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Gulags, Crime, and Elite Violence: Origins and Consequences of the Russian Mafia

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Abstract

This paper studies the origins and consequences of the Russian mafia (*vory-v-zakone*). Using a unique web scraped dataset containing detailed biographies of more than 5,000 mafia leaders, I first show that the Russian mafia originated in the Soviet *Gulag* archipelago, and could be found near the gulags' initial locations in mid-1990s Russia, some three decades after the camps were officially closed down. Then, using an instrumental variable approach that exploits the proximity of the Russian mafia to the gulags, I show that Russian communities with mafia presence in the mid-1990s experienced a dramatic rise in crime driven by elite violence which erupted shortly after the collapse of the Soviet Union in 1991. The violence – initially confined to the criminal underworld – eventually spilled over, leading to indiscriminate attacks against local businessmen, managers of state-owned enterprises, judges, and members of the state security apparatus. However, there was no increase in politically-motivated violence, suggesting a widespread collusion between the mafia and local politicians in the early post-Soviet Russia.

JEL Codes: K42, N40, P16, P37

Keywords: Russian mafia, Gulag, Post-socialist transition, Crime, Elite violence

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1 Introduction

The transition from a centrally planned economy into a market economy leads to a dramatic increase in the number of private property owners. However, if the diffusion of private property rights is not matched by the establishment of strong property rights institutions, this can have a detrimental effect on long-run economic growth, investment, productivity, financial development, and trade flows (Acemoglu and Johnson, 2005; Acemoglu, Johnson, and Robinson, 2001, 2002; Banerjee and Iyer, 2005; Levchenko, 2007). The post-communist transition in Central and Eastern Europe was indeed accompanied by weak property rights institutions, especially criminal justice institutions. As a result, the large-scale privatization schemes these countries undertook led to the emergence of various organized crime groups, which controlled large parts of the legal economy, and even managed to capture parts of the polity (Varese, 2001; Serio, 2008). Despite their outsized role in the shadow and legal economies, organized crime groups in transition economies have so far received little attention in the economics literature. How did these groups emerge? What was their impact on the local communities? This paper explores these questions focusing on the *vory-v-zakone* criminal fraternity, an organization considered by criminologists and policymakers to be a major transnational mafia-type group operating across the entire post-Soviet space and even beyond (Varese, 2001; Slade, 2013; Galeotti, 2018).[1]

Vory-v-zakone[2] (or simply vory) – also known as the Russian mafia – were arguably the most powerful and sophisticated of organized crime groups in the Russian Federation throughout the 1990s. Since the dissolution of the Soviet Union in December 1991, the organization's main features have been monopolistic provision of protection to legal and illegal businesses, as well as the ability to exert extra-legal governance in the territories under its control (Varese, 2001).[3] Vory dominated the Russian criminal underworld during the period of a significant proliferation of organized crime and violence, which plagued the country throughout the 1990s (Varese, 2001; Galeotti, 2017). According to estimates from Russia's Ministry of the Interior (MVD), the number of organized

[1] In 2011, the Obama Administration labeled vory-v-zakone as one of the most serious criminal threats to the security of the United States (White House, 2011).

[2] This expression literally translates as "thieves-in-law", although a more accurate translation would be "thieves-with-a-code-of-honor"(Varese, 2001) or "thieves professing the code" (Serio and Razinkin, 1995).

[3] Furthermore, vory have shared a number of striking similarities with other mafia-type organizations around the world, such as the Sicilian *Cosa Nostra*, the Italian-American Mafia, the Japanese *Yakuza*, and the Hong Kong-based *Triads*. These features include limited membership gained via an initiation ritual, strict rules and a code of behavior, and extensive use of nicknames and tattoos (Gambetta, 1993; Varese, 2018).

crime groups in the country increased from roughly 3,000 in 1992 to 9,000 in 1998, totaling some 100,000 members (Williams, 2002). These groups managed to penetrate virtually every aspect of Russia's legal economy, with up to 40% of private businesses, 60% of state-owned enterprises, and 85% of banks having proven or suspected ties to organized crime (Klebnikov, 2000). Between 1986[4]-2001, the reported homicide rate in the country increased by more than 250%, while the total crime rate rose by 119% (Gilinskiy, 2006). Elite attacks[5] became a peculiar feature of the violence in post-Soviet Russia. Between 1991-1999, almost 2,400 deadly attacks took place across the country, with over 60% of them targeting local businessmen and managers of state-owned enterprises (Belokurova, 2018).[6]

In the first part of the paper, I provide a quantitative analysis of the emergence and persistence of the Russian mafia (vory) in the totalitarian Soviet Union. Then, using the evidence from the first part, I build an instrumental variable strategy to study the impact of the Russian mafia presence in a community on local crime and elite violence in 1990s Russia. In order to study the Russian mafia, I have assembled a unique dataset containing detailed biographical information of more than 5,000 members (leaders)[7] of the vory fraternity. This database – the PCNA dataset[8] – spans more than a century of the mafia existence, from the very first initiation in 1916, until the last recorded death in 2017. The dataset contains detailed information regarding members' birth, initiation, place of residence, and death, as well as their arrest, trial, and prison histories.

Using the PCNA dataset, I first show that the mafia originated in the Soviet Gulag – a system of nearly 500 forced labor camps (gulags) spread across the entire USSR. In particular, I show that between 1921-1960, half of the vory lived within 19km of the nearest gulag, while half of them died within just 3km of the nearest camp. Second, I document that vory remained near the gulags' original locations between 1961-1991, despite the fact that the majority of camps were shut down

[4] 1986 marked the introduction of Gorbachev's economic reforms, as well as his policies of *glasnost* (Eng. openness, transparency, information-availability) and *perestroika* (Eng. institutional overhaul).

[5] Attacks against local and national economic elites such as important businessmen, politicians, judges, high-ranking police officers, and other public figures (Belokurova, 2018).

[6] The violence was so commonplace that when Paul Klebnikov (American-born senior editor of Russian edition of Forbes) first arrived in Moscow in 1993, he observed that "[v]irtually every day the newspapers carried stories of a shoot-out in the city. [...] Hundreds of shoot-outs were occurring in Moscow, often in broad daylight. The battles (*razborki*) included handguns, Kalashnikov automatic rifles, car bombs, even rocket-propelled grenades. [...] Well-known and important people were being assassinated" (Klebnikov, 2000). Klebnikov was murdered in 2004.

[7] Vory-v-zakone is a fraternity of equals. Each vor (i.e. singular of vory) is expected to lead his own group. However, informal distinctions between junior and senior vory do exist (Varese, 2001, 1998).

[8] Named after the source of the data – Prime Crime News Agency (described in more detail in section 2).

by 1960. More specifically, I show that half of all initiation rituals during this period took place less than 12km from a gulag location, while half of all deaths were recorded within 15km of the nearest camp. Furthermore, among those alive in 1961-1991, 50% lived within 32km of the nearest gulag. These findings can be attributed primarily to the heavy restrictions on criminals' mobility imposed by the Soviet authorities, but the vory's internal code of conduct also played a major role. According to the rules of the criminal fraternity, members had to remain near the camps upon their release to financially support those still in prison (Varese, 2001, 1998).

Third, using the PCNA dataset, I build direct measures of both extensive and intensive margin of mafia presence across Russia's subregions[9] in the mid-1990s. The former is captured by a binary variable equal to 1 if a vor resided in a subregion between 1994-1995 (or 1994-1997), while the latter is measured by the number of vory per 100,000 population during this period. Using these variables, I show that the distance to the nearest gulag was a strong negative predictor of Russian mafia presence in Russia's subregions in the early post-Soviet period. In particular, based on the estimate from the preferred specification, a subregion located within 27km of the nearest camp (15th percentile) was 14 percentage points (0.5 standard deviations) more likely to host mafia in 1994-1997 than a subregion located further away.

Finally, using an instrumental variable approach which exploits the proximity of the Russian mafia to the gulags, I consider the effect of mafia presence on local crime and elite violence in mid-1990s Russia. I show that places with mafia presence experienced a rapid rise in crime driven by turf wars which erupted among rival clans in the early 1990s. More specifically, hosting the mafia in a subregion in 1994-1997 led to an increase in the total reported crime rate by 150 crimes per 10,000 inhabitants (0.7 standard deviations) in 1998. This rise in crime appears to have been driven by a surge in elite violence, as the presence of mafia in a subregion led to roughly five additional local attacks (per 100,000 inhabitants) against members of the economic elite between 1996-1998. Considering the effect heterogeneity in the attacks with respect to the victim type, I find that the violence was fairly indiscriminate – mafia territories saw a rise in violence against local businessmen, managers of state-owned enterprises, fellow criminals, as well as the members of the state security apparatus and the judicial branch. However, there was no increase in the intensity of violence against local politicians.

[9]Equivalent to the US counties.

This paper makes several major contributions to the existing literature in economics and criminology. I am the first to empirically study the Russian mafia – a transnational organized crime group that during its prime period in the 1990s operated in most countries of the former Soviet Union and even beyond.[10] By contrast, previous studies of mafia-type organizations have focused mainly on Italy, studying organizations such as the Sicilian Mafia (Acemoglu, De Feo, and De Luca, 2020; De Feo and De Luca, 2017) or the Apulian Sacra Corona Unita (Pinotti, 2015), which are largely confined to specific regions within the country. An important exception is the network analysis of the Italian-American Mafia in Mastrobuoni (2015) and Mastrobuoni and Patacchini (2012), although even this organization has been confined to specific US cities with large ethnic Italian enclaves.[11] My paper is also the first to directly measure the presence of the mafia in a local community – using mafia leaders' street addresses of residence. As such, the paper substantially differs from previous studies which employ proxies for mafia presence, such as mafia-related crimes or city council dissolutions due to mafia infiltration (Peri, 2004; Daniele and Dipoppa, 2017; Barone and Narciso, 2015).

Second, this study is the first to causally estimate the effect of mafia presence on local crime. This relationship is *ex ante* ambiguous. As Varese (2014) explains, on the one hand, mafia may shield other criminals from authorities, thus promoting ordinary crimes. It may even allow some types of crime to go unpunished in order to keep the demand for its protection services high. Moreover, if an open conflict between rival clans breaks out, the affected communities will likely experience a surge in violent crime. On the other hand, in the absence of any conflict between the clans, mafia might want to keep petty crimes low in order not to attract police attention (Varese, 2014). As an extra-legal governing body, mafia may even choose to provide a form of public safety in the neighborhoods under its control (Gambetta, 1993). Consistent with the anecdotal evidence provided by Varese, Lonsky, and Podvysotskiy (2019), I argue that a mafia operating in a newly established post-communist democratic system might encounter powerful rival groups which challenge its authority in the underworld. This erodes leaders' ability to govern its territories, resulting in internecine violence and a significant rise in local crime.

Third, this paper also contributes to the literature studying the impact of mafia on local elite

[10] For example, vory's activities have also been observed in Italy, Greece, and Spain (Varese, 2018).
[11] Such as New York City, Chicago, Philadelphia, Buffalo, and Detroit (FBI, 2016).

violence. Previous studies have focused (mainly) on political violence in a relatively stable Italian democratic system (Alesina, Piccolo, and Pinotti, 2019; Daniele and Dipoppa, 2017; Olivieri and Sberna, 2014; Dal Bó, Dal Bó, and Di Tella, 2006; Dal Bó and Di Tella, 2003). Political violence (or the threat of it) are employed by the mafia either before an election to influence the selection of politicians into the office (Alesina, Piccolo, and Pinotti, 2019; De Feo and De Luca, 2017), or afterwards to steer the behavior of elected officials in its favor (Daniele and Dipoppa, 2017; Dal Bó and Di Tella, 2003). In contrast to previous papers, I study mafia-related elite violence in a period of extremely weak democratic institutions. My results suggest that the violence against Russia's economic elite was rather indiscriminate, with businessmen, other criminals, police officers, and judges, all being victimized in mafia-controlled territories. However, I do not observe an increase in violence against local politicians. This lack of political violence suggests a widespread collusion between the vory and the local politicians in mid-1990s Russia.[12]

Last but not least, I contribute to the recent and growing economics literature exploring the origins of organized crime in general, and mafia-type organizations in particular. Studies have shown that valuable resources such as lemon groves (Dimico, Isopi, and Olsson, 2017) and sulfur mines (Buonanno et al., 2015) were instrumental in the emergence of the Sicilian Mafia in the 19th century. The subsequent spread of the organization across Sicily has been attributed to the desire of local landlords and politicians to suppress the rising socialist peasant movements (Acemoglu, De Feo, and De Luca, 2020). Documenting the origins of the Mexican drug cartels, Murphy and Rossi (2020) argue that the early 20th century Chinese immigration played a prominent role, as the Chinese immigrants brought with them the technology to produce opium (and by extension heroin).

Contrary to the case of Sicily or Mexico, Russian mafia's roots can be clearly traced back to a period of a strong totalitarian state which carried out persecution of general population on an unprecedented scale. Building upon previous qualitative work in criminology (Varese, 2001, 1998; Serio, 2008), this paper provides the first systematic empirical evidence showing that the Russian mafia originated in the Soviet Gulag in the late 1920s/early 1930s. Moreover, I show that the initial camp locations played a crucial role in determining mafia presence in the early post-Soviet Russia, some three decades after the Gulag was officially closed down.

[12]Instances of such collusion taking place in the Perm region are well documented in Varese (2001).

The rest of the paper is organized as follows: section 2 introduces the Russian mafia dataset. Section 3 discusses the historical background. Section 4 describes the empirical strategy and identification. Results are presented in section 5. Section 6 discusses the validity of the Gulag instrument. Section 7 concludes.

2 Prime Crime News Agency (PCNA) dataset

2.1 Validity of the dataset

This paper combines several data sources. First and foremost, I have assembled a novel, arguably the most comprehensive dataset on the Russian mafia to date. This dataset contains detailed biographical information on 5,043 current and former leaders of the vory-v-zakone criminal fraternity operating in the countries of the (former) Soviet Union at some point between 1916-2017. The data has been web scraped from the Prime Crime News Agency (PCNA) – a mass media website operating since 2006. PCNA is the culmination of more than 20 years of data collection and compilation by the website's founder, a Moscow-based businessman known only by his first name – Alexander. Figure 1 shows an excerpt from the website's profile of the vor Vyacheslav Kirillovich Ivankov (nicknamed *"Yaponchik"*, Eng. "The Jap"), one of the most prominent vory leaders in the post-Soviet period. His profile is divided into two main sections - a detailed biography on the left-hand side and a summary table with a profile picture on the right-hand side. In addition, the profile contains an extensive collection of photos of Mr. Ivankov as well as a comment section (not shown in Fig. 1) where fans, wannabes, and even criminals themselves can anonymously post comments or request corrections.

PCNA has been described by the media as "perhaps the world's most exhaustive information resource about the vory-v-zakone available to the public" (Schreck, 2009) and is regularly cited in news stories on Russian organized crime (Schwirtz, 2008). PCNA has also been cited as an important primary source of information about the vory fraternity in the academic literature (Varese, 2018; Galeotti, 2018; Belokurova, 2014; Slade, 2017, 2013). Further credibility of this data source is suggested by the fact that the vory themselves are known to closely follow the website for any updates about the organization. For example, in January 2013, Italian police intercepted a phone conversation between two prominent vory discussing the recent assassination of the boss Grandpa

Khasan in front of a Moscow restaurant. Another vor was recorded boasting about his PCNA profile page during a phone conversation intercepted in December 2012 (Tribunale Bari, 2012). Even "official" mafia documents have been leaked to the website in the past. As Varese (2018) explains, in December 2012, after an initiation ceremony that took place in Dubai, a document containing the names of all 16 newly-admitted members appeared on the PCNA. It is thus not surprising then that the Italian police believes that the Russian mafia uses the PCNA as a means of communication (Varese, Lonsky, and Podvysotskiy, 2019).

In Varese, Lonsky, and Podvysotskiy (2019), we further verify the validity of the PCNA dataset by comparing it to two external data sources, both of which contain a significantly smaller number of individuals than the PCNA dataset. The first source is Slade (2013) who analyzes personal information of 279 vory residing in Georgia as of 2004. This data was obtained from the Special Operations Department of the Georgian Anti-Organized Crime Unit (AOCU). Although we do not have access to Slade (2013)'s data, we use the PCNA dataset to derive a distribution of vory born across the 12 Georgian regions which is consistent with the distribution presented in Slade (2013).[13] The second source is a digitized 1994 document produced by the Russia's Ministry of the Interior (MVD), which contains full names, nicknames, and birth years of 266 vory present in Russia in 1991 (Podlesskikh and Tereshonok, 1994; Varese, 2001). Using full name and nickname as matching variables, we were able to merge all 266 mafia bosses into our PCNA dataset. Comparing the birth years of these individuals across the two dataset, we obtained a 95.1% match rate (Varese, Lonsky, and Podvysotskiy, 2019).

2.2 Descriptive statistics

The PCNA is an individual-level dataset with each observation representing a Russian mafia leader – a full member of the vory-v-zakone criminal fraternity. The data contains 5,043 individuals, a substantially larger number than any previous estimate of the size of the organization (Varese, 2001; Slade, 2011; Serio, 2008).[14] This minimizes the concern that the PCNA dataset misses some non-trivial share of members. Table 1 presents select descriptive statistics as well as information

[13] See Figure 5.2 (page 99) in Slade (2013).

[14] Slade (2011), for example, estimates the number of vory in the post-Soviet space to be around 1,000-1,200. By contrast, my conservative estimate suggests that there have been at least 1,678 vory operating in the countries of the former Soviet Union since 1991.

about the missing values for all main variables in the PCNA dataset. There is a significant variation in the share of non-missing values across variables, ranging from 6.8% for *Place of status revocation* to 91.6% for *Nationality/ethnicity*. However, the key variable for the empirical analysis – *Place of residence* – is missing only for a relatively low fraction of criminals (less than 26%).[15]

PCNA dataset spans the entire known period of existence of the vory fraternity, from the early days of the Soviet Union until the present-day Putin's Russia (Varese, 2001). The first recorded initiation took place in 1916 while the most recent death is from December 2017. Figure 2 shows the trends in recorded initiations, deaths, and status revocations over time. However, it is important to keep in mind that *Year of initiation* is available only for about a quarter of the sample (Table 1), which means that the initiations – particularly in the early period of the vory existence (1920s-1950s) – are grossly underestimated. Nevertheless, taken together, the three graphs in Figure 2 clearly show the major historic milestones in the organization, as described in the previous literature (Varese, 2018, 2001, 1998; Slade, 2013; Cheloukhine, 2008). In particular, the rise in deaths[16] and status revocations in the 1950s is consistent with the occurrence of the *Such'ia Voina* (Eng. Bitches' War), an internal conflict between two opposing factions which almost destroyed the organization (Varese, 2001, 1998; Cheloukhine, 2008). Second, Figure 2 shows the proliferation of the Russian mafia after the dissolution of USSR in 1991 (Varese, 1996, 1994), which was accompanied by a sharp increase in violence, as rival clans competed for new territories and criminal opportunities. And finally, after a brief hiatus in the 2000s, early 2010s saw another rise in initiations due to the ongoing conflict between the Tbilisi clan, led by Aslan "Grandpa Khasan" Usoyan, and the Kutaisi clan, led by Tariel "The Tarot" Oniani (Varese, 2018; Schwirtz, 2008). However, in contrast with previous internal conflicts, after the assassination of Mr. Usoyan in December 2012, this conflict appears to have been resolved without further bloodshed (as seen from Figs. 2 and A.1).[17]

Figure 2 also offers a unique piece of evidence not mentioned in the literature before. There is a sudden spike in deaths in the late 1930s coinciding with the Great Terror – a brutal campaign of Stalin's political repression carried out in 1937-38 (Applebaum, 2003). Indeed, my dataset shows that in 1937 alone, 90 vory lost their lives, 86 of which were executions in front of a firing

[15] Also, note that for *Year of death* and *Year of status revocation*, it is impossible to distinguish between values that are truly missing and those cases where the individual is still alive or has not had his status revoked.

[16] Mostly violent deaths, as shown in Figure A.1.

[17] After 2012, the rise in status revocations has not been accompanied by a corresponding increase in violent deaths.

squad. Last but not least, in Table 2, I present a breakdown of the PCNA dataset by recorded nationality/ethnicity. Interestingly, Russians make up only about 30% of the sample. In fact, almost half of the mafia leaders belong to one of the Caucasian ethnic groups (mainly Georgians, Armenians, and Azerbaijani). Other Soviet ethnic minorities such as Jews and Yazidis are also over-represented relative to their shares in the general population. Such a disproportionately high representation of minority groups within the mafia is not a unique feature of the vory fraternity. As Hill (2003) explains, the same phenomenon has been observed in the Japanese *Yakuza* where minority groups such as the ethnic Koreans or the *burakumin* are over-represented relative to the overall Japanese population.

3 Background

3.1 Origins of Russian mafia (1919-1960)

3.1.1 Gulag (1919-1960)

Gulag[18] was a system of force labor camps that existed in the Soviet Union from the 1920s until the late 1950s. Although a few of the camps had been remnants of the Czarist Russia, the vast majority were constructed after the 1917 October Revolution in order to house political opponents (and other "enemies of the state") as well as ordinary criminals (Applebaum, 2003; Ivanova, 2000). From 1929 onwards, there was a rapid expansion of the camp system due to Stalin's politically-motivated cleansing, culminating with his infamous Great Terror of 1936-38. Although the camps continued to expand even after the Second World War, following Stalin's death in March 1953, the Soviet political leadership decided to gradually dismantle them. The final order to close them came from the Ministry of the Interior (MVD) in 1960. However, some of the camps were transformed into more "regular" prisons and remained operational throughout the 1980s (Applebaum, 2003; Varese, 2001).

According to Applebaum (2003), there were at least 476 distinct camp complexes spread across the Soviet Union between 1921-1960.[19] These consisted of thousands of individual camps. Using

[18] The acronym Gulag or GULAG stands for *Glavnoe upravlenie lagerei* or "Main directorate of camps". However, the term Gulag (or gulag) became the synonym for Soviet political repression in general (Applebaum, 2003).

[19] Same number is also provided by Ivanova (2000).

information that was collected and digitized by the Moscow-based NGO – Memorial – Tatiana Mikhailova was able to geocode 460 of these camp complexes.[20] Figure 3 shows the distribution of gulags across the Soviet Union. Although the highest concentration of camps was in the European part of USSR, they were clearly spread across all twelve Soviet time zones. Table 3 provides basic characteristics of the Gulag system. Total prisoner population averaged across the 1921-1960 period was more than 4 million, although half of the complexes had fewer than 5,000 prisoners. Overall, it is estimated that some 18 million people passed through the Gulag system between 1929 and 1953 (Applebaum, 2003).

As a source of forced labor, gulags were important in the pre-Second World War industrialization of USSR (Applebaum, 2003). As table 3 suggests, the majority of the camps were focused on building infrastructure (61%). Other important activities included engineering (38%), forrest and woodwork (34%), and housing construction (24%). Naturally, a single camp was often involved in multiple economic activities. The prisoner population consisted of two groups: political prisoners ("politicals") and ordinary criminals. Before World War II, the vast majority of inmates were criminals (roughly 82-88% in 1937-38), although it is important to emphasize that many of these individuals had been sentenced for transgressions that would not constitute crimes in democratic societies.[21] After the Second World War, the share of politicals rose to about 30% (Applebaum, 2003).

3.1.2 Vory-v-zakone in the Gulag

It has been argued in criminology literature that the proto-mafia group vory-v-zakone originated in the Soviet Gulag in the late 1920s or the early 1930s (Varese, 2001, 1998; Slade, 2013; Serio, 2008; Serio and Razinkin, 1995). Furthermore, the Gulag enabled a rapid expansion of the organization across the entire Soviet space (Varese, 2001, 1998; Serio, 2008). Vory become known for their highly selective membership, a strict code of behavior, an obscure initiation ritual, and even an own argot. According to official government estimates at the time, the fraction of vory within the ranks of professional criminals in the camps did not exceed 6-7 percent (Varese, 2001). This "elitist" criminal society enjoyed prominent status in gulags with many privileges over ordinary

[20] To obtain the raw data, visit her personal website.

[21] For example, a man received a five-year camp sentence for being repeatedly late for work. In a different case, a woman was sent to camps for stealing a pencil at work for her son to use at school (Applebaum, 2003).

prisoners. Their strict rules prohibited any cooperation with the camp authorities or any other government officials. In addition, vory were not allowed to serve in the military or follow the laws of the USSR (Varese, 2001). As Varese (2001) explains, a "[v]or [...] live[d] only on what he ha[d] stolen, seized, acquired by deception, won at cards, only such a vor [was] considered to be honest and independent, a real vor." Interestingly, the accumulation of individual assets was not allowed – vory had a common fund (*obshchak*) which supported all members. Any transgression against the code was dealt with by rudimentary "courts" called *skhodki* (meetings), and the punishment – often severe – was swiftly meted out. All decisions made at a meeting were communicated across the camps and, if necessary, the punishment was carried out by members in a different camp (Varese, 2001).[22]

The expansion of the criminal fraternity continued until the end of the Second World War when an internal conflict broke out between two rivals factions. This so called Bitches' War (1948-1954) was a conflict between the traditional vory – those who obeyed the strict rules – and the *suki* (Eng. bitches) – those who had served in the Red Army during World War II. Depicted in Figures 2 and A.1, this full-scale mob war almost wiped out the organization (Varese, 2001, 1998; Serio, 2008).

Using the PCNA dataset, I provide the most systematic empirical evidence to date showing that the early period of the vory-v-zakone criminal fraternity was indeed closely tied to the Gulag. In particular, I calculated the distance to the nearest camp for all recorded initiation rituals, places of residence, and deaths that occured during the 1919-1960 period. Resulting distributions are shown in Figure 4. Histograms for both the places of residence and deaths show a clear pattern of proximity to the camps. In particular, during this period, 284 out of 568 vory lived within 18.8 km of the nearest gulag, while 101 out of 202 vory died within just 3.2 km of the nearest camp. Unfortunately, the histogram for initiations is not very informative due to its limited underlying sample size (only 35 observations).

[22] For example, in 1951, the vor Yurilkin was sentenced to death by a meeting that took place in Vostochno-Uralskii Corrective Labor camp (ITL). Despite authorities moving Yurilkin to a gulag located several hundred kilometers away and constantly moving him between the camp sub-units, he was eventually killed there by local vory in 1955 (Varese, 2001).

3.2 Vory-v-zakone in post-Gulag Soviet period (1961-1991)

The Bitches' War (1948-1954) led to an almost complete destruction of the vory-v-zakone fraternity. As Serio (2008) notes, law enforcement organs in the Soviet Union were convinced that the criminal fraternity had practically disappeared by the end of the 1950s. However, as Figure 2 clearly shows, initiations continued (albeit in modest numbers) even after the Bitches' War and throughout the 1960s. The early 1970s saw a resurgence of vory, as the number of initiations increased and the organization regrouped (Fig. 2). An upward trend in initiations continued throughout the 1980s, eventually leading to an explosion in the membership in the early 1990s. Interestingly, 1980s also saw an increase in the number of expulsions from the organization (Fig. 2), while violent deaths remained low (Fig. A.1). As Varese, Lonsky, and Podvysotskiy (2019) argue, this ability to regulate membership by non-violently revoking status made the organization more resilient to internal and external pressures.

As mentioned in the previous section, Gulag was officially closed down in 1960. However, some of the camps were re-designed and turned into regular prisons which operated until the 1980s (Applebaum, 2003; Varese, 2001).[23] The prison population during the post-Gulag period was made up mostly of criminals. According to Amnesty International's estimates from mid-1970s, only about 1% of all prisoners had political sentences (Applebaum, 2003). Despite large-scale amnesties which reduced the camp population by some 80% between 1953 and 1960 (Dobson, 2009), many vory remained imprisoned through the 1960s and 1970s. Figure 5 shows the pattern of prison releases among the vory as recorded in the PCNA dataset. First major release saw 21 vory leave the prison in 1976-77. Releases then continued throughout the 1980s, peaking just before the dissolution of USSR in 1991 (Fig. 5). However, even upon their release, vory were not allowed to move away from the prisons due to the restrictions on mobility imposed by the Soviet authorities. In particular, any vor released from a camp was required to register his residency in a nearby community. Moreover, according to the rules of the vory fraternity, the member was also expected to join other free vory in a local commune known as *kodla*. These communes supported those still locked up in the camps (Varese, 2001, 1998).

Using PCNA data, I show that during the post-Gulag period of 1961-1991, vory-v-zakone re-

[23] Such as the camp Perm-36 which has since been turned into a museum.

mained in close geographic proximity to the gulags. Using the initial spatial distribution of the Gulag camps, I once again calculated the distance to the nearest camp for each initiation, death, and place of residence between 1961-1991. Figure 6 presents the results. Remarkably, the median initiation took place only 11.9 km away from the camps, while the median death was recorded just 15.3 km form the nearest camp. Furthermore, 50% of vory lived within 32 km of the nearest gulag during this period. This confirms that by 1991, vory were still geographically clustered around the initial locations of the 460 Gulag camp complexes.

3.3 Transition to capitalism & weak institutions

Although Soviet citizens were entitled to items of personal property, state owned all means of production. This began to change when Mikhail Gorbachev introduced economic reforms in 1986, which led to a dramatic increase in the number of property owners. In July 1991, a large-scale privatization began in USSR and continued in Russia after the dissolution of USSR in December 1991 (Shleifer, 1997; Shleifer and Vishny, 1994). By 1993, there were 82,000 privatized enterprises and 49,770 private peasant farms operating in Russia – almost one third of the entire value of Russia's productive capital (Varese, 1994). However, this increase in property ownership was not matched by clearly defined and enforced property rights, business contracts, business and tax regulations, and copyright laws (Greif and Kandel, 1994; Blanchard and Kremer, 1997; Varese, 1994). In addition, a sharp increase in crime – especially violent crime[24] – during this period meant that the state was not able to protect the lives and property of its own citizens. Weak legal institutions thus created a demand for protection from non-state actors which vory-v-zakone readily supplied (Varese, 2001, 1994).

3.4 Vory-v-zakone as Russian mafia in post-Soviet Russia

Vory operated in both legal and illegal markets. Their main trade was the provision of protection. In fact, they seeked to monopolize the market for protection. In the overworld (i.e. legal economy), vory provided a "roof" (*krysha*) to legal businesses by protecting them from "unprofessional" racketeers and helping them enforce contracts and resolve disputes with other businesses (Varese, 1996; Sokolov, 2004). Vory thus served as a substitute for weak state institutions, namely the

[24]Between 1989 and 1992, the number of murders in Russia rose by 70% (Varese, 1994).

backlogged courts and understaffed law enforcement agencies. In the underworld, vory led their own criminal groups while also serving as co-ordinators who orchestrated activities of other criminal elements. As Varese (1996) further explains:

1. *Co-ordinators ensure[d] protection to pseudo-businessmen from gangsters and provide[d] a 'shield' of corrupt officials to them.*
2. *They help[ed] gangsters to divide spheres of influence among themselves, find new targets for criminal activities, and ensure[d] protection from the authorities through their contacts with corrupt officials who operate[d] in institutions of law enforcement.*
3. *They ensure[d] those that steal state properties (embezzlers of state property) with opportunities to dispose of their loot, protection from gangsters and again provide[d] them with a 'shield' against corrupt officials.*
4. *They suppl[ied] corrupt officials with new clients to be 'sheltered' and provide[d] them with opportunities to arrest criminals who [had] disobeyed criminal rules. Corrupt public officials thus maintain[ed] the impression of fighting crime actively.*

Thus, one can think of the vory-v-zakone as an organization whose goal was not only to operate in the underworld, but also to govern it. As a criminal fraternity with a strict code of conduct and an obscure initiation ritual, which provided protection and extra-legal governance in its territories, vory – unlike other criminal groups operating in Russia at the time – can be refereed to as the Russian mafia (Varese, 2001).

4 Empirical strategy and identification

4.1 Measuring the local presence of Russian mafia

The wealth of personal information assembled in the PCNA dataset enables the construction of a direct, first-of-its-kind measure of Russian mafia presence in Russia' subregions during the period of early post-Soviet transition. This novel approach differs from previous studies of mafia-type organizations which use various proxies for mafia presence such as mafia-related crimes or city council dissolutions due to mafia infiltration (Peri, 2004; Barone and Narciso, 2015; Daniele and Dipoppa,

2017). The approach proposed in this paper employs two steps. First, using information on each member's year of birth, initiation, status revocation, and death (if applicable), I determine which vory were active members of the organization between 1994-95 (or 1994-97). Then, I distribute these individuals into Russia's 2,445 subregions according to their exact street address of residence. Naturally, all individuals living outside Russia at this time are omitted. Information about the place of residence is available for 74% (3,746 out of 5,043) of vory in the PCNA dataset.[25]

Such approach enables the construction of variables measuring both the extensive and the intensive margin of mafia presence in Russia' subregions. Extensive margin is captured by a binary variable equal to 1 if a vor resided in a subregion in 1994-95 (1994-97, resp.), and 0 otherwise. It is important to note that each member is expected to lead his own criminal group (Varese, 2001). Thus, observing a vor in a subregion indicates the presence of a local criminal group around this individual. These groups can be large. For instance, the *Solntsevskaya Bratva* – one of the largest clans operating in Moscow during the 1990s – had by some estimates around 9,000 members. However, only 12 of them were vory. These vory – each leading his own crew – formed the leadership of *Solntsevskaya Bratva*, called the supreme council, which met regularly to discuss group's organizational matters (Varese, 2001).

The intensive margin of mafia presence is captured by the total number of vory per 100,000 population living in a subregion between 1994-95 (1994-97, resp.). This variable approximates the strength of the Russian mafia in a given community. Figure 7 (top portion) depicts the geographic distribution of the mafia across Russia's subregions (i.e. the extensive margin). Between 1994-97, 250 subregions (10%) had mafia presence, including ten most populous cities in Russia.[26] Table 4 further compares mafia with non-mafia localities. On average, subregions with vory presence had higher population and better public goods provision (proxied by the density of doctors and nurses). Vory also tended to operate in closer proximity to contemporary prisons and regional administrative centers. On the other hand, mafia subregions were no different from non-mafia ones in terms of the average wage, local economic development, or the share of retired population.

[25] Note that 70% of these individuals (2,609 out of 3,746) have a single address on record. The remaining 1,137 vory have multiple addresses attached to their name. In such cases, moving dates are used to determine their most likely address during the period of interest. If moving dates are missing, the first address on record is used (since addresses are ranked chronologically).

[26] Moscow, Saint Petersburg, Novosibirsk, Yekaterinburg, Nizhny Novgorod. Kazan, Chelyabinsk, Omsk, Samara, and Rostov-on-Don.

4.2 Empirical specification: Gulag locations & Russian mafia presence

In the bottom portion of Figure 7, I further overlay the mafia presence in mid-1990s with the locations of Soviet gulags in 1919-1960. The map clearly suggests that many vory resided in the areas close to the gulags' initial locations (some 30 years after the camps were officially closed down). To test how the distance to the nearest camp predicts mafia presence in post-Soviet Russia, I estimate the following cross-sectional specification using ordinary least squares:

$$\text{Mafia}_i = \alpha + \beta_1 \text{Gulag}_i + \gamma X_i + \eta_s + \epsilon_i \tag{1}$$

where $Mafia_i$ is the measure of extensive/intensive margin of mafia presence in subregion i in the mid-1990s (as defined in section 4.1). $Gulag_i$ is a binary variable derived from the distance of subregion i's centroid to its nearest gulag. To derive this variable, I first determine the distance to the nearest labor camp for each subregion. Then, I use the 10th (17.6km), 15th (26.9km), and 20th (37.4km) percentiles from the resulting distribution as alternative cutoff points to define $Gulag_i$. For example, a subregion is assigned the value 1 if it lies within 17.6km of the nearest camp, and 0 otherwise. As discussed in previous sections, most vory remained close to the camps once released due to the restrictions on mobility imposed by both the authorities and the internal rules of the organization. $Gulag_i$ is therefore defined as a binary variable to capture this non-linear relationship. However, as a robustness check, I also estimate eq. (1) with higher order distance polynomials. Finally, eq. (1) also controls for region fixed effects (η_s) and subregion-specific characteristics (X_i).[27] Standard errors (ϵ_i) are heteroskedasticity-robust.

4.3 Empirical specification: Impact of Russian mafia on local communities

To determine the effect of Russian mafia on local crime and elite violence, I estimate the following cross-sectional specification:

[27] These include: *1990s road & railroad densities (in km per km^2)* – proxies for local economic development; *Distance to region's administrative center* – proxy for strength of local institutions; and *Distance to nearest prison in 1990s.*

$$\text{Outcome}_i = \alpha + \beta_1 \text{Mafia}_i + \gamma X_i + \eta_s + \mu_i \tag{2}$$

where $Outcome_i$ is either the total crime rate (per 10,000 inhabitants) in subregion i in 1998, or the number of attacks against Russia's economic elite[28] (per 100,000 pop.) in 1996-98. $Mafia_i$ is the measure of extensive/intensive margin of mafia presence in 1994-97 (1994-95, resp.), as discussed in section 5.2. In further analysis, I break down the attacks into four categories to explore potential effect heterogeneity with respect to the victim type: (1) businessmen and managers; (2) criminals; (3) law enforcement, army, and judges; (4) politicians and public office holders. However, these categories are not necessarily mutually exclusive. For example, a number of individuals in the REEV dataset are classified both as businessmen and criminals. Eq. (2) further controls for region fixed effects (η_n) and a broad set of subregion-specific characteristics (X_i) which are divided into three groups: (1) economic controls, (2) population controls, and (3) institutional controls.[29] Finally, μ_i is an idiosyncratic heteroskedasticity-robust error term. The location choices of mafia members, conditional on observables, are likely endogenous to both the outcome of interest and some unobserved factors. Thus, OLS estimate of β_1 will likely be biased.

4.4 Identification: impact of Russian mafia on local communities

To identify a plausibly causal effect of mafia presence on local crime and elite violence, I employ instrumental variable approach that exploits the proximity of Russian mafia in mid-1990s to the initial Gulag locations (as shown in Tables 5, A.1, and A.2). The instrument of choice is defined as:

$$\text{Gulag IV}_i = \begin{cases} 1, & \text{if distance of subregion i to nearest gulag} < 26.9\text{km} \\ 0, & \text{otherwise} \end{cases}$$

[28] Defined by Belokurova (2018) to include businessmen, managers of state-owned enterprises, members of organized crime groups, law enforcement and army officers, judges, politicians and public office holders, as well as other public figures (such as activists, journalists, and church clergy).

[29] Economic controls: *1998 unemployment rate, 1996 log of average wage, 1990s road & railroad densities (in km/km^2).* Population controls: *1996 population density, 1998 share of retired people.* Institutional controls: *Distance to region's administrative center, Distance to nearest prison in 1990s.*

where 26.9km is the 15th percentile from the distribution of the distance to the nearest camp (see section 4.2). However, I also test different distance thresholds and higher order distance polynomials as alternative instruments. For the instrument to be exogenous, two conditions need to be met. First, the initial placement of the camps has to be orthogonal to any contemporaneous socioeconomic factors that could have persisted throughout the 20th century, affecting local crime and elite violence in post-Soviet Russia. To argue that this is indeed the case, I use data from Acemoglu, Hassan, and Robinson (2011) to show that gulag and non-gulag regions were not systematically different from each other in a number of socioeconomic characteristics during the early period of Gulag existence (i.e. before the Second World War). Moreover, during the German-Soviet war (1941-1945), the scorched earth strategy was implemented first by the retreating Soviets in 1941 (Carell, 1965), and later by the retreating German Army in 1943-44 (Carell, 1970; Hill, 2005). This tactics meant that a large share of land and industrial capital in the European part of the Soviet Union was destroyed. Given that the majority of gulags were built in the European portion of USSR (Figure 3), this development during the war makes it unlikely that any economic conditions that determined the initial placement of the camps persisted until the 1990s.

The second concern is a potential direct effect of gulags on crime and violence in post-Soviet Russia. Although most of the camps were shut down by 1960, recent papers have suggested persistent effects of gulags on local economic prosperity (Toews and Vézina, 2018), social and institutional trust, and election outcomes (Nikolova, Popova, and Otrachshenko, 2019). To account for a possible direct effect of those camps that were transformed into regular prisons after 1960, eq. (2) the distance to the nearest correctional institution operating in Russia during the 1990s. This measure is derived using exact addresses of 1,033 jails, prisons, corrective colonies, medical correctional facilities, and educational colonies operating in post-Soviet Russia during the 1990s. Finally, to further address the concern of persistence, I conduct a direct placebo test in which I estimate the reduced form of eq. (2) with a subsample of observations in regions with gulags (between 1919-1960) but no mafia presence in the mid-1990s.

4.5 Data

In addition to the PCNA dataset (described in detail in section 2), my analysis also takes advantage of the geocoded locations of Gulag camps provided by Tatiana Mikhailova (based on information from the Memorial). This dataset contains precise locations of 460 gulags coupled with the information about the estimated prison population and the type of industrial activity in each camp complex. To measure the intensity of the local elite violence, I further geocoded roughly 2,400 attacks against Russia's economic elite that took place in the period 1991-1999. Information about these attacks was compiled by Galina Belokurova as part of the broader Russian elite economic violence (REEV) dataset. This database contains exact dates and locations of all elite attacks in Russia between 1991-2010, as well as the information about the victims (Belokurova, 2018). My study is the first to exploit the precise geographical locations of Belokurova (2018)'s elite attacks.

The analysis also uses subregional-level[30] data provided by Enikolopov, Petrova, and Zhuravskaya (2011). This includes the 1998 local crime rates as well as a number of socioeconomic indicators measured throughout the 1990s (e.g. population density, unemployment rate, average wage, etc.). Finally, the 1990s' road and railroad densities were calculated using spatial data from the DIVA-GIS database, while the exact locations of 1,033 correctional institutions operating in Russia throughout the 1990s were obtained from the Russian daily newspaper Kommersant. All spatial data was geocoded using Google Maps Geocoding API.

5 Results

5.1 Gulag locations and mafia presence

Table 5 presents the results of estimating eq. (1) with focus on the extensive margin of mafia presence. As expected, the distance to the nearest camp is a strong negative predictor of mafia locations in the mid-1990s Russia. In particular, across all specifications, the coefficient estimates are positive and significant at 1%, suggesting that the likelihood of a subregion hosting mafia increases in the immediate vicinity of the camps. According to the coefficient from the preferred specification (Table 5, col. 4), subregions located within 27km of the nearest camp have 14 p.p.

[30] Equivalent to the Nomenclature of Territorial Units for Statistics (NUTS) 3 classification.

higher probability of hosting mafia in 1994-97 than those located further away. The effect is large in magnitude and amounts to 0.45 standard deviations of the dependent variable. The non-linearity of the relationship between mafia presence and distance to the nearest gulag is further confirmed in Table A.1, which reports the results of estimating eq. (1) with second and third degree distance polynomials. The analysis of the intensive margin of mafia presence (i.e. number of vory per 100,000 inhabitants) paints a similar picture. Results are presented in Table A.2. The "strength" of the Russian mafia increases, on average, by 0.16 vory per 100,000 (0.2 standard deviations) when a subregion is located within 27km of the nearest gulag (Table A.2, col. 4). Moreover, as with the extensive margin, changing the distance threshold does not substantially alter the estimated coefficients, which remain statistically significant at 5% in all specifications (Table A.2, col. 1-6).

5.2 Mafia presence and local crime

The effect of mafia presence on local crime is *ex ante* ambiguous. As Varese (2014) explains, on one hand, mafia may promote ordinary crimes by shielding other criminals from authorities and purposefully allowing some type of crime to go unpunished in order to keep the demand for its protection services high. Moreover, in case of an all-out war among competing mafia clans, one would expect a significant increase in violent crime, but also petty crime, as law enforcement resources are diverted to combat mafia-related violence instead of tackling street crime. On the other hand, in the absence of any such conflict, mafia might want to keep petty crimes low in order not to attract police attention (Varese, 2014). After all, mafias strive to govern the underworld, thus making any unsanctioned illicit activities in their territories unlikely. Mafia may even choose to provide public safety in its neighborhoods to ligitimize its existence in the eyes of the common folk. Indeed, as Gambetta (1993) describes in his seminal book, "[t]he [Sicilian M]afia at times polices its territory as if it were responsible for public safety. Young thugs are recruited just to keep them off the street."

Table 6 presents the results of estimating eq. (2) with local crime rate as the dependent variable. The presence of Russian mafia significantly increased local crime in Russia' communities in the mid-1990s. According to the preferred specification (Table 6, col. 5), subregions with the presence of a vor between 1994-97 experienced 150 additional crimes per 10,000 population (0.68 standard deviations), compared to those without the presence of a mafia leader. Similarly, the

number of vory per 100,000 is shown to substantially increase local crime as well (Table 6, col. 6). The relative size of this coefficient amounts to roughly 0.5 standard deviations of the dependent variable. Reassuringly, all three IV coefficients (Table 6, cols. 4-6) are statistically significant at 5% even when considering the weak-instrument robust Anderson-Rubin chi-squared p-value. It is also noteworthy to mention that across all specifications, OLS estimates are attenuated towards 0, likely due to a measurement error in the main independent variable (Angrist and Pischke, 2008). As noted in section 4.1, the address of residence is available for only 74% of vory in the PCNA dataset. Moreover, out of these individuals, only 70% have a single address on record. Thus, not accounting for possible migration patterns of the vory likely introduces a substantial measurement error in the analysis, attenuating the OLS estimates towards 0 (Angrist and Pischke, 2008).

5.3 Mafia presence and local elite violence: The Great Mob War

To better understand what drives this steep increase in crime across mafia-controlled territories, I now turn to the Russian elite economic violence (REEV) dataset compiled by Belokurova (2018). Between 1991 and 1999, Russia experienced 2,376 violent attacks against its economic elite. The vast majority of them resulted in victim's death. Most of these attacks targeted local businessmen and managers of state-owned enterprises (61%) as well as criminals themselves (40%).[31] Interestingly, groups that are usually associated with elite attacks in other countries[32] – politicians and law enforcement officials – were targeted to a significantly lesser degree in Russia. In particular, only about 5% of all attacks were directed against politicians and public officials. The same is true for the attacks against law enforcement/army officials and judges. Figure 8 depicts the overall trend in the attacks throughout the 1990s. The most violent year by far was 1996 (with 615 attacks), although an upward trend had already begun with the collapse of USSR in 1991. Remarkably similar patterns can be seen once the attacks are plotted separately by the victim type (Fig. 9). Indeed, 1996 represented the ultimate peak in indiscriminate elite violence in the 1990s Russia.

To examine the impact of the Russian mafia presence on the incidence of elite violence, I estimate eq. (2) using the number of local attacks in 1996-98 (standardized by the population) as

[31] These two categories are not mutually exclusive: 242 victims (10%) are classified as both criminals and businessmen/managers (Belokurova, 2018).

[32] Such as Italy, Mexico, and Colombia (Alesina, Piccolo, and Pinotti, 2019; Daniele and Dipoppa, 2017; Dal Bó, Dal Bó, and Di Tella, 2006)

the dependent variable. As with the crime analysis, both extensive and intensive margin of mafia presence are strongly predictive of elite violence across Russia's communities (Table 7). According to the preferred specification, the presence of a vor in a subregion between 1994-95 increased elite violence in the subsequent three years by more than 5 attacks per 100,000 pop. (Table 7, col. 5). Exploring the effect heterogeneity with respect to the victim type, it is clear that the violence was largely indiscriminate – there was an increase in the intensity of attacks against businessmen/managers, fellow criminals, as well as the members of the state security apparatus and the judicial branch (Table 8, cols. 2-4). However, there was no increase in politically motivated violence in places with mafia presence (Table 8, col. 5). Similar estimates are obtained with the intensive margin of mafia presence as the main independent variable (Table A.3). Moreover, the results on elite violence (and crime) are robust to weighting observations by the total subregion-specific population (Table A.4), and to the use of the inverse hyperbolic sine (IHS) transformation of the outcome variable (Table A.5).

Klebnikov (2000) helps shed more light on the situation in Russian criminal underworld during this period. In April 1993, an open conflict broke out between vory-v-zakone and the Chechen gangsters in Moscow (with many vory siding with the Chechens), which quickly spread throughout the entire country. Virtually all organized crime groups in Russia at the time were drawn into this conflict, forced to side with one faction or the other. The result was that by the end of 1994, the two sides almost destroyed one another, with neither of them emerging as a clear victor (Klebnikov, 2000). Despite the widespread belief that the Great Mob War (as the conflict has since been labeled by academics) was over by 1995 (Klebnikov, 2000; Åslund, 2007; Etter and Pottorff, 2016), Figures 8 and 9 clearly show that the violence continued – and in fact peaked in 1996 – before finally subsiding in the subsequent years. As Klebnikov (2000) emphasizes, the Great Mob War was costly not only to criminals themselves, but also to legitimate businessmen. During the 1990s, businessmen often hired contract killers to eliminate their competition. Those who survived the decade – such as the notorious Boris Berezovsky – became successful entrepreneurs for years to come. Further explaining this phenomenon, Klebnikov (2000) notes that "[t]he winners [of the Great Mob War] were Russia's new businessmen. [...] They had paid the gangsters the underworld tax, had used them to eliminate rivals, had even put mob representatives on their boards of directors."

However, it was not just the businessmen who were caught up in the violent feud among criminal

groups – many law enforcement officers, army officers, and judges died trying to stem the violence on Russia's streets. In 1994 alone, 185 policemen were killed and 572 wounded in shoot-outs with criminals (Klebnikov, 2000). Finally, the surprising lack of relationship between mafia presence and violence against politicians can be attributed to the widespread collusion between vory and local politicians in mid-1990s Russia. Instances of such collusion in the Perm region are well documented in Varese (2001).

6 Validity of Gulag instrument

As mentioned in section 4.4, the first concern with the instrument is potentially strategic initial placement of gulags across the Soviet Union. Ideally, one would show that in the 1920s and 1930s, subregions located near the camps were similar to those located further away. However, due to the lack of subregion-level data from this period, I instead compare regions (federal subjects) in which gulags were built with those that did not have any camps. Using data from Acemoglu, Hassan, and Robinson (2011), Table 9 shows that the two types of regions were, on average, no different from each other in terms of pre-WWII total population, share of urban population, or the share of the middle class. There was also no statistically significant difference in the number of defense-oriented factories right before or after the Second World War. Moreover, the war itself was responsible for the destruction of most of the productive capital in the European part of USSR, where the majority of gulags were located (Carell, 1965, 1970; Hill, 2005). Thus, it is unlikely that any local factors which determined the initial placement of gulags persisted until the 1990s.

The second concern it a potential direct effect of gulags on crime and elite violence in post-Soviet Russia. To address it, I carry out a placebo test estimating the reduced form of eq. (2) in regions with gulags but no mafia presence in 1994-95. There were 11 such regions totaling 149 subregions. However, given the lack of data on local crime for a number of these subregions as well as the lack of sufficient variation for the *Criminal Attacks* and *Political Attacks* variables, only four of the elite violence outcomes can be tested. Despite the low sample size, as Table 10 clearly suggests, there is, if anything, a negative correlation between the instrument and each of the outcomes considered. These results are reassuring – suggesting that gulags did not have a long-run direct effect on the elite violence in the mid-1990s Russia.

7 Conclusion

This paper studies the origins and consequences of the criminal fraternity vory-v-zakone, known as the Russian mafia. I assembled a unique dataset that contains detailed biographies of more than 5,000 leaders of the vory fraternity. Using this dataset, I show that the Russian mafia originated in the Soviet Gulag archipelago and remained near the camps' original locations even some 30 years after they were officially closed down in 1960. Then, using an instrumental variable approach that exploits the spatial distribution of gulags across the Soviet Union, I show that Russia's subregions with mafia presence in the mid-1990s experienced a significant rise in local crime driven by violence among rival organized crime groups. As a spillover consequence, important businessmen, managers, law enforcement and army officials, and judges became victims of elite violence in mafia-controlled territories. However, there was no increase in violence against politicians, indicative of a widespread collusion between vory and local politicians in the 1990s.

The study provides new insights informing the debate on the origins of organized crime in general, and mafia-type groups in particular (Schelling, 1984, 1971; Gambetta, 1993; Varese, 2001). While previous empirical work – focusing mainly on the Sicilian Mafia – has shown the importance of valuable resources (Dimico et al., 2017; Buonanno et al., 2015) and the demand for means of political intimidation (Acemoglu, De Feo, and De Luca, 2020), the case of the Russian mafia clearly shows that the roots of a mafia-type group can also be traced back to the period of a strong totalitarian state. Furthermore, the results of this paper can inform policymakers about the nature of the impact of organized crime (mafia) presence on crime and elite violence in local communities. While the current situation in Mexico shows that a widespread government crackdown on criminal organizations can lead to local power vacuums, causing a surge in local violent crime (Dell, 2015) and elite violence (Grillo, 2016), this paper argues that similar outcomes can also result from a state collapse. In particular, when the authoritarian Soviet Union collapsed in 1991, property rights were diffused, and newly-established property rights institutions were weak, new economic opportunities attracted criminals who competed for local turf dominance. The resulting violence – initially confined to the criminal underworld – eventually spilled over to the overworld, leading to indiscriminate violence against elite businessmen, judges, and members of the state security apparatus. Further work is needed to better understand and generalize the relationship between

institutional strength and elite violence in democratic countries.

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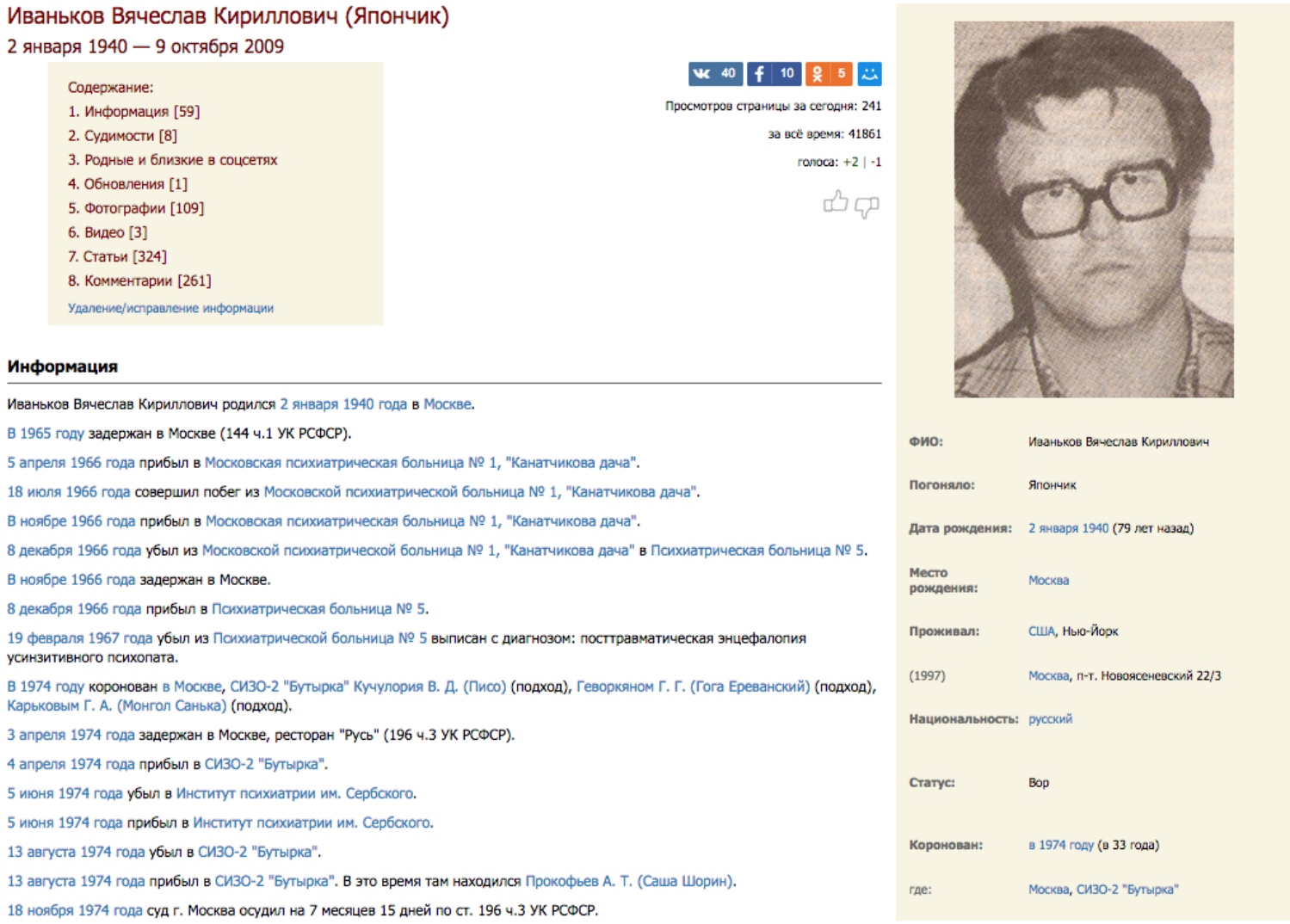
Figure 1: Excerpt from PCNA profile of Vyacheslav ("The Jap") Kirillovich Ivankov



Иваньков Вячеслав Кириллович (Япончик)

2 января 1940 — 9 октября 2009

Содержание:

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Удаление/исправление информации

40 10 5

Просмотров страницы за сегодня: 241

за всё время: 41861

голоса: +2 | -1

Информация

Иваньков Вячеслав Кириллович родился 2 января 1940 года в Москве.

В 1965 году задержан в Москве (144 ч.1 УК РСФСР).

5 апреля 1966 года прибыл в Московская психиатрическая больница № 1, "Канатчикова дача".

18 июля 1966 года совершил побег из Московской психиатрической больница № 1, "Канатчикова дача".

В ноябре 1966 года прибыл в Московская психиатрическая больница № 1, "Канатчикова дача".

8 декабря 1966 года убыл из Московской психиатрической больница № 1, "Канатчикова дача" в Психиатрическая больница № 5.

В ноябре 1966 года задержан в Москве.

8 декабря 1966 года прибыл в Психиатрическая больница № 5.

19 февраля 1967 года убыл из Психиатрической больница № 5 выписан с диагнозом: посттравматическая энцефалопия усинзитивного психопата.

В 1974 году коронован в Москве, СИЗО-2 "Бутырка" Кучулория В. Д. (Писо) (подход), Геворкяном Г. Г. (Гога Ереванский) (подход), Карьковым Г. А. (Монгол Санька) (подход).

3 апреля 1974 года задержан в Москве, ресторан "Русь" (196 ч.3 УК РСФСР).

4 апреля 1974 года прибыл в СИЗО-2 "Бутырка".

5 июня 1974 года убыл в Институт психиатрии им. Сербского.

5 июня 1974 года прибыл в Институт психиатрии им. Сербского.

13 августа 1974 года убыл в СИЗО-2 "Бутырка".

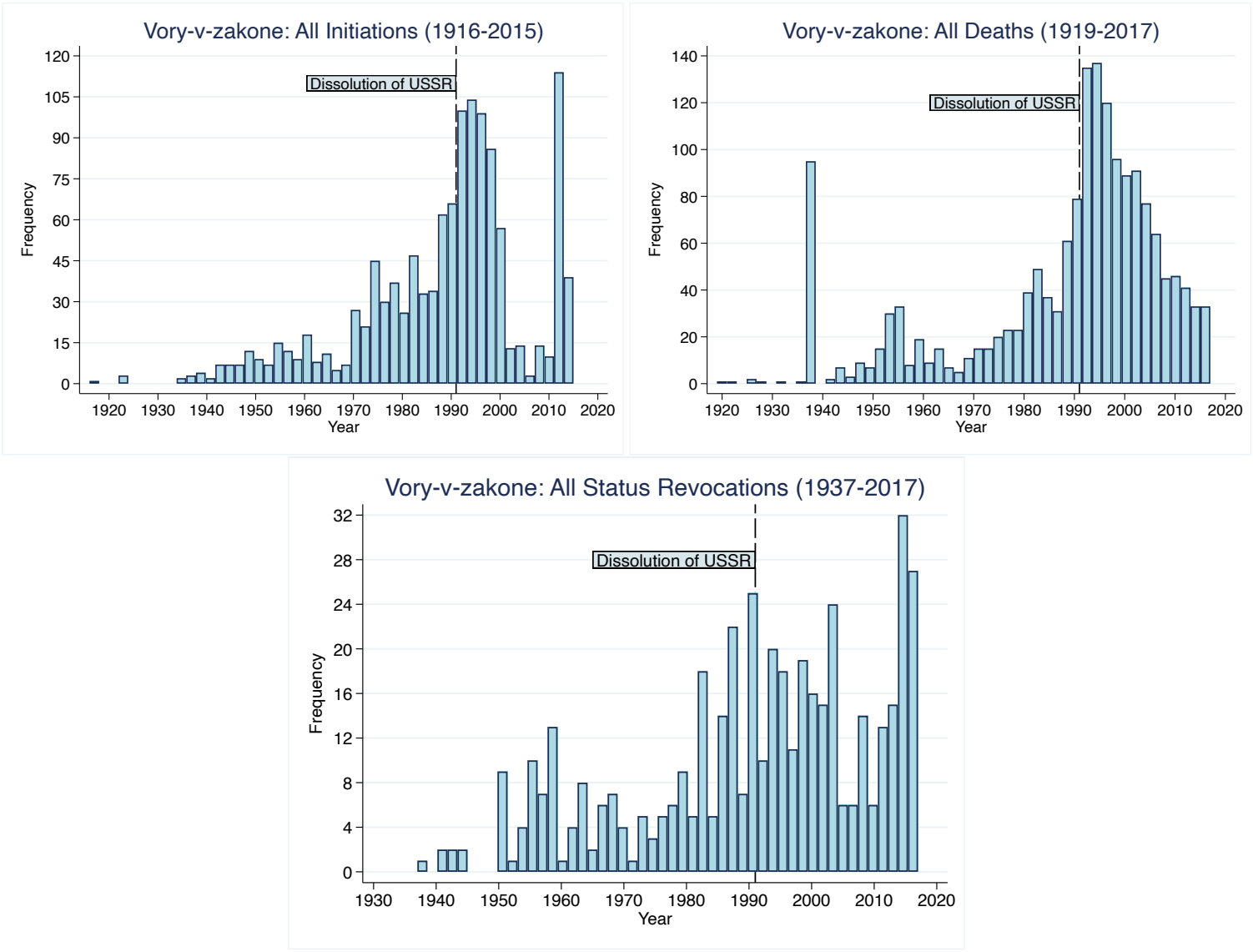
13 августа 1974 года прибыл в СИЗО-2 "Бутырка". В это время там находился Прокофьев А. Т. (Саша Шорин).

18 ноября 1974 года суд г. Москва осудил на 7 месяцев 15 дней по ст. 196 ч.3 УК РСФСР.

ФИО:	Иваньков Вячеслав Кириллович
Погоняло:	Япончик
Дата рождения:	2 января 1940 (79 лет назад)
Место рождения:	Москва
Проживал:	США, Нью-Йорк
(1997)	Москва, п-т. Новоясеневский 22/3
Национальность:	русский
Статус:	Вор
Коронован:	в 1974 году (в 33 года)
где:	Москва, СИЗО-2 "Бутырка"

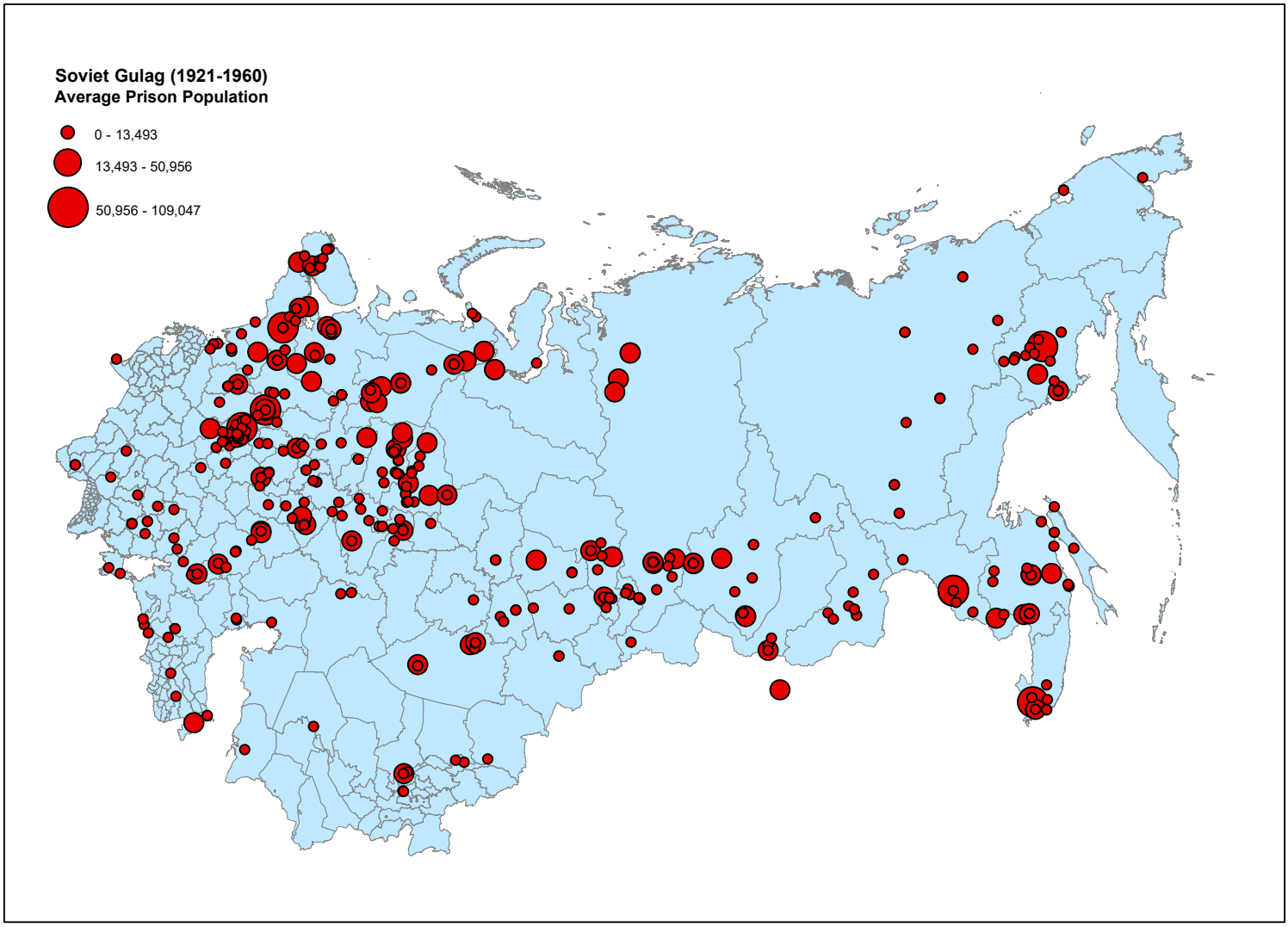
Notes - Source: Prime Crime News Agency. The figure shows only an excerpt from Mr. Ivankov's profile. The full profile can be accessed here: http://www.primecrime.ru/characters/574/.

Figure 2: Mafia initiations, deaths, and status revocations over time



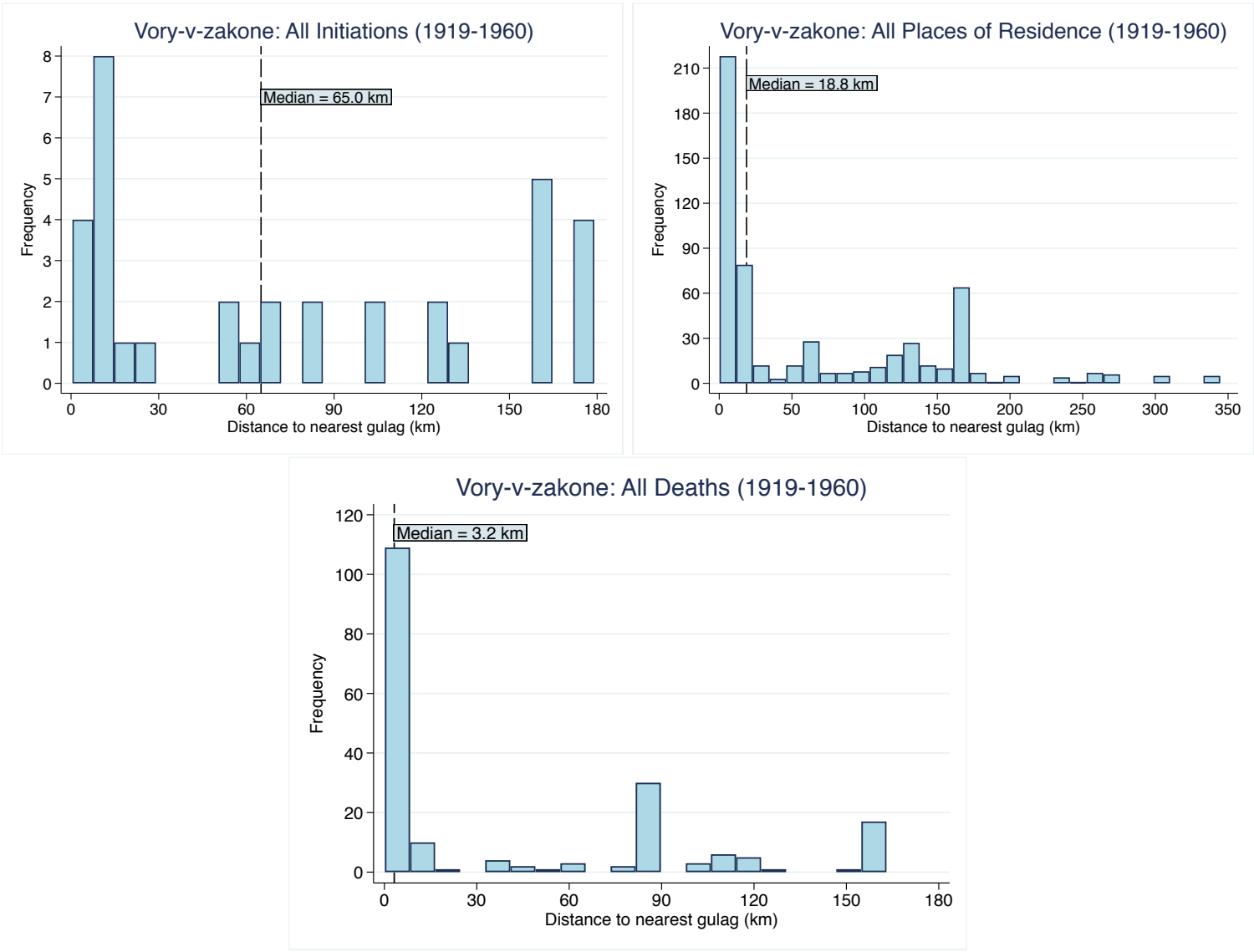
Notes - Data scraped from the Prime Crime News Agency website. Underlying sample sizes are as follows: 1,230 unique initiations (top-left hist.); 1,681 deaths (top-right hist.); 460 unique status revocations (bottom hist.). The USSR was dissolved on December 26, 1991. 100% of sample is depicted in each histogram. The number of bins is set to 50.

Figure 3: 460 labor camps of the Soviet Gulag (1921-1960)



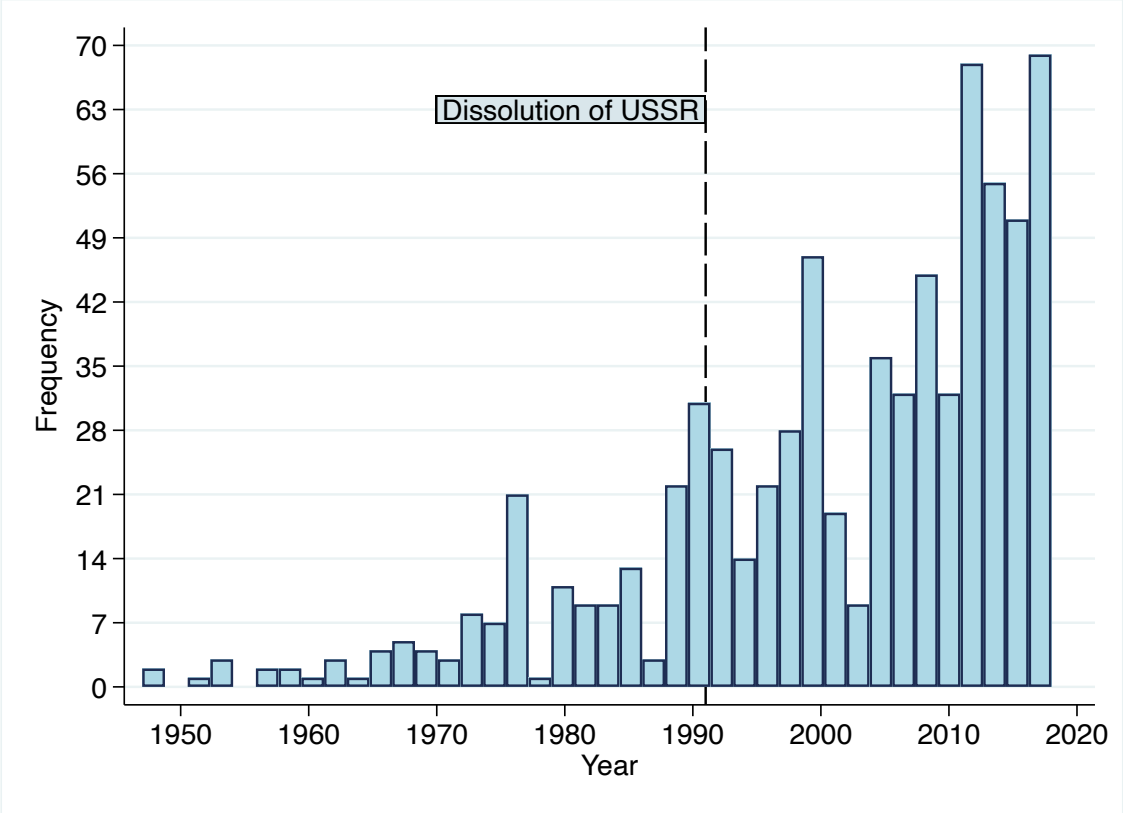
Notes - Geocoded locations of all 460 camps were provided by Tatiana Mikhailova based on the information from the Moscow-based NGO Memorial. Only camps with available geographical location (latitude & longitude) are used in the analysis. 34 of the camps have missing info on average prison population, and thus are labeled as 0. The map uses Asia North Albers Equal Area Conic projected coordinate system, and shows NUTS 2 (region-level) classification of the Soviet Union (as of 1989).

Figure 4: Mafia deaths, initiations, and places of residence during Gulag period (1919-1960)



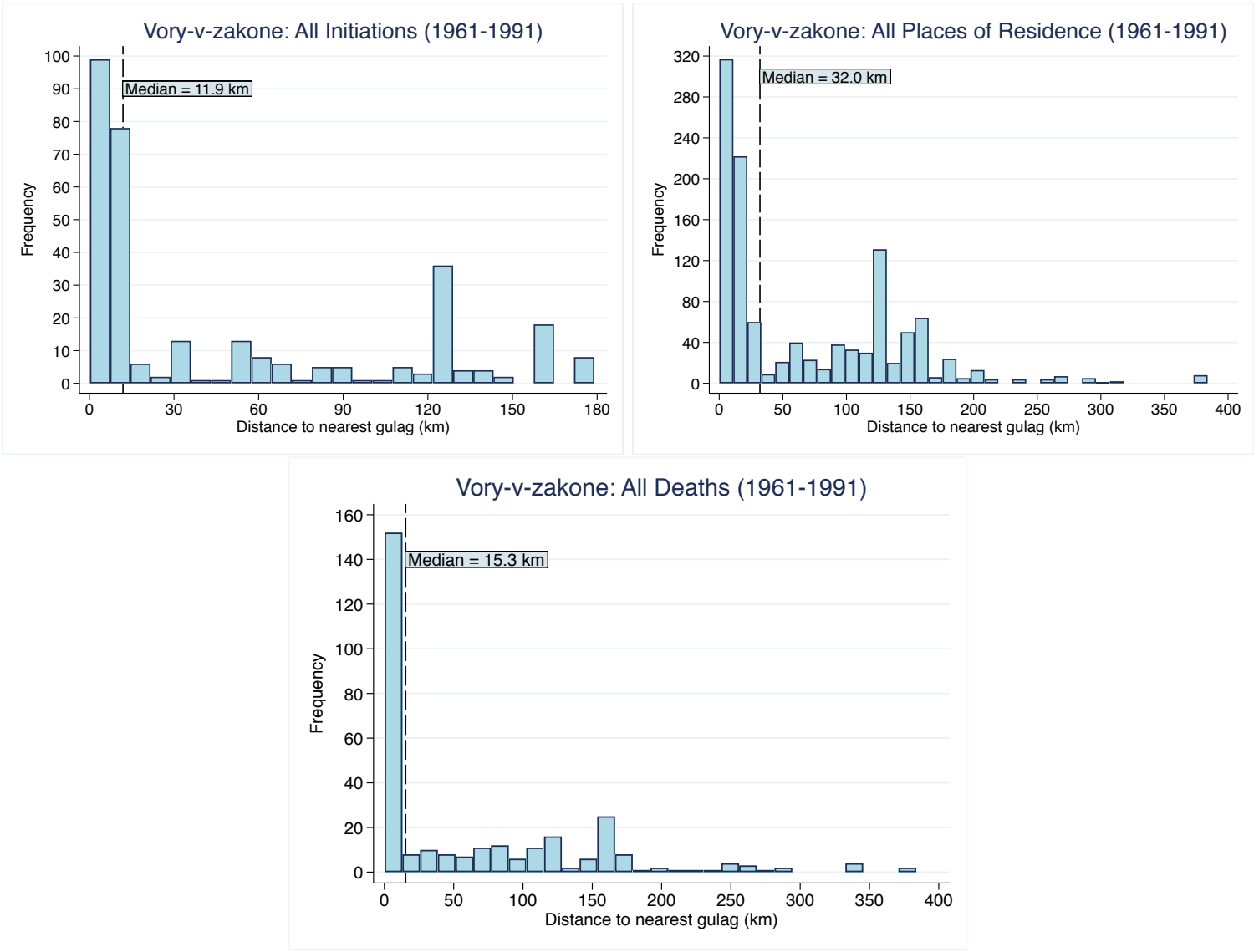
Notes - Data scraped from the Prime Crime News Agency website. Underlying sample sizes are as follows: 35 unique initiations (top-left) – 100% of sample is depicted in hist.; 568 unique places of residence (top-right) – 98.2% of sample is depicted in hist.; 202 deaths (bottom-center) – 96.5% of sample is depicted in hist. Number of bins was set to: 25 (top-left); 30 (top-right); 20 (bottom-center).

Figure 5: All Recorded Camp/Prison Releases (1947-2018)



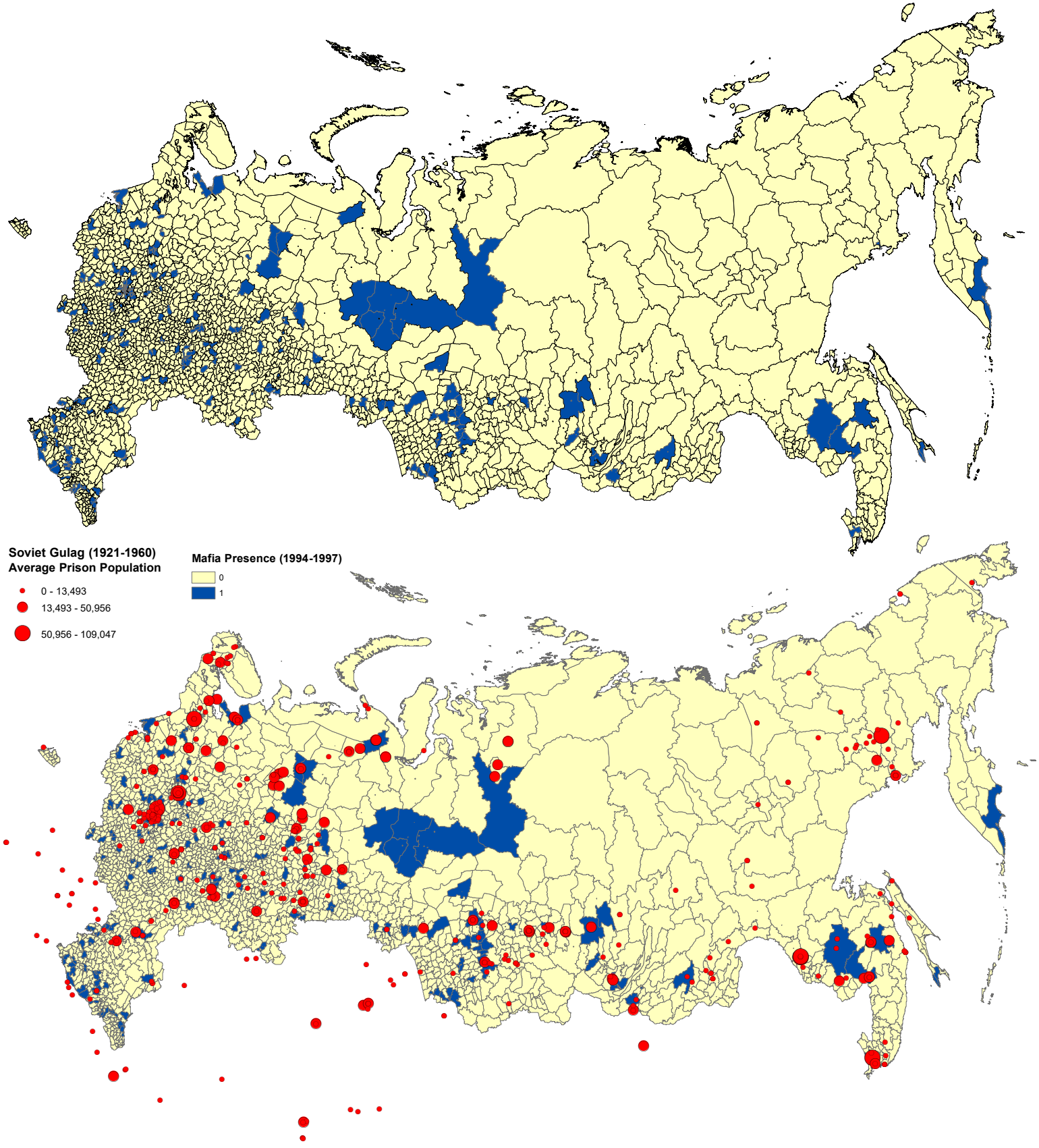
Notes - Data scraped from the Prime Crime News Agency website. The histogram was generated using 719 unique prison releases. USSR was dissolved on December 26, 1991. 100% of sample is depicted in the histogram. The number of bins is set to 40.

Figure 6: Mafia deaths, initiations, and places of residence in post-Gulag Soviet period (1961-1991)



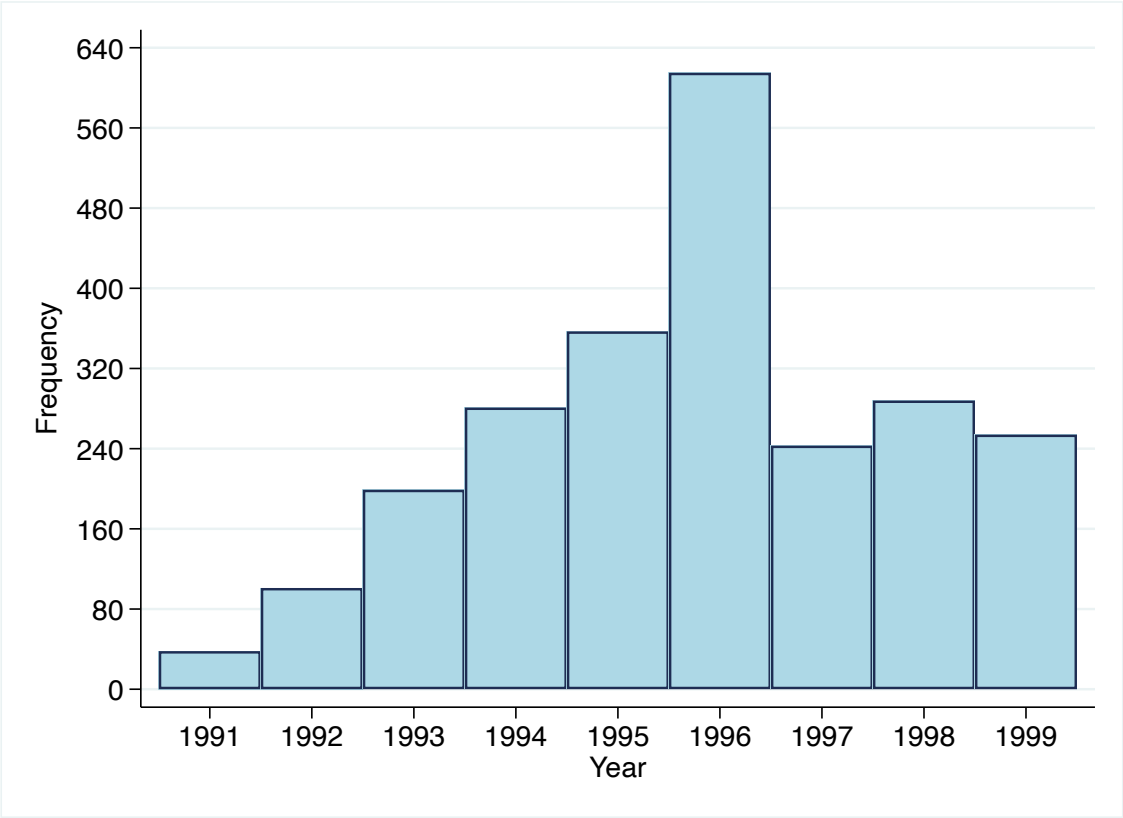
Notes - Data scraped from the Prime Crime News Agency website. Underlying sample sizes are as follows: 323 unique initiations (top-left) – 99.1% of sample is depicted in hist.; 1,185 unique places of residence (top-right) – 97.5% of sample is depicted in hist.; 308 deaths (bottom-center) – 98.7% of sample is depicted in hist. Number of bins was set to: 25 (top-left); 35 (top-right); 30 (bottom-center).

Figure 7: Russian mafia presence (1994-97) and initial Gulag locations



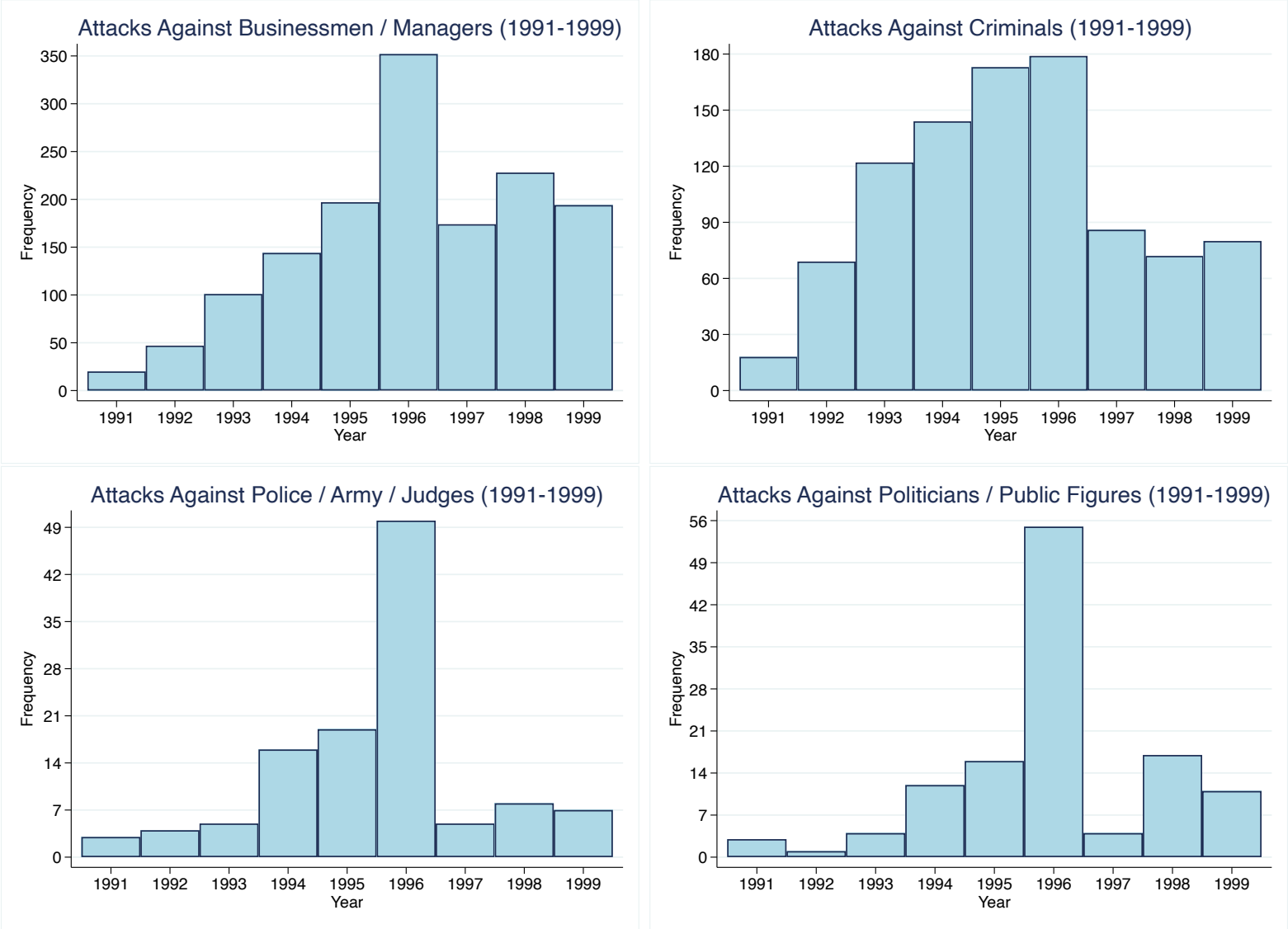
Notes - Data scraped from the Prime Crime News Agency website. Blue areas indicate subregions with at least 1 vor present in 1994-97. Geocoded locations of all 460 Gulag camps were provided by Tatiana Mikhailova based on information from Memorial. The map uses Asia North Albers Equal Area Conic projected coordinate system, and shows NUTS 3 (subregion-level) classification of the Russian Federation (as of 1992).

Figure 8: Attacks against Russian economic elite (1991-1999)



Notes - Data compiled by Belokurova (2018). The term *economic elite* is defined by Belokurova (2018) to include businessmen, managers of state-owned enterprises, members of organized crime groups, law enforcement and army officers, judges, politicians and public office holders, as well as other public figures such as activists, journalists, and church clergy.

Figure 9: Elite attacks by victim type (1991-1999)



Notes - Data compiled by Belokurova (2018). "Managers" refers to managers of state-owned enterprises. "Criminals" refers to members of various organized crime groups operating in Russia (USSR) during the 1990s.

Table 1: PCNA dataset – main variables & select descriptive statistics

Variable	Non-Missing Values (#)	Non-Missing Values (%)	Mean	Standard Deviation
Full name	3,466	68.7	–	–
Nickname	4,478	88.8	–	–
Nationality/ethnicity	4,619	91.6	–	–
Year of birth	2,820	55.9	1949.6	22.1
Place of birth	3,775	74.9	–	–
Year of initiation	1,230	24.4	1988.6	17.4
Place of initiation	1,001	19.9	–	–
Age at initiation	1,190	23.6	27.2	7.3
Place of residence	3,746	74.3	–	–
Year of status revocation	460	9.1	1990.9	19.2
Place of status revocation	342	6.8	–	–
Year of death	1,682	33.4	1988.2	20.5
Place of death	1,409	27.9	–	–
Age at death	1,398	27.7	45.5	15.2
Exact cause of death	897	17.8	–	–

Notes - Source: Prime Crime News Agency. The total number of observations is 5,043. Each observation represents an individual (vor).

Table 2: PCNA dataset – vory by nationality/ethnicity

Nationality/Ethnicity	**#**	**% of Total**
Russian	1,485	29.5
Georgian	1,249	24.8
Armenian	884	17.5
Azerbaijani	175	3.5
Other Caucasian nationality/ethnicity	134	2.7
Jew	172	3.4
Yazidi	129	2.6
Ukrainian	112	2.2
Other (non-Caucasian) nationality/ethnicity	279	5.5
No information provided	424	8.4
Total	5,043	100

Notes - Source: Prime Crime News Agency. Each observation represents an individual (vor). *Other Caucasian nationality/ethnicity* – Abkhazian, Adyghean, Avar, Balkar, Bosha, Chechen, Circassian, Dargin, Ingush, Kabardian, Karachay, Kumyk, Lak, Lezgin, Ossetian, Talysh. *Other (non-Caucasian) natinality/ethnicity* – Assyrian, Bashkir, Belarusian, Bulgarian, Buryat, Chuvash, Gagauz, German, Greek, Gypsy, Iranian, Kazakh, Komi-Zyryan, Korean, Kyrgyz, Lithuanian, Moldovan, Mordvin, Pole, Serb, Spaniard, Tajik, Tatar, Turk, Turkmen, Udmurt, Uyghur, Uzbek.

Table 3: Soviet Gulag (1921-1960) – basic characteristics

# of camp complexes	460
Total prisoner population	4,180,304
Median prisoner population	5,000
Standard deviation of prisoner population	13,622.8
% infrastructure construction	60.6%
% engineering/industrial engineering	37.9%
% forest and woodwork	33.9%
% housing construction	23.9%
% agriculture	21.7%
% construction of mining plants	19.4%
% mining of coal, uranium, ore, gold, apatite, tin, or rock	15.7%
% services	15.0%
% fuel and energy complex	6.7%
% metallurgy	4.6%
% military industrial complex	4.6%
% research and development	4.1%
% transit points	1.1%

Notes - Data compiled by Tatiana Mikhailova. Only camps with available geographical location (latitude & longitude) are used in the analysis. *Total prisoner population* - total number of prisoners averaged over the entire period (1921-1960). The shares are computed based on the number of camps with available information for the given industrial activity. The categories are not mutually exclusive.

Table 4: Average characteristics of mafia vs non-mafia subregions of Russia (1994-97)

	Mafia subegions			*Non-mafia subregions*			*Difference-in-means test*	
CHARACTERISTIC	**Obs.**	**Mean**	**SD**	**Obs.**	**Mean**	**SD**	**t**	**Prob(|T| > |t|)**
Population (1996)	203	170,895	274,160	1,802	41,911	53,126	-17.32	0.000
Population density (1996)	203	1,820.8	11,104.1	1,802	4,340.3	25,847.8	1.37	0.170
Share of retired population (1998)	201	25.40	10.36	1,774	25.35	10.78	-0.07	0.948
Log of average wage (1996)	196	2.66	2.89	1,771	2.53	2.82	-0.62	0.537
1990s road density (km per km^2)	250	0.59	1.83	2,195	1.46	13.73	0.99	0.320
1990s railroad density (km per km^2)	250	0.65	5.72	2,195	0.94	7.09	0.61	0.541
Dist. to region's administrative center (km)	250	93.24	123.28	2,195	169.43	208.44	5.67	0.000
Dist. to nearest prison in 1990s (km)	250	29.39	49.47	2,195	75.06	132.07	5.42	0.000
# Doctors per 10,000 pop. (1998)	201	33.42	29.40	1,774	22.05	13.07	-9.84	0.000
# Nurses per 10,000 pop. (1998)	201	93.22	74.77	1,774	86.91	36.81	-2.01	0.045
Crime rate (1998)	201	190.22	312.73	1,774	161.58	205.47	-1.76	0.079

Notes - Data scraped from the Prime Crime News Agency website.

Table 5: Gulag & mafia presence in 1990s (OLS)

	(1) Mafia presence (1994-95)	(2) Mafia presence (1994-97)	(3) Mafia presence (1994-95)	(4) Mafia presence (1994-97)	(5) Mafia presence (1994-95)	(6) Mafia presence (1994-97)
Gulag distance < 10th percentile (10p = 17.6km)	0.145*** (0.029)	0.148*** (0.030)				
Gulag distance < 15th percentile (15p = 26.9km)			0.131*** (0.024)	0.137*** (0.024)		
Gulag distance < 20th percentile (20p = 37.4km)					0.107*** (0.020)	0.110*** (0.020)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES
Distance to region's admin. center (km)	YES	YES	YES	YES	YES	YES
Distance to nearest prison in 1990s (km)	YES	YES	YES	YES	YES	YES
Observations	2,445	2,445	2,445	2,445	2,445	2,445
R-squared	0.120	0.126	0.122	0.129	0.118	0.125
Mean of dep. variable	0.097	0.102	0.097	0.102	0.097	0.102
Std. dev. of dep. variable	0.295	0.303	0.295	0.303	0.295	0.303

Notes - Heteroskedasticity-robust standard errors in parentheses. Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Mafia presence (1994-95)* - binary var. equal 1 if at least one vor present in subregion between 1994-95. *Mafia presence (1994-97)* - binary var. equal 1 if at least one vor present in subregion between 1994-97. *Gulag distance < 10th percentile* - binary var. equal 1 if subregion is located within 17.6km of the nearest gulag camp. *Gulag distance < 15th percentile* - binary var. equal 1 if subregion is located within 26.9km of the nearest gulag camp. *Gulag distance < 20th percentile* - binary var. equal 1 if subregion is located within 37.4km of the nearest gulag camp. Estimation sample consists of all 2,445 subregions within the Russian Federation (as of 1992). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 6: Mafia presence & local crime in 1990s Russia

	(OLS) Crime rate (1998)	(OLS) Crime rate (1998)	(OLS) Crime rate (1998)	(IV) Crime rate (1998)	(IV) Crime rate (1998)	(IV) Crime rate (1998)
Presence of mafia (1994-97)	35.78***	33.79***		151.60**	149.60**	
	(10.25)	(10.36)		(67.46)	(75.25)	
Mafia per 100,000 pop. (1994-97)			10.40***			117.8*
			(3.921)			(65.70)
Region FE	YES	YES	YES	YES	YES	YES
Population & Economic controls		YES	YES		YES	YES
Road & Railroad Densities (km/km^2)		YES	YES		YES	YES
Institutional controls		YES	YES		YES	YES
Observations	1,975	1,938	1,938	1,975	1,938	1,938
Adjusted R-squared	0.807	0.811	0.810	–	–	–
Mean of dep. variable	164.5	166.5	166.5	164.5	166.5	166.5
Std. dev. of dep. variable	218.9	220.2	220.2	218.9	220.2	220.2
Efficient F Statistic	–	–	–	32.62	28.53	9.430
Anderson-Rubin chi-sq. p-value	–	–	–	0.022	0.042	0.042

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 (τ = 5%), 23.11 (τ = 10%), 15.06 (τ = 20%), 12.04 (τ = 30%). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Crime rate (1998)* - # of crimes per 10,000 inhabitants in 1998. *Presence of mafia (1994-97)* - binary var. equal 1 if a vor present in subregion in 1994-97. *Mafia per 100,000 pop. (1994-97)* - # of vory per 100,000 inhabitants present in subregion in 1994-97. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Population controls: population density (1996), share of retired people (1998). Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 7: Mafia presence & elite attacks in 1990s Russia

	(OLS) Attacks per 100,000 (1996-98)	(OLS) Attacks per 100,000 (1996-98)	(OLS) Attacks per 100,000 (1996-98)	(IV) Attacks per 100,000 (1996-98)	(IV) Attacks per 100,000 (1996-98)	(IV) Attacks per 100,000 (1996-98)
Presence of mafia (1994-95)	2.789***	2.726***		4.359***	5.349***	
	(0.738)	(0.748)		(1.596)	(1.807)	
Mafia per 100,000 pop. (1994-95)			0.975***			4.093**
			(0.306)			(1.625)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)		YES	YES		YES	YES
Institutional controls		YES	YES		YES	YES
Population & Economic controls		YES	YES		YES	YES
Observations	2,005	1,938	1,938	2,005	1,938	1,938
Adjusted R-squared	0.062	0.064	0.056	–	–	–
Mean of dep. var. (if at least 1 attack)	6.095	6.050	6.050	6.095	6.050	6.050
Std. dev. of dep. var. (if at least 1 attack)	11.14	11.25	11.25	11.14	11.25	11.25
Efficient F Statistic	–	–	–	53.61	44.79	11.69
Anderson-Rubin chi-sq. p-value	–	–	–	0.007	0.003	0.003

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 (τ = 5%), 23.11 (τ = 10%), 15.06 (τ = 20%), 12.04 (τ = 30%). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Attacks per 100,000 (1996-98)* - # of attacks against Russia's economic elite (see Belokurova (2018)) in 1996-98 (per 100,000 pop.). *Presence of mafia (1994-95)* - binary var. equal 1 if a vor present in subregion in 1994-95. *Mafia per 100,000 pop. (1994-95)* - # of vory per 100,000 inhabitants present in subregion in 1994-95. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 8: Heterogeneity in elite attacks (by victim type)

	(IV) Total Attacks per 100,000 (1994-98)	(IV) Business Attacks per 100,000 (1994-98)	(IV) Criminal Attacks per 100,000 (1994-98)	(IV) Police/Judicial Attacks per 100,000 (1994-98)	(IV) Political Attacks per 100,000 (1994-98)
Presence of mafia (1994-95)	6.635**	3.848**	3.917**	0.417*	-0.232
	(2.777)	(1.526)	(1.845)	(0.231)	(0.296)
Region FE	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES
Institutional controls	YES	YES	YES	YES	YES
Population & Economic controls	YES	YES	YES	YES	YES
Observations	1,938	1,938	1,938	1,938	1,938
Mean of dep. var. (if at least 1 attack)	7.671	5.159	7.636	2.065	2.539
Std. dev. of dep. var. (if at least 1 attack)	16.52	9.809	16.17	2.231	3.414
Efficient F Statistic	44.79	44.79	44.79	44.79	44.79
Anderson-Rubin chi-sq. p-value	0.019	0.013	0.036	0.067	0.426

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 ($\tau = 5\%$), 23.11 ($\tau = 10\%$), 15.06 ($\tau = 20\%$), 12.04 ($\tau = 30\%$). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Total Attacks per 100,000 (1994-98)* - # of total attacks against Russia's economic elite in 1994-98 (per 100,000 pop.). *Business Attacks per 100,000 (1994-98)* - # of attacks against businessman or managers of state-owned enterprises in 1994-98 (per 100,000 pop.). *Criminal Attacks per 100,000 (1994-98)* - # of attacks against members of organized crime groups 1994-98 (per 100,000 pop.). *Police/Judicial per 100,000 (1994-98)* - # of attacks against members of law enforcement, army, or the judicial branch in 1994-98 (per 100,000 pop.). *Political Attacks per 100,000 (1994-98)* - # of attacks against politicians, public office holders, or activists in 1994-98 (per 100,000 pop.). *Presence of mafia (1994-95)* - binary var. equal 1 if a vor present in subregion in 1994-95. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 9: Balance test (initial characteristics) – Gulag vs non-Gulag federal subjects of Russia

	Gulag regions			*Non-Gulag regions*			*Difference-in-means test*	
CHARACTERISTIC	**Obs.**	**Mean**	**SD**	**Obs.**	**Mean**	**SD**	**t**	**Prob(|T| > |t|)**
Log of middle class population (1926)	30	10.67	0.82	11	10.34	0.98	-1.09	0.283
Log of urban population (1926)	30	11.28	0.92	11	11.17	0.92	0.35	0.732
% of population in middle class (1939)	35	19.71	6.80	12	18.37	8.70	-0.55	0.587
Log of total population (1939)	35	13.87	0.81	12	13.59	1.47	-0.87	0.389
# of establishments in defense industry (1939)	35	29.63	40.88	12	20.67	18.59	-0.73	0.469
# of establishments in defense industry (1945)	35	46.16	65.31	12	27.08	23.96	-0.98	0.331

Notes - Data obtained from Acemoglu, Hassan, and Robinson (2011). *Gulag regions* - federal subjects with at least 1 subregion with the distance $<$ 26.9km (i.e. 15th percentile) to the nearest gulag. *Non-Gulag regions* - federal subjects with no subregion with the distance $<$ 26.9km (i.e. 15th percentile) to the nearest gulag. *Log of middle class population (1926)* - log of population classified as "white collar workers" in 1926 USSR Census. *Log of urban population (1926)* - log of the population dwelling in urban areas (1926 USSR Census). *% of population in middle class (1939)* - fraction of population belonging to "white collar workers", "artisans in cooperatives", "artisans not in cooperatives", or "individuals of liberal professions" in 1939 USSR Census. *Log of total population (1939)* - log of total population in 1939 (1939 USSR Census). *# of establishments in defense industry (1939)* - # of defense factories, research, and design establishments in 1939. *# of establishments in defense industry (1945)* - # of defense factories, research, and design establishments in 1945.

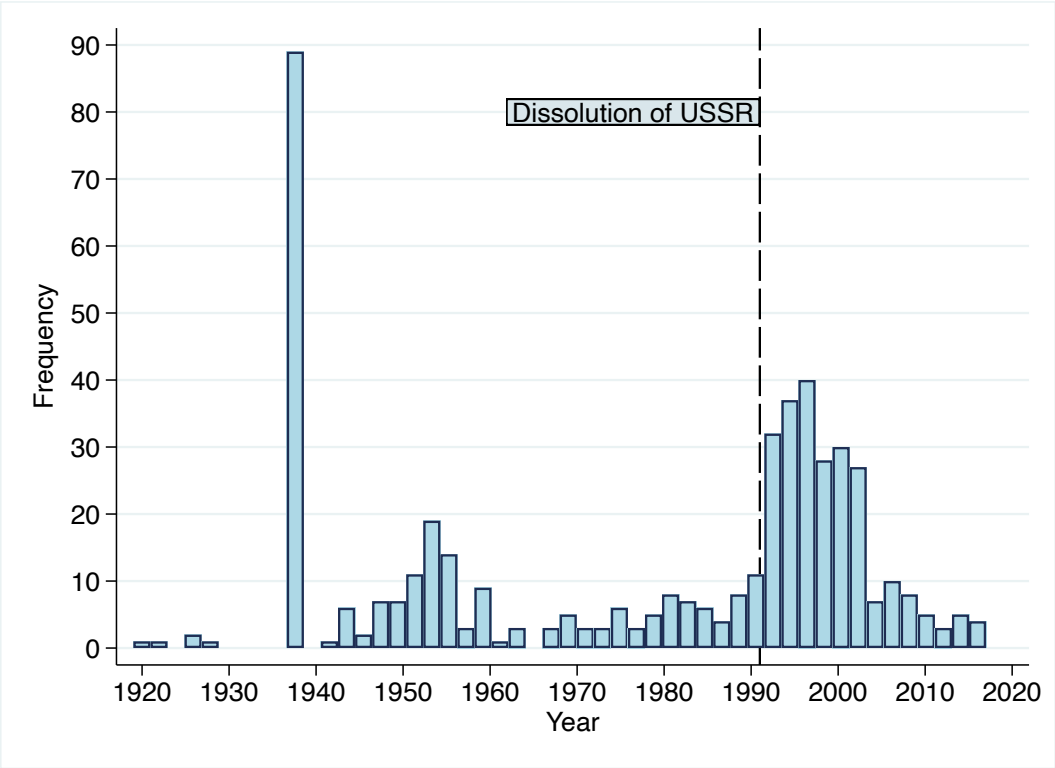
Table 10: Placebo test – direct effect of Gulag on 1990s violence

	(OLS) Total Attacks per 100,000 (1996-98)	(OLS) Total Attacks per 100,000 (1996-98)	(OLS) Total Attacks per 100,000 (1994-98)	(OLS) Total Attacks per 100,000 (1994-98)	(OLS) Business Attacks per 100,000 (1994-98)	(OLS) Business Attacks per 100,000 (1994-98)	(OLS) Police/Judicial Attacks per 100,000 (1994-98)	(OLS) Police/Judicial Attacks per 100,000 (1994-98)
Gulag distance < 15th percentile	-0.175	-0.186	-0.294	-0.346	-0.282	-0.336	-0.012	-0.010
(15p = 26.9km)	(0.114)	(0.156)	(0.180)	(0.244)	(0.179)	(0.243)	(0.012)	(0.011)
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES	YES	YES
Institutional controls	YES	YES	YES	YES	YES	YES	YES	YES
Population & Economic controls		YES		YES		YES		YES
Observations	149	149	149	149	149	149	149	149
R-squared	0.016	0.067	0.010	0.052	0.010	0.050	0.005	0.038
Mean of dep. variable	0.298	0.298	0.400	0.400	0.392	0.392	0.008	0.008
Std. dev. of dep. variable	1.914	1.914	2.196	2.196	2.195	2.195	0.099	0.099

Notes - Heteroskedasticity-robust standard errors in parentheses. Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Total Attacks per 100,000 (1996-98)* - # of total attacks against Russia's economic elite in 1996-98 (per 100,000 pop.) *Total Attacks per 100,000 (1994-98)* - # of total attacks against Russia's economic elite in 1994-98 (per 100,000 pop.). *Business Attacks per 100,000 (1994-98)* - # of attacks against businessman or managers of state-owned enterprises in 1994-98 (per 100,000 pop.). *Police/Judicial per 100,000 (1994-98)* - # of attacks against members of law enforcement, army, or the judicial branch in 1994-98 (per 100,000 pop.). *Gulag distance < 15th percentile* - binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Appendix

Figure A.1: Violent vory-v-zakone deaths (1919-2017)



Notes - Data scraped from the Prime Crime News Agency website. Underlying sample consists of 485 unique violent deaths. USSR was dissolved on December 26, 1991. In the histogram, I set the number of bins to 50.

Table A.1: Gulag & mafia presence in 1990s (OLS) – linear term & higher order polynomials

	(1) Mafia presence (1994-95)	(2) Mafia presence (1994-97)	(3) Mafia presence (1994-95)	(4) Mafia presence (1994-97)	(5) Mafia presence (1994-95)	(6) Mafia presence (1994-97)
Gulag distance (in 100s of km)	-0.0077	-0.0035	-0.0592***	-0.0594***	-0.1080***	-0.1100***
	(0.0080)	(0.0084)	(0.0134)	(0.0136)	(0.0228)	(0.0232)
Gulag distance^2			0.0088***	0.0095***	0.0266***	0.0280***
			(0.0016)	(0.0017)	(0.0058)	(0.0060)
Gulag distance^3					-0.0013***	-0.0013***
					(0.0004)	(0.0004)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES
Distance to region's admin. center (km)	YES	YES	YES	YES	YES	YES
Distance to nearest prison in 1990s (km)	YES	YES	YES	YES	YES	YES
Observations	2,445	2,445	2,445	2,445	2,445	2,445
R-squared	0.103	0.109	0.112	0.119	0.115	0.122
Mean of dep. variable	0.097	0.102	0.097	0.102	0.097	0.102
Std. dev. of dep. variable	0.295	0.303	0.295	0.303	0.295	0.303

Notes - Heteroskedasticity-robust standard errors in parentheses. Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Mafia presence (1994-95)* - binary var. equal 1 if at least one vor present in subregion between 1994-95. *Mafia presence (1994-97)* - binary var. equal 1 if at least one vor present in subregion between 1994-97. *Gulag distance (in 100s of km)* - distance to the nearest Gulag camp complex (in 100s of km). *Gulag distance*^{2} - squared term of the distance polynomial. *Gulag distance*^{3} - cubed term of the distance polynomial. Estimation sample consists of all 2,445 subregions within the Russian Federation (as of 1992). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table A.2: Gulag & mafia presence in 1990s (OLS) – intensive margin

	(1) Vory per 100,000 (1994-95)	(2) Vory per 100,000 (1994-97)	(3) Vory per 100,000 (1994-95)	(4) Vory per 100,000 (1994-97)	(5) Vory per 100,000 (1994-95)	(6) Vory per 100,000 (1994-97)
Gulag distance < 10th percentile (10p = 17.6km)	0.192**	0.188**				
	(0.078)	(0.078)				
Gulag distance < 15th percentile (15p = 26.9km)			0.152***	0.158***		
			(0.059)	(0.059)		
Gulag distance < 20th percentile (20p = 37.4km)					0.128**	0.126**
					(0.053)	(0.053)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES
Distance to region's admin. center (km)	YES	YES	YES	YES	YES	YES
Distance to nearest prison in 1990s (km)	YES	YES	YES	YES	YES	YES
Observations	2,005	2,005	2,005	2,005	2,005	2,005
R-squared	0.048	0.052	0.047	0.052	0.047	0.051
Mean of dep. variable	0.182	0.191	0.182	0.191	0.182	0.191
Std. dev. of dep. variable	0.736	0.751	0.736	0.751	0.736	0.751

Notes - Heteroskedasticity-robust standard errors in parentheses. Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Vory per 100,000 (1994-95)* - # of vory present in subregion between 1994-95, per 100,000 inhabitants. *Vory per 100,000 (1994-97)* - # of vory present in subregion between 1994-97, per 100,000 inhabitants. *Gulag distance < 10th percentile* - binary var. equal 1 if subregion is located within 17.6km of the nearest gulag camp. *Gulag distance < 15th percentile* - binary var. equal 1 if subregion is located within 26.9km of the nearest gulag camp. *Gulag distance < 20th percentile* - binary var. equal 1 if subregion is located within 37.4km of the nearest gulag camp. Estimation sample consists of all 2,445 subregions within the Russian Federation (as of 1992). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table A.3: Mafia presence & elite attacks by type – intensive margin

	(IV) Total Attacks per 100,000 (1994-98)	(IV) Business Attacks per 100,000 (1994-98)	(IV) Criminal Attacks per 100,000 (1994-98)	(IV) Police/Judicial Attacks per 100,000 (1994-98)	(IV) Political Attacks per 100,000 (1994-98)
Mafia per 100,000 pop. (1994-95)	5.077**	2.945**	2.997*	0.319*	-0.178
	(2.354)	(1.315)	(1.533)	(0.192)	(0.231)
Region FE	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES
Institutional controls	YES	YES	YES	YES	YES
Population & Economic controls	YES	YES	YES	YES	YES
Observations	1,938	1,938	1,938	1,938	1,938
Mean of dep. variable	0.716	0.383	0.319	0.044	0.046
Std. dev. of dep. variable	5.510	2.989	3.624	0.437	0.565
Efficient F Statistic	11.69	11.69	11.69	11.69	11.69
Anderson-Rubin chi-sq. p-value	0.019	0.013	0.036	0.067	0.426

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 ($\tau = 5\%$), 23.11 ($\tau = 10\%$), 15.06 ($\tau = 20\%$), 12.04 ($\tau = 30\%$). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Total Attacks per 100,000 (1994-98)* - # of total attacks against Russia's economic elite in 1994-98 (per 100,000 pop.). *Business Attacks per 100,000 (1994-98)* - # of attacks against businessman or managers of state-owned enterprises in 1994-98 (per 100,000 pop.). *Criminal Attacks per 100,000 (1994-98)* - # of attacks against members of organized crime groups in 1994-98 (per 100,000 pop.). *Police/Judicial per 100,000 (1994-98)* - # of attacks against members of law enforcement, army, or the judicial branch in 1994-98 (per 100,000 pop.). *Political Attacks per 100,000 (1994-98)* - # of attacks against politicians, public office holders, or activists in 1994-98 (per 100,000 pop.). *Mafia per 100,000 pop. (1994-95)* - # of vory per 100,000 inhabitants present in subregion in 1994-95. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table A.4: Robustness check – weighting by 1996 population

	(IV) Crime rate 1998	(IV) Total attacks 1994-98	(IV) Business attacks 1994-98	(IV) Criminal attacks 1994-98	(IV) Police/judicial attacks 1994-98	(IV) Political attacks 1994-98
Presence of mafia (1994-95)	79.99***	2.879**	1.871***	1.253	0.185**	0.027
	(23.24)	(1.368)	(0.711)	(0.933)	(0.092)	(0.105)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES
Institutional controls	YES	YES	YES	YES	YES	YES
Population & Economic controls	YES	YES	YES	YES	YES	YES
Observations	1,938	1,938	1,938	1,938	1,938	1,938
Mean of dep. variable	164.5	7.672	5.156	7.528	2.028	2.728
Std. dev. of dep. variable	218.9	16.33	9.699	15.90	2.190	3.551
Efficient F Statistic	84.45	84.45	84.45	84.45	84.45	84.45
Anderson-Rubin chi-sq. p-value	0.000	0.038	0.009	0.183	0.043	0.800

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 (τ = 5%), 23.11 (τ = 10%), 15.06 (τ = 20%), 12.04 (τ = 30%). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *Crime rate* - # of crimes per 10,000 inhabitants in 1998. *Total Attacks* - # of total attacks against Russia's economic elite in 1994-98 (per 100,000 pop.). *Business attacks* - # of attacks against businessman or managers of state-owned enterprises in 1994-98 (per 100,000 pop.). *Criminal attacks* - # of attacks against members of organized crime groups 1994-98 (per 100,000 pop.). *Police/judicial attacks* - # of attacks against members of law enforcement, army, or the judicial branch in 1994-98 (per 100,000 pop.). *Political attacks* - # of attacks against politicians, public office holders, or activists in 1994-98 (per 100,000 pop.). *Presence of mafia (1994-95)* - binary var. equal 1 if a vor present in subregion in 1994-95. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). Observations are weighted by the 1996 population. The mean and std. deviation in columns (2)-(6) are derived from the sample restricted to the subregions with at least 1 attack (of respective type) in 1994-98. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table A.5: Robustness check – inverse hyperbolic sine transformation

	(IV) IHS (Crime rate) 1998	(IV) IHS (Total attacks) 1994-98	(IV) IHS (Business attacks) 1994-98	(IV) IHS (Criminal attacks) 1994-98	(IV) IHS (Police/judicial attacks) 1994-98	(IV) IHS (Political attacks) 1994-98
Presence of mafia (1994-95)	0.565	1.672***	1.151***	0.858***	0.158***	0.067
	(0.368)	(0.186)	(0.144)	(0.122)	(0.051)	(0.053)
Region FE	YES	YES	YES	YES	YES	YES
Road & Railroad Densities (km/km^2)	YES	YES	YES	YES	YES	YES
Institutional controls	YES	YES	YES	YES	YES	YES
Population & Economic controls	YES	YES	YES	YES	YES	YES
Observations	1,938	1,938	1,938	1,938	1,938	1,938
Mean of dep. variable	5.023	1.979	1.772	1.889	1.141	1.342
Std. dev. of dep. variable	2.070	1.107	0.985	1.174	0.839	0.874
Efficient F Statistic	84.45	84.45	84.45	84.45	84.45	84.45
Anderson-Rubin chi-sq. p-value	0.126	0.000	0.000	0.000	0.001	0.208

Notes - Heteroskedasticity-robust standard errors in parentheses. Efficient F Statistic comes from Montiel Olea and Pflueger (2013). Critical values (% of worst case bias) are as follows: 37.42 (τ = 5%), 23.11 (τ = 10%), 15.06 (τ = 20%), 12.04 (τ = 30%). Estimation sample consists of Russia's subregions (equivalent to NUTS 3 classification). *IHS (Crime rate)* - inverse hyperbolic sine transformation of the # of crimes per 10,000 inhabitants in 1998. *IHS (Total Attacks)* - inverse hyperbolic sine transformation of the # of total attacks against Russia's economic elite in 1994-98 (per 100,000 pop.). *IHS (Business attacks)* - inverse hyperbolic sine transformation of the # of attacks against businessman or managers of state-owned enterprises in 1994-98 (per 100,000 pop.). *IHS (Criminal attacks)* - inverse hyperbolic sine transformation of the # of attacks against members of organized crime groups 1994-98 (per 100,000 pop.). *IHS (Police/judicial attacks)* - inverse hyperbolic sine transformation of the # of attacks against members of law enforcement, army, or the judicial branch in 1994-98 (per 100,000 pop.). *IHS (Political attacks)* - inverse hyperbolic sine transformation of the # of attacks against politicians, public office holders, or activists in 1994-98 (per 100,000 pop.). *Presence of mafia (1994-95)* - binary var. equal 1 if a vor present in subregion in 1994-95. The instrument used in the IV estimation is a binary var. equal 1 if subregion was within 26.9km km (i.e. 15th percentile) of the nearest gulag. Economic controls: unemployment rate (1998), log of average wage (1996). Institutional controls: distance to region's administrative center, distance to the nearest prison (operating in the 1990s). Population controls: population density (1996), share of retired people (1998). Observations are weighted by the 1996 population. The mean and std. deviation in columns (2)-(6) are derived from the sample restricted to the subregions with at least 1 attack (of a particular type) in 1994-98. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.