2}/d\lambda^2 = dU_A^{E2}/d\lambda^2 = -c_2(p_A^2, \lambda^2)$. Proposition 2 shows that an increase in τ^2 can cause the state to move from allowing crime to deterring crime, and figure 2 shows that the state may reduce the level of policing it chooses when it moves from allowing crime to deterring crime. Since $-c_2(p, \lambda)$ is increasing in p, if an increase in τ^2 causes the state to reduce policing, then the increase in τ^2 causes $dU^{E2}/d\lambda^2$ to decrease. This establishes the second part of the proposition. □

Intuitively, figure 2 shows that an exogenous increase in police capacity can cause the state to move from the non-*kompromat* regime to the high police capacity *kompromat* regime. This reduces total output, which in turn reduces the state's incentive to capture a larger fraction of total output by investing in fiscal capacity. Similarly, an exogenous increase in fiscal capacity can cause the state to move from the high police capacity *kompromat* regime to the non-*kompromat* regime, causing the level of policing to fall. If the level of policing is lower, the state has less incentive to reduce the cost per unit of policing by investing in police capacity.

The result that fiscal capacity and police capacity can be substitutes contrasts with Besley and Persson's (2009) argument that the two kinds of state capacity in their model, fiscal capacity and legal capacity, are always complements. Because the two kinds of state capacity are complements in Besley and Persson's model, an exogenous increase in one kind of state capacity increases investment in the other kind of state capacity, and so in Besley and Persson's model both kinds of state capacity tend to increase together. In contrast, my model suggests that initially similar states may diverge into high-fiscal capacity, moderate police capacity non-*kompromat* states, and low fiscal capacity,

high police capacity *kompromat* states.

Figure 3 shows graphically how initially similar states may diverge over time in my model, and how states that enter the *kompromat* regime may get stuck there. In the figure, there are two states with initial capacities F and G. Let τ^{F1} and τ^{G1} be the initial fiscal capacities of the two states, and let λ^{F1} and λ^{G1} be the initial legal capacities of the two states, with $\tau^{F1} > \tau^{G1}$ and $\lambda^{F1} < \lambda^{G1}$. The curve in the figure is the locus where a state is just indifferent between allowing and deterring crime in period 2. Suppose, as is possible by proposition 4, that

$$\frac{dU^{E2}(\tau^{G1}, \lambda^{G1})}{d\tau} < T'(0) < \frac{dU^{E2}(\tau^{F1}, \lambda^{F1})}{d\tau}$$
$$\frac{dU^{E2}(\tau^{F1}, \lambda^{F1})}{d\lambda} < L'(0) < \frac{dU^{E2}(\tau^{G1}, \lambda^{G1})}{d\lambda}$$

These conditions hold for states F and G as shown in figure 3. The first order conditions imply that in period 1, state F chooses to invest a positive amount in fiscal capacity and zero in police capacity, while state G chooses to invest a positive amount in police capacity and zero in fiscal capacity. The arrows in figure 3 indicate these trajectories. The two states diverge over time, and state G gets stuck in the *kompromat* regime.

3.4   Retributive motivations and welfare

Next I return to the one period case, and consider the effect of changes in π on social welfare, measured as the sum of consumption by both citizens and the state. An increase in π reduces the cost of deterring crime. From proposition 2, when the state is inclusive, an increase in π can increase welfare either by reducing the amount that the state spends on police, or by shifting the state from the regime in which the state allows crime to the regime in which the state deters crime. When the state is extractive and τ is large, an increase in π may also increase social welfare by reducing spending on police, although this effect only occurs if the state is already imposing the maximum tax on non-criminals. In contrast, when the state is extractive and τ is small, an increase in π may reduce social welfare. This reduction in social welfare can occur through either of two channels. First, if the state is in the *kompromat* regime, if the wealth constraint does not bind, and if the incentive compatibility constraint does bind, then the increase in π increases spending

on police without affecting the crime rate. To see this result, note that if the citizens' wealth constraint does not bind, then $b = \pi$, and if the citizens' incentive compatibility constraint does not bind, then $c_1(p, \lambda) = b$. Putting these equations together yields $c_1(p, \lambda) = \pi$, which together with the assumption that c is convex implies that p is increasing in π. Because additional police spending does not reduce the crime rate in the *kompromat* regime, additional police spending lowers social welfare. Second, an increase in π can move the state from the non-*kompromat* regime to the *kompromat* regime by increasing $\hat{\tau}^E$. In this case, an increase in π actually increases the crime rate. Intuitively, an increase in π increases the state's potential bribe revenue from tolerating crime, which makes the state more likely to tolerate crime. I summarize these results as a corollary:

Corollary 1. *If the state is inclusive, then social welfare is non-decreasing in π. In contrast, if the state is extractive, then an increase in π may decrease social welfare.*

Corollary 1 qualifies the claim, made by Sethi and Somanathan (1996), Boyd et. al. (2003) and Bowles and Gintis (2011), that retributive motivations evolved because they increase material welfare. My results suggest that stronger retributive motivations are evolutionarily adaptive under inclusive governance, but that stronger retributive motivations may be evolutionarily maladaptive under extractive governance when the state has the ability to selectively broadcast information about crime. There is reason to believe that governance was in fact reasonably inclusive in the small scale communities that characterized most of human evolutionary history (e.g. Boehm 2001). Even in extractive pre-modern states, the state had little ability to broadcast information about crime to citizens, and so citizens' retributive motivations did not allow the state to reduce welfare by practicing *kompromat*. However, in modern autocratic states that have the technology to selectively broadcast information about crime, retributive motivations may have become maladaptive. It may be necessary to develop new institutions to reconcile our evolved retributive motivations with modern media technology.

3.5   Results with heterogeneous citizens

Next I study the relationship between *kompromat* and economic inequality. In this subsection I assume that there is one time period and two economic classes, the rich and the poor, with human capital y_r and y_p such that $y_r > y_p$. In order to show the effects of wealth inequality most clearly, I assume that the benefits and social costs of crime are the same for both classes, that is, $k_i = k$ and

$m_i = m$ for $i \in \{r, p\}$. Since *kompromat* only appears under extractive states, I also assume that the state is extractive.

Proposition 5. *Suppose there are two economic classes with $y_r > y_p$, that $k_i = k$ and $m_i = k$ for each class i, and that the state is extractive. If $x_r = 0$, then $x_p = 0$. However, there exist parameter values such that $x_r > 0$ and $x_p = 0$.*

Proof. Suppose that is optimal for the state to deter crime completely among the rich, that is, to choose $x_r = 0$. Since it costs the state the same amount to deter the rich and the poor from committing crimes, since crimes committed by the rich and by the poor cause the state the same loss of tax revenue, and since the bribe that can be extracted from the poor is less than or equal to the bribe that can be extracted from the rich, it must also be optimal for the state to deter crime completely among the poor. On the other hand, suppose that parameters are such that the state is just indifferent between $x_r = 0$ and $x_r = 1$, and suppose that the state chooses $x_r = 1$. Suppose also that wealth constraints bind, so that the maximum bribe that can be extracted from the poor is less than the maximum bribe that can be extracted from the rich. Then tolerating crimes committed by the poor is less profitable than tolerating crimes committed by the rich. Since the state is just indifferent between tolerating and deterring crimes committed by the rich, the state must strictly prefer to deter crimes committed by the poor, so $x_p = 0$. □

Proposition 5 states that if the state chooses to deter crimes committed by the rich, it will also choose to deter crimes committed by the poor. However, an extractive state may also choose to tolerate crimes committed by the rich while deterring crimes committed by the poor. Intuitively, it is more profitable for the state to tolerate crimes committed by the rich because the rich are able to pay larger bribes to avoid punishment.

The result that the state deters crimes committed by the poor but not by the rich depends on the assumption that the benefits and social costs of crime are the same for the rich and the poor. This assumption may not always hold in practice, in which case a *kompromat* state could choose to tolerate crimes committed by the poor but not by the rich. However, proposition 5 does suggest that the state takes into account a citizen's wealth when deciding whether to tolerate the citizen's crimes, in a way that does not appear in Becker (1968) and subsequent models in the same tradition. In Becker (1968), the state allows crime only if the social benefit exceeds the social cost. In my model, the state may allow citizens to commit crimes whose social benefits exceed their social costs, but only

if the potential criminals are sufficiently wealthy. This result may help to explain why, as discussed in the introduction, *kompromat* seems to be an elite phenomenon.

If rich citizens' incentive compatibility constraint does not bind, then $p_r < k/b_r$ and the expected value to the rich of committing crimes is strictly positive. In this case, the fact that the rich but not the poor are allowed to commit crimes increases consumption inequality between the rich and the poor. Thus, *kompromat* may also provide part of the explanation for high levels of inequality in authoritarian states.

4   The legacy of the Soviet Union as a cause of *kompromat*

I have argued that a *kompromat* regime is more likely to appear when the state has low fiscal capacity, and that *kompromat* may also be more likely to appear when state police capacity is very high. The state's fiscal and police capacity are the result of investments in previous periods. The history of the Soviet Union suggests that post-Soviet states have been endowed by their history with unusually low fiscal capacity and unusually high police capacity.

Considering fiscal capacity first, the Soviet Union effectively had no tax collection bureaucracy since the concept of taxation was essentially meaningless in the Soviet command economy. As Aleksashenko (1991, p. 81) writes of attempted reforms at the very end of the Soviet era, "From the 1930s to the present time there has been no real taxation system in the USSR, so the task now is not a tax reform but the establishment of a whole taxation system from scratch." McKinnon (1991) and Litwack (1991) discuss in more detail the (lack of) tax bureaucracy in the Soviet Union. Svejnar (1991) discusses more generally the problems of reforming formerly communist economies. He writes (pp. 123-124), "The common initial conditions of the reforming socialist economies have been... an absence of institutions for accounting, antitrust, audits, or *taxation* [emphasis added]." He adds (p. 133) that as a result of the legacy of communism in Czechoslovakia, "The Tax Office is still one of the least developed and hence ineffectual government agencies." One minor but telling example of low Soviet fiscal capacity is that the Soviet state did not issue taxpayer identification numbers to citizens, and the Russian state did not begin to issue taxpayer identification numbers until 1998. In contrast, the United States began to issue social security numbers in 1935.

On the other hand, the Soviet Union had an extremely large police bureaucracy in the form of the KGB, the world's largest intelligence agency (Andrew and Gordievsky 1990). The KGB was

not seriously reformed after the fall of the Soviet Union and the systems and personnel of the KGB continue to form the core of the present Russian intelligence agency, the FSB, which is also one of the world's largest (Soldatov and Borogan 2011). Each of the fourteen non-Russian Soviet republics also had its own KGB. In most cases, these agencies developed into independent state security services when the Soviet republics became independent after the collapse of the Soviet Union.

The Soviet legacy of unusually low fiscal capacity and unusually high police capacity may help to explain why *kompromat* regimes are most strongly associated with post-Soviet states.

5   Conclusion

In this paper, I have developed a simple theory of *kompromat* as a system of governance. The state needs help from citizens in order to inflict violent punishments. Citizens have retributive motivations that lead them to support violence against criminals. The state can manipulate citizens' retributive motivations by expending resources to discover evidence of crimes, and then using this evidence not to deter crime, but rather to extract bribes and other resources from criminals through blackmail. Because the state gets increased revenue from criminals, it has an incentive to tolerate crime. As a result, high levels of crime coexist with large expenditures on police in *kompromat* states. *Kompromat* regimes are more likely to tolerate crimes committed by the rich than crimes committed by the poor, increasing inequality. I have argued that *kompromat* is more likely to appear in states that have low fiscal capacity and high police capacity, and that once a state has entered the *kompromat* regime it may have incentives to invest less in fiscal capacity and more in police capacity, causing the *kompromat* regime to persist. Finally, I have argued that the possibility of *kompromat* qualifies previous claims that evolved retributive motivations increase material welfare.

Kompromat is a new kind of tyranny. In the past, autocratic regimes needed only to control weapons and other instruments of violence in order to extract resources from their citizens. In the present, however, even autocratic regimes have become more dependent on their citizens to support their power. As a result, autocratic regimes have learned to maintain power not through overt force, but rather by manipulating public opinion through sensationalistic media, including systematic blackmail. Increased awareness and understanding the threat posed by these "informational autocrats" (Guriev and Treisman 2019, 2020) is likely to be important for protecting freedom and democracy in the future.

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Figure 1
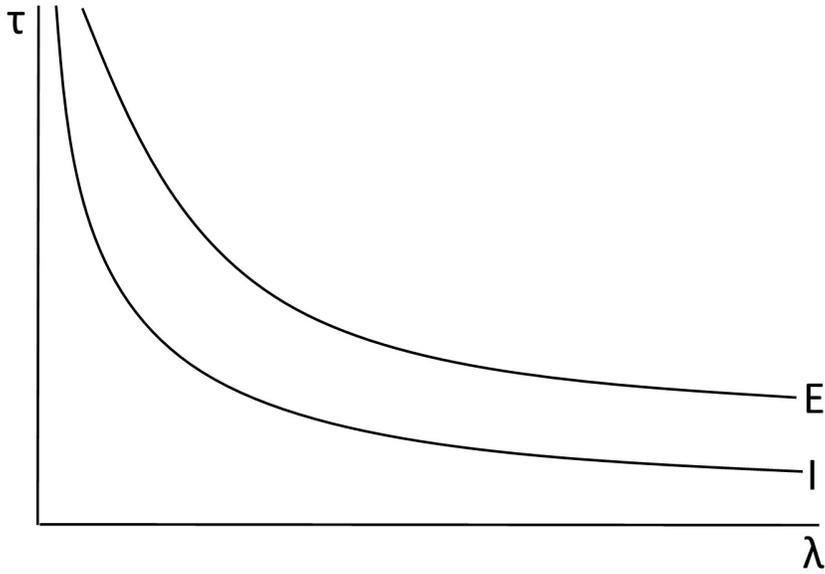
This figure shows the regions in which different states choose to deter or allow crime when $\pi = 0$. The horizontal axis is police capacity λ; the vertical axis is fiscal capacity τ. The lower curve, marked I, is the locus where an inclusive state is just indifferent between deterring and allowing crime. The upper curve, marked E, is the locus where an extractive state is just indifferent between deterring and allowing crime. Each kind of state deters crime in the region above its curve and allows crime in the region below its curve.

Figure 2
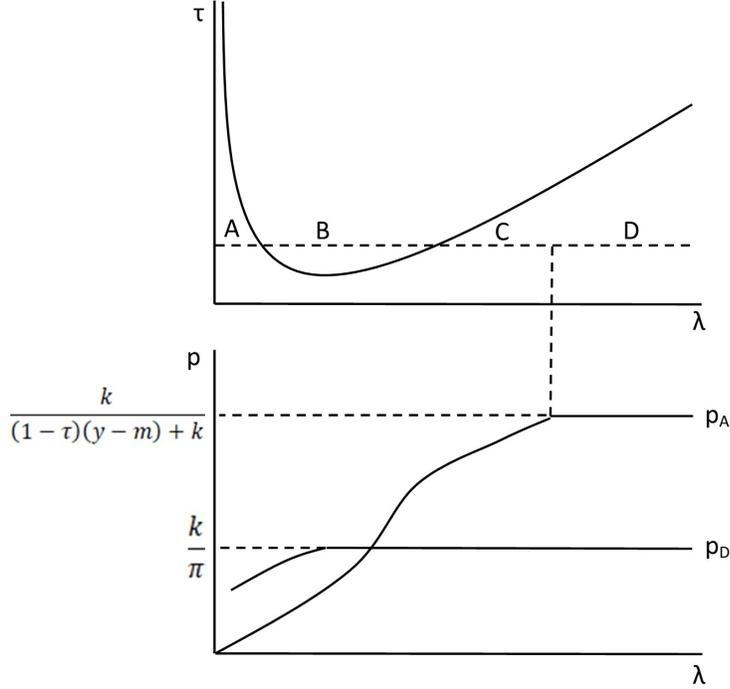
In the top panel, the horizontal axis is police capacity λ; the vertical axis is fiscal capacity τ. The curve in the top panel is the locus where the state is just indifferent between deterring and allowing crime, when the state is extractive, $\pi > 0$, and the wealth constaint binds for the value of τ indicated by the dashed line. The state deters crime in the region above the curve and allows crime in the region below the curve. States on the line segment marked A are low-police capacity *kompromat* states, states on the line-segment marked B are non-*kompromat* states, and states on the line-segments marked C and D are high police capacity *kompromat* states. The bottom panel shows the optimal levels of policing p_D and p_A when the state deters or allows crime, respectively, for different values of λ, and for the level of τ depicted as the dashed line in the top panel.

Figure 3
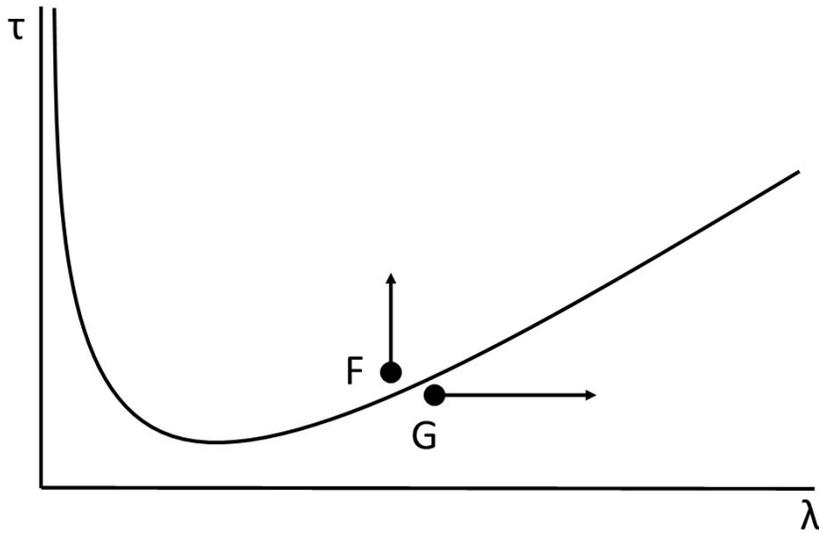
The horizontal axis is police capacity λ; the vertical axis is fiscal capacity τ. The curve is the locus where the state is just indifferent between deterring and allowing crime in period 2. Given the assumptions stated in section 3.3, states that have period 1 capacities F and G as shown in the figure will move over time in the directions indicated by the arrows. Thus, states that are initially similar may diverge over time.